



PRETREATMENT REQUIREMENTS MANUAL

for Wastewater & Stormwater Systems



2023 Edition

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1.0 INTRODUCTION

The [Halifax Water Schedule of Rates, Rules & Regulations for Water, Wastewater and Stormwater Services](#) define a Pretreatment Facility as:

Wastewater treatment processes designed to remove pollutants from Wastewater prior to Discharge to Halifax Water's Wastewater System.

This Halifax Water Pretreatment Requirements Manual includes requirements for the sizing, selection, location, installation, and maintenance for Pretreatment Facilities connected to the Halifax Water Wastewater or Stormwater System.

Where words are capitalized, they are defined in the Definitions section of the manual.

The manual is intended to be used in conjunction with the Halifax Water Regulations.

In addition to this manual, all applicable codes and standards, and standards to be used, include, but are not limited, to the following:

- American Society for Testing and Materials
- American Society of Mechanical Engineers
- American Water Works Association
- Atlantic Canada Water and Wastewater Association
- Building Code Act of Nova Scotia
- Canadian Standards Association
- Fire Safety Act of Nova Scotia
- Hydraulic Institute Standards
- Insurers Advisory Organization
- National Building Code of Canada
- National Fire Protection Association
- National Plumbing Code of Canada
- Uniform Plumbing Code
- National Sanitation Federation
- Underwriters Laboratories of Canada

The requirements of this manual apply to all new or replacement Pretreatment Facilities as well as to existing installations that are found upon inspection to be uncertified (where applicable), inadequately sized, inaccessible, defective, or not functioning as intended.

The requirements in this manual will be revised periodically. It is the responsibility of the user to remain current with revisions to this document. Please visit Halifax Water's website for the most recent version of this manual at <https://www.halifaxwater.ca/halifax-water-specifications-forms>.

2.0 DEFINITIONS

In the event of any discrepancies between the definitions listed below and the definitions in the Halifax Water Regulations, the Halifax Water Regulations definitions will take precedence.

American Society of Mechanical Engineers (ASME)	A not-for-profit professional organization made up of all engineering disciplines collaborating their skills and knowledge to develop solutions to real world challenges.
Contractor	Any person who, for another person, conducts work or supplies labour for the sizing, selection, installation and/or maintenance of a Pretreatment Facility.
Customer	A person who arranges to be or is supplied with water and/or Wastewater Service at a specified location or locations and includes a person receiving Stormwater Service.
Canadian Standards Association Group (CSA)	A standards organization that is comprised of representatives from government, industry, and consumer groups.
Discharge	To directly or indirectly discharge, release, permit or cause to be discharged or released into Wastewater or Stormwater Systems.
Discharger	An owner, occupant or person who has charge, management or control of effluent, Wastewater, Stormwater, Uncontaminated Water, or any combination thereof, which is Discharged to Wastewater or Stormwater Systems.
Domestic Wastewater	Wastewater produced on a residential premises, or sanitary Wastewater from showers and washroom washbasins produced on a non-residential property.
DS14	A form located at https://www.halifaxwater.ca/halifax-water-specifications-forms which satisfies the Wastewater Service Requirements as defined in Section 73.(1) of the Halifax Water Regulations
Food Service Establishment (FSE)	An establishment that has a valid Food Establishment Permit issued by the Province of Nova Scotia.
Fat, Oil and Grease (FOG)	Generated primarily from the operation of FSEs, and other commercial food producers.

Gallons Per Minute (gpm)	For the entirety of this manual, all references to gallons will be in US Gallons.
Grease Interceptor	A plumbing appurtenance intended to be installed in a wastewater drainage system to intercept FOG from wastewater discharges
Halifax Water	Halifax Regional Water Commission, a body corporate, as established under the Halifax Regional Water Commission Act, 2007, c. 55, s. 2; 2012, c. 60, s.1., is the municipal water, Wastewater and Stormwater utility for the Municipality. Halifax Water is authorized to own and operate the water supply, Wastewater and Stormwater facilities for the Municipality.
Halifax Water Regulations (Regulations)	Halifax Water’s Schedule of Rates, Rules & Regulations for Water, Wastewater and Stormwater Service, as amended from time to time by the Nova Scotia Utility and Review Board.
Industrial, Commercial or Institutional (ICI)	Includes or pertains to industry, manufacturing, commerce, trade, business, or institutions and includes multi-unit dwellings of four or more units.
Interceptor	A receptacle that is installed to prevent oil, grease, sand, or other materials from passing into a Wastewater System or a Stormwater System
Monitoring Access Point (MAP)	An access point, including a chamber, in a Wastewater or Stormwater Service Connection to allow for observation, sampling and flow measurement of the Wastewater, Uncontaminated Water or Stormwater within such a Service Connection.
Non-Domestic Wastewater	All Wastewater except Domestic Wastewater, Stormwater, Uncontaminated Water, and septic tank waste.
Oil Interceptor	A Pretreatment Facility designed to remove oil (typically hydrocarbons) from a waste stream prior to Discharge to a Halifax Water Wastewater System.
Pretreatment Facility	Wastewater or Stormwater treatment processes designed to remove pollutants from Wastewater or Stormwater prior to Discharge to Halifax Water’s Systems. This may include one or more devices or technologies to treat one or more waste streams.

Professional Engineer	A person who practices professional engineering and is a registered member, in good standing, of Engineers Nova Scotia.
Qualified Plumber	A plumber that holds a valid certificate of qualification issued by the Nova Scotia Apprenticeship Agency (NSAA).
Sediment Interceptor	A receptacle that is installed to prevent sand, or other solid material from passing into a Wastewater System or a Stormwater System
Service Connection(s)	Water Service Connection, Wastewater Service Connection, or Stormwater Service Connection, or any combination of each of them.
Stormwater System	The method or means of conveying Stormwater, within ditches, swales, mains, drains, canals, retention ponds, and culverts under public streets, private roads, public easements, and driveways, which are vested in or under control of Halifax Water.
Stormwater	Water from precipitation of all kinds, and includes water from the melting of snow and ice, groundwater Discharge and surface water
Uncontaminated Water	Potable water or any other water to which no matter has been added as a consequence of its use.
Vehicle Service Establishment (VSE)	Establishments where vehicles are repaired, lubricated fuelled and/or maintained and where there is potential for contamination of the Wastewater or Stormwater Discharge.
Wastewater	Liquid waste containing animal, vegetable, mineral or chemical matter as well as water from sanitary appliances that contains human fecal matter or human urine in solution or suspension together with such groundwater, surface water or Stormwater as may be present.
Wastewater System	The structures, pipes, devices, equipment, processes, and related equipment used, or intended to be used, for the collection, transportation, pumping or treatment of Wastewater and disposal of effluent, which are vested in or under the control of Halifax Water.

3.0 PRETREATMENT FACILITIES

The [Halifax Water Regulations](#) require all Discharges to its Wastewater and Stormwater Systems to comply with the prohibitions and limits set out in Part XI Wastewater and Stormwater Discharge.

Pretreatment is required for all ICI Dischargers that exceed or may exceed the limits set out in the Regulations.

The Regulations (Sections 69, 70, 71 and 72) specifically address Pretreatment Facilities including Grease Interceptors, Oil Interceptors and Sediment Interceptors. Requirements for these three types of Pretreatment Facilities are further discussed in sections [4.0](#), [5.0](#) and [6.0](#) below. However, there are types of Pretreatment Facilities that are not specifically addressed in the Regulations or in this manual and will be considered on an individual basis. These facilities will vary depending on the nature of the ICI and the nature of the pretreatment process required to comply with the Regulations.

Halifax Water may require new or upgraded pretreatment or other corrective action for any ICI Discharger once it is determined that its Wastewater Discharge exceeds the limits set out in the Regulations.

The following are requirements for all existing or new Pretreatment Facilities.

3.1 Location

The Regulations state that:

Where a Customer installs a Pretreatment Facility, such Facility shall be installed upstream of a Monitoring Access Point, where a Monitoring Access Point exists or is proposed.

3.1.1 Monitoring Access Point (MAP)

MAPs are required for all new or existing ICI Dischargers. A MAP is typically installed on private property adjacent to the street boundary line. MAPs are required both on the Wastewater and Stormwater Service Connections except where there is zero setback. See the most current version of [Halifax Water's Design Specifications](#) for more details on buildings with zero setback from the right-of-way.

A MAP allows Halifax Water to observe and sample the Discharge from a location. It also allows for an access point for cleaning of a Service Connection.

3.1.2 Sampling Port

In addition to the MAP requirement, except for Dischargers requiring Grease Interceptors, Oil Interceptors or Sediment Interceptors, a sampling port is required immediately downstream of each Pretreatment Facility prior to the treated Wastewater mixing with any

Domestic Wastewater. This will typically be a small chamber inside the building to allow for observation and sampling of the Discharge from the Pretreatment Facility.

Where Halifax Water deems a MAP is not feasible to install, the sampling port installed immediately downstream of each Pretreatment Facility will satisfy the MAP requirement. [Appendix A](#) shows the configuration and sizing requirements for this sampling port.

At any time, Discharge is occurring, Halifax Water may, without notice, visit the Discharger's location for the purpose of sampling the Discharge from the Pretreatment Facility. The sampling port shall be always accessible for this purpose.

3.2 Design, Operation and Maintenance

The Regulations state that:

An owner or operator of a Pretreatment Facility shall ensure the design, operation and maintenance of a Pretreatment Facility achieves its treatment purpose in accordance with its manufacturer's operating specifications.

It is the responsibility of the owner or operator to consult with the appropriate industry experts (suppliers, Qualified Plumbers, Professional Engineers, etc.) to ensure the Pretreatment Facility is appropriately designed for the nature of the operation.

It is strongly advised to ensure that Pretreatment Facilities are selected and installed properly from the outset to avoid additional costs associated with repair or replacement. Pretreatment Facilities that are undersized, installed improperly, do not meet required certifications, or do not achieve their intended treatment purpose, will be required to be repaired or replaced. Halifax Water requires submission of plans for proposed Pretreatment Facilities, in the form of a [DS14](#), prior to installation. Please contact P2@halifaxwater.ca to learn more about this requirement.

3.3 Waste Products

The Regulations state that:

An owner or operator of a Pretreatment Facility shall ensure that any waste products recovered from a Pretreatment Facility are not Discharged into the Wastewater or Stormwater System.

It is the responsibility of the owner or operator of a Pretreatment Facility (or their Contractor) to remove all waste products from the facility and ensure their proper disposal.

3.4 Record Keeping

The Regulations state that:

Maintenance records and waste disposal records respecting a Pretreatment Facility shall be available to the Commission upon request, which records shall be retained

by an owner or operator of a Pretreatment Facility for a minimum of two years following the generation of such records.

Halifax Water requires that all owners/operators of Pretreatment Facilities keep all their maintenance and waste disposal records for at least two years. At any time, Halifax Water may request a copy of these records. Halifax Water may also require the submission of maintenance records on a regular basis to demonstrate that maintenance is being conducted at the appropriate frequency and that waste disposal is done properly.

3.5 List of Business Types

For a list of examples of businesses and the associated pretreatment requirements please see [Appendix B](#)

4.0 FOOD RELATED GREASE INTERCEPTORS

The installation of a Grease Interceptor is identified or implemented with a Water Permit through HALIFAX's Online Permitting, Planning, Licensing & Compliance Customer Portal. The requirement for a Grease Interceptor applies to all FSEs. Grease Interceptors are regulated under section 70 of the [Regulations](#).

FSEs that have a Food Establishment Permit from the Province of Nova Scotia, require a Grease Interceptor.

Where Halifax Water performs an inspection of an FSE and finds that no Grease Interceptor is installed, it will require one to be installed within 90 days of the inspection date.

In addition to these requirements, all applicable and relevant codes, and standards to be used by the Professional Engineer and Qualified Plumber in the sizing, selection, and installation of the Grease Interceptor, include, but may not be limited to, the following:

- ASME/CSA Group ASME A112.14.3/CSA B481.1
- ASME/CSA Group ASME A112.14.4/CSA B481.5
- National Building Code of Canada
- National Plumbing Code of Canada
- IAPMO/ANSI UPC 1
- International Association of Plumbing and Mechanical Officials (IAPMO)/American National Standards Institute (ANSI) Z1001

4.1 Hydromechanical Grease Interceptors (HGIs)

HGIs are usually installed indoors in proximity to the fixtures connected to them. These units may also be installed in the floor, below grade.

HGIs use flow control devices and baffles to slow the flow of water to allow FOG and solids to settle out. The 'hydromechanical' aspect of HGIs permits a shorter retention time and a

smaller unit size compared to Gravity Grease Interceptors (GGIs), making this type of Interceptor suitable for indoor installation.

HGIs are required to have a visible certification attached verifying that they meet the requirements of ASME A112.14.3/CSA B481.1 or ASME A112.14.4/CSA B481.5.

4.1.1 Sizing

HGIs shall be sized using the ASME A112.14.3/CSA B481.1 method included in [Appendix C](#). All calculations used in sizing the HGI are required to be provided to Halifax Water along with the Halifax Water [DS14](#) submission.

A one-minute drain-down time must be used to size the Interceptor. Exceptions to the one-minute drain-down time requirement may be permitted in extenuating circumstances; however, an in-depth analysis of the operation will be required prior to drain-downs longer than one minute being approved.

Standard HGI sizes as outlined in ASME A112.14.3/CSA B481 are in [Table 1](#).

Table 1 - Standard flow rates and grease retention capacity ratings for Grease Interceptors

Size Symbol	Flow Rate, L/min (gpm)	Grease Capacity, Kg (lb.)
2	7.6 (2)	1.8 (4)
4	15 (4)	3.6 (8)
7	26 (7)	6.4 (14)
10	38 (10)	9.1 (20)
15	57 (15)	13.6 (30)
20	76 (20)	18.1 (40)
25	95 (25)	22.7 (50)
35	132 (35)	31.8 (70)
50	189 (50)	45.4 (100)
75	284 (75)	68 (150)
100	378 (100)	90.7 (200)
150	567 (150)	136 (300)
200	757 (200)	181 (400)

ASME A112.14.3/CSA B481.1 Table 1

The minimum required flow capacity for a HGI is 76 L/min (20 gpm).

Locations with high grease loading, especially those with spray down sinks, may require a larger capacity HGI to prevent excess cleaning (more frequently than monthly).

4.1.2 Selection

When selecting an HGI, ensure that it has an ASME A112.14.3/CSA B481.1 certification label attached and that it has been sized appropriately for the nature of the FSE operation. Avoid models with no certification label attached. Upon inspection, any models without certification labelling will be required to be replaced with certified models that are appropriately sized.

It is important to consider the overall cost of ownership when selecting an Interceptor. Larger Interceptors or Interceptors that are designed to retain a higher percentage of FOG require less frequent cleaning (e.g., monthly instead of bi-weekly) and therefore lower cleaning costs.

Another factor to consider when determining the overall cost of an Interceptor is the material of which it is constructed. Plastic and fiberglass Interceptors will have a longer lifespan than metal or concrete Interceptors, which may be more prone to corrosion in a Wastewater environment.

There are various Interceptors available on the market. These include HGIs with mechanical separation, automatic FOG removal, and a variety of high efficiency models. Low-profile models for installation where vertical space is an issue are also available. It is recommended that you review your proposed model with Halifax Water to ensure that it meets the requirements prior to installation. To arrange a review, contact P2@halifaxwater.ca.

4.1.3 Installation

Indoor HGIs must be located within a heated space, protected from freezing temperatures.

Indoor HGIs may be installed on the floor or recessed (fully or partially) in the floor.

HGIs must be located to allow adequate access for maintenance and inspection including removal of the cover and internal baffles. This will usually require a minimum of 300 mm vertical clearance above the Interceptor.

All HGIs require a form of flow control. This will either be in the form of an external flow control device or integral flow control. All flow controls must be installed in accordance with the manufacturer's recommendations. Ensure to ask your supplier if an external flow control device is required with the selected model.

Ventilation must be provided upstream and downstream of the Interceptor. Ventilation may be via piping or an air admittance valve.

No Domestic Wastewater is permitted to flow through HGIs.

HGIs must be located as close as practical to fixtures they serve (within 8 m).

Typical configurations for HGI installations are illustrated in [Appendix D](#).

4.1.4 Maintenance

HGIs must be serviced (cleaned and inspected) once per month at minimum. Monthly cleaning helps to ensure efficient removal of FOG and solids so that they are not passed

into the Wastewater System. Monthly cleaning also helps to prevent the development of septic conditions inside the Interceptor causing bad odours during maintenance.

If, at the time of monthly servicing, the combined total depth of FOG and settled solids exceeds 25% of the total depth capacity of the Interceptor, more frequent servicing is required. See [Appendix F](#) for examples of how to apply the 25% Rule.

Servicing includes the following steps:

1. Ensure all appropriate safety precautions are taken.
2. Ensure adequate ventilation to dissipate any built-up gasses inside the Interceptor prior to removing cover.
3. Remove cover.
4. Inspect the seal around the cover to ensure it is in good condition. Replace if deteriorated or damaged.
5. Measure the depth of each accumulated layer (FOG, liquid, and settled solids).
6. Record the depth of each layer on the Interceptor Maintenance Log (see [Appendix G](#)). Calculate the %Full and complete remainder of Maintenance Log. Maintenance Logs may also be obtained by emailing P2@halifaxwater.ca.
7. Remove all FOG, liquid and settled solids.
8. Remove all internal baffles.
9. Scrape down interior walls and baffles
10. Inspect interior walls to ensure there are no holes or significant deterioration. (Corrosion is often an issue with metal Interceptors. Corrosion issues are especially difficult to notice if the Interceptor is installed below the floor. If holes are present, the Interceptor must be replaced.)
11. Inspect baffles and any other internal components to ensure they are in good working order. Replace any missing or defective parts. Do not operate the Interceptor without a properly functioning baffle as it will drastically reduce the efficiency of FOG and solids removal.
12. Fill the Interceptor with clean water.
13. Replace cover ensuring a proper seal.
14. Determine the next cleaning based on the %Full calculated. If the %Full is greater than 25%, then more frequent cleaning is required.
15. Scan or take a photo of the Maintenance Log at each servicing and email to grease@halifaxwater.ca.

4.2 Gravity Grease Interceptors (GGIs)

GGIs use gravity to separate out FOG and solids. They are typically much larger than HGIs and have a minimum of two compartments. The larger size allows for a sufficient retention time (minimum of 30 minutes) for FOG to float to the top and solids to settle to the bottom.

GGIs must comply with IAPMO/ANSI Z1001.

GGIs are required to have a visible certification (plate or sticker) attached verifying that they meet the above requirements.

4.2.1 Sizing

GGIs are sized based on total capacity, usually in gpm. To size a GGI, a Professional Engineer or a Qualified Plumber can calculate the maximum expected flow for all the drains connecting to the Interceptor and then select an appropriately sized unit.

The sizing method is included in [Appendix E](#). All calculations used in sizing the GGI are required to be provided to Halifax Water along with the [DS14](#) submission.

All fixtures that have a potential to Discharge grease must be connected to the GGI.

4.2.2 Selection

When selecting a GGI ensure that it meets the above standard and that it has been sized appropriately for the nature of the FSE operation.

It is important to consider the overall cost of ownership when selecting an Interceptor. Larger (oversized) GGIs may require less frequent cleaning (e.g., quarterly instead of monthly) and therefore lower cleaning costs.

Another component to consider when determining the lifecycle cost of an Interceptor is the material it is made of. Plastic and fiberglass will have a longer lifespan than metal or concrete Interceptors which may be more prone to corrosion in a Wastewater environment. Concrete also tends to break down over time with the build-up of FOG and during cleanings with high pressure water. Concrete models may have a plastic liner that increases their lifespan.

There are various GGIs available on the market. It is recommended that you review your proposed model with Halifax Water prior to installation to ensure that it meets the requirements prior to installation. To arrange a review, contact P2@halifaxwater.ca.

4.2.3 Installation

GGIs are usually installed outside below grade; however, may also (less commonly) be installed indoors usually below the floor level.

GGIs must be located to allow adequate access for maintenance and inspection including removal of the cover(s) and measurement of FOG and solids using a sludge sampler.

GGIs must be installed in accordance with the manufacturer's instructions including ventilation requirements which may vary between models. Ventilation may be via piping or an air admittance valve.

No Domestic Wastewater is permitted to flow through GGIs.

4.2.4 Maintenance

GGIs must be serviced (cleaned and inspected) once per quarter at minimum.

25% Rule - If, at the time of regular servicing, the combined total depth of FOG and settled solids exceeds 25% of the total depth capacity of the Interceptor, more frequent servicing is required. See [Appendix F](#) for examples of how to apply the 25% Rule.

Serviceing includes the following steps:

1. Ensure all proper safety precautions are taken.
2. Ensure adequate ventilation to dissipate any built-up gasses inside the Interceptor prior to removing cover.
3. Remove cover.
4. Inspect the seal around the cover to ensure it is in good condition. Replace if deteriorated or damaged.
5. Measure the depth of each accumulated layer (FOG, liquid and settled solids). There are products available commercially to obtain a core sample in a GGI (e.g., Sludge Judge or DipStick Pro).
6. Record the depth of each layer on the Interceptor Maintenance Log (See [Appendix G](#)). Calculate the %Full and complete remainder of Maintenance Log. Maintenance Logs may also be obtained by emailing P2@halifaxwater.ca.
7. Remove all FOG, liquid and settled solids.
8. Wash down interior walls and baffles and remove this material from the Interceptor.
9. Inspect interior walls and baffles to ensure there are no holes or significant deterioration. (Corrosion is often an issue with metal Interceptors. Corrosion issues are especially difficult to notice if the Interceptor is installed below the floor. If holes are present, the Interceptor must be replaced or repaired before going back into service.)
10. Fill the Interceptor with clean water.
11. Replace cover ensuring a proper seal.
12. Determine the next cleaning based on the %Full calculated. If the %Full is greater than 25%, then more frequent cleaning is required.
13. Scan or take a photo of the Maintenance Log at each servicing and email to grease@halifaxwater.ca.

5.0 VEHICLE AND EQUIPMENT SERVICE OIL AND GREASE INTERCEPTORS

The installation of an Oil Interceptor is identified or implemented with a Water Permit through HALIFAX's Online Permitting, Planning, Licensing & Compliance Customer Portal. The requirement for an Oil Interceptor applies to all VSEs. Oil Interceptors are regulated under section 71 of the [Regulations](#).

5.1 Oil Interceptors

Every owner or operator of any of the following, where Non-Domestic Wastewater (with the potential to contain hydrocarbons) is Discharged to a Halifax Water Wastewater System, is required to install, and maintain an Oil Interceptor and route all the appropriate Non-Domestic Wastewater through the Oil Interceptor. The following are common examples:

- Vehicle or equipment service stations
- Premises where motor vehicles are repaired, lubricated, or maintained
- Rust proofing facilities
- Oil change facilities
- Gas stations
- Self-serve and automatic vehicle washes
- Parkades

Oil Interceptors from the above facilities are required to be connected to the Halifax Water Wastewater System.

All Oil Interceptors are required to have a visible label showing the manufacturer, model number, and flow rate.

Where Halifax Water performs an inspection of a premises and finds that no Oil Interceptor is installed, it will require one to be installed within ninety (90) days of the inspection date. In addition to these requirements, all applicable and relevant codes, and standards to be used by the Design Engineer and Qualified Plumber, include, but are not limited to, the following:

- Building Code Act, R.S.N.S. 1989, c. 46 and regulations made under the authority of that Act
- Canadian Petroleum Products Institute (CPPI) – Best Management Practices, Vehicle Wash Operations
- Canadian National Plumbing Code

5.1.1 Sizing

Oil Interceptors shall be sized by a Professional Engineer or a Qualified Plumber. All drains connected into the Interceptor must be included in the sizing.

Oil Interceptor sizing shall allow for a minimum retention time of 15 minutes based on the potential maximum incoming flow. The design must also ensure that Discharge from the Interceptor does not contain mineral oil and grease in a concentration exceeding 15 mg/L.

Sizing methodology is included in [Appendix H](#). All calculations used in sizing the Oil Interceptor are required to be provided to Halifax Water along with the [DS14](#) submission.

5.1.2 Selection

All Oil Interceptors must have at minimum two compartments. This can either be achieved using baffles or installation of a second chamber. Interceptor design examples can be found in [Appendix I](#)

It is important to consider the overall cost of ownership when selecting an Oil Interceptor. Larger Interceptors, or Interceptors that are designed to retain a higher volume of oil and solids, require less frequent servicing. Therefore, the overall cost over time may be less for

larger Interceptors when compared to the minimum size required based on the sizing method in [Appendix H](#).

Another factor to consider when calculating the lifetime cost of the Interceptor is materials. Plastic and fiberglass Interceptors may have a longer lifespan than metal and concrete Interceptors. For example, most metal Interceptors come with an anti-corrosion coating, however, this coating tends to wear off during cleaning activities such as scraping down the inside walls and baffles. Corrosion of the metal can lead to undetected leaks.

5.1.3 Installation

Oil Interceptors must be located to allow ease of access for inspection, maintenance, and repair. The area cannot be used for storage or to erect shelving.

All Oil Interceptors must be installed as per the manufacturer's instructions and comply with the Canadian National Plumbing Code, Section 2.5.5.2.

All venting outlined by the manufacturer must be installed.

All Oil Interceptors must be gravity fed.

If a pump is needed to pump the Discharge from an Oil Interceptor, the pump is to be in a separate pump chamber. This pump chamber is not considered part of the Oil Interceptor, meaning it does not satisfy the need for a second chamber.

The Oil Interceptor shall have a sampling port at the outlet or immediately downstream of the Interceptor and upstream of any Discharge of Domestic Wastewater. This Interceptor sampling port is in addition to the MAP.

5.1.4 Maintenance

Oil Interceptors must be inspected once quarterly to ensure the 25% rule is not exceeded and cleaned once per year at minimum.

25% Rule - If, at the time of regular inspection or annual cleaning, the combined total depth of oil and settled solids exceeds 25% of the total depth capacity of the Interceptor, more frequent servicing is required. See [Appendix J](#) for examples of how to apply the 25% Rule.

Measurements must also be taken during quarterly inspection. If at the time of the inspection the 25% rule is met or exceeded, the Interceptor needs to be cleaned immediately.

As an alternative to the 25% rule, the manufacturer's maximum recommended levels may be used, provided relevant documentation is available for viewing by Halifax Water.

The liquid level within the Interceptor must always be maintained to prevent transfer of oil out of the first compartment.

Oil, water, and solids must be allowed to separate within the Interceptor. Therefore, the use of detergents, chemical agents or hot water is not permitted as a means of flushing or ‘cleaning’ the Interceptor.

When washing bay floors or parkades, ensure that any spills are wiped up first.

Interceptors must be serviced immediately in the event of a larger spill in which the spilled product drains into the Interceptor. Alert Halifax Water immediately in the event of such a spill to ensure that product has not entered the Wastewater System.

Servicing includes the following steps:

1. Ensure all appropriate safety precautions are taken.
2. Ensure adequate ventilation to dissipate any built-up gasses inside the Interceptor prior to removing cover.
3. Remove cover.
4. Inspect the seal around the cover to ensure it is in good condition. Replace if deteriorated or damaged.
5. In the first compartment, measure the depth of each accumulated layer (oil, water and settled solids).
6. Record the depth of each layer on the Interceptor Maintenance Log (See [Appendix K](#)). Calculate the %Full and complete remainder of Maintenance Log.
7. Check last compartment to ensure that no oil product is being Discharged from the Interceptor.
8. Remove all oil, water and settled solids.
9. Wash down interior walls and baffles and remove this material from the Interceptor. All removed oil, liquid and solids are to be safely transported to a commercial treatment facility.
10. Inspect interior walls and baffles to ensure there are no holes, damage, or significant deterioration. (If holes, damage, or deterioration are present, the Interceptor must be replaced or repaired before going back into service.)
11. Fill the Interceptor with clean water.
12. Replace cover ensuring a proper seal.
13. Determine the next cleaning based on the %Full calculated. If the %Full is greater than 25%, then more frequent cleaning is required.
14. Scan or take a photo of the Maintenance Log after each servicing and email it to grease@halifaxwater.ca.

6.0 SEDIMENT INTERCEPTORS

Sediment Interceptors are regulated under section 72 of the [Regulations](#). There are two types of Sediment Interceptors including Wastewater Sediment Interceptors and Stormwater Sediment Interceptors. Requirements for these two types are included separately below.

6.1 Wastewater Sediment Interceptors

Wastewater Sediment Interceptors are required in parkades, upstream of Oil Interceptors for vehicle wash establishments and in any other location where sediment or other solids are generated that would otherwise enter the Wastewater System. In the vehicle wash application, the Sediment Interceptor functions to remove sediment prior to the waste stream entering the Oil Interceptor. This prevents accumulation of excess sediment in the Oil Interceptor and reduction of its effective volume, retention time and thus efficiency at removing oil.

6.1.1 Sizing

Wastewater Sediment Interceptors shall be sized by a Professional Engineer or a Qualified Plumber. All drains connected into the Interceptor are required to be included in the sizing calculations. Sediment Interceptors for vehicle washes or vehicles wash bays must be sized with consideration for maximum flow rate, frequency of use and increased sediment loading.

6.1.2 Location & Installation

Wastewater Sediment Interceptors must be located to allow ease of access for inspection, maintenance, and repair. For vehicle wash installations, the Interceptor is required to be located upstream of the Wastewater Oil Interceptor.

All Wastewater Sediment Interceptors must be installed as per the manufacturer's instructions and comply with the Canadian National Plumbing Code.

All venting requirements outlined by the manufacturer must be adhered to.

6.1.3 Maintenance

Wastewater Sediment Interceptors must be inspected quarterly to ensure that sediment does not exceed 75% of the total vertical capacity of the Interceptor or that sediment is not capable of passing directly into the Wastewater System. They must also be cleaned once per year at minimum. If at the time of the inspection the 75% rule is met or exceeded, the Interceptor needs to be cleaned immediately.

Sediment Interceptors full percentage should be measured from the bottom of the Interceptor to the invert of the outlet pipe. See [Appendix L](#) for examples of how to determine the height of sediment.

As an alternative to the 75% rule, the manufacturer's maximum recommended levels may be used, as long as relevant documentation is available for viewing by Halifax Water.

The liquid level within the Interceptor must always be maintained to prevent transfer of sediment and odours out of the Interceptor.

Wastewater Sediment Interceptors require regular servicing to maximize efficiency and prevent backups.

Servicing includes the following steps in addition to servicing requirements of the manufacturer. Where there is a conflict between the below steps and the manufacturer's steps, the manufacturer's steps should be followed.

1. Ensure all appropriate safety precautions are taken.
2. Remove cover.
3. Measure the depth of the sediment accumulated in the Interceptor.
4. Record the depth of water and sediment layers on the Maintenance Log (See [Appendix L](#)).
5. Remove all liquid and settled solids and dispose of appropriately.
6. Spray or scrape down interior walls and baffles if baffles are present.
7. Once the Interceptor is empty, inspect interior walls to ensure there are no holes or significant deterioration.
8. If holes are present, the Interceptor must be repaired before being placed back into service.
9. Fill the Interceptor with clean water.
10. Replace cover.
11. Calculate the %Full and complete remainder of Maintenance Log.
12. Schedule your next cleaning based on the calculated % Full.
13. Scan or take a photo of the Maintenance Log at each servicing and email to grease@halifaxwater.ca.

6.2 Stormwater Sediment Interceptors

Stormwater Sediment Interceptors are required on private property where sediment or other solids are generated that would otherwise enter the Stormwater System.

There are two main types of Stormwater Sediment Interceptors including catchbasins as well as Stormwater treatment units (STUs) such as *Stormceptors*. Catchbasins and STUs are discussed separately below.

6.2.1 Catchbasins

For the purposes of this manual catchbasins are typically installed on private property for the purpose of collecting Stormwater and carrying it into the Stormwater System. They also serve to intercept larger sediment particles in a sump at the bottom of the catchbasin.

6.2.1.1 Sizing

Catchbasins shall be equipped with a sump that should be a minimum of 450 mm deep measured from the invert of the outlet pipe.

Catchbasin sizing shall comply with industry standard design practices to ensure sufficient capacity for the intended application.

6.2.1.2 Selection

Catchbasins are typically pre-manufactured and available in varying sizes from commercial suppliers. Catchbasins are required to be selected by a Professional Engineer.

6.2.1.3 Location & Installation

Catchbasins are typically located by a Professional Engineer during the design of site servicing.

Only Stormwater is permitted to be Discharged to a private catchbasin that discharges to the Stormwater System.

Catchbasins are not permitted to Discharge to the Wastewater System.

6.2.1.4 Maintenance

Catchbasins require regular inspections and servicing to maximize efficiency and prevent sediment from entering the Stormwater System.

Catchbasins shall be inspected once per year and serviced (if required). If the catchbasin is found to be full at the yearly inspection, it requires more frequent servicing.

Sediment retained or trapped materials shall be removed from a catchbasin when the sump has been filled to 75% of the depth of the sump or when accumulated materials can pass directly into the Stormwater System.

Documentation of the catchbasin servicing and sediment disposal shall be kept for a period of two years. Servicing documentation shall be available to Halifax Water upon request.

6.2.2 Stormwater Treatment Units (STUs)

STUs are typically installed on private property for the purpose of intercepting sediment that cannot be removed by catchbasins. Properly functioning STUs can also intercept other contaminants such as hydrocarbons or spilled materials.

6.2.2.1 Sizing

All catchbasins or other drainage infrastructure that drain into the STU are required to be included in the sizing calculation. If more than one catchbasin drains to the STU, the individual leads must be combined into a single lead prior to connecting to the STU, unless otherwise specified by the manufacturer. Depending on the size and layout of the property, more than one STU may be required.

6.2.2.2 Selection

STUs are typically pre-manufactured and available in varying sizes from commercial suppliers. STUs are required to be selected by a Professional Engineer.

6.2.2.3 Location & Installation

STUs are required in areas where there is a possibility of contamination of Stormwater Discharge. This will include all service stations where vehicles are fuelled, as well as all other Vehicle Service Establishments where vehicles are repaired, lubricated, or maintained. For more examples, see [Appendix B](#).

STUs are always located after the last catchbasin, and before entering the Stormwater System. A MAP is also required downstream of the STU.

The MAP location must always be accessible by Halifax Water for inspection purposes. MAPs must not be placed in a driveway or parking stall which limits access for inspections and may temporarily prevent access to the property where it is installed in a driveway.

The ideal location will be in a grassed or landscaped area on the property, although Halifax Water understands that this will not always be possible.

6.2.2.4 Maintenance

STUs require regular inspection and servicing according to the product manufacturer's recommendations to maximize efficiency and prevent sediment and other contaminants from entering the Stormwater System.

STUs shall be inspected and serviced (if required) once per year. If the STU is found to be full at the yearly inspection, it requires more frequent servicing.

Removal of retained or trapped materials from an STU shall be accomplished by pumping or other physical means and the resulting recovered material shall not be Discharged to the Wastewater or Stormwater System.

STU servicing includes the following steps:

1. Ensure all appropriate safety steps are taken.
2. Remove cover.
3. Measure of the depth of the sediment accumulated in the catchbasin.
4. Record the depth of each layer on the STU Maintenance Log (see [Appendix M](#))
5. Remove all liquid and solids.
6. Spray or scrape down interior walls and baffles.
7. Inspect interior walls to ensure there are no holes or significant deterioration.

8. If holes are present, the Interceptor needs to be repaired before being returned to service.
9. Fill the Interceptor with clean water.
10. Replace cover.

Documentation of STU servicing and sediment disposal shall be kept for a period of two years. A maintenance log for each STU shall be available to Halifax Water upon its request.

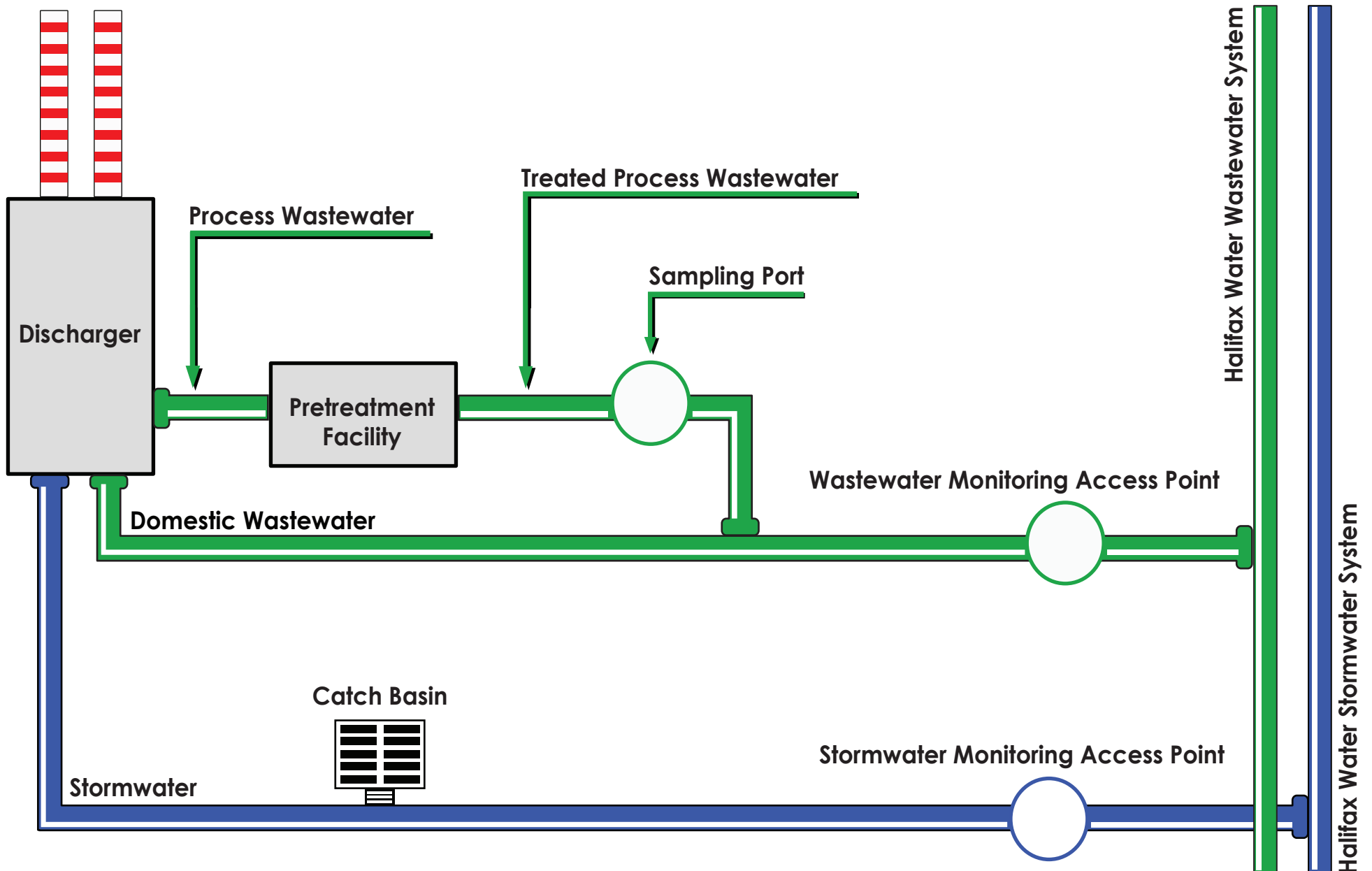
APPENDIX A Sampling Ports – Configuration & Sizing

Requirements for Sampling Ports

All sampling ports are required to satisfy the following conditions:

- A minimum drop from the inlet to the outlet of 300 mm (12 inch) to allow for Halifax Water sampling equipment
- Be placed in a location that is always accessible, including during unannounced inspections, and not covered by any equipment or shelving
- Be located downstream of any Pretreatment Facility and upstream of any domestic Wastewater sources
- Either recessed in or above the floor are both acceptable configurations, provided adequate grade is achievable from the Pretreatment Facility

A sample diagram of what a sampling port should look like is included in this appendix. This is only an example. Manufacturers sell sampling ports in different configurations and Halifax Water suggests contacting a manufacturer representative who has experience in sampling ports or pretreatment facilities.



APPENDIX B

Pretreatment Examples



Type Of Business	Additional Information	Halifax Water Concerns					Required Pretreatment													
		None	Fats, Oils, and Grease	Oil (non-food based)	Debris and Sediment	Stormwater runoff	Other Parameters	None	Wastewater	Best Management Practices	Grease Interceptor	Oil Interceptor	Sediment Interceptor/Separator	Stormwater	Sediment Interceptor	Regular Interceptor	Stormwater Catchbasin Cleaning	Stormwater Treatment Unit	Other Treatment	
Retail Store	Domestic wastewater only	X						X												
Bank	Domestic wastewater only	X						X												
Office Space	Domestic wastewater only	X						X												
Office Space	Cafeteria with food establishment permit		X						X	X										
Daycare	With food establishment permit		X						X	X										
Daycare	In home		X						X											
Grocery Store	No food prepared on site	X						X												
Grocery Store	Food prepared on site		X						X	X										
Parking Lot	That may allow sediment to enter the system					X							X	X						
Restaurant	Food prepared or served on site		X						X	X										
Food Truck			X						X	X										
Bar	No food prepared on site	X						X												
Bar	Food prepared on site		X							X										
Apartment Building	Outdoor parking				X	X		X							X					
Apartment Building	Indoor parking				X						X									
Parkade			X	X							X									
Garage	Vehicle maintenance		X	X	X				X		X			X	X					
Garage	Under coating		X	X	X				X		X			X	X					
Gas Bar	No vehicle service area		X	X	X									X	X					
Gas Bar	Vehicle service area		X	X	X				X		X			X	X					
Carwash			X	X	X						X	X		X						
Metal fabricator								Metals												
Manufacturer								Metals, Oils, Solvents												
Food Processor			X					FOG, BOD, TSS		X										
Laboratory								Chemicals												
Hydroponic grower								BOD, Nutrients												
Brewery	No food prepared on site							BOD, pH, Chemicals												
Brewery	Food prepared on site		X					BOD, pH, Chemicals		X										
Winery								BOD, pH, Chemicals												
Fermenters								BOD, pH, Chemicals												

Specific to the characterization of the wastewater at this location. Bench top testing may be required

APPENDIX C Hydromechanical Grease Interceptor – Sizing

Sizing Method for HGIs

1. Determine the number of sinks that the Interceptor will service including prep sinks, rinse sinks, wash sinks and sanitizing sinks
2. Calculate the volume of each sink in meters (or cubic inches)
3. Total the volumes of all sinks
4. Multiply this volume by 75% (this is the actual drainage loading)
5. Divide by 0.001 to convert to litres (or 231 to convert to US gallons)
6. Divide by 1 minute (for a 1-minute drain down).
7. Round up to the nearest available capacity (see [Table 1](#)).

Formula (one-minute drain down):

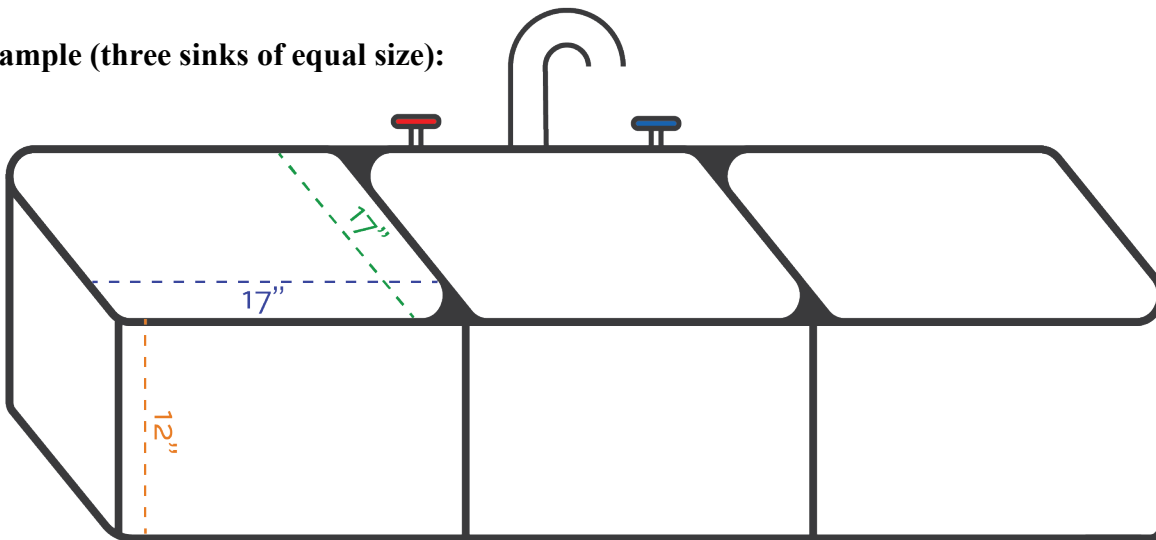
Metric

$$\text{HGI Size} = [(L_{\text{sink1}} \times W_{\text{sink1}} \times D_{\text{sink1}}) + (L_{\text{sink2}} \times W_{\text{sink2}} \times D_{\text{sink2}}) + (L_{\text{sink3}} \times W_{\text{sink3}} \times D_{\text{sink3}}) \dots \text{etc.}] \times 75\% \div 0.001$$

U.S. Customary units

$$\text{HGI Size} = [(L_{\text{sink1}} \times W_{\text{sink1}} \times D_{\text{sink1}}) + (L_{\text{sink2}} \times W_{\text{sink2}} \times D_{\text{sink2}}) + (L_{\text{sink3}} \times W_{\text{sink3}} \times D_{\text{sink3}}) \dots \text{etc.}] \times 75\% \div 231$$

Example (three sinks of equal size):



Metric

$$\begin{aligned} \text{HGI Size} &= [(0.43 \times 0.43 \times 0.30) + (0.43 \times 0.43 \times 0.30) + (0.43 \times 0.43 \times 0.30)] \times 75\% \div 0.001 \\ &= 125 \text{ L/min} \\ &= 132 \text{ L/min (rounded up to standard Interceptor sizing)} \end{aligned}$$

U.S. Customary units

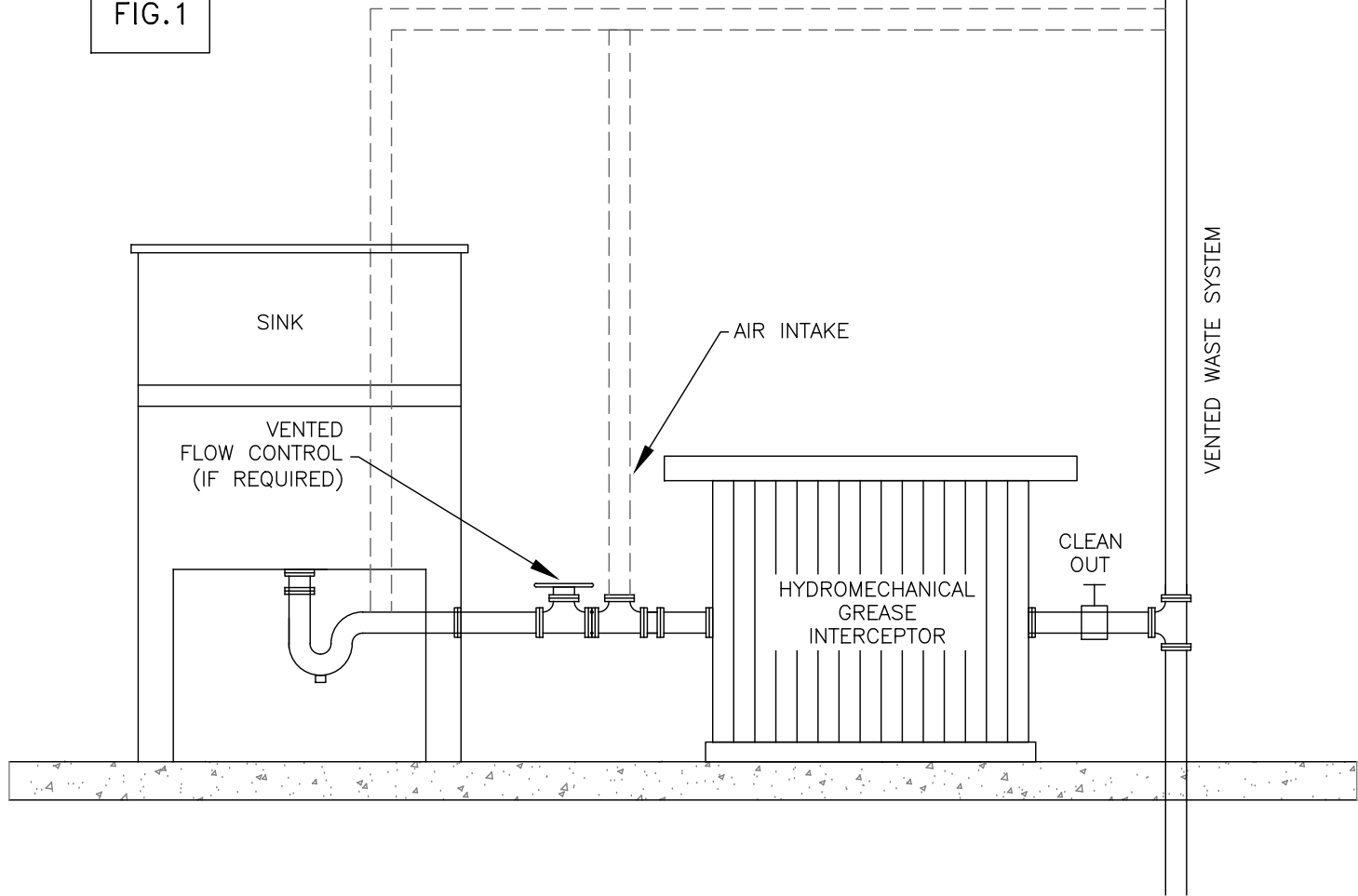
$$\begin{aligned} \text{HGI Size} &= [(17 \times 17 \times 12) + (17 \times 17 \times 12) + (17 \times 17 \times 12)] \times 75\% \div 231 \\ &= 34 \text{ gpm} \\ &= 35 \text{ gpm (rounded up to standard Interceptor sizing)} \end{aligned}$$

2-minute drain down can only be used if pre-approved by Halifax Water

APPENDIX D


Hydromechanical Grease Interceptor – Configuration

FIG.1



1	NEW DETAIL FOR 2020	03/24/20	ST	JH
No.	DESCRIPTION	DATE	BY	CHKD

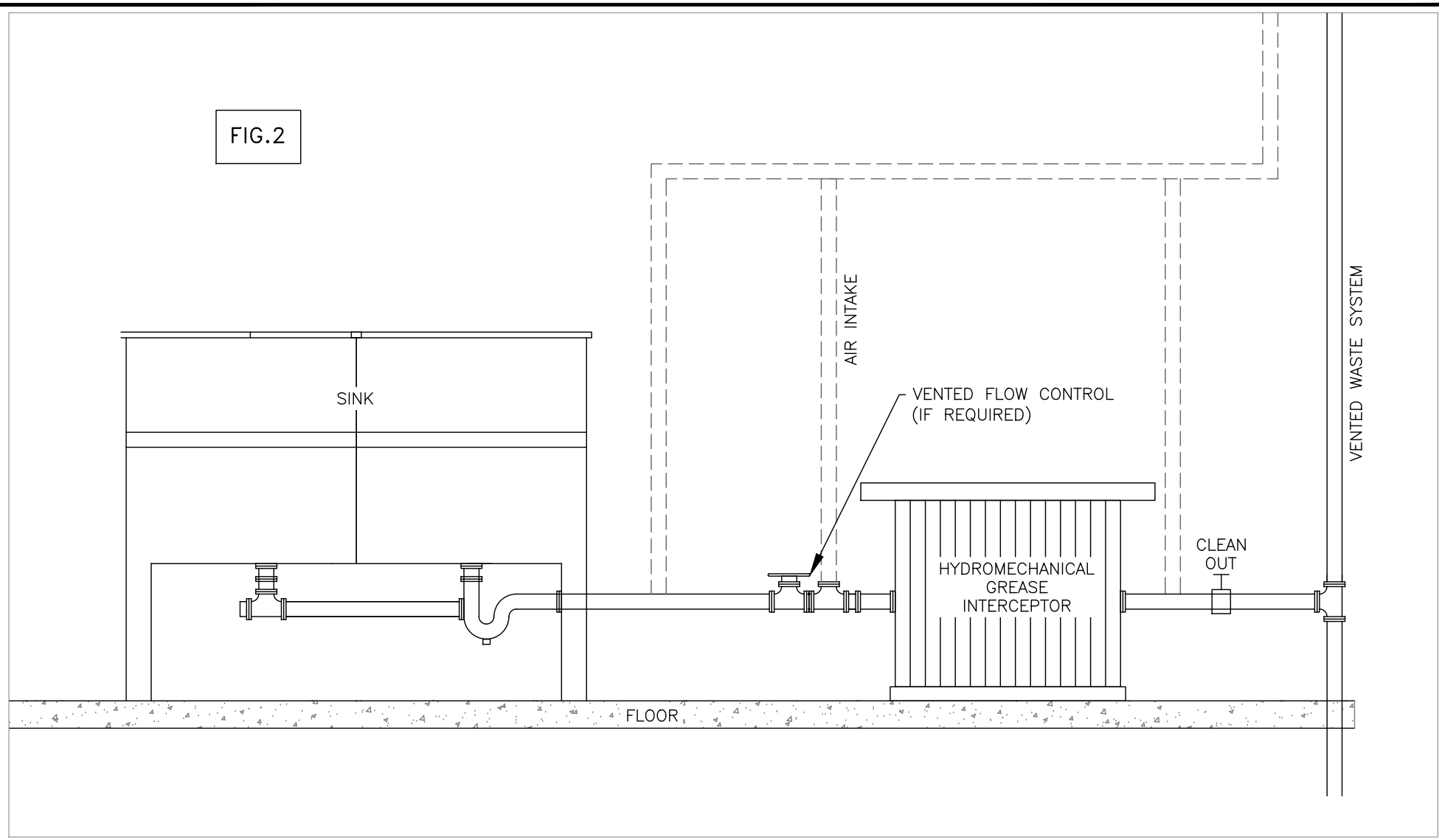
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS,
UNLESS OTHERWISE NOTED.



**GREASE INTERCEPTOR SERVING TRAPPED & VENTED SINK
FLOW CONTROL AIR INTAKE INTERSECTS VENT**

DRAWN	S.T.	SCALE (PLAN)	N.T.S.
CHECKED	JH	SCALE (PROFILE)	
APPROVED	—	DATE	03/24/20
PROJECT No.			
DWG. No.		FIG.1	

FIG.2



1	NEW DETAIL FOR 2020	03/25/20	ST	JH	
No.	DESCRIPTION	DATE	BY	CHKD	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS,
UNLESS OTHERWISE NOTED.

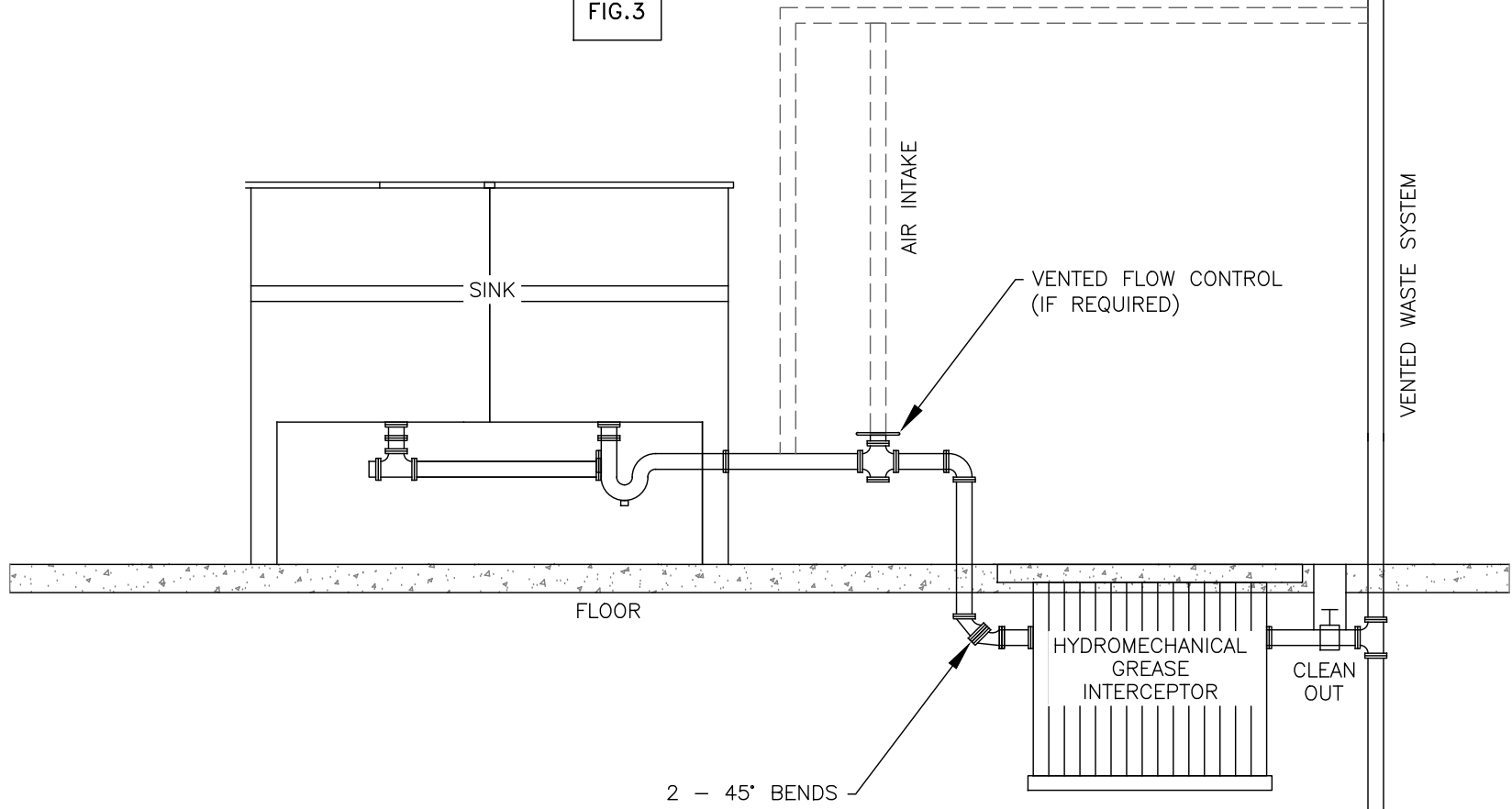


GREASE INTERCEPTOR SERVING
TRAPPED & VENTED SINK
FLOW CONTROL AIR INTAKE INTERSECTS
VENT AIR INTAKE TO VENT STACK

DRAWN	S.T.	SCALE (PLAN)	N.T.S.
CHECKED	JH	SCALE (PROFILE)	
APPROVED	—	DATE	03/25/20

PROJECT No.	
DWG. No.	FIG.2

FIG.3



No.	DESCRIPTION	DATE	BY	CHKD
1	NEW DETAIL FOR 2020	03/25/20	ST	JH

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS,
UNLESS OTHERWISE NOTED.

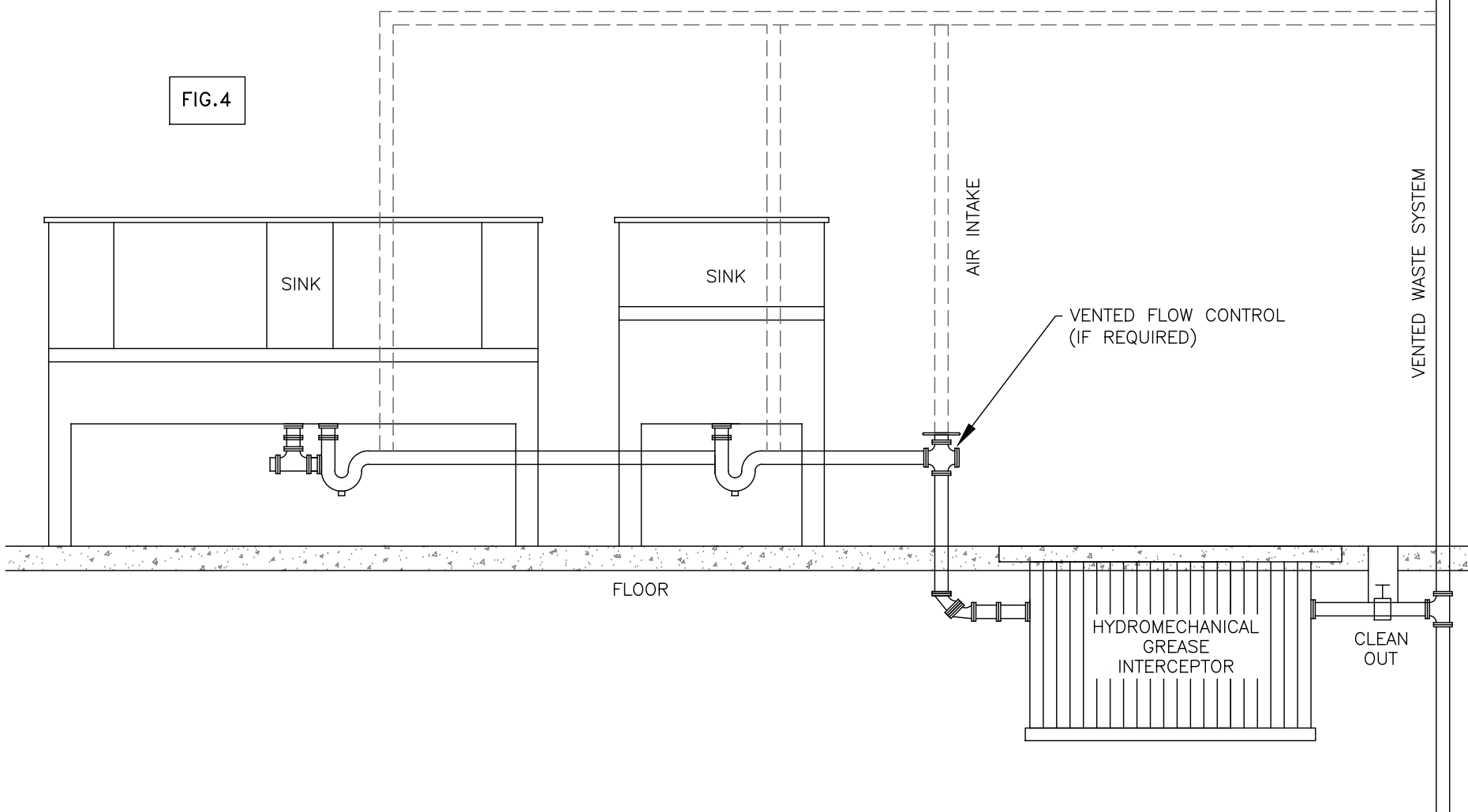


GREASE INTERCEPTOR SERVING TRAPPED & VENTED SINK

FLOW CONTROL AIR INTAKE AT SINK

DRAWN	S.T.	SCALE (PLAN)	N.T.S.
CHECKED	JH	SCALE (PROFILE)	
APPROVED	—	DATE	03/25/20
PROJECT No.			
DWG. No.		FIG.3	

FIG.4



No.	DESCRIPTION	DATE	BY	CHKD
1	NEW DETAIL FOR 2020	03/25/20	ST	JH

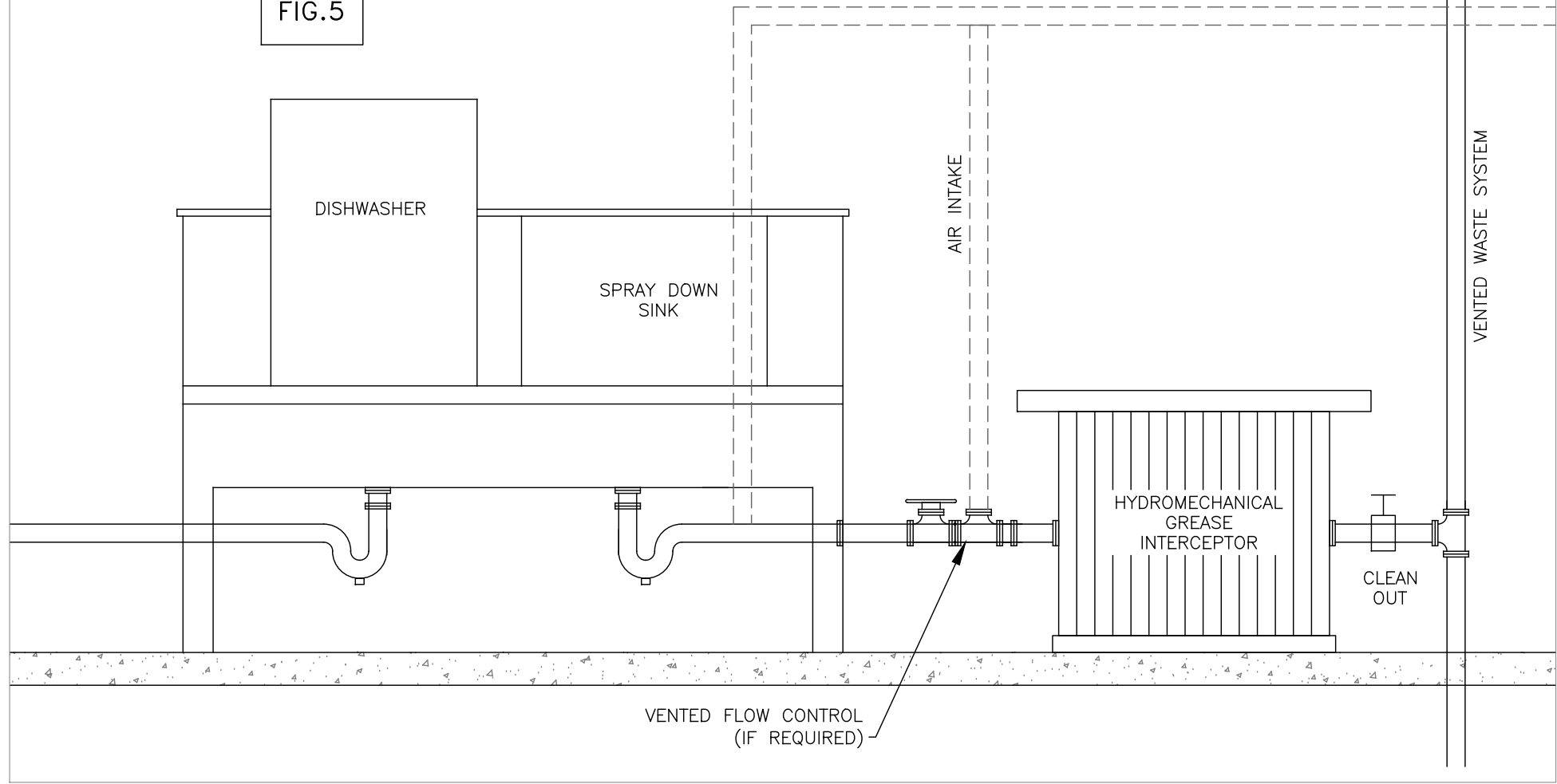
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS,
UNLESS OTHERWISE NOTED.



GREASE INTERCEPTOR SERVING 2 INDIVIDUALLY TRAPPED & VENTED SINK
FLOW CONTROL AIR INTAKE INTERSECTS VENT

DRAWN	S.T.	SCALE (PLAN)	N.T.S.
CHECKED	JH	SCALE (PROFILE)	
APPROVED	—	DATE	03/25/20
PROJECT No.			
DWG. No.		FIG.4	

FIG.5



1	NEW DETAIL FOR 2020	03/24/20	ST	JH	
No.	DESCRIPTION	DATE	BY	CHKD	

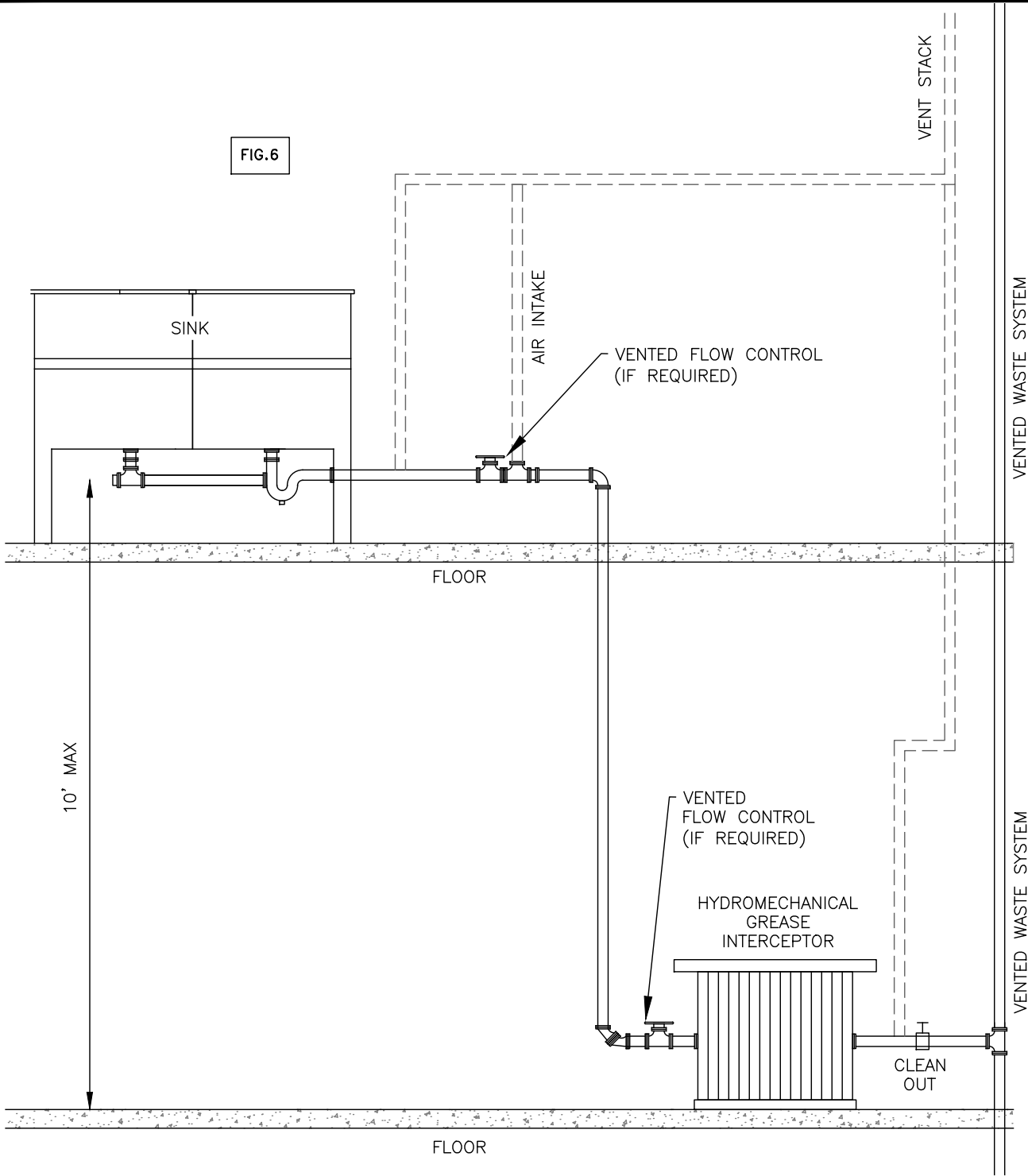
NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS,
UNLESS OTHERWISE NOTED.



**GREASE INTERCEPTOR SERVING
DISHWASHER
FLOW CONTROL AIR INTAKE
INTERSECTS VENT**

DRAWN	S.T.	SCALE (PLAN)	N.T.S.
CHECKED	JH	SCALE (PROFILE)	
APPROVED	—	DATE	03/24/20
PROJECT No.			
DWG. No.		FIG.5	

FIG.6



1	DETAILS FOR 2020	3/25/20	ST	JH
No.	DESCRIPTION	DATE	BY	CHKD

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS,
UNLESS OTHERWISE NOTED.

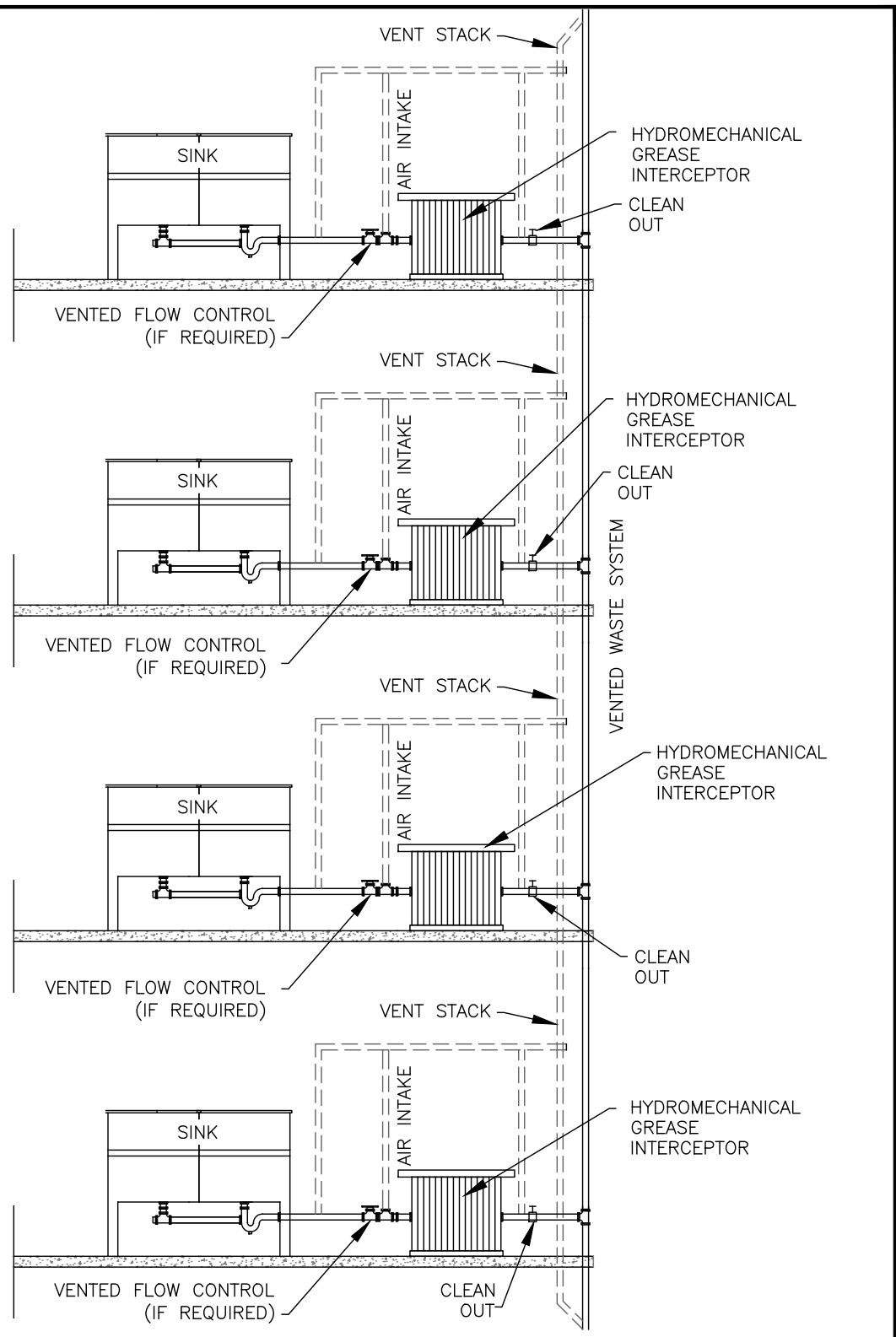


INTERCEPTOR ON FLOOR BELOW
SERVING TRAPPED & VENTED SINK
FLOW CONTROL AIR INTAKE TO VENT
STACK

DRAWN	SJT	SCALE (PLAN)	NTS
CHECKED	JH	SCALE (PROFILE)	NTS
APPROVED	—	DATE	03/25/20

PROJECT No.
DWG. No. FIG.6

FIG.7



1	DETAILS FOR 2020	3/25/20	ST	JH
No.	DESCRIPTION	DATE	BY	CHKD

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS,
UNLESS OTHERWISE NOTED.



GREASE INTERCEPTOR SERVING TRAPPED & VENTED SINKS
FLOW CONTROL AIR INTAKE INTERSECTS VENT - MULTI-STORY INSTALLATION

DRAWN	SJT	SCALE (PLAN)	NTS
CHECKED	JH	SCALE (PROFILE)	NTS
APPROVED	—	DATE	03/25/20
PROJECT No.			
DWG. No. FIG.7			

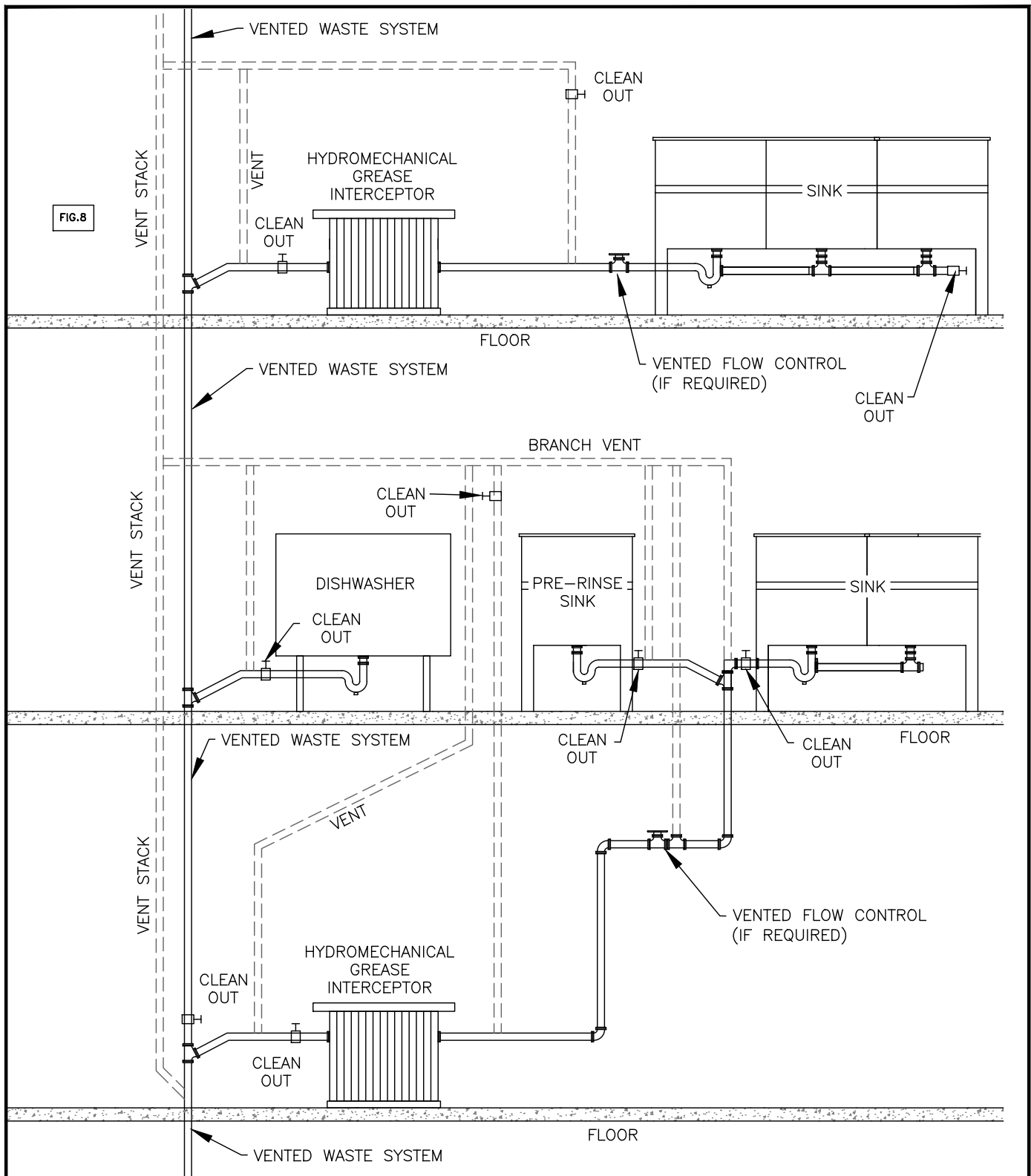



FIG.8

1	DETAILS FOR 2020	3/25/20	ST	JH
No.	DESCRIPTION	DATE	BY	CHKD

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS,
UNLESS OTHERWISE NOTED.



GREASE INTERCEPTOR INSTALLATION

DRAWN	SJT	SCALE (PLAN)	NTS
CHECKED	JH	SCALE (PROFILE)	NTS
APPROVED	—	DATE	03/25/20
PROJECT No.			
DWG. No. FIG.8			

APPENDIX E Gravity Grease Interceptor – Sizing

Gravity Grease Interceptor Sizing Method.

Gravity Grease Interceptors shall be sized by totalling the Drainage Fixture Units (DFUs) for each connection using [Table 2](#). The total DFU is then compared to [Table 3](#) to determine Interceptor volume. When using [Table 3](#) you are required to round DFU totals up to the next available size. This means if the DFU total is 24 it needs to be rounded up to 35 (1000 gal) and not rounded down to 21 (750 gal).

Table 2 - Connection DFU Chart

Fixture	DFU
Commercial Sink with Food Waste	3
Kitchen Sink (Domestic)	2
Bar Sink	2
Wash Sink	2
Service or Mop Sink	3
Dishwasher	2
Floor Drain	2
Drinking Fountain or Water Cooler	0.5
Other Contributors	DFU
30mm (1¼ in) trap & trap arm	1
40 mm (1½ in) trap & trap arm	3
50 mm (2 in) trap & trap arm	4
80 mm (3 in) trap & trap arm	6
100 mm (4 in) trap & trap arm	8
Flow of 3.8 to 28.7 L/min (1.0 to 7.5 gpm)	1
Flow of 28.8 to 56.8 L/min (7.6 to 15 gpm)	2
Flow of 56.9 to 112 L/min (15.1 to 30 gpm)	4
Flow of 113 to 189 L/min (30.1 to 50 gpm)	6

IAPMO/ANSI UPC 1 – 2021 Table 702.1 Drainage and Fixture Unit Values (DFU)

Table 3 - DFU to Interceptor Size

DFUs ^{1,2}	Minimum Interceptor Volume, m ³ (gal)
≤ 8	1.89 (500)
21	2.84 (750)
35	3.79 (1000)
90	4.73 (1250)
172	5.68 (1500)
216	7.57 (2000)
307	9.46 (2500)
342	11.4 (3000)
428	15.1 (4000)
576	18.9 (5000)
720	28.4 (7500)
2112	37.9 (10000)
2640	56.8 (15000)

IAPMO/ANSI UPC 1 – 2021 Table 702.1 Table 1014.3.6 Gravity Grease Interceptor Sizing

Notes:

¹ The maximum allowable DFUs plumbed to the kitchen drain lines that will be connected to the grease Interceptor.

² Where the flow rate of directly connected fixture(s) or appliance(s) have no assigned DFU values, the additional grease Interceptor volume shall be based on the known flow rate (gpm) (L/s) multiplied by 30 minutes.

Gravity Grease Interceptor Sizing Example

A restaurant with the following fixtures and equipment needs a Gravity Grease Interceptor:

- One food preparation sink
- One mop sink
- Three floor drains
 - one in the food prep area
 - one in the grill area
 - one receiving the indirect waste from the ice machine

DFU Counts are collected from [Table 2](#)

Number	Fixture	DFU	Total
3	Floor drains	2 each	= 6 DFUs
1	Mop sink	3 each	= 3 DFUs
1	Food prep sink	3 each	= 3 DFUs
Total			= 12 DFUs

Using [Table 3](#), 12 DFU falls between 8 and 21 DFUs. 21 DFU is selected because it is the higher number meaning the Gravity Grease Interceptor required at this restaurant will be sized at a minimum of 2.84 m³ (750 gallons).

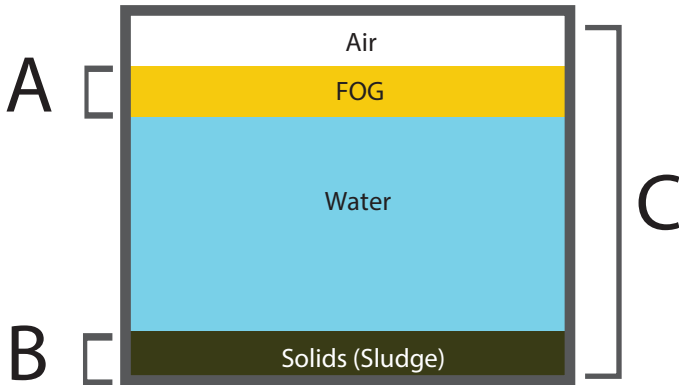
APPENDIX F

Grease Interceptor – 25% Rule

Interceptor Maintenance

The 25% Rule: Grease Interceptors

Example Interceptor

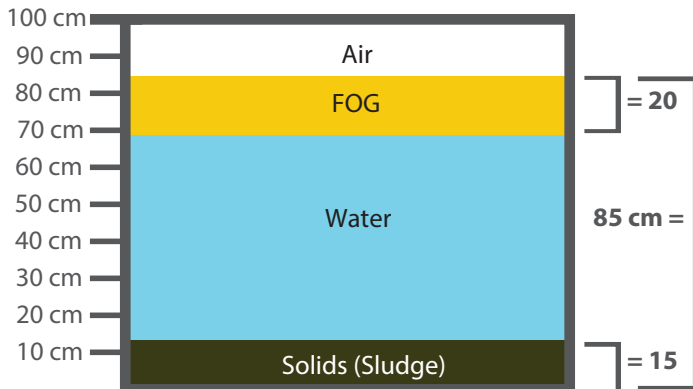


The 25% rule applies to grease interceptors. If the combined total amount of FOG (fats, oil and grease) and solids is 25% or more of the total volume of the oil interceptor, then it needs to be serviced.

Interceptors are required to be serviced before the combined amount of FOG and solids reach 25%, or monthly, whichever comes first.

$$\% \text{ Full} = \frac{(A + B)}{C} \times 100$$

Grease Interceptor Check: Jan. 1 (One month since the last servicing.)

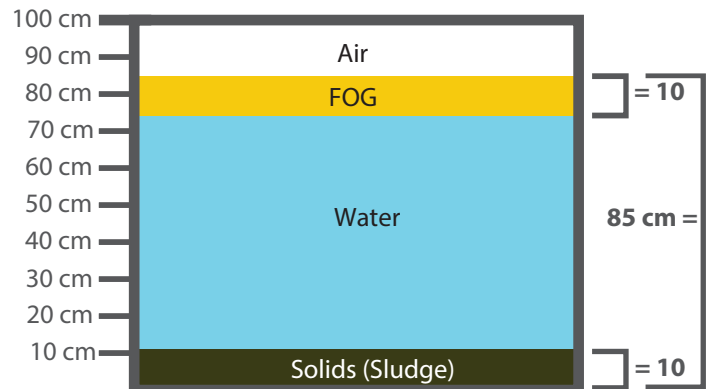


$$\% \text{ Full} = \frac{(20 + 15)}{85} \times 100$$

% Full = 41%

After one month, the combined total of FOG and Solids is greater than 25%, so this interceptor should have been serviced sooner. This restaurant needs to service their grease interceptor more frequently.

Grease Interceptor Check: Jan. 15 (Two weeks since the last servicing.)



$$\% \text{ Full} = \frac{(10 + 10)}{85} \times 100$$

% Full = 24%

After only two weeks, the combined total of FOG and Solids is less than 25%, so this interceptor can be serviced now. Every two weeks is an appropriate servicing schedule for this restaurant.

APPENDIX G

Grease Interceptor – Maintenance Log



Pollution Prevention – Grease Interceptor Maintenance Log

Note: Please refer to the appropriate section of the Halifax Water Pretreatment Requirements Manual for full servicing requirements.

- Hydromechanical Grease Interceptors are to be serviced monthly, at minimum and comply with the 25% rule
- Gravity Grease Interceptors are to be serviced quarterly at minimum and comply with the 25% rule
- Grease Interceptors more than 25% full at monthly servicing, must be serviced more frequently
- Servicing includes complete removal of all solids and liquids from the interceptor and an inspection
- Inspections include confirming the internal components such as baffles and walls are not corroded and are in good working order
- The use of enzymes, solvents, hot water or any other agents to facilitate removal of Fat, Oil and Grease (FOG) through the Grease Interceptor is prohibited

Establishment Name: _____ Contact Name: _____

Phone: _____ Email: _____

Address: _____

Date (mm/dd/yyyy)	Depth Measurements			% Full <small>((A+B)/C) * 100</small>	Less than 25%? Yes/No	Serviced? Yes/No	Internal Inspection Comments <small>Condition of baffles, walls, and other components</small>	Completed By	
	FOG (A)	Solids (B)	Depth (C)					Company	Name

After each servicing email a photo of this log to grease@halifaxwater.ca or mail a copy to
Halifax Water Pollution Prevention, P.O. Box 8388 RPO CSC, Halifax, NS, B3K 5M1

APPENDIX H Oil Interceptors – Sizing

Oil Interceptor Sizing

Oil Interceptors are sized based on the potential maximum incoming flow. This means that the maximum flow rate of all applicable fixtures needs to be totalled to determine the size of the Interceptor. To determine flow from the fixtures, Halifax Water uses AWW Sizing Water Service Lines and Meters – Manual of Water Supply Practices M22 Table 4-2.

Table 4 - Suggested fixture values based on 414 kPa (60 psi)

Fixture or Appliance	Suggested Fixture Value
Hose connections with 15.2 m (50 ft) of hose	
13 mm (½ in)	19 L/min (5 gpm)
16 mm (⅝ in)	34 L/min (9 gpm)
19 mm (¾ in)	45 L/min (12 gpm)

Example Calculation

A garage has a shop floor that drains to an Oil Interceptor. There are two 16 mm (⅝ in) hose bibs and two 19 mm (¾ in) hose bibs on the shop floor.

Metric

16 mm hose bib = 34 L/min
 19 mm hose bib = 45 L/min
 (2 x 34 L/min) + (2 x 45 L/min) = 158 L/min

U.S. Customary units

⅝ inch hose bib = 9 gpm
 ¾ inch hose bib = 12 gpm
 (2 x 9 gpm) + (2 x 12 gpm) = 42 gpm

This means that the Interceptor needs to be sized for a minimum of 158 L/min (42 gpm).

Oil Interceptor Selection

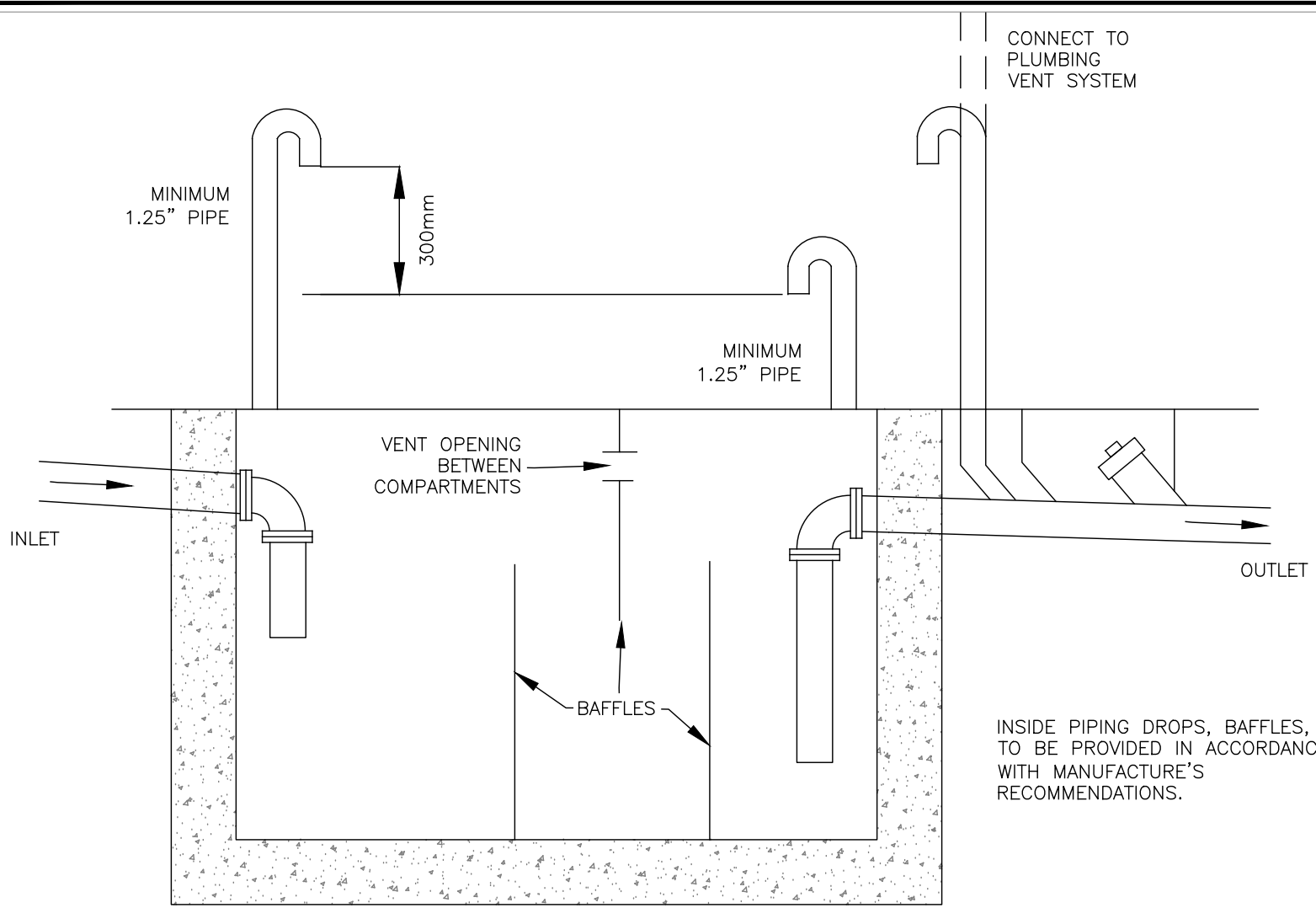
There are two methods of selecting an Interceptor and these methods differ depending on manufacturer and model.

1. Flow rate
 - a. This applies to Interceptors with a manufacturer determined flow rate
 - b. Select an Interceptor rated at a higher flowrate than the potential maximum incoming flow
 - c. Common sizes of Interceptors are listed in [Table 1](#)
 - d. Using the above example, a 158 L/min (42 gpm) incoming flow will mean a 189 L/min (50 gpm) Oil Interceptor is required
2. Total volume
 - a. This applies to Interceptors that a manufacturer sizes by volume
 - b. Halifax Water uses IAPMO IGC 183-2016 4.3 to determine retention time
 - c. Oil Interceptor designed by volume must be sized to retain Discharge for a minimum retention time of 15 minutes

Using the example above, a 158 L/min (42 gpm) flow with a 15 min retention time means 2.37 m³ (630 gal) is the minimum volume of Oil Interceptor required

APPENDIX I

Oil Interceptor – Design Examples



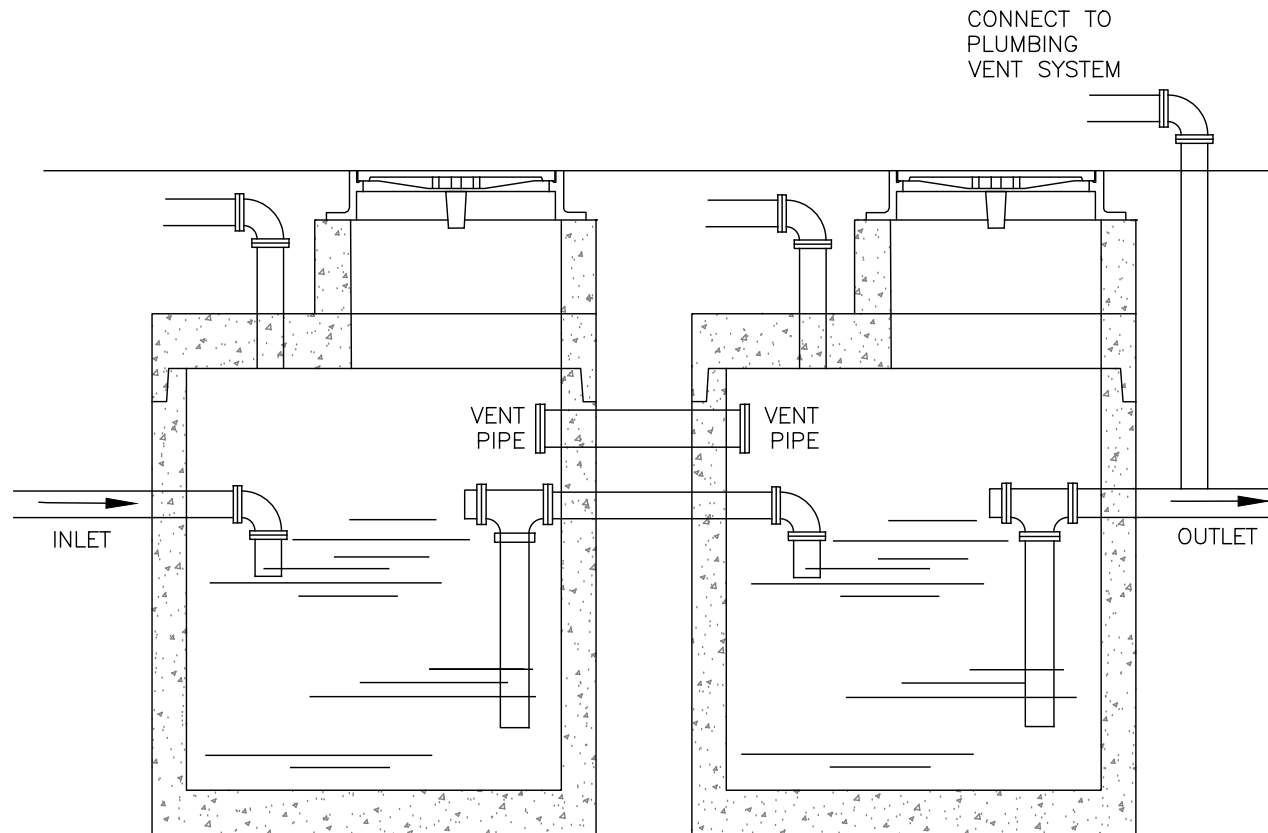
INSIDE PIPING DROPS, BAFFLES, ETC. TO BE PROVIDED IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATIONS.

1	NEW DETAIL FOR 2020	09/17/20	ST	JH	
No.	DESCRIPTION	DATE	BY	CHKD	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS,
UNLESS OTHERWISE NOTED.



OIL INTERCEPTOR WITH BAFFLES			
CROSS SECTION OF OIL INTERCEPTOR			
DRAWN	S.T.	SCALE (PLAN)	N.T.S.
CHECKED	JH	SCALE (PROFILE)	
APPROVED	—	DATE	09/17/20
PROJECT No.			
DWG. No.		FIG.9	

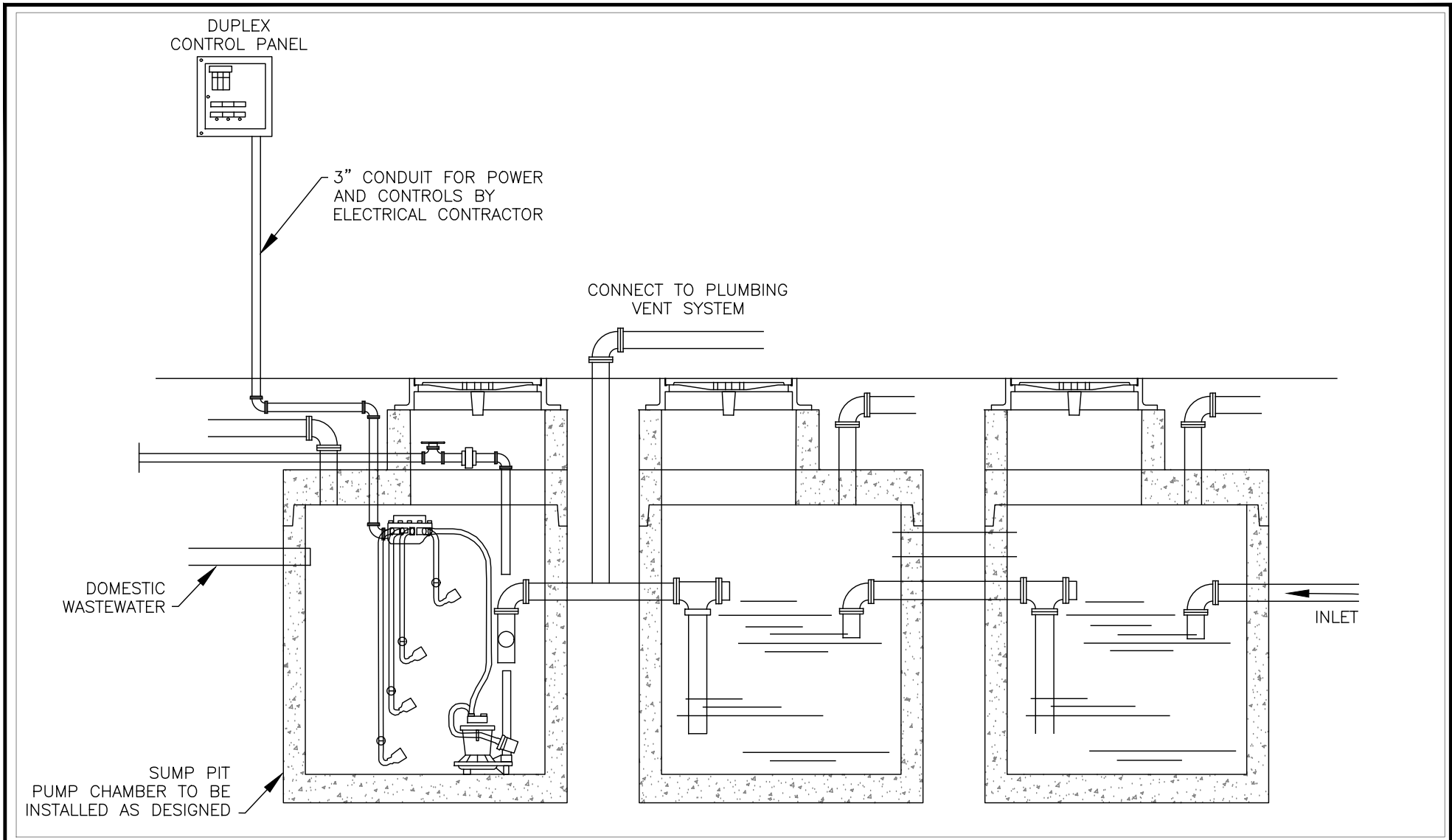


1	NEW DETAIL FOR 2020	03/25/20	ST	JH	
No.	DESCRIPTION	DATE	BY	CHKD	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS,
UNLESS OTHERWISE NOTED.



CHAMBER OIL INTERCEPTOR			
2 CHAMBER			
DRAWN	S.T.	SCALE (PLAN)	N.T.S.
CHECKED	JH	SCALE (PROFILE)	
APPROVED	—	DATE	03/25/20
PROJECT No.			
DWG. No.		FIG.10	



1	NEW DETAIL FOR 2020	03/25/20	ST	JH	
No.	DESCRIPTION	DATE	BY	CHKD	

NOTE:
ALL DIMENSIONS SHOWN IN MILLIMETERS,
UNLESS OTHERWISE NOTED.



CHAMBER OIL INTERCEPTOR PLUS PUMP			
-			
DRAWN	S.T.	SCALE (PLAN)	N.T.S.
CHECKED	JH	SCALE (PROFILE)	
APPROVED	-	DATE	03/25/20
PROJECT No.			
DWG. No.		FIG.11	

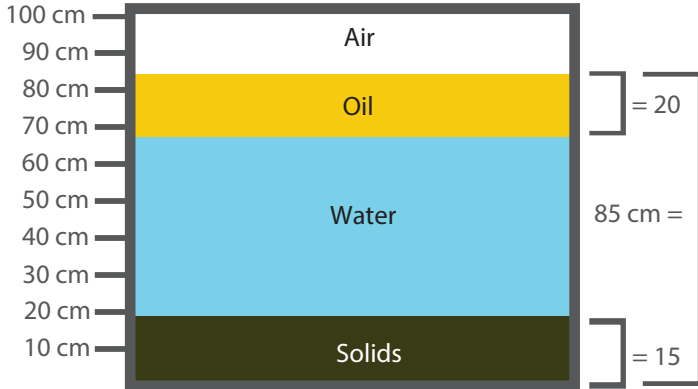
APPENDIX J

Oil Interceptor – 25% Rule

Interceptor Maintenance

The 25% Rule: Oil Interceptors

Oil Interceptor Check: Jan. 1
(One year since the last servicing.)



$$\% \text{ Full} = \frac{(20 + 15)}{85} \times 100$$

$$\% \text{ Full} = 41\%$$

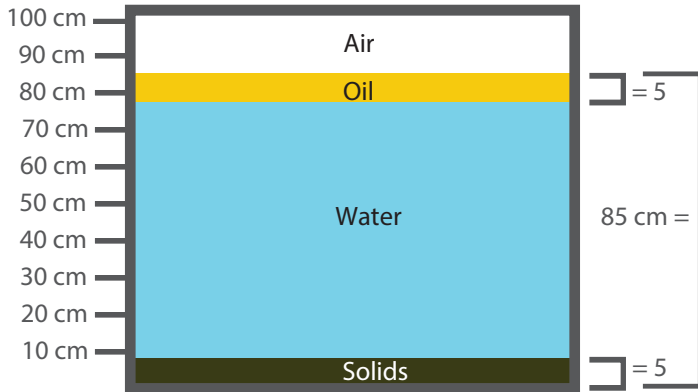
In the example above, after one year, the combined total of oil and solids is greater than 25%, so this interceptor should have been serviced sooner.

This establishment needs to service their oil interceptor more frequently.

The 25% rule applies to oil interceptors. If the combined total amount of oil and solids is 25% or more of the total volume of the oil interceptor, then it needs to be serviced.

Interceptors are required to be serviced before the combined amount of oil and solids reach 25%, or annually, whichever comes first.

Oil Interceptor Check: March 1
(Three months since the last servicing.)

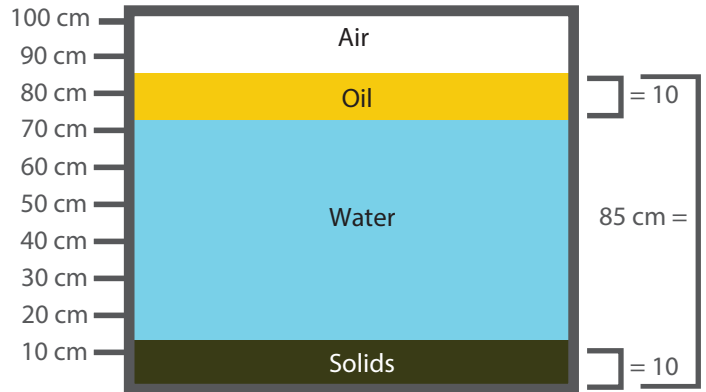


$$\% \text{ Full} = \frac{(5 + 5)}{85} \times 100$$

$$\% \text{ Full} = 12\%$$

After three months, the combined total of oil and solids is much less than 25%, so this interceptor can be left for another three months before servicing.

Oil Interceptor Check: June 1
(Six months since the last servicing.)



$$\% \text{ Full} = \frac{(10 + 10)}{85} \times 100$$

$$\% \text{ Full} = 24\%$$

After six months, the combined total amount of oil and solids is less than 25%, but will not have enough room to last another three months. This interceptor is now required to be serviced. At current usage, every six months is an appropriate schedule for this establishment, along with measurements every three months.

APPENDIX K

Oil Interceptor – Maintenance Log



Pollution Prevention – Oil Interceptor Maintenance Log

Note: Please refer to the appropriate section of the Halifax Water Pretreatment Requirements Manual for full servicing requirements.

- Oil Interceptors are to be inspected quarterly, and serviced yearly, at minimum
- Oil Interceptors more than 25% full at monthly servicing, must be serviced more frequently
- Servicing includes complete removal of all solids and liquids from the interceptor and an inspection
- Inspections include confirming the internal components such as baffles and walls are not corroded and are in good working order
- The use of enzymes, solvents, hot water or any other agents to facilitate removal of oil and grease through the Oil Interceptor is prohibited

Establishment Name: _____ Contact Name: _____

Phone: _____ Email: _____

Address: _____

Date (mm/dd/yyyy)	Depth Measurements			% Full ((A+B)/C) * 100	Less than 25%? Yes/No	Serviced? Yes/No	Internal Inspection Comments Condition of baffles, walls, and other components	Completed By	
	FOG (A)	Solids (B)	Depth (C)					Company	Name

**After each servicing email a photo of this log to grease@halifaxwater.ca or mail a copy to
Halifax Water Pollution Prevention, P.O. Box 8388 RPO CSC, Halifax, NS, B3K 5M1**

APPENDIX L

Sediment Interceptor – 75% Rule

Sediment Interceptor Check: Jan. 1 (One year since the last servicing.)



$$\% \text{ Full} = \frac{(75)}{85} \times 100$$

$$\% \text{ Full} = \mathbf{88\%}$$

In the example above, after one year, the total solids is greater than 75%, so this interceptor should have been serviced sooner. This establishment needs to service their interceptor more frequently.

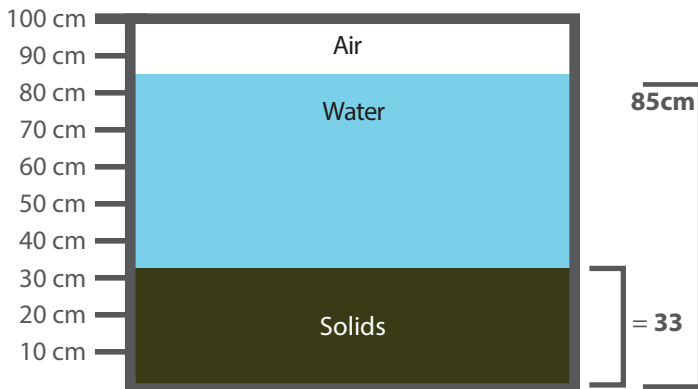
The 75% Rule: Sediment Interceptor

The 75% rule applies to sediment interceptors only. Is the total amount of solids is 75% or more of the total volume of the sediment interceptor, then it needs to be serviced.

Interceptors are required to be serviced before the amount of solids reaches 75% of the volume of the interceptor, or once per year, whichever comes first.

Quarterly checks are also required to track the level of solids.

Sediment Interceptor Check: March 1 (Three months since the last servicing.)



$$\% \text{ Full} = \frac{33}{85} \times 100$$

$$\% \text{ Full} = \mathbf{39\%}$$

After three months, the total solids is much less than 75%, so this interceptor can be left for another three months before servicing.

Sediment Interceptor Check: June 1 (Six months since the last servicing.)



$$\% \text{ Full} = \frac{62}{85} \times 100$$

$$\% \text{ Full} = \mathbf{73\%}$$

After six months, the total amount of solids is less than 75%, but will not have enough room to last another three months. This interceptor is now required to be serviced. At current usage, every six months is an appropriate schedule for this establishment, along with measurements every three months.

APPENDIX M

Sediment Interceptor – Maintenance Log



Pollution Prevention – Sediment Interceptor Maintenance Log

Note: Please refer to the appropriate section of the Halifax Water Pretreatment Requirements Manual for full servicing requirements.

- Sediment Interceptors are to be inspected quarterly, and serviced yearly, at minimum
- Sediment Interceptors more than 75% full at quarterly servicing, must be serviced more frequently
- Servicing includes complete removal of all solids and liquids from the interceptor and an inspection
- Inspections include confirming the internal components such as baffles and walls are not corroded and are in good working order

Establishment Name: _____ Contact Name: _____

Phone: _____ Email: _____

Address: _____

Date (mm/dd/yyyy)	Depth Measurements			% Full ((A+B)/C) * 100	Less than 75%? Yes/No	Serviced? Yes/No	Internal Inspection Comments Condition of baffles, walls, and other components	Completed By	
	FOG (A)	Solids (B)	Depth (C)					Company	Name

After each servicing email a photo of this log to grease@halifaxwater.ca or mail a copy to
Halifax Water Pollution Prevention, P.O. Box 8388 RPO CSC, Halifax, NS, B3K 5M1