Capital Regional District

625 Fisgard St.,
Victoria, BC V8W 1R7

Notice of Meeting and Meeting Agenda
Environmental Services Committee

Wednesday, February 15, 2023 | **1:30 PM** | **6th Floor Boardroom, 625 Fisgard St., Victoria, BC V8W 1R7**

B. Desjardins (Chair), S. Tobias (Vice Chair), J. Brownoff, J. Caradonna, G. Holman, D. Kobayashi, D. Murdock, M. Tait, D. Thompson, A. Wickheim, C. Plant (Board Chair, ex-officio)

The Capital Regional District strives to be a place where inclusion is paramount and all people are treated with dignity. We pledge to make our meetings a place where all feel welcome and respected.

1. Territorial Acknowledgement

2. Approval of Agenda

3. Adoption of Minutes

3.1. 23-156 Minutes of the January 18, 2023 Environmental Services Committee Meeting

Recommendation: That the minutes of the Environmental Services Committee meeting of January 18, 2023 be adopted as circulated.

Attachments: Minutes - January 18, 2023

4. Chair's Remarks

5. Presentations/Delegations

The public are welcome to attend CRD Board meetings in-person.

Delegations will have the option to participate electronically. Please complete the online application at www.crd.bc.ca/address no later than 4:30 pm two days before the meeting and staff will respond with details.

Alternatively, you may email your comments on an agenda item to the CRD Board at crdboard@crd.bc.ca.

5.1. 23-166 Delegation - Dave Cowen; Representing Peninsula Biosolids Coalition: Re: Agenda Item 7.1.: Motion with Notice: Healthy Waters Project for Tod Creek on the Saanich Peninsula (Director Caradonna)

6. Committee Business

6.1. 23-103 2022 Solid Waste Stream Composition Study Results

Recommendation: There is no recommendation. This report is for information only.

Attachments:
Staff Report: 2022 Solid Waste Stream Composition Study Results
Appendix A: CRD 2022 Solid Waste Stream Composition Study - Tetra Tech

6.2. 23-130 Recycle BC - Packaging and Printed Paper Product, Extended Producer Responsibility - Draft Program Plan

Recommendation: There is no recommendation. This report is for information only.

Attachments:
Staff Report: Recycle BC - Packaging & Paper, EPR - Draft Program Plan
Appendix A: Cont'd Participation in EA Depot Recycling - SR - Feb 7/18
Appendix B: Depot Impacts Analysis
Appendix C: Consultation Feedback Ltr to Recycle BC from CRD (Jan 3/23)

6.3. 23-131 Central Saanich Request for CRD Carbon-based Budget Policy

Recommendation: The Environmental Services Committee recommends to the Capital Regional District Board:
That the CRD not adopt a policy of carbon budgeting as part of its budget cycle but continue to monitor progress in carbon budget methodologies and implications on CRD financial planning processes and share learnings with local governments through the CRD Inter-Municipal Working Group and Task Force, as appropriate.

Attachments:
Staff Report: Central Saanich Request for CRD Carbon-based Budget Policy
Appendix A: Central Saanich Letter to CRD Board - November 8, 2022
Appendix B: Summary and History of Carbon Budgeting

6.4. 23-138 Bylaw No. 2922 - Sewer Use Bylaw Amendments

Recommendation: The Environmental Services Committee recommends to the Capital Regional District Board:
1. That Bylaw No. 4530, "Capital Regional District Sewer Use Bylaw No. 5, 2001, Amendment Bylaw No. 7, 2023", be introduced and read a first, second, and third time; and
2. That Bylaw No. 4530 be adopted.
3. That Bylaw No. 4531, "Capital Regional District Ticket Information Authorization Bylaw 1990, Amendment Bylaw No. 75, 2023", be introduced and read a first, second, and third time; and
4. That Bylaw No. 4531 be adopted.

Attachments:
Staff Report: Bylaw No. 2922 - Sewer Use Bylaw Amendments
Appendix A: Bylaw No. 2922 - Unofficial Consolidated Bylaw with Amendments
Appendix B: Bylaw No. 4530
Appendix C: Bylaw No. 4531

7. Motions with Notice

7.1. 23-154 Motion with Notice: Healthy Waters Project for Tod Creek on the Saanich Peninsula (Director Caradonna)

Recommendation: That the Healthy Waters project proposal for Tod Creek watershed be referred to staff to report back, by end of March or within the span of two committee meetings, on project implications including resources, service mandate, and regulatory framework.

Attachments: Motion with Notice: Healthy Waters Project for Tod Creek

8. New Business

9. Adjournment

The next meeting is March 29, 2023 at 9:30 am (Special).

To ensure quorum, please advise Jessica Dorman (jdorman@crd.bc.ca) if you or your alternate cannot attend.

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Capital Regional District

625 Fisgard St.,
Victoria, BC V8W 1R7

Meeting Minutes

Environmental Services Committee

Wednesday, January 18, 2023 **1:30 PM** **6th Floor Boardroom**
625 Fisgard St.
Victoria, BC V8W 1R7

PRESENT
Directors: B. Desjardins (Chair), S. Tobias (Vice Chair), J. Brownoff, J. Caradonna, G. Holman (EP), D. Kobayashi, D. Murdock, M. Tait, D. Thompson

Staff: T. Robbins, Chief Administrative Officer; L. Hutcheson, General Manager, Parks and Environmental Services; G. Harris, Senior Manager, Environmental Protection; S. May, Senior Manager, Environmental Engineering; M. Lagoa, Deputy Corporate Officer; J. Dorman, Committee Clerk (Recorder)

EP - Electronic Participation

Regrets: Director(s) C. Plant, A. Wickheim

The meeting was called to order at 1:30 pm.

1. Territorial Acknowledgement

Vice Chair Tobias provided a Territorial Acknowledgement.

2. Approval of Agenda

MOVED by Director Caradonna, SECONDED by Director Kobayashi,
That the agenda for the January 18, 2023 Environmental Services Committee meeting be approved.
CARRIED

3. Adoption of Minutes

3.1. 23-065 Minutes of the June 15, 2022 and the minutes of the September 28, 2022 Environmental Services Committee Meeting.

MOVED by Director Tait, SECONDED by Director Murdock,
That the minutes of the Environmental Services Committee meeting of June 15, 2022 and September 28, 2022 be adopted as circulated.
CARRIED

4. Chair's Remarks

I am pleased to continue as the Chair of the Environmental Services Committee and looking forward to working with all of the committee members. We are in exciting times within the mandate and work of the Environmental Services Committee, we are on critical paths towards solutions for solid resources whether they be biosolids, wood solid, or organic resources. We are also coming through the pandemic time, where Hartland received a significant per capita increase, and that adds more pressure to make good decisions and set direction going forward. We need some good decision making for critical movement forward for our climate and solid waste targets.

5. Presentations/Delegations

There were no presentations.

5.1. 23-068 Delegation - Daniel Kenway; Representing Willis Point Community Association: Re: Agenda Item 6.3.: Evaluation of Passing Lane on Willis Point Road

D. Kenway spoke to item 6.3.

5.2. 23-071 Delegation - Philippe Lucas; Representing Biosolid Free BC: Re: Agenda Item 6.2.: Biosolids Short-term Contingency Beneficial Use Plan

P. Lucas spoke to Item 6.2.

5.3. 23-072 Delegation - Hugh Stephens; Representing Peninsula Biosolids Coalition: Re: Agenda Item 6.2.: Biosolids Short-term Contingency Beneficial Use Plan

H. Stephens spoke to Item 6.2.

6. Committee Business

6.1. 23-044 2023 Environmental Services Committee Terms of Reference

L. Hutcheson presented 6.1. for information.

Discussion ensued on clarification of corporate and community climate action.

There is no recommendation. This report is for information only.

6.2. 23-052 Biosolids Short-term Contingency Beneficial Use Plan

G. Harris spoke to Item 6.2.

Discussion ensued on the following:
- water quality testing and monitoring
- thermal process pilot studies and established programs
- consultation and engagement processes
- chemicals and contaminants testing
- contingency planning related to operational changes
- shipping and additional costs
- associated risks of the service
- land application in other jurisdictions
- regulatory process
- gasification or composting possibilities

MOVED by Director Holman, SECONDED by Director Tait,
That the Environmental Services Committee recommends to the Capital Regional District Board:
1. That the Capital Regional District (CRD) Board amend its policy to allow non-agricultural land application of biosolids as a short-term contingency alternative;
and
2. That staff be directed to update the CRD's short-term biosolids contingency plan correspondingly.
DEFEATED
OPPOSED: Caradonna, Desjardins, Kobayashi, Thompson, Tobias

MOVED by Director Caradonna, SECONDED by Director Thompson,
That we move to direct staff to look at alternative options and maintain the status quo for now.
CARRIED
OPPOSED: Brownoff, Holman, Murdock, Tait

6.3. 23-009 Evaluation of Passing Lane on Willis Point Road

S. May presented Item 6.3. for information.

Discussion ensued on the following:
- existing turn lanes off of Willis Point road
- jurisdiction and authority of road
- cost of passing lane

There is no recommendation. This report is for information only.

7. Notice(s) of Motion

7.1 23-101 Notice of Motion

Director Caradonna provided the following Notice of Motion for consideration at the next meeting of the Environmental Services Committee meeting:

"That the Healthy Waters project proposal for Tod Creek watershed be referred to staff to report back, by end of March or within the span of two committee meetings, on project implications including resources, service mandate, and regulatory framework."

8. New Business

There was no new business.

9. Adjournment

MOVED by Director Caradonna, SECONDED by Director Tait,
That the January 18, 2023 Environmental Services Committee meeting be adjourned at 3:14 pm.
CARRIED

_____
CHAIR

_____
RECORDER

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ERM 23-08

REPORT TO ENVIRONMENTAL SERVICES COMMITTEE
MEETING OF WEDNESDAY, FEBRUARY 15, 2023

SUBJECT **2022 Solid Waste Stream Composition Study Results**

ISSUE SUMMARY

To present the results of the 2022 Solid Waste Stream Composition study.

BACKGROUND

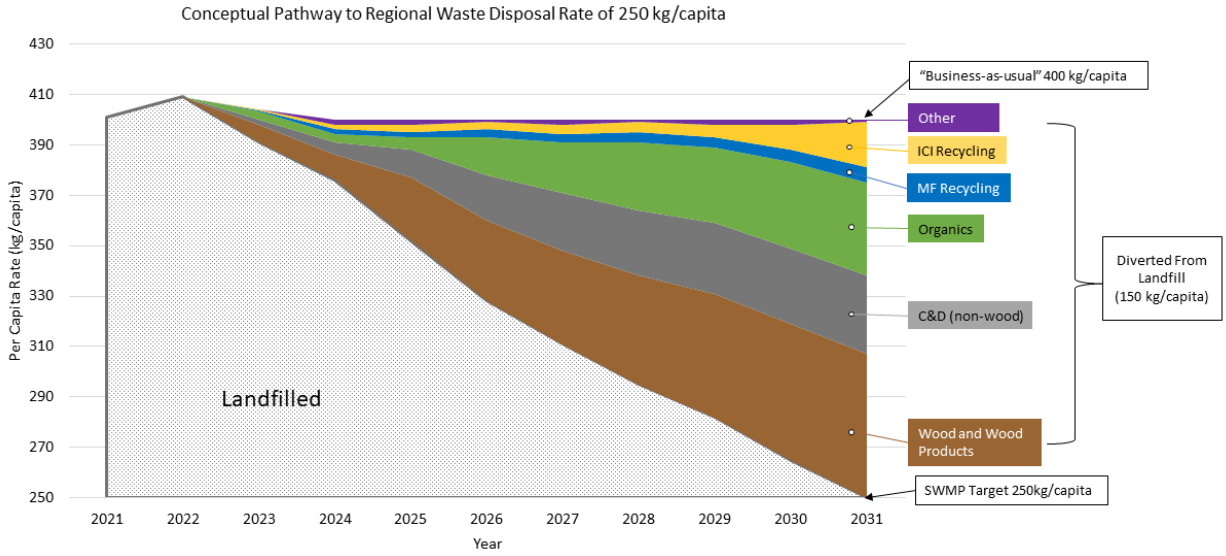
The Capital Regional District (CRD) conducts solid waste stream composition studies approximately every five years to assess the composition of waste being landfilled at Hartland, and to provide analysis on the contributions to the waste stream by sector and by material type. The studies provide valuable benchmark data and analysis for evaluating the success of existing solid waste programs and planning future initiatives.

The 2022 Solid Waste Stream Composition Study was conducted by Tetra Tech Canada Inc. from September 5 to 22, 2022 at Hartland Landfill. Waste stream audits represent a snapshot of waste composition at the time of collection and provide valuable insight to support solid waste planning. The full report is attached as Appendix A. Highlights of the 2022 waste composition study results are:

- Organic waste coming to Hartland Landfill continues to decrease since the 2015 organics ban. Organics now represent 16.7% of waste landfilled, down from 21% in 2016. The 2022 study estimates organic waste contribute 67 kg/capita to the annual per capita disposal rate, down from 75 kg/capita in 2016. Organics are the second-largest component of the waste stream and represent an opportunity for future diversion.
- Wood and wood products are now the largest material stream, accounting for 18.9% of total waste sent to Hartland Landfill. The per capita disposal rate increased from 61 kg/capita in 2016 to 76 kg/capita in 2022. A ban on wood waste at Hartland is expected to result in further diversion.
- The other two largest material categories, paper/paperboard (14.2%) and plastics (12.6%), have shown little change in per capita disposal rates. Paper/paperboard has increased slightly from 55 kg/capita in 2016, to 57 kg/capita in 2022, and plastics have remained the same at 51 kg/capita for 2016 and 2022.
- The construction and demolition (C&D) material category had the greatest change, with an increase of 6.6% compared to 2016. C&D materials now account for 13.3% of the waste stream. This is likely due in part to the closure of Trevita Highwest Landfill in 2021, and rerouting of that material to Hartland Landfill, as well as an active real estate market.

The 2022 Solid Waste Stream Composition Study also analyzed waste stream diversion potential and identified that approximately 47% of the material received at Hartland could have been diverted at source through existing systems. The “Conceptual Pathway to 250 kg/capita” chart below shows a potential pathway to achieving a regional disposal rate of 250 kg/capita by 2031. The chart was created by analyzing Solid Waste Management Plan (SWMP) strategies and actions, as well as the results from the waste composition study. This comparison revealed the

greatest per capita diversion potential exists through targeting specific material categories such as wood and wood products, C&D, and organics, as well as specific sectors such as multi-family and industrial, commercial and institutional.



Results from the 2022 report will assist in planning to achieve the 2021 Solid Waste Management Plan waste disposal target of 250kg/capita by 2031. Staff will return to the Environmental Services Committee in March 2023 with proposed amendments to the Hartland Landfill Tipping Fee Bylaw, and by introducing a revised tipping fee schedule and new bans to better encourage diversion.

CONCLUSION

Since 1990, the Capital Regional District has commissioned waste composition studies to assess the composition of waste being landfilled at Hartland Landfill. The most recent study, completed in September 2022, provides valuable benchmark data and analysis for evaluating the success of existing solid waste programs. Results from the 2022 report will assist in planning to achieve the 2021 Solid Waste Management Plan waste disposal target of 250kg/capita by 2031. Staff will use results from the study to inform future waste diversion initiatives.

RECOMMENDATION

There is no recommendation. This report is for information only.

Submitted by:	Russ Smith, Senior Manager, Environmental Resource Management
Concurrence:	Larisa Hutcheson, P. Eng., General Manager, Parks & Environmental Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENT

Appendix A: CRD – 2022 Solid Waste Stream Composition Study – TetraTech (December 19, 2022)

APPENDIX A

Capital Regional District
2022 Solid Waste Stream Composition Study

PRESENTED TO
Capital Regional District

DECEMBER 19, 2022
ISSUED FOR USE
FILE: 704-SWM.PLAN03248-01

Tetra Tech Canada Inc.
Suite 1000 – 10th Floor, 885 Dunsmuir Street
Vancouver, BC V6C 1N5 CANADA
Tel 604.685.0275 Fax 604.684.6241

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EXECUTIVE SUMMARY

Tetra Tech Canada Inc. (Tetra Tech) was retained by the Capital Regional District (CRD) to undertake the 2022 waste composition study to determine the characteristics of municipal solid waste disposed at Hartland Landfill. The study was undertaken from September 5 to September 22, 2022 (inclusive).

The CRD is a regional entity that consists of 13 member municipalities and three electoral areas, covering an area of 2,341 square kilometres and servicing more than 425,000 citizens. In the regional district, waste diversion and disposal services and programs continue to evolve with the current recycling markets, changes in the provincial regulations, and community needs which are reflected in the current landfill bans (e.g., materials such as drywall, cardboard, large appliances, tires, scrap metal, fill, aggregate, concrete, asphalt, rubble and clean soil, paper fibres, yard and garden waste, extended producer responsibility materials, and kitchen food scraps).

This study allows the CRD to determine where resources should be directed in the future to achieve their waste diversion goals as per their updated 2021 Solid Waste Management Plan.

This study collected sector-specific data for the following sectors:

- Single-family (SF);
- Multi-family (MF);
- Industrial, Commercial, and Institutional (ICI);
- Public Drop Off (DO); and
- Construction and Demolition (C&D).

Waste Composition Results

A total of 82 garbage samples were characterized for this study. Waste materials were classified into 14 primary categories, which were further broken down into 94 secondary categories. Samples were characterized by manual sorting and/or visual estimation.

Table E-1 presents the composition from each sector's garbage stream, as well as the overall composition. The overall waste composition is a weighted average that was calculated based on the relative proportions of waste disposed for each sector. The diversion potential of materials from each sector was calculated based on the theoretical percentage of materials that could be diverted through composting programs, recycling programs, or depots.

Table E-2 summarizes the diversion potential for each sector as well as the overall diversion potential.

Table E-1: Waste Composition Results by Sector

Primary Category	Waste Composition (%)					
	SF	MF	ICI	DO	C&D	Overall
Paper and Paperboard	17.5%	20.1%	18.7%	0.9%	2.3%	14.2%
Glass	2.5%	3.1%	1.2%	1.2%	0.3%	1.6%
Metals	3.2%	3.6%	3.7%	1.1%	1.4%	3.0%
Plastics	17.5%	15.0%	15.5%	2.8%	3.3%	12.6%
Organics	25.1%	23.1%	20.3%	0.6%	1.2%	16.7%
Wood and Wood Products	1.2%	2.3%	15.2%	45.6%	48.9%	18.9%
C&D (non-wood)	2.6%	3.6%	7.2%	21.1%	38.5%	13.3%
Textiles	8.5%	7.5%	4.4%	1.1%	1.6%	5.1%
Tires	0.9%	5.8%	1.4%	0.0%	0.0%	1.5%
Bulky Objects	0.1%	0.0%	0.4%	10.1%	0.8%	0.7%
Household Hygiene	14.2%	10.7%	5.5%	0.3%	0.0%	6.8%
Hazardous Wastes	3.3%	2.3%	1.2%	0.3%	0.4%	1.6%
Electronics	1.5%	1.6%	1.4%	0.3%	0.0%	1.1%
Other	1.9%	1.3%	3.9%	14.6%	1.3%	2.9%

Table E-2: Diversion Potential by Sector

Primary Category	Diversion Potential					
	SF	MF	ICI	DO	C&D	Overall
Compost/Organics	34%	33%	27%	1%	1%	23%
Recycling	10%	12%	12%	1%	2%	9%
Depot/Drop Off	18%	19%	14%	15%	11%	15%
Garbage	38%	36%	47%	84%	86%	53%

Six types of plastic Single-Use items (SUIs) were identified in the SF, MF, and ICI waste samples. The types of SUIs were weighed and individually counted. SUIs comprised of 1% to 2% by weight and between 83 to 249 items per 100 kg sample. In general, the number and weight of SUIs in the SF and MF streams are less than in the ICI stream. However, the number of SUIs varied between each sample.

Waste Generation Per Capita and Historical Comparisons

Based on the reported waste disposal tonnage in 2021 (172,886 tonnes) and estimated population (432,062), the 2021 waste generation rate was calculated to be 400 kg/capita/year. Using the waste composition data, the amount of waste generated in 2021 was estimated to be 76 kg/capita of wood and wood products, followed by 67 kg of organics, 57 kg of paper and paperboard, 53 kg of non-wood C&D material, and 50 kg of plastics.

The CRD commissions a waste composition study approximately every five years to determine the sources and composition (by weight) of municipal solid waste disposed at the regional district's landfill(s). Previous studies were completed in 1990, 1996, 2001, 2004, 2009/2010, and 2016. Figure E-1 shows a comparison of the waste generation rates from 2001 to 2022.

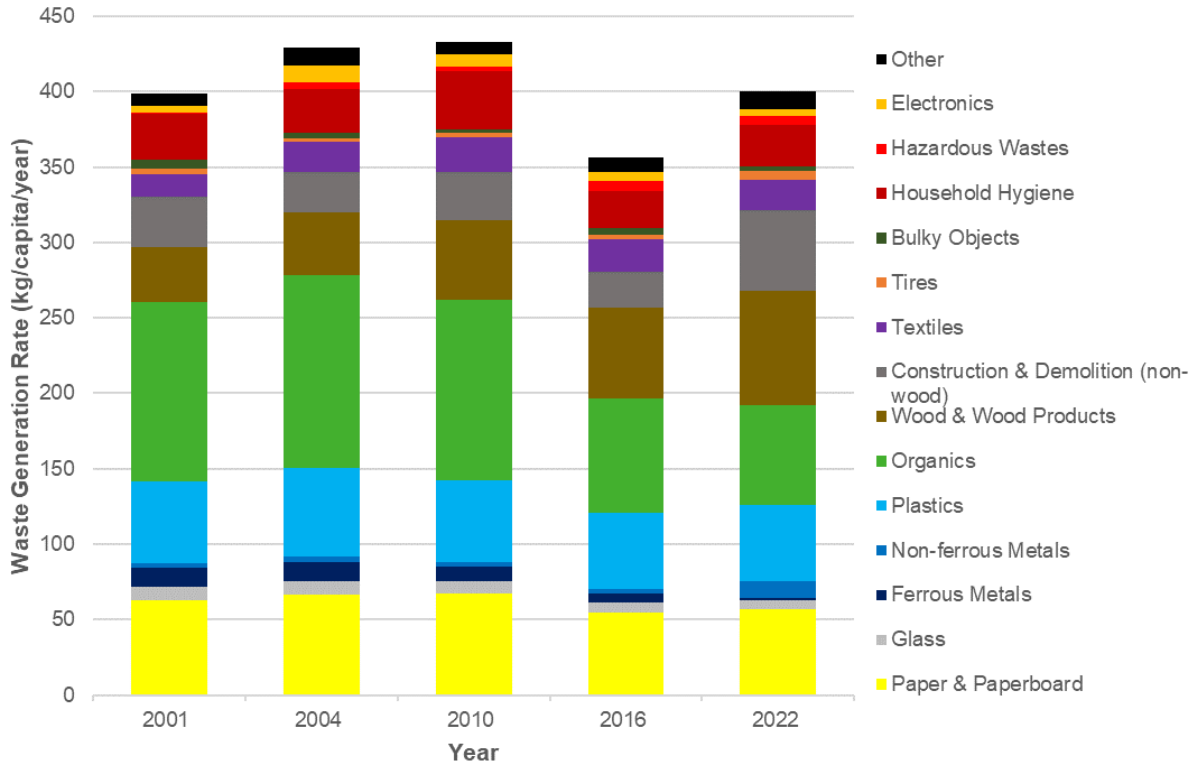


Figure E-1: Comparison of Historic Waste Generation Rates Per Capita

Trends observed in the waste generation rates per capita include:

- From 2016 to 2022, C&D materials (non-wood) in the waste composition increased by 29 kg/capita (6.6%) and wood and wood products increased by 15 kg/capita (1.9%). This could be indicative of the real estate market in the early part of 2022. The closure of Highwest Landfill in 2021 may have also led to an increase in the amount of C&D materials received at Hartland Landfill.
- From 2016 to 2022, organics in the waste composition decreased by 8 kg/capita (4.4%). This change is likely due to the implementation and uptake of organics diversion programs in the region. This is a continuation of the trend that was observed from 2010 to 2016, where the percentage of organics in the waste composition decreased by 6.6%.
- The total amount of all other materials is relatively consistent comparted to previous years and is within the expected variation for the results of the study from year to year.

TABLE OF CONTENTS

LIST OF TABLES IN TEXT

LIST OF FIGURES IN TEXT

APPENDIX SECTIONS

ACRONYMS & ABBREVIATIONS

Acronyms/Abbreviations	Definition
C&D	Construction and Demolition
CRD	Capital Regional District
DO	Public Drop Off
EPR	Extended Producer Responsibility
ICI	Industrial, Commercial, and Institutional
MF	Multi-Family
SF	Single-Family
SUI	Single-Use Item
Tetra Tech	Tetra Tech Canada Inc.

LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of the Capital Regional District and their agents. Tetra Tech Canada Inc. (Tetra Tech) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than the Capital Regional District, or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this document is subject to the Limitations on the Use of this Document attached in the Appendix or Contractual Terms and Conditions executed by both parties.

NOTE TO THE READER

The samples collected and audited for this study are “snapshots” in time, meaning the reported quantities are estimates and only represent the conditions for the period of time in which they were collected. Seasonal and annual variability, weather, and other factors can affect the amount and composition of waste and recyclables generated by the various sectors at any given time. Even with combined educational, regulatory and financial initiatives the reader should not assume that it is necessarily easy, practical, or economical to recover a substantial portion of a disposed material from a mixed waste stream or at its source.

1.0 INTRODUCTION

Tetra Tech Canada Inc. (Tetra Tech) was retained by the Capital Regional District (CRD) to undertake the 2022 waste composition study to determine the characteristics of municipal solid waste disposed at Hartland Landfill.

1.1 Scope of Work

The 2022 waste composition study establishes current data to help the region measure progress on its four goals in the updated 2021 Solid Waste Management Plan, these goals include:

1. Surpassing the provincial per capita waste disposal target of 350 kg/person/year and aspiring to achieve a disposal rate of 125 kg/person/year;
2. Extending the life of Hartland Landfill to the year of 2100;
3. Informing citizens that participate effectively in proper waste management practices; and
4. Demonstrating that the CRD's solid waste services are financially sustainable.

The objectives of the study included the following:

- Collect sector specific data for the following:
  - **Single-family (SF),** typically curbside collected waste streams from SF households, row houses, townhouses, and duplexes.
  - **Multi-family (MF)**, typically waste from MF buildings. Waste from these sources is typically collected by private sector service providers from communal disposal receptacles, such as dumpsters.
  - **Industrial, Commercial, and Institutional (ICI)**, typically waste from light industrial, commercial, and institutional sources. Waste from these sources is typically collected by private sector service providers from dumpsters and compactors.
  - **Public Drop Off (DO),** waste from residents and/or small businesses that would self-haul and drop off materials that are not typically collected from the curbside collection program. The waste material is commonly deposited into large roll-off bins and aggregated together.
  - **Construction and Demolition (C&D),** materials and waste from construction, renovation, and demolition activities and includes waste generated from new construction, renovation, and demolition projects.
- Compare the 2022 data against data from the previous waste composition studies;
- Establish a baseline for new program initiatives;
- Identify materials that may be targeted for potential new program initiatives;
- Provide data for Single-Use items (SUI) and Extended Producer Responsibility (EPR) items in the waste stream; and
- Provide data to inform future strategies or initiatives.

The sorting event for Fall 2022 was undertaken from September 5 to 22, 2022 (inclusive). A sampling plan was developed in conjunction with CRD staff. Efforts were made to obtain samples from a representative sample in the regional district. The total number of samples collected and characterized during this sorting event is summarized by sector in Table 1-1.

Table 1-1: Number of Samples Characterized by Sector

Sector	Number of Samples	
	2016	2022
SF	27	20
MF	10	10
ICI	12	22
DO	38	10
C&D	20	20
Total	**107**	**82**

1.2 Background

The CRD is a regional entity that consists of 13 member municipalities and three electoral areas, covering an area of 2,341 square kilometres and servicing more than 425,000 citizens. There were two landfills in the region, Hartland Landfill and Highwest Landfill. Highwest Landfill closed in August 2021. In the regional district, waste diversion and disposal services and policies continue to evolve with the current recycling markets, changes in the provincial regulations, and community needs which are reflected in the current landfill bans (for materials such as drywall, cardboard, large appliances, tires, scrap metal, fill, aggregate, concrete, asphalt, rubble and clean soil, paper fibres, yard, and garden, EPR materials, and kitchen scraps).

The CRD commissions a waste composition study approximately every five years to determine the sources and composition (by weight) of municipal solid waste disposed at the regional district's landfill(s). Previous studies were completed in 1990, 1996, 2001, 2004, 2009/2010, and 2016. Due to the likely impact of COVID-19 on the composition and amount of waste generated in the region, the study that was scheduled for 2021 was delayed by a year to obtain a more accurate representation of typical waste disposal trends. Compared to previous studies, the current study has added analyses of the estimated diversion potential for each sector. The diversion potential of materials in the waste stream is calculated based on the percentage of materials that can be diverted from the landfill using programs such as composting, recycling programs, and drop off at depots.

The 2022 solid waste stream composition study will enable the CRD to determine where resources should be directed in the future to achieve their waste diversion goals as per their updated 2021 Solid Waste Management Plan.

2.0 METHODOLOGY

Sampling and sorting were conducted in accordance with the methodology set out in the Recommended Waste Characterization Methodology for Direct Waste Analysis Studies in Canada that was prepared by the Canadian Council of Ministers of the Environment.

Samples were collected and sorted by Tetra Tech staff who were trained on safety and waste sorting procedures. Personal protective equipment such as safety glasses, steel-toe boots, gloves, and hi-vis vests were used by all staff as per Tetra Tech's Health and Safety Plan. Tailgate meetings were conducted daily at the start of each day to discuss safety concerns including how to handle material hazards such as sharps and hazardous materials, safe lifting practices, and working around large moving equipment. Prior to the start of the sorting event, all Tetra Tech sorting staff completed a site-specific safety orientation given by CRD staff.

2.1 Sample Collection Methodology

The following describes the collection approach for the various waste streams characterized. Tetra Tech's field lead worked closely with CRD staff to identify loads for sampling that were representative of each waste sector. As selected sampling loads arrived at Hartland Landfill, Tetra Tech's field lead would communicate with CRD staff to ensure the target load was emptied at the designated area for sampling. For each load, sample information, including origin of waste and photograph of sample(s), were collected.

2.1.1 Single-Family

SF residential curbside collection loads were selected with input from CRD staff. Efforts were made to select trucks from different municipalities and electoral areas in the Capital Region. Trucks were redirected to a designated tip face area (Figure 2-1) where the entire load was tipped (as typical operations). Tetra Tech staff would collect a sample that is approximately 100 kg. The collected material would be taken to a designated sorting area where the Tetra Tech sorting team would sort the sample into its respective categories and weigh the categories.

Figure 2-1: SF Load Tipped on Designated Tip Face Area

2.1.2 Multi-Family

MF loads were identified by Tetra Tech and CRD staff and were directed to unload their contents at the designated tip face area (Figure 2-2). At the area, trucks would tip their entire load (as typical operations). Tetra Tech staff would then collect a sample that consists of approximately 100 kg and transport that material to the designated sorting area where the sorting team would sort the sample into its respective categories and weigh the categories.

Figure 2-2: MF Load Tipped on Designated Tip Face Area

2.1.3 Industrial, Commercial, and Institutional

ICI loads were delivered in front-load trucks. Target loads were identified by Tetra Tech and CRD staff and then were directed to unload their contents at the designated tip face area (Figure 2-3). At the area, trucks would tip their entire load (as typical operations). Tetra Tech field lead would determine if the load would be visually assessed or hand sorted. If the field lead determined the load would be hand sorted, staff would then collect a sample that consists of approximately 100 kg and transport that material to the designated sorting area. At the sorting area, the Tetra Tech sorting team would sort the sample into its respective categories and weigh the categories. If the load would be visually estimated, Tetra Tech staff would characterize the contents from the truck using a volume-based visual estimate procedure.

Figure 2-3: ICI Load Tipped on Designated Tip Face Area

2.1.4 Public Drop Off

Residents can dispose of their bulky and excess materials into designated roll-off bins (Figure 2-4) located at the public drop off area at Hartland Landfill. CRD staff would identify incoming public drop off bins and the driver would tip the entire load (as typical operations) at the designated sorting area. Tetra Tech staff would characterize the contents in the roll-off bins using a volume-based visual estimate procedure.

Figure 2-4: Public Drop Off Load Tipped on Designated Tip Face Area

2.1.5 C&D Loads

Commercial and residential C&D loads identified as C&D materials were directed by CRD staff to unload their contents at the designated tip face area (Figure 2-5). At the area, trucks would tip their entire load (as typical operations). Tetra Tech staff conducted visual estimates of the entire load to identify the composition of each load.

Figure 2-5: C&D Load Tipped on Designated Tip Face Area

2.2 Waste Characterization Approach

An initial visual analysis was conducted on each load to determine which of the following methods would be used:

- **Hand Sort (Manual Sort)** – A random sample of about 100 kg was pulled from the load and sorted by hand. This method was used for loads that were roughly two-thirds or more, composed of bagged garbage.
- **Visual Estimation** – The entire load was visually estimated for loads that were composed of one-third or less of bagged garbage.

2.2.1 Hand Sort

As selected SF, MF, and ICI loads arrived at Hartland Landfill, Tetra Tech's field lead would communicate directly with the driver to determine the origin of the material. Once selected for the study, landfill staff would direct the driver to empty their load at the designated location on the landfill face for sample collection. The skid steer operator would then collect one loader bucket from the ends and middle of the load (approximately 200 kg to 300 kg in weight) and delivered it to the sample collection area.

The field team would collect a waste sample that was approximately 100 kg using a rough grid pattern to minimize potential bias. Tetra Tech field staff then transported collected samples to be hand sorted at the designated sorting area (Figure 2-6). Each categorized item was placed into respective bins. The contents of each bin were then weighed and recorded to determine the weight for each secondary category. In addition, six types of plastic SUIs were also individually counted and recorded.

Figure 2-6: Field Staff Hand Sorting a Sample at the Designated Sorting Area

2.2.2 Visual Estimates

For ICI, C&D, and DO loads that entered Hartland Landfill, the entire load would first be visually assessed. When the amount of bagged garbage was less than 30% of the load, the samples were visually estimated and characterized by two Tetra Tech field staff who walked around the load (independently) to visually estimate composition by volume, first by primary categories, then by secondary categories. Once each staff member completed their estimates, they would compare and average out their results. Results were then recorded electronically.

2.3 Material Categories

A comprehensive list of material categories along with their descriptions is included in Appendix B. These categories were used in both the visual estimated and hand sorted materials. For samples where visual estimates were conducted, the category densities used to convert the volume-based percentages into weight-based percentages is also included in Appendix B. During the sorting event, waste materials were classified into 14 primary categories, which were further broken down into 94 secondary categories. These sorting categories were selected and approved by CRD staff.

The 14 primary categories include the following:

- Paper and Paperboard
- Plastics
- C&D Material (non-wood)
- Bulky Objects
- Electronics
- Glass
- Organic Waste
- Textiles
- Household Hygiene
- Other
- Metal
- Wood and Wood Products
- Tires and Rubber Products
- Hazardous Waste

3.0 WASTE COMPOSITION RESULTS

The following summarizes the waste composition results for the various sectors investigated. Results are presented by primary category. Primary category percentages were calculated by aggregating all sample data for each sector. An average percentage by weight was determined for each sector. Waste composition results for all sample results by material categories are presented in Appendix C. Selected photographs of the samples are shown in Appendix D.

For samples where visual estimates were conducted, the volume-based percentages were converted into weight-based percentages using specific densities for material categories (Appendix B lists the specific densities for each material category).

Diversion potential of materials in the waste stream were divided into four general categories: (1) organics/compostables (collected in the kitchen scraps and yard/garden waste programs); (2) recyclables (typical recyclables, such as cardboard and newsprint that can be collected in recycling programs); (3) depot/drop off materials (divertible materials that can be dropped off at a depot, donation, or registered collection site or a transfer station); and (4) garbage (residuals that are landfilled/disposed). Classifications for what can be diverted through composting, recycling, or depot/drop off are included in Appendix A. The diversion potential is calculated based on an ideal scenario where residents and/or businesses are correctly utilizing all waste diversion options that were available at the time of the study. This is the theoretical diversion limit of what is possible given the current waste composition. This is a hypothetical analysis and does not consider different diversion potentials for specific materials and seasonal differences in compositions for different sectors.

It should be noted that the diversion potential is calculated based on existing current waste diversion programs. As the CRD's waste system evolves and matures, new processing and diversion opportunities will emerge and thereby the diversion potential will likely increase.

3.1 Overall Waste Composition

The following summarizes the overall waste composition of materials disposed at Hartland Landfill and diversion potential based on the overall waste composition. This overall waste composition was calculated based on the total tonnage disposed at Hartland Landfill in 2021 (172,886 tonnes) and relative proportions of waste disposed for each sector. Table 3-1 summarizes the estimated amount of waste received at Hartland Landfill in 2021.

Table 3-1: Amount of Waste Received at Hartland Landfill in 2021

Sector	Estimated Amount (tonnes)	Proportion of Waste Disposed
SF	41,838	24.2%
MF	23,167	13.4%
ICI	61,893	35.8%
DO	6,743	3.9%
C&D	39,245	22.7%
Total	**172,886**	**100.0%**

3.1.1 Overall Waste Composition Results

Figure 3-1 represents the average waste composition of the garbage stream from all sectors received at Hartland Landfill in September 2022. This is a snapshot of the types and relative quantities of materials that were discarded by residents and businesses at this time of the year.

The garbage stream was primarily composed of wood and wood products (18.9%), organic waste (16.7%), paper and paperboard (14.2%), C&D materials – non-wood (13.3%), and plastics (12.6%). These five primary categories represent 75.7% of the waste stream.

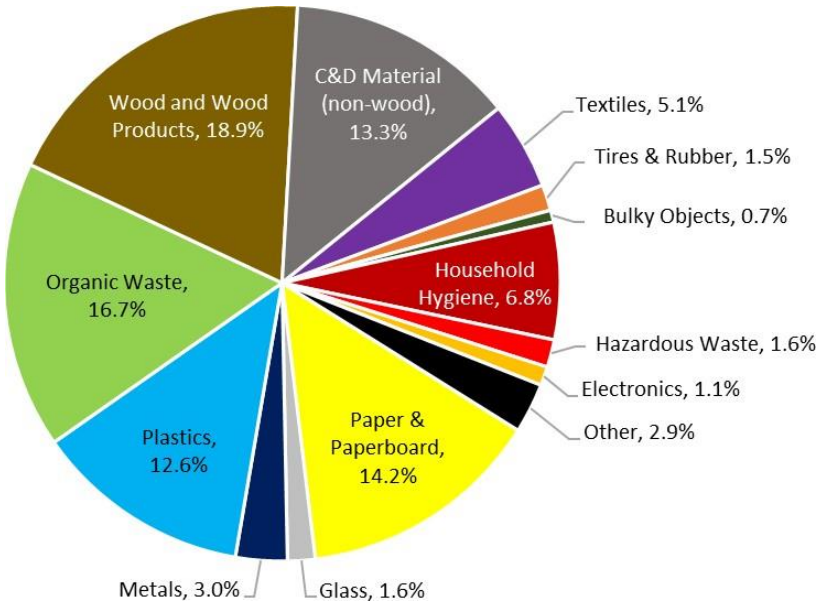


Figure 3-1: Composition of the Overall Garbage Stream

Wood and wood products were mostly composed of plywood/particle board (6.5%), treated wood (4.9%), and painted wood (2.2%).

The largest components of organic waste were avoidable or donatable food waste (10.6%), followed by yard and garden waste (3.1%), and unavoidable food waste (2.8%). Yard and garden waste includes grass, leaves, and branches that are less than 3 inches in diameter.

The largest components of paper products were compostable soiled paper (5.8%), followed by non-recyclable paper (2.6%), printed paper (1.8%), and paper packaging – dry goods (1.7%).

For non-wood C&D materials, the largest components were asphalt shingles (7.0%), flooring – carpet and underlay (2.1%), and other C&D waste (1.8%). Other C&D waste includes ceiling tiles, pipes, toilets, and doors.

Plastic was mostly composed of durable plastic products (3.0%), other flexible plastic packaging (2.7%), film product (2.0%), rigid plastic containers (1.7%), and film packaging – other bags and overwrap (1.6%).

3.1.2 Overall Diversion Potential

Figure 3-2 summarizes the diversion potential of the overall garbage stream. The diversion potential represents the percentage of materials that could be diverted through composting, recycling, other diversion programs in the regional district, such as C&D recycling (e.g., drywall, concrete, asphalt) or donation of reusable items (e.g., clothing, tools, furniture), and product stewardship programs. The product stewardship programs are diversion options available in the regional district, including materials accepted at Recycle BC depots (e.g., recyclable plastic film, expanded polystyrene) and materials managed by EPR programs (e.g., Encorp Return-It for beverage containers, Product Care, Call2Recycle).

As shown on Figure 3-2, the total diversion potential is 47% and that consists of 23% compost/organics, 15% depot/drop off recycling material, and 9% recycling.

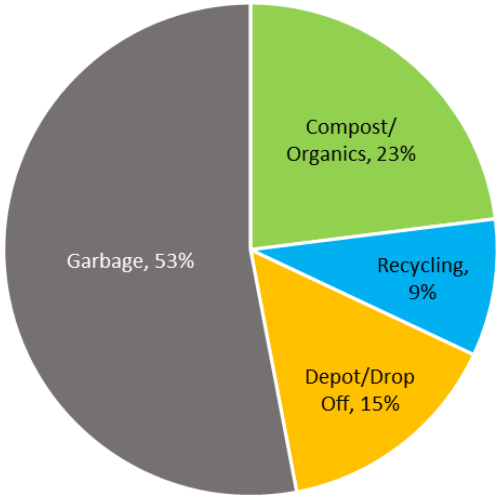


Figure 3-2: Diversion Potential of the Overall Garbage Stream

The main materials that could be diverted in compost/organics are food waste – avoidable or donatable (11%) and compostable soiled paper (6%).

The main materials that could be diverted through depot/drop off are plastics that are only accepted at depots (5%). Plastics accepted only at depots include film packaging – other bags and overwrap, other flexible plastic packaging, and rigid plastic containers – expanded polystyrene.

The main materials that could be diverted in recycling are printed paper (2%), paper packaging – dry goods (2%), rigid plastic containers (2%), and corrugated cardboard (1%).

3.2 Single-Family

The following summarizes the waste composition results and diversion potential for SF garbage. Samples were obtained from municipalities in the regional district that offer municipal garbage collection (e.g., Oak Bay, Saanich, Sidney, Victoria, View Royal), as well as municipalities and electoral areas that rely on private service collection (e.g., Central Saanich, Colwood, Langford, North Saanich, Pender Island, Sooke, Salt Spring Island).

3.2.1 Single-Family Waste Composition Results

Figure 3-3 represents the average waste composition of the garbage stream from SF households in the regional district in September 2022. This is a snapshot of the types and relative quantities of materials that were discarded by residents at this time of the year.

SF garbage was primarily composed of organic waste (25.1%), paper products (17.5%), plastic products (17.5%), household hygiene (14.2%), and textiles (8.5%). These five primary categories represent 82.8% of the waste stream.

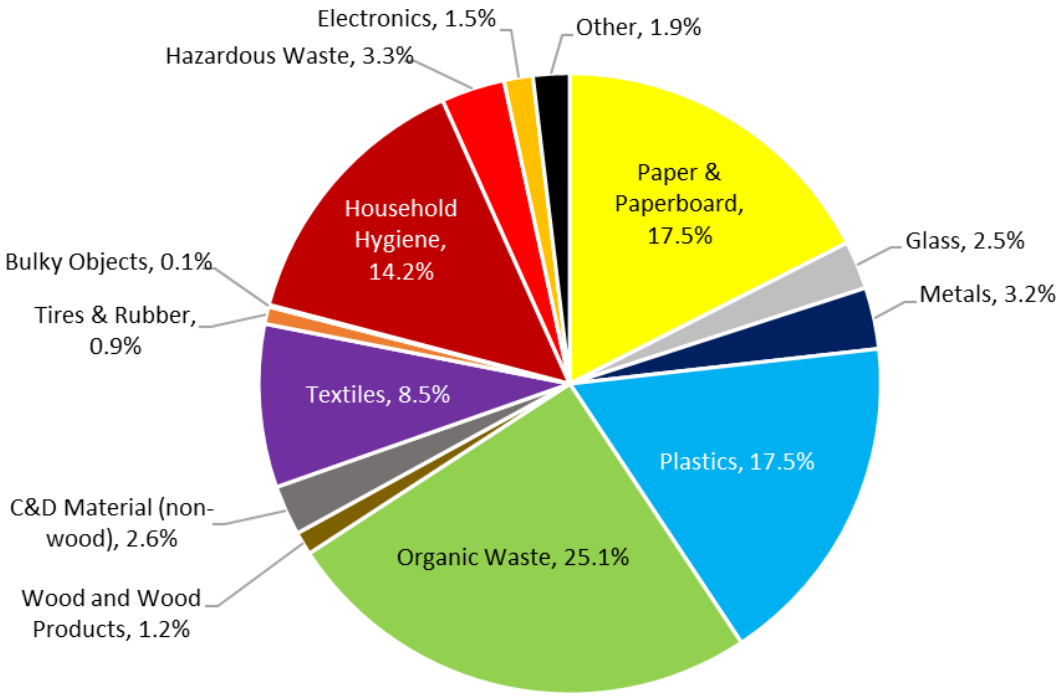


Figure 3-3: Composition of the SF Garbage Stream

The largest components of organic waste were avoidable or donatable food waste (17.4%), followed by unavoidable food waste (5.1%), and yard and garden waste (2.1%). Yard and garden waste includes grass, leaves, and branches that are less than 3 inches in diameter.

The largest components of paper products were food soiled paper (8.8%), followed by non-recyclable paper (3.1%), and paper packaging – dry goods (2.6%).

Plastic was mostly composed of other flexible plastic packaging (5.2%), durable plastic products (2.9%), film product (2.4%), film packaging – other bags and overwrap (2.4%).

For household hygiene, the largest components were disposable diapers (6.4%) and cat litter (4.6%). Other household hygiene typically consists of items such as hygiene products and animal feces.

Textiles consisted of other textiles such as towels, fabric scraps, etc. (4.8%), clothing (3%), and footwear (0.7%).

3.2.2 Single-Family Diversion Potential

Figure 3-4 summarizes the diversion potential in the SF garbage stream. The diversion potential represents the percentage of materials that could be diverted through composting, recycling, diversion at depots and drop off sites, other diversion programs in the regional district, such as C&D recycling or donation of reusable items, and product stewardship programs. The product stewardship programs are diversion options available in the regional district, including materials accepted at Recycle BC depots and materials managed by EPR programs.

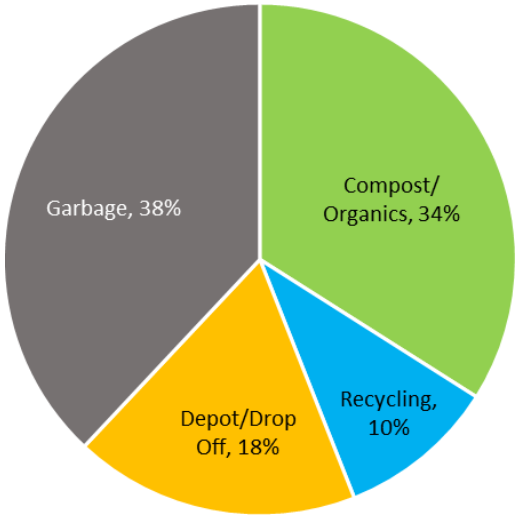


Figure 3-4: Diversion Potential of the SF Garbage Stream

As shown on Figure 3-4, the total diversion potential is 62% and consists of 34% compost/organics, 18% depot/drop off, and 10% recycling materials.

The main materials that could be diverted in compost/organics programs are food waste – avoidable or donatable (17%), compostable soiled paper (9%), and food waste – unavoidable (5%).

The main materials that could be diverted through depot/drop off are primarily plastics that are only accepted at depots (8%).

The materials that could be diverted better in the recycling programs are paper packaging – dry goods (3%) and rigid plastic containers (2%).

3.3 Multi-Family

The following summarizes the waste composition results and diversion potential for MF garbage.

3.3.1 Multi-Family Waste Composition Results

Figure 3-5 represents the average waste composition of the garbage stream from MF households in the regional district in September 2022. This is a snapshot of the types and relative quantities of materials that were discarded by residents at this time of the year.

MF garbage was primarily composed of organic waste (23.1%), paper products (20.1%), plastic products (15.0%), household hygiene (10.7%), textiles (7.5%), and tires and rubber (5.8%). These six primary categories represent 82.2% of the waste stream.

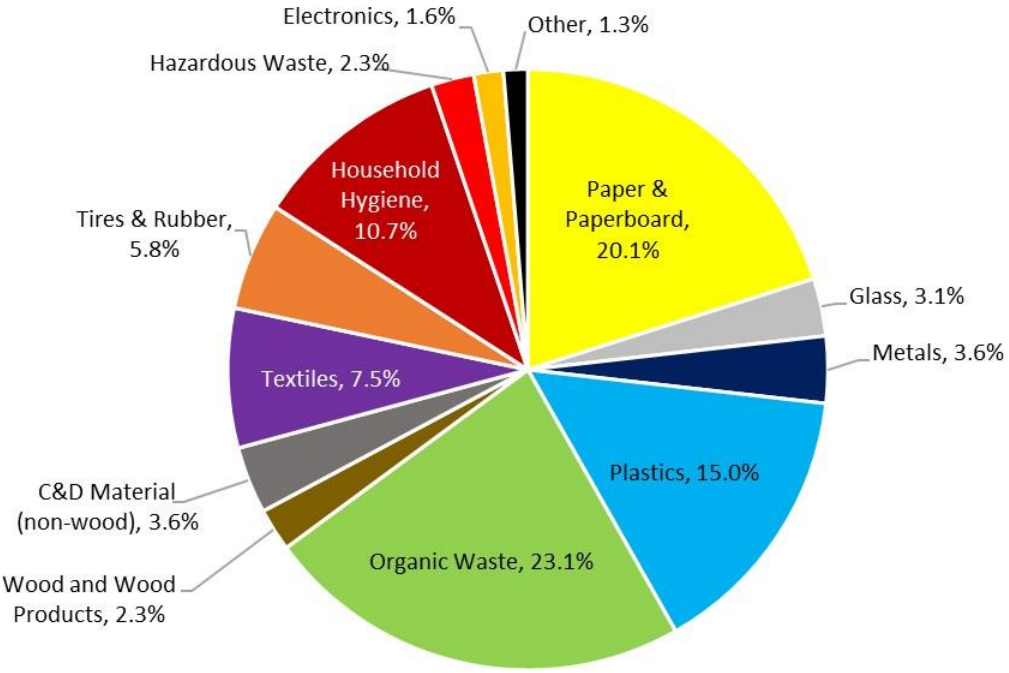


Figure 3-5: Composition of the MF Garbage Stream

For organic waste, the largest components were avoidable or donatable food waste (14.2%), unavoidable food waste (5.5%), and yard and garden waste (3.1%). Yard and garden waste includes cut flowers, yard trimmings and pine needles.

The largest component for paper and paperboard products were compostable food soiled paper (9.6%) and paper packaging – dry goods (3.0%).

Plastic was mostly composed of other flexible plastic packaging (3.3%), durable plastic products (3.1%), and film product (2.7%).

Household hygiene was mostly composed of disposal diapers (3.7%) and cat litter (3.6%).

Textiles consisted of other textiles such as towels, fabric scraps, bags etc. (4.2%) and clothing (2.7%).

Tires and rubber products consisted of vehicle tires (3.7%) and other rubber products (2.1%).

3.3.2 Multi-Family Diversion Potential

Figure 3-6 summarizes the diversion potential in the MF garbage stream. The diversion potential represents the percentage of materials that could be diverted through composting, recycling, diversion at depots and drop off sites, other diversion programs in the regional district, such as C&D recycling or donation of reusable items, and product stewardship programs. The product stewardship programs are diversion options available in the regional district, including materials accepted at Recycle BC depots and materials managed by EPR programs.

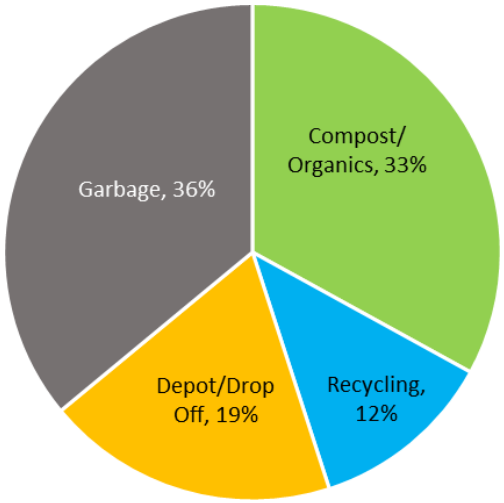


Figure 3-6: Diversion Potential of the MF garbage stream

As shown on Figure 3-6, the total diversion potential is 64% and consists of 33% compost/organics, 19% depot/drop off, and 12% recycling.

The main materials that could be diverted in compost/organics programs are food waste – avoidable or donatable (14%), compostable food soiled paper (10%), and food waste – unavoidable (6%).

The main materials that could be diverted through depot/drop off diversion programs are vehicle tires (4%) and plastics that are only accepted at depots (8%).

The main materials that could be diverted in recycling are paper packaging – dry goods (3%), printed paper (2%), and rigid plastic containers (2%).

3.4 Industrial, Commercial, and Institutional

The following summarizes the waste composition results and diversion potential for the ICI sector.

3.4.1 ICI Waste Composition Results

Figure 3-7 represents the average waste composition of the garbage stream from the ICI sector in the regional district in September 2022. This is a snapshot of the types and relative quantities of materials that were discarded by commercial and institutional organizations this time of the year.

ICI garbage was primarily composed of organic waste (20.3%), paper products (18.7%), plastic products (15.5%), wood and wood products (15.2%), and C&D materials (7.2%). These five primary categories represent 76.9% of the waste stream.

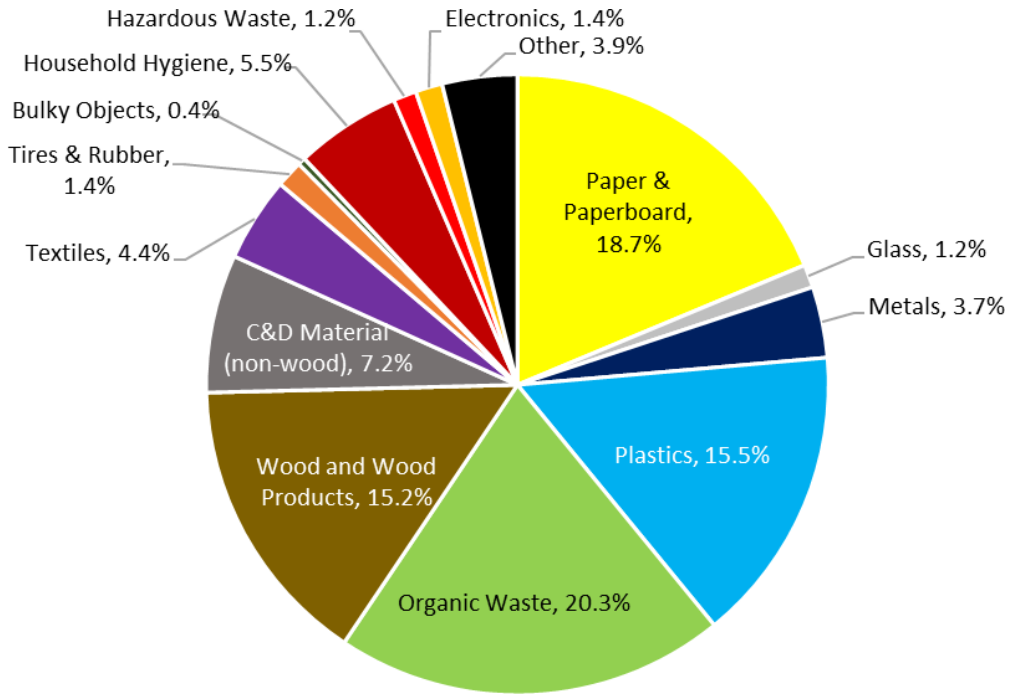


Figure 3-7: Composition of the ICI Garbage Stream

For organic waste, the largest components were avoidable or donatable food waste (12.4%) and yard and garden waste (5.4%).

The largest components of paper and paperboard were compostable soiled paper (6.7%), followed by non-recyclable paper (4.0%), and printed paper (2.4%). Examples of non-recyclable paper are waxed cardboard, waxed paper from bakery and butcher, and laminated signage.

Plastic was mostly composed of durable plastic products (3.2%), other flexible plastic packaging (2.9%), film product (2.7%), rigid plastic containers (2.2%), and film packaging – other bags and overwrap (2.0%).

Wood and wood products mostly consisted of plywood and particle board (6.1%), wood furniture (3.9%), and pallets and skids (2.7%).

Non-wood C&D materials included flooring – carpet and underlay (4.6%), flooring – tile (0.7%), and drywall (0.6%).

3.4.2 ICI Diversion Potential

Figure 3-8 illustrates the diversion potential in the ICI garbage stream. The diversion potential represents the percentage of materials that could be diverted through composting, recycling, diversion at depots and drop off sites, other diversion programs in the regional district, such as C&D recycling or donation of reusable items, and product stewardship programs. The product stewardship programs are diversion options available in the regional district, including materials accepted at Recycle BC depots and materials managed by EPR programs. It should be noted that some EPR programs do not apply to the ICI sector. The diversion potential for the ICI sector has been calculated in the same way as for other sectors to allow for comparisons and to show the theoretical diversion potential of this waste stream.

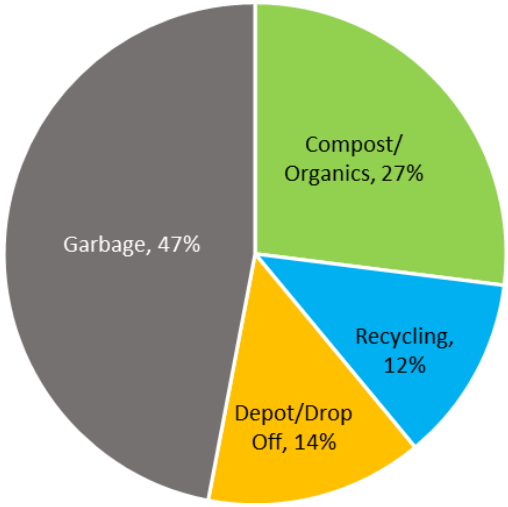


Figure 3-8: Diversion Potential of the ICI Garbage Stream

As shown on Figure 3-8, the total diversion potential for the ICI waste stream is 53% and consists of 27% compost/organics material, 14% depot/drop off, and 12% recycling.

The main materials that could be diverted in compost/organics are food waste – avoidable or donatable (12%), compostable food soiled paper (7%), and yard and garden waste (5%).

The main materials that could be diverted through depot/drop off include pallets/skids (3%) and plastics that are accepted at depots – which include other flexible plastic packaging (3%), film packaging – other bags and overwrap (2%), and plastic deposit beverage containers (1%). It should be noted that the soft plastics such as other flexible plastic packaging and film packaging are not currently accepted from ICI sources.

The main materials that could be diverted in typical recycling programs are various paper materials such as corrugated cardboard, printed paper, and paper packaging (8%) and rigid plastic containers (2%).

3.5 Public Drop Off

The following summarizes the waste composition results and diversion potential for public drop off materials.

3.5.1 Public Drop Off Waste Composition Results

Figure 3-9 represents the average waste composition of the garbage stream from public drop off in the regional district in September 2022. This is a snapshot of the types and relative quantities of materials that were discarded by residents and/or small businesses at this time of the year.

Public drop off garbage was primarily composed of wood and wood products (45.6%), construction and demolition materials (21.1%), other (14.6%), and bulky objects (10.1%). These four primary categories represent 91.4% of the waste stream. The waste stream appears to be indicative of small-scale C&D projects.

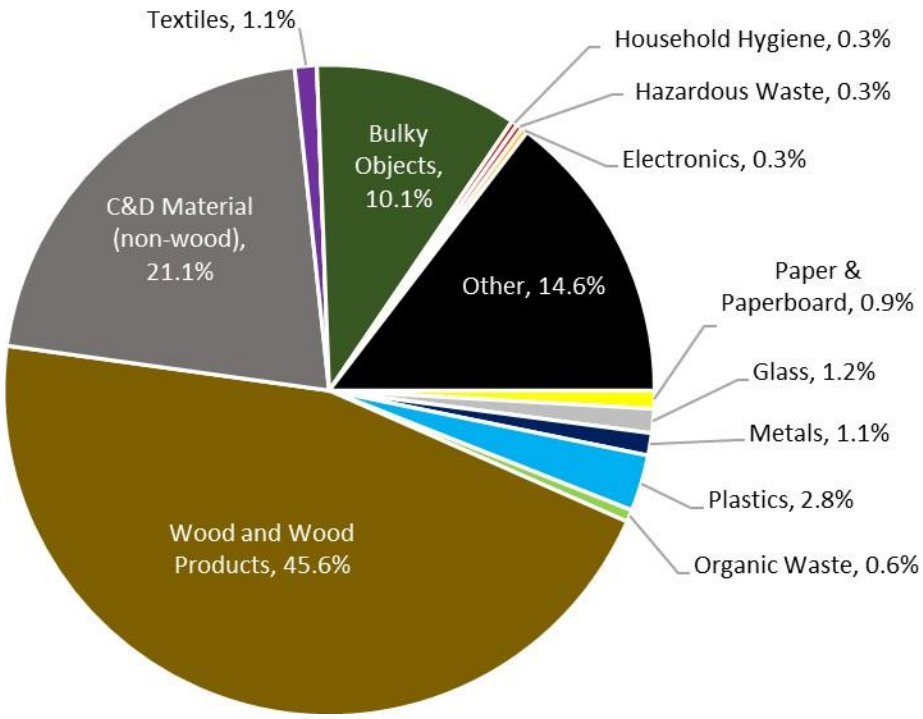


Figure 3-9: Composition of the Public Drop Off Garbage Stream

For wood and wood products, the largest components were painted wood (10.5%), treated wood (9.4%), plywood/particle board (7.2%), wood furniture (7.0%), clean wood (6.5%), and pallets/skids (5.1%).

The largest components for non-wood C&D material were asphalt shingles (11.1%) and other C&D waste (6.2%), such as ceiling tiles, toilets, and doors.

The other primary category was composed solely of bagged garbage which were not sorted due to safety considerations.

Bulky objects were found to be mainly furniture (9.2%).

3.5.2 Public Drop Off Diversion Potential

Figure 3-10 summarizes the diversion potential for the garbage stream from public drop off. The diversion potential represents the percentage of materials that could be diverted through composting, recycling, other diversion programs in the regional district, such as C&D recycling (e.g., drywall, concrete, asphalt, insulation, and carpet) or donation of reusable items (e.g., clothing, tools, furniture), and EPR programs.

As shown on Figure 3-10, the total diversion potential is 16% and consists of 15% depot/drop off, 1% recycling, and less than 1% compost/organics.

The main materials that could be diverted through depot/drop off include clean wood (6%) and pallets/skids (5%).

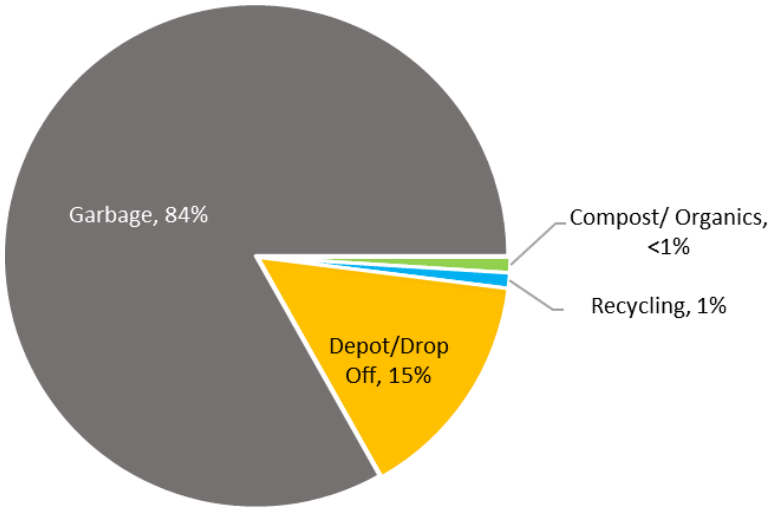


Figure 3-10: Diversion Potential of the Public Drop Off Garbage Stream

3.6 Construction and Demolition

The following summarizes the waste composition results and diversion potential for the C&D sector.

3.6.1 C&D Waste Composition Results

Figure 3-11 represents the average waste composition of the garbage stream from C&D in the regional district in September 2022. This is a snapshot of the types and relative quantities of materials that were discarded by this sector at this time of the year.

C&D waste was primarily composed of wood and wood products (48.9%) and C&D materials (38.5%). These two primary categories represent 87.4% of the waste stream.

The largest components for wood and wood products were treated wood (16.8%). and plywood/particle board (16.5%)

C&D materials was mostly composed of asphalt shingles (28.0%) and other C&D waste (5.1%), such as PVC pipes, insulation, vapour guard paper, and tar paper.

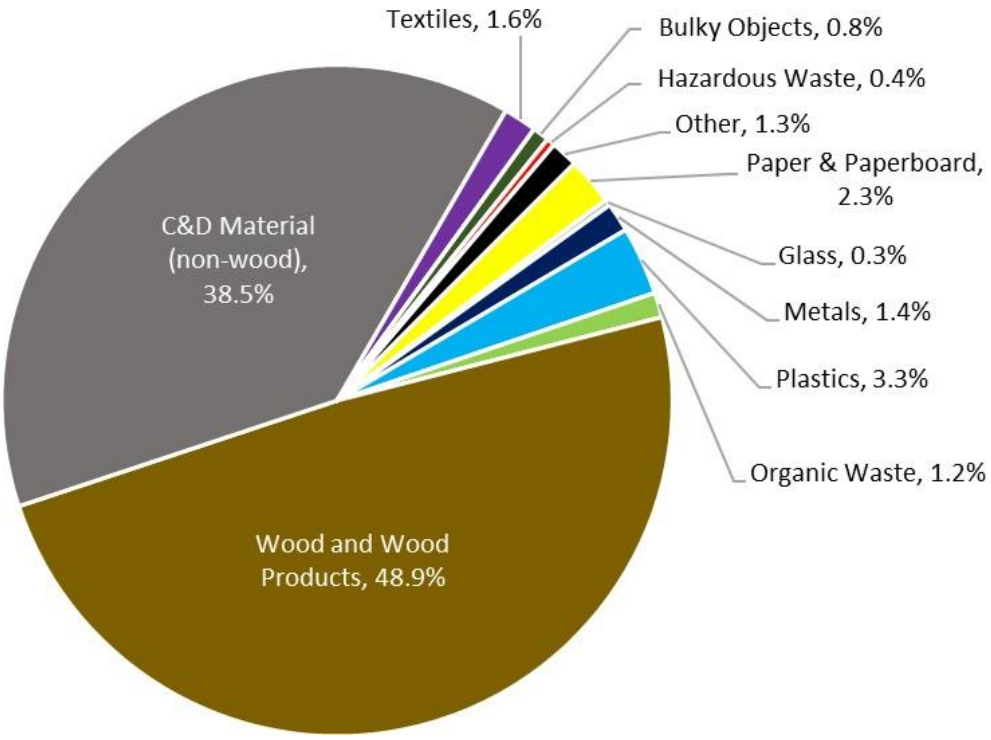


Figure 3-11: Composition of the C&D Garbage Stream

3.6.2 C&D Diversion Potential

Figure 3-12 summarizes the diversion potential in the C&D waste stream. The diversion potential represents the percentage of materials that could be diverted through composting, recycling, other diversion programs in the regional district, such as C&D recycling (e.g., drywall, concrete, asphalt, insulation, and carpet) or donation of reusable items (e.g., clothing, tools, furniture), and EPR programs.

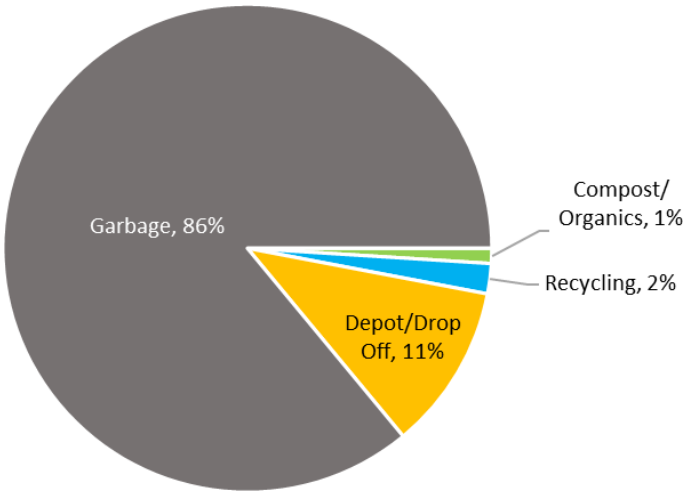


Figure 3-12: Diversion Potential of the C&D Garbage Stream

As shown on Figure 3-12, the total diversion potential is 14% and consists of 11% depot/drop off materials, 2% recycling material, and 1% compost/organics.

The main materials that could be diverted through depot/drop off include clean wood (6%) and pallets/skids (2%).

4.0 WASTE DISPOSAL PER CAPITA

In 2021, CRD reported 172,886 tonnes of waste was landfilled. The population in the regional district (according to BC Stats) was 432,062.[1] Based on those statistics, the waste generation rate per capita and the waste disposal rate for each category were calculated and summarized in Table 4-1. For the calculations, the overall waste composition from the 2022 study was assumed to be similar to the composition of waste disposed in 2021 and used to estimate the per capita waste generation rates and waste disposal rate in 2021.

Based on the reported waste disposal tonnage in 2021 (172,886 tonnes) and estimated population (432,062), the 2021 waste generation rate was calculated to be 400 kg/capita/year. Using the waste composition data, the amount of waste generated in 2021 was estimated at 76 kg/capita of wood and wood products, followed by 67 kg of organics, 57 kg of paper and paperboard, 53 kg of non-wood C&D material, and 50 kg of plastics. These five primary categories represent 303 kg per capita per year (76%) of the estimated waste generation rate from all sectors.

Table 4-1: Overall Waste Composition Generation at Hartland Landfill

Primary Category	Overall Waste Composition		
	Composition (%)	2021 Estimated Waste Generation (kg/capita/year)	2021 Estimated Waste Disposal Rate (tonnes/year to landfill)
Paper and Paperboard	14.2%	57	24,547
Glass	1.6%	6	2,766
Ferrous Metals	0.3%	1	519
Non-ferrous Metals	2.7%	11	4,667
Plastics	12.6%	50	21,781
Organics	16.7%	67	28,869
Wood and Wood Products	18.9%	76	32,672
C&D (non-wood)	13.3%	53	22,991
Textiles	5.1%	20	8,816
Tires	1.5%	6	2,593
Bulky Objects	0.7%	3	1,210
Household Hygiene	6.8%	27	11,755
Hazardous Wastes	1.6%	6	2,766
Electronics	1.1%	4	1,902
Other	2.9%	12	5,013
Total (Estimated) 2021		**400**	**172,886**

[1] https://bcstats.shinyapps.io/popApp/

5.0 COMPARISON TO PREVIOUS RESULTS

The following compares the composition and amount of materials disposed at Hartland Landfill to previous studies. Table 5-1 summarizes the estimated amount of waste received at Hartland Landfill in 2016 and 2021. The estimated population of the CRD was 378,232 in 2016 and 432,062 in 2021. The proportion of waste disposed by each sector remained relatively consistent between 2016 and 2022. Compared to 2016, the proportion of ICI waste in 2022 decreased by 5% while the proportion of C&D waste increased by 7%. The increase in C&D waste may be due to the closure of Highwest Landfill in 2021, which redirected more C&D waste to Hartland Landfill.

Table 5-1: Comparison of the Amount of Waste Received at Hartland Landfill in 2016 and 2021

Sector	2016		2021	
	Estimated Amount (tonnes)	Proportion of Waste Disposed	Estimated Amount (tonnes)	Proportion of Waste Disposed
SF	33,750	25%	41,838	24%
MF	17,550	13%	23,167	13%
ICI	55,350	41%	61,893	36%
DO	6,750	5%	6,743	4%
C&D	21,600	16%	39,245	23%
Total	**135,000**	**100%**	**172,886**	**100%**

A historical comparison of the waste composition results and calculated waste disposal per capita by primary material category from 2016 to 2022 are provided in the following tables and graphs. This information can be used to help evaluate how waste reduction and diversion programs are affecting the quantity and proportion of materials disposed at Hartland Landfill. Historical data was obtained from the previous waste composition reports and the historic data from 2001, 2004, 2010, and 2016 was reorganized to reflect the new category alignments used in the 2022 waste composition study.

Waste composition results are presented as the relative percentages of each material in the garbage, with all categories adding up to a total of 100%. Waste composition studies reveal one moment in time (a snapshot). One study does not directly indicate progress in reduction or re-use or recycling of materials. Comparison to repeated studies over several years using the same approach is used to determine the changing patterns or trends in the waste composition. Table 5-2 compares the overall composition from the 2009/2010 and 2016 studies to this study.

The most significant difference in the waste composition from 2016 to 2022, was an increase of 6.6% in C&D (non-wood) and a decrease of 4.4% in organics waste. Also of note was non-ferrous metals that went up by 2.0%. All other changes were +/- 2.0% or less. There have been some minor changes in categories for each study, and some items that would have been classified as other, are now separated into bulky objects.

Table 5-2: Comparison to Historic Waste Composition at Hartland Landfill

Primary Category	2009/2010[1]	2016	2022	Change (2016 to 2022)
	Weighted Average Composition (%)			
Paper and Paperboard	15.5%	15.4%	14.2%	-1.2%
Glass	1.9%	1.7%	1.6%	-0.1%
Ferrous Metals	2.3%	1.8%	0.3%	-1.5%
Non-ferrous Metals	0.6%	0.7%	2.7%	2.0%
Plastics	12.5%	14.3%	12.6%	-1.7%
Organics	27.7%	21.1%	16.7%	-4.4%
Wood and Wood Products	12.2%	17.0%	18.9%	1.9%
C&D (non-wood)	7.4%	6.7%	13.3%	6.6%
Textiles	5.3%	5.9%	5.1%	-0.8%
Tires	0.7%	0.8%	1.5%	0.7%
Bulky Objects	0.6%	1.3%	0.7%	-0.6%
Household Hygiene	8.9%	6.9%	6.8%	-0.1%
Hazardous Wastes	0.7%	1.8%	1.6%	-0.2%
Electronics	1.8%	1.8%	1.1%	-0.7%
Other	1.9%	2.7%	2.9%	0.2%

[1]The categories from the 2009/2010 waste composition study were reorganized and recalculated to allow for direct comparison with the 2016 and 2022 results

To further evaluate the change in the waste arriving at Hartland Landfill, the waste composition results were used to calculate the waste generation rates by primary material category and are outlined in Table 5-3. The annual waste generation rate is the total quantity of waste landfilled at Hartland Landfill each year. The analysis combining both the quantity and composition allows for detailed analysis of changes in the quantities of certain material categories that are being disposed over time and can be visually represented with bar charts showing both the changing composition and waste generation rate simultaneously (Figure 5-1).

Table 5-3: Comparison to Historic Waste Generation Rates at Hartland Landfill

Primary Category	Annual Waste Generation Rate (kg/capita)				
	2001[1]	2004[1]	2009/2010[1,2]	2016	2021
Paper and Paperboard	62	67	67	55	57
Glass	9	9	8	6	6
Ferrous Metals	13	12	10	6	1
Non-ferrous Metals	3	4	3	2	11
Plastics	54	59	54	51	51
Organics	119	128	120	75	67
Wood and Wood Products	37	41	53	61	76
C&D (non-wood)	33	27	32	24	53
Textiles	15	20	23	21	20
Tires	3	2	3	3	6
Bulky Objects	6	4	3	4	3
Household Hygiene	30	29	38	25	27
Hazardous Wastes	1	5	3	6	7
Electronics	4	11	8	6	4
Other	8	12	8	10	12
Total	**399**	**429**	**433**	**357**	**400**

[1]The categories from the 2001, 2004, and 2009/2010 waste composition study were reorganized and recalculated to allow for direct comparison with the 2016 results.

[2]The 2009/2010 kg/capita was recalculated to include the tonnage of waste that arrived at the Highwest Landfill. No tonnage data is available for Highest Landfill in 2001 and 2004.

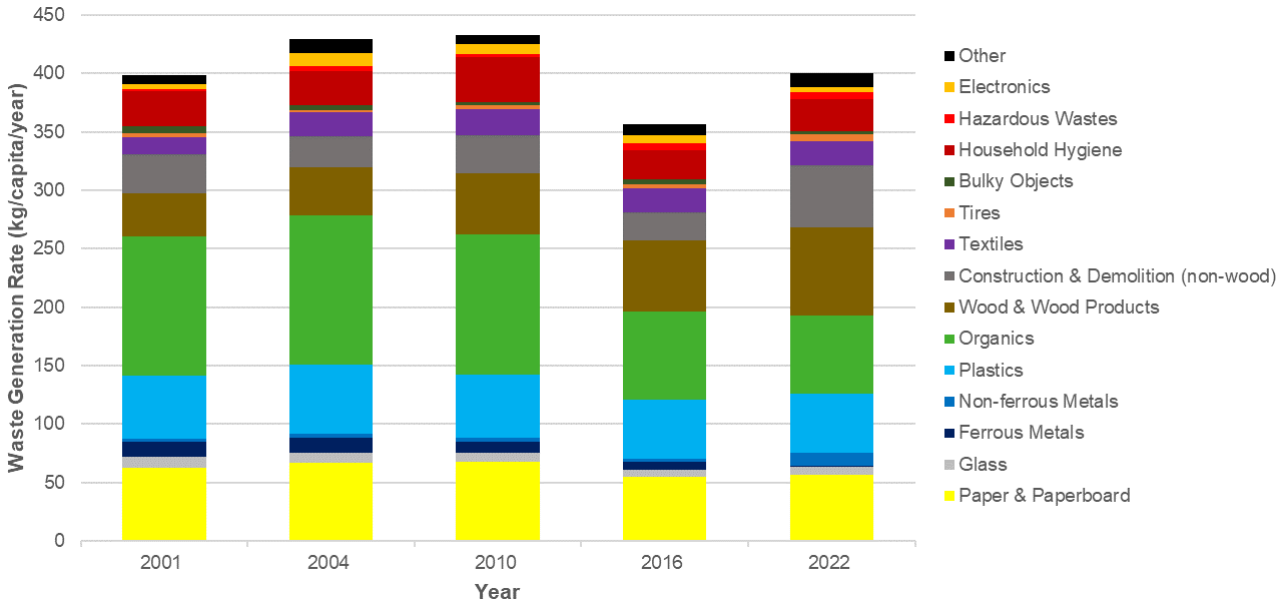


Figure 5-1: Comparison of Historic Waste Generation Rates at Hartland Landfill

Trends observed in the per capita waste generation include:

- From 2016 to 2022, C&D materials (non-wood) in the waste composition increased by 29 kg/capita (6.6%) and wood and wood products increased by 15 kg/capita (1.9%). This could be indicative of the real estate market in the early part of 2022. The closure of Highwest Landfill in 2021 may have also led to an increase in the amount of C&D materials received at Hartland Landfill.
- From 2016 to 2022, organics in the waste composition decreased by 8 kg/capita (4.4%). This change is likely due to the implementation and uptake of organics diversion programs in the region. This is a continuation of the trend that was observed from 2010 to 2016, where the percentage of organics in the waste composition decreased by 6.6%.
- The total amount of metals (i.e., ferrous and non-ferrous metals) has been relatively consistent; however, in 2022, the percentage of ferrous metals decreased while the percentage of non-ferrous metals increased compared to historic trends. In the 2022 study, the primary categories of ferrous metals and non-ferrous metals were combined into one primary category (i.e., metals). As a result, there was only one secondary category for other metals, which was designated as part of the non-ferrous metals for the purposes of the historical comparisons. This change in the categorization of ferrous and non-ferrous metals may have led to the observed difference.
- The total amount of textiles has been relatively consistent since 2001, fluctuating between 15 and 23 kg/capita and a total of 21 kg/capita calculated in 2022.
- The total amount of all other materials is relatively consistent comparted to previous years and is within the expected variation for the results of the study from year to year.

6.0 SINGLE-USE ITEMS

SUIs were assessed in the SF, MF, and ICI waste samples. The types of SUIs were weighed and individually counted. Descriptions of all SUIs analyzed is included in Appendix B.

SUIs comprised 1% to 2% of the waste steam – depending on the sector. Total percentages by sector are presented in Table 6-1.

Table 6-1: Percent Weight of SUIs By Sector

SUI Item	SF	MF	ICI
Plastic Checkout Bags	0.24%	0.13%	0.10%
Plastic Cutlery	0.08%	0.12%	0.21%
Plastic Ring Carriers	0.11%	0.05%	0.06%
Plastic Stir Sticks	0.00%	0.01%	0.02%
Plastic Straws	0.06%	0.05%	0.07%
Plastic Food Service Ware	0.57%	0.68%	1.48%
Total	**1.05%**	**1.04%**	**1.94%**

Table 6-2 represents the average count of SUIs per category per 100 kg sample. The number of each SUI varied between samples. In general, the number SUIs per sample were less in SF stream than in the ICI stream; however, the number of SUI varied greatly between samples and sector. For example, Tetra Tech counted between 26 to 607 plastic food service wares in individual samples in the ICI sector compared to 12 to 66 in the SF sector.

Table 6-2: Average Count of SUI per 100 kg of Sample

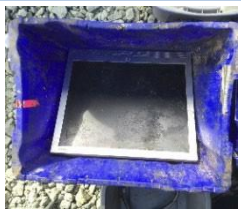
SUI Item	SF	MF	ICI
Plastic Checkout Bags	15.2	8.9	7.8
Plastic Cutlery	13.6	24.0	58.3
Plastic Ring Carriers	7.8	3.2	2.2
Plastic Stir Sticks	0.4	0.1	5.0
Plastic Straws	7.9	14.2	18.9
Plastic Food Service Ware	38.5	66.8	156.4
Total	**83.4**	**117.1**	**248.6**

7.0 INTERESTING FINDS

Table 7-1 lists some of the notable, unexpected, and unusual materials found during the waste composition study. These materials may not necessarily skew the results as it is not atypical to have these types of materials present in the various waste sectors and streams.

Table 7-1: List of Uncommon Materials Found During This Study

Sector (Generator)	Sample ID	Description	Photo
ICI	FA22-ICI-G-01	Food service ware	
ICI	FA22-ICI-G-15	Oil and antifreeze	
ICI	FA22-ICI-G-16	Pharmaceuticals	

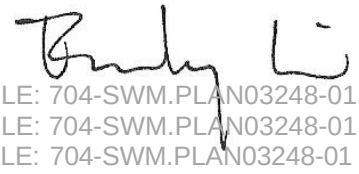
Sector (Generator)	Sample ID	Description	Photo
ICI	FA22-ICI-G-19	Vacuum	
ICI	FA22-ICI-G-20	Warming trays	
ICI	FA22-ICI-G-22	Fish slider	
MF	FA22-MF-G-06	Computer monitor	
MF	FA22-MF-G-07	Truck tires	
MF	FA22-MF-G-09	Drywall	
MF	FA22-MF-G-09	Paint	

Sector (Generator)	Sample ID	Description	Photo
SF	FA22-SF-G-03	Syringes	
SF	FA22-SF-G-05	Unopened beverages	
SF	FA22-SF-G-08	Pharmaceuticals	
SF	FA22-SF-G-17	Insulation	

8.0 CLOSURE

We trust this document meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,
Tetra Tech Canada Inc.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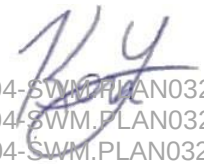
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APPENDIX A

TETRA TECH'S LIMITATIONS ON THE USE OF THIS DOCUMENT

LIMITATIONS ON USE OF THIS DOCUMENT

GEOENVIRONMENTAL

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APPENDIX B

MATERIAL CATEGORIES

Table B-1: Material Category

#	Category	Description and/or Examples	Diversion Potential	Density (kg/yd^3)
1	**Paper and Paperboard**			
01	Newsprint	▪ Newsprint	Recycling	146.82
02	Printed paper	▪ Magazines and mixed recyclable paper ▪ Fine paper	Recycling	146.82
03	Corrugated cardboard	▪ Corrugated cardboard ▪ Pizza boxes	Recycling	33.88
04	Paper packaging – dry goods	▪ Boxboard ▪ Brown Kraft paper, including bags	Recycling	33.88
05	Paper packaging - liquids	▪ Paper cups ▪ Gabletop cartons – non-beverage/deposit (e.g., cream, half, and half, etc.) ▪ Aseptic boxes – non-beverage/deposit	Recycling	22.73
06	Paper beverage containers – deposit	▪ Gabletop cartons – juice, pop, milk, and plant-based substitutes, etc. ▪ Aseptic boxes – juice, pop, milk, and plant-based substitutes, etc.	Depot/Drop Off	22.73
07	Non-recyclable paper	▪ Other paper (non-recyclable and non-compost/organics) ▪ Waxed corrugated cardboard	Garbage	146.82
08	Compost/organics soiled paper	▪ Tissue paper, paper towels, napkins ▪ Paper straws ▪ Unlined paper takeout containers	Compost/Organics	210.45
2	**Glass**			
09	Glass beverage containers – deposit	▪ Beverage containers – alcoholic ▪ Beverage containers – non-alcoholic	Depot/Drop Off	172.73
10	Glass containers	▪ Food containers ▪ Other glass containers	Recycling	172.73
11	Other glass	▪ Plates, cups, mirrors, window glass	Garbage	172.73
3	**Metals**			
12	Ferrous metal beverage containers – deposit	▪ Beverage containers – alcoholic ▪ Beverage containers – non-alcoholic	Depot/Drop Off	20.91
13	Non-ferrous metal beverage containers – deposit	▪ Beverage containers – alcoholic ▪ Beverage containers – non-alcoholic	Depot/Drop Off	20.91
14	Ferrous metal food containers	▪ Steel, iron containers	Recycling	102.27
15	Non-ferrous metal food containers	▪ Aluminum containers ▪ Aluminum foil	Recycling	102.27
16	Other metal	▪ Other ferrous and non-ferrous metals	Garbage	102.27
4	**Plastics**			
17	Plastic beverage containers – deposit	▪ #1 – deposit bottles/jugs ▪ #2 HDPE – milk jugs ▪ Other bottles/jugs – deposit	Depot/Drop Off	18.36
18	NULL (combined with #17)			
19	Rigid plastic containers	▪ #1 other food containers (non-SUI), dish soap, cooking oil	Recycling	18.36

#	Category	Description and/or Examples	Diversion Potential	Density (kg/yd^3)
		▪ #2 – shampoo, etc. ▪ #3 – lotions, soap, etc. ▪ #4,5,7 – ketchup, etc. ▪ #6 rigid packaging – seed trays ▪ Other rigid containers and lids – ice cream, yogurt ▪ All other (blister package, plant pots, deodorant) ▪ Large pails and lids		
20	Rigid plastic containers – expanded polystyrene (white)	▪ #6 foam packaging – meat trays etc.	Depot/Drop Off	14.55
21	Packaging – expanded polystyrene	▪ Foam cushion packaging ▪ Expanded foam	Garbage	14.55
22	Film packaging – other bags and overwrap	▪ Non-carry out bags (bread, produce bags) ▪ Overwrap, cling wraps ▪ Commercial wraps	Depot/Drop Off	15.91
23	Other flexible plastic packaging	▪ Stand-up and sipper lock pouches (e.g., fruit, grated cheese, baby food) ▪ Crinkly wrappers and bags (e.g., chip bags, cereal bags, snack/chocolate bar wrapper) ▪ Woven and net plastic bags (e.g., avocadoes, oranges, rice) ▪ Flexible packaging with plastic seal (e.g., fresh pasta, deli meat) ▪ Non-food protective packaging (e.g., shipping envelopes, bubble wrap)	Depot/Drop Off	15.91
24	Film product	▪ Garbage bags ▪ Tarps	Garbage	15.91
25	Durable plastic products	▪ Non-packaging plastic products (e.g., CDs, toys, lawn chairs)	Garbage	15.91
26	Compost/organics plastics	▪ Non-SUI plastics, marked compost/organics	Garbage	15.91
27	Single-use plastics – checkout bags		Depot/Drop Off	15.91
28	Single-use plastics – cutlery		Garbage	11.68
29	Single-use plastics – ring carriers	▪ Six-pack rings	Garbage	11.68
30	Single-use plastics – stir sticks		Garbage	11.68
31	Single-use plastics – straws		Garbage	11.68
32	Single-use plastics – food service ware	▪ Any clamshell container; lidded container; box; cup; plate; bowl designed for serving or transporting food or beverage that is ready to be consumed without any further preparation	Recycling	18.36
5	**Organic Waste**			
33	Food waste – unavoidable	▪ Waste from food/drink preparation that is not edible (bones, cartilage, etc.)	Compost/Organics	210.45

#	Category	Description and/or Examples	Diversion Potential	Density (kg/yd^3)
34	Food waste – avoidable or donatable	▪ Leftovers, plate scrapings, industrial, commercial, and institutional food waste that is not past the expiration date ▪ Unused ready-made, whole meats/fish, baked goods, deli, liquids	Compost/Organics	210.45
35	Food waste – fats, oils, and grease	▪ Brown and yellow fats, oils, and grease	Compost/Organics	210.45
36	Yard and garden waste	▪ Grass, leaves, branches < 3 inches diameter	Compost/Organics	113.64
37	Other organic waste	▪ Chopsticks, wooden utensils ▪ Wax ▪ Animal carcasses	Compost/Organics	113.64
6	**Wood and Wood Products**			
38	Pallets/skids		Depot/Drop Off	76.82
39	Wood shingles		Garbage	76.82
40	Wood furniture	▪ >80% wood	Garbage	76.82
41	Clean wood	▪ Unpainted or untreated (dimensional lumber)	Depot/Drop Off	76.82
42	Treated wood	▪ Stained and/or treated (creosote or CCA)	Garbage	76.82
43	Painted wood	▪ Painted only – opaque paint	Garbage	76.82
44	Plywood/particle board		Garbage	76.82
7	**Construction and Demolition Material (C&D) (non-wood)**			
45	Drywall		Depot/Drop Off	212.27
46	Asphalt shingles		Garbage	332.27
47	Flooring – carpet and underlay		Garbage	66.82
48	Flooring – vinyl		Garbage	189.55
49	Flooring – tile		Garbage	390.91
50	Flooring – other		Garbage	189.55
51	Insulation	▪ Fiberglass insulation	Garbage	66.82
52	Insulation – other	▪ Foam insulation ▪ Vermiculite insulation	Garbage	66.82
53	Masonry		Garbage	390.91
54	Stucco/plaster		Garbage	390.91
55	Rock/sand/dirt		Garbage	390.91
56	Other C&D waste		Garbage	189.55
8	**Textiles**			
57	Clothing		Depot/Drop Off	68.18
58	Footwear		Depot/Drop Off	68.18
59	Other textiles	▪ Blankets, sheets, etc.	Garbage	68.18
9	**Tires and Rubber Products**			
60	Vehicle tires		Depot/Drop Off	125.00
61	Other rubber products	▪ Gloves	Garbage	125.00
10	**Bulky Objects**			
62	Furniture	▪ Furniture – composite	Garbage	65.91

#	Category	Description and/or Examples	Diversion Potential	Density (kg/yd^3)
63	Mattresses and box springs		Depot/Drop Off	65.91
64	Large appliances	▪ Refrigerator, washing machine, ovens, etc.	Depot/Drop Off	65.91
11	**Household Hygiene**			
65	Disposable diapers	▪ Child, adult diapers	Garbage	125.00
66	Feminine hygiene products		Garbage	125.00
67	Cat litter		Garbage	125.00
68	Animal feces		Garbage	125.00
69	Other household hygiene	▪ Wipes, dental floss, Q-tips, face masks, etc.	Garbage	125.00
12	**Hazardous Waste**			
70	Light bulbs and light fixtures	▪ Fluorescent lighting – CFL bulbs, tubes, ballasts ▪ Light bulbs – Incandescent, halogen, LEDs ▪ Light fixtures	Depot/Drop Off	199.09
71	Batteries – automotive	▪ Lead acid batteries	Depot/Drop Off	125.00
72	Batteries – household	▪ Rechargeable and non-rechargeable	Depot/Drop Off	125.00
73	Oil and antifreeze	▪ Lubricating oil, including containers ▪ Empty oil containers ▪ Oil filters ▪ Empty oil or antifreeze containers	Depot/Drop Off	775.76
74	Extended Producer Responsibility (EPR) paints (latex and oil based)	▪ Paints and containers under Product Care, including: – Latex paint, including containers – Empty latex paint containers – Oil based paint, including containers – Empty oil-based paint containers – Paint in aerosol cans – Paint – empty aerosol cans	Depot/Drop Off	775.76
75	EPR solvents and pesticides	▪ Solvents/pesticides and containers under Product Care, including: – Solvents including containers (<10 L) (e.g., gasoline, paint thinners, other flammable solvents) – Solvents – empty containers – Pesticides including containers – Pesticides – empty containers	Depot/Drop Off	775.76
76	Non-EPR paints	▪ Paints and containers NOT under Product Care, including – Paint and containers (e.g., craft paint, automotive paint) – Paint – empty containers – Paint – aerosol cans – Paint – empty aerosol cans	Depot/Drop Off	775.76
77	Non-EPR solvents and pesticides	▪ Solvents/pesticides NOT under Product Care, including: – Solvents and containers – Solvents – empty containers – Pesticides and containers – Pesticides – empty containers	Depot/Drop Off	775.76

#	Category	Description and/or Examples	Diversion Potential	Density (kg/yd^3)
78	Pharmaceuticals	▪ Including containers	Depot/Drop Off	125.00
79	Needles and sharps		Depot/Drop Off	125.00
80	Other empty aerosol cans	▪ Excluding aerosol cans for paints, pesticides, solvents	Depot/Drop Off	102.27
81	Household hazardous waste – non-hazardous / non-EPR	▪ Personal care products (e.g., shampoo, makeup, soap)	Garbage	125.00
82	Other hazardous waste	▪ Windex, Drano, Armorall ▪ Fertilizers ▪ Other relatively benign household cleaners / products (e.g., glowsticks, COVID tests, silica packs)	Depot/Drop Off	125.00
13	**Electronics**			
83	TV and audio/video equipment	▪ Display devices (monitors/TVs) ▪ Vehicle audio/video ▪ Home audio/video ▪ Personal/portable audio/video	Depot/Drop Off	155.91
84	Computers and peripherals	▪ Computers (desktop, laptop, netbook, notebook, tablet) ▪ Desktop computer printers, copiers, faxes ▪ Computer scanners ▪ Computer peripherals (keyboards, mice)	Depot/Drop Off	160.91
85	Telephones and answering machines	▪ Non-cell phones and answering machines	Depot/Drop Off	199.09
86	Cell phones	▪ Cell phones, PDAs, pagers	Depot/Drop Off	199.09
87	Electronic or electrical instruments/equipment	▪ Includes toys	Depot/Drop Off	199.09
88	Alarms and thermostats	▪ Alarms – smoke, carbon monoxide ▪ Thermostats - mercury-containing, electronic and mechanical	Depot/Drop Off	199.09
89	Heating and cooling products	▪ Commercial	Depot/Drop Off	199.09
90	Small appliances and power tools		Depot/Drop Off	199.09
91	Outdoor power equipment	▪ Hand-held (e.g., chain saws, garden shears, lawn blowers) ▪ Walk-behind (e.g., lawn mowers, snow blowers, tiller) ▪ Free-standing (e.g., power washers, mulchers, wood splitters)	Depot/Drop Off	199.09
92	Other electronics	▪ Other electronics that do not fit into the categories above ▪ Charging cables	Garbage	199.09
14	**Other**			
93	Non-distinct fines		Garbage	125.00
94	Soot/ash		Garbage	125.00
95	Bagged garbage	(For visual estimates only)	Garbage	125.00

APPENDIX C

WASTE COMPOSITION RESULTS

Table C-1: 2022 Waste Composition Results by Sector

#	Category	SF	MF	ICI	DO	C&D	Overall
1	**Paper and Paperboard**	**17.5%**	**20.1%**	**18.7%**	**0.9%**	**2.2%**	**14.2%**
01	Newsprint	0.2%	0.5%	0.2%	0.0%	0.0%	0.2%
02	Printed paper	1.2%	1.8%	2.4%	0.1%	2.0%	1.8%
03	Corrugated cardboard	0.8%	1.4%	1.9%	0.3%	0.1%	1.1%
04	Paper packaging – dry goods	2.6%	3.0%	1.8%	0.5%	0.0%	1.7%
05	Paper packaging – liquids	0.5%	0.9%	1.5%	0.0%	0.0%	0.8%
06	Paper beverage containers – deposit	0.1%	0.2%	0.2%	0.0%	0.0%	0.1%
07	Non-recyclable paper	3.1%	2.7%	4.0%	0.0%	0.1%	2.6%
08	Compostable soiled paper	8.8%	9.6%	6.7%	0.0%	0.0%	5.8%
2	**Glass**	**2.5%**	**3.1%**	**1.2%**	**1.2%**	**0.3%**	**1.6%**
09	Glass beverage containers – deposit	0.6%	1.2%	0.5%	0.0%	0.0%	0.5%
10	Glass containers	0.7%	0.6%	0.4%	0.0%	0.0%	0.4%
11	Other glass	1.2%	1.4%	0.4%	1.2%	0.3%	0.7%
3	**Metals**	**3.2%**	**3.6%**	**3.7%**	**1.1%**	**1.4%**	**3.0%**
12	Ferrous metal beverage containers – deposit	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
13	Non-ferrous metal beverage containers – deposit	0.3%	0.3%	0.3%	0.0%	0.0%	0.2%
14	Ferrous metal food containers	0.4%	0.4%	0.3%	0.0%	0.0%	0.3%
15	Non-ferrous metal food containers	0.7%	0.5%	0.3%	0.0%	0.0%	0.3%
16	Other metal	1.8%	2.4%	2.8%	1.1%	1.4%	2.1%
4	**Plastics**	**17.5%**	**15.0%**	**15.5%**	**2.8%**	**3.3%**	**12.7%**
17	Plastic beverage containers – deposit	0.3%	0.3%	0.6%	0.0%	0.0%	0.3%
19	Rigid plastic containers	2.3%	2.3%	2.2%	0.0%	0.0%	1.7%
20	Rigid plastic containers – expanded polystyrene (white)	0.6%	0.3%	0.3%	0.0%	0.0%	0.3%
21	Packaging – expanded polystyrene	0.2%	0.1%	0.2%	0.0%	0.3%	0.2%
22	Film packaging – other bags and overwrap	2.4%	1.7%	2.0%	0.0%	0.0%	1.6%
23	Other flexible plastic packaging	5.2%	3.3%	2.9%	0.1%	0.0%	2.7%
24	Film product	2.4%	2.7%	2.7%	0.2%	0.1%	2.0%
25	Durable plastic products	2.9%	3.1%	3.2%	2.4%	2.9%	3.0%
26	Compostable plastics	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
27	Single-use plastics – checkout bags	0.2%	0.1%	0.1%	0.0%	0.0%	0.1%
28	Single-use plastics – cutlery	0.1%	0.1%	0.2%	0.0%	0.0%	0.1%

#	Category	SF	MF	ICI	DO	C&D	Overall
29	Single-use plastics – ring carriers	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
30	Single-use plastics – stir sticks	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
31	Single-use plastics – straws	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
32	Single-use plastics – food service ware	0.6%	0.7%	1.1%	0.0%	0.0%	0.6%
5	**Organic Waste**	**25.1%**	**23.1%**	**20.3%**	**0.6%**	**1.2%**	**16.7%**
33	Food waste – unavoidable	5.1%	5.5%	2.4%	0.0%	0.0%	2.8%
34	Food waste – avoidable or donatable	17.4%	14.2%	12.4%	0.0%	0.0%	10.6%
35	Food waste – fats, oils, and grease	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
36	Yard and garden waste	2.1%	3.1%	5.4%	0.6%	1.2%	3.1%
37	Other organic waste	0.4%	0.2%	0.1%	0.0%	0.0%	0.2%
6	**Wood and Wood Products**	**1.2%**	**2.3%**	**15.2%**	**45.6%**	**48.9%**	**18.9%**
38	Pallets/skids	0.0%	0.0%	2.7%	5.1%	2.4%	1.7%
39	Wood shingles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
40	Wood furniture	0.0%	0.0%	3.9%	7.0%	0.0%	1.7%
41	Clean wood	0.2%	0.2%	0.4%	6.5%	6.5%	1.9%
42	Treated wood	0.3%	0.5%	1.6%	9.4%	16.8%	4.9%
43	Painted wood	0.2%	0.7%	0.5%	10.5%	6.7%	2.2%
44	Plywood/particle board	0.5%	1.0%	6.1%	7.2%	16.5%	6.5%
7	**Construction and Demolition Material (non-wood)**	**2.6%**	**3.6%**	**7.2%**	**21.1%**	**38.5%**	**13.3%**
45	Drywall	0.2%	1.2%	0.6%	1.2%	1.2%	0.7%
46	Asphalt shingles	0.1%	0.1%	0.4%	11.1%	28.0%	7.0%
47	Flooring – carpet and underlay	0.3%	1.3%	4.6%	1.7%	0.8%	2.1%
48	Flooring – vinyl	0.2%	0.0%	0.4%	0.0%	0.0%	0.2%
49	Flooring – tile	0.0%	0.0%	0.7%	0.0%	0.0%	0.3%
50	Flooring – other	0.0%	0.0%	0.3%	0.0%	0.5%	0.2%
51	Insulation	0.3%	0.3%	0.0%	0.1%	1.5%	0.5%
52	Insulation – other	0.1%	0.0%	0.0%	0.7%	1.3%	0.3%
53	Masonry	0.1%	0.1%	0.1%	0.1%	0.0%	0.1%
54	Stucco/plaster	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
55	Rock/sand/dirt	0.5%	0.0%	0.0%	0.0%	0.0%	0.1%
56	Other C&D waste	0.9%	0.6%	0.2%	6.2%	5.1%	1.8%
8	**Textiles**	**8.5%**	**7.5%**	**4.4%**	**1.1%**	**1.6%**	**5.1%**
57	Clothing	3.0%	2.7%	1.2%	0.3%	0.0%	1.5%
58	Footwear	0.7%	0.6%	0.4%	0.0%	0.0%	0.4%
59	Other textiles	4.8%	4.2%	2.9%	0.8%	1.6%	3.1%

#	Category	SF	MF	ICI	DO	C&D	Overall
9	**Tires and Rubber Products**	**0.9%**	**5.8%**	**1.4%**	**0.0%**	**0.0%**	**1.5%**
60	Vehicle tires	0.1%	3.7%	0.0%	0.0%	0.0%	0.5%
61	Other rubber products	0.9%	2.1%	1.4%	0.0%	0.0%	1.0%
10	**Bulky Objects**	**0.1%**	**0.0%**	**0.4%**	**10.1%**	**0.8%**	**0.7%**
62	Furniture	0.0%	0.0%	0.4%	9.2%	0.5%	0.6%
63	Mattresses and box springs	0.1%	0.0%	0.0%	0.9%	0.3%	0.1%
64	Large appliances	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11	**Household Hygiene**	**14.2%**	**10.7%**	**5.4%**	**0.3%**	**0.0%**	**6.8%**
65	Disposable diapers	6.4%	3.7%	3.7%	0.3%	0.0%	3.4%
66	Feminine hygiene products	0.9%	0.9%	0.3%	0.0%	0.0%	0.4%
67	Cat litter	4.6%	3.6%	0.4%	0.0%	0.0%	1.7%
68	Animal feces	1.4%	1.1%	0.5%	0.0%	0.0%	0.7%
69	Other household hygiene	0.9%	1.4%	0.6%	0.0%	0.0%	0.6%
12	**Hazardous Waste**	**3.3%**	**2.3%**	**1.2%**	**0.4%**	**0.4%**	**1.7%**
70	Light bulbs and light fixtures	0.2%	0.2%	0.2%	0.4%	0.2%	0.2%
71	Batteries – automotive	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
72	Batteries – household	0.3%	0.1%	0.1%	0.0%	0.0%	0.1%
73	Oil and antifreeze	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
74	Extended Producer Responsibility (EPR) paints (latex and oil based)	0.3%	0.1%	0.1%	0.0%	0.0%	0.1%
75	EPR solvents and pesticides	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%
76	Non-EPR paints	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
77	Non-EPR solvents and pesticides	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%
78	Pharmaceuticals	0.5%	0.2%	0.1%	0.0%	0.0%	0.2%
79	Needles and sharps	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%
80	Other empty aerosol cans	0.2%	0.1%	0.1%	0.0%	0.0%	0.1%
81	Household hazardous waste – non-hazardous / non-EPR	0.6%	0.4%	0.1%	0.0%	0.0%	0.2%
82	Other hazardous waste	1.0%	0.9%	0.4%	0.0%	0.2%	0.5%
13	**Electronics**	**1.5%**	**1.6%**	**1.4%**	**0.3%**	**0.0%**	**1.1%**
83	TV and audio/video equipment	0.2%	0.0%	0.4%	0.3%	0.0%	0.2%
84	Computers and peripherals	0.0%	0.6%	0.5%	0.0%	0.0%	0.3%
85	Telephones and answering machines	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
86	Cell phones	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
87	Electronic or electrical instruments/equipment (including toys)	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%
88	Alarms and thermostats	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

#	Category	SF	MF	ICI	DO	C&D	Overall
89	Heating and cooling products	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
90	Small appliances and power tools	0.7%	0.4%	0.3%	0.0%	0.0%	0.3%
91	Outdoor power equipment	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
92	Other electronics	0.4%	0.5%	0.2%	0.0%	0.0%	0.2%
14	**Other**	**1.9%**	**1.2%**	**3.8%**	**14.6%**	**1.3%**	**2.9%**
93	Non-distinct fines	1.7%	1.1%	0.8%	0.0%	0.2%	0.9%
94	Soot/ash	0.2%	0.1%	0.0%	0.0%	0.0%	0.1%
95	Bagged garbage	n/a	n/a	3.0%	14.6%	1.1%	1.9%

SF – Single family
MF – Multi family
ICI – Industrial, Commercial, and Institutional
DO – Public Drop Off
C&D – Construction and Demolition

APPENDIX D

SELECTED PHOTOGRAPHS

Photo 1: Skid steer operator collecting a sample from a tipped load

Photo 2: Field staff manually sorting a sample

Photo 3: Example of a 100 kg sample from the single family (SF) sector

Photo 4: Example of a 100 kg sample from the multi-family (MF) sector

Photo 5: Example of a 100 kg sample from the industrial, commercial, and institutional (ICI) sector

Photo 6: Example of a load from the public drop-off (DO) sector

Photo 7: Example of a load from the construction and demolition (C&D) sector

Photo 8: Example of printed paper

Photo 9: Example of paper packaging – dry goods

Photo 10: Example of non-recyclable paper

Photo 11: Example of compostable soiled paper

Photo 12: Example of glass deposit beverage containers

Photo 13: Example of non-ferrous metal food containers

Photo 14: Example of other metal

Photo 15: Example of rigid plastic containers

Photo 16: Example of other flexible plastic packaging

Photo 17: Example of durable plastics products

Photo 18: Example of single-use plastics – food service ware

Photo 19: Example of unavoidable food waste

Photo 20: Example of avoidable food waste

Photo 21: Example of yard and garden waste

Photo 22: Example of clean wood

Photo 23: Example of drywall

Photo 24: Example of clothing

Photo 25: Example of other textiles

Photo 26: Example of other rubber products

Photo 27: Example of diapers

Photo 28: Example of other household hygiene

Photo 29: Example of batteries

Photo 30: Example of oil and antifreeze

Photo 31: Example of pharmaceuticals

Photo 32: Example of TV and audio/video equipment

Making a difference...together

ERM 23-09

REPORT TO ENVIRONMENTAL SERVICES COMMITTEE
MEETING OF WEDNESDAY, FEBRUARY 15, 2023

SUBJECT **Recycle BC – Packaging and Printed Paper Product, Extended Producer Responsibility – Draft Program Plan**

ISSUE SUMMARY

To provide an update on Recycle BC's 2022 Program Plan Consultation, along with implications for the Capital Regional District (CRD).

BACKGROUND

Recycle BC is the Extended Producer Responsibility (EPR) stewardship agency responsible for collecting and recycling residential packaging and printed paper products (PPP) in BC under the Recycling Regulation and Environmental Management Act. Recycle BC has solicited stakeholder feedback on a proposed new PPP EPR Plan, 2023-2028 (Program Plan). Recycle BC will be reviewing feedback received through the consultation period and submitting a final plan to the Ministry of Environment and Climate Change Strategy (ENV) for review and approval.

Under the draft plan, new community eligibility criteria proposes to use population to define the recycling services and eligibility available to communities. Under this proposed criteria, two of the six Electoral Area depots in which the CRD has service agreements with Recycle BC for local provision of services – Port Renfrew and Saturna Island – would not be eligible for Recycle BC depot service funding nor Recycle BC payment of material hauling and processing costs. The current funding provided by Recycle BC to the CRD for these depots does not completely cover the costs to manage PPP in these communities (see Appendix A). Should Recycle BC's proposed community eligibility criteria be approved by the ENV, and if support for these communities is not grandfathered in, the potential funding shortfall for provision of service for residents in these communities outside of the Recycle BC system could potentially increase by $100,000 (Port Renfrew) and upwards of $50,000 (Saturna).

Under the proposed plan, Recycle BC proposes to actively recruit for collection partners in any community that meets the new eligibility criteria that does not currently have Integrated Recycle BC Collection Services. In the capital region, this would include Colwood, Langford, Sooke and Victoria. An analysis of the proposed new community eligibility criteria is provided as Appendix B.

The 2022 Solid Waste Stream Composition Study identifies that approximately 18% (or 11,752 tonnes for 2021) of the residential sector (both single and multi-family dwelling) material received at Hartland Landfill is regulated PPP that should be captured under Recycle BC's program. This does not account for the industrial, commercial and institutional sector PPP, which is estimated to be an additional 11,841 tonnes of the waste stream. Recycle BC's program plan targets, and activities, have a direct impact on the CRD's ability to meet per capita waste reduction targets within the Solid Waste Management Plan.

Through this lens, staff have reviewed the proposed draft program plan and provided feedback to Recycle BC, and directly to staff within the ENV tasked with plan approval. CRD staff feedback is

attached as Appendix C. Key recommendations for enhancements to Recycle BC's draft program plan include:

- establish appropriately ambitious performance and recovery targets with consideration of solid waste management planning framework, and per capita waste diversion targets
- invest in enhanced service levels in all areas and, in particular, in an effective collection program for multi-family residents
- enhance depot services and commit to 'grandfathering' in service at existing depots
- provide access to provincial PPP processing and marketing for all regulated products, irrespective of community size or location
- enhance system for collection of non-curbside materials to improve access to services and, in turn, recovery of material
- enhance streetscape programming in urban areas

CONCLUSION

Recycle BC has solicited stakeholder feedback on a proposed new Packaging and Printed Paper Product Extended Producer Responsibility Plan 2023-2028 (Program Plan). Recycle BC's program plan targets, and activities, have a direct impact on the CRD's ability to meet per capita waste reduction targets within the Solid Waste Management Plan. Staff have reviewed the proposed program plan and provided feedback to Recycle BC on the proposed draft program plan, and directly to staff within the Ministry of Environment and Climate Change Strategy (ENV) tasked with plan approval. Recycle BC will be reviewing feedback received through the consultation period and submitting a revised draft program plan to ENV for review and approval.

RECOMMENDATION

There is no recommendation. This report is for information only.

Submitted by:	Russ Smith, Senior Manager, Environmental Resource Management
Concurrence:	Larisa Hutcheson, P. Eng., General Manager, Parks & Environmental Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENTS

Appendix A: Continued Participation in Electoral Areas Depot Recycling Services – Staff Report to Environmental Services Committee (February 7, 2018)
Appendix B: Depot Impacts Analysis
Appendix C: Consultation Feedback Letter to Recycle BC from CRD (January 3, 2023)

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ERM 18-09

REPORT TO ENVIRONMENTAL SERVICES COMMITTEE
MEETING OF WEDNESDAY, FEBRUARY 7, 2018

SUBJECT **Continued Participation in Electoral Area Depot Recycling Services**

ISSUE

To seek direction with respect to the Capital Regional District's continued involvement with depot recycling services in Electoral Areas beyond April 30, 2019.

BACKGROUND

Formerly known as Multi Material BC, Recycle BC (RBC) has been responsible since May of 2014 for the management of residential packaging and printed papers (PPP) throughout the province of BC, including PPP materials collected in electoral areas at depots in lieu of curbside blue box service. It was at this time that an amendment to the *BC Recycling Regulation* (BCRR) came into force requiring PPP producers to assume this responsibility and RBC was formed by the affected producers as a not-for-profit stewardship agency in response to this requirement.

At its March 11, 2015 meeting, the CRD Board passed a motion directing staff to negotiate agreements with RBC and the Electoral Area depot operators to provide residential PPP depot service beginning May 1, 2015 and ending April 30, 2019 and for the CRD to cover any funding shortfall. Since execution of the May 2015 agreements, CRD staff have continued to work with depot operators to consider adjustments to service levels and a reduction of funding reliance. The resulting 2019 budgets developed by the electoral area depots show a slight decrease in depot reliance on CRD funding.

Both the agreement with RBC and contracts with the depot operators are due to expire in approximately 15 months and a decision needs to be made with regard to whether the CRD wishes to enter into new agreements with RBC and the depot operators to continue providing depot recycling services. After reviewing their current depot funding model, and consulting with depot service providers, RBC has proposed entering into a new agreement for depot collection services that would commence May 1, 2019 and expire on December 31, 2023 using essentially the same terms and conditions that are in place under the current contract, with the exception that they are proposing to increase the $175 per tonne fees paid for film plastic and foamed polystyrene to $500 and $600 per tonne respectively.

Should the CRD elect not to enter into a new agreement with RBC to continue providing Electoral Area PPP depot collection services it would need to advise RBC in writing of its intentions no less than six months prior to the expiration of the current agreement. Under the BCRR, RBC would be required to instead directly implement its own residential PPP recycling service for those areas. In discussion with RBC, they have advised it is likely that depot recycling service would be disrupted as the work is retendered by RBC and it is probable that service levels would be reduced or, on the smaller islands, discontinue entirely.

Should the CRD elect to continue providing PPP depot collection services in Electoral Areas on behalf of RBC beyond April 30, 2019, new contracts with the depots on the five Gulf Islands would need to be prepared.

ALTERNATIVES

That the Environmental Services Committee recommend to the CRD Board that:

Alternative 1

1. staff be directed to prepare an agreement with Recycle BC to provide residential packaging and printed paper depot collection services in the Electoral Areas on its behalf beginning May 1, 2019 and ending December 31, 2023; and
2. subject to the execution of an agreement with Recycle BC, that agreements with Electoral Area depot operators be prepared for the provision of collection services; and
3. the funding shortfall for the collection services be drawn from the 2019 and subsequent Environmental Resource Management budgets.

Alternative 2

Staff be directed to serve written notice to Recycle BC that the CRD does not wish to enter into a new agreement to provide residential packaging and printed paper depot collection services for in the Electoral Areas on its behalf beyond April 30, 2019 when the current agreement expires.

SOCIAL IMPLICATIONS

The Gulf Island recycling depots typically began as community initiatives by volunteers over many years, with the CRD covering operational expenses and capital costs for infrastructure. Over time these depots grew and now collect an array of recyclable materials in addition to PPP and offer a variety of reuse waste reduction alternatives as well.

Alternative 1 will maintain the status quo for service in these communities. Returning responsibility for PPP collection in Electoral Areas to RBC under Alternative 2 will likely result in service level reductions and/or disruptions which would not meet service expectations in the affected communities. Some of the depots may face outright closure. These changes would also impact seasonal visitors to these communities who make use of the island recycling depots.

ENVIRONMENTAL IMPLICATIONS

Alternative 1 will ensure that recycling programs and the associated positive environmental outcomes are maintained. Returning direct responsibility for PPP depot collection in Electoral Areas to RBC under Alternative 3 will likely result in service level reductions or, on the smaller islands, a discontinuation of on island collection. This is due to the fact that RBC is committed to discharging its regulatory responsibility only and not to provide service levels beyond what is mandated.

ECONOMIC IMPLICATIONS

In 2017, the net cost to the CRD to provide Electoral Area depot collection services was $432,859 as outlined in Appendix A. For Alternative 1, estimated costs and revenues for 2019 are also provided in Appendix A using the increased RBC rates for film and polystyrene collection. Alternative 2 would pose no cost to the CRD.

CONCLUSION

Recycle BC and the CRD have worked together successfully since May of 2014 to provide residential depot recycling services in the capital region. Recycle BC is proposing to continue this mutually beneficial relationship through a new service agreement that would be in effect from May 1, 2019 to December 31, 2023 and that would see depot collection of residential PPP in Electoral Areas maintained.

RECOMMENDATIONS

That the Environmental Services Committee recommend to the Board that:

1. staff be directed to prepare an agreement with Recycle BC to provide residential packaging and printed paper depot collection services in the Electoral Areas on its behalf beginning May 1, 2019 and ending December 31, 2023; and
2. subject to the execution of an agreement with Recycle BC, that agreements with Electoral Area depot operators be prepared for the provision of collection services; and
3. the funding shortfall for the collection services be drawn from the 2019 and subsequent Environmental Resource Management budgets.

Submitted by:	Russ Smith, Senior Manager, Environmental Resource Management
Concurrence:	Larisa Hutcheson, P.Eng., General Manager, Parks & Environmental Services
Concurrence:	Robert Lapham, MCIP, RPP, Chief Administrative Officer

TW:ac

Attachment: Appendix A – Electoral Area Depot Packaging and Printed Paper Collection Cost Data

APPENDIX A

ELECTORAL AREA DEPOT PACKAGING AND PRINTED PAPER COLLECTION COST DATA

2017 COSTS AND REVENUES				
Depot	**Payments From RBC**	**CRD Payments to Depot**	**Net Cost to CRD**	**Percent Funded by RBC**
Salt Spring Island	$59,975	$246,036	$186,061	24%
Pender Island	$15,925	$88,204	$72,278	18%
Mayne Island	$13,270	$71,948	$58,679	18%
Galiano Island	$11,189	$95,911	$84,722	12%
Saturna Island	$2,099	$20,329	$18,229	10%
Port Renfrew	$2,111	$15,000	$12,889	14%
TOTAL	**$104,569**	**$537,428**	**$432,859**	**19%**

2019 PROJECTED COSTS AND REVENUES				
Depot	**Estimated Payments From RBC[1]**	**CRD Payments to Depot[2]**	**Net Cost to CRD**	**Percent Funded by RBC**
Salt Spring Island	$69,394	$250,981	$181,587	28%
Pender Island	$17,722	$89,977	$72,254	20%
Mayne Island	$14,679	$73,395	$58,716	20%
Galiano Island	$12,620	$97,839	$85,218	13%
Saturna Island	$2,406	$20,737	$18,332	12%
Port Renfrew[3]	$2,196	$15,000	$12,804	15%
TOTAL	**$119,017**	**$547,929**	**$428,912**	**22%**

[1] Based on 2017 quantities of recyclable materials received and proposed 2019 Recycle BC rates.
[2] Includes a 1.5% inflationary adjustments on May 1, 2018 and May 1, 2019.
[3] The 2018 Port Renfrew budget does not include an inflationary adjustment to the $15,000 recycling depot payment.

Recycle BC Program Plan 2023 – 2028 Consultation
Impact of Proposed Community Eligibility Criteria for Integrated Collection Services

MUNICIPALITIES IN CAPITAL REGION

Central Saanich
X Does not meet criteria (>10K category) given the distance to Hartland

Colwood
- √ Meets criteria (>10K criteria) – No depot currently
- Return-to-Retailer - London Drugs Colwood (temporarily suspended due to construction)

Esquimalt
√ Meets criteria (>10K category) – Current depot = Island Return-It Esquimalt

Highlands
X Does not meet criteria (>2K category) given the distance to Langford (10K muni)

Langford
√ Meets criteria (>10K criteria) – No depot currently

Metchosin
X Does not meet criteria (>2K category) given the distance Colwood (10K muni)

North Saanich
X Does not meet criteria (>10K category) is adjacent to Sidney which has a larger population and the depot in Sidney is 0.5km from the North Saanich border

Oak Bay
√ Meets criteria (>10K category) – Current depot = Oak Bay Public Works Yard

Saanich
√ Meets criteria (> 50K category) – Current depot = Hartland Depot
- Return-to-Retailer - London Drugs Quadra
- Return-to-Retailer - London Drugs Tillicum

Sidney
√ Meets criteria (>10K category) – Current depot = Sidney Bottle Depot

Sooke

√ Meets criteria (>10K category) – No depot currently

Victoria

- √ Meets criteria (>50K criteria) – No depot currently
- Return-to-Retailer - London Drugs Yates

View Royal

X Does not meet criteria (>10K category) View Royal is adjacent to Esquimalt which has a larger population and proximity to the depot in Esquimalt

ELECTORAL AREAS IN CAPITAL REGION

Juan de Fuca

X Does not meet proposed small community criteria - there is not a population of 1,000 within catchment area (30 min drive)

- Current depot = Port Renfrew Garbage and Recycling Depot

Salt Spring Island

√ Meets island criteria – Current depot = Salt Spring Island Recycling Depot

Southern Gulf Islands

√ Galiano meets island criteria – Current depot = Galiano Island Recycling Depot

√ Mayne meets island criteria – Current depot = Mayne Island Recycling Depot

√ Pender meets island criteria – Current depot = Pender Island Recycling Depot

X Saturna does not meet island criteria - population is under 1,000 - Current depot = Saturna Island Recycling Depot

APPENDIX C

Parks & Environmental Services
625 Fisgard Street, PO Box 1000
Victoria, BC, Canada V8W 2S6
T: 250.360.3000
www.crd.bc.ca

January 3, 2023

File: 0220-20
General Correspondence

Recycle BC
405 – 221 West Esplanade
North Vancouver, BC V7M 3J3
Via email: consultation@recyclebc.ca

Dear Sir/Madam:

RE: PROGRAM PLAN 2023-2028 CONSULTATION

The purpose of this letter is to present Capital Regional District (CRD) staff feedback on Recycle BC's proposed Packaging and Paper Product (PPP) Extended Producer Responsibility Plan Consultation Draft (September 29, 2022).

The CRD operates Hartland Landfill, and through the CRD's new Solid Waste Management Plan (SWMP), has set a target over the next decade to reduce the capital region's per capita annual waste disposal rate to 250 kg, a 38% reduction from current levels.

In support of this work, the CRD has recently conducted a waste composition study, which will be published in February 2023. Our results identify that approximately 18% (or 11,752 tonnes in 2021) of the residential sector material received at Hartland Landfill is regulated PPP that should be addressed under Recycle BC's stewardship plan. This does not account for the industrial, commercial and institutional sector PPP which is estimated to be an additional 11,841 tonnes of the waste stream.

To divert these recyclable materials out of the residential solid waste stream, the CRD recommends that Recycle BC's proposed EPR plan be enhanced as follows:

1. **Establish appropriately ambitious performance and recovery targets.** The proposed targets within the draft stewardship plan don't align with the established provincial per capita waste disposal targets that Regional Districts are mandated to incorporate into Solid Waste Management Plans, and are set too low to result in improved diversion rates. The proposed EPR plan targets allow for the plan to focus efforts primarily on highly populated areas and avoid adequately addressing collection from the multi-family sector and servicing rural and remote regions of BC, including First Nations communities. The CRD suggests that by 2027, Recycle BC should be targeting >90%+ recovery rate for regulated materials.

2. **Invest in enhanced service levels in all areas, and in particular, in an effective collection program for multi-family residents.** The proposed plan relies heavily on partnering with local governments for provision of services for residents living in multi-family buildings. However in the capital region, like many other jurisdictions in the Province, recycling services for the multi-family residents are provided primarily by the private sector. The current financial incentive-based approach doesn't respond to market realities as evidenced by low program participation in the capital region, and needs to be revised to achieve higher participation by multi-family buildings.

3. **Maintain single family residential curbside collection, including providing adequate per household funding that meets the actual costs of collection, now and in the future**. The CRD's recently completed Request for Proposals for a post-2024 PPP collection contract identified a future per household collection cost of $62.87, annually. The annual $42.80 per household fee paid by Recycle BC will only cover 68% of the cost of collection. The proposed program plan doesn't identify how Recycle BC will ensure the cost of collection isn't transferred over to Regional Districts.

4. **Enhance depot services and commit to 'grandfathering' in service at existing depots.**

    a. **New depots:** The integrated collection model proposed in the draft plan doesn't address siting depots/establishing new depots and relies on regional districts, municipalities or the private sector to shoulder the costs associated with new depot start-up. The program plan should be revised to have Recycle BC directly address the barriers to siting new depots, including costs of land acquisition and capital infrastructure.

    b. **Current depots not meeting criteria:** Under the proposed plan, the depot siting criteria excludes funding depot service in communities with less than 1,000 residents living within a 30 minute radius. This is of particular concern for two CRD depots: Saturna Island and Port Renfrew, which services both the Port Renfrew community and Pacheedaht First Nation. The CRD would like the program plan to consider how waste material is being managed in rural communities and commit to maintaining service at all existing Recycle BC depots.

5. **Provide access to provincial PPP processing and marketing for all regulated products, irrespective of community size or location.** The proposed program plan excludes curbside and depot funding for communities of less than 1,000 people, and does not identify or allow for a modified system that bridges the gap between a system fully supported by producers and one funded fully by smaller or remote communities where collection and transport costs are higher. After Recycle BC recently suspended service in Port Renfrew (a community of approximately 300 residents), the CRD was challenged with finding processing in a system dominated by Recycle BC, and obliged to pay for 100% of processing costs for collected PPP or landfill the material. A hybrid system needs to be established, and the program plan needs to commit to providing access to PPP processing and marketing for all regulated products, even if the cost of transport must be capped in rural and remote communities.

6. **Enhance system for collection of non-curbside materials to improve access to services and, in turn, recovery of material.** The collection of flexible plastics and foam packaging is available to capital region residents at depots on the islands and in Port Renfrew. In the urban areas, drop off is available at locations in Saanich (3), Oak Bay, as well as Esquimalt and Sidney Return-it Depots. All other communities are served by two London Drugs locations who have limited capacity to service the remaining 200,000+ residents. We are encouraged to see Integrated Recycle BC Collection Service being proposed for the City of Victoria and communities in our West Shore, not currently being serviced. An expansion of drop off opportunities for all products in urban areas will support residents in both single-family and multi-family buildings.

7. **Enhance streetscape programming in urban areas.** We acknowledge the work that has been undertaken since 2014 to study streetscape collection and encourage Recycle BC to

expedite their proposed timeline for managing material from this sector as there are a number of municipalities in the capital region continuing to fully fund collection of PPP and its associated challenges with access to processing/marketing.

The CRD believes that within the context of the EPR framework, the only way to divert residential regulated packaging and paper materials from the landfill is for the PPP EPR program to establish adequate targets, provide enhanced funding that meets the operational realities and true costs of collection, and continue the collaborative relationship between stewardship agencies and regional governments.

Given the important role that EPR programs play in supporting regional districts to meet SWMP targets developed under the BC Environmental Management Act, CRD staff will also provide feedback on both the draft plan and the regulatory framework directly to staff within the Ministry of Environment & Climate Change Strategy (ENV).

The CRD looks forward to continuing the strong relationship we have forged with Recycle BC as we work together towards diverting regulated packaging and paper from the residential waste stream. Please don't hesitate to contact me to discuss in further detail any of the feedback provided by the CRD.

Best regards,

Liz Ferris
Manager, Policy & Planning
Environmental Resource Management, CRD

c.c. Bob McDonald, Director, Extended Producer Responsibility, ENV
Jordan Best, Western Canada Director, Recycle BC
Russ Smith, Senior Manager, Environmental Resource Management, CRD

Making a difference...together

ECA 23-10

REPORT TO ENVIRONMENTAL SERVICES COMMITTEE
MEETING OF WEDNESDAY, FEBRUARY 15, 2023

SUBJECT **Central Saanich Request for CRD Carbon-based Budget Policy**

ISSUE SUMMARY

To seek direction on adopting a carbon-based budget policy.

BACKGROUND

The District of Central Saanich submitted a letter to the Capital Regional District (CRD) Board requesting, "that the CRD adopt a policy of carbon budgeting as part of its budget cycle, intending to provide CRD member local governments with their estimated annual carbon budgets" (Appendix A).

Carbon budgeting is one way to assess, plan and communicate approaches for reducing greenhouse gas (GHG) emissions. It essentially articulates how much carbon pollution a jurisdiction has left to emit in order to stay within 2C or 1.5C global warming and achieve net-zero targets. This approach was first introduced as part of the United Nations 2015 Paris Accord, and further detailed within the 2018 Intergovernmental Panel on Climate Change's (IPCC) special report, at the global scale.

Employing a carbon budget at a sub-global scale is a relatively novel exercise. On a national level, the United Kingdom (UK) has used a carbon budget since the 2008 *Climate Change Act* was passed, with broad political support. The budget legally restricts the amount of GHG emissions the UK can emit in a five-year period and influences national policy decisions. On a sub-national scale, the City of Oslo in Norway, and the City of Edmonton have also applied the concept. Oslo's carbon budget was introduced as part of the overall city budget. The City of Edmonton presented a carbon budget alongside its 2022 financial plan. This essentially estimates increased GHG emissions or reductions that will result from proposed projects, programs, initiatives or operating processes. See Appendix B for further information on carbon budgeting.

Neither the CRD nor any local government within the region currently utilize a carbon budgeting framework. Rather, the CRD (and many local governments) have used its emission targets to identify key initiatives that are required to achieve GHG reduction targets in their organizations and across their communities. The CRD produces a regional and local government community GHG inventory every two years to support communities in undertaking this work. Corporately, the CRD is advancing various policies and procedures to embed a climate lens in corporate decision making, in line with its Climate Action Strategy.

Carbon budgeting is an emerging field and local governments across North America are reportedly investigating the application of this accounting framework.

ALTERNATIVES

Alternative 1
The Environmental Services Committee recommends to the Capital Regional District Board:
That the CRD not adopt a policy of carbon budgeting as part of its budget cycle but continue to

monitor progress in carbon budget methodologies and implications on CRD planning processes and share learnings with local governments through the CRD Inter-Municipal Working Group and Task Force, as appropriate.

Alternative 2
That this report be referred back to staff for additional information.

IMPLICATIONS

Environmental & Climate Implications

Carbon budgeting is a tool to incorporate GHG emissions implications into administrative decision-making and support sustainable development in the region. Actual GHG reduction results depend on incorporating the proposed programs, initiatives and capital expenditures within the financial plan.

Corporately, key GHG reduction initiatives have been identified through GHG and energy use monitoring and studies and implementation actions have been highlighted in the CRD Climate Action Strategy. Advancement of these initiatives will be considered in future service planning processes. Successfully implementing a carbon budget requires alignment and collaboration with all other levels of government.

Intergovernmental Implications

Setting carbon budgets means making choices: about how much carbon in the atmosphere is too much; about risk tolerance; and about what is our fair share. All examples of carbon budgeting have used the 2018 IPCC Special Report on Global Warming of 1.5C (SR15) as the basis for making those choices. Many local governments in the capital region have targets based on the IPCC's SR15 report, which provides a common basis for calculating a carbon budget, but not all local governments in the region have established targets that align. This means that the CRD would either have to create a common framework that does not align with some local targets, or create a series of budgets that do not align with each other. These questions of fairness and authority over local decisions are challenging and may require significant time to resolve at the regional government level.

Financial Implications

Based on the level of complexity this would introduce into decision making, additional coordination of project information within the CRD and level of integration to member municipalities within the region, staff would need to undertake a business case to better define the financial implications of implementing a carbon budgeting approach at the CRD and on behalf of member municipalities.

Additionally, this would not address the impact and cost to each local government's current decision making and budgeting process to align to their respective carbon budgets.

Service Delivery Implications

The CRD does not have the current staff resources to complete a carbon budgeting exercise like those undertaken in other jurisdictions. Delivering on these commitments would require the CRD to seek external resources to complete the work.

Alignment with Existing Plans & Strategies

The CRD Climate Action Strategy (2021-2025) includes a goal to integrate climate action priorities at all levels of the decision-making process across the organization. It includes actions to operationalize standardized frameworks for climate action planning and evaluation, advancing corporate climate policies, and support staff in capacity building and coordination. While carbon-based budgeting was not explicitly noted as a priority action, it does align with the intentions of this goal area.

CONCLUSION

The District of Central Saanich requested that the CRD adopt a policy of carbon budgeting as part of its budget cycle and provide the region's local governments with their estimated annual carbon budgets. Carbon budgeting is one tool to support climate action focused decision making. Carbon budgeting is an emerging field; as such, it would require additional resources for the CRD, and support from local governments to implement at this time. As more jurisdictions across North America advance carbon budgeting, staff will continue to stay apprised of these frameworks and work with local government staff to consider how this may be best utilized within the CRD and across the region.

RECOMMENDATION

The Environmental Services Committee recommends to the Capital Regional District Board:
That the CRD not adopt a policy of carbon budgeting as part of its budget cycle but continue to monitor progress in carbon budget methodologies and implications on CRD planning processes and share learnings with local governments through the CRD Inter-Municipal Working Group and Task Force, as appropriate.

Submitted by:	Nikki Elliott, Manager, Climate Action Programs
Concurrence:	Larisa Hutcheson, P. Eng., General Manager, Parks & Environmental Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENTS

Appendix A: Central Saanich Letter to CRD Board – November 8, 2022
Appendix B: Summary and History of Carbon Budgeting

APPENDIX A

Good afternoon,

Please find attached a letter from the District regarding a Council motion on carbon based budgeting.

Regards,

Emilie Gorman (she/her)
Director of Corporate Services/Corporate Officer
District of Central Saanich
250.544.4202 | CentralSaanich.ca

We gratefully acknowledge that the ancestral land on which we work are within the traditional territories of the W̱SÁNEĆ peoples: W̱JOŁEŁP (Tsartlip), BOḴEĆEN (Pauquachin), STÁUTW̱ (Tsawout), W̱SIḴEM (Tseycum) and MÁLEXEŁ (Malahat) Nations.

The information contained in this transmission may contain privileged and confidential information of the District of Central Saanich. It is intended for review only by the person(s) named above. Dissemination, distribution or duplication of this communication is strictly prohibited by all recipients unless expressly authorized otherwise. If you are not the intended recipient, please contact the sender by reply email and destroy all copies of the original message. Thank you.

November 8, 2022 File No. 0400-60/22

Kristen Morley
Corporate Officer/General Manager, Corporate Services
Via email: kmorley@crd.bc.ca

Dear Ms. Morley:

Re: Request for CRD Carbon Based Budgeting Policy

At the Council meeting of October 3, 2022, the District of Central Saanich passed the following motion:

> *WHEREAS the City of Edmonton is showing leadership by integrating carbon budgeting into their budget cycle;*
>
> *WHEREAS both Central Saanich Council and the CRD declared a climate emergency, showing the highest level of concern about climate change;*
>
> *WHEREAS the CRD Climate Action Inter-Municipal Task-Force has deliberated and voted on asking the CRD to investigate carbon budgeting; and*
>
> *WHEREAS this resolution from Central Saanich to the CRD board is to have the CRD pursue a process of quantifying and tracking a carbon budget for each CRD municipality.*
>
> *THEREFORE BE IT RESOLVED that the District of Central Saanich Council submit the following motion to the CRD board for its deliberation: "That the CRD adopt a policy of carbon budgeting as part of its budget cycle, intending to provide CRD member local governments with their estimated annual carbon budget."*

Should you have any questions with respect to the above, please do not hesitate to contact the undersigned by phone at 250-544-4202 or by email at Emilie.Gorman@csaanich.ca.

Regards,

Emilie Gorman
Director of Corporate Services/Corporate Officer

Cc: Christine Culham, Chief Administrative Officer, Central Saanich

SUMMARY AND HISTORY OF CARBON BUDGETING
February 2023

The concept of a carbon budget is linked to the United Nations 2015 Paris Accord and was further detailed by the 2018 Intergovernmental Panel on Climate Change's (IPCC) Special Report on Global Warming of 1.5C (SR15). The SR15 estimated that for a 50% chance of avoiding global warming of 1.5 Celsius, the global community would need to limit remaining emissions to 580 gigaton of carbon dioxide (GtCO2), which was equivalent of 14 years of emissions. However, because of persistently high emissions, the global carbon budget as of 2023 was 380 GtCO2, with a 50% chance of avoiding 1.5 Celsius increase in temperatures.

The idea that the global community only has a limited budget of carbon that we can collectively emit has been utilized by a handful of jurisdictions around the world to support decision making on climate action. On a national scale, the United Kingdom has employed a carbon budget since the 2008 *Climate Change Act* was passed with broad political support. On a sub-national scale, the City of Oslo (Oslo) in Norway, and the City of Edmonton (Edmonton) have also applied the concept.

City of Oslo

Oslo's carbon budget (that it calls a 'Climate Budget') was introduced as an "integral component" of the overall city budget. Oslo creates the climate budget alongside its capital budget to identify the impact of different projects, as well as the national and regional measures that directly contribute to emission reductions. The 2022 Oslo Climate Budget outlined aggressive reductions that go beyond the reductions the SR15 estimates required "to do more than their fair share", according to Oslo Governing Mayor, Raymond Johansen. The Oslo Climate Budget sets an annual "cap" on emissions and commensurate funds to pay for reductions. Oslo's ability to implement an ostensibly effective carbon budget is partly thanks to favourable conditions and governance structures. Local governments are the only subnational level of government in Norway and can collect direct and indirect taxes.

Find the City of Oslo's 2022 Climate Budget here:
https://www.klimaoslo.no/collection/oslos-climate-budget-2022/#:~:text=The%20Climate%20Budget%20presents%20reduction,(proposition%20109%2F20)

City of Edmonton

Edmonton recently employed a carbon budget framework for the years 2023-2026 and introduced it along with its 2022 financial plans. Edmonton has used the "Convergence and Contraction" theory of global emission reduction, which considers responsibility, capacity and equality. Under this theory, wealthier cities are responsible for more historical emissions and are thus responsible for more per capita emission reductions, whereas developing cities are responsible for less. This influences the per capita emissions target under the carbon budget, with an overall target to converge at 3.2 tonnes per person by 2030. From 2030, all cities target to decrease emissions until 2050 to a per capita emissions rate of 0 tonnes. For reference, the capital region per capita emissions in 2020 were 4.2 tonnes per person/year. Edmonton's per capita emissions were approximately 15 tonnes per person/year in 2020.

In Edmonton's case, all capital and operating service budget requests were assessed for both qualitative carbon inputs and detailed quantitative carbon impacts, where possible. It also includes unfunded budget items noted within its energy transition strategy and recognizes these GHG emissions will need to be included in future carbon budget reporting once project details progress.

The impact of Edmonton's capital budget is significant, with a projected emissions reduction of 140,000 tonnes over the next four years. Despite this, Edmonton forecasted an annual carbon budget deficit of 12.95 Megatonnes of carbon dioxide by 2050. The City of Edmonton, as a Canadian local government, is more limited than Oslo in terms of revenue generation. For example, Oslo has broader tax and regulatory authorities, similar to Canadian provincial governments. Edmonton noted in its 2022 Carbon Budget report that "municipal funding will have limited impact to meet community emissions targets".

The cost of implementing a carbon budget in Edmonton was significant. For a city of just over one million people, Edmonton staff estimated that the carbon budget required four-five full-time equivalents for a period of six months to complete.

Edmonton is one of the first municipalities in Canada to incorporate a carbon budget into its financial planning process. Edmonton acknowledges that the effort will evolve as staff apply learnings and the organization's process matures.

Find the City of Edmonton's Carbon Budget 2023-2026 here:
https://pub-edmonton.escribemeetings.com/filestream.ashx?DocumentId=168092.

Making a difference...together

EEP 23-11

REPORT TO ENVIRONMENTAL SERVICES COMMITTEE
MEETING OF WEDNESDAY, FEBRUARY 15, 2023

SUBJECT **Bylaw No. 2922 – Sewer Use Bylaw Amendments**

ISSUE SUMMARY

Capital Regional District (CRD) Bylaw No. 2922 requires an amendment to update definitions and to reflect changes to business practice and a subsequent amendment to CRD Bylaw No. 1857 is required to update ticketing provisions related to the changes.

BACKGROUND

The CRD Regional Source Control Program regulates sanitary sewer discharge through Bylaw No. 2922, *Capital Regional District Sewer Use Bylaw No. 5, 2001*. The Sewer Use Bylaw contains language and regulatory tools such as Waste Discharge Permits, Authorizations and Codes of Practice to control what is discharged to the CRD sewer system and treatment facilities before reaching the environment.

Since the last major bylaw update in 2006, staff have identified definitions that must be changed or added to the bylaw and Codes of Practice (regulations specific to certain business sectors) that need updating due to changing business practices and new requirements or standards for treatment works.

These updates were developed by staff and, where necessary, sector consultation occurred. The changes to the Code of Practice for Food Services Operations were discussed with business stakeholders and plumbing and engineering contacts involved in supporting the sector. Other changes are minor, and consultation was through discussion with business representatives during inspections.

Four Codes of Practice (Food Services, Dental, Dry Cleaning and Photo sectors) are being replaced with this amendment and one code (Recreation sector) is being rescinded, as those facilities will be managed more efficiently under a different level of regulation. The amended bylaw content is indicated in the attached blackline version of the Sewer Use Bylaw (Appendix A). Amendment Bylaw No. 4530 (Appendix B) updates Bylaw No. 2922 to reflect these changes.

Bylaw No. 1857, *Capital Regional District Ticket Information Authorization Bylaw, 1990* (MTI), provides for the enforcement of bylaws through ticketing by CRD Bylaw Enforcement Officers. The MTI requires updating to allow the issuing of tickets for failure to comply with the new and updated sections. Amendment Bylaw No. 4531 (Appendix C) updates CRD Bylaw No. 1857 by replacing Schedule 21 with a new schedule corresponding to the bylaw amendments.

ALTERNATIVES

Alternative 1

The Environmental Services Committee recommends to the Capital Regional District Board:

1. That Bylaw No. 4530, “Capital Regional District Sewer Use Bylaw No. 5, 2001, Amendment Bylaw No. 7, 2023”, be introduced and read a first, second, and third time; and

2. That Bylaw No. 4530 be adopted.

3. That Bylaw No. 4531, "Capital Regional District Ticket Information Authorization Bylaw 1990, Amendment Bylaw No. 75, 2023", be introduced and read a first, second, and third time; and

4. That Bylaw No. 4531 be adopted.

Alternative 2

That Bylaw No. 4530, "Capital Regional District Sewer Use Bylaw No. 5, 2001, Amendment Bylaw No. 7, 2023" be referred to staff for changes.

IMPLICATIONS

Environmental & Climate Implications

Some types of non-domestic waste can be discharged to the sanitary sewer when the appropriate source control and pre-treatment practices are in place. The Sewer Use Bylaw is used to manage contaminants discharged to the CRD sewer system (through collaborative efforts and regulation, when necessary), thereby protecting wastewater infrastructure, treatment works, worker health and safety, and the marine receiving environment.

Financial Implications

There is no financial impact associated with these amendments, as no fines are being adjusted. Periodic updating of Bylaw No. 2922 to improve service delivery and make other necessary changes is a Regional Source Control Program core service plan item.

CONCLUSION

The CRD Bylaw No. 2922, *Capital Regional District Sewer Use Bylaw No. 5, 2001* needs to be amended to update definitions and modify codes of practice based on regulatory and business practice changes since the last major update in 2006; and Bylaw No. 1857, *Capital Regional District Ticket Information Authorization Bylaw, 1990* requires a corresponding amendment to allow the issuing of tickets, when required, to ensure compliance with the Sewer Use Bylaw.

RECOMMENDATION

The Environmental Services Committee recommends to the Capital Regional District Board:

1. That Bylaw No. 4530, "Capital Regional District Sewer Use Bylaw No. 5, 2001, Amendment Bylaw No. 7, 2023", be introduced and read a first, second, and third time; and

2. That Bylaw No. 4530 be adopted.

3. That Bylaw No. 4531, "Capital Regional District Ticket Information Authorization Bylaw 1990, Amendment Bylaw No. 75, 2023", be introduced and read a first, second, and third time; and

4. That Bylaw No. 4531 be adopted.

Submitted by:	Glenn Harris, Ph.D., R.P.Bio., Senior Manager, Environmental Protection
Concurrence:	Larisa Hutcheson, P.Eng., General Manager, Parks & Environmental Services
Concurrence:	Kristen Morley, J.D., General Manager, Corporate Services & Corporate Officer
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENTS

Appendix A: Bylaw No. 2922 – Unofficial Consolidated Bylaw with Blacklined Amendments (January 10, 2018)
Appendix B: Bylaw No. 4530 - Capital Regional District Sewer Use Bylaw, No. 5, 2001, Amendment Bylaw No. 7, 2023
Appendix C: Bylaw No. 4531 - Capital Regional District Ticket Information Authorization Bylaw, 1990, Amendment Bylaw No. 75, 2023

CAPITAL REGIONAL DISTRICT

BYLAW NO. 2922

****

A BYLAW TO REGULATE THE DISCHARGE OF WASTE INTO SEWERS CONNECTED TO A SEWAGE FACILITY OPERATED BY THE CAPITAL REGIONAL DISTRICT

****

WHEREAS:

A. The Regional Board has established by Bylaw No. 2402, "Source Control Local Service Establishment Bylaw No. 1, 1996", a local service for the control of the direct or indirect discharge of contamination into or through facilities connected to sewage facilities under the regulatory authority of the Capital Regional District (CRD);

B. Under Section 30 of the Environmental Management Act, where a regional district exercises a power to provide a service related to the disposal or treatment of sewage, the Board of the Regional District may make bylaws respecting the direct or indirect discharge of wastes into any sewer or drain connected to a sewage facility operated by the District;

(Bylaw 3350)

C. The Lieutenant Governor in Council has designated the CRD as a Sewage Control Area under Section 29 of the Environmental Management Act and the Capital Regional District has appointed a sewage control manager and municipal sewage control officers;

(*Bylaw 3350)*

NOW THEREFORE the Board of the Capital Regional District in open meeting assembled hereby enacts as follows:

1.0 DEFINITIONS

The following terms, words and phrases when used in this bylaw have the meanings set forth in this section, whether appearing in capital or lowercase form. If not defined below, the words and phrases used in this bylaw have their common and ordinary meanings to the degree consistent with the technical subjects in this bylaw.

"Above Ground Storage Tank Containment Area" means the area within a containment wall or barrier containing above ground storage tanks, but does not include the roof or other covering of the area.

"Activated Carbon" means treated or prepared granular carbon capable of removing organic compounds and other substances from waste or wastewater through the processes of adsorption and absorption.

(Bylaw 3016)
(Bylaw 3105)

"Air" means the atmosphere but, except in a sewer or a sewage facility or as the context may otherwise require, does not include the atmosphere inside a constructed enclosure that is not open to the weather.

"Air Contaminant" means any substance or odour whether gaseous, liquid, and solid or a combination that is emitted into the air and that:

(a) injures or is capable of injuring the health or safety of a person;

(b) injures or is capable of injuring property or any life form;

(c) interferes or is capable of interfering with visibility;

(d) interferes or is capable of interfering with the normal conduct of business;

(e) causes or is capable of causing material physical discomfort to a person; or

(f) damages or is capable of damaging the environment.

"Amalgam Separator" means any technology, or combination of technologies, designed to separate amalgam particles from dental operation wastewater using a process involving sedimentation, filtration or centrifugation.

"Application" means a request for one of the following:

(a) a waste discharge permit;

(b) to amend, add or delete a term or condition of a waste discharge permit;

(c) to change the activity that is the subject of a waste discharge permit;

(d) to renew a waste discharge permit; or

(e) an authorization.

"Authorized" or "Authorization" means the authorization in writing by a manager upon such terms and conditions as specified therein.

"Automotive Repair Operation" means the repair or maintenance of vehicles, engines, transmissions or other mechanical devices that use any oil or grease for lubrication by any commercial, industrial or institutional operation or by a public authority including, but not limited to: mechanical repair shops, collision repair shops, fuelling stations, vehicle maintenance facilities, radiator repair shops, engine washing activities, oil change operations, vehicle dealerships, vehicle recycling operations, towing businesses and automotive detailing operations but does not include vehicle wash operations.

(Bylaw 3016)
(Bylaw 3350)

"Bed and Breakfast Operation" means a private residence occupied by the owner or operator in which overnight accommodation and breakfast food service are provided to guests for compensation.

"Biomedical Waste" means biomedical waste as defined in the Hazardous Waste Regulation, B.C. Reg. 63/88.

(Bylaw 3350)

"Biosolids" means stabilized wastewater sludge resulting from a local government wastewater treatment process which has been sufficiently treated to reduce pathogen densities and vector attraction to allow the sludge to be beneficially recycled in accordance with the requirements of the Organic Matter Recycling Regulation of British Columbia, B.C. Reg. 18/2002.

(Bylaw 3350)

"Board" means the Board of the District.

"BOD" means biochemical oxygen demand, being the quantity of oxygen utilized in the biochemical oxidation of organic substances under standard laboratory procedures in five days at 20 degrees Celsius expressed in milligrams per litre, as determined by the appropriate procedure in standard methods.

"Brewing Kettle" means a large cooking vessel used for boiling.

(Bylaw 3016)

"Carpet Cleaning Operation" means any commercial, industrial or institutional operation or a public authority engaged in the cleaning of hard and soft surfaces using liquid extraction, bonnet, absorbent compound, shampoo or dry foam method equipment and procedures.

(Bylaw 3016)
(Bylaw 3105)

"Carpet Cleaning Waste" means a combination of water carried liquid and solid wastes generated by a carpet cleaning operation.

(Bylaw 3016)

"Certified Amalgam Separator" means any amalgam separator that is certified in accordance with ISO Standard ISO/FDIS 11143: (1999) for "Dental equipment – Amalgam separators" or its amendments as established by the International Organization for Standardization.

(Bylaw 3350)

"Chemical Recovery Cartridge" means a cartridge filled with steel wool, iron mesh, iron particles or iron-impregnated resin capable of removing silver from silver-bearing waste through the principle of metallic replacement.

"Chlorinated Phenols" means the chlorinated derivatives of phenols specified in Schedule "B" and as determined by the appropriate procedure described in standard methods or in procedures authorized by the manager.

~~**"Cleaned Out"** means to have the settled and floating material collected in an oil-water separator, vehicle wash interceptor or trade waste interceptor removed by a pump-out service. *(Bylaw 3016)* *(Bylaw 3105)*~~

"Cleaned Out" means to have the settled and floating material collected in a grease interceptor removed by a waste hauler for off-site waste management, disposal at a septage disposal facility or to have the material removed and disposed of in accordance with a plan approved by the manager.

"COD" means chemical oxygen demand, being a measure of the oxygen equivalent of the organic matter content of a sample that is susceptible to oxidation by a strong chemical oxidant, as determined by the appropriate procedure in standard methods.

"Code of Practice" means a code of practice attached to this bylaw and listed in Schedule “D” for the discharge of waste by a discharging operation.

"Collecting Container" means that part of an amalgam separator designed for retention of separated amalgam waste for the purpose of disposal.

"Combined Sewer" means a sewer designed for the collection and transmission of uncontaminated water, wastewater and stormwater.

"Commercial Kitchen" means a kitchen equipped with any of the following fixtures: a multi-compartment pot sink, a commercial dishwasher, a pre-rinse sink or a self-cleaning exhaust hood; and which is not located on a premises used solely as a private residence.

"Composite Sample" means a sample of waste which is composed of equivalent portions of a specified number of grab samples collected manually or automatically at the same sampling point, at specified times or flow intervals during a specified sampling period.

"Condensed Water" means water which is produced through the process of condensation and includes condensate drainage from refrigeration equipment, air conditioning equipment and steam heating systems.

"Confined Space" means an area that meets all four of the following conditions, as specified by WorkSafe BC:

(a) is enclosed or partially enclosed;
(b) is not designed or intended for continuous human occupancy;
(c) has limited or restricted means for entry or exit that may complicate the provision of first aid, evacuation, rescue, or other emergency response service; and
(d) is large enough and so configured that a worker could enter to perform work.

"Contaminant" means any substance, whether gaseous, liquid or solid, whether dissolved or suspended, or any wastewater quality parameter that, when present above a certain concentration in wastewater:

(a) injures or is capable of injuring the health or safety of a person;

(b) injures or is capable of injuring property or any life form;

(c) interferes or is capable of interfering with the proper operation of a sewer or sewage facility;

(d) causes or is capable of causing material physical discomfort to a person; or

(e) damages or is capable of damaging the environment.

"Contaminated Sites Regulation" means the Contaminated Sites Regulation of British Columbia (B.C. Reg. 705/95) as amended from time to time pursuant to the Environmental Management Act.
(Bylaw 3350)

"Cumulative Flow" means the total flow over a known period of time.

"Cumulative Flow Meter" means a device used for measuring cumulative flow.

"Dental Amalgam" means a dental filling material consisting of an amalgam of mercury, silver and other materials such as copper, tin or zinc.

"Dental Operation" means any operation that carries out dental care, dental hygiene or dental laboratory activities and which produces liquid waste containing mercury or silver.

"Dioxin TEQ" means the dioxin toxicity equivalent value as defined in the Hazardous Waste Regulation.
(Bylaw 3105)
(Bylaw 3350)

"Discharge" means to directly or indirectly introduce a substance into a sewer or sewage facility by spilling, disposing, abandoning, depositing, leaking, seeping, pouring, draining, emptying or by any other means.

"Discharging Operation" means an industrial, commercial, institutional or other undertaking listed in Schedule "D".

(Bylaw 3350)

"District" means the Capital Regional District.

"Domestic Sewage" means sanitary waste produced on a residential property.

"Domestic Waste" means sanitary waste or grey water generated from a residential or personal recreational use of land that is discharged directly or indirectly into a sewer connected to a sewage facility operated by the District.

"Dry Cleaning Operation" means any commercial, industrial or institutional operation or a public authority engaged in the cleaning of textile and apparel goods, rugs, furs, leathers and other similar articles using tetrachloroethylene.

(Bylaw 3105)

"Electrolytic Recovery" means a method of recovering silver from silver-bearing liquid waste by passing a direct electrical current between electrodes suspended in the waste.

"Enactment" means any applicable act, regulation, bylaw, order or authorization, by a federal, provincial, regional or municipal government or their authorized representatives.

"Environmental Management Act" means the Environmental Management Act of the Province of British Columbia.

(Bylaw 3350)

"Fat, Oil and Grease" or "FOG" means insoluble organic fats, oils and grease from animal or vegetable sources."

"Fermentation Operation" means any operation where alcoholic beverages are produced for sale to any person or through the use of facilities or equipment for a fee, including brew pubs, brew clubs, micro-breweries, cottage breweries, wineries, brew-on-premises operations, vint-on-premises operations and distilleries.

(Bylaw 3016)

"Filter Cloth" means a fabric material, such as landscape fabric or any other material that will remove total suspended solids from wastewater such that the effluent will meet the restricted waste criteria set out in Schedule "B".

(Bylaw 3105)

"Flow Control Fitting" means a device used to limit the flow of:

(a) wastewater into a grease interceptor to its rated flow capacity; or

(b) water into a wet vacuum system to a rate which does not exceed the maximum inlet flow rate of a certified amalgam separator installed downstream.

"Food Grinder" means a mechanical device that is connected to a sewer and is used to reduce the particle size of food waste disposed into a sewer."

~~**"Food Services Operation"** means any operation where food is prepared or made ready for eating and served to the public, including a restaurant, health or residential care facility, delicatessen, grocery store, bakery, butcher shop, fast-food outlet, cafeteria, bar or similar place. *(Bylaw 3350)*~~

"Food Services Operation" means any operation where food is prepared, processed, packaged, served, sold, dispensed or otherwise handled, including washing of utensils, in a manner that results in the discharge of fat, oil and grease or solids to a sewer; but not including mobile food services operations and bed and breakfast operations without commercial kitchens.

"Food Waste Collector" means a mechanical device, including a scrap collector, a trough collector and a pot and pan collector, which uses high pressure water to wash utensils, capturing particle size waste and other food waste in a basket or a filter prior to discharging wastewater into a sewer.

"Fueling Station Area" means the area in which vehicle fueling is conducted and which is contained within strip drains or other means of containment, but does not include drainage from the roof or other covering of the area.

"Garburator" means a mechanical device that is connected to a sewer and is used to reduce the particle size of food waste disposed to a sewer.

"Grab Sample" means a sample of waste collected at a particular time and place.

"Gravity Grease Interceptor" means a device that uses gravity and interior baffling to separate and retain fat, oil and grease and solids from wastewater.

~~**"Grease Interceptor"** means a device designed and installed to separate and retain oil and grease from wastewater for physical removal, while permitting wastewater to discharge to a sewer. *(Bylaw 3350)*~~

"Grease Interceptor" means a hydromechanical grease interceptor or a gravity grease interceptor designed and installed to separate and retain fat, oil and grease and solids from wastewater for physical removal, while permitting wastewater to discharge to a sewer.

"Grey Water" means wastewater from food preparation and washing, bathing, dishwashing and laundering.

"Halogenated Solvent" means any liquid organic compound containing chlorine, fluorine, bromine or iodine.

(Bylaw 3105)

"Hazardous Waste" means hazardous waste as defined in the Environmental Management Act.

(Bylaw 3350)

"Hazardous Waste Regulation" means the Hazardous Waste Regulation, B.C. Reg. 63/88, enacted pursuant to the Environmental Management Act.

(Bylaw 3350)

"Hazardous Waste Regulation Leachate Quality Standards" means the contaminant concentrations for leachate as set out in Table 1, Schedule 4 of the Hazardous Waste Regulation.

(Bylaw 3350)

"High Volume Discharge" means any discharge of non-domestic waste into a sewer in excess of 10 cubic metres per day or 300 cubic metres over any consecutive 30-day period but not including water from a pool.

"Hydromechanical Grease Interceptor" means a device that uses hydromechanical separation, interior baffling and air entrainment barriers, whether in combination or independently, to separate and retain fat, oil and grease and solids from wastewater.

"Kitchen Equipment" means equipment that includes, but is not limited to exhaust systems, stoves, ovens, broilers, woks, fryers and the surfaces in the vicinity of the kitchen equipment.

(Bylaw 3350)

"Kitchen Equipment Cleaning Operation" means any commercial, industrial, institutional operation or a public authority engaged in the cleaning of kitchen equipment using grease-removing chemicals and water under high pressure.

(Bylaw 3350)

"Kitchen Equipment Cleaning Waste" means a combination of water and water carried liquid and solid wastes generated by a kitchen equipment cleaning operation.

(Bylaw 3350)

"Ice Cooling Refrigeration System" means a cooling system used in ice making.

(Bylaw 3105)

"Ice Melting Operation" means removal of the ice playing surface and ice paint using ice resurfacing equipment and allowing the removed ice to melt.

(Bylaw 3105)

"Ice Paint" means paint or other material used to provide colour to an ice playing surface.

(Bylaw 3105)

"Impervious" means having a permeability not greater than $1x10^{-7}$ cm per second when subjected to a head of 0.305 m of water~~.~~. Permeability is not to be affected by the liquid it is meant to contain.

"Improvement District" means an improvement district incorporated under the Local Government Act.

~~**"ISO Standard"** means standard ISO/FDIS 11143: (1999) for "Dental equipment – Amalgam separators" or its amendments as established by the International Organization for Standardization. *(Bylaw 3350)*~~

"ISO Standard for Amalgam Separators" means standard ISO 11143:2008 for "Dental equipment – Amalgam separators" and its amendments as established by the International Organization for Standardization (ISO).

"Laboratory Operation" means any commercial, industrial or institutional laboratory or a laboratory operated by a public authority that generates liquid waste in association with activities including, but not limited to: agriculture, analytical service, aquaculture, chemical manufacturing, education, forestry, health care, industrial hygiene, materials testing, pharmaceutical manufacturing, research, tissue culture and veterinary medicine.

(Bylaw 3105)

"Manager" means the sewage control manager of the District.

"Manual Wash" means vehicle wash operations wherein the customer or operator provides manual labour and where no self-propelled wash racks or conveyor equipment is used.

(Bylaw 3105)

"Mash Tun" means a vessel in which sugars are extracted from malt by enzymes on the addition of water to produce sweet wort.

(Bylaw 3016)

"Mechanical Wash" means vehicle wash operations where vehicles are washed by equipment operated mechanically including, but not limited to, brush, soft cloth, tunnel and touchless systems.

(Bylaw 3105)

"Metering Pump" means a pump designed to deliver waste at a calibrated flow rate.

"Monitoring Point" means an access point to a sewer, private drainage system or other sewer system for the purpose of:

(a) measuring the rate of flow or volume of wastewater being discharged from a premises;

(b) collecting representative samples of wastewater being discharged from a premises.

"Municipality" means any participating member city, town, district or other incorporated area of the Capital Regional District incorporated as a municipality or the Capital Regional District itself.

"Non-domestic Waste" means all waste except domestic waste, sanitary waste, stormwater and uncontaminated water.

"Officer" means a municipal sewage control officer appointed by the Board.

"Off-site Waste Management" means removal of waste to a facility licensed by a province, state or federal government for treatment and disposal in accordance with applicable enactments.

"Oil-adsorbing Filter" means a filter capable of removing oil and grease and oil and grease (hydrocarbons) from printing operation effluent.

(Bylaw 3016)

"Oil and Grease" means an organic substance or substances recoverable by the partition-gravimetric procedure set out in standard methods or a procedure authorized by the manager and includes, but is not limited to, hydrocarbons, esters, fats, oils, waxes and high molecular weight carboxylic acids.

(Bylaw 3105)

"Oil and Grease (Hydrocarbons)" means an organic substance or substances recoverable by the partition-gravimetric silica gel absorption procedure set out in standard methods or a procedure authorized by the manager and includes, but is not limited to, non-polar petroleum hydrocarbons.

(Bylaw 3105)

"Oil-water Separator" means a three-stage oil-water separator that meets the Standard for Oil-Water Separators (ULC-S656-00) prepared by Underwriters' Laboratories of Canada or the equivalent oil-water separation technology able to achieve an effluent quality of 50mg/L of oil and grease (hydrocarbons) or less.

"Operator" includes the person who owns or otherwise has a right to operate a discharging operation or any person who has been authorized by such person to act as his, her or its agent.

(Bylaw 3350)

"Order" means an order issued by the manager.

"Organo-tin compounds" means a group of chemical compounds, containing tin in combination with organic molecules, which are commonly used in anti-fouling paints including, but not limited to tributyltin, dibutyltin, monobutyltin and triethyltin.

(Bylaw 3350)

"Owner" means any person who is registered under the Land Title Act as the owner of land, or any other

person who is in lawful possession of land or who is in lawful possession or occupancy of any buildings situated on the land.

"PCB" means any monochlorinated, dichlorinated or polychlorinated biphenyl or any mixture that contains one or more of these.

"Pesticides" means pesticides regulated under the Integrated Pest Management Act of British Columbia.
(Bylaw 3105)
(Bylaw 3350)

"Petroleum Solvent" means a petroleum distillate, such as Stoddard Solvent, used for dry cleaning purposes.

"pH" means the expression of the acidity or basicity of a solution as defined and determined by the appropriate procedure described in standard methods.

"Phenols" means the hydroxy derivatives of aromatic hydrocarbons as determined by the appropriate procedure described in standard methods.

"Photographic Imaging Operation" means any operation which carries out photographic film processing or printing that uses silver in image forming or creates waste containing silver.

"Polynuclear Aromatic Hydrocarbons (PAH)" means the aromatic hydrocarbons specified in Schedule "B" and as determined by the appropriate procedure described in standard methods or in procedures authorized by the manager.

"Pool" means any water receptacle used for swimming or as a bath or hot tub designed to accommodate more than one bather at a time or designed for decorative purposes.

"Pool Filter Media" means diatomaceous earth, filter sand, or any other material used in a pool filter.
(Bylaw 3105)

"Practical Quantitation Limit" means the practical quantitation limit as specified in Table 2 of Schedule "F".
(Bylaw 3016)

"Pre-filter" means a reusable filter used to remove yeast cells from alcoholic beverages after completion of the fermentation process.
(Bylaw 3016)
(Bylaw 3105)

"Premises" means any land or building or both or any part thereof.

"Printing Operation" means any commercial, industrial or institutional operation or a public authority that involves printing including, but not limited to, the following processes: lithography gravure, rotogravure, flexography, screen printing or letterpress.
(Bylaw 3016)
(Bylaw 3105)

"Private Drainage System" means a privately owned assembly of pipes, fittings, fixtures, traps and appurtenances that is used to convey wastewater, uncontaminated water, stormwater or foundation drainage to a sewer, sewage facility or a private wastewater disposal system.

"Prohibited Waste" means prohibited waste as defined in Schedule "A" to this bylaw.
"Radioactive Materials" means radioactive materials as defined in the Atomic Energy Control Act of Canada and Regulations under that Act.

"Rated Flow Capacity" means the quantity of wastewater per unit of time that will pass through a grease interceptor while allowing for effective service.

"Readily and Easily Accessible" means safe access for work by an officer or manager that complies with Parts 4.54 to 4.63 and Part 13 of the Occupational Health and Safety Regulation without requiring the use of a personal fall protection system as defined in Part 11.

"Recreation Facility Operation" means any local government, educational institution or commercial facility containing one or more of the following: ice arena, curling rink, water park or pool.
(Bylaw 3105)

"Recreational Vehicle Waste" means domestic waste accumulated in a holding tank in a trailer, camper, transportable housing unit, bus or aircraft.

"Residential Property" means a property which is used primarily for the purpose of residence by persons on a permanent, temporary or seasonal basis.

"Restricted Waste" means restricted waste as defined in Schedule "B" to this bylaw.

"Rotisserie" means cooking equipment which is typically used for roasting meat on a rotating spit and which discharges oil and grease or solids to a sewer.

"Sani-dump" means a facility connected to a sewer or sewage facility operating under a waste discharge permit or authorization allowing the discharge of recreational vehicle waste or carpet cleaning waste.
(Bylaw 3016)

"Sanitary Sewer" means a sewer which carries sanitary waste or wastewater but which is not intended to carry stormwater or uncontaminated water.

"Sanitary Waste" means waste that contains human feces, urine, blood or body fluids originating from sanitary conveniences or other sources.

"Seawater" means artificially prepared seawater or natural seawater from the marine environment.
(Bylaw 3105)

"Self-Clean" means to remove settled and floating material collected in a grease interceptor for off-site waste disposal in accordance with a plan approved by the manager.

"Septage Disposal Bylaw" means Bylaw No. 2827, "Capital Regional District Septage Disposal Bylaw No. 2, 2000".

"Septage Disposal Facility" means a facility for receiving waste operating under a waste discharge permit or authorization and designated in Schedule "A" to the Septage Disposal Bylaw.

"Septage Waste" means septage, as defined in the Septage Disposal Bylaw, that meets the quality criteria specified in Schedule "B" of the Septage Disposal Bylaw.

"Sewage Control Manager" means a sewage control manager appointed by the Capital Regional District, or a person appointed by the Board as his or her deputy, under the Environmental Management Act.
(Bylaw 3350)

"Sewage Facility" means works owned or otherwise under the control or jurisdiction of the District that gathers, treats, transports, stores, utilizes or discharges waste.

"Sewer" means all pipes, conduits, drains and other equipment and facilities, owned or otherwise under the control or jurisdiction of the District or one or more municipalities, for collecting, pumping and transporting wastewater either to a sewage facility, or otherwise and includes all such pipes, conduits, drains and other equipment and facilities which connect with those of the District or one or more municipalities.

"Sharps" means hypodermic needles, hypodermic syringes, blades, broken glass and any devices, instruments or other objects which have acute rigid corners, edges or protuberances.

"Ship and Boat Waste" means the sanitary waste and grey water accumulated in a holding tank on a pleasure boat, houseboat, commercial vessel or naval vessel but not including bilge water, ballast water or wastewater sludge.

"Ship and Boat Waste Disposal Facility" means a facility connected to a sewer or sewage facility operating under a waste discharge permit or an authorization allowing the discharge of ship and boat waste.

"Significant Difference" means a statistically determined difference at the 95% confidence level.

"Silver Recovery System" means the combination of holding tanks, metering pumps, plumbing and silver recovery technology which is used to treat liquid waste containing silver produced by photographic imaging operations.

(Bylaw 3105)

"Silver Recovery Technology" means equipment that is designed to recover silver from liquid waste produced by photographic imaging operations using such methods as metallic replacement, electrolysis, ion exchange or chemical precipitation including: electrolytic units, chemical recovery cartridges, chemical precipitation units and ion exchange units.

"Silver Test Kit" means a test kit that is capable of measuring the silver concentration in liquid waste at a minimum level of 100 mg/L.

"Silver Test Paper" means test paper that is capable of indicating the presence of silver in liquid waste at a minimum concentration of 500 mg/L.

"Sludge" means wastewater containing more than 0.5% total solids.

"Solids Interceptor" means a device that separates, and then removes or retains, solids from wastewater, including a basket, screen or other similar device.

"Solvent" means a hydrocarbon-based liquid used to clean equipment or to dissolve other substances.

(Bylaw 3016)
(Bylaw 3350)

"Soup Kettle" means a commercial cooking or warming kettle including tilt kettles.

"Spill Containment" means any impervious structure that surrounds a container or works that is sufficient to hold the larger of:

(a) 110% of the largest volume of free liquid in the container or works, or

(b) 25% of the total volume of free liquid in storage.

"Spill Reporting Regulation" means the Spill Reporting Regulation enacted pursuant to the Environmental Management Act.

(Bylaw 3350)

"Spill Response Plan" means a written plan developed for the operator to respond to any spills of prohibited or restricted waste that defines the rules and responsibilities for a spill response, and includes contact names and numbers for the appropriate agencies and a list of all spill response equipment.

(Bylaw 3016)
(Bylaw 3105)

"Standard Methods" means the latest edition of "Standard Methods for the Examination of Water and Wastewater" jointly prepared and published from time to time by the American Public Health Association, American Water Works Association and the Water Environment Federation.

"Storm Sewer" means a sewer for the collection and transmission of stormwater or uncontaminated water.

"Stormwater" means water resulting from natural precipitation from the atmosphere and which is intended to be transported in a storm sewer, a combined sewer or a watercourse.

"Substance" includes any solid, liquid or gas.

"Suspended Solids" means the portion of total solids retained by a filter, as determined by the appropriate procedure in standard methods.

"Tetrachloroethylene" means an aliphatic halogenated hydrocarbon having the chemical formula $CCl_2=CCl_2$ also referred to as: ethylene tetrachloride, PCE, perc, perchlor, perchlorethylene, perchloroethylene, perk, tetrachloroethene and 1,1,2,2- tetrachloroethylene.

"Tetrachloroethylene-Contaminated Residue" means any solid, liquid or sludge containing tetrachloroethylene, other than wastewater, that is produced by a dry cleaning operation.

(Bylaw 3105)

"Tetrachloroethylene-Water Separator" means equipment used to separate tetrachloroethylene and water by gravity.

(Bylaw 3105)

~~**"Total Volume**", as referred to in Schedule "I", means the sum of the volumes of each compartment of a fixture calculated by multiplying the width of a compartment by the length of a compartment by the height of a compartment measured to the level of the top of the outside sidewall of the fixture.~~

~~(Bylaw 3350)~~

"Total Volume", as referred to in Schedule “I”, means the sum of the volumes of each compartment of a sink calculated by multiplying the width of a compartment by the length of a compartment by the height of a compartment measured to the level of the top of the sidewall of the fixture or other valid method of calculating or measuring the quantity of three-dimensional space, not including drain boards.

"Trade Waste Interceptor" means an interceptor designed to separate and retain settleable solids and floatable material from printing operation wastewater prior to further treatment before discharge to sanitary sewer.

(Bylaw 3016)

"Transportation of Dangerous Goods Regulations" means the Transportation of Dangerous Goods Regulations SOR/2001-266 enacted pursuant to the Transportation of Dangerous Goods Act of Canada.

(Bylaw 3350)

"Treasurer" means the Director of Finance of the District or his or her authorized agent.

(Bylaw 3105)

"Treatment Works" means any works or procedures specified in a code of practice designed for the treatment of waste.

(Bylaw 3016)

"Trub" means waste hops and proteins generated from brewing kettle bottoms.

(Bylaw 3016)

"Trucked Liquid Waste" means any waste that is collected and transported from the site where the waste originated by means other than discharge to a sewer, but does not include septage waste, recreational vehicle waste, carpet cleaning waste or ship and boat waste.

(Bylaw 3016)

"Uncontaminated Water" means any water excluding stormwater but including cooling water, condensed water and water from municipal waterworks or a private water supply to which no contaminant has been added as a consequence of its use, or to modify its use by any person.

"Utensil" means any item that may come into contact with food including but not limited to: kitchenware implements, tableware, glassware, cutlery or other similar items used in the preparation, service, storage or consumption of food.

"Vehicle" means a vehicle as defined under the Motor Vehicle Act as amended from time to time.

"Vehicle Wash Interceptor" means an interceptor equipped with a minimum of three chambers designed to retain suspended solids and oil and grease from vehicle wash wastewater.

(Bylaw 3105)

"Vehicle Wash Operation" means the washing of the exterior of vehicles by any commercial, industrial or institutional operation or by a public authority.

(Bylaw 3016)
(Bylaw 3350)

"Waste Hauler" means a person or company that collects waste from a waste generator for transportation and delivery to a permitted waste management or septage disposal facility.

"Waste Discharge Assessment Form" or "**WDAF**" means a form which may include engineering drawings that show the sizing calculation listing the dimensions and total volume or flow rates, as applicable, of all connected fixtures as well as the peak flow rate and rated flow capacity of the proposed grease interceptor, and otherwise demonstrates the installation requirements under this Code are met.

"Wok Station" means cooking equipment with a water supply and one or more cooking surfaces, typically used for stir frying food and which discharges water, oil and grease or solids to a sanitary sewer.

"Waste" means any substance whether gaseous, liquid or solid, that is or is intended to be discharged or discarded, directly or indirectly, to a sewer or sewage facility.

"Waste Discharge Permit" means a waste discharge permit issued by a manager under this bylaw.

(Bylaw 3350)

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

"Wastewater Sludge" means the removed material resulting from chemical treatment, coagulation, flocculation, sedimentation, flotation or biological oxidation of wastewater.

"Water" includes seawater, surface water, ground water and ice.

"Watercourse" means:

(a) a river, stream, creek, waterway, lagoon, lake, spring, swamp, marsh or other natural body of water; or

(b) a canal, ditch, reservoir or other man-made surface feature;

whether it contains or conveys water continuously or intermittently.

"Waterworks" means any works owned or otherwise under the control or jurisdiction of the District or one or more of its member municipalities or an improvement district that collects, treats, transports or stores drinking water.

"Wetted Height" means the depth from the static water line to the bottom of the grease interceptor, oil-water separator, vehicle wash interceptor or trade waste interceptor.

(Bylaw 3350)

"Wet Vacuum System" means a dental operatory vacuum system that uses water, which is spun and thrown out within the pump mechanism, to create a vacuum.

"Works" includes:

(a) a drain, ditch, sewer or waste disposal system including a sewage treatment plant, pumping station or outfall;

(b) a device, equipment, land or a structure that:

(i) measures, handles, transports, stores, treats or destroys waste or a contaminant; or
(ii) introduces waste or a contaminant into the environment;

(c) an installation, plant, machinery, equipment, land; or a process that causes or may cause a release of a contaminant into the environment, or is designed or used to measure or control the introduction of waste into the environment, or to measure or control a contaminant;

(d) an installation, plant, machinery, equipment, land or a process that monitors or cleans up a contaminant or waste.

"95% Confidence Limit" means that interval or range of values around an observed value which will, in 95% of the cases, include the expected value, where the expected value is defined as the average of an infinite series of such determinations.

2.0 DISCHARGES TO SEWERS

2.1 No person shall directly or indirectly discharge or allow or cause to be discharged into a sewer connected to a sewage facility operated by the District:

(a) Any **prohibited waste**, as described in Schedule "A".

(b) Any **restricted waste**, as described in Schedule "B" unless that person:

(i) has first obtained a waste discharge permit or authorization; or
(ii) complies with a code of practice for that type of waste.

(c) Any **high-volume discharge** unless that person:

(i) has first obtained a waste discharge permit or authorization; or
(ii) complies with a code of practice for that type of waste.

(d) Any waste from a **discharging operation** unless that person:

(Bylaw 3105)

(i) has first obtained a waste discharge permit or authorization; or
(ii) complies with the code of practice for that type of waste.

(e) Any **uncontaminated water** in a volume greater than 2.0 cubic metres per day without prior authorization from the manager.

(f) Any **stormwater** without prior authorization from the manager.

2.2 Subparagraphs 2.1(b)(ii), (c)(ii) and (d)(ii) do not apply to:

(a) waste for which there is no code of practice;

(b) trucked liquid waste or septage waste discharged under Section 2.3 or 2.4.

2.3 No person shall discharge septage other than into a sewer at a septage disposal facility.

2.4 No person shall discharge trucked liquid waste other than at a septage disposal facility or a facility operating under a waste discharge permit or authorization that specifically authorizes such discharges.

2.5 No person shall directly or indirectly discharge or allow or cause to be discharged into a sewer connected to a sewage facility operated by the District any water or other substance for the purpose of diluting any non-domestic waste.

2.6 A municipality is not in violation of subsections 2.1 or 2.5 where there is a discharge contrary to one or more of those subsections by a third party into a sewer or sewage facility connected to a sewage facility operated by the District.

2.7 In order to obtain and maintain the authorization referred to in paragraph 2.1(e), where the uncontaminated water is produced on property other than residential property and is from a source other than a waterworks, a person shall:

(a) install and thereafter maintain at that person's expense, a meter on the water supply generating the authorized discharge; and

(b) supply to the manager, by the 10th of each month, an accurate calculation of the volume of water measured pursuant to paragraph 2.7(a).

2.8 Every person who directly or indirectly discharges waste or substances produced, treated, handled or stored on property other than residential property into a sewer connected to a sewage facility operated by the District shall, as a condition of that discharge:

(a) provide and maintain facilities to prevent accidental discharge or a discharge contrary to this bylaw or a waste discharge permit or authorization such as spill containment, recovery or neutralization facilities for substances which, if accidentally discharged, would constitute prohibited or restricted waste;

(b) post, and keep posted, permanent signs in conspicuous locations on the premises displaying the name, telephone number of the person to call as prescribed in Schedule "C" in the event of accidental discharge of a prohibited or restricted waste; and

(c) inform employees, who may cause or discover the discharge of prohibited or restricted waste, of the notification procedures set out in Section 7 of this bylaw.

2.9 No person shall directly or indirectly discharge, or allow or cause to be discharged, any recreational vehicle waste into a sewer connected to a sewage facility except:

(a) with a waste discharge permit or authorization; or

(b) at a sani-dump connected to a sewer or sewage facility and operating under a waste discharge permit or authorization that specifically authorizes such discharges.

2.10 No person shall directly or indirectly discharge, or allow or cause to be discharged, any carpet cleaning waste into a sewer connected to a sewage facility except under conditions specified in a code of practice, waste discharge permit or authorization.

(Bylaw 3016)

2.11 No person shall directly or indirectly discharge, or allow or cause to be discharged, any ship and boat waste into a sewer connected to a sewage facility except:

(a) with a waste discharge permit or authorization;

(Bylaw 3105)

(b) at a ship and boat waste disposal facility operating under a waste discharge permit or authorization; or

(Bylaw 3105)

(c) at a septage disposal facility.

2.12 No kitchen equipment cleaning operator shall directly or indirectly discharge, or allow or cause to be discharged, any kitchen equipment cleaning waste into a sewer connected to a sewage facility except:

(a) with a waste discharge permit or authorization; or

(b) at a facility operating under a waste discharge permit or authorization that specifically authorizes such discharges.

2.13 As a condition of discharge under Section 2.12, a kitchen equipment cleaning operator must:

a) adjust the pH of the waste to a range between 5.5 and 12.5; and

b) keep a record of all kitchen equipment cleaning performed, including:

i) the date of cleaning; the cleaning location; any pH adjustment; the final pH of waste disposed; and the location and date of disposal.

(Bylaw 3350)

2.14 Sections 2.12 to 2.13 do not apply to discharges of kitchen equipment cleaning waste from self-cleaning exhaust hoods installed over kitchen equipment being operated under the requirements of Schedule "I" of this Bylaw.

(Bylaw 3350)

2.15 Subparagraphs 2.1(b), (c) and 2.4 do not apply to a municipality or agent of a municipality where waste that has been removed from a municipal sanitary sewer, due to maintenance activities, is discharged into a municipal sewer at another location.

(Bylaw 3350)

3.0 WASTE DISCHARGE PERMITS AND AUTHORIZATIONS

3.1 The manager may, by order under Section 29 of the Environmental Management Act, issue a waste discharge permit or authorization to allow a high volume discharge or to allow the discharge of waste other than domestic sewage upon such terms and conditions as the manager considers appropriate for the protection of sewers, sewage facilities, human or animal health and safety, and the environment, and without limiting the generality of the foregoing, may in the waste discharge permit or authorization:

(Bylaw 3350)

(a) place limits and restrictions on the quantity, frequency of discharge and nature of the waste permitted to be discharged;

(b) require the holder of a waste discharge permit or authorization, at his or her expense, to repair, alter, remove or add works, or construct new works to ensure that the discharge will comply with the waste discharge permit or authorization, this bylaw and any enactment;

(c) require the holder of a waste discharge permit or authorization, at his or her expense, to monitor the waste being discharged under the waste discharge permit or authorization in the manner specified by the manager and to provide information concerning the discharge as requested by the manager including, but not limited to, routine maintenance check dates, cleaning and waste removal dates, and the means of disposal of accumulated wastes and waste treatment residuals;

(d) require the holder of the waste discharge permit or authorization to submit to the manager detailed plans and operating procedures for all existing facilities installed on the premises for the purpose of preventing accidental discharge;

(e) require compliance by the holder of the waste discharge permit or authorization with such other enactments as the manager considers necessary or desirable in the circumstances;

(f) make such other requirements as the manager deems necessary or desirable.

3.2 Notwithstanding paragraphs 2.1(b) and (c), a manager may, by order under Section 29 of the Environmental Management Act, require any person or any class of persons to obtain a waste discharge permit or authorization for the discharge by that person or class of persons of any non-domestic waste that is not a high volume discharge or a restricted waste.

(Bylaw 3350)

3.3 Upon receipt of notice under subsection 3.2, the person receiving the notice shall, within 30 days, apply for a waste discharge permit or authorization and shall provide to the manager such information relating to the discharge of non-domestic waste by that person as the manager may require.

3.4 The manager may suspend or revoke a waste discharge permit or authorization for a failure to comply with the terms and conditions of the waste discharge permit or authorization or for any failure to comply with this bylaw, or any enactment applicable to the discharge of waste into a sanitary sewer connected to a sewage facility operated by the District.

(a) A waste discharge permit or an authorization may not be transferred or assigned without a manager's consent in writing.

(b) A manager may withhold consent where there has been a breach of this bylaw or a condition of the waste discharge permit or authorization.

3.5 An application for a waste discharge permit for a new discharge, or an amendment to an existing waste discharge permit, shall be made to a manager on the form attached hereto as Schedule "C" not less than 90 days prior to the date that the waste discharge permit is required, and shall be accompanied by such information, drawings and specifications as may be required under Schedule "C".

3.6 A holder of a waste discharge permit must comply with the terms and conditions as set by the manager in the waste discharge permit.

(Bylaw 4221)

3.7 A holder of a waste discharge authorization must comply with the terms and conditions as set by the manager in the waste discharge authorization.

(Bylaw 4221)

4.0 CODES OF PRACTICE

4.1 A code of practice does not apply to a discharging operation that is subject to a waste discharge permit or authorization, unless otherwise specified in the waste discharge permit or authorization.

4.2 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.

4.3 A code of practice does not apply to the discharge of domestic waste.

4.4 The manager may require a discharging operation to obtain a waste discharge permit if considered necessary by the manager because of circumstances not covered by a code of practice.

(Bylaw 3105)
(Bylaw 3350)

4.5 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.

(Bylaw 3350)

5.0 MAINTENANCE OF WORKS AND PROCEDURES

5.1 It is a condition of the discharge of waste produced on property other than residential property into a sanitary sewer, by a person who holds a waste discharge permit or authorization or who has received or is subject to an order or who operates a discharging operation or who otherwise discharges waste, that all measures be taken to keep all equipment and facilities maintained and in good repair as may be necessary to ensure compliance with the terms and conditions of this bylaw, a waste discharge permit, authorization, code of practice or order.

5.2 No person shall discharge or allow or cause to be discharged, into a sewage facility or a sewer connected to a sewage facility operated by the District, non-domestic waste, which has bypassed any waste control works or treatment works authorized and required by the manager or which is not otherwise in compliance with this bylaw.

6.0 RECORDS RETENTION AND PROVISION OF INFORMATION

6.1 Holders of a waste discharge permit, authorization, an order or persons operating under a code of practice permitting the discharge of waste produced on property other than residential property:

(a) shall retain and preserve any records, books, documents, memoranda, reports, correspondence and any and all summaries of such documents, relating to monitoring, sampling and chemical analysis required by the manager, a waste discharge permit, authorization or order;

(b) shall retain and preserve all records which pertain to issues which are the subject of administrative action or any other enforcement or litigation activities by the District until all enforcement activities have concluded and all periods of limitation with respect to any and all appeals have expired.

6.2 Unless specified otherwise in a code of practice, records shall be retained under Section 6.1(a) for not less than six years after their creation.

(Bylaw 3075)

7.0 NOTIFICATION

7.1 Any person who discharges waste or allows the discharge of waste into a sewer or a sewage facility in contravention of any waste discharge permit, authorization, code of practice or order or that is otherwise in contravention of this bylaw, after becoming aware of the discharge, shall stop the discharge, and after reporting the discharge, in accordance with the Spill Reporting Regulation (where applicable), shall immediately notify:

(a) the manager or an officer by telephone and provide the information specified in subsection 7.2;

(b) the owner of the premises; and

(c) any other person whom the person reporting knows, or reasonably should know, may be directly affected by the discharge.

7.2 The manager shall be supplied with the following information:

(a) identification of the premises where the discharge occurred;

(b) location of the discharge;

(c) name of the person reporting the discharge and telephone number, or numbers where that person can be reached;

(d) date, time and duration of the discharge;

(e) type and concentration of all substances discharged and any known associated hazards;

(f) total weight or volume of the material discharged; and

(g) corrective action being taken, or anticipated to be taken, to control the discharge or to prevent similar discharges.

7.3 A person who discharged or allowed a discharge of waste referred to in subsection 7.1 shall, as soon as that person becomes aware, or reasonably should have become aware of the discharge, take all reasonable measures to:

(a) confine, minimize, counteract, mitigate, remedy and repair the effects of the discharge; and

(b) remove or otherwise dispose of the substance discharged in a manner consistent with this bylaw and other applicable enactments.

7.4 A person operating under an existing waste discharge permit or authorization shall notify the manager in writing not less than 90 days prior to:

(Bylaw 3105)

(a) commencing a new activity; or

(b) expanding or changing an existing activity;

which affects or may affect the average composition or the total volume of waste discharged by that person.

8.0 POWERS OF THE MANAGER

8.1 The manager, an officer or a bylaw enforcement officer may enforce the provisions of this bylaw.

8.2 The manager, an officer or a bylaw enforcement officer may at any reasonable time and, upon presentation of proof of his or her identity, enter upon any property or premises in order to ascertain whether the terms of a waste discharge permit, a code of practice, an authorization, or an order have been or are being complied with or the regulations of this bylaw are being observed.

8.3 Nothing in this bylaw shall be interpreted as restricting the powers of a sewage control manager or an officer under the Environmental Management Act and regulations.

(Bylaw 3350)

9.0 MONITORING OF DISCHARGES

9.1 The manager may, pursuant to Section 29 of the Environmental Management Act, require that a person who is discharging any waste other than domestic sewage into a sewer shall, at his or her expense, install one or more monitoring points suitable for inspection, flow monitoring and sample collection at locations determined by the manager, to be constructed in accordance with plans approved by the manager and maintained in good working order by the person.

(Bylaw 3350)

9.2 A monitoring point required under subsection 9.1 shall be installed in a manner so as not to be affected by any discharge of domestic waste from a premise, unless otherwise authorized by the manager.

9.3 A monitoring point required under subsection 9.1 shall, for the purposes of enforcing this bylaw, be deemed to be the point or points at which a discharge into a sewer or sewage facility is made.

9.4 In the absence of a monitoring point under subsection 9.1, the point of discharge into a sewer or sewage facility shall, for the purposes of enforcing this bylaw, be the location determined by the manager where access can be had to the waste for the purpose of sampling and flow monitoring.

9.5 Where a person is required to install a monitoring point under subsection 9.1 and the person cannot comply with such requirement within 60 days of being notified of the requirement by the manager, the person shall, within 60 days of the notice being issued by the manager, inform the manager of his or her inability to install the monitoring point and the District may install or cause to be installed the monitoring point at the person's expense.

9.6 The owner of a premise shall ensure that all monitoring points, flow measuring devices and other devices specified in the waste discharge permit, including water meters, are accessible for inspection by the manager or an officer at all times.

9.7 The manager may require that a person who is discharging waste into a sewer undertake, at that person's expense, sampling and analysis of the waste discharged.

9.8 All sampling and analysis required by a manager shall be carried out in accordance with methods and procedures specified in standard methods or in a manner specified by the manager.

9.9 Samples which have been collected as the result of a requirement of the manager shall be analyzed by an independent agency or by a laboratory authorized by the manager.

10.0 OFFENCES AND PENALTIES

10.1 A person who contravenes this bylaw, a waste discharge permit, authorization or order issued under this bylaw or other requirement, made or imposed under this bylaw, commits an offence and is liable to a fine not exceeding $10,000.

10.2 Where an offence is committed or continues for more than one day, a person shall be deemed to have committed separate offences for each day on or during which an offence occurs or continues, and separate fines, each not exceeding $10,000, may be imposed for each day on or during which an offence occurs or continues.

10.3 Nothing in this bylaw shall limit the District from pursuing any other remedy that would otherwise be available to the District at law.

11.0 REVIEW OF DEPUTY SEWAGE CONTROL MANAGER'S DECISION

11.1 A person affected by a decision, order or requirement of a deputy sewage control manager pursuant to Sections 3.1, 9.1, 9.2, 9.4 or 9.7 may request a review within 21 working days of delivery of the decision, order or requirement by delivery to the manager of the notice of review request in the form attached as Schedule "E".

11.2 The manager may extend the time for requesting a review either before or after the time has elapsed.

11.3 The matter will be reviewed by the manager pursuant to Section 11.7 unless the person seeking the review requests, on the form attached as Schedule "E", that the matter be referred first to mediation.

11.4 Mediation shall be conducted by a party agreeable to the applicant and to the manager and, if the parties cannot agree, then each party shall appoint a representative and the representatives shall jointly select a mediator.

11.5 The costs of mediation shall be borne equally by all parties involved.

11.6 If mediation does not resolve the matter in dispute, the review shall proceed to the manager.

11.7 Upon considering the matter under review and the results of the mediation, if any, the manager may:

(a) confirm, reverse or vary the decision, order or requirement under review; and

(b) make any decision that the manager considers appropriate.

11.8 Any decision made by the manager pursuant to Section 11.7 must be communicated in writing to the applicant within 10 working days of receiving the written review request or the results of the mediation.

11.9 In the event that the manager is absent from the office due to vacation, illness, disability or other reason, a decision of the manager may be delayed until 10 working days following the manager's return.

11.10 The manager may extend the time limits set out in Sections 11.8 and 11.9 for doing any of the things referred to in Section 11.7.

11.11 A request for a review does not operate as a stay or suspend the operation of the decision being reviewed unless the manager orders otherwise.

11.12 A review under this bylaw will not prejudice any right of appeal which a person may have under the Environmental Management Act.

(Bylaw 3350)

12.0 FEES AND CHARGES

12.1 The Board hereby imposes the fees set out in Schedule "F".

12.2 Every person who applies for or who holds a waste discharge permit or authorization or who operates a discharging operation shall pay the applicable fee or fees set out in Schedule "F".

(Bylaw 3075)
(Bylaw 3350)

13.0 GENERAL

13.1 No person shall hinder or prevent the manager, an officer or a bylaw enforcement officer from entering any premises or from carrying out his or her duties with respect to the administration of this bylaw.

13.2 Nothing in this bylaw shall be interpreted as relieving a person discharging waste from complying with federal, provincial and local government enactments governing the discharge of waste into sewers.

13.3 Where the Board has authority to direct that a matter or thing be done by a person, the Board may also direct that, if the person fails to take the required action, the matter or thing shall be done at the expense of the person in default in accordance with Section 794(5) of the Local Government Act. If action in default is taken, the Board may recover the expense from the person, together with costs and interest at the rate prescribed under Section 11(3) of the Taxation (Rural Area) Act, in the same manner as municipal taxes.

13.4 The schedules annexed hereto shall be deemed to be an integral part of this bylaw.

13.5 If any provision of this bylaw is found to be invalid by a court of competent jurisdiction, it may be severed from the bylaw.

13.6 Bylaw No. 2830 cited as "Capital Regional District Sewer Use Bylaw No. 4, 2000" is repealed upon adoption of this bylaw.

13.7 This bylaw may be cited for all purposes as "Capital Regional District Sewer Use Bylaw No. 5, 2001".

READ A FIRST TIME THIS	14th	day of	November	2001
READ A SECOND TIME THIS	14th	day of	November	2001
READ A THIRD TIME THIS	14th	day of	November	2001
ADOPTED THIS	12th	day of	December	2001

Christopher M. Causton
CHAIR

Carmen I. Thiel
SECRETARY

This Bylaw is a copy of Capital Regional District Sewer Use Bylaw No. 5, 2001, consolidated under Section 139 of the Community Charter and is printed on the authority of the Corporate Secretary of the CRD.

Carmen I. Thiel, Corporate Secretary

SCHEDULE "A"

PROHIBITED WASTE
BYLAW NO. 2922

Prohibited waste means:

1. Hazardous Waste

Hazardous waste as defined by the Environmental Management Act.

(Bylaw 3350)

2. Air Contaminant Waste

Any waste other than sanitary waste which, by itself or in combination with another substance, is capable of creating, causing or introducing an air contaminant outside any sewer or sewage facility or is capable of creating, causing or introducing an air contaminant within any sewer or sewage facility which would prevent safe entry by authorized personnel.

3. Flammable or Explosive Waste

Any waste, which by itself or in combination with another substance, is capable of causing or contributing to an explosion or supporting combustion in any sewer or sewage facility including, but not limited to gasoline, naphtha, propane, diesel, fuel oil, kerosene or alcohol.

4. Obstructive Waste

Any waste which by itself or in combination with another substance, is capable of obstructing the flow of, or interfering with, the operation or performance of any sewer or sewage facility including, but not limited to: earth, sand, sweepings, gardening or agricultural waste, ash, chemicals, paint, metal, glass, sharps, rags, cloth, tar, asphalt, cement-based products, plastic, wood, waste portions of animals, fish or fowl and solidified fat.

5. Corrosive Waste

Any waste with corrosive properties which, by itself or in combination with any other substance, may cause damage to any sewer or sewage facility or which may prevent safe entry by authorized personnel.

6. High Temperature Waste

(a) Any waste which, by itself or in combination with another substance, will create heat in amounts which will interfere with the operation and maintenance of a sewer or sewage facility or with the treatment of waste in a sewage facility;

(b) Any waste which will raise the temperature of waste entering any sewage facility to 40 degrees Celsius (104 degrees Fahrenheit) or more;

(c) Any non-domestic waste with a temperature of 65 degrees Celsius (149 degrees Fahrenheit) or more.

~~7. Biomedical Waste~~

~~Any of the following categories of biomedical waste: human anatomical waste, animal waste, untreated microbiology laboratory waste, clinical and laboratory waste sharps and untreated human blood and body fluids known to contain viruses and agents listed in "Risk Group 4" as defined in the Transportation of Dangerous Goods Regulations. *(Bylaw 3105)* *(Bylaw 3350)*~~

~~8~~7. Miscellaneous Wastes

Any waste, other than sanitary waste, which by itself or in combination with another substance:

(a) constitutes or may constitute a significant health or safety hazard to any person;

(b) may interfere with any sewer or sewage treatment process;

(c) may cause a discharge from a sewage facility to contravene any requirements by or under any permit issued under the Environmental Management Act or any other act, approved Liquid Waste Management Plan, or any other law or regulation governing the quality of the discharge, or may cause the discharge to result in a hazard to people, animals, property or vegetation;

(Bylaw 3350)

(d) may cause biosolids to fail criteria for beneficial land application in British Columbia as set out in the Organic Matter Recycling Regulation (British Columbia) deposited February 2002, or may cause the emissions from a wastewater sludge combustion facility to be out of compliance with appropriate permits, or may cause the ashes from a wastewater sludge combustion facility to be considered a hazardous waste under the Environmental Management Act.

(Bylaw 3105)
(Bylaw 3350)

SCHEDULE "B"

RESTRICTED WASTE
BYLAW NO. 2922

Restricted waste means:

1. Specified Waste

Any waste which, at the point of discharge into a sewer, contains any contaminant at a concentration in excess of the limits set out below. All concentrations are expressed as total concentrations which includes all forms of the contaminant, whether dissolved or undissolved. The concentration limits apply to both grab and composite samples. Contaminant definitions and methods of analysis are outlined in standard methods or methods specified by the manager.

Any of the contaminants listed below in tables (a), (b) or (c) that are present in a waste at dissolved concentrations in excess of the Hazardous Waste Regulation Leachate Quality Standards will qualify that waste, regardless of the sampling method used, as a hazardous waste.

(Bylaw 3350)

a) CONVENTIONAL CONTAMINANTS [mg/L]	
Biochemical Oxygen Demand (BOD)	500
Chemical Oxygen Demand (COD)	1000
Oil and Grease*	100
Suspended Solids	350

Note: *Total oil and grease includes oil and grease (hydrocarbons) (see table (b))

b) ORGANIC CONTAMINANTS [mg/L]	
Benzene	0.1
Ethyl Benzene	0.2
Toluene	0.2
Xylenes	0.2
Polynuclear Aromatic Hydrocarbons (PAH)**	0.05
Phenols	1
Oil and Grease (hydrocarbons)	15

Note: **Polynuclear Aromatic Hydrocarbons (PAH) include:

naphthalene	benzo(a)anthracene
acenaphthylene	chrysene
acenapthene	benzo(b)fluoranthene
fluorene	benzo(k)fluoranthene
phenanthrene	benzo(a)pyrene
anthracene	dibenzo(a,h)anthracene
fluoranthene	indeno(1,2,3-cd)pyrene
pyrene	benzo(g,h,i)perylene

(c) INORGANIC CONTAMINANTS [mg/L]	
Arsenic (As)	0.4
Cadmium (Cd)	0.3
Chloride (Cl)	1500
Chromium (Cr)	4
Cobalt (Co)	5
Copper (Cu)	1
Cyanide (CN)	1
Iron (Fe)	50
Lead (Pb)	1
Manganese (Mn)	5
Mercury (Hg)	0.02
Molybdenum (Mo)	5
Nickel (Ni)	3
Selenium (Se)	0.3
Silver (Ag)	0.5
Sulphate (SO_4)	1500
Sulphide (S)	1
Zinc (Zn)	3

2. Food Waste

Any non-domestic waste from cooking and handling of food that, at the point of discharge into a sewer, contains particles larger than 0.5 centimetres in any dimension.

3. Radioactive Waste

Any waste containing radioactive materials that, at the point of discharge into a sewer, exceeds radioactivity limitations as established by the Canadian Nuclear Safety Commission.

(Bylaw 3016)

4. pH Waste

Any non-domestic waste which, at the point of discharge into a sewer, has a pH lower than 5.5 or higher than 11.0, as determined by either a grab or a composite sample.

5. Dyes and Colouring Material

Dyes or colouring materials which may pass through a sewage facility and discolour the effluent from a sewage facility except where the dye is used by the District, or one or more of its municipalities, as a tracer.

6. Miscellaneous Restricted Wastes

Any of the following wastes as defined in the bylaw.

(a) seawater
(b) PCBs
(c) chlorinated phenols ***
(d) pesticides
(e) tetrachloroethylene
(f) organo-tin compounds

(Bylaw 3350)

*** Chlorinated phenols include:

- chlorophenol (ortho, meta, para)
- dichlorophenol (2,3, 2,4-, 2,5-, 2,6-, 3,4-, 3,5-)
- trichlorophenol (2,3,4-, 2,3,5-, 2,3,6-, 2,4,5-, 2,4,6-, 3,4,5-)
- tetrachlorophenol (2,3,4,5-, 2,3,4,6-, 2,3,5,6-)
- pentachlorophenol

SCHEDULE "C"

INFORMATION SHEET

WASTE DISCHARGE PERMIT APPLICATION
BYLAW NO. 2922

This information sheet is provided to assist you in the preparation and submission of an application for a waste discharge permit under the Capital Regional District's (CRD) Sewer Use Bylaw No. 2922. Once the form has been completed, **initial each page and sign the declaration on page 10**. To assist CRD Environmental Services with the processing of the application, please make an accurate, readable and complete submission to the address provided below.

A. APPLICATION FORMS

1. COMPANY INFORMATION

Indicate the company name, incorporation number, type of business and location of the business. If your business or organization has more than one site address, please copy this form and complete a separate application for each site.

2. SUMMARY OF EFFLUENT DISCHARGE CHARACTERISTICS

Complete this section to indicate discharge duration, volume and quality.

3. NUMBER OF CONNECTIONS

List the number and type of connections to sewer.

4. SOURCES OF WASTEWATER

Where non-domestic waste is being discharged to sanitary sewer or storm sewer, list any pre-treatment works and the actual source of the wastewater.

5. SITE PLAN

A site plan must be submitted. Clearly mark the plant boundary, buildings and approximate locations of new and existing works, monitoring points and sewer connections.

6. DECLARATION FORM

The application form must be signed. Please ensure that the first box in the Declaration Section is complete. An application may be filed by an agent of the applicant and, unless the sewage control manager deems otherwise, an obligation imposed by this bylaw on an applicant may be carried out by his agent. If you wish to appoint an agent, please complete the appropriate box in the Declaration Section.

Initials _____

B. ADDITIONAL INFORMATION

1. Specifications and drawings of process equipment and control works associated with the discharge should be submitted to assist the CRD Environmental Services department with the evaluation of the application. The sewage control manager may request submission of additional details relevant to the application. Should additional application forms be required, they may be obtained from:

Sewage Control Manager
Environmental Services Department
Capital Regional District
P.O. Box 1000, 625 Fisgard Street
Victoria, BC V8W 2S6

(Bylaw 3350)

2. In the event of accidental discharge of a prohibited or restricted waste to a sewer (as required under Sections 2.8(b) and 7.1(a) of this bylaw), please call:

Regional Source Control Program
24-Hour Telephone Number
(250) 360-3248

Initials _____

Scientific Programs, CRD Environmental Services Department, Telephone (250) 360-3256, Facsimile (250) 360-3254

(Bylaw 3350)

APPLICATION FOR A WASTE DISCHARGE PERMIT

☐ Application for New Permit ☐ Application to Amend Permit No. _____

Application for a WASTE DISCHARGE PERMIT under the Capital Regional District (CRD) Sewer Use Bylaw No. 2922. This application is to be filed with the sewage control manager, at the address on page 2, not less than 90 days prior to the date for which a permit is required.

1. I,_____
(Full name-if a company, British Columbia Registered Name)

Registered Address:_____

_____

Incorporation Number:_____
hereby apply for a WASTE DISCHARGE PERMIT to discharge non-domestic waste into sanitary sewer from a:

_____
(Type of Business)

Located at: _____

_____

2. Summary of Wastewater Discharge Characteristics

Maximum Duration of Operation: (hours/day) _____
(days/week) _____
(weeks/year) _____

Flow

Is the Discharge greater than 300 m^3 in a 30-day period?: ( ) yes ( ) no

Is the Discharge greater than 10 m^3 in a 24-hour period?: ( ) yes ( ) no

Frequency

Maximum discharge flow rate: _____ (m^3/day)

Average daily discharge flow rate: _____ (m^3/day)

Method of flow rate determination: _____

( ) measured ( ) estimated

(Note: 1m^3 = 220 Imperial gallons, or 264 U.S. gallons)

Initials _____

Type of Discharge

( ) continuous ( ) batch ( ) both

Quality

Use the check boxes to indicate whether any of the following types of wastes are discharged:

Flammable or explosive waste	( ) yes	( ) no
Obstructive waste	( ) yes	( ) no
Air contaminant waste	( ) yes	( ) no
High temperature waste	( ) yes	( ) no
Corrosive waste	( ) yes	( ) no
Biomedical waste	( ) yes	( ) no
Food waste	( ) yes	( ) no
Radioactive waste	( ) yes	( ) no
Seawater	( ) yes	( ) no

Hazardous Waste

Does any process within the plant produce special waste as defined under the Hazardous Waste Regulation of the Environmental Management Act.

(Bylaw 3350)

( ) yes ( ) no ( ) don't know

Wastewater Characteristics

In the space provided below, check the appropriate box for each wastewater contaminant to dictate whether the contaminant listed is "known to be present", "suspected to be present", "suspected to be absent", or "known to be absent" in the wastewater discharge.

If a contaminant is "known to be present" or "suspected to be present", estimate the expected average and maximum daily contaminant concentrations in the spaces provided.

If wastewater discharges have been sampled and analyzed in the past, please attach examples of sampling data.

Initials _____

Wastewater Contaminants	Known to be present	Suspected to be present	Suspected to be absent	Known to be absent	Expected Concentration mg/L (ppm) Average	Maximum
Conventional Contaminants						
Ammonia	( )	( )	( )	( )	_____	_____
Biochemical Oxygen Demand (BOD)	( )	( )	( )	( )	_____	_____
Chemical Oxygen Demand (COD)	( )	( )	( )	( )	_____	_____
Suspended Solids	( )	( )	( )	( )	_____	_____
Oil and Grease (total)	( )	( )	( )	( )	_____	_____
pH max___ min ___	( )	( )	( )	( )	_____	_____
Organic Contaminants						
Oil and Grease (hydrocarbons)	( )	( )	( )	( )	_____	_____
Phenols (total)	( )	( )	( )	( )	_____	_____
Phenols (chlorinated)	( )	( )	( )	( )	_____	_____
Polynuclear Aromatic Hydrocarbons (PAH)	( )	( )	( )	( )	_____	_____
PCBs	( )	( )	( )	( )	_____	_____
Pesticides	( )	( )	( )	( )	_____	_____
Tetrachloroethylene	( )	( )	( )	( )	_____	_____
Organo-tin compounds	( )	( )	( )	( )	_____	_____
Benzene	( )	( )	( )	( )	_____	_____
Ethylbenzene	( )	( )	( )	( )	_____	_____
Toluene	( )	( )	( )	( )	_____	_____
Xylenes	( )	( )	( )	( )	_____	_____
Solvents (specify)	( )	( )	( )	( )	_____	_____

Initials _____
(Bylaw 3350)

Wastewater Contaminants	Known to be present	Suspected to be present	Suspected to be absent	Known to be absent	Expected Concentration mg/L (ppm)	
					Average	Maximum
Inorganic Contaminants						
Arsenic	( )	( )	( )	( )	_____	_____
Cadmium	( )	( )	( )	( )	_____	_____
Chloride	( )	( )	( )	( )	_____	_____
Chromium	( )	( )	( )	( )	_____	_____
Cobalt	( )	( )	( )	( )	_____	_____
Copper	( )	( )	( )	( )	_____	_____
Cyanide	( )	( )	( )	( )	_____	_____
Iron	( )	( )	( )	( )	_____	_____
Lead	( )	( )	( )	( )	_____	_____
Manganese	( )	( )	( )	( )	_____	_____
Mercury	( )	( )	( )	( )	_____	_____
Molybdenum	( )	( )	( )	( )	_____	_____
Nickel	( )	( )	( )	( )	_____	_____
Selenium	( )	( )	( )	( )	_____	_____
Silver	( )	( )	( )	( )	_____	_____
Sulphate	( )	( )	( )	( )	_____	_____
Sulphide	( )	( )	( )	( )	_____	_____
Zinc	( )	( )	( )	( )	_____	_____
Other	( )	( )	( )	( )	_____	_____

Initials _____

3. Number of Connections to Sewer

(a) **Sanitary Sewer**

Domestic waste only _____

Non-domestic waste only _____

Combined domestic and non-domestic waste _____

(Note connection locations on attached site plan.)

Is stormwater discharged to sanitary sewer? yes ( ) volume_____m^3/day
no ( )

Is uncontaminated water discharged to sanitary sewer? yes ( ) volume_____m^3/day
no ( )

(Note connection locations on attached site plan.)

(b) **Storm Sewer**

Stormwater only _____

Uncontaminated water only _____

Combined stormwater and uncontaminated water _____

(Note connection locations on attached site plan.)

Is domestic waste discharged to storm sewer? yes ( ) volume_____m^3/day
no ( )
(Note connection location on attached site plan.)

Is non-domestic waste discharged to storm sewer? yes ( ) volume_____m^3/day
no ( )

Initials _____

4. Sources of Wastewater Discharge to Sewer

(Note location of sources and control works on attached site plan.)

SOURCE OF WASTEWATER (e.g., galvanizing line rinse tank)	CONTROL WORKS TREATING EACH SOURCE PRIOR TO DISCHARGE TO SEWER* (e.g., Trade Waste Interceptor)

(a) **Sanitary Sewer**

(b) **Storm Sewer**

*Control Works include: small drainage, oil/water separators, grease traps, filters, reverse osmosis units, ion exchange units, neutralization facilities and other wastewater pre-treatment works.

Initials _____

5. Site Plan

Sketch a site plan in the area provided below or attach a site plan to this application form. The plan shall include property lines, buildings, pre-treatment works, effluent lines, sanitary and storm sewer connections, flow measuring devices and monitoring points (or available sampling locations).

(Include approximate scale on site plan.)

^North^

Initials _____

6. Declaration

I, _____, declare that the information given on this application form is correct to the best of my knowledge.

_____ _____
(Date) (Signature of Applicant or Agent)

_____ _____
(Title) (Phone Number)

If you elect to appoint an Agent, please complete the following:

I, _____ (_____)
(Print Name) (Title)

_____
(Signature)

hereby authorize _____ _____
(Print Name) (Affiliation)

to deal with you directly on all aspects of the subject application.

The collection of this information is authorized under the Capital Regional District Sewer Use Bylaw and Sections 29 and 30 of the Environmental Management Act and will be used for the purpose of administration, including enforcement, of the Sewer Use Bylaw and orders made pursuant to the Environmental Management Act.

(Bylaw 3350)

Enquiries about the collection or use of information in this form can be directed to the Freedom of Information and Protection of Privacy Contact: (250) 360-3089.

(Bylaw 3016)

Initials _____

SCHEDULE "D"

(Bylaw 3016)
(Bylaw 3075)
(Bylaw 3105)

CODES OF PRACTICE
BYLAW NO. 2922

The following codes of practice have been adopted by the Capital Regional District:

		Column 1
	Codes of Practice	Appended to this Bylaw as Schedule
1.	Food Services Operations	I
2.	Dry Cleaning Operations	J
3.	Photographic Imaging Operations	K
4.	Dental Operations	L
5.	Automotive Repair Operations	M
6.	Vehicle Wash Operations	N
7.	Carpet Cleaning Operations	O
8.	Fermentation Operations	P
9.	Printing Operations	Q
10.	~~Recreation Facility Operations~~Reserved for future use	R
11.	Laboratory Operations	S

SCHEDULE "E"
(Section 11.1)

NOTICE OF REVIEW REQUEST
BYLAW NO. 2922

A person affected by a decision of a deputy sewage control manager made pursuant to Sections 3.1, 9.1, 9.2, 9.4 or 9.7 of Bylaw 2922 may request a review by completing and submitting this form within 21 working days after the decision being appealed is given.

(Bylaw 3350)

Business Name: _____ Date: _____

Address: _____

Contact Person: _____ Phone No.: _____ Fax No.: _____

Describe decision to be reviewed (and attach copy of decision): _____

Reasons for Review Request: _____

Check one of the following:
☐ Request for Review by Sewage Control Manager ☐ Request for Third Party Mediation

List any documentation attached.

Send to: Sewage Control Manager, Environmental Services Department, Capital Regional District
P.O. Box 1000, 625 Fisgard Street, Victoria, B.C. V8W 2S6

(Bylaw 3350)

Received by: _____ Date: _____ File No: _____

NOTE: YOU MAY BE ENTITLED TO A TIME-LIMITED STATUTORY RIGHT OF APPEAL TO THE ENVIRONMENTAL APPEAL BOARD UNDER THE ENVIRONMENTAL MANAGEMENT ACT. PLEASE CONSULT A COPY OF THAT ACT FOR FURTHER DETAILS.

(Bylaw 3350)

SCHEDULE "F"

FEES
BYLAW NO. 2922

1.0 WASTE DISCHARGE PERMIT FEES

1.1 Application Fee

(a) A person who applies for a waste discharge permit shall pay an application fee of $500.

(b) The application fee is payable on submission to the manager of a completed application form as provided in Schedule "C".

(c) The District will not process an application for a waste discharge permit until the application fee has been paid.

(d) The application fee will not be refunded if the manager does not issue a waste discharge permit. However, if the manager issues a waste discharge permit, $250 of the application fee will be applied toward the base fee portion of the permit administration fee for the calendar year for which the permit is issued.

1.2 Permit Administration Fees

1.2.1 Base Fee

(a) A person to whom a waste discharge permit is issued shall pay an annual base fee of $250.

(b) The base fee shall be paid upon issuance of the waste discharge permit. A base fee of $250 is payable for each waste discharge permit issued.

(c) The annual base fee of $250 will be invoiced once per year during the first billing period of each calendar year for that business.

1.2.2 Discharge Fee

1.2.2.1 Overview *(Bylaw 3105)*

(a) In addition to the base fee, the holder of a waste discharge permit shall pay a discharge fee based on the volume of discharge and the amount or loading of specified parameters in the non-domestic wastewater discharged from the premises covered by the waste discharge permit to a sanitary sewer during a continuous three (3) month period (or quarter).

(b) The discharge fee will be calculated in accordance with the formulae outlined in Sections 1.2.2.3 and 1.2.2.4.

(c) The discharge fee will be invoiced quarterly.

1.2.2.2 Flow Measurement

(a) Permit holders must measure and record non-domestic waste flow to sanitary sewer from their premises:

(i) using a flow measuring device able to measure or provide an estimate of daily and monthly flow; or
(ii) provide an estimate of daily and monthly flow based on the municipal water meter readings for the premises using a method approved by the manager.

(b) If the flow contains water not originating from a municipal water supply, this portion of the flow must be estimated or measured, as outlined under paragraph (a), and reported separately.

1.2.2.3 Loading Calculation

The calculation of the monthly loading for each parameter listed in Table 1, other than flow oil and grease and the parameters listed in Table 2, is described by the following formula:

$$L_a = \frac{C_a \times F}{1000}$$

Where:
L_a = loading for parameter "a" for a one month period, in kg.
C_a = concentration of parameter "a", in mg/L.
F = total non-domestic waste flow for the same month as above, in cubic meters (m^3).

The total loading for the quarter is the sum of the three monthly loadings for each parameter listed in Table 1. If a parameter is measured only once per quarter, the total loading for the quarter will be based on the parameter concentration and the total flow per quarter.

1.2.2.4 Loading Calculation for Oil and Grease

The calculation of the monthly loading for oil and grease is described by the following formula:

$$L = \frac{(C - H) \times F}{1000}$$

Where:
L = loading for oil and grease for a one month period, in kg.
C = concentration of oil and grease, in mg/L.
H = concentration of oil and grease (hydrocarbons), in mg/L. (H = 0, where there is no result reported for oil and grease (hydrocarbons)).
F = total non-domestic waste flow for the same month as above, in cubic meters (m^3).

The total loading for the quarter is the sum of the three monthly loadings for oil and grease. If oil and grease is measured only once per quarter, the total loading for the quarter will be based on the oil and grease concentration and the total flow per quarter.

1.2.2.5 Loading Calculation for Metals

The calculation of the monthly loading for each of the metal parameters listed in Table 2 is described by the following formula:

$$L_a = \frac{(C_a - P_a) \times F}{1000}$$

Where:
L_a = loading for parameter "a" for a one month period, in kg.
C_a = concentration of parameter "a", in mg/L.
P_a = practical quantitation limit of parameter "a", as listed in Table 2, in mg/L.
F = total non-domestic waste flow for the same month as above, in cubic meters (m^3).

The total loading for the quarter is the sum of the three monthly loadings for each parameter listed in Table 2. If a parameter is measured only once per quarter, the total loading for the quarter will be based on the parameter concentration and the total flow per quarter.

1.2.2.6 Discharge Fee Calculation

The total discharge fee payable for a quarter is the sum of the quarterly discharge fees for the individual parameters described in Table 1 and the quarterly discharge fee for flow using the calculations described below.

The quarterly discharge fee for each parameter, other than flow, is described by the following formula:

$$D_a = L_a \times R_a$$

Where:
D_a = discharge fee for parameter "a" for a quarterly period, in dollars ($).
L_a = total loading for parameter "a" for a quarterly period, in kg.
R_a = unit rate for parameter "a" as listed in Table 1, in $/kg.

The quarterly discharge fee for flow is described by the following formula:

$$D = F_q \times R$$

Where:
D = discharge fee for total quarterly flow, in dollars ($).
F_q = total non-domestic waste flow for the quarter, in cubic meters (m^3).
R = unit rate for flow as listed in Table 1, in dollars ($).

1.2.2.7 Audit Sampling

(a) The District will carry out audit sampling to verify the self-monitoring data submitted by a permittee.

(b) If there is no significant difference between the District audit data and the permittees self-monitoring data, the self-monitoring data will be used to calculate the discharge fee.

(c) If the District audit sampling data reveals that the self-monitoring results are significantly different than the District results, the higher of the two sampling results will be used to calculate the discharge fee.

(Bylaw 3016)

(d) In the absence of any monitoring data from a permitted site at the end of a quarter, the limit specified in the waste discharge permit for that site will be used to calculate the discharge fee for each applicable parameter listed in Table 1.

(Bylaw 3016)

1.3 Amendment Fee

(a) Each time the holder of a waste discharge permit requests an amendment to the waste discharge permit held by him, he shall pay an amendment fee. Completion of an application form as provided in Schedule "C" is required. The amendment fee is payable upon issuance of the amended permit.

(b) A person who applies for an amendment, requiring less than three hours of staff time to review and prepare, shall pay a fee of $60.

(c) A person who applies for an amendment that would result in reduced non-domestic waste loadings to sanitary sewer shall pay a fee of $60.

(d) A person applying for an amendment, requiring more than three hours of staff time to prepare, shall pay $360.

(e) No amendment fee will be charged for waste discharge permit amendments that have been initiated by the CRD.

2.0 SAMPLING AND ANALYSIS CHARGES

The holder of a waste discharge permit or a person operating under a code of practice shall pay to the District sampling and analysis charges, being the cost incurred by the District to carry out more than two audits or sample analyses of the waste being discharged from any premises within one calendar year.

3.0 AUTHORIZATION FEE

There is no fee charged for the preparation of an authorization under the bylaw.

4.0 CODE OF PRACTICE FEE

There is no fee charged for operation of a discharging operation under a code of practice.

(Bylaw 3350)

5.0 GENERAL

5.1 Payment of Fees

Fees are due and payable within 30 days and a monthly interest of 1.5%, compounded monthly, applies on all outstanding balances over 30 days.

(Bylaw 3350)

All payments received will be applied firstly against arrears, and then to current balances.

5.2 Credit Application

Any person required to pay fees and charges under this bylaw must apply to the District for credit and if the treasurer is satisfied of the credit worthiness of the person, he or she may grant credit to that person, in which case payment of the fees and charges imposed under Section 12 shall be made and the credit extended on the following conditions:

(a) the person receiving credit shall pay to the District all fees and charges in full within thirty (30) days of the last day of the month for which an invoice has been submitted; and

(Bylaw 3105)

(b) late payment(s) will be subject to an interest charge of 1.5% (one and one half per cent) per month.

(Bylaw 3105)

TABLE 1

RATES FOR DISCHARGE FEES

Parameter	Bylaw Limit (mg/L)	Discharge Fee Rate*
COD	1,000	$ 0.025/kg
Flow	--	0.01/m^3
Flow (not from a Waterworks)	--	0.06/m^3
Oil and Grease	100	0.25/kg
Suspended Solids	350	0.07/kg
Arsenic (As)	0.4	61.25/kg
Cadmium (Cd)	0.3	81.67/kg
Chromium (Cr)	4	6.13/kg
Copper (Cu)	1	24.50/kg
Cyanide (CN)	1	24.50/kg
Lead (Pb)	1	24.50/kg
Mercury (Hg)	0.02	1,225.00/kg
Nickel (Ni)	3	8.17/kg
Silver (Ag)	0.5	49.00/kg
Zinc (Zn)	3	8.17/kg
Oil and Grease (Hydrocarbons)	15	1.63/kg
Phenols	1	24.50/kg
Cobalt (Co)	5	4.90/kg
Iron (Fe)	50	0.49/kg
Manganese (Mn)	5	4.90/kg
Molybdenum (Mo)	5	4.90/kg
Selenium (Se)	0.3	81.67/kg
PAHs	0.05	490.00/kg
Benzene	0.1	245.00/kg
Ethyl Benzene	0.2	122.50/kg
Toluene	0.2	122.50/kg
Xylenes	0.2	122.50/kg
Chloride (Cl)	1,500	0.02/kg
Sulphate (SO_4)	1,500	0.02/kg
Sulphide (S)	1	24.50/kg

* All rates are in dollars per kilogram ($/kg) except for flow which is expressed as dollars per cubic meter.

(Bylaw 3350)

TABLE 2

PRACTICAL QUANTITATION LIMITS FOR METALS

Parameter	Practical Quantitation Limit (mg/L)
Arsenic (As)	0.0005
Cadmium (Cd)	0.0005
Chromium (Cr)	0.05
Cobalt (Co)	0.05
Copper (Cu)	0.05
Iron (Fe)	0.15
Lead (Pb)	0.005
Manganese (Mn)	0.025
Mercury (Hg)	0.00025
Molybdenum (Mo)	0.15
Nickel (Ni)	0.1
Selenium (Se)	0.0025
Silver (Ag)	0.0005
Zinc (Zn)	0.025

SCHEDULE "G" (Repealed)

SCHEDULE "H" (Repealed)

(Bylaw 3105)
(Bylaw 3350)

(Bylaw 3016)
(Bylaw 3046)
(Bylaw 3105)
(Bylaw 3350)

SCHEDULE "I"

CODE OF PRACTICE FOR FOOD SERVICES OPERATIONS BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from food services operations directly or indirectly into a sewer connected to a sewage facility.

1.2 The term "treatment works" in this code of practice means the works referred to in Section 2.2.

2.0 DISCHARGE REGULATIONS

2.1 An operator of a food services operation must not discharge waste, which at the point of discharge into a sewer, contains:

(a) restricted waste with the exception of total oil and grease, biochemical oxygen demand (BOD) and chemical oxygen demand (COD);

(b) prohibited waste, hazardous waste or stormwater; or

(c) uncontaminated water, in quantities greater than two cubic meters per day.

2.2 An operator of a food services operation that discharges wastewater containing oil and grease must install and maintain a grease interceptor in accordance with this code of practice.

2.3 An operator of a food services operation must install and maintain all grease interceptors installed in connection with the food services operation so that the grease interceptors function properly.

2.4 An operator of a food services operation must not permit oil and grease to accumulate in a grease interceptor in excess of the lesser of six inches or 25% of the wetted height of the grease interceptor or solids to collect in excess of 25% of the wetted height of the grease interceptor.

2.5 An operator of a food services operation must not dispose of oil and grease removed from a grease interceptor to a sewer.

2.6 An operator of a food services operation must not use or permit the use of chemical agents, enzymes, bacteria, solvents, hot water or other agents to facilitate the passage of oil and grease through a grease interceptor.

2.7 An operator of a food services operation must install a grease interceptor connected to the following fixtures that discharge wastewater to sewer:

(a) sinks used for washing pots, pans, dishes, cutlery and kitchen utensils, including pre-rinse sinks;

(b) drains serving self-cleaning exhaust hoods installed over commercial cooking equipment;

(c) drains serving commercial cooking equipment that discharge oil and grease;

(d) drains serving a garbage compactor used to compact waste that may contain, or be contaminated with, food waste;

(e) dishwashers as specified in Section 2.10 or 2.11, as applicable;
(f) floor drains as specified in Section 2.14 or 2.15, as applicable; or

(g) other fixtures that discharge wastewater containing oil and grease.

2.8 An operator of an outdoor garbage compactor installation connected to a sewer must install works as necessary to prevent rainwater from entering the drain connected to the sewer.

2.9 Despite Section 2.7, the following fixtures must not be connected to a grease interceptor:

(a) potato peelers and similar equipment discharging solids;

(b) toilets, and urinals; or

(c) garburators except as specified in Section 2.25.

2.10 An operator of a food services operation, commencing operation on or after January 1, 2002 must connect dishwashers to a grease interceptor.

2.11 For an operator of a food services operation which commenced operation prior to January 1, 2002 a dishwasher may be connected to a grease interceptor provided that the grease interceptor is sized to accept the maximum discharge flow rate as specified in the method described in Section 2.13.

2.12 The rated flow capacity of each grease interceptor installed in a food services operation must not be less than the maximum discharge flow from all plumbing fixtures connected to the grease interceptor that will discharge simultaneously.

2.13 An operator of a food services operation must calculate the maximum discharge flow rate to a grease interceptor, as described in Section 2.12, by adding together the flow rates from each fixture that will discharge simultaneously using the following method to estimate the flow rate from each fixture:

(a) for sinks, calculate the total volume of each fixture and assign a drain time of one minute.

(b) for exhaust hoods with an automatic cleaning cycle, measure the discharge flow rate or use the manufacturers' estimate of peak discharge flow rate during the automatic wash cycle.

(c) for floor drains, estimate the flow rate using the following table:

Floor Drain Diameter		Drain Rate		
Millimetres	Inches	L/s	Imperial gpm	US gpm
51	2	1.4	18.3	22
76	3	2.36	31.2	37.5
102	4	2.84	37.5	45

(d) for drains on other equipment, use the table in Section 2.13 (c) or if the drain size is less than 2 inches in diameter either:

(i) measure the discharge flow rate, or

(ii) refer to manufacturers' estimated peak discharge flow rate, or

(iii) use a minimum of 1.4L/s.

(e) for automatic dishwashers, measure the discharge flow rate or use the maximum discharge flow rate specified by the dishwasher manufacturer.

2.14 An operator of a food services operation commencing operation on or after January 1, 2002 must connect floor drains to a grease interceptor.

2.15 For an operator of a food services operation that commenced operation prior to January 1, 2002, floor drains may be connected to a grease interceptor provided that the grease interceptor is sized to accept the maximum discharge flow rate from the fixture as specified in the method described in Section 2.13.

2.16 The rated flow capacity of each grease interceptor must be established using the Plumbing and Drainage Institute standard PDI-G101 or equivalent test as approved by the manager.

2.17 Each grease interceptor installed on or after January 1, 2002 must have either:

(a) one or more vented external flow control fittings installed upstream of the inlet line to the grease interceptor; or

(b) a non-removable internal flow control fitting; or

(c) flow control that is integral in the design of the grease interceptor and is verified by the manufacturer or a mechanical engineer for each installation.

2.18 Grease interceptors installed prior to January 1, 2002 must have either internal flow control fittings or external vented flow control fittings.

2.19 Flow control fittings must be installed so that:

(a) the flow control fitting has been sized to account for head pressure caused by the elevation difference between the fixture(s) and the grease interceptor; and

(b) it can be verified, during inspections to enforce this Bylaw, that flow control fittings are in place.

2.20 The size of the flow control fitting limits the flow to a grease interceptor to a rate that is no more than the rated flow capacity of the grease interceptor.

2.21 An operator of a food services operation who installs a grease interceptor on or after January 1, 2000 must locate the grease interceptor so that it is readily and easily accessible for inspection and maintenance.

2.22 An operator of a food services operation who installs a grease interceptor on or after January 1, 2000 must ensure:

(a) that the grease interceptor is equipped with a sampling tee located either at the outlet of the grease interceptor or downstream of the grease interceptor at a location upstream of any discharge of other waste;

(b) the sampling tee as described in Section 2.22 (a) is the same diameter as the grease interceptor outlet pipe and is installed so that it opens in a direction at right angles to and vertically above the flow in the sewer pipe;

(c) that the sampling tee be readily and easily accessible at all times for inspection; and

(d) that a record of the locations of all sampling tees is maintained at the site and available for inspection by an officer, on request.

2.23 A grease interceptor installed on or after January 1, 2000 must be labelled or stamped with information containing the rated flow capacity of the unit. The label or stamp must be permanently affixed and visible following installation. Where a permanently affixed and visible label is not possible or practical, manufacturer and installation drawings of the grease interceptor must be maintained at the site and must be available for inspection by an officer, on request.

2.24 An operator of a food services operation commencing operation on or after January 1, 2002 must not connect a garburator to the sanitary sewer.

2.25 An operator of a food services operation that commenced operation before January 1, 2002 that has a garburator that discharges to a sanitary sewer must either:

(a) cease the discharge to sanitary sewer from the garburator; or

(b) treat the waste prior to discharge to sanitary sewer using a solids separator followed by a grease interceptor.

2.26 The solids separator listed in 2.25 (b) must be properly sized and maintained to prevent the passage of solids so that any grease interceptor connected to a garburator and solids separator will function in accordance with this Bylaw.

2.27 An operator of a food services operation must remove the cover of a grease interceptor for the purpose of inspection on request of an officer.

~~**3.0 RECORD KEEPING AND RETENTION**~~

~~3.1 An operator of a food services operation must keep a record at the food services operation of all grease interceptor inspection and maintenance activities, including:~~

~~(a) the date of inspection or maintenance;~~

~~(b) the maintenance conducted;~~

~~(c) the type and quantity of material removed from the grease interceptor; and~~

~~(d) the location of disposal of the material removed from the grease interceptor.~~

~~The records must be retained onsite for a period of two years and must be available for inspection on request by an officer.~~

SCHEDULE "J"
(Bylaw 3105)

CODE OF PRACTICE FOR DRY CLEANING OPERATIONS
BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from dry cleaning operations directly or indirectly into a sewer connected to a sewerage facility.

1.2 The term "treatment works" in this code of practice means the works referred to in Section 2.4.

2.0 DISCHARGE REGULATIONS

2.1 An operator of a dry cleaning operation must not discharge waste which, at the point of discharge into a sewer at any time, contains:

(a) prohibited waste as set out in Schedule "A";

(b) restricted waste as set out in Schedule "B";

(c) wastewater containing tetrachloroethylene in concentrations greater than 0.10 milligrams per litre (mg/L);

(d) tetrachloroethylene contaminated residue; or

(e) uncontaminated water, in quantities greater than 2.0 cubic metres per day, without prior authorization from the manager.

2.2 An operator of a dry cleaning operation must not discharge stormwater into a sewer without a valid waste discharge permit or authorization.

2.3 A dry cleaning operation may meet the requirements of Section 2.1 by collecting and transporting the wastewater or other substances specified in Section 2.1 from the dry cleaning operation for off-site waste management.

2.4 On or after January 1, 2004, an operator of a dry cleaning operation that discharges waste that has come in contact with tetrachloroethylene from a dry cleaning process into a sewer must, in addition to the dry cleaning machine's integral tetrachloroethylene-water separator, install and maintain the following treatment works:

(a) a second tetrachloroethylene-water separator that recovers tetrachloroethylene from the wastewater exiting the integral tetrachloroethylene-water separator;

(b) an initial filter containing activated carbon that removes the tetrachloroethylene from the wastewater exiting the second tetrachloroethylene-water separator;

(c) a monitor-alarm that automatically shuts down the wastewater treatment and stops the discharge of wastewater containing tetrachloroethylene into the sewer when the initial filter becomes saturated with tetrachloroethylene; and

(d) a second filter containing activated carbon that removes tetrachloroethylene from the wastewater after it passes through the initial filter and past the monitor-alarm.

2.5 Where an operator of a dry cleaning operation installs the treatment works referred to in subsections 2.4(a) to (d), then the treatment works must be installed in the order in which they are set out in Section 2.4.

2.6 An operator of a dry cleaning operation who operates the tetrachloroethylene-water separators referred to in Section 2.4 must:

(a) visually inspect all tetrachloroethylene-water separators on a daily basis to ensure that the level of tetrachloroethylene does not reach the wastewater outlet of the separators; and

(b) clean the tetrachloroethylene-water separators at least once every seven days or more frequently if required by the manufacturer. *(Bylaw 3350)*

2.7 When the level of the tetrachloroethylene referred to in subsection 2.6(a) reaches the wastewater outlet of the separator, an operator of a dry cleaning operation must:

(a) cease operation to prevent the discharge of tetrachloroethylene from the tetrachloroethylene-water separator;

(b) clean the tetrachloroethylene-water separator in accordance with manufacturer's recommendations; and

(c) return the tetrachloroethylene from the separator to the solvent recovery system or collect and store it for off-site waste management.

2.8 An operator of a dry cleaning operation who installs the activated carbon filters referred to in subsections 2.4(b) and (d) must replace both the initial and second filter containing activated carbon at least once every 12 months and when one of the following occurs:

(a) on or before reaching the manufacturer's or supplier's recommended expiry date; or

(b) when the monitor-alarm referred to in subsection 2.4(c) has been triggered; or

(c) analytical data using a method of analysis outlined in standard methods, or an alternative method of analysis approved by the manager, having a method detection limit of 0.01 mg/L tetrachloroethylene or lower, indicates that the concentration of tetrachloroethylene in the discharge from the second filter containing activated carbon is greater than, or equal to, 0.10 mg/L.

2.9 An operator of a dry cleaning operation must ensure that waste other than waste to which Section 2.4 of this code of practice applies, including waste from washrooms, staff coffee rooms, washing machines and change rooms, bypasses the treatment works.

2.10 An operator of a dry cleaning operation who installs treatment works referred to in Section 2.4 of this code of practice must:

(a) equip the outlet from the treatment works with a monitoring point at a location upstream of the point of discharge of other waste;

(b) install the monitoring point as described in subsection 2.10(a) of the same diameter as the treatment works outlet pipe so that the monitoring point opens in a direction at right angles to, and horizontal to, the flow in the sewer pipe and is controlled by a hose bib or a valve; and

(c) locate the monitoring point so that it is readily and easily accessible at all times.

3.0 STORAGE AND CONTAINMENT

3.1 An operator of a dry cleaning operation must ensure that all dry cleaning machines and treatment works are operated and stored using a tetrachloroethylene-impermeable spill containment system that will prevent any spilled material from entering a sewer.

3.2 An operator of a dry cleaning operation must store all new and used tetrachloroethylene, tetrachloroethylene-contaminated residue and untreated wastewater using a tetrachloroethylene-impermeable spill containment system that will prevent any spilled material from entering a sewer.

3.3 The containment systems identified in Sections 3.1 and 3.2 must encompass at least the entire surface under each dry cleaning machine, tank or other container containing tetrachloroethylene, wastewater or tetrachloroethylene-contaminated residue and be sufficient to hold at least 110% of the capacity of the largest tank, container or works within the containment system.

3.4 An operator of a dry cleaning operation equipped with a tetrachloroethylene-impermeable containment system must not have open drains within the containment area.

3.5 Drains located within the containment system must be sealed with tetrachloroethylene-resistant drain plugs.

3.6 An operator of a dry cleaning operation must not discharge stormwater from a containment system unless it has first been tested to confirm that such discharge will not breach Section 2.1 unless the operator has obtained a valid waste discharge permit or authorization under this bylaw.

4.0 SPILL RESPONSE PLANS

4.1 An operator of a dry cleaning operation that is in operation on or before January 1, 2004 must prepare a spill response plan on or before July 1, 2004.

4.2 An operator of a dry cleaning operation commencing operation on or after January 1, 2004 must prepare a spill response plan within 30 days after commencing operation.

4.3 The spill response plan required under Sections 4.1 or 4.2 must be posted in a conspicuous location on the dry cleaning premises.

4.4 An operator of a dry cleaning operation must maintain the spill prevention and clean-up equipment and supplies identified in the spill response plan specified in Section 4.1 or 4.2 in stock and readily available for use at all times.

4.5 An operator of a dry cleaning operation must ensure that the spill prevention equipment and supplies identified in the spill response plan specified in Section 4.1 or 4.2 include tetrachloroethylene-resistant drain plugs that are readily available to seal all floor drains into which tetrachloroethylene, wastewater or residue may enter in the event of a spill.

4.6 In the event of a spill, an operator of a dry cleaning operation must immediately carry out the spill response plan, when safe to do so, to prevent or discontinue the discharge of spilled material into a sewer.

5.0 RECORD KEEPING AND RETENTION

5.1 An operator of a dry cleaning operation who installs one or more treatment works must keep a record at the dry cleaning operation of all inspection and maintenance activities for the treatment works, including the:

(a) date of inspection or maintenance;

(b) description of inspection or maintenance conducted;

(c) amounts of activated carbon removed and replaced in the treatment works; and

(d) dates and volumes of material removed from the treatment works.

5.2 An operator of a dry cleaning operation must keep a record of all disposal or recycling services used for disposal or recycling of wastewater and tetrachloroethylene-contaminated residue, including the:

(a) name, civic and postal address, and telephone number of each disposal or recycling company or facility used by the dry cleaning operation;

(b) type of material transferred to each company or facility;

(c) quantity of material transferred to each company or facility; and

(d) date of material transferred to each company or facility.

5.3 The records required under Sections 5.1 and 5.2 must be retained for a period of five years and must be available for inspection on request by an officer.

SCHEDULE "K"

CODE OF PRACTICE FOR PHOTOGRAPHIC IMAGING OPERATIONS BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from photographic imaging operations directly or indirectly into a sewer connected to a sewage facility. *(Bylaw 3105)*

1.2 The term "treatment works" in this code of practice means the works referred to in Sections 2.2(b) and 2.4. *(Bylaw 3105)*

2.0 DISCHARGE REGULATIONS

2.1 An operator of a photographic imaging operation must not discharge waste which, at the point of discharge into a sewer, contains:

(a) silver in a concentration that is in excess of 5 milligrams per litre (mg/L) as analyzed in a grab sample; or

(b) prohibited waste, restricted waste, special waste, stormwater, or uncontaminated water as defined in this bylaw, other than the following restricted wastes: BOD, COD, chloride, iron and sulphate.

2.2 An operator of a photographic imaging operation that produces liquid waste containing silver on or after June 1, 2000 must either:

(a) collect and transport the waste from the photographic imaging operation for off-site waste management; or

(b) treat the waste at the photographic imaging operation site prior to discharge to the sewer using one of the following silver recovery technologies:

(i) two chemical recovery cartridges connected in a series;

(ii) an electrolytic recovery unit followed by two chemical recovery cartridges connected in series; or

(iii) any other silver recovery technology, or combination of technologies, capable of reducing the concentration of silver in the waste to 5 mg/L or less where valid analytical test data has been submitted to, and accepted by, the manager.

2.3 An operator of a photographic imaging operation must install and maintain silver recovery technology according to the manufacturer's or supplier's recommendations.

2.4 An operator of a photographic imaging operation must collect all liquid waste containing silver in a holding tank and must deliver this waste to the chemical recovery cartridges using a metering pump.

2.5 An operator of a photographic imaging operation must calibrate the metering pump referred to in subsection 2.4 at least once per year.

2.6 An operator of a photographic imaging operation must locate the silver recovery system in such a manner that an accidental spill, leak or container failure will not result in liquid waste containing silver in concentrations greater than 5 mg/L entering any sewer.

2.7 If a location referred to under subsection 2.6 is not available, an operator of a photographic imaging operation must do one of the following:

(a) install spill containment to contain spills or leaks from the silver recovery system; or

(b) cap all floor drains into which liquid spilled from the silver recovery system would normally flow.

2.8 When using two separate chemical recovery cartridges, an operator of a photographic imaging operation must test the discharge from the first cartridge for silver content at least once per month using either silver test paper or a portable silver test kit.

2.9 When the discharge from the first chemical recovery cartridge referred to in subsection 2.8 cannot be sampled, an operator of a photographic imaging operation must:

(a) install a cumulative flow meter on the silver recovery system; and

(b) test the discharge from the second chemical recovery cartridge once per week using silver test paper or a silver test kit.

2.10 An operator of a photographic imaging operation must replace the chemical recovery cartridges when any one of the following occurs:

(a) the manufacturer's or supplier's recommended expiry date, as shown on each cartridge, has been reached;

(b) eighty percent (80%) of the manufacturer's or supplier's maximum recommended capacity, or total cumulative flow, for each cartridge has been reached;

(c) test data, using silver test paper or a silver test kit, indicates that the discharge from the first cartridge is greater than 1000 mg/L; or

(d) analytical data using a method of analysis outlined in standard methods, or an alternative method of analysis approved by the manager, having a method detection limit of 0.5 mg/L silver or lower, indicates that the concentration of silver in the discharge from the silver recovery system is greater than, or equal to, 5 mg/L.

2.11 If treatment of liquid waste with two chemical recovery cartridges connected in series is the only silver recovery technology being used, then the operator of the photographic imaging operation must replace both chemical recovery cartridges when one of the events referred to in subsection 2.10 occurs. (Bylaw 3350)

2.12 Despite subsection 2.11, if treatment of liquid waste with two chemical recovery cartridges connected in series is used following treatment by an electrolytic recovery unit, the second cartridge may replace the used first cartridge and a new second cartridge may be installed when one of the events referred to in subsection 2.10 occurs.

2.13 Despite subsection 2.12, both chemical recovery cartridges used following an electrolytic recovery unit must be replaced by the operator of the photographic imaging operation when one of the events referred to in subsection 2.10 occurs if this is recommended by the manufacturer or supplier of the cartridges.

3.0 RECORD KEEPING AND RETENTION

3.1 An operator of a photographic imaging operation that uses a silver recovery system must keep, at the photographic imaging operation site, an operation and maintenance manual pertaining to all equipment used in the silver recovery system.

3.2 An operator of a photographic imaging operation that uses two chemical recovery cartridges connected in series must keep a record book, available for inspection on request, at the photographic imaging operation site that includes the following information recorded for the previous two years:

(a) serial number of each chemical recovery cartridge used;

(b) installation date of each chemical recovery cartridge used;

(c) expiry date of each chemical recovery cartridge used (where provided by manufacturers or suppliers);

(d) maximum recommended capacity, or total cumulative flow, of each chemical recovery cartridge used;

(e) dates of all metering pump calibrations;

(f) monthly silver test results on the discharge from the first chemical recovery cartridge; or where the discharge from the first cartridge cannot be sampled, weekly silver test results on the discharge from the second chemical recovery cartridge and weekly cumulative flows through the silver recovery system; and

(g) dates and descriptions of all operational problems associated with the chemical recovery cartridges and remedial actions taken.

3.3 An operator of a photographic imaging operation that uses an electrolytic recovery unit in addition to two chemical recovery cartridges connected in series must keep a record book, available for inspection on request, at the photographic imaging operation site that includes the following information recorded for the previous two years:

(a) all information specified under subsection 3.2;

(b) date of each removal of silver from the electrolytic recovery unit;

(c) date of each maintenance check on the electrolytic recovery unit; and *(Bylaw 3105)*

(d) dates and descriptions of all operational problems associated with the electrolytic recovery unit and remedial actions taken.

SCHEDULE "L"

CODE OF PRACTICE FOR DENTAL OPERATIONS BYLAW NO. 2922

(Bylaw 3105)

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from dental operations directly or indirectly into a sewer connected to a sewage facility. *(Bylaw 3105)*

1.2 The term "treatment works" in this code of practice means the works referred to in Section 2.3(b). *(Bylaw 3105)*

2.0 DISCHARGE REGULATIONS

2.1 An operator of a dental operation must not discharge waste which, at the point of discharge into a sewer, contains:

(a) prohibited waste, special waste, or stormwater ; or

(b) restricted waste with the exception of mercury measured at the point of discharge from a certified amalgam separator.

2.2 An operator of a dental operation that produces liquid waste from photographic imaging containing silver on or after January 1, 2001 must comply with the requirements of Schedule "K" of this bylaw.

2.3 An operator of a dental operation that produces wastewater containing dental amalgam on or after July 1, 2001 must either:

(a) collect and transport the wastewater from the dental operation for off-site waste management; or

(b) treat the wastewater at the dental operation site prior to discharge to the sewer using a certified amalgam separator.

2.4 Despite Section 2.3, an operator of a dental operation that produces wastewater containing dental amalgam and who:

(a) commences operation on or after January 1, 2001; or

(b) makes an improvement, with a value of $2,000 or more, to the premises in which the dental operation is carried out, on or after January 1, 2001,

(c) must comply with either (a) or (b) of Section 2.3.

2.5 An operator of a dental operation must install and maintain the amalgam separator referred to in Sections 2.3 and 2.4 according to the manufacturer's or supplier's recommendations in order that the amalgam separator functions correctly.

2.6 An operator of a dental operation shall not install an amalgam separator other than a certified amalgam separator on or after January 1, 2001.

2.7 An operator of a dental operation who installs an amalgam separator on or after January 1, 2001 must ensure that:

(a) all dental operation wastewater that contains dental amalgam is treated using the amalgam separator;

(b) a monitoring point is installed at the outlet of the amalgam separator or downstream of the amalgam separator at a location upstream of any discharge of other waste;

(c) the monitoring point must be installed in such a manner that the total flow from the amalgam separator may be intercepted and sampled; and

(d) the monitoring point shall be readily and easily accessible at all times for inspection.

2.8 If the amalgam separator referred to under Section 2.6 is located downstream of a wet vacuum system, an operator of a dental operation must ensure that:

(a) the wet vacuum system is fitted with an internal flow control fitting; or

(b) a flow control fitting is installed on the water supply line to the wet vacuum system.

2.9 The flow control fitting referred to in Section 2.8 must be sized to limit the flow to a rate that is no more than the maximum inlet flow rate of the amalgam separator as stated by the manufacturer of the amalgam separator.

2.10 An operator of a dental operation must locate an amalgam separator in such a manner that an accidental spill, leak or collecting container failure will not result in waste containing amalgam entering any sewer.

2.11 If a location referred to under Section 2.10 is not available, an operator of a dental operation must do one of the following:

(a) install spill containment to contain spills or leaks from the amalgam separator; or

(b) cap all floor drains into which liquid spilled from the amalgam separator would normally flow.

2.12 An operator of a dental operation must replace the amalgam separator's collecting container when any one of the following occurs:

(a) the manufacturer's or supplier's recommended expiry date, as shown on the amalgam separator, has been reached; or

(b) the warning level specified in the ISO Standard has been reached; or

(c) analytical data obtained using a method of analysis outlined in standard methods, or an alternative method of analysis approved by the manager, having a method detection limit of 0.1 mg/L or lower, indicates that the total concentration of mercury in the discharge from the amalgam separator is greater than, or equal to, 2 mg/L.

2.13 An operator of a dental operation must not dispose of dental amalgam collected in an amalgam separator, a collecting container, or any other device, to a sewer.

3.0 RECORD KEEPING AND RETENTION

3.1 An operator of a dental operation that uses an amalgam separator must keep, at the site of installation of the amalgam separator, an operation and maintenance manual containing instructions for installation, use, maintenance and service of the amalgam separator installed.

3.2 An operator of a dental operation that uses an amalgam separator must post, at the site of installation of the amalgam separator, a copy of the ISO Standard test report pertaining to the amalgam separator installed.

3.3 An operator of a dental operation that uses an amalgam separator must keep a record book at the dental operation site that includes the following information pertaining to the amalgam separator installed:

(a) date of installation of the amalgam separator and name of the installation service provider;

(b) serial number and expiry date of the amalgam separator and/or its components;

(c) maximum recommended flow rate through the amalgam separator, where applicable;

(d) dates of inspection, maintenance, cleaning and replacement of any amalgam separation equipment or components;

(e) dates and descriptions of all operational problems, spills, leaks or collecting container failures associated with the amalgam separator and remedial actions taken;

(f) name, address and telephone number of any person or company who performs any maintenance or disposal services related to the operation of the amalgam separator; and

(g) dates of pick-up of the collecting container for off-site disposal, volume of waste disposed and the location of disposal.

The records must be retained for a period of two years and must be available for inspection on request by an officer.

SCHEDULE "I"

CODE OF PRACTICE FOR FOOD SERVICES OPERATIONS BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from food services operations directly or indirectly into a sanitary sewer connected to a sewage facility.

1.2 Prior to altering the fixtures connected to an existing grease interceptor or replacing a grease interceptor an operator of a food services operation must submit a Waste Discharge Assessment Form (WDAF).

2.0 DISCHARGE REGULATIONS

2.1 An operator of a food services operation must not discharge waste, which at the point of discharge into a sanitary sewer, contains:

(a) restricted waste with the exception of total oil and grease, biochemical oxygen demand (BOD) and chemical oxygen demand (COD);

(b) prohibited waste as set out in Schedule “A”;

(c) uncontaminated water, in quantities greater than two cubic meters per day; or

(d) stormwater.

2.2 An operator of a food services operation that discharges wastewater containing fat, oil and grease must install one or more grease interceptors to treat wastewater prior to discharge to a sanitary sewer in accordance with this code of practice.

2.3 An operator of a food services operation who installs one or more grease interceptors under section 2.2 must inspect, maintain, repair and clean out the grease interceptors to ensure they function as designed.

2.4 An operator of a food services operation who commences operation on or after February 15, 2023 and who discharges wastewater containing fat, oil and grease may use alternative treatment works, or a combination of treatment works other than that described in this code of practice, to treat liquid waste from the food services operation prior to discharge to a sanitary sewer if the alternative treatment works meets, or exceeds the fat, oil and grease removal efficiency rating standard for grease interceptors set out in the relevant standards referenced in Sections 2.14 and 2.15 and where valid analytical test data has been submitted to, and accepted by, the manager.

2.5 An operator of a food service operation who installs alternative treatment works described in Section 2.4, following approval by the sewage control manager, is exempt from this code of practice however, the alternative treatment works must be operated in compliance with a waste discharge permit or authorization issued to the operator by the manager.

2.6 An operator of a food services operation who self-cleans must have the grease interceptor cleaned out by a waste hauler at least once every rolling 12-month period, or as directed by the manager.

2.7 An operator of a food services operation must not permit fat, oil, grease, and solids to accumulate in a grease interceptor in excess of 25% of the wetted height of the grease interceptor.

2.8 An operator of a food services operation, or other person, must not dispose of fat, oil and grease or solids removed from a grease interceptor to a sewer.

2.9 An operator of a food services operation must not use or permit the use of high flow water, chemical agents, enzymes, bacteria, solvents, hot water with a temperature greater than 75 degrees Celsius or other agents to facilitate the passage of FOG through a grease interceptor.

2.10 An operator of a food services operation must install a grease interceptor connected to the following fixtures that discharge wastewater to a sanitary sewer:

(a) all compartments of sinks used for rinsing, washing and sanitizing utensils including pre-rinse sinks and sinks used for thawing frozen meat or seafood, unless held in separate containers;

(b) drains serving exhaust hoods with an automatic cleaning cycle installed over cooking equipment;

(c) drains serving cooking equipment including wok stations, soup kettles, tilt kettles and other similar cooking equipment that discharge FOG or solids;

(d) drains serving a garbage compactor or food waste digester that may contain or be contaminated with FOG or solids;

(e) dishwashers except for a food services operation that commenced operation prior to January 1, 2002; or

(f) other fixtures that discharge wastewater containing FOG or solids including, but not limited to, centrifugal solids separators, prep sinks, and barista sinks.

2.11 An operator of an outdoor garbage compactor installation connected to a sanitary sewer must install works as necessary to prevent rainwater from entering the drain connected to the sewer.

2.12 The following fixtures must not be connected to a grease interceptor:

(a) toilets, and urinals;

(b) hand sinks except for a food services operation that commenced prior to January 1, 2002;

(c) janitor's sinks or mop sinks except for a food services operation that commenced operation prior to January 1, 2002;

(d) food grinders and similar equipment discharging organic solids except as specified in Section 2.28 and 2.29; or

(e) drains receiving uncontaminated water.

2.13 All hydromechanical grease interceptors installed on or after February 15, 2023 with a rated flow capacity less than or equal to 100 gallons per minute (gpm) must be rated in accordance with Canadian Standards Association standard B481 (Series 12) or their amendments, or other such standards approved by the manager.

2.14 All hydromechanical grease interceptors installed on or after February 15, 2023 with a rated flow capacity greater than 100 gpm must be rated in accordance with Plumbing and Drainage Institute standard PDI-G101, American Society of Mechanical Engineers standard A112.14.3, or their amendments, or such other standards approved by the manager.

2.15 All gravity grease interceptors installed on or after February 15, 2023 must be designed, engineered, sized and installed in accordance with the standards and guidelines prescribed in the International Association of Plumbing and Mechanical Officials IAPMO/ANSI Z1001, or other such standards approved by the manager.

2.16 An operator of a food services operation who installs a grease interceptor on or after February 15, 2023 must calculate the peak flow rate into the grease interceptor by adding together the flow rates from each of the fixtures identified below which are connected to the grease interceptor and assigning a drain time of one minute as follows:

(a) where the fixtures include a pre-rinse sink, food waste collector, wok station or rotisserie, assign a minimum flow rate of 50 gpm;

(b) for sinks other than pre-rinse sinks, calculate the volume of each fixture using 75% of the total volume;

(c) for each additional sink beyond two three-compartment sinks included in the calculation, other than pre-rinse sinks assign a flow rate of 0 gpm;

(d) for dishwashers and other equipment discharging to sanitary sewer assign a flow rate equal to the manufacturer's published maximum discharge flow rate during operation, or if unknown, assign a flow rate of 5 gpm; and

(e) for floor or hub drains assign a peak flow rate of 0 gpm except where kitchen equipment discharges indirectly through the drain. For each piece of equipment, assign a drain time as per (d) above.

2.17 Despite Section 2.16, the rated flow capacity of the grease interceptor installed by an operator of a food services operation on or after February 15, 2023 must not be less than 25 gpm where a single grease interceptor services the operation.

2.18 Despite Sections 2.16 and 2.17 the rated flow capacity of any grease interceptor installed by an operator of a food services operation on or after February 15, 2023 must be approved by the sewage control manager.

2.19 The rated flow capacity of a grease interceptor installed on or after January 1, 2000 must be:

(a) permanently labelled on the grease interceptor and be visible and clearly legible at all times; or

(b) available in written documentation issued by the manufacturer of the grease interceptor for inspection by an officer on request.

2.20 Hydromechanical grease interceptors installed after January 1, 2002 must have flow control fittings specified and approved in the manufacturer's certification listing.

2.21 Flow control fittings must be installed so that:

(a) the flow control fitting has been sized to account for head pressure caused by the elevation difference between the fixture(s) and the hydromechanical grease interceptor;

(b) it can be verified, during inspections to enforce this Bylaw, that flow control fittings are in place; and

(c) the size of the flow control fitting limits the flow to a hydromechanical grease interceptor to a rate that is no more than the rated flow capacity of the hydromechanical grease interceptor.

2.22 An operator of a food services operation who installs a grease interceptor must locate the grease interceptor in a location that is readily and easily accessible for inspection and maintenance, repair, and clean out.

2.23 An operator of a food services operation who installs a grease interceptor on or after February 15, 2023 must not locate the grease interceptor in a confined space.

2.24 An operator of a food services operation who installs a grease interceptor on or after January 1, 2000 must ensure:

(a) that the grease interceptor is equipped with a monitoring point located either at the outlet of the grease interceptor or downstream of the grease interceptor at a location upstream of any discharge of other waste;

(b) the monitoring point, other than integral monitoring points, is the same diameter as the grease interceptor outlet pipe and is installed so that it opens in a direction at right angles to and vertically above the flow in the sanitary sewer pipe;

(c) that the monitoring point be readily and easily accessible at all times for inspection and sampling purposes.

2.25 The monitoring point(s) referred to in Section 2.24 are considered to be the point of discharge of waste into a sanitary sewer.

2.26 An operator of a food services operation must remove the cover of a grease interceptor for the purpose of inspection on request of an officer.

2.27 An operator of a food services operation using a food grinder that discharges to a sanitary sewer must either:

(a) cease the discharge to sanitary sewer from the garburator; or

(b) treat the waste prior to discharge to sanitary sewer using a solids separator followed by a grease interceptor.

2.28 An operator of a food services operation that installs a blended drink station or similar equipment on or after February 15, 2023 must treat the waste using a solids interceptor followed by a grease interceptor, prior to discharge to sanitary sewer.

2.29 The solids separator referred to in Section 2.28 must be sized, inspected, maintained, repaired and cleaned out in accordance with the manufacturer's instructions and specifications to prevent the passage of solids so that any grease interceptor connected downstream of a solids interceptor will function as designed.

3.0 RECORD KEEPING AND RETENTION

3.1 An operator of a food services operation who installs one or more grease interceptors or solids interceptors must keep an operation and maintenance manual on site for each grease interceptor and solids interceptor installed.

3.2 An operator of a food services operation who installs one or more grease interceptors must keep a record on site of all inspection, maintenance, repair and clean outs conducted for each grease interceptor, including:

(a) the date of inspection or maintenance, repair or clean out;

(b) the maintenance or repair conducted;

(c) measured or estimated levels of oil and grease and solids removed from the grease interceptor;

(d) the location of disposal of the material removed from the grease interceptor; and name, civic and postal address, and telephone number of each company or waste hauler used by the food services operation for inspection maintenance, repair or clean out services.

3.3 The records required under Section 3.2 must include receipts or invoices for the activities listed under Sections 3.2 (b), (c) and (d), be retained for a period of two years, and must be available for inspection on request by an officer.

3.4 The manual required under Section 3.1 must be retained for the period that the specified grease interceptors or solids interceptors are in operation.

3.5 The records required under Section 3.2 may be electronic records stored in a maintenance tracking application (or equivalent), which provides access to the records at any time by an officer for a period of two years.

3.6 An operator that self-cleans treatment works must provide documentation of self-cleaning which must be available for inspection on request by an officer.

SCHEDULE "J"

CODE OF PRACTICE FOR DRY CLEANING OPERATIONS BYLAW NO. 2922

In this Code of Practice:

"Activated Carbon Filter" means a filter containing treated or prepared liquid phase granular activated carbon capable of removing tetrachloroethylene from wastewater through the process of adsorption.

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from dry cleaning operations directly or indirectly into a sewer connected to a sewerage facility.

1.2 The term "treatment works" in this code of practice means the works referred to in Section 2.4.

2.0 DISCHARGE REGULATIONS

2.1 An operator of a dry cleaning operation must not discharge waste which, at the point of discharge into a sewer at any time, contains:

(a) prohibited waste as set out in Schedule "A";

(b) restricted waste as set out in Schedule "B";

(c) wastewater containing tetrachloroethylene in concentrations greater than 0.10 milligrams per litre (mg/L);

(d) tetrachloroethylene-contaminated residue; or

(e) uncontaminated water, in quantities greater than 2.0 cubic metres per day, without prior authorization from the manager.

2.2 An operator of a dry cleaning operation must not discharge stormwater into a sewer without a valid waste discharge permit or authorization.

2.3 A dry cleaning operation may meet the requirements of Section 2.1 by collecting and transporting the wastewater or other substances specified in Section 2.1 from the dry cleaning operation for off-site waste management at least once every twelve months.

2.4 An operator of a dry cleaning operation that discharges waste that has come in contact with tetrachloroethylene from a dry cleaning process into a sewer must, in addition to the dry cleaning machine's integral tetrachloroethylene-water separator, install and maintain the following treatment works:

(a) a second tetrachloroethylene-water separator that recovers tetrachloroethylene from the wastewater exiting the integral tetrachloroethylene-water separator;

(b) an initial activated carbon filter that removes the tetrachloroethylene from the wastewater exiting the second tetrachloroethylene-water separator;

(c) a monitor-alarm that automatically shuts down the wastewater treatment and stops the discharge of wastewater containing tetrachloroethylene into the sewer when the initial filter becomes saturated with tetrachloroethylene; and

(d) a second activated carbon filter that removes tetrachloroethylene from the wastewater after it passes through the initial filter and past the monitor-alarm.

2.5 Where an operator of a dry cleaning operation installs the treatment works referred to in sections 2.4(a) to (d), then the treatment works must be installed in the order in which they are set out in Section 2.4.

2.6 An operator of a dry cleaning operation who installs the treatment works referred to in Section 2.4 must locate the treatment works so that they are readily and easily accessible for inspection, maintenance, or repair.

2.7 An operator of a dry cleaning operation who installs the treatment works referred to in Section 2.4 must not locate the treatment works in a confined space.

2.8 An operator of a dry cleaning operation must operate and maintain the dry cleaning machine(s) in accordance with the manufacturer's instructions and specifications.

2.9 An operator of a dry cleaning operation who installs the activated carbon filters referred to in sections 2.4(b) and (d) must replace both the initial and second activated carbon filter at least once every 12 months and when one of the following occurs:

(a) on or before reaching the manufacturer's specified expiry date;

(b) when the monitor-alarm referred to in section 2.4(c) has been triggered; or

(c) analytical data, from an accredited laboratory, using a method of analysis outlined in Standard Methods, or an alternative method of analysis approved by the manager, having a method detection limit of 0.01 mg/L tetrachloroethylene or lower, indicates that the concentration of tetrachloroethylene in the discharge from the second activated carbon filter is greater than, or equal to, 0.10 mg/L.

2.10 An operator of a dry cleaning operation who installs treatment must:

(a) equip the outlet from the treatment works with a monitoring point as approved by the manager at a location upstream of the point of discharge of other waste; and

(b) locate the monitoring point so that it is readily and easily accessible at all times for inspection and monitoring purposes.

2.11 The monitoring point referred to in Section 2.10 is considered to be the point of discharge of waste into a sewer.

3.0 STORAGE AND CONTAINMENT

3.1 An operator of a dry cleaning operation must ensure that all dry cleaning machines and treatment works are operated and stored using a tetrachloroethylene-impermeable spill containment system that will prevent any spilled material from entering a sewer.

3.2 An operator of a dry cleaning operation must store all new and used tetrachloroethylene, tetrachloroethylene-contaminated residue and untreated wastewater using a tetrachloroethylene-impermeable spill containment system that will prevent any spilled material from entering a sewer.

3.3 The containment systems identified in Sections 3.1 and 3.2 must encompass at least the entire surface under each dry cleaning machine, tank or other container containing tetrachloroethylene, wastewater or tetrachloroethylene-contaminated residue and be sufficient to hold at least 110% of the capacity of the largest tank, container or works within the containment system.

3.4 An operator of a dry cleaning operation equipped with a tetrachloroethylene-impermeable containment system must not have open drains within the containment area.

3.5 Drains located within the containment system must be sealed with tetrachloroethylene-resistant drain plugs.

3.6 An operator of a dry cleaning operation must not discharge stormwater from a containment system unless it has first been tested to confirm that such discharge will not breach Section 2.1 unless the operator has obtained a valid waste discharge permit or authorization under this bylaw.

4.0 SPILL RESPONSE PLANS

4.1 An operator of a dry cleaning operation must prepare and maintain a spill response plan.

4.2 An operator of a dry cleaning operation must prepare a spill response plan within 30 days after commencing operation.

4.3 The spill response plan required under sections 4.1 or 4.2 must be posted in a conspicuous location on the dry cleaning premises.

4.4 An operator of a dry cleaning operation must maintain the spill prevention and clean-up equipment and supplies identified in the spill response plan specified in Section 4.1 or 4.2 in stock and readily available for use at all times.

4.5 An operator of a dry cleaning operation must ensure that the spill prevention equipment and supplies identified in the spill response plan specified in Section 4.1 or 4.2 include tetrachloroethylene-resistant drain plugs that are readily available to seal all floor drains into which tetrachloroethylene, wastewater or residue may enter in the event of a spill.

4.6 In the event of a spill, an operator of a dry cleaning operation must immediately carry out the spill response plan, when safe to do so, to prevent or discontinue the discharge of spilled material into a sewer.

5.0 RECORD KEEPING AND RETENTION

5.1 An operator of a dry cleaning operation who installs one or more treatment works must keep a record at the dry cleaning operation of all inspection, repair, maintenance, or replacement activities associated with the operation of the treatment works, including the:

(a) date of inspection, repair, maintenance, or replacement activity;

(b) description of inspection, repair or maintenance conducted;

(c) date and amount of activated carbon removed and replaced in the treatment works including the activated carbon type and size; and

(d) dates and volumes of material removed from the treatment works.

5.2 An operator of a dry cleaning operation must keep a record, including relevant receipts or invoices upon request of all disposal or recycling services used for disposal or recycling of wastewater and tetrachloroethylene-contaminated residue, including the:

(a) name, civic and postal address, and telephone number of each disposal or recycling company or facility used by the dry cleaning operation;

(b) type of material transferred to each company or facility;

(c) quantity of material transferred to each company or facility; and

(d) date of material transferred to each company or facility.

5.3 The records required under Sections 5.1 and 5.2 must be retained for a period of five years and must be available for inspection on request by an officer.

5.4 An operator of a dry cleaning operation who installs one or more treatment works must keep, at the dry cleaning operation site, an operation and maintenance manual pertaining to all equipment used in the treatment works.

SCHEDULE "K"

CODE OF PRACTICE FOR PHOTOGRAPHIC IMAGING OPERATIONS BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from photographic imaging operations directly or indirectly into a sewer connected to a sewage facility.

1.2 The term “treatment works” in this code of practice means the works referred to in Sections 2.2(b) and 2.4.

2.0 DISCHARGE REGULATIONS

2.1 An operator of a photographic imaging operation must not discharge waste which, at the point of discharge into a sewer, contains:

(a) silver in a concentration that is in excess of 5 milligrams per litre (mg/L); or

(b) prohibited waste as set out in Schedule “A”.

2.2 An operator of a photographic imaging operation that produces liquid waste containing silver must either:

(a) collect and transport the waste from the photographic imaging operation for off-site waste management; or

(b) treat the waste at the photographic imaging operation site prior to discharge to the sewer using one of the following silver recovery technologies:

(i) two chemical recovery cartridges connected in series;

(ii) an electrolytic recovery unit followed by two chemical recovery cartridges connected in series; or

(iii) any other silver recovery technology, or combination of technologies, capable of reducing the concentration of silver in the waste discharged to sewer to 5 mg/L or less where valid analytical test data has been submitted to, and accepted by, the sewage control manager.

2.3 An operator of a photographic imaging operation must install and maintain silver recovery technology referred to in Section 2.2 according to the manufacturer’s instructions and specifications.

2.4 An operator of a photographic imaging operation must collect all liquid waste containing silver in a holding tank and must deliver this waste to the electrolytic recovery unit and/or chemical recovery cartridges using a metering pump.

2.5 An operator of a photographic imaging operation must calibrate the metering pump referred to in Section 2.4 in accordance with the manufacturer’s instructions and specifications.

2.6 An operator of a photographic imaging operation must locate the silver recovery system and any stored liquid waste collection containers in such a manner that an accidental spill, leak or container failure will not result in liquid waste containing silver entering any sewer.

2.7 If a location referred to under Section 2.6 is not available, an operator of a photographic imaging operation must do one of the following:

(a) install spill containment to contain spills or leaks from the silver recovery system or stored liquid waste collection containers; or

(b) cap all floor drains into which liquid spilled from the silver recovery system or stored liquid waste collection containers would normally flow.

2.8 When using two separate chemical recovery cartridges, an operator of a photographic imaging operation must test the discharge from the first cartridge for silver content at least once per month of operation using either silver test paper or a silver test kit.

2.9 When the discharge from the first chemical recovery cartridge referred to in Section 2.8 cannot be sampled, an operator of a photographic imaging operation must:

(a) install a cumulative flow meter on the silver recovery system; and

(b) test the discharge from the second chemical recovery cartridge once per week of operation using silver test paper or a silver test kit.

2.10 An operator of a photographic imaging operation must replace the chemical recovery cartridges when any one of the following occurs:

(a) the manufacturer's specified expiry date, as shown on each cartridge, has been reached;

(b) eighty percent (80%) of the manufacturer's specified capacity, or total cumulative flow, for each cartridge has been reached;

(c) test data, using silver test paper or a silver test kit, indicates that the discharge from the first cartridge is greater than 1000 mg/L; or

(d) analytical data from an accredited laboratory using a method of analysis outlined in Standard Methods, or an alternative method of analysis approved by the Manager, having a method detection limit of 0.5 mg/L silver or lower, indicates that the concentration of silver in the discharge from the silver recovery system is greater than, or equal to, 5 mg/L.

2.11 If treatment of liquid waste with two chemical recovery cartridges connected in series is the only silver recovery technology being used, then the operator of the photographic imaging operation must replace both chemical recovery cartridges when one of the events referred to in Section 2.10 occurs.

2.12 Despite Section 2.11, if treatment of liquid waste with two chemical recovery cartridges connected in series is used following treatment by an electrolytic recovery unit, the second cartridge may replace the used first cartridge and a new second cartridge may be installed when one of the events referred to in Section 2.10 occurs.

2.13 Despite Section 2.12, both chemical recovery cartridges used following an electrolytic recovery unit must be replaced by the operator of the photographic imaging operation when one of the events referred to in Section 2.10 occurs if this is recommended by the manufacturer of the cartridges.

2.14 An operator of a photographic imaging operation who installs treatment works must locate the treatment works so that they are readily and easily accessible for inspection, maintenance, repair or replacement.

2.15 An operator of a photographic imaging operation who installs treatment works must not locate the treatment works in a confined space.

2.16 An operator of a photographic imaging operation who installs treatment works must:

(a) designate the outlet from the silver recovery system, at a location upstream of the point of discharge of other waste, as a monitoring point; and

(b) locate the monitoring point so that it is readily and easily accessible at all times for inspection and monitoring purposes.

2.17 The monitoring point referred to in Section 2.16 is considered to be the point of discharge into a sewer.

3.0 RECORD KEEPING AND RETENTION

3.1 An operator of a photographic imaging operation who installs a silver recovery system must keep, at the photographic imaging operation site, an operation and maintenance manual pertaining to all equipment used in the silver recovery system.

3.2 An operator of a photographic imaging operation who installs two chemical recovery cartridges connected in series must keep records, available for inspection on request, at the photographic imaging operation site that includes the following information recorded for the previous two years:

(a) serial number of each chemical recovery cartridge used;

(b) installation date of each chemical recovery cartridge used;

(c) expiry date of each chemical recovery cartridge used (where provided by manufacturers or suppliers);

(d) maximum recommended capacity, or total cumulative flow, of each chemical recovery cartridge used;

(e) dates of all metering pump calibrations through the silver recovery system when the chemical recovery cartridge is replaced and any additional manufacturer recommended calibrations;

(f) silver test results on the discharge from the first chemical recovery cartridge per calendar month of operation; or where the discharge from the first cartridge cannot be sampled, silver test results on the discharge from the second chemical recovery cartridge and cumulative flows through the silver recovery system per calendar week of operation; and

(g) dates and descriptions of all maintenance, repair, or replacement activities associated with the operation of the chemical recovery cartridges.

3.3 An operator of a photographic imaging operation who installs an electrolytic recovery unit in addition to two chemical recovery cartridges connected in series must keep records, available for inspection on request, at the photographic imaging operation site that includes the following information recorded for the previous two years:

(a) all information specified under section 3.2 as applicable;

(b) date of each removal of silver from the electrolytic recovery unit; and

(c) dates and descriptions of all maintenance or repair activities associated with the operation of the electrolytic recovery unit.

3.4 An operator of a photographic imaging operation must keep a record, including relevant receipts or invoices, of all disposal or recycling services used for off-site waste management, disposal or recycling of wastewater, chemical recovery cartridges, and silver-contaminated residue, including the:

(a) name, civic and postal address, and telephone number of each disposal or recycling company or facility used by the photographic imaging operation;

(b) type of material transferred to each company or facility;

(c) quantity of material transferred to each company or facility; and

(d) date of material transferred to each company or facility.

3.5 The records required under Sections 3.2, 3.3 and 3.4 must be retained for a period of five years and must be available for inspection on request by an officer.

SCHEDULE "L"

CODE OF PRACTICE FOR DENTAL OPERATIONS BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from dental operations directly or indirectly into a sewer connected to a sewage facility.

1.2 The term “treatment works” in this code of practice means the works referred to in Section 2.3(b).

2.0 DISCHARGE REGULATIONS

2.1 An operator of a dental operation must not discharge waste which, at the point of discharge into a sewer, contains:

(a) prohibited waste as set out in Schedule “A”;

(b) restricted waste as set out in Schedule “B”; or

(c) mercury in a concentration greater than 2 milligrams per litre (mg/L) as analyzed in a grab sample.

2.2 An operator of a dental operation that produces liquid waste from photographic imaging containing silver must comply with the requirements of Schedule “K” of this bylaw.

2.3 An operator of a dental operation that produces wastewater containing dental amalgam must either:

(a) collect and transport the wastewater from the dental operation for off-site waste management; or

(b) treat the wastewater at the dental operation site prior to discharge to the sewer using an amalgam separator.

2.4 All amalgam separators must be certified in accordance with the ISO Standard for Amalgam Separators.

2.5 An operator of a dental operation must install, maintain, repair and replace the amalgam separator referred to in Sections 2.3 and 2.4 according to the manufacturer’s instructions and specifications in order that the amalgam separator functions as designed.

2.6 If the amalgam separator referred to under Sections 2.3(b) and 2.4 is located downstream of a wet vacuum system, an operator of a dental operation must ensure that:

(a) the wet vacuum system is fitted with an internal flow control fitting; or

(b) a flow control fitting is installed on the water supply line to the wet vacuum system.

2.7 The flow control fitting referred to in Section 2.6 must be sized to limit the flow to a rate that is no more than the maximum inlet flow rate of the amalgam separator as stated by the manufacturer of the amalgam separator.

2.8 An operator of a dental operation must locate an amalgam separator, or store used collecting containers in such a manner that an accidental spill, leak or collecting container failure will not result in waste containing amalgam entering the sewer.

2.9 If a location referred to under Section 2.8 is not available, an operator of a dental operation must:

(a) install spill containment to contain spills or leaks from the amalgam separator or to store used collecting containers.

2.10 An operator of a dental operation must replace the amalgam separator's collecting container when any one of the following occurs:

(a) the manufacturer's specified expiry date has been reached;

(b) the warning level specified in the ISO Standard for Amalgam Separators has been reached; or

(c) analytical data from an accredited laboratory obtained using a method of analysis outlined in standard methods, or an alternative method of analysis approved by the sewage control manager, having a concentration of mercury in the discharge from the amalgam separator is greater than, or equal to, 2 mg/L.

2.11 An operator of a dental operation must not dispose of dental amalgam collected in an amalgam separator, a collecting container, or any other device, into a sewer.

2.12 An operator of a dental operation who installs an amalgam separator must locate the amalgam separator so that it is readily and easily accessible for inspection, maintenance, repair or replacement.

2.13 An operator of a dental operation who installs an amalgam separator must not locate the amalgam separator in a confined space.

2.14 An operator of a dental operation who installs an amalgam separator must:

(a) install a monitoring point at the outlet of the amalgam separator or downstream of the amalgam separator at a location upstream of any discharge of other waste;

(b) ensure the monitoring point is installed in such a manner that the total flow from the amalgam separator may be intercepted and sampled; and

(c) locate the monitoring point so that it is readily and easily accessible at all times for inspection and monitoring purposes.

2.15 The monitoring point referred to in Section 2.14 is considered the point of discharge into the sanitary sewer.

3.0 RECORD KEEPING AND RETENTION

3.1 An operator of a dental operation that uses an amalgam separator must keep, at the site of installation of the amalgam separator, an operation and maintenance manual containing instructions for installation, use, maintenance and service of the amalgam separator installed.

3.2 An operator of a dental operation that uses an amalgam separator must keep a copy of the ISO Standard for Amalgam Separators test report with the amalgam separator installed and must be available for inspection on request by an officer.

3.3 An operator of a dental operation that uses an amalgam separator must keep a record book at the dental operation site that includes the following information pertaining to the amalgam separator installed:

(a) date of installation of the amalgam separator and name of the supplier or installation service provider;

(b) serial number and expiry date of the amalgam separator and/or its components;

(c) maximum flow rate through the amalgam separator or maximum capacity rating of the amalgam separator;

(d) dates of inspection, maintenance, repair, cleaning and replacement of any amalgam separation equipment or components;

(e) dates and descriptions of all operational problems, spills, leaks or collecting container failures associated with the amalgam separator and remedial actions taken;

(f) name, address and telephone number of any person or company who performs any maintenance or disposal services related to the operation of the amalgam separator; and

(g) dates of pick-up of the collecting container for off-site disposal, volume of waste disposed and the location of disposal.

3.4 The records must be retained for a period of five years and must be available for inspection on request by an officer.

SCHEDULE "M"

(Bylaw 3105)

CODE OF PRACTICE FOR AUTOMOTIVE REPAIR OPERATIONS BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from automotive repair operations directly or indirectly into a sewer connected to a sewage facility.

1.2 The term "treatment works" in this code of practice means the works referred to in Sections 2.4, 2.5, 2.6 and 2.10.

2.0 DISCHARGE REGULATIONS

2.1 An operator of an automotive repair operation must not discharge waste which, at the point of discharge into a sewer, contains:

(a) prohibited waste as set out in Schedule "A";

(b) restricted waste as set out in Schedule "B", with the exception of oil and grease (hydrocarbons);

(c) oil and grease (hydrocarbons) in a concentration that is in excess of 50 milligrams per litre (mg/L) as analyzed in a grab sample;

(d) uncontaminated water, in quantities greater than 2.0 cubic metres per day, without prior authorization from the manager;

(e) water that accumulates in any fuel storage tank;

(f) rinse water from motor vehicle parts that have been washed in solvent;

(g) wastewater from oily rag washing or cleaning; or

(h) wastewater from engine washing or cleaning.

2.2 An operator of an automotive repair operation must not discharge stormwater into a sanitary sewer connected to a sewage facility unless the stormwater originates from:

(a) fueling station areas; or

(b) above ground storage tank containment areas.

2.3 An operator of an automotive repair operation must not discharge groundwater from a contaminated site as defined in the Contaminated Sites Regulation into a sanitary sewer connected to a sewage facility without a waste discharge permit or authorization issued under Section 3 of the bylaw.

2.4 An operator of an automotive repair operation that is in operation on or after January 1, 2004 must not discharge liquid waste from an automotive repair process into a sewer unless the automotive repair operation is equipped with one or more oil-water separators to treat the waste in accordance with this code of practice.

2.5 An operator of an automotive repair operation that is in operation on or after January 1, 2004 may use an alternate treatment works, or a combination of treatment works other than that described in this code of practice, to treat liquid waste from an automotive repair process if the alternate treatment works produces effluent that complies with Section 2.1 prior to discharge into a sewer and where valid analytical test data has been submitted to, and accepted by, the manager.

2.6 An operator of an automotive repair operation who installs an oil-water separator in accordance with Section 2.4 must ensure that the oil-water separator has a minimum liquid volume of 2.0 cubic metres.

2.7 An operator of an automotive repair operation referred to in Sections 2.4 or 2.5 must direct all liquid waste from an automotive repair process to one or more treatment works before discharge into a sewer.

2.8 An operator of an automotive repair operation must ensure that all waste from washrooms, washing machines and change rooms bypasses the treatment works.

2.9 An operator of an automotive repair operation must not use, or allow the use of, chemical agents, solvent-containing products, hot water or other agents with the intention of facilitating the passage of oil and grease through a treatment works.

2.10 An operator of an automotive repair operation who operates a treatment works on or after June 1, 2004 must:

(a) equip the treatment works with a monitoring point located either at the outlet of the treatment works or downstream of the treatment works at a location upstream of the point of discharge of other waste; and

(b) install the monitoring point described in subsection 2.10(a) of the same diameter as the treatment works outlet pipe so that the monitoring point opens in a direction at right angles to, and vertically above, the flow in the sewer pipe.

2.11 An operator of an automotive repair operation must locate the treatment works so that they are readily and easily accessible for inspection and maintenance.

2.12 An operator of an automotive repair operation who operates an oil-water separator must not permit the floating oil and grease to accumulate in any chamber of the oil-water separator in excess of the lesser of 5 cm (two inches) or 5% of the wetted height of the oil-water separator.

2.13 An operator of an automotive repair operation who operates an oil-water separator must not permit the settled solids to accumulate in any chamber of the oil-water separator in excess of the lesser of 15 cm (six inches) or 25% of the wetted height of the oil-water separator.

2.14 An operator of an automotive repair operation who operates an oil-water separator must inspect the oil-water separator and measure the accumulated solids and floating oils at least once every three months to check the levels specified under Sections 2.12 and 2.13.

2.15 An operator of an automotive repair operation must cause an oil-water separator to be cleaned out within seven days of determining that the levels specified under Sections 2.12 or 2.13 have been exceeded.

2.16 An operator of an automotive repair operation must cause the oil-water separator to be cleaned out at least once every 12 months.

3.0 STORAGE AND CONTAINMENT

3.1 An operator of an automotive repair operation must ensure that the following materials are stored using spill containment that will prevent the release of spilled material from entering a sewer connected to a sewage facility:

(a) used acid-filled batteries;

(b) used solvent-containing waste, used antifreeze, used oils, used oil filters, used brake fluid and used transmission fluid;

(c) above ground fuel storage tanks; and

(d) greater than 50 litres of any solvent-containing product, antifreeze, oil or other prohibited or restricted waste stored at floor level in containers other than permanent engineered containers that are protected from vehicle contact.

3.2 An operator of an automotive repair operation must supervise the discharge of accumulated stormwater from a spill containment system to ensure that the discharge does not bypass the treatment works.

4.0 SPILL RESPONSE PLANS

4.1 An operator of an automotive repair operation must have a spill response plan.

4.2 An operator of an automotive repair operation commencing operation after the date this code of practice comes into effect must prepare a spill response plan at least 30 days prior to commencing operation.

4.3 The spill response plan required under Sections 4.1 or 4.2 must be posted in a conspicuous location on the premises of the operation.

4.4 In the event of a spill, an operator of an automotive repair operation must immediately carry out the provisions of the spill response plan, when safe to do so, to prevent or discontinue the discharge of spilled material into a sewer.

4.5 As part of a spill response plan, an operator of an automotive repair operation who operates a treatment works must inspect the treatment works for spilled material immediately after having knowledge of the spill.

4.6 An operator of an automotive repair operation who observes spilled material in the treatment works during an inspection under Section 4.5 must have the spilled material removed before resuming wastewater discharge from the operation.

4.7 An operator of an automotive repair operation must maintain the spill prevention and clean-up equipment and supplies identified in the spill response plan specified in Sections 4.1 and 4.2 in stock and readily available for use at all times.

5.0 RECORD KEEPING AND RETENTION

5.1 An operator of an automotive repair operation who installs one or more treatment works must keep a record at the automotive repair operation of all inspection and maintenance activities for the treatment works, including the:

(a) date of inspection or maintenance;

(b) description of inspection or maintenance conducted;

(c) measured depth of settled material and depth of floating material in the oil-water separator, as required in Section 2.14;

(d) quantity and description of material removed from the treatment works; and

(e) name, civic and postal address, and telephone number of the disposal or recycling company or facility collecting or transporting the material removed from the treatment works.

5.2 An operator of an automotive repair operation who installs treatment works must keep records of the treatment works design calculations and drawings available for inspection at the request of an officer.

5.3 The design drawings required under Section 5.2 must show the point of connection of the treatment works to the sanitary sewer.

5.4 An operator of an automotive repair operation must keep a record at the automotive repair operation of all disposal or recycling services for wastewater and other substances specified in Section 2.1 to be disposed or recycled, including the:

(a) name, civic and postal address, and telephone number of each disposal or recycling company or facility used by the automotive repair operation;

(b) type of material transferred to each company or facility;

(c) quantity of material transferred to each company or facility; and

(d) date of material transferred to each company or facility.

5.5 The records required under Sections 5.1 and 5.4 must be retained for a period of two years and must be available for inspection on request by an officer.

SCHEDULE "N"

(Bylaw 3105)

CODE OF PRACTICE FOR VEHICLE WASH OPERATIONS BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from vehicle wash operations directly or indirectly into a sewer connected to a sewage facility.

1.2 The term “treatment works” in this code of practice means the works referred to in Sections 2.4, 2.5, 2.7 and 2.11.

2.0 DISCHARGE REGULATIONS

2.1 An operator of a vehicle wash operation must not discharge waste which, at the point of discharge into a sanitary sewer, contains:

(a) prohibited waste as set out in Schedule "A";

(b) restricted waste as set out in Schedule "B";

(c) uncontaminated water, in quantities greater than 2.0 cubic metres per day, without prior authorization from the manager;

(d) wastewater from engine washing or cleaning;

(e) trucked liquid waste;

(f) carpet cleaning waste;

(g) recreational vehicle waste; or

(h) wastewater from oily rag washing or cleaning.

2.2 An operator of a vehicle wash operation must not discharge stormwater into a sanitary sewer connected to a sewage facility unless the stormwater originates from a designated uncovered vehicle wash area that has been designed to minimize the amount of stormwater from outside the vehicle wash area.

2.3 An operator of a vehicle wash operation must not discharge groundwater from a contaminated site as defined in the Contaminated Sites Regulation into a sanitary sewer connected to a sewer facility without a waste discharge permit or authorization issued under Section 3 of the bylaw.

2.4 An operator of a vehicle wash operation that commences operation on or after January 1, 2004 must not discharge liquid waste from a vehicle washing process into a sewer unless the vehicle wash operation is equipped with one or more vehicle wash interceptors to treat the waste in accordance with this code of practice.

2.5 An operator of a vehicle wash operation that commences operation on or after January 1, 2004 may use an alternate treatment works, or a combination of treatment works other than described in this code of practice, to treat liquid waste from a vehicle washing process if the alternate treatment works produces effluent that complies with Section 2.1 prior to discharge into a sewer and where valid analytical test data has been submitted to, and accepted by, the manager.

2.6 An operator of a vehicle wash operation that is in operation before January 1, 2004 and that does not have the treatment works as required in Sections 2.4 or 2.5 must install the treatment works in accordance with this code of practice on the sooner of the occurrence of the following:

(a) January 1, 2005;

(b) the operator of a vehicle wash operation makes an improvement with a value of $1,000 or more within the vehicle wash operation that will increase either or both of the discharge flow of the waste or the amount of any contaminant in the waste; or

(c) the operator of a vehicle wash operation discharges waste into a sewer that exceeds the limitations specified in Section 2.1.

2.7 A vehicle wash interceptor installed in accordance with Section 2.4 or 2.6 must:

(a) have a minimum liquid volume of 2.0 cubic metres per manual wash bay and a minimum liquid volume of 10 cubic metres per mechanical wash bay; and

(b) a minimum of three chambers designed to retain oil and grease and suspended solids from vehicle wash wastewater.

2.8 An operator of a vehicle wash operation who operates a treatment works referred to in Sections 2.4, 2.5 or 2.6 must direct all liquid waste from a vehicle washing process to the treatment works before discharge into a sanitary sewer.

2.9 An operator of a vehicle wash operation must ensure that all waste from washrooms, washing machines and change rooms bypasses the treatment works.

2.10 An operator of a vehicle wash operation must not use or allow the use of chemical agents, solvent-containing products, hot water or other agents with the intention of facilitating the passage of oil and grease through a treatment works.

2.11 An operator of a vehicle wash operation who operates a treatment works on or after June 1, 2004 must:

(a) equip the treatment works with a monitoring point located either at the outlet of the treatment works or downstream of the treatment works at a location upstream of the point of discharge of other waste; and

(b) install the monitoring point described in subsection 2.11(a) of the same diameter as the treatment works outlet pipe and so that the monitoring point opens in a direction at right angles to, and vertically above, the flow in the sewer pipe.

2.12 An operator of a vehicle wash operation must locate the treatment works so that they are readily and easily accessible for inspection and maintenance.

2.13 An operator of a vehicle wash operation who operates a vehicle wash interceptor must not permit the floating oil and grease to accumulate in any chamber of the vehicle wash interceptor in excess of the lesser of 2.5 cm (one inch) or 5% of the wetted height of the vehicle wash interceptor.

2.14 An operator of a vehicle wash operation who operates one or more vehicle wash interceptors must not permit the settled solids to accumulate in any chamber of any vehicle wash interceptor in excess of 50% of the wetted height of the vehicle wash interceptor.

2.15 An operator of a vehicle wash operation who operates one or more vehicle wash interceptors must inspect each chamber of each vehicle wash interceptor and measure the accumulated solids and floating oil and grease at least once per month to check the levels specified under Sections 2.13 and 2.14.

2.16 An operator of a vehicle wash operation who operates one or more vehicle wash interceptors must cause each vehicle wash interceptor to be cleaned out within seven days of determining that the levels specified in Section 2.13 or 2.14 have been exceeded.

2.17 An operator of a vehicle wash operation who operates one or more vehicle wash interceptors must cause each of the vehicle wash interceptors to be cleaned out at least once every 12 months.

2.18 An operator of a vehicle wash operation must display signage prohibiting engine cleaning or washing and the disposal of wastewater or other substances specified in Section 2.1 into a sewer connected to a sewage facility.

2.19 A person must not wash an engine at a vehicle wash operation where wastewater or other substances specified in Section 2.1 associated with the engine washing are discharged into a treatment works or a sewer.

3.0 SPILL RESPONSE PLANS

3.1 An operator of a vehicle wash operation must have a spill response plan.

3.2 An operator of a vehicle wash operation commencing operation after the date this code of practice comes into effect must prepare a spill response plan at least 30 days prior to commencing operation.

3.3 The spill response plan required under Sections 3.1 or 3.2 must be posted in a conspicuous location on the premises of the operation.

3.4 In the event of a spill, an operator of a vehicle wash operation must immediately carry out the provisions of the spill response plan, when safe to do so, to prevent or discontinue the discharge of spilled material into a sewer.

3.5 As part of a spill response plan, an operator of a vehicle wash operation who operates a treatment works must inspect the treatment works for spilled material immediately after having knowledge of the spill.

3.6 An operator of a vehicle wash operation who observes spilled material in the treatment works during an inspection under Section 3.5 must have the spilled material removed before resuming the wastewater discharge from the operation.

3.7 An operator of a vehicle wash operation must maintain the spill prevention and clean-up equipment and supplies identified in the spill response plan specified in Sections 3.1 and 3.2 in stock and readily available for use at all times.

4.0 RECORD KEEPING AND RETENTION

4.1 An operator of a vehicle wash operation who installs one or more treatment works must keep a record at the vehicle wash operation of all inspection and maintenance activities for the treatment works, including the:

(a) date of inspection or maintenance;

(b) description of inspection or maintenance conducted;

(c) measured depth of settled and floating material in each vehicle wash interceptor as required in Section 2.15;

(d) quantity and description of material removed from the treatment works; and

(e) name, civic and postal address, and the telephone number of the disposal or recycling company or facility collecting or transporting the material removed from the treatment works.

4.2 An operator of a vehicle wash operation who installs treatment works must keep records of the treatment works design calculations and drawings available for inspection at the request of an officer.

4.3 The design drawings required under Section 4.2 must show the point of connection of the treatment works to the sanitary sewer.

4.4 An operator of a vehicle wash operation must keep a record at the vehicle wash operation of all disposal or recycling services for wastewater and other substances specified in Section 2.1 to be disposed or recycled, including the:

(a) name, civic and postal address, and the telephone number of each disposal or recycling company or facility used by the vehicle wash operation;

(b) type of material transferred to each company or facility;

(c) quantity of material transferred to each company or facility; and

(d) date of material transferred to each company or facility.

4.5 The records required under Sections 4.1 and 4.4 must be retained for a period of two years and must be available for inspection on request by an officer.

SCHEDULE "O"

(Bylaw 3016)

CODE OF PRACTICE FOR CARPET CLEANING OPERATIONS BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from carpet cleaning operations directly or indirectly into a sewer connected to a sewage facility.
(Bylaw 3105)

1.2 The term “treatment works” in this code of practice means the works referred to in Section 2.2 (b).

2.0 DISCHARGE REGULATIONS

2.1 On or after July 1, 2003, an operator of a carpet cleaning operation must not discharge waste, which at the point of discharge into a sewer contains:

(a) prohibited waste;

(b) special waste;

(c) restricted waste other than chemical oxygen demand (COD), biochemical oxygen demand (BOD) and total suspended solids;
(Bylaw 3075)

(d) stormwater;
(Bylaw 3075)

(e) uncontaminated water in quantities greater than two cubic meters per day; or
(Bylaw 3075)

(f) total suspended solids in a concentration that is in excess of 1000 milligrams per litre (mg/L) as analyzed in a grab sample.
(Bylaw 3075)

2.2 An operator of a carpet cleaning operation that generates carpet cleaning waste on or after July 1, 2003 must either:

(a) collect and transport the wastewater from the carpet cleaning location for off-site waste management; or

(b) treat the wastewater using a screen with holes not greater than 0.25 millimeters (mm) in width or length prior to discharge into a sewer.

2.3 An operator of a carpet cleaning operation must:

(a) visually inspect the screen for defects on a daily basis; and

(b) repair or replace the screen if any defects are found.

2.4 An operator of a carpet cleaning operation must not discharge unscreened wastewater and/or screened solids into a sewer connected to a sewage facility.

2.5 An operator of a carpet cleaning operation must, on or before July 1, 2003, install spill containment or cap all floor drains located in all chemical storage areas to prevent any accidental discharge of carpet cleaning chemicals into a sewer.

2.6 An operator of a carpet cleaning operation must inspect the equipment referred to in section 2.7 for leaks at least once per week.

2.7 The following equipment must be checked for leaks:

(a) hose connections, unions, couplings and valves;

(b) filter gaskets;

(c) pumps; and

(Bylaw 3105)

(d) wastewater holding tanks.

2.8 An operator of a carpet cleaning operation who detects a leak of wastewater or liquid cleaning product from carpet cleaning equipment or chemical storage must:

(a) immediately take all steps necessary to prevent the discharge of such liquid into a sewer; and

(b) repair the leak within 72 hours of its detection.

3.0 RECORD KEEPING AND RETENTION

3.1 An operator of a carpet cleaning operation must keep a record at the site of installation of the treatment works that includes the following information:

(a) weekly record of all inspections done by the operator, employees or other hired personnel;

(b) record of any contaminated liquid leaks detected and remedial actions taken;

(c) record of screen repair or replacement; and

(d) record of all other equipment maintenance and repair.

3.2 The records required under Section 3.1 must be retained for a period of two years and must be available for inspection on request by an officer.

SCHEDULE "P"

(Bylaw 3016)

CODE OF PRACTICE FOR FERMENTATION OPERATIONS
BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from fermentation operations directly or indirectly into a sewer connected to a sewage facility.

(Bylaw 3105)

1.2 The term "treatment works" in this code of practice means the works referred to in Sections 2.3, 2.4(b) or Section 2.6.

2.0 DISCHARGE REGULATIONS

2.1 An operator of a fermentation operation must not discharge waste, which at the point of discharge into a sewer, contains one or more of the following: prohibited waste, special waste, restricted waste, stormwater or uncontaminated water in quantities greater than two cubic meters per day.

2.2 An operator of a fermentation operation who generates wastewater on or after January 1, 2003 must test any wastewater containing acid or caustic cleaners or sanitizers for pH and adjust the pH of this wastewater to between 5.5 and 11.0 prior to discharge of such wastewater to a sewer.

2.3 An operator of a fermentation operation who generates wastewater on or after January 1, 2003 from one or more of the following: a mash tun, mash tun washing, a brewing kettle, brewing kettle washing, back-flushing of mash tun strainers, filters or trub filters, must remove solids from the discharge to sewer by:

(a) use of a strainer or a filter with a sieve size not greater than 1,000 microns (µm); or

(b) settling the solids in a separate vessel and discharging the decant water.

2.4 An operator of a fermentation operation that produces waste containing yeast on or after July 1, 2003 must either:

(a) collect and transport the waste from the fermentation sector operation for off-site waste management; or

(b) filter the waste using a filter with a sieve size not greater than 10 microns (µm) prior to discharge into a sewer.

2.5 Section 2.4 of this code of practice does not apply to an operator of a fermentation operation who produces waste containing yeast resulting from back-flushing of a pre-filter following the fermentation process provided that the waste produced from such back-flushing does not contain restricted waste.

(Bylaw 3105)

2.6 An operator of a fermentation operation who discharges waste to a sewer connected to a sewage facility may use an alternate treatment works, or a combination of treatment works, other than described in this code of practice if the alternate treatment works produces effluent that complies with Section 2.1 where valid analytical test data has been submitted to, and accepted by, the manager.

2.7 An operator of a fermentation operation who commences operation on or after January 1, 2003 must ensure that:

(a) one or more sampling tees are installed downstream of the point of discharge of all non-domestic waste and at a location upstream of the point of discharge of any other waste; and

(b) the sampling tee described in Section 2.7(a) must be the same diameter as the discharge line and must be installed so that it opens in a direction at right angles to, and vertically above, the wastewater flow in the sewer pipe.

2.8 An operator of a fermentation operation operating before January 1, 2003, and which continues to operate after January 1, 2003, must install a sampling tee located downstream of the point of discharge to the sewer of all non-domestic waste and at a location upstream of any discharge of other waste when any of the following occur:

(a) the operator of a fermentation operation makes an improvement with a value of $2,000 or more that will increase the discharge flow or amount of any contaminant in the waste; or

(b) the operator of a fermentation operation discharges non-domestic waste that contains restricted waste into a sewer.

2.9 A sampling tee installed under Sections 2.7 or 2.8 of this code of practice must be readily 3and easily accessible at all times for inspection and sampling purposes.

3.0 RECORD KEEPING AND RETENTION

3.1 An operator of a fermentation operation must keep records, available for inspection on request, at the fermentation operation, containing the following information:

(a) method of solids removal from mash tun wastewater and wash water;

(b) method of treatment of kettle wastewater and kettle wash water;

(c) method(s) of solids removal from wastewater generated by back-flushing mash tun strainers or filters, and back-flushing trub filters;

(d) method of treatment to remove yeast residue;

(e) location of sampling tee, referred to in Section 2.9;

(f) method of pH adjustment and measurement for wastewater containing acid and caustic cleaners or sanitizers; and

(g) dates and results of pH testing required under Section 2.2.

3.2 The records must be retained on site for a period of two years and must be available on request by an officer.

SCHEDULE "Q"

(Bylaw 3016)

CODE OF PRACTICE FOR PRINTING OPERATIONS BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from printing operations directly or indirectly into a sewer connected to a sewage facility.

(Bylaw 3105)

1.2 An operator of a printing operation that produces liquid waste from photographic imaging containing silver must comply with the requirements of Schedule "K" of this bylaw.

1.3 The term "treatment works" in this code of practice means the works referred to in Sections 2.3, 2.4, 2.6, 2.7 and 2.10.

2.0 DISCHARGE REGULATIONS

2.1 An operator of a printing operation must not discharge waste which, at the point of discharge into a sewer, contains:

(Bylaw 3105)

(a) prohibited waste;

(b) special waste;

(c) restricted waste other than chemical oxygen demand (COD) and biochemical oxygen demand (BOD);

(d) rinse water from equipment that has been washed in solvent;

(e) inks and fountain solutions;

(f) flexography plate acid bath solutions, etching solutions and wash-out solutions;

(g) cleaning solvents; or

(h) uncontaminated water, in quantities greater than two cubic meters per day.

2.2 An operator of a printing operation must not discharge stormwater into a sewer without a valid waste discharge permit or authorization.

2.3 An operator of a printing operation who commences operation on or after January 1, 2003, and who discharges waste from a printing process into a sewer must install and maintain one or more trade waste interceptors to treat the waste prior to discharge.

2.4 In addition to the trade waste interceptor required under Section 2.3, an operator of a printing operation who discharges waste from a printing process into a sewer, and that commences operation on or after January 1, 2003, must install and maintain:

(a) one or more oil-adsorbing filters; and

(b) one or more activated carbon cartridges.

2.5 An operator of a printing operation referred to in Section 2.4 must install the oil-adsorbing filter downstream of the trade waste interceptor and upstream of the activated carbon cartridge.

2.6 An operator of a printing operation must deliver the waste from the trade waste interceptor to the oil-adsorbing filter and activated carbon cartridge using a metering pump that is calibrated at least once per year.

2.7 An operator of a printing operation who discharges waste from a printing process to a sewer connected to a sewage facility may use an alternate treatment works, or a combination of treatment works, other than described in this code of practice, if the alternate treatment works produces effluent that complies with Section 2.1 where valid analytical test data has been submitted to, and accepted by, the manager.

2.8 An operator of a printing operation must replace the oil-adsorbing filter and activated carbon cartridge when any one of the following occurs:

(a) the manufacturer's or supplier's recommended expiry date, as shown on each filter or cartridge has been reached;

(Bylaw 3105)

(b) eighty per cent (80%) of the manufacturer's or supplier's maximum recommended capacity, or total cumulative flow, for each filter or cartridge has been reached;

(Bylaw 3105)

(c) analytical data using a method of analysis outlined in standard methods, or an alternative method of analysis approved by the manager, that has a method detection limit of 2 mg/L oil and grease or lower, indicates that the concentration of oil and grease in the effluent from the activated carbon cartridge is greater than, or equal to, 100 mg/L; or

(Bylaw 3105)

(d) analytical data using a method of analysis outlined in standard methods, or an alternative method of analysis approved by the manager, that has a method detection limit of 2 mg/L oil and grease (hydrocarbons) or lower, indicates that the concentration of oil and grease (hydrocarbons) in the effluent from the activated carbon cartridge is greater than, or equal to 15 mg/L.

(Bylaw 3105)

2.9 An oil-adsorbing filter or activated carbon cartridge installed in accordance with Sections 2.4 or 2.5, must be designed to ensure that the effluent from the activated carbon cartridge does not contain restricted waste other than COD and BOD.

2.10 An operator of a printing operation who commenced operation prior to January 1, 2003, and who continues to operate after January 1, 2003, and who does not have the treatment works referred to in Sections 2.3, 2.4 and 2.6 or an alternate treatment works referred to in Section 2.7, must, as a condition of the continued discharge of waste from a printing process to a sewer, install the treatment works in accordance with this code of practice not later than January 1, 2005 or when any of following occur:

(a) the operator of a printing operation makes an improvement with a value of $1,000 or more within the printing operation that will increase the discharge flow or amount of any contaminant in the waste; or

(b) the operator of a printing operation discharges waste from a printing process into a sewer that does not comply with Section 2.1.

2.11 An operator of a printing operation who installs a trade waste interceptor in accordance with Sections 2.3 or 2.10 must ensure that the trade waste interceptor has a minimum liquid capacity of 75 litres, and is designed to provide a minimum retention time of four hours based on the maximum expected flow of all non-domestic waste that may be discharged in accordance with this code of practice.

2.12 An operator of a printing operation who operates in accordance with Sections 2.3, 2.4, 2.6 or 2.10 must ensure that all waste from a printing process is directed into the treatment works before being discharged into a sewer.

2.13 After January 1, 2003, an operator of a printing operation must ensure that all sanitary waste and grey water bypasses the treatment works.

2.14 An operator of a printing operation must not dispose any floating material or solids accumulated in the treatment works into a sewer.

2.15 An operator of a printing operation must not use or permit the use of chemical agents, solvents, hot water or other agents with the intention to facilitate the passage of oil and grease and oil and grease (hydrocarbons) through the treatment works.

2.16 On or after January 1, 2003, an operator of a printing operation who installs treatment works must ensure that:

(a) the discharge line from the activated carbon cartridge is equipped with a monitoring point located either at the outlet of the activated carbon cartridge or downstream of the activated carbon cartridge at a location upstream of the point of discharge of other waste; and

(b) the monitoring point must be readily and easily accessible at all times for inspection.

2.17 On or after January 1, 2003, an operator of a printing operation who installs treatment works must locate the treatment works so that they are readily and easily accessible for inspection and maintenance.

2.18 An operator of a printing operation who operates a trade waste interceptor must not permit the floating material to accumulate in any chamber of the trade waste interceptor in excess of the lesser of 2.5 cm (1 inch) or 5% of the wetted height of the trade waste interceptor.

2.19 An operator of a printing operation who operates a trade waste interceptor must not permit the settled solids to accumulate in any chamber of the trade waste interceptor in excess of the lesser of 7.5 cm (3 inches) or 25% of the wetted height of the trade waste interceptor.

2.20 An operator of a printing operation who operates a trade waste interceptor must inspect the trade waste interceptor and measure the accumulated solids and floating material at least once every six months to check the levels specified under Sections 2.18 and 2.19.

2.21 An operator of a printing operation must ensure that the trade waste interceptor is cleaned out within seven days of determining that the levels referred to in Sections 2.18 or 2.19 have been exceeded.

2.22 An operator of a printing operation must ensure that the trade waste interceptor is cleaned out at least once every 24 months.

3.0 STORAGE AND CONTAINMENT

3.1 An operator of a printing operation must ensure that the following materials are stored using spill containment that will prevent any spilled material from entering a sewer:

(a) solvents, dyes, paints and inks; and

(b) waste solvents, waste paint, waste dyes and any other waste from a printing process.

4.0 SPILL RESPONSE PLANS

4.1 An operator of a printing operation operating before January 1, 2003 must prepare a spill response plan by July 1, 2003.

4.2 An operator of a printing operation commencing operation on or after January 1, 2003 must prepare a spill response plan within 60 days of commencing operation.

4.3 In the event of a spill, an operator of a printing operation must immediately carry out the spill response plan, when safe to do so, to prevent or discontinue the discharge of spilled material into a sewer.

(Bylaw 3105)

4.4 As part of a spill response plan, an operator of a printing operation who operates a trade waste interceptor must inspect the trade waste interceptor for spilled material within 24 hours of having knowledge of the spill.

4.5 An operator of a printing operation who observes spilled material in the trade waste interceptor during an inspection under Section 4.4, must remove the spilled material before resuming the wastewater discharge from the operation.

4.6 An operator of a printing operation must ensure that spill prevention and clean-up equipment and supplies are kept in stock at all times and are readily available for use.

5.0 RECORD KEEPING AND RETENTION

5.1 An operator of a printing operation must keep a record at the printing operation of all trade waste interceptor inspection and maintenance activities including:

(a) date of inspection or maintenance;

(b) description of maintenance conducted;

(c) quantity of material removed from the trade waste interceptor; and

(d) name of each disposal or recycling company or facility receiving any material removed from the trade waste interceptor.

5.2 An operator of a printing operation must keep a record at the printing operation of all oil-adsorbing filter and activated carbon cartridge inspection and maintenance activities including:

(a) installation date of each oil-adsorbing filter and activated carbon cartridge;

(b) serial number of each oil-adsorbing filter and activated carbon cartridge (where provided by manufacturers or suppliers);

(c) expiry date of each oil-adsorbing filter and activated carbon cartridge used (where provided by manufacturers or suppliers);

(d) maximum recommended capacity, or total cumulative flow, of each oil-adsorbing filter and activated carbon cartridge used;

(e) dates of all metering pump calibrations; and

(f) dates and descriptions of all operational problems associated with the oil-adsorbing filter and activated carbon cartridge and remedial actions taken.

5.3 An operator of a printing operation who installs treatment works on or after January 1, 2003 must retain records of the design calculations and drawings and ensure that they are available for inspection at the request of an officer.

5.4 An operator of a printing operation must keep the spill response plans required under Sections 4.1 and 4.2 and ensure that they are available for inspection by an officer.

5.5 An operator of a printing operation must keep a record at the printing operation of all disposal or recycling services for spent fountain wash solution, waste solvents, dyes, paints, inks and other waste from a printing process, including:

(a) name of each disposal or recycling company or facility used by the printing operation;

(b) type of material transferred to each company or facility;

(c) quantity of material transferred to each company or facility; and

(d) date of material transferred to each company or facility.

5.6 The records required under Sections 5.1, 5.2, 5.4 and 5.5 must be retained for a period of two years and must be available for inspection on request by an officer.

5.7 The records required under Section 5.3 must be retained for the time that the printing operation is in business.

Reserved for future use

SCHEDULE "R"

(Bylaw 3105)

CODE OF PRACTICE FOR RECREATION FACILITY OPERATIONS BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from recreation facility operations directly or indirectly into a sewer connected to a sewage facility.

1.2 The term "treatment works" in this code of practice means the works referred to in Sections 2.4 and 2.5.

1.3 This code of practice does not apply to a recreation facility operation within a hotel, motel or other business that provides accommodation to the travelling or vacationing public.

2.0 DISCHARGE REGULATIONS

2.1 An operator of a recreation facility operation must not discharge waste which, at the point of discharge into a sewer, contains:

(a) prohibited waste as set out in Schedule "A";

(b) restricted waste, as set out in Schedule "B", with the exception of chloride;

(c) chloride in a concentration that is in excess of 2100 milligrams per litre (mg/L) as analyzed in a grab sample;

(d) pool filter media; or

(e) uncontaminated water, in quantities greater than 2.0 cubic meters per day, without prior authorization from the manager.

2.2 An operator of a recreation facility operation must not discharge stormwater into a sanitary sewer connected to a sewage facility unless the stormwater originates from a designated uncovered ice melting operation area designed to minimize the amount of stormwater flowing from outside the ice melting operation area into the sewer.

2.3 An operator of a recreation facility operation that produces wastewater from pools and from back-flushing of pool filters on or after January 1, 2004 must test any wastewater containing residual chlorine and dechlorinate to a concentration of less than 5.0 mg/L chlorine prior to discharge into a sewer.

2.4 An operator of a recreation facility operation that produces wastewater from ice melting operations on or after January 1, 2004 must remove total suspended solids by filtering the wastewater using a sand bed or a filter cloth such that the effluent will meet the restricted waste criteria set out in Schedule "B" prior to discharge into a sewer.

~~2.5 An operator of a recreation facility operation that produces wastewater from ice melting operations on or after January 1, 2004 may use an alternate treatment works, or a combination of treatment works other than described in this code of practice, if the alternate treatment works produces effluent that meets the total suspended solids criteria set out in Schedule "B" prior to discharge into a sewer and where valid analytical test data has been submitted to, and accepted by, the manager.~~

~~2.6 An operator of a recreation facility operation who detects a leak of liquid from an ice-cooling refrigeration system on or after January 1, 2004 must immediately take all steps necessary to prevent or discontinue the discharge of such liquid into a sewer.~~

~~2.7 An operator of a recreation facility operation that commences operation on or after January 1, 2004 must not discharge non-domestic waste into a sewer unless:~~

~~(a) the operator has installed one or more monitoring points downstream of the point of discharge of all non-domestic waste and at a location upstream of the point of discharge of any other waste; and~~

~~(b) the monitoring point described in subsection 2.7(a) is the same diameter as the discharge line and is installed so that it opens in a direction at right angles to, and vertically above, the wastewater flow in the sewer pipe.~~

~~2.8 An operator of a recreation facility operation that is in operation before January 1, 2004 must not discharge non-domestic waste into a sewer after January 1, 2005 unless the operator installs a monitoring point or points as described in subsections 2.7(a) and (b) on the occurrence of the sooner of the following:~~

~~(a) the operator of a recreation facility operation makes an improvement having a value of $2,000 or more to the recreation facility that will increase either or both of the discharge flow of the waste or the amount of any contaminant in the waste; or~~

~~(b) the operator of a recreation facility operation discharges waste into a sewer that exceeds the limitations specified in Section 2.1.~~

~~2.9 A monitoring point installed under Sections 2.7 or 2.8 of this code of practice must be readily and easily accessible at all times for inspection and sampling purposes.~~

~~**3.0 RECORD KEEPING AND RETENTION**~~

~~3.1 An operator of a recreation facility operation must keep a record at the recreation facility site containing the following information:~~

~~(a) dates and results of chlorine or chloride testing of pool water discharges required in Sections 2.1 and 2.3;~~

~~(b) method of chlorine or chloride measurement outlined in Sections 2.1 and 2.3;~~

~~(c) method(s) of removing solids from wastewater produced by ice melting operations, as required in Sections 2.4 and 2.5;~~

~~(d) date of ice melting operation(s) and solids removal;~~

~~(e) dates of detection of any leaks of liquid from an ice-cooling refrigeration system and a description of remedial actions taken; and~~

~~(f) location of monitoring point outlined in Section 2.9.~~

~~3.2 The records required under Section 3.1 must be retained on site for a period of two years and must be available on request by an officer.~~

SCHEDULE "S"

(Bylaw 3105)

CODE OF PRACTICE FOR LABORATORY OPERATIONS
BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from laboratory operations directly or indirectly into a sewer connected to a sewage facility.

1.2 An operator of a laboratory operation that produces liquid waste from photographic imaging containing silver must also comply with the requirements of Schedule "K" of this bylaw.

2.0 DISCHARGE REGULATIONS

2.1 An operator of a laboratory operation must not discharge waste which, at the point of discharge into a sewer, contains:

(a) prohibited waste as set out in Schedule "A";

(b) restricted waste as set out in Schedule "B", with the exception of biochemical oxygen demand (BOD), chemical oxygen demand (COD), chloride, sulphate, mercury and seawater;

(c) waste containing mercury in concentrations greater than 0.01 milligrams per litre;

(d) waste containing PCBs;

(e) waste containing dioxin TEQ;

(f) waste containing halogenated solvents;

(g) waste containing chlorinated phenols;

(h) waste containing pesticides;

(i) seawater, in quantities greater than 2.0 cubic metres per day, without prior authorization from the manager; or

(j) uncontaminated water, in quantities greater than 2.0 cubic metres per day, without prior authorization from the manager.

2.2 An operator of a laboratory operation must not discharge stormwater into a sewer without a valid waste discharge permit or authorization.

2.3 A laboratory may meet the requirements of Section 2.1 by collecting and transporting wastewater or other substances specified in Section 2.1 for off-site waste management.

2.4 An operator of a laboratory operation that commences operation on or after January 1, 2004 must:

(a) install one or more monitoring points downstream of all laboratory discharges and upstream of any discharge of other waste;

(b) install monitoring points described in subsection 2.4(a) of the same diameter as the outlet pipe so that the monitoring point opens in a direction at right angles to, and vertically above, the flow in the sewer pipe; and

(c) maintain the monitoring points readily and easily accessible at all times.

2.5 An operator of a laboratory operation that is in operation before January 1, 2004 and that does not have the monitoring points described in Section 2.4 must install the monitoring points on the occurrence of the sooner of the following:

(a) the operator of a laboratory operation makes an improvement with a value of $5,000 or more within the laboratory operation that will increase either or both of the discharge flow of the waste or the amount of any contaminant in the waste;

(b) the operator of a laboratory operation makes improvements with a value of $5,000 or more that include any changes to laboratory plumbing; or

(c) the operator of a laboratory operation discharges waste into a sanitary sewer that does not comply with Section 2.1.

2.6 An operator of a laboratory operation that treats waste to meet the requirements of Section 2.1 must test the treated waste prior to discharge to sanitary sewer using an analytical method or methods outlined in standard methods, or an alternative analytical method or methods approved by the manager.

3.0 STORAGE AND CONTAINMENT

3.1 An operator of a laboratory operation must ensure that chemicals and waste are stored using spill containment that will prevent any spilled material from entering a sewer.

3.2 An operator of a laboratory operation must not discharge accumulated stormwater from a spill containment system unless it has been tested to confirm that such discharge will not breach Section 2.1 unless the operator has obtained a valid waste discharge permit or authorization under this bylaw.

4.0 SPILL RESPONSE PLANS

4.1 An operator of a laboratory operation that is in operation before January 1, 2004 must prepare a spill response plan by July 1, 2004.

4.2 An operator of a laboratory operation commencing operation on or after January 1, 2004 must prepare a spill response plan within 30 days of commencing operation.

4.3 The spill response plan required under Sections 4.1 or 4.2 must be posted in a conspicuous location on the laboratory premises.

4.4 An operator of a laboratory operation must maintain the spill prevention and clean-up equipment and supplies identified in the spill response plan specified in Sections 4.1 and 4.2 in stock and readily available for use at all times.

4.5 In the event of a spill, an operator of a laboratory operation must immediately carry out the spill response plan, when safe to do so, to prevent or discontinue the discharge of spilled material into a sewer.

4.6 An operator of a laboratory who observes spilled material that has entered, or may enter, the sanitary sewer must have the spilled material removed or treated to meet the requirements of Section 2.1 before resuming normal laboratory operation.

5.0 RECORD KEEPING AND RETENTION

5.1 An operator of a laboratory operation must keep a record of all disposal or recycling services for wastewater and other substances specified in Section 2.1 to be disposed or recycled, including the:

(a) name, civic and postal address, and telephone number of each disposal or recycling company or facility used by the laboratory operation;

(b) type of material transferred to each company or facility;

(c) quantity of material transferred to each company or facility; and

(d) date of material transferred to each company or facility.

5.2 An operator of a laboratory operation must keep a list of the types of services provided or general procedures conducted by the laboratory that cause a discharge of waste into a sewer.

5.3 An operator of a laboratory operation must keep an inventory of all chemicals stored in, and used by, the laboratory operation that are contained in a waste discharged into a sewer.

5.4 An operator of a laboratory operation must keep written procedures for all treatment methods used to meet the requirements of Section 2.1 where waste is treated prior to discharge into a sewer.

5.5 An operator of a laboratory operation must keep a record of the results of the testing required in Section 2.6.

5.6 The records required under Sections 5.1 and 5.5 must be retained for a period of two years and must be available for inspection on request by an officer.

5.7 The information specified in Sections 5.2, 5.3 and 5.4 must be available for inspection on request by an officer.

CAPITAL REGIONAL DISTRICT
BYLAW NO. 4530

****

A BYLAW TO AMEND SEWER USE BYLAW (BYLAW NO. 2922)

****

WHEREAS:

A. Under Bylaw No. 2922, “Capital Regional District Sewer Use Bylaw No. 5, 2001”, the Regional Board has established a bylaw to regulate the discharge of waste into sewers connected to a sewage facility operated by the Capital Regional District; and

B. The Board of the Capital Regional District wishes to amend Bylaw No. 2922;

NOW THEREFORE, the Board of the Capital Regional District in open meeting assembled hereby enacts as follows:

1. Bylaw No. 2922, "Capital Regional District Sewer Use Bylaw No. 5, 2001", is hereby amended by:

Updated Schedules

(a) replacing Schedule “I” with the Schedule “I” attached to this Bylaw;

(b) replacing Schedule “J” with the Schedule “J” attached to this Bylaw;

(c) replacing Schedule “K” with the Schedule “K” attached to this Bylaw; and

(d) replacing Schedule “L” with the Schedule “L” attached to this Bylaw;

Definitions

(e) Under Section 1, Definitions:

(i) inserting the following definitions, in alphabetical order:

(a) “**“Bed and Breakfast Operation”** means a private residence occupied by the owner or operator in which overnight accommodation and breakfast food service are provided to guests for compensation.”;

(b) “**“Commercial Kitchen”** means a kitchen equipped with any of the following fixtures: a multi-compartment pot sink, a commercial dishwasher, a pre-rinse sink or a self-cleaning exhaust hood; and which is not located on a premises used solely as a private residence.”;

(c) **“"Confined Space”** means an area that meets all four of the following conditions, as specified by WorkSafe BC:

(a) is enclosed or partially enclosed;

(b) is not designed or intended for continuous human occupancy;

(c) has limited or restricted means for entry or exit that may complicate the provision of first aid, evacuation, rescue, or other emergency response service; and

(d) is large enough and so configured that a worker could enter to perform work.";

(d) "**"Fat, Oil and Grease" or "FOG"** means insoluble organic fats, oils and grease from animal or vegetable sources.";

(e) "**"Food Grinder"** means a mechanical device that is connected to a sewer and is used to reduce the particle size of food waste disposed into a sewer.";

(f) "**"Food Waste Collector"** means a mechanical device, including a scrap collector, a trough collector and a pot and pan collector, which uses high pressure water to wash utensils, capturing particle size waste and other food waste in a basket or a filter prior to discharging wastewater into a sewer.";

(g) "**"Gravity Grease Interceptor"** means a device that uses gravity and interior baffling to separate and retain fat, oil and grease and solids from wastewater.";

(h) "**"Hydromechanical Grease Interceptor"** means a device that uses hydromechanical separation, interior baffling and air entrainment barriers, whether in combination or independently, to separate and retain fat, oil and grease and solids from wastewater.";

(i) "**"ISO Standard for Amalgam Separators"** means standard ISO 11143:2008 (E) for "Dental equipment – Amalgam separators" and its amendments as established by the International Organization for Standardization (ISO).";

(j) "**"Readily and Easily Accessible"** means safe access for work by an officer or manager that complies with Parts 4.54 to 4.63 and Part 13 of the Occupational Health and Safety Regulation without requiring the use of a personal fall protection system as defined in Part 11.";

(k) "**"Rotisserie"** means cooking equipment which is typically used for roasting meat on a rotating spit and which discharges oil and grease or solids to a sewer.";

(l) "**"Self-Clean"** means to remove settled and floating material collected in a grease interceptor for off-site waste disposal in accordance with a plan approved by the manager.";

(m) "**"Solids Interceptor"** means a device that separates, and then removes or retains, solids from wastewater, including a basket, screen or other similar device.";

(n) "**"Soup Kettle"** means a commercial cooking or warming kettle including tilt kettles.";

(o) "**"Utensil"** means any item that may come into contact with food including but not limited to: kitchenware implements, tableware, glassware, cutlery or other similar items used in the preparation, service, storage or consumption of food.";

(p) "**"Waste Hauler"** means a person or company that collects waste from a waste generator for transportation and delivery to a permitted waste management or septage disposal facility.";

(q) "**"Waste Discharge Assessment Form"** or "**WDAF**" means a form which may include engineering drawings that show the sizing calculation listing the dimensions and total volume or flow rates, as applicable, of all connected fixtures as well as the peak flow rate and rated flow capacity of the proposed

grease interceptor, and otherwise demonstrates the installation requirements under this Code are met."; and

(r) "**"Wok Station"** means cooking equipment with a water supply and one or more cooking surfaces, typically used for stir frying food and which discharges water, oil and grease or solids to a sanitary sewer.".

(ii) deleting the definition of "ISO Standard";

(iii) replacing the definition of "Cleaned Out" with:

"**"Cleaned Out"** means to have the settled and floating material collected in a grease interceptor removed by a waste hauler for off-site waste management, disposal at a septage disposal facility or to have the material removed and disposed of in accordance with a plan approved by the manager.";

(iv) replacing the definition of "Food Services Operation" with:

"**"Food Services Operation"** means any operation where food is prepared, processed, packaged, served, sold, dispensed or otherwise handled, including washing of utensils, in a manner that results in the discharge of fat, oil and grease or solids to a sewer; but not including mobile food services operations and bed and breakfast operations without commercial kitchens.";

(v) replacing the definition of "Grease Interceptor" with:

"**"Grease Interceptor"** means a hydromechanical grease interceptor or a gravity grease interceptor designed and installed to separate and retain fat, oil and grease and solids from wastewater for physical removal, while permitting wastewater to discharge to a sewer."; and

(vi) replacing the definition of "Total Volume" with:

"**"Total Volume"**, as referred to in Schedule "I", means the sum of the volumes of each compartment of a sink calculated by multiplying the width of a compartment by the length of a compartment by the height of a compartment measured to the level of the top of the sidewall of the fixture or other valid method of calculating or measuring the quantity of three-dimensional space, not including drain boards."

(f) deleting Schedule "A", Item 7 "Biomedical Waste" and renumbering the following items; and

(g) replacing the content in Schedule "R" with the words "Reserved for future use."

(h) In Schedule "D", Code of Practice Item 10, replacing the words "Recreation Facility Operations" with the words "Reserved for future use".

2. This bylaw may be cited for all purposes as “Capital Regional District Sewer Use Bylaw, No. 5, 2001, Amendment Bylaw No. 7, 2023".

READ A FIRST TIME THIS	th	day of	20__
READ A SECOND TIME THIS	th	day of	20__
READ A THIRD TIME THIS	th	day of	20__
ADOPTED THIS	th	day of	20__

CHAIR

CORPORATE OFFICER

SCHEDULE "I"

CODE OF PRACTICE FOR FOOD SERVICES OPERATIONS
BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from food services operations directly or indirectly into a sanitary sewer connected to a sewage facility.

1.2 Prior to altering the fixtures connected to an existing grease interceptor or replacing a grease interceptor an operator of a food services operation must submit a Waste Discharge Assessment Form (WDAF).

2.0 DISCHARGE REGULATIONS

2.1 An operator of a food services operation must not discharge waste, which at the point of discharge into a sanitary sewer, contains:

(a) restricted waste with the exception of total oil and grease, biochemical oxygen demand (BOD) and chemical oxygen demand (COD);

(b) prohibited waste as set out in Schedule “A”;

(c) uncontaminated water, in quantities greater than two cubic meters per day; or

(d) stormwater.

2.2 An operator of a food services operation that discharges wastewater containing fat, oil and grease must install one or more grease interceptors to treat wastewater prior to discharge to a sanitary sewer in accordance with this code of practice.

2.3 An operator of a food services operation who installs one or more grease interceptors under section 2.2 must inspect, maintain, repair and clean out the grease interceptors to ensure they function as designed.

2.4 An operator of a food services operation who commences operation on or after February 15, 2023 and who discharges wastewater containing fat, oil and grease may use alternative treatment works, or a combination of treatment works other than that described in this code of practice, to treat liquid waste from the food services operation prior to discharge to a sanitary sewer if the alternative treatment works meets, or exceeds the fat, oil and grease removal efficiency rating standard for grease interceptors set out in the relevant standards referenced in Sections 2.14 and 2.15 and where valid analytical test data has been submitted to, and accepted by, the manager.

2.5 An operator of a food service operation who installs alternative treatment works described in Section 2.4, following approval by the sewage control manager, is exempt from this code of practice however, the alternative treatment works must be operated in compliance with a waste discharge permit or authorization issued to the operator by the manager.

2.6 An operator of a food services operation who self-cleans must have the grease interceptor cleaned out by a waste hauler at least once every rolling 12-month period, or as directed by the manager.

2.7 An operator of a food services operation must not permit fat, oil, grease, and solids to accumulate in a grease interceptor in excess of 25% of the wetted height of the grease interceptor.

2.8 An operator of a food services operation, or other person, must not dispose of fat, oil and grease or solids removed from a grease interceptor to a sewer.

2.9 An operator of a food services operation must not use or permit the use of high flow water, chemical agents, enzymes, bacteria, solvents, hot water with a temperature greater than 75 degrees Celsius or other agents to facilitate the passage of FOG through a grease interceptor.

2.10 An operator of a food services operation must install a grease interceptor connected to the following fixtures that discharge wastewater to a sanitary sewer:

(a) all compartments of sinks used for rinsing, washing and sanitizing utensils including pre-rinse sinks and sinks used for thawing frozen meat or seafood, unless held in separate containers;

(b) drains serving exhaust hoods with an automatic cleaning cycle installed over cooking equipment;

(c) drains serving cooking equipment including wok stations, soup kettles, tilt kettles and other similar cooking equipment that discharge FOG or solids;

(d) drains serving a garbage compactor or food waste digester that may contain or be contaminated with FOG or solids;

(e) dishwashers except for a food services operation that commenced operation prior to January 1, 2002; or

(f) other fixtures that discharge wastewater containing FOG or solids including, but not limited to, centrifugal solids separators, prep sinks, and barista sinks.

2.11 An operator of an outdoor garbage compactor installation connected to a sanitary sewer must install works as necessary to prevent rainwater from entering the drain connected to the sewer.

2.12 The following fixtures must not be connected to a grease interceptor:

(a) toilets, and urinals;

(b) hand sinks except for a food services operation that commenced prior to January 1, 2002;

(c) janitor's sinks or mop sinks except for a food services operation that commenced operation prior to January 1, 2002;

(d) food grinders and similar equipment discharging organic solids except as specified in Section 2.28 and 2.29; or

(e) drains receiving uncontaminated water.

2.13 All hydromechanical grease interceptors installed on or after February 15, 2023 with a rated flow capacity less than or equal to 100 gallons per minute (gpm) must be rated in accordance with Canadian Standards Association standard B481 (Series 12) or their amendments, or other such standards approved by the manager.

2.14 All hydromechanical grease interceptors installed on or after February 15, 2023 with a rated flow capacity greater than 100 gpm must be rated in accordance with Plumbing and Drainage Institute standard PDI-G101, American Society of Mechanical Engineers standard A112.14.3, or their amendments, or such other standards approved by the manager.

2.15 All gravity grease interceptors installed on or after February 15, 2023 must be designed, engineered, sized and installed in accordance with the standards and guidelines prescribed in the International Association of Plumbing and Mechanical Officials IAPMO/ANSI Z1001, or other such standards approved by the manager.

2.16 An operator of a food services operation who installs a grease interceptor on or after February 15, 2023 must calculate the peak flow rate into the grease interceptor by adding together the flow rates from each of the fixtures identified below which are connected to the grease interceptor and assigning a drain time of one minute as follows:

(a) where the fixtures include a pre-rinse sink, food waste collector, wok station or rotisserie, assign a minimum flow rate of 50 gpm;

(b) for sinks other than pre-rinse sinks, calculate the volume of each fixture using 75% of the total volume;

(c) for each additional sink beyond two three-compartment sinks included in the calculation, other than pre-rinse sinks assign a flow rate of 0 gpm;

(d) for dishwashers and other equipment discharging to sanitary sewer assign a flow rate equal to the manufacturer's published maximum discharge flow rate during operation, or if unknown, assign a flow rate of 5 gpm; and

(e) for floor or hub drains assign a peak flow rate of 0 gpm except where kitchen equipment discharges indirectly through the drain. For each piece of equipment, assign a drain time as per (d) above.

2.17 Despite Section 2.16, the rated flow capacity of the grease interceptor installed by an operator of a food services operation on or after February 15, 2023 must not be less than 25 gpm where a single grease interceptor services the operation.

2.18 Despite Sections 2.16 and 2.17 the rated flow capacity of any grease interceptor installed by an operator of a food services operation on or after February 15, 2023 must be approved by the sewage control manager.

2.19 The rated flow capacity of a grease interceptor installed on or after January 1, 2000 must be:

(a) permanently labelled on the grease interceptor and be visible and clearly legible at all times; or

(b) available in written documentation issued by the manufacturer of the grease interceptor for inspection by an officer on request.

2.20 Hydromechanical grease interceptors installed after January 1, 2002 must have flow control fittings specified and approved in the manufacturer's certification listing.

2.21 Flow control fittings must be installed so that:

(a) the flow control fitting has been sized to account for head pressure caused by the elevation difference between the fixture(s) and the hydromechanical grease interceptor;

(b) it can be verified, during inspections to enforce this Bylaw, that flow control fittings are in place; and

(c) the size of the flow control fitting limits the flow to a hydromechanical grease interceptor to a rate that is no more than the rated flow capacity of the hydromechanical grease interceptor.

2.22 An operator of a food services operation who installs a grease interceptor must locate the grease interceptor in a location that is readily and easily accessible for inspection and maintenance, repair, and clean out.

2.23 An operator of a food services operation who installs a grease interceptor on or after February 15, 2023 must not locate the grease interceptor in a confined space.

2.24 An operator of a food services operation who installs a grease interceptor on or after January 1, 2000 must ensure:

(a) that the grease interceptor is equipped with a monitoring point located either at the outlet of the grease interceptor or downstream of the grease interceptor at a location upstream of any discharge of other waste;

(b) the monitoring point, other than integral monitoring points, is the same diameter as the grease interceptor outlet pipe and is installed so that it opens in a direction at right angles to and vertically above the flow in the sanitary sewer pipe;

(c) that the monitoring point be readily and easily accessible at all times for inspection and sampling purposes.

2.25 The monitoring point(s) referred to in Section 2.24 are considered to be the point of discharge of waste into a sanitary sewer.

2.26 An operator of a food services operation must remove the cover of a grease interceptor for the purpose of inspection on request of an officer.

2.27 An operator of a food services operation using a food grinder that discharges to a sanitary sewer must either:

(a) cease the discharge to sanitary sewer from the garburator; or

(b) treat the waste prior to discharge to sanitary sewer using a solids separator followed by a grease interceptor.

2.28 An operator of a food services operation that installs a blended drink station or similar equipment on or after February 15, 2023 must treat the waste using a solids interceptor followed by a grease interceptor, prior to discharge to sanitary sewer.

2.29 The solids separator referred to in Section 2.28 must be sized, inspected, maintained, repaired and cleaned out in accordance with the manufacturer's instructions and specifications to prevent the passage of solids so that any grease interceptor connected downstream of a solids interceptor will function as designed.

3.0 RECORD KEEPING AND RETENTION

3.1 An operator of a food services operation who installs one or more grease interceptors or solids interceptors must keep an operation and maintenance manual on site for each grease interceptor and solids interceptor installed.

3.2 An operator of a food services operation who installs one or more grease interceptors must keep a record on site of all inspection, maintenance, repair and clean outs conducted for each grease interceptor, including:

(a) the date of inspection or maintenance, repair or clean out;

(b) the maintenance or repair conducted;

(c) measured or estimated levels of oil and grease and solids removed from the grease interceptor;

(d) the location of disposal of the material removed from the grease interceptor; and name, civic and postal address, and telephone number of each company or waste hauler used by the food services operation for inspection maintenance, repair or clean out services.

3.3 The records required under Section 3.2 must include receipts or invoices for the activities listed under Sections 3.2 (b), (c) and (d), be retained for a period of two years, and must be available for inspection on request by an officer.

3.4 The manual required under Section 3.1 must be retained for the period that the specified grease interceptors or solids interceptors are in operation.

3.5 The records required under Section 3.2 may be electronic records stored in a maintenance tracking application (or equivalent), which provides access to the records at any time by an officer for a period of two years.

3.6 An operator that self-cleans treatment works must provide documentation of self-cleaning which must be available for inspection on request by an officer.

SCHEDULE "J"

CODE OF PRACTICE FOR DRY CLEANING OPERATIONS
BYLAW NO. 2922

In this Code of Practice:

"Activated Carbon Filter" means a filter containing treated or prepared liquid phase granular activated carbon capable of removing tetrachloroethylene from wastewater through the process of adsorption.

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from dry cleaning operations directly or indirectly into a sewer connected to a sewerage facility.

1.2 The term "treatment works" in this code of practice means the works referred to in Section 2.4.

2.0 DISCHARGE REGULATIONS

2.1 An operator of a dry cleaning operation must not discharge waste which, at the point of discharge into a sewer at any time, contains:

(a) prohibited waste as set out in Schedule "A";

(b) restricted waste as set out in Schedule "B";

(c) wastewater containing tetrachloroethylene in concentrations greater than 0.10 milligrams per litre (mg/L);

(d) tetrachloroethylene-contaminated residue; or

(e) uncontaminated water, in quantities greater than 2.0 cubic metres per day, without prior authorization from the manager.

2.2 An operator of a dry cleaning operation must not discharge stormwater into a sewer without a valid waste discharge permit or authorization.

2.3 A dry cleaning operation may meet the requirements of Section 2.1 by collecting and transporting the wastewater or other substances specified in Section 2.1 from the dry cleaning operation for off-site waste management at least once every twelve months.

2.4 An operator of a dry cleaning operation that discharges waste that has come in contact with tetrachloroethylene from a dry cleaning process into a sewer must, in addition to the dry cleaning machine's integral tetrachloroethylene-water separator, install and maintain the following treatment works:

(a) a second tetrachloroethylene-water separator that recovers tetrachloroethylene from the wastewater exiting the integral tetrachloroethylene-water separator;

(b) an initial activated carbon filter that removes the tetrachloroethylene from the wastewater exiting the second tetrachloroethylene-water separator;

(c) a monitor-alarm that automatically shuts down the wastewater treatment and stops the discharge of wastewater containing tetrachloroethylene into the sewer when the initial filter becomes saturated with tetrachloroethylene; and

(d) a second activated carbon filter that removes tetrachloroethylene from the wastewater after it passes through the initial filter and past the monitor-alarm.

2.5 Where an operator of a dry cleaning operation installs the treatment works referred to in sections 2.4(a) to (d), then the treatment works must be installed in the order in which they are set out in Section 2.4.

2.6 An operator of a dry cleaning operation who installs the treatment works referred to in Section 2.4 must locate the treatment works so that they are readily and easily accessible for inspection, maintenance, or repair.

2.7 An operator of a dry cleaning operation who installs the treatment works referred to in Section 2.4 must not locate the treatment works in a confined space.

2.8 An operator of a dry cleaning operation must operate and maintain the dry cleaning machine(s) in accordance with the manufacturer's instructions and specifications.

2.9 An operator of a dry cleaning operation who installs the activated carbon filters referred to in sections 2.4(b) and (d) must replace both the initial and second activated carbon filter at least once every 12 months and when one of the following occurs:

(a) on or before reaching the manufacturer's specified expiry date;

(b) when the monitor-alarm referred to in section 2.4(c) has been triggered; or

(c) analytical data, from an accredited laboratory, using a method of analysis outlined in Standard Methods, or an alternative method of analysis approved by the manager, having a method detection limit of 0.01 mg/L tetrachloroethylene or lower, indicates that the concentration of tetrachloroethylene in the discharge from the second activated carbon filter is greater than, or equal to, 0.10 mg/L.

2.10 An operator of a dry cleaning operation who installs treatment must:

(a) equip the outlet from the treatment works with a monitoring point as approved by the manager at a location upstream of the point of discharge of other waste; and

(b) locate the monitoring point so that it is readily and easily accessible at all times for inspection and monitoring purposes.

2.11 The monitoring point referred to in Section 2.10 is considered to be the point of discharge of waste into a sewer.

3.0 STORAGE AND CONTAINMENT

3.1 An operator of a dry cleaning operation must ensure that all dry cleaning machines and treatment works are operated and stored using a tetrachloroethylene-impermeable spill containment system that will prevent any spilled material from entering a sewer.

3.2 An operator of a dry cleaning operation must store all new and used tetrachloroethylene, tetrachloroethylene-contaminated residue and untreated wastewater using a tetrachloroethylene-impermeable spill containment system that will prevent any spilled material from entering a sewer.

3.3 The containment systems identified in Sections 3.1 and 3.2 must encompass at least the entire surface under each dry cleaning machine, tank or other container containing tetrachloroethylene, wastewater or tetrachloroethylene-contaminated residue and be sufficient to hold at least 110% of the capacity of the largest tank, container or works within the containment system.

3.4 An operator of a dry cleaning operation equipped with a tetrachloroethylene-impermeable containment system must not have open drains within the containment area.

3.5 Drains located within the containment system must be sealed with tetrachloroethylene-resistant drain plugs.

3.6 An operator of a dry cleaning operation must not discharge stormwater from a containment system unless it has first been tested to confirm that such discharge will not breach Section 2.1 unless the operator has obtained a valid waste discharge permit or authorization under this bylaw.

4.0 SPILL RESPONSE PLANS

4.1 An operator of a dry cleaning operation must prepare and maintain a spill response plan.

4.2 An operator of a dry cleaning operation must prepare a spill response plan within 30 days after commencing operation.

4.3 The spill response plan required under sections 4.1 or 4.2 must be posted in a conspicuous location on the dry cleaning premises.

4.4 An operator of a dry cleaning operation must maintain the spill prevention and clean-up equipment and supplies identified in the spill response plan specified in Section 4.1 or 4.2 in stock and readily available for use at all times.

4.5 An operator of a dry cleaning operation must ensure that the spill prevention equipment and supplies identified in the spill response plan specified in Section 4.1 or 4.2 include tetrachloroethylene-resistant drain plugs that are readily available to seal all floor drains into which tetrachloroethylene, wastewater or residue may enter in the event of a spill.

4.6 In the event of a spill, an operator of a dry cleaning operation must immediately carry out the spill response plan, when safe to do so, to prevent or discontinue the discharge of spilled material into a sewer.

5.0 RECORD KEEPING AND RETENTION

5.1 An operator of a dry cleaning operation who installs one or more treatment works must keep a record at the dry cleaning operation of all inspection, repair, maintenance, or replacement activities associated with the operation of the treatment works, including the:

(a) date of inspection, repair, maintenance, or replacement activity;

(b) description of inspection, repair or maintenance conducted;

(c) date and amount of activated carbon removed and replaced in the treatment works including the activated carbon type and size; and

(d) dates and volumes of material removed from the treatment works.

5.2 An operator of a dry cleaning operation must keep a record, including relevant receipts or invoices upon request of all disposal or recycling services used for disposal or recycling of wastewater and tetrachloroethylene-contaminated residue, including the:

(a) name, civic and postal address, and telephone number of each disposal or recycling company or facility used by the dry cleaning operation;

(b) type of material transferred to each company or facility;

(c) quantity of material transferred to each company or facility; and

(d) date of material transferred to each company or facility.

5.3 The records required under Sections 5.1 and 5.2 must be retained for a period of five years and must be available for inspection on request by an officer.

5.4 An operator of a dry cleaning operation who installs one or more treatment works must keep, at the dry cleaning operation site, an operation and maintenance manual pertaining to all equipment used in the treatment works.

SCHEDULE "K"

CODE OF PRACTICE FOR PHOTOGRAPHIC IMAGING OPERATIONS BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from photographic imaging operations directly or indirectly into a sewer connected to a sewage facility.

1.2 The term “treatment works” in this code of practice means the works referred to in Sections 2.2(b) and 2.4.

2.0 DISCHARGE REGULATIONS

2.1 An operator of a photographic imaging operation must not discharge waste which, at the point of discharge into a sewer, contains:

(a) silver in a concentration that is in excess of 5 milligrams per litre (mg/L); or

(b) prohibited waste as set out in Schedule “A”.

2.2 An operator of a photographic imaging operation that produces liquid waste containing silver must either:

(a) collect and transport the waste from the photographic imaging operation for off-site waste management; or

(b) treat the waste at the photographic imaging operation site prior to discharge to the sewer using one of the following silver recovery technologies:

(i) two chemical recovery cartridges connected in series;

(ii) an electrolytic recovery unit followed by two chemical recovery cartridges connected in series; or

(iii) any other silver recovery technology, or combination of technologies, capable of reducing the concentration of silver in the waste discharged to sewer to 5 mg/L or less where valid analytical test data has been submitted to, and accepted by, the sewage control manager.

2.3 An operator of a photographic imaging operation must install and maintain silver recovery technology referred to in Section 2.2 according to the manufacturer’s instructions and specifications.

2.4 An operator of a photographic imaging operation must collect all liquid waste containing silver in a holding tank and must deliver this waste to the electrolytic recovery unit and/or chemical recovery cartridges using a metering pump.

2.5 An operator of a photographic imaging operation must calibrate the metering pump referred to in Section 2.4 in accordance with the manufacturer’s instructions and specifications.

2.6 An operator of a photographic imaging operation must locate the silver recovery system and any stored liquid waste collection containers in such a manner that an accidental spill, leak or container failure will not result in liquid waste containing silver entering any sewer.

2.7 If a location referred to under Section 2.6 is not available, an operator of a photographic imaging operation must do one of the following:

(a) install spill containment to contain spills or leaks from the silver recovery system or stored liquid waste collection containers; or

(b) cap all floor drains into which liquid spilled from the silver recovery system or stored liquid waste collection containers would normally flow.

2.8 When using two separate chemical recovery cartridges, an operator of a photographic imaging operation must test the discharge from the first cartridge for silver content at least once per month of operation using either silver test paper or a silver test kit.

2.9 When the discharge from the first chemical recovery cartridge referred to in Section 2.8 cannot be sampled, an operator of a photographic imaging operation must:

(a) install a cumulative flow meter on the silver recovery system; and

(b) test the discharge from the second chemical recovery cartridge once per week of operation using silver test paper or a silver test kit.

2.10 An operator of a photographic imaging operation must replace the chemical recovery cartridges when any one of the following occurs:

(a) the manufacturer's specified expiry date, as shown on each cartridge, has been reached;

(b) eighty percent (80%) of the manufacturer's specified capacity, or total cumulative flow, for each cartridge has been reached;

(c) test data, using silver test paper or a silver test kit, indicates that the discharge from the first cartridge is greater than 1000 mg/L; or

(d) analytical data from an accredited laboratory using a method of analysis outlined in Standard Methods, or an alternative method of analysis approved by the Manager, having a method detection limit of 0.5 mg/L silver or lower, indicates that the concentration of silver in the discharge from the silver recovery system is greater than, or equal to, 5 mg/L.

2.11 If treatment of liquid waste with two chemical recovery cartridges connected in series is the only silver recovery technology being used, then the operator of the photographic imaging operation must replace both chemical recovery cartridges when one of the events referred to in Section 2.10 occurs.

2.12 Despite Section 2.11, if treatment of liquid waste with two chemical recovery cartridges connected in series is used following treatment by an electrolytic recovery unit, the second cartridge may replace the used first cartridge and a new second cartridge may be installed when one of the events referred to in Section 2.10 occurs.

2.13 Despite Section 2.12, both chemical recovery cartridges used following an electrolytic recovery unit must be replaced by the operator of the photographic imaging operation when one of the events referred to in Section 2.10 occurs if this is recommended by the manufacturer of the cartridges.

2.14 An operator of a photographic imaging operation who installs treatment works must locate the treatment works so that they are readily and easily accessible for inspection, maintenance, repair or replacement.

2.15 An operator of a photographic imaging operation who installs treatment works must not locate the treatment works in a confined space.

2.16 An operator of a photographic imaging operation who installs treatment works must:

(a) designate the outlet from the silver recovery system, at a location upstream of the point of discharge of other waste, as a monitoring point; and

(b) locate the monitoring point so that it is readily and easily accessible at all times for inspection and monitoring purposes.

2.17 The monitoring point referred to in Section 2.16 is considered to be the point of discharge into a sewer.

3.0 RECORD KEEPING AND RETENTION

3.1 An operator of a photographic imaging operation who installs a silver recovery system must keep, at the photographic imaging operation site, an operation and maintenance manual pertaining to all equipment used in the silver recovery system.

3.2 An operator of a photographic imaging operation who installs two chemical recovery cartridges connected in series must keep records, available for inspection on request, at the photographic imaging operation site that includes the following information recorded for the previous two years:

(a) serial number of each chemical recovery cartridge used;

(b) installation date of each chemical recovery cartridge used;

(c) expiry date of each chemical recovery cartridge used (where provided by manufacturers or suppliers);

(d) maximum recommended capacity, or total cumulative flow, of each chemical recovery cartridge used;

(e) dates of all metering pump calibrations through the silver recovery system when the chemical recovery cartridge is replaced and any additional manufacturer recommended calibrations;

(f) silver test results on the discharge from the first chemical recovery cartridge per calendar month of operation; or where the discharge from the first cartridge cannot be sampled, silver test results on the discharge from the second chemical recovery cartridge and cumulative flows through the silver recovery system per calendar week of operation; and

(g) dates and descriptions of all maintenance, repair, or replacement activities associated with the operation of the chemical recovery cartridges.

3.3 An operator of a photographic imaging operation who installs an electrolytic recovery unit in addition to two chemical recovery cartridges connected in series must keep records, available for inspection on request, at the photographic imaging operation site that includes the following information recorded for the previous two years:

(a) all information specified under section 3.2 as applicable;

(b) date of each removal of silver from the electrolytic recovery unit; and

(c) dates and descriptions of all maintenance or repair activities associated with the operation of the electrolytic recovery unit.

3.4 An operator of a photographic imaging operation must keep a record, including relevant receipts or invoices, of all disposal or recycling services used for off-site waste management, disposal or recycling of wastewater, chemical recovery cartridges, and silver-contaminated residue, including the:

(a) name, civic and postal address, and telephone number of each disposal or recycling company or facility used by the photographic imaging operation;

(b) type of material transferred to each company or facility;

(c) quantity of material transferred to each company or facility; and

(d) date of material transferred to each company or facility.

3.5 The records required under Sections 3.2, 3.3 and 3.4 must be retained for a period of five years and must be available for inspection on request by an officer.

SCHEDULE "L"

CODE OF PRACTICE FOR DENTAL OPERATIONS
BYLAW NO. 2922

1.0 APPLICATION

1.1 This code of practice prescribes conditions governing the discharge of waste from dental operations directly or indirectly into a sewer connected to a sewage facility.

1.2 The term “treatment works” in this code of practice means the works referred to in Section 2.3(b).

2.0 DISCHARGE REGULATIONS

2.1 An operator of a dental operation must not discharge waste which, at the point of discharge into a sewer, contains:

(a) prohibited waste as set out in Schedule “A”;

(b) restricted waste as set out in Schedule “B”; or

(c) mercury in a concentration greater than 2 milligrams per litre (mg/L) as analyzed in a grab sample.

2.2 An operator of a dental operation that produces liquid waste from photographic imaging containing silver must comply with the requirements of Schedule “K” of this bylaw.

2.3 An operator of a dental operation that produces wastewater containing dental amalgam must either:

(a) collect and transport the wastewater from the dental operation for off-site waste management; or

(b) treat the wastewater at the dental operation site prior to discharge to the sewer using an amalgam separator.

2.4 All amalgam separators must be certified in accordance with the ISO Standard for Amalgam Separators.

2.5 An operator of a dental operation must install, maintain, repair and replace the amalgam separator referred to in Sections 2.3 and 2.4 according to the manufacturer’s instructions and specifications in order that the amalgam separator functions as designed.

2.6 If the amalgam separator referred to under Sections 2.3(b) and 2.4 is located downstream of a wet vacuum system, an operator of a dental operation must ensure that:

(a) the wet vacuum system is fitted with an internal flow control fitting; or

(b) a flow control fitting is installed on the water supply line to the wet vacuum system.

2.7 The flow control fitting referred to in Section 2.6 must be sized to limit the flow to a rate that is no more than the maximum inlet flow rate of the amalgam separator as stated by the manufacturer of the amalgam separator.

2.8 An operator of a dental operation must locate an amalgam separator, or store used collecting containers in such a manner that an accidental spill, leak or collecting container failure will not result in waste containing amalgam entering the sewer.

2.9 If a location referred to under Section 2.8 is not available, an operator of a dental operation must:

(a) install spill containment to contain spills or leaks from the amalgam separator or to store used collecting containers.

2.10 An operator of a dental operation must replace the amalgam separator's collecting container when any one of the following occurs:

(a) the manufacturer's specified expiry date has been reached;

(b) the warning level specified in the ISO Standard for Amalgam Separators has been reached; or

(c) analytical data from an accredited laboratory obtained using a method of analysis outlined in standard methods, or an alternative method of analysis approved by the sewage control manager, having a concentration of mercury in the discharge from the amalgam separator is greater than, or equal to, 2 mg/L.

2.11 An operator of a dental operation must not dispose of dental amalgam collected in an amalgam separator, a collecting container, or any other device, into a sewer.

2.12 An operator of a dental operation who installs an amalgam separator must locate the amalgam separator so that it is readily and easily accessible for inspection, maintenance, repair or replacement.

2.13 An operator of a dental operation who installs an amalgam separator must not locate the amalgam separator in a confined space.

2.14 An operator of a dental operation who installs an amalgam separator must:

(a) install a monitoring point at the outlet of the amalgam separator or downstream of the amalgam separator at a location upstream of any discharge of other waste;

(b) ensure the monitoring point is installed in such a manner that the total flow from the amalgam separator may be intercepted and sampled; and

(c) locate the monitoring point so that it is readily and easily accessible at all times for inspection and monitoring purposes.

2.15 The monitoring point referred to in Section 2.14 is considered the point of discharge into the sanitary sewer.

3.0 RECORD KEEPING AND RETENTION

3.1 An operator of a dental operation that uses an amalgam separator must keep, at the site of installation of the amalgam separator, an operation and maintenance manual containing instructions for installation, use, maintenance and service of the amalgam separator installed.

3.2 An operator of a dental operation that uses an amalgam separator must keep a copy of the ISO Standard for Amalgam Separators test report with the amalgam separator installed and must be available for inspection on request by an officer.

3.3 An operator of a dental operation that uses an amalgam separator must keep a record book at the dental operation site that includes the following information pertaining to the amalgam separator installed:

(a) date of installation of the amalgam separator and name of the supplier or installation service provider;

(b) serial number and expiry date of the amalgam separator and/or its components;

(c) maximum flow rate through the amalgam separator or maximum capacity rating of the amalgam separator;

(d) dates of inspection, maintenance, repair, cleaning and replacement of any amalgam separation equipment or components;

(e) dates and descriptions of all operational problems, spills, leaks or collecting container failures associated with the amalgam separator and remedial actions taken;

(f) name, address and telephone number of any person or company who performs any maintenance or disposal services related to the operation of the amalgam separator; and

(g) dates of pick-up of the collecting container for off-site disposal, volume of waste disposed and the location of disposal.

3.4 The records must be retained for a period of five years and must be available for inspection on request by an officer.

APPENDIX C

CAPITAL REGIONAL DISTRICT
BYLAW NO. 4531

****

A BYLAW TO AMEND BYLAW NO. 1857, CAPITAL REGIONAL DISTRICT TICKET INFORMATION AUTHORIZATION BYLAW 1990

****

The Board of the Capital Regional District in open meeting assembled enacts as follows:

1. Capital Regional District Ticket Information Authorization Bylaw 1990 is amended by deleting the existing Schedule 21 and replacing it with Schedule 21 attached as Appendix 1 to this Bylaw.

2. This Bylaw may be cited for all purposes as "Capital Regional District Ticket Information Authorization Bylaw, 1990, Amendment Bylaw No. 75, 2023".

READ A FIRST TIME THIS	th	DAY OF	2023
READ A SECOND TIME THIS	th	DAY OF	2023
READ A THIRD TIME THIS	th	DAY OF	2023
ADOPTED THIS	th	DAY OF	2023

CHAIR

SECRETARY

SCHEDULE 21 TO BYLAW NO. 1857
CAPITAL REGIONAL DISTRICT
SEWER USE BYLAW NO. 5, 2001

	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
1.	Discharge prohibited waste	2.1 (a)	$1,000
2.	Discharge restricted waste	2.1 (b)	$500
3.	High volume discharge	2.1 (c)	$200
4.	Discharge without a permit and contrary to code of practice	2.1 (d)	$200
5.	Unauthorized discharge of excess uncontaminated water	2.1 (e)	$200
6.	Unauthorized discharge of septage	2.3	$500
7.	Unauthorized discharge of trucked liquid waste	2.4	$500
8.	Discharge to dilute non-domestic waste	2.5	$500
9.	Fail to provide spill containment	2.8 (a)	$150
10.	Fail to post name and phone number as required	2.8 (b)	$50
11.	Unauthorized discharge of recreational vehicle waste	2.9	$750
12.	Unauthorized discharge of carpet cleaner waste	2.10	$750
13.	Unauthorized discharge of ship and boat waste	2.11	$750
14.	Unauthorized discharge of kitchen equipment cleaning waste	2.12	$500
15.	Fail to adjust pH	2.13 (a)	$500
16.	Fail to maintain complete records	2.13 (b)	$100
17.	Fail to apply for permit	3.3	$250
18.	Fail to comply with permit terms or conditions	3.6	$1,000
19.	Fail to comply with authorization terms or conditions	3.7	$500
20.	Bypass waste control works	5.2	$500
21.	Fail to maintain complete records, monitoring	6.1 (a)	$200
22.	Fail to maintain complete records, administrative	6.1 (b)	$200
23.	Fail to report unlawful discharge to a manager or officer	7.1 (a)	$250
24.	Fail to report unlawful discharge to owner	7.1 (b)	$250
25.	Fail to provide information to manager on premises	7.2 (a)	$250
26.	Fail to provide information on location	7.2 (b)	$250
27.	Fail to provide information on contact person	7.2 (c)	$250

SCHEDULE 21 TO BYLAW NO. 1857
CAPITAL REGIONAL DISTRICT
SEWER USE BYLAW NO. 5, 2001

	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
28.	Fail to provide information on time, date and duration	7.2 (d)	$250
29.	Fail to provide information on type	7.2 (e)	$250
30.	Fail to provide information on volume	7.2 (f)	$250
31.	Fail to provide information on corrective action	7.2 (g)	$250
32.	Fail to confine unlawful discharge	7.3 (a)	$500
33.	Fail to dispose of substance properly	7.3 (b)	$500
34.	Fail to give 90 days notice of new activity	7.4 (a)	$250
35.	Fail to give 90 days notice of activity change	7.4 (b)	$250
36.	Inaccessible monitoring point	9.6	$250
37.	Hinder/prevent inspection	13.1	$500
38.	Discharge of restricted waste	Sch. I, 2.1 (a)	$200
39.	Discharge of prohibited waste	Sch. I, 2.1 (b)	$200
40.	Discharge of excess uncontaminated water	Sch. I, 2.1 (c)	$200
41.	Discharge of stormwater to sewer	Sch. I, 2.1 (d)	$200
42.	Fail to install grease interceptor	Sch. I, 2.2	$500
43.	Fail to maintain grease interceptor	Sch. I, 2.3	$150
44.	Installation of unapproved treatment works	Sch. I, 2.4	$250
45.	Alternate treatment works non-compliant with permit or authorization	Sch. I, 2.5	$150
46.	Fail to clean out grease interceptor	Sch. I, 2.6	$150
47.	Accumulation of excess grease or solids	Sch. I, 2.7	$150
48.	Disposal of oil and grease to sewer	Sch. I, 2.8	$150
49.	Use of agents facilitating bypass of grease	Sch. I, 2.9	$150
50.	Fail to connect fixture to grease interceptor, sink	Sch. I, 2.10 (a)	$150
51.	Fail to connect fixture to grease interceptor, exhaust hood	Sch. I, 2.10 (b)	$150
52.	Fail to connect fixture to grease interceptor, drain	Sch. I, 2.10 (c)	$150
53.	Fail to connect fixture to grease interceptor, compactor	Sch. I, 2.10 (d)	$150
54.	Fail to connect fixture to grease interceptor, dishwasher	Sch. I, 2.10 (e)	$150

SCHEDULE 21 TO BYLAW NO. 1857
CAPITAL REGIONAL DISTRICT
SEWER USE BYLAW NO. 5, 2001

	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
55.	Fail to connect fixture to grease interceptor, grease bearing fixture	Sch. I, 2.10 (f)	$150
56.	Fail to install works preventing discharge of rainwater to sewer	Sch. I, 2.11	$150
57.	Connection of a toilet or urinal	Sch. I, 2.12 (a)	$100
58.	Connection of a hand sink	Sch. I, 2.12 (b)	$100
59.	Connection of a mop sink	Sch. I, 2.12 (c)	$100
60.	Connection of fixture discharging solids	Sch. I, 2.12 (d)	$100
61.	Connection of drain receiving uncontaminated water	Sch. I, 2.12 (e)	$100
62.	Unapproved grease interceptor rating less than 100gpm	Sch. I, 2.13	$150
63.	Unapproved grease interceptor rating greater than 100gpm	Sch. I, 2.14	$150
64.	Unapproved grease interceptor design and installation	Sch. I, 2.15	$150
65.	Fail to install flow control device	Sch. I, 2. 20	$100
66.	Fail to properly size or install flow control device	Sch. I, 2.21 (a)	$100
67.	Flow control cannot be verified	Sch. I, 2.21 (b)	$100
68.	Fail to install correct flow control device	Sch. I, 2.21 (c)	$100
69.	Inaccessible grease interceptor	Sch. I, 2.22	$100
70.	Grease interceptor installed in confined space	Sch. I, 2.23	$100
71.	Fail to correctly install monitoring point, as required	Sch. I, 2.24 (a)	$100
72.	Improper monitoring point	Sch. I, 2.24 (b)	$100
73.	Inaccessible monitoring point	Sch. I, 2.24 (c)	$150
74.	Fail to remove cover of grease interceptor	Sch. I, 2.26	$200
75.	Improper connection of food grinder	Sch. I, 2.27	$100
76.	Fail to install solids interceptor	Sch. I, 2.28	$150
77.	Fail to maintain solids separator	Sch. I, 2.29	$100
78.	Fail to keep operation manual	Sch. I, 3.1	$100
79.	Fail to keep records available for inspection	Sch. I, 3.2	$100
80.	Fail to maintain complete records, date	Sch. I, 3.2 (a)	$100
81.	Fail to maintain complete records, maintenance	Sch. I, 3.2 (b)	$100
82.	Fail to maintain complete records, material removed	Sch. I, 3.2 (c)	$100

SCHEDULE 21 TO BYLAW NO. 1857
CAPITAL REGIONAL DISTRICT
SEWER USE BYLAW NO. 5, 2001

	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
83.	Fail to maintain complete records, location of disposal	Sch. I, 3.2 (d)	$100
84.	Fail to retain records, maintenance and disposal	Sch. I, 3.3	$100
85.	Fail to retain records, installed grease interceptor	Sch. I, 3.4	$100
86.	Fail to maintain records, electronic records	Sch. I, 3.5	$100
87.	Fail to maintain records, self-clean	Sch. I, 3.6	$100
88.	Discharge prohibited waste	Sch. J, 2.1 (a)	$200
89.	Discharge restricted waste	Sch. J, 2.1 (b)	$200
90.	Discharge excessive tetrachloroethylene	Sch. J, 2.1 (c)	$200
91.	Discharge residue	Sch. J, 2.1 (d)	$200
92.	Discharge of excess uncontaminated water	Sch. J, 2.1 (e)	$200
93.	Unauthorized discharge of stormwater	Sch. J, 2.2	$150
94.	Fail to manage wastewater off-site	Sch. J, 2.3	$250
95.	Fail to install second separator	Sch. J, 2.4 (a)	$500
96.	Fail to install filter	Sch. J, 2.4 (b)	$500
97.	Fail to install alarm	Sch. J, 2.4 (c)	$500
98.	Fail to install second filter	Sch. J, 2.4 (d)	$500
99.	Fail to install works in correct order	Sch. J, 2.5	$150
100.	Treatment works not accessible	Sch. J, 2.6	$150
101.	Treatment works location, confined space	Sch. J, 2.7	$150
102.	Fail to maintain machines	Sch. J, 2.8	$150
103.	Fail to replace filter before expiry date	Sch. J, 2.9 (a)	$150
104.	Fail to replace filter after alarm	Sch. J, 2.9 (b)	$150
105.	Fail to replace filter after elevated concentration	Sch. J, 2.9 (c)	$150
106.	Fail to correctly install monitoring point	Sch. J, 2.10 (a)	$100
107.	Inaccessible monitoring point	Sch. J, 2.10 (b)	$150
108.	Fail to protect sewer against spills	Sch. J, 3.1	$150
109.	Fail to install spill containment system	Sch. J, 3.2	$150
110.	Undersized containment	Sch. J, 3.3	$100

SCHEDULE 21 TO BYLAW NO. 1857
CAPITAL REGIONAL DISTRICT
SEWER USE BYLAW NO. 5, 2001

	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
111.	Open drains in containment	Sch. J, 3.4	$150
112.	Fail to block drains in contamination area	Sch. J, 3.5	$150
113.	Discharge untested stormwater from containment	Sch. J, 3.6	$100
114.	Fail to prepare spill response plan	Sch. J, 4.1	$100
115.	Fail to prepare spill response plan within 30 days	Sch. J, 4.2	$100
116.	Fail to post spill response plan	Sch. J, 4.3	$50
117.	Fail to stock spill response materials	Sch. J, 4.4	$100
118.	Fail to include plugs	Sch. J, 4.5	$100
119.	Fail to follow spill response plan	Sch. J, 4.6	$200
120.	Fail to maintain complete records, date	Sch. J, 5.1 (a)	$100
121.	Fail to maintain complete records, inspection	Sch. J, 5.1 (b)	$100
122.	Fail to maintain complete records, carbon replaced	Sch. J, 5.1 (c)	$100
123.	Fail to maintain complete records, material removed	Sch. J, 5.1 (d)	$100
124.	Fail to maintain disposal records	Sch. J, 5.2	$100
125.	Fail to retain records	Sch. J, 5.3	$100
126.	Fail to retain operation manual	Sch. J, 5.4	$100
127.	Discharge excess contaminants, silver	Sch. K, 2.1 (a)	$200
128.	Discharge of prohibited waste	Sch. K, 2.1 (b)	$200
129.	Fail to manage waste off-site	Sch. K, 2.2 (a)	$200
130.	Fail to treat wastes	Sch. K, 2.2 (b)	$500
131.	Fail to install and maintain equipment	Sch. K, 2.3	$100
132.	Fail to use metering pump	Sch. K, 2.4	$100
133.	Fail to calibrate metering pump	Sch. K, 2.5	$100
134.	Fail to properly locate recovery system as required	Sch. K, 2.6	$100
135.	Fail to install spill containment or cap drains	Sch. K, 2.7	$150
136.	Fail to test effluent	Sch. K, 2.8	$100
137.	Fail to install flow meter	Sch. K, 2.9 (a)	$100
138.	Fail to test discharge	Sch. K, 2.9 (b)	$100

SCHEDULE 21 TO BYLAW NO. 1857
CAPITAL REGIONAL DISTRICT
SEWER USE BYLAW NO. 5, 2001

	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
139.	Fail to replace silver recovery cartridge as recommended	Sch. K, 2.10 (a)	$100
140.	Fail to replace silver recovery cartridge at 80% capacity	Sch. K, 2.10 (b)	$100
141.	Fail to replace silver recovery cartridge over 1000 mg/L	Sch. K, 2.10 (c)	$100
142.	Fail to replace silver recovery cartridge for excess silver	Sch. K, 2.10 (d)	$100
143.	Fail to replace both silver recovery cartridges	Sch. K, 2.11	$100
144.	Treatment works not accessible	Sch. K, 2.14	$100
145.	Treatment works location, confined space	Sch. K, 2.15	$100
146.	Improper outlet location	Sch. K, 2.16 (a)	$100
147.	Monitoring point not accessible	Sch. K, 2.16 (b)	$100
148.	Fail to keep maintenance manual	Sch. K, 3.1	$50
149.	Fail to maintain complete records, serial number	Sch. K, 3.2 (a)	$100
150.	Fail to maintain complete records, date	Sch. K, 3.2 (b)	$100
151.	Fail to maintain complete records, expiry date	Sch. K, 3.2 (c)	$100
152.	Fail to maintain complete records, capacity	Sch. K, 3.2 (d)	$100
153.	Fail to maintain complete records, calibrator	Sch. K, 3.2 (e)	$100
154.	Fail to maintain complete records, tests	Sch. K, 3.2 (f)	$100
155.	Fail to maintain complete records, repair/replacement	Sch. K, 3.2 (g)	$100
156.	Fail to maintain complete records on electrolytic unit	Sch. K, 3.3 (a)	$100
157.	Fail to record date of silver removal	Sch. K, 3.3 (b)	$100
158.	Fail to record maintenance/repair information	Sch. K, 3.3 (c)	$100
159.	Fail to maintain disposal records, company name	Sch. K, 3.4 (a)	$100
160.	Fail to maintain disposal records, material type	Sch. K, 3.4 (b)	$100
161.	Fail to maintain disposal records, material quantity	Sch. K, 3.4 (c)	$100
162.	Fail to maintain disposal records, transfer date	Sch. K, 3.4 (d)	$100
163.	Fail to retain records	Sch. K, 3.5	$100
164.	Discharge prohibited waste	Sch. L, 2.1 (a)	$200
165.	Discharge of restricted waste	Sch. L, 2.1 (b)	$200
166.	Discharge of wastewater, elevated mercury concentration	Sch. L, 2.1 (c)	$200

SCHEDULE 21 TO BYLAW NO. 1857
CAPITAL REGIONAL DISTRICT
SEWER USE BYLAW NO. 5, 2001

	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
167.	Fail to manage wastewater off-site	Sch. L, 2.3 (a)	$250
168.	Fail to treat wastewater prior to sewer discharge	Sch. L, 2.3 (b)	$250
169.	Amalgam separator not certified	Sch. L, 2.4	$150
170.	Fail to correctly install and maintain amalgam separator	Sch. L, 2.5	$150
171.	Fail to install proper flow control	Sch. L, 2.6 (a)	$150
172.	Fail to install flow control, water supply line	Sch. L, 2.6 (b)	$150
173.	Fail to install flow control, specified flow rate	Sch. L, 2.7	$150
174.	Improper storage of collecting containers	Sch. L, 2.8	$150
175.	Fail to install spill containment	Sch. L, 2.9	$150
176.	Fail to replace collecting container, expiry date	Sch. L, 2.10 (a)	$150
177.	Fail to replace collecting container, warning level	Sch. L, 2.10 (b)	$150
178.	Fail to replace collecting container, elevated mercury	Sch. L, 2.10 (c)	$150
179.	Improper disposal to sewer	Sch. L, 2.11	$250
180.	Inaccessible amalgam separator	Sch. L, 2.12	$150
181.	Amalgam separator installed in confined space	Sch. L, 2.13	$150
182.	Fail to correctly install monitoring point	Sch. L, 2.14 (a)	$100
183.	Fail to include total flow	Sch. L, 2.14 (b)	$100
184.	Inaccessible monitoring point	Sch. L, 2.14 (c)	$150
185.	Fail to keep maintenance manual	Sch. L, 3.1	$50
186.	Fail to post ISO standard test report	Sch. L, 3.2	$50
187.	Fail to maintain complete records, date of install	Sch. L, 3.3 (a)	$100
188.	Fail to maintain complete records, serial number	Sch. L, 3.3 (b)	$100
189.	Fail to maintain complete records, maximum flow rate	Sch. L, 3.3 (c)	$100
190.	Fail to maintain complete records, date of inspection	Sch. L, 3.3 (d)	$100
191.	Fail to maintain complete records, description of problems	Sch. L, 3.3 (e)	$100
192.	Fail to maintain complete records, service provider	Sch. L, 3.3 (f)	$100
193.	Fail to maintain complete records, dates of waste pick-up	Sch. L, 3.3 (g)	$100
194.	Fail to retain records, five years	Sch. L, 3.4	$100

SCHEDULE 21 TO BYLAW NO. 1857
CAPITAL REGIONAL DISTRICT
SEWER USE BYLAW NO. 5, 2001

	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
195.	Discharge prohibited waste	Sch. M, 2.1 (a)	$200
196.	Discharge restricted waste	Sch. M, 2.1 (b)	$200
197.	Discharge excess oil and grease	Sch. M, 2.1 (c)	$200
198.	Discharge excess uncontaminated water	Sch. M, 2.1 (d)	$200
199.	Discharge fuel-water	Sch. M, 2.1 (e)	$200
200.	Discharge from parts washer	Sch. M, 2.1 (f)	$200
201.	Discharge from oily rag washing	Sch. M, 2.1 (g)	$200
202.	Discharge from engine washing	Sch. M, 2.1 (h)	$200
203.	Unauthorized discharge of stormwater	Sch. M, 2.2	$100
204.	Unauthorized discharge of groundwater	Sch. M, 2.3	$150
205.	Fail to install treatment works	Sch. M, 2.4	$500
206.	Fail to install properly sized separator	Sch. M, 2.6	$150
207.	Fail to treat discharge	Sch. M, 2.7	$150
208.	Unauthorized discharge to treatment works	Sch. M, 2.8	$100
209.	Use of chemical agents	Sch. M, 2.9	$150
210.	Fail to correctly install monitoring point	Sch. M, 2.10 (a)	$100
211.	Improper monitoring point	Sch. M, 2.10 (b)	$100
212.	Inaccessible treatment works	Sch. M, 2.11	$100
213.	Accumulation of excessive oil and grease	Sch. M, 2.12	$100
214.	Accumulation of excessive solids	Sch. M, 2.13	$100
215.	Fail to inspect separator	Sch. M, 2.14	$100
216.	Fail to clean separator	Sch. M, 2.15	$150
217.	Fail to conduct annual cleaning	Sch. M, 2.16	$150
218.	Fail to provide spill containment, used batteries	Sch. M, 3.1 (a)	$150
219.	Fail to provide spill containment, used solvents	Sch. M, 3.1 (b)	$150
220.	Fail to provide spill containment, fuel tanks	Sch. M, 3.1 (c)	$150
221.	Fail to provide spill containment, prohibited waste	Sch. M, 3.1 (d)	$150
222.	Fail to supervise discharge	Sch. M, 3.2	$150

SCHEDULE 21 TO BYLAW NO. 1857
CAPITAL REGIONAL DISTRICT
SEWER USE BYLAW NO. 5, 2001

	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
223.	Fail to prepare spill response plan	Sch. M, 4.1	$100
224.	Fail to prepare spill response plan within 30 days	Sch. M, 4.2	$100
225.	Fail to post spill response plan	Sch. M, 4.3	$50
226.	Fail to follow spill response plan	Sch. M, 4.4	$200
227.	Fail to inspect following spill	Sch. M, 4.5	$150
228.	Fail to remove spilled materials	Sch. M, 4.6	$150
229.	Fail to stock spill response materials	Sch. M, 4.7	$100
230.	Fail to maintain complete records, date of inspection	Sch. M, 5.1 (a)	$100
231.	Fail to maintain complete records, maintenance	Sch. M, 5.1 (b)	$100
232.	Fail to maintain complete records, material depth	Sch. M, 5.1 (c)	$100
233.	Fail to maintain complete records, quantity removed	Sch. M, 5.1 (d)	$100
234.	Fail to maintain complete records, service provider	Sch. M, 5.1 (e)	$100
235.	Fail to maintain design information	Sch. M, 5.2	$100
236.	Fail to maintain record of waste disposal, name	Sch. M, 5.4 (a)	$100
237.	Fail to maintain record of waste disposal, type of waste	Sch. M, 5.4 (b)	$100
238.	Fail to maintain record of waste disposal, amount	Sch. M, 5.4 (c)	$100
239.	Fail to maintain record of waste disposal, date of transfer	Sch. M, 5.4 (d)	$100
240.	Fail to retain records	Sch. M, 5.5	$100
241.	Discharge prohibited wastes	Sch. N, 2.1 (a)	$200
242.	Discharge restricted waste	Sch. N, 2.1 (b)	$200
243.	Discharge of excess uncontaminated water	Sch. N, 2.1 (c)	$200
244.	Discharge from engine washing	Sch. N, 2.1 (d)	$200
245.	Discharge of trucked liquid waste	Sch. N, 2.1 (e)	$200
246.	Discharge of carpet cleaning waste	Sch. N, 2.1 (f)	$200
247.	Discharge of recreational vehicle waste	Sch. N, 2.1 (g)	$200
248.	Discharge from oily rag washing	Sch. N, 2.1 (h)	$200
249.	Unauthorized discharge of stormwater	Sch. N, 2.2	$100
250.	Unauthorized discharge of groundwater	Sch. N, 2.3	$150

SCHEDULE 21 TO BYLAW NO. 1857
CAPITAL REGIONAL DISTRICT
SEWER USE BYLAW NO. 5, 2001

	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
251.	Discharge untreated waste into sewer	Sch. N, 2.4	$500
252.	Fail to install treatment works	Sch. N, 2.6	$500
253.	Fail to install properly designed and sized interceptor	Sch. N, 2.7 (a)	$150
254.	Fail to install properly designed three chamber interceptor	Sch. N, 2.7 (b)	$150
255.	Fail to treat discharge	Sch. N, 2.8	$150
256.	Unauthorized discharge to treatment works	Sch. N, 2.9	$100
257.	Use of chemical agents	Sch. N, 2.10	$150
258.	Fail to correctly install monitoring point	Sch. N, 2.11 (a)	$100
259.	Improper monitoring point	Sch. N, 2.11 (b)	$100
260.	Inaccessible treatment works	Sch. N, 2.12	$100
261.	Accumulation of excessive oil and grease in treatment works	Sch. N, 2.13	$100
262.	Accumulation of excessive solids in treatment works	Sch. N, 2.14	$100
263.	Fail to inspect treatment works	Sch. N, 2.15	$100
264.	Fail to clean treatment works	Sch. N, 2.16	$150
265.	Fail to conduct required cleaning of treatment works	Sch. N, 2.17	$150
266.	Fail to display signs	Sch. N, 2.18	$50
267.	Engine washing	Sch. N, 2.19	$150
268.	Fail to prepare spill response plan	Sch. N, 3.1	$100
269.	Fail to prepare spill response plan within 30 days	Sch. N, 3.2	$100
270.	Fail to post spill response plan	Sch. N, 3.3	$50
271.	Fail to follow spill response plan	Sch. N, 3.4	$200
272.	Fail to inspect treatment works following spill	Sch. N, 3.5	$150
273.	Fail to remove spilled materials	Sch. N, 3.6	$150
274.	Fail to stock materials	Sch. N, 3.7	$100
275.	Fail to maintain complete records, date of inspections	Sch. N, 4.1 (a)	$100
276.	Fail to maintain complete records, maintenance	Sch. N, 4.1 (b)	$100
277.	Fail to maintain complete records, material depth	Sch. N, 4.1 (c)	$100
278.	Fail to maintain complete records, quantity removed	Sch. N, 4.1 (d)	$100

SCHEDULE 21 TO BYLAW NO. 1857
CAPITAL REGIONAL DISTRICT
SEWER USE BYLAW NO. 5, 2001

	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
279.	Fail to maintain complete records, service provider	Sch. N, 4.1 (e)	$100
280.	Fail to maintain design information	Sch. N, 4.2	$100
281.	Fail to maintain record of waste disposal, name	Sch. N, 4.4 (a)	$100
282.	Fail to maintain record of waste disposal, type of waste	Sch. N, 4.4 (b)	$100
283.	Fail to maintain record of waste disposal, amount	Sch. N, 4.4 (c)	$100
284.	Fail to maintain record of waste disposal, date of transfer	Sch. N, 4.4 (d)	$100
285.	Fail to retain records	Sch. N, 4.5	$100
286.	Discharge prohibited waste	Sch. O, 2.1 (a)	$200
287.	Discharge hazardous waste	Sch. O, 2.1 (b)	$200
288.	Discharge restricted waste	Sch. O, 2.1 (c)	$200
289.	Discharge stormwater	Sch. O, 2.1 (d)	$200
290.	Discharge of excess uncontaminated water	Sch. O, 2.1 (e)	$200
291.	Discharge excess total suspended solids	Sch. O, 2.1 (f)	$200
292.	Fail to treat waste	Sch. O, 2.2 (b)	$500
293.	Fail to visually inspect	Sch. O, 2.3 (a)	$150
294.	Fail to maintain screen	Sch. O, 2.3 (b)	$150
295.	Discharge unscreened waste	Sch. O, 2.4	$150
296.	Fail to install spill containment	Sch. O, 2.5	$150
297.	Fail to inspect equipment for leaks, hoses	Sch. O, 2.7 (a)	$100
298.	Fail to inspect filter gaskets	Sch. O, 2.7 (b)	$100
299.	Fail to inspect pumps	Sch. O, 2.7 (c)	$100
300.	Fail to inspect holding tanks	Sch. O, 2.7 (d)	$100
301.	Fail to prevent discharge to sewer	Sch. O, 2.8 (a)	$100
302.	Fail to repair leak within 72 hours	Sch. O, 2.8 (b)	$100
303.	Fail to keep records, inspections	Sch. O, 3.1 (a)	$100
304.	Fail to keep records, leaks	Sch. O, 3.1 (b)	$100
305.	Fail to keep records, screen replacement	Sch. O, 3.1 (c)	$100
306.	Fail to keep records, maintenance	Sch. O, 3.1 (d)	$100

SCHEDULE 21 TO BYLAW NO. 1857
CAPITAL REGIONAL DISTRICT
SEWER USE BYLAW NO. 5, 2001

	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
307.	Fail to retain records	Sch. O, 3.2	$100
308.	Discharge prohibited waste, excess contaminants, water	Sch. P, 2.1	$200
309.	Fail to neutralize pH waste	Sch. P, 2.2	$150
310.	Fail to remove solids	Sch. P, 2.3	$500
311.	Fail to filter waste	Sch. P, 2.4 (b)	$500
312.	Fail to correctly install sampling tee	Sch. P, 2.7 (a)	$100
313.	Improper sampling tee	Sch. P, 2.7 (b)	$100
314.	Inaccessible sampling tee	Sch. P, 2.9	$150
315.	Fail to keep records, mash tun	Sch. P, 3.1 (a)	$100
316.	Fail to keep records, kettle wash	Sch. P, 3.1 (b)	$100
317.	Fail to keep records, back flush	Sch. P, 3.1 (c)	$100
318.	Fail to keep records, yeast residue	Sch. P, 3.1 (d)	$100
319.	Fail to keep records, location of sampling tee	Sch. P, 3.1 (e)	$100
320.	Fail to keep records, pH adjustment	Sch. P, 3.1 (f)	$100
321.	Fail to keep records, date of testing	Sch. P, 3.1 (g)	$100
322.	Fail to retain records	Sch. P, 3.2	$100
323.	Discharge prohibited waste	Sch. Q, 2.1 (a)	$200
324.	Discharge hazardous waste	Sch. Q, 2.1 (b)	$200
325.	Discharge restricted waste	Sch. Q, 2.1 (c)	$200
326.	Discharge solvent rinse	Sch. Q, 2.1 (d)	$200
327.	Discharge inks	Sch. Q, 2.1 (e)	$200
328.	Discharge etching solution	Sch. Q, 2.1 (f)	$200
329.	Discharge cleaning solvents	Sch. Q, 2.1 (g)	$200
330.	Discharge of excess uncontaminated water	Sch. Q, 2.1 (h)	$200
331.	Unauthorized discharge of stormwater	Sch. Q, 2.2	$100
332.	Fail to install trade waste interceptor	Sch. Q, 2.3	$500
333.	Fail to install works	Sch. Q, 2.4	$500
334.	Fail to install and calibrate metering pump	Sch. Q, 2.6	$150

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CAPITAL REGIONAL DISTRICT
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	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
335.	Fail to replace treatment works as recommended	Sch. Q, 2.8 (a)	$150
336.	Fail to replace treatment works at 80% capacity	Sch. Q, 2.8 (b)	$150
337.	Fail to replace treatment works total oil and grease at breakthrough	Sch. Q, 2.8 (c)	$150
338.	Fail to replace treatment works at breakthrough of oil and grease	Sch. Q, 2.8 (d)	$150
339.	Fail to properly size trade waste interceptor	Sch. Q, 2.11	$150
340.	Bypass of treatment equipment	Sch. Q, 2.12	$150
341.	Fail to divert domestic waste	Sch. Q, 2.13	$150
342.	Use of chemical agents	Sch. Q, 2.15	$150
343.	Fail to correctly install monitoring point	Sch. Q, 2.16 (a)	$100
344.	Inaccessible monitoring point	Sch. Q, 2.16 (b)	$150
345.	Inaccessible treatment works	Sch. Q, 2.17	$150
346.	Accumulation of excessive floatables	Sch. Q, 2.18	$150
347.	Accumulation of excessive solids	Sch. Q, 2.19	$150
348.	Fail to inspect trade waste interceptor	Sch. Q, 2.20	$100
349.	Fail to maintain trade waste interceptor	Sch. Q, 2.21	$150
350.	Fail to clean trade waste interceptor	Sch. Q, 2.22	$150
351.	Fail to provide spill containment for solvents	Sch. Q, 3.1 (a)	$150
352.	Fail to provide spill containment for waste solvents	Sch. Q, 3.1 (b)	$150
353.	Fail to prepare spill response plan	Sch. Q, 4.1	$100
354.	Fail to prepare spill response plan within 60 days	Sch. Q, 4.2	$100
355.	Fail to follow spill response plan	Sch. Q, 4.3	$200
356.	Fail to inspect following spill	Sch. Q, 4.4	$150
357.	Fail to remove spilled materials	Sch. Q, 4.5	$150
358.	Fail to stock materials	Sch. Q, 4.6	$100
359.	Fail to maintain complete records, inspections	Sch. Q, 5.1 (a)	$100
360.	Fail to maintain complete records, maintenance	Sch. Q, 5.1 (b)	$100
361.	Fail to maintain complete records, material removed	Sch. Q, 5.1 (c)	$100
362.	Fail to maintain complete records, service provider	Sch. Q, 5.1 (d)	$100

SCHEDULE 21 TO BYLAW NO. 1857
CAPITAL REGIONAL DISTRICT
SEWER USE BYLAW NO. 5, 2001

	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
363.	Fail to keep equipment records, installation date	Sch. Q, 5.2 (a)	$100
364.	Fail to keep equipment records, serial numbers	Sch. Q, 5.2 (b)	$100
365.	Fail to keep equipment records, expiry date	Sch. Q, 5.2 (c)	$100
366.	Fail to keep equipment records, capacity	Sch. Q, 5.2 (d)	$100
367.	Fail to keep equipment records, calibration dates	Sch. Q, 5.2 (e)	$100
368.	Fail to keep equipment records, problems	Sch. Q, 5.2 (f)	$100
369.	Fail to maintain design information	Sch. Q, 5.3	$100
370.	Fail to maintain spill response plan	Sch. Q, 5.4	$100
371.	Fail to maintain record of waste disposal, name	Sch. Q, 5.5 (a)	$100
372.	Fail to maintain record of waste disposal, type of waste	Sch. Q, 5.5 (b)	$100
373.	Fail to maintain record of waste disposal, amount	Sch. Q, 5.5 (c)	$100
374.	Fail to maintain record of waste disposal, date of transfer	Sch. Q, 5.5 (d)	$100
375.	Fail to retain records	Sch. Q, 5.6	$100
376.	Discharge prohibited waste	Sch. S, 2.1 (a)	$200
377.	Discharge restricted waste	Sch. S, 2.1 (b)	$200
378.	Discharge waste containing mercury	Sch. S, 2.1 (c)	$200
379.	Discharge waste containing Polychlorinated Biphenyl	Sch. S, 2.1 (d)	$200
380.	Discharge waste containing toxic equivalent	Sch. S, 2.1 (e)	$200
381.	Discharge waste containing halogenated solvents	Sch. S, 2.1 (f)	$200
382.	Discharge waste containing chlorinated phenols	Sch. S, 2.1 (g)	$200
383.	Discharge waste containing pesticides	Sch. S, 2.1 (h)	$200
384.	Discharge seawater	Sch. S, 2.1 (i)	$200
385.	Discharge of excess uncontaminated water	Sch. S, 2.1 (j)	$200
386.	Unauthorized discharge of stormwater	Sch. S, 2.2	$100
387.	Fail to correctly install monitoring point	Sch. S, 2.4	$100
388.	Fail to install monitoring point following improvement, lab	Sch. S, 2.5 (a)	$100
389.	Fail to install monitoring point following improvement, plumbing	Sch. S, 2.5 (b)	$100
390.	Fail to install monitoring point after exceeding criteria	Sch. S, 2.5 (c)	$100

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SEWER USE BYLAW NO. 5, 2001

	COLUMN 1	COLUMN 2	COLUMN 3
	WORD OR EXPRESSIONS DESIGNATING OFFENCE	**SECTION**	**FINE**
391.	Fail to use proper methods	Sch. S, 2.6	$150
392.	Fail to install spill containment	Sch. S, 3.1	$150
393.	Discharge unauthorized waste	Sch. S, 3.2	$150
394.	Fail to prepare spill response plan	Sch. S, 4.1	$100
395.	Fail to prepare spill response plan within 30 days	Sch. S, 4.2	$100
396.	Fail to post spill response plan	Sch. S, 4.3	$50
397.	Fail to maintain spill response equipment	Sch. S, 4.4	$100
398.	Fail to carry out spill response plan	Sch. S, 4.5	$200
399.	Fail to removed spilled materials	Sch. S, 4.6	$150
400.	Fail to keep records, name	Sch. S, 5.1 (a)	$100
401.	Fail to keep records, type of waste	Sch. S, 5.1 (b)	$100
402.	Fail to keep records, amount	Sch. S, 5.1 (c)	$100
403.	Fail to keep records, date of transfer	Sch. S, 5.1 (d)	$100
404.	Fail to list procedures	Sch. S, 5.2	$100
405.	Fail to maintain inventory	Sch. S, 5.3	$100
406.	Fail to maintain written procedures	Sch. S, 5.4	$100
407.	Fail to maintain test records	Sch. S, 5.5	$100
408.	Fail to retain records	Sch. S, 5.6	$100

A '*Healthy Waters*' project for Tod Creek on the Saanich Peninsula for CRD consideration

A community-oriented project to deliver comprehensive water quality testing in support of healthy waters and healthy fish habitat

Project concept submitted by Peter S. Ross, Raincoast Conservation Foundation (Sidney BC)*

Objective: To conduct a risk-based evaluation of contaminants of concern in the Tod Creek watershed (Saanich Peninsula) in support of healthy fish habitat. Secondary objective: To document possible sources of contaminants of concern in the Tod Creek watershed, including Hartland landfill and local land use.

Background:
The health of fish habitat in British Columbia is impacted by a complex mixture of pollutants originating from many land-based sources, including municipal wastewater, landfill leachate, industrial discharges, agro-forestry operations and nonpoint source pollutants. Monitoring, deliberation and action have been the subject of long-standing discussions on the liquid and solid waste management file in the Capital Regional District (CRD) of Victoria. The completion of the new McLoughlin Point wastewater treatment plant in 2020 effectively reduced the release of contaminants of concern to the marine receiving environment, but led to new concerns about persistent contaminants found in retained biosolids. Some of these biosolids are being deposited at the Hartland Landfill site, where community concerns linger that they may leach into local waterways.

The intent of this project is to bring the expertise of the new Raincoast *Healthy Waters* (https://www.raincoast.org/waters/) program to the Saanich Peninsula, build on the strength of place-based WSANEC Indigenous Knowledge, and deliver high resolution data on a wide range of Contaminants of Emerging Concern (CoC). Raincoast applied a different version of this model following the catastrophic floods of late 2021, with the report available (Floodwater contaminants report | Raincoast Conservation Foundation). A near-term objective also exists for Raincoast to build a mobile lab to bring contaminant measurements to the community (Mobile lab | Raincoast Conservation Foundation). This effort has potential to inform land use practices, riparian protections, and stewardship initiatives in the Tod Creek watershed. This project also has strong potential to generate goodwill and trust with multiple members of the CRD community and Indigenous Nations.

The team:
Scientific staff: Raincoast Conservation Foundation will oversee the core study design, sampling protocols, analytical (lab) protocols, service lab selection, statistical evaluation, data interpretation and comparative evaluation (against other watersheds). Dr. Peter Ross, Senior Scientist and Director of *Healthy Waters*, will oversee the sampling, analysis and interpretation

in this study. Dr Ross has published over 160 scientific articles and book chapters on topics in ecotoxicology and aquatic pollution. Raincoast will deliver an interim data summary report and a final report, as well as build a comparative web-based tool to share high level findings.

Community Advisory Team (CAT): Membership to be determined after invitation, with the following *c*andidates:

- Tartlip First Nation
- WSANEC Leadership Council
- Friends of Tod Creek
- Peninsula Streams
- Mt Work Coalition
- Willis Point Community Association
- Peninsula Biosolids Coalition
- Saanich Inlet Protection Society
- Butchart Gardens

The CAT will provide input into site selection, watershed features of cultural or ecological value, and land use concerns. All data, findings, and reports will be shared with the CAT.

Funder: Funding for this project is sought from CRD. CRD will have the opportunity to provide input into final study design, sample size and analyte list. Comparability of these data with relevant datasets from RCD programs is an important consideration. Raincoast will deliver data and reports to CRD.

Proposed study

We submit here a two-step proposal to allow for rapid initial ('snapshot') evaluation, followed by a one-year seasonal ('Healthy Waters') study. Findings will be summarized in two reports reflecting this two-tiered approach, and will inform the design of subsequent monitoring designs.

This project entails

i) the co-design of a watershed-based approach to sampling and analysing samples of surface water (and possibly biosolids and sediments) from a Saanich watershed of interest,
ii) the generation of CoC data in conjunction with risk-based evaluations of findings using pan-Canadian Environmental Quality Guidelines and the scientific literature,
iii) a comparative evaluation as measured against the findings from up to 10 other flagship watersheds across southern BC, and
iv) the participation of community champions and Indigenous Nations.

Samples will be analysed using the best available laboratories and instrumental protocols, thereby providing high quality data with the best opportunity for forensic exploration. This essentially allows for a good opportunity to discern source or source sector, and delivers insights into priorities, land use, and the formulation of any additional research designs. Data

generated using proposed instrumental protocols at dedicated service labs will be used to generate signatures in support of source identification. Data interpretation will inform environmental risks. Overall results are expected to deliver a blend of answers and questions, with the latter serving to help guide the design of any more focused research questions and follow up monitoring plans.

Our principal objective is to improve water quality in and around fish habitat in coastal BC through the following deliverables:

1. The design and application of a monitoring program for community members and Indigenous partners in the selected Saanich Peninsula watershed. This training platform will offer a focal means of generating community and Indigenous technical capacity for water monitoring through training for i) water sampling techniques; ii) water analysis; and iii) solution-oriented water pollution prioritization using Canadian Environmental Quality Guidelines;
2. The preparation of a proposed list of priority water properties and contaminant analytes that captures local concerns, scientific topics of current interest, and emerging wastewater management concerns;
3. The co-design of a regimented water sampling and analysis program with protocols (safety, methods, equipment, frequency, analytes, and Quality Assurance/Quality Control [QA/QC]) that will enable a ranking of threats to the health of fish habitat;
4. *Snapshot assessment*

Community science project entailing YSI data (pH, T, DO, conductivity) and flow from selected watershed:

   a. *One-time* Tier 1: community data on temperature, salinity, pH, dissolved oxygen, and select metals using a YSI meter;
      i. microplastic concentrations and types in partnership with Ocean Diagnostics
   b. *One-time* Tier 2: Basic water quality data from partnering lab (CARO Analytical Services):
      i. Coliform
      ii. nutrients
      iii. metals
   c. *One-time* Tier 3: High resolution contaminant data at partnering labs (SGS AXYS):
      i. Pharmaceuticals and personal care products
      ii. Pesticides
      iii. Perfluoro-alkyl substances (PFAS)
      iv. high resolution hydrocarbons
      v. wastewater tracers (sucralose)
      vi. tire-related chemicals (6-PPD Quinone)
      vii. alkylphenol ethoxylates
      viii. Microplastics

5. *Healthy Waters year*

New, high value data on contaminants in fish habitat:

    a. *Weekly* Tier 1: community data on temperature, salinity, pH, dissolved oxygen, and select metals using a YSI meter and microplastics
    b. *Quarterly* Tier 2: Basic water quality data from partnering lab (CARO Analytical Services)
    c. *Quarterly* Tier 3: High resolution contaminant data at partnering labs (SGS AXYS)
6. A report interpreting findings in the context or Ecological risks, local land use and source identification;
7. A comparative web-based tool that enables a relative understanding of the health of Tod Creek alongside other watersheds in southern BC;
8. Expert support and interpretative data for community-based stewardship initiatives and relevant policies and practices for local, BC and federal agencies.

Backgrounder (*Healthy Waters*):
Healthy Waters is a program of the Raincoast Conservation Foundation. *Healthy Waters* is building on existing partnerships with, among others, the 30-member Indigenous-led Lower Fraser Fisheries Alliance (LFFA), the 16-member S'ólh Téméxw Stewardship Alliance (STSA), Parks Canada, Metro Vancouver, and DFO. We can therefore leverage this project across similar initiatives, with people, activities and data from the wider Healthy Waters team that add depth and breadth to the Saanich Peninsula findings.

The intent of *Healthy Waters* is to be transparent, to build a shareable dataset that allows communities to compare lessons learned, and to advance conservation and stewardship actions that are informed by water quality findings. Each place-based partnership will be built on trust, and will entail a close working relationship that provides data, advice and support to that community. We plan on building a data visualization tool akin to that of *PollutionTracker.org* which displays summary data for sediments and mussels along the coast of BC, whereby each site is sponsored by a single funder.

With this project, Tod Creek findings will benefit from outcomes at other Raincoast *Healthy Waters* watersheds in southern BC.

Candidate partnershipsfor *Healthy Waters* in 2023

False Creek, Vancouver	Cowichan River VI	Pitt River LFV
Squamish River	Fulford Harbour SSI	Terminal Creek Watershed BI
Quibble Creek, Surrey	Sumas Lake watershed LFV	Somass watershed VI

While *Healthy Waters* aims at an assessment of contaminants in water, concerns about contaminants that are more likely to attach to particles argues in favour of additional analysis of sediment and biosolids samples. This may include the analysis of PCBs, PBDEs, organochlorine pesticides, Dioxins / Furans, and HBCDD.

A) **Proposed budget for *Snapshot* assessment**

	Per sample	Total
Senior Scientist		0
Technician		0
Research & Communications		2,200
Safety gear		300
Data mgt & interpretation		1,200
Travel costs		600
Material & Supplies		550
Shipping		300
Tier 1 costs[1]		5,500
Tier 2 costs[2]	235 (seasonally x 5 sites)	1,175
Tier 3 costs[3]	5,400 (seasonally x 5 sites)	27,000
Sediments & Biosolids	3,850 (1)	3,850
Subtotal		42,675
Administration		4,268

Total	**46,943**

B) Proposed budget for a one-year *Healthy Waters* project – building from the Snapshot Assessment

	Per sample	Total
Senior Scientist		0
Technician		0
Research & Communications		5,500
Safety gear		600
Data mgt & interpretation		4,000
Travel costs		2,400
Material & Supplies		1,200
Shipping		800
Tier 1 costs[1]		6,000
Tier 2 costs[2]	235 (seasonally x 5 sites)	4,700
Tier 3 costs[3]	5,400 (seasonally x 5 sites)	108,000
Sediments & Biosolids	3,850 (12)	46,200
Subtotal		179,400
Administration		17,940
Total		**197,340**

[1]*Tier 1*: acquisition and deployment of YSI meter for community science use (T, pH, Dissolved oxygen and conductivity). Field protocols and safety gear will be included. Raincoast team will attend / oversee where needed.

[2]*Tier 2*: analysis of basic contaminants of concern – Fecal coliform nutrients and metals. Raincoast team will attend.

[3]*Tier 3*: advanced high-resolution analysis of contaminants of concern – pharmaceuticals and personal care products, polycyclic aromatic hydrocarbons, perfluoro-alkyl substances (PFAS), pesticides, tire chemicals, sucralose and alkyl phenol ethoxylates. Tier 3 includes a total of 379 analytes per sample. Raincoast team will attend.

Contact Peter S. Ross at peter@raincoast.org

**Raincoast* (Raincoast Conservation Foundation | Informed advocacy) *is a team of scientists and conservationists empowered by our research to safeguard the land, waters, and wildlife of coastal British Columbia. We investigate to understand coastal species and processes. We inform by bringing science to decision-makers and communities. We inspire action to protect wildlife and wildlife habitats.*