

FOG Management Program Manual

1.0 Introduction

Grease protection is an essential element for restaurants, cafes, catering facilities, commissaries, hotels, cafeterias, convenience stores, full service grocery stores, schools, and hospitals. Grease interceptors are installed on “gray” water drain lines and are designed to remove fats, oils, and grease (FOG) from wastewater. The retained FOG should be regularly removed or pumped out of the interceptor.

This manual provides design, installation, and maintenance requirements for establishments determined by the Hobart Sanitary and Stormwater District (HSSWD) to require a grease control device (GCD) or devices before discharging into the Sanitary Sewer System.

Questions regarding the FOG Management Program should be directed to Timothy Kingsland, HSSWD Coordinator, at (219) 942-3619 or tkingsland@cityofhobart.com

1.1 Definitions

Grease Control Device (GCD) A plumbing device designed to intercept most greases before they enter a wastewater disposal system.

Gravity Grease Interceptor (GGI) Typically a large tank, often installed in the ground outside the facility. GGIs usually have at least 300 gallons of liquid capacity.

Hydromechanical Grease Interceptors (HGI) A device that separates and stores fats, oils, and grease and is commonly used inside for point of use grease separation. Generally located inside the facility. Flow rates range from 10 gpm to 100 gpm.

FOG Fats, oils, and grease produced through food preparation that must be separated from wastewater before it is discharged to the wastewater collection system.

1.2 General Requirements

All non-residential facilities that prepare, process, or serve food as determined by the HSSWD, are required to have a FOG Discharge Permit issued by HSSWD and an approved grease control device. Such facilities include restaurants, cafes, catering facilities, commissaries, hotels, cafeterias, convenience stores, full service grocery stores, schools, and hospitals.

The FOG Discharge Permit for any facility shall be renewed whenever there is a significant change in operation, including expansion, remodeling that requires a plumbing permit, or change in ownership.

Grease control devices shall be installed solely at the permittee's expense. Proper operation, maintenance, and repair of grease control devices shall be done solely at the permittee's expense.

Kitchen fixtures that must drain through the grease waste line include:

- Pot Sinks
- Pre-Rinse Sinks
- Dishwashers
- Rotisserie ovens/broilers or other grease generating equipment with drip lines
- Mop Sinks
- Can Washer(s)
- Soup Kettles (Kettle Cookers) or sinks into which kettles are drained
- Garbage Disposals (with solids interceptor)
- Automatic Hood Wash Unit(s)
- Floor Drains in food preparation area
- Wok Sinks
- Any other fixture that produces grease-laden wastes

* Any fixture not containing grease-laden waters shall be plumbed to the establishment's sanitary waste line.

2.0 Approval of Grease Control Device

All components of the establishment's FOG management system must be approved by the HSSWD prior to installation, including GCD(s) and fixtures draining through the establishment's grease line. This approval ensures that the GCD(s) and grease waste line meet sizing requirements, construction standards, and conform to applicable City and plumbing codes. A completed and signed FOG Discharge Permit Application Form and other required FOG documentation must be submitted to obtain approval.

2.1 Submittal of Required FOG Documentation

The following information must be submitted to receive approval to discharge wastewater into the HSSWD's Sanitary Sewer System:

- FOG Discharge Permit Application
- Formula used to calculate GCD(s) size(s)

- Facility Floor Plan - showing the size and location of the GCD(s) and piping
- Equipment/Plumbing Schedule
- Sanitary Plumbing Plan - denoting grease waste line and sanitary line
- Sanitary Isometric - denoting grease waste line and sanitary line
- GGI Detail(s) (if applicable)
- HGI Detail(s) (if applicable)
- Menu

2.2 Compliance Inspection

The customer's GCD(s) will be inspected after installation to ensure Minimum Design Standards are satisfied. To receive final approval to discharge into the HSSWD sewer an inspection of the GCD installation must be made by the City of Hobart building department during construction/renovation.

Upon installation of the facility's plumbing, an inspector will check to ensure all applicable fixtures are connected to the grease waste line. If the facility is renovated, the grease line may be subject to dye testing to determine compliance.

Requirements for GGI Inspection:

1. The GGI should not be backfilled.
2. The manhole covers should be removed from the interceptor and the downstream manhole.

Requirements for HGI Inspection:

1. Cover should be removed.
2. PDI-certification should be visible on lid.

2.3 FOG Discharge Permit

An approved permit will be sent within 5 business days after the Compliance Inspection to confirm that final approval has been given to discharge into the HSSWD Sanitary Sewer System. If the permit application is not approved, contact will be made with the appropriate parties to discuss what elements of the FOG discharge control system need to be changed. The design elements that did not meet the approval of the HSSWD must be corrected and may need to be re-submitted for further review.

This permit will be needed to discharge wastewater to the HSSWD Sanitary Sewer System.

3.0 Minimum Design Standards

The following section includes sizing guidelines for two types of grease control devices: Gravity Grease Interceptors (GGI) and hydromechanical grease interceptors (HGI)

3.1 Design of Gravity Grease Interceptor

The sizing of GGIs shall be in accordance with Indiana Plumbing Code. Provide calculations used to determine GGI sizing for review by HSSWD.

The following minimum compliance standards must be adhered to in order to receive approval and obtain a FOG Discharge Permit upon completion of design and installation:

- Shall be designed, constructed, and installed for adequate load-bearing capacity.
- Should be located outside of building in an accessible area so that inspecting, pumping, and maintenance can be easily performed at any time. Placement should allow the interceptor covers to be visible and easily removed without obstruction.
- Directly accessible from the surface by 24" diameter manhole covers over the influent tee, effluent tee, as well as over the baffle wall tee.
- Manhole covers and risers shall be constructed to prevent the release of odor and the inflow or infiltration of water.
- Dual-compartments separated by an interior baffle wall.
- There shall be a minimum two inch gap between the top of the baffle wall and the bottom side of the tank top in order to leave space for air or gas passage between compartments.
- Influent compartment should account for 2/3 of the interceptor's liquid capacity.
- Effluent compartment should account for 1/3 of the interceptor's liquid capacity.
- GGI tank length shall be at least two (2) but not more than three (3) times the width.
- The liquid depth shall not be less than four (4) feet.
- A minimum of nine (9) inches of freeboard shall be provided.
- Useable liquid capacity for GGIs shall not be less than one thousand (1000) gallons.
- The knockouts for the inlet and outlet openings of pre-cast tanks shall have a concrete thickness of not less than one (1) inch in the tank wall. The openings shall allow for a minimum diameter of four (4) inch pipe or a maximum of six (6) inch pipe.
- No openings shall be permitted below the tank liquid level.
- The influent, effluent, and baffle wall tees for GGIs shall be cast-in-place concrete, polyvinyl chloride (PVC), or polyethylene (PE), made of not less than Schedule 40 pipe or equivalent fittings and material.

- Cast-in-place concrete tees shall have a minimum thickness of not less than two (2) inches.
- The invert of the effluent shall be at least two (2) inches lower in elevation than the invert of the influent.
- Influent, effluent, and baffle wall tees shall extend above liquid depth to approximately one inch from the top of the tank.
- The influent tee shall extend at least sixteen (16) inches below the liquid level.
- The effluent tee and baffle wall tee shall extend below liquid level to twelve (12) inches above the tank bottom.
- The influent, effluent, and baffle wall conduit openings for all tanks must utilize a resilient, watertight, and non-corrosive connective sleeve. The use of grout is prohibited.

3.2 Design of Hydromechanical Grease Interceptors

The sizing of GGIs shall be in accordance with Indiana Plumbing Code. Provide calculations used to determine GGI sizing for review by HSSWD.

When a properly sized HGI is installed the following minimum compliance standards must be adhered to in order to receive approval and obtain a FOG Discharge Permit upon completion of design and installation:

- Must be certified by the Plumbing & Drainage Institute (PDI) and installed with all applicable components.
- The PDI nameplate shall be permanently marked with the manufacturers name, the PDI symbol rating and the minimum grease retention capacity in pounds.
- HGI shall be installed in strict accordance with the manufacturer's instructions.
- Install HGI as close as practical to fixture or fixtures being served, PDI recommends not to exceed twenty-five (25) feet.
- The HGI may be set on the floor, partially recessed in the floor, with top flush with the floor, or fully recessed below the floor to suit piping and structural conditions.
- HGI shall be equipped with a cover that can be opened for inspection and sampling and a mechanism for a secure closing.
- Anticipate sufficient clearance for removal of trap cover for cleaning.
- HGI shall be equipped with a device to control the rate of flow through the unit. The rate of flow shall not exceed the manufacturer's rated capacity recommended in gallons per minute for the device.
- The flow-control device and the HGI shall be vented in accordance with the International Plumbing Code current edition. The vent shall terminate not less than six (6) inches above the flood-rim level or in accordance with the manufacturer's instructions.
- Do not install HGI in waste line from garbage grinder unless a solids interceptor is installed. Rapid accumulation of solid matter will greatly reduce efficiency preventing operation in compliance with rated capacity.

- The capacity of the HGI shall be related to the flow rate as indicated in the appendix of the PDI Standards G101 document.
- The flow control fitting furnished with PDI certified traps must be installed prior to the HGI in the waste line beyond the last connection from the fixture and as close as possible to the underside of lowest fixture. When waste of two or more sinks or fixtures are combined to be served by one HGI, a single flow control fitting should be used. If the drain line drops ten (10) feet or more to the HGI, check with the manufacturer to see if an additional flow control is needed due to increased head pressures.
- Air intake for flow control shall terminate six (6) inches above the flood rim of the sink, terminate in a return bend at the same height and on outside of building, or be re-vented into the vent system of the building per International Plumbing Code. When fixture is individually trapped and back vented, air intake may intersect vent stack.
- HGIs shall have a vented waste on the outlet side, sized in accordance with code requirements for venting traps to retain water seal and prevent siphoning.
- One HGI to serve multiple fixtures is recommended only where fixtures are located close together. In such installations, each fixture should be individually trapped and back vented.
- A separate HGI is recommended for each commercial dishwasher. The size of the interceptor is determined by the GPM discharge rate of the dishwasher as specified by the manufacturer.

4.0 Maintenance and Inspection Requirements

Cleaning and maintenance of the grease control device shall be the responsibility of the permittee. All costs associated with proper maintenance of the GCD shall be borne by the permittee.

Cleaning shall include the complete removal of all contents, including floating materials, wastewater, and bottom sludge and solids.

Gravity grease interceptors shall be pumped out completely once per month unless a different frequency is approved in writing by the HSSWD. There shall be a minimum period of three weeks between each required pumping.

Hydromechanical grease interceptors shall be cleaned as necessary to prevent pass-through of grease into the collection system. HSSWD reserves the right to require any permittee to have the HGI periodically pumped clean by a private contractor.

It shall be the responsibility of the permittee to inspect the GCD during pumping and/or maintenance procedures to ensure that the cleaning is done properly and that all fittings and fixtures inside the GCD are in working condition and functioning properly.

Wastes removed from each grease control device shall be disposed at a facility permitted to receive such wastes. In no way shall the wastes be returned to any private or public portion of the collection system without prior written approval from the HSSWD.

No chemical additives may be used in the GCD unless approved in writing by the HSSWD prior to introduction. The use of chemical additives shall not be considered as a substitute for the maintenance requirements set herein.

Flushing the grease interceptor or grease trap with water having a temperature in excess of 140°F is prohibited.

Repairs required by the HSSWD Coordinator or his/her designee shall be completed within 14 days after the date that written notice is received by the permittee, unless HSSWD approves a different completion date in writing.

5.0 Enforcement

Grease control devices shall be inspected by HSSWD as necessary to assure compliance with the requirements herein. HSSWD personnel shall have the right to enter the premises of any non-residential facility at all reasonable times for the purpose of inspection, observation, records examination, measurement, sampling, and testing in accordance with the provisions included herein.

Enforcement will be in accordance with the District's Enforcement Response Guide.

