

Small Group Meeting Summary: Plumbers, Interceptor Manufacturers and Engineers

Food Sector Grease Interceptor Bylaw Review

Meeting Date: October 12, 2018

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Contents

1. Background.....	1
2. Notification.....	1
3. Small Group Meeting	1
4. Presentation.....	4
5. Feedback	4
6. Next Steps	10
7. Action Item.....	10

1. Background

Metro Vancouver, in an effort to reduce the amount of fats, oils and grease entering the sewer system, is engaging food sector establishments and related stakeholders to obtain feedback on a review of the Food Sector Grease Interceptor Bylaw (the bylaw).

Specific areas of interest and exploration included:

- Effectiveness of the current bylaw
- Challenges associated with meeting bylaw requirements
- Educational initiatives that might improve awareness, understanding and compliance with the bylaw

Metro Vancouver recognizes that changes to the Food Sector Grease Interceptor Bylaw (the bylaw) could have an impact on stakeholders and is committed to delivering a responsive, transparent stakeholder engagement program. A variety of forums are being used to learn about stakeholder issues and interests related to the bylaw. Information collected during the engagement period will inform the bylaw review. Results and recommendations will be reported back to stakeholders and the Utilities Committee and Greater Vancouver Sewerage & Drainage District (GVS&DD) Board at the end of the process.

Small Group Meetings are being hosted to support a discussion of factors inhibiting compliance and the special considerations of stakeholder groups with unique interests or characteristics.

2. Notification

In August 2018, Metro Vancouver issued invitations to engage in the bylaw review, by email and post, to over 10,000 Food Sector Establishments and other stakeholders within Metro Vancouver. Invited stakeholders responded to Metro Vancouver by email to confirm their interest. Those confirming their interest and availability were assigned to the appropriate stakeholder meeting.

3. Small Group Meeting

Date & Location

Plumbers, Interceptor Manufacturers and Engineers

Friday, October 12, 9:00 a.m. – 11:00 a.m.
Metro Vancouver – 28th Floor Conference Centre
Metrotower Office Complex
4730 Kingsway
Burnaby

Materials

- PowerPoint presentation
- Food Sector Grease Interceptor Bylaw No. 268, 2012
- Grease & Commercial Kitchens brochure

Meeting Agenda & Format

- Introductions
- Engagement process
- Background
- Topic 1 – Experience with grease interceptor issues
- Topic 2 – Unique business/sector attributes
- Topic 3 – Training & education tools
- Final thoughts & next steps

Participants

NAME	ORGANIZATION
Jeff Newmarch	Hy-Line Sales Ltd.
Peter Way	Hy-Line Sales Ltd.
Terence Chan	Impetus Plumbing and Heating
Ken Loucks	IW Consulting Service LLC
Eric Thompson	Schier Products
Mark Wilson	Zurn Industries
Dillon Moulton	Canplas Industries

NAME	ORGANIZATION
Faith Winter	Canplas Industries
Allen Hughes	Fluid Mechanical
Maia Penco	Prism Engineering
Ron DeBodt	ITEC Systems Design
Augusto Carreras	Goslyn Environmental (unable to make meeting; written submission provided)

Presenters & Support

NAME	ORGANIZATION
Tom Sadleir	Program Manager, Public Involvement, Metro Vancouver
Linda Parkinson	Program Manager, Source Control Utility & Planning, Metro Vancouver
Marlene Fuhrmann	Permitting Specialist, Environmental Regulation and Enforcement, Metro Vancouver
Kirsty Dick	Creative Services Manager, Lucent Quay (Facilitator)
Galen Aker	Communications Coordinator, Lucent Quay (Recorder)

4. Presentation

Metro Vancouver presented the following to provide context for the bylaw review:

Engagement Process – Tom Sadleir

- Purpose of the bylaw review
- Engagement objectives
- Timeline

Background – Linda Parkinson

- Metro Vancouver management of the region’s wastewater
- Metro Vancouver’s Source Control Program
- Effects of fats, oils and grease on infrastructure
- Description of current bylaw

Bylaw Enforcement – Marlene Fuhrmann

- Working with municipalities to identify “hot spots”
- Inspections to date
- Common violations
- Fees

5. Feedback

A series of discussion topics were used to obtain feedback on the bylaw review. The following lays out the comments and questions that were raised at the meeting.

Topic 1

Are there components of the Grease Interceptor bylaw that are unclear or, in your opinion, potentially conflict with current plumbing practices and standards?

Do you have ideas that could help reduce the amount of FOG in the sewer system?

Are there changes to the standards for Grease Interceptors that could be made to ensure we minimize the amount of FOG in the sewer system?

Are you familiar with, or ever used, the Metro Vancouver Grease Interceptor online sizing tool? What comments or suggestions do you have regarding sizing?

Have you encountered discrepancies between holding capacity and rated flow for grease interceptors? How do you address this?

What experience, if any, have you had with Grease removal devices?

What experience, if any, have you had with sensing and alarm systems for grease interceptors?

What are the most common comments or concerns expressed by your customers with respect to:

- Grease Interceptor purchase & installation?
 - Grease interceptor maintenance & servicing?
 - Grease Interceptor labelling requirements?
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- Would Metro Vancouver consider sizing interceptors the way the rest of the country does at 75% with dish displacement?
- GPM flow rate dedicated for floor drains is 37.5 gpm, unsure where that figure came from other than pipe size?
- With regard to three-compartment sinks, assuming total volume of 88 gallons and a 2-inch pipe connection to that sink, a maximum drainage on the 2-inch line is 22 gallons per minute, which leads to a 4-minute drain down time. Why can't we size based on the actual flow rate from the sink rather than the volume?
- Why are sanitizers and dishwashers being connected to grease interceptors? The detergents are also entering the interceptor. Is there any research to justify that?
- In my world, dishwashers and sanitizers are both the same, are they different in some way?
- So, if they have a dishwasher and a sanitizer, and glass washers are not considered a grease-bearing fixture, would a sanitizer be more of a glass washer?
- Difficult to determine grease capacity if there is not a measured standard (easy for a chain with previous experience - how do you determine that for a new business?). How do you create a bylaw that works for everybody?
- As a change of operator is tied to a permit, then automatically we'll need to review the fixtures.
- Is there a probation period for food sector establishments not in compliance?
- Has Metro Vancouver considered offering incentives?
- Has Metro Vancouver considered working with municipalities to increase the bylaw's scope and resources?
- Has Metro Vancouver hired a third-party to study how the current bylaws are actually working?
- Have there been any studies to determine what percentage of grease is coming from restaurants versus what is residential?
- Who does the sampling right now?
- Have you looked at certification for plumbers, so they can be contractors for sampling too?
- If there isn't on-going monitoring after an initial sample has been taken, Metro Vancouver won't know if establishments are maintaining the equipment.
- New interceptors have the capability to include a sampling point.
- Metro Vancouver should utilize plumbers to collect samples.
- No specific instruction is provided to clients on how to maintain their grease interceptor, as each food sector establishment is different.

- Large chain food sector establishments already have a maintenance schedule that dictates the frequency of maintenance or number of pump outs required.
- What happens to milk when you subject it to a low PH?
- How long do these grease interceptors last once they're installed?
- CSA was looking at materials of construction. Metal interceptor or concrete once exposed to PH level of 3 or 4 will fail over time. PH compatibility needs to be considered.
- How do you deal with espresso and coffee grounds? Nothing in the bylaw re installation of a solids separator.
- Attached to each business license is a pamphlet or sign-off on awareness of grease interceptor requirements.
- Has Metro Vancouver looked at oil interceptors? Hydrocarbons?
- Metro Vancouver is requesting that comp sinks be filled to 100% and be drained down in one minute, standard practice elsewhere in Canada and the United States is to have a dish displacement at 75%. In reality, in these restaurants if you have a 2-compartment or 3-compartment sink, all compartments are never filled to 100% and then drain down. They're washing dishes, prep in the sinks. To have it drain down 100% in one minute is overkill in my opinion.
- With any fixture or even a 10-gallon bucket dumped onto the floor, a floor drain will not have a 37.5 gpm flow rate. If there are multiple floor drains and you are trying to size the grease interceptor for multiple floor drains, that's an increased gpm.
- All floor drains drain to a single pipe, and realistically even if using a hose for the floor it only has a flow rate of 4 gpm, unreasonable to use 37.5 gpm flow rate for floor drains.
- In coffee bars or ice cream shops, we have different wells. We have espresso machines and other equipment that have very low flow rates. On an espresso machine you have a drip tray with a 1-inch connection to a hub or open drain. Amount of water going through drip tray is minimal. The sizing for these sources should be based on the machine and flow rate itself, not the drain it goes to.
- Do you accept the published flow rates of equipment? And how about equipment that doesn't have that published? Some flow rates for equipment are so low, they can't hold capacity to evaluate flow rate.
- A problem the sector is facing: if an 88-gallon grease interceptor is needed by a business, the next size up is 100 gallons. Many clients can't install a 100 gallon interceptor because of a concrete slab. The result is either cutting into the slab, or it takes up an enormous amount of space. Usually instruct clients to go to a 2-compartment sink that would reduce volume. Very difficult on restaurants.
- Other jurisdictions continually go back and forth on whether or not dishwashers are required to be connected in their bylaws.
- Hydro-mechanical interceptors work on the premise that a smaller unit will still capture the grease, without the volume required. Flow rate is part of the equation, grease capacity and certification are another conversation to have as well.

- Size units based on grease production not just flow rate.
- A change of business requires a change in permitting, and will result in a review of interceptor capacity.
- Grease production and pump out schedules are adjusted when there is a change of business.
- Miami-Dade example – majority of jurisdictions are lacking employee resources to monitor the bylaw. During permitting, a restaurant calculates approximately number of meals and grease pump out frequency. This is included in an agreement with a contractor who reports the actual pump out frequency. Allows the jurisdiction to target high-risk offenders first. Opportunity to review a large pool of clients and focus on who needs to be addressed first. Allows for broader monitoring with smaller staff capacity.
- Re: manifesting, the best method is electronic manifesting - cloud-based software that allows for proper monitoring and scheduling. Third party manifesting is preferred so the pumper doesn't get paid until they have done the job and submits before and after pump out pictures. Everyone is looped into the same information.
- Based on cloud-based manifesting you might determine that 10% of food service establishments are a problem, 80% are no problem at all and 10% are cheerleaders.
- A lot of jurisdictions face the challenge of being unable to permit the hauling industry. Creation of a preferred hauler program has helped.
- Under-sizing combined with pump out frequencies are challenges across all jurisdictions not just Metro Vancouver.
- No regulation of residential complexes is also a major contributor to grease in the system.
- Consider a change to the plumbing code to regulate high-rise residential complexes so they need to pass through a grease interceptor.
- Clients are saying that the interceptors are very large. When trying to install interceptors into existing space, based on the requirements, it becomes a challenge.
- New developments have challenges installing grease interceptors, especially with underground parking, which leads to multiple grease interceptors being installed. For example, one coffee shop had four interceptors to meet requirements.
- Additional issue is an access problem, as most pumper trucks cannot access underground parking grease interceptors.
- There are some haulers with smaller vehicles that can be used in these circumstances.
- Engineers are continually trying to think 10 years ahead. If the requirements change again will clients need a bigger interceptor? Often recommend exceeding requirements to try and avoid major renovations later, if bylaw changes.
- Installation is a huge issue, and existing site conditions can be a challenge. Generally leads to installation of multiple smaller interceptors and increased cost as haulers charge based on time to service the interceptor(s).
- Restaurants are not included in conversation for sizing to determine appropriate size.

- No jurisdiction has staff to police sizing and help restaurants determine pump out schedule.
- Problem is to make the restaurants go through the work to become compliant, with no one to police it. Industry won't police it themselves. If they know that Metro Vancouver is only going to review 10% of restaurants over 5 years, they are willing to take the risk of being non-compliant.
- Utilize the plumbers more.
- Pumpers can also be a resource, as they can report on non-compliance.
- Adopt a bylaw that is more manageable based on Metro Vancouver staff resources.
- Most jurisdictions settle on one course of action to prevent fats, oils and grease from entering the sewer. Make sure all fixtures are attached to a properly maintained grease interceptor.
- Appropriate levels of maintenance is the hardest part to enforce.
- Biggest issue is the desired retroactivity of the bylaw, second is the sizing of the interceptors.
- In regard to renovations required for bylaw compliance, building permit approvals take an extended period of time. There is also the added cost to shut down. It's unfair to ask restaurants to upgrade.
- Regarding grease interceptors that have sensing and alarm systems, there are two different types: 1) Liquid Level – Electronic 2) The second is a fish finder type system that indicates level of fat and solids on the bottom. They come as options to install and is a one-time cost to the restaurant, ranging from \$2500-\$4500.
- New alarm systems can be programmed into building maintenance systems or installed as an independent alarm. It can also be tied into software that allows pumpers to bid on a maintenance job, once the unit indicates that it requires servicing.
- Hydro mechanical vs. gravity interceptors. Hydro mechanical is now certified for grease capacity and has been in CSA since 2007.
- To have CSA stamp, interceptor has to be tested.
- CSA held a meeting recently where B481.2 was removed as no manufacturer could meet this standard. CSA is working to approve units with flow rates over 100 gpm. In 2020 there will be no minimum or maximum flow rate.
- Grease interceptors installed five years ago are being destroyed based on what's going in. Again, despite the regulations around what the interceptor is supposed to handle (in regards to pH level), there is no control over how it is maintained.
- No new technologies for grease interceptors. Specifically, the rating systems (either to dictate minimums/maximums or grease capacity).

- One manufacturer commented that MV required the installation of a solids separator before their grease removal device, as the procedure for the device is to discharge the fine solids collected in the device to the sewer once per day. In addition, MV requires floor drains and mop sinks to be connected to a GI, however the manufacturer's grease removal device cannot be installed below grade, therefore these sources cannot be connected to it. For these reasons, the manufacturer indicated MV was impeding their fair market penetration in relation to every other competitor in the region.

Topic 2

Although infrequent in commercial kitchens, what concerns would you have if Metro Vancouver adopted a ban on food **grinders**?

Are you familiar with, or ever received a request to add a food waste digester to a client's operation?

What concerns would you have if Metro Vancouver adopted a ban on food waste digesters?

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- Food grinder manufacturers are inaccurately citing a study that suggests the effluent after entering a grinder is less problematic. There is inconsistency in the units of measurement cited in the study and those generally used in the industry.
 - The highest concentration of fats, oils and grease are produced by food grinders.
 - Metro Vancouver would be well advised to not allow food grinders.

Topic 3

How can Metro assist your efforts to keep clients in compliance with the Grease Interceptor bylaw?

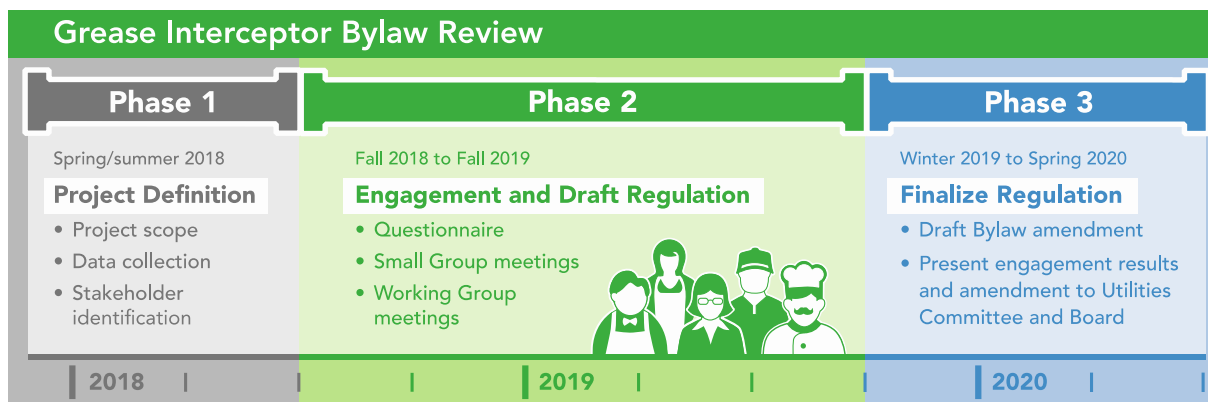
Do you have ideas for training and education tools that would be useful for you, your staff, your clients?

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- A two-day Organizational Quality Management process or program, with quality management compliance requirements and allowing for access to audit documentation should be considered. A new Metro Vancouver educational initiative would reduce/eliminate the need for inspections.
 - Little knowledge of what's being discharged. Would probably work for larger chains, but not for smaller food sector establishments.
 - The corporate accounts are pretty responsible and will even oversize their interceptors. Smaller independents are the bigger issue.

- Education materials need more “dirty” pictures to more effectively communicate the problem of fats, oils and grease. Information and content need to be more local. “Scratch and Sniff” collateral material that replicates the stench associated with poorly maintained interceptors could help to drive home the message.
- Promote more shock factor with fines.
- Many clients ask how much it will cost if they don’t comply. Some are willing to gamble based on the low probability of inspections.
- Request for separate meeting that specifically addresses grease interceptor sizing.

6. Next Steps

Metro Vancouver will analyze all questions and comments from the small group meetings and identify key themes to inform the development of discussion topics for the Working Group, which will meet 5-6 times in 2019. Metro Vancouver will recruit Working Group members from the varied stakeholder groups that participated in the Small Group Meetings. The Working Group will be guided by a Terms of Reference.



7. Action Item

Metro Vancouver is to consider an additional meeting regarding sizing of grease interceptors.

Meeting concluded at 10:59 a.m.