

# Fats, Oils, & Grease Standard Policy

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# 1. Purpose

Fats, oils, and grease (FOG) can have serious consequences when introduced into the public sewer collection system. FOG entering the sewer collection system from food preparation and dishwashing will coagulate and build up in the sewer collection system, eventually leading to a blockage of the Green Valley Water (GVW) public sewer collection system or your own sewer service line. When a blockage occurs, the sewage coming from upstream will back up and find another way out. It could exit through a manhole and run down the street or through a drain or cleanout in your business.

The purpose of this standard is to provide specific guidance for Commercial Establishments within the GVW corporate boundaries. This document should be used in conjunction with the Uniform Plumbing Code, latest edition. Users of the GVW Publicly Owned Treatment Works (POTW) are required to comply with the FOG pretreatment requirements, which enable GVW to comply with the Clean Water Act (CWA), (33 United States Code §§1251 et seq.), the General Pretreatment Regulations (40 Code of Federal Regulations, Part 403), and all other applicable Federal and State laws.

# 2. Grease Interceptors

## 2.1. Grease Interceptor Requirements

All Commercial Establishments within the GVW corporate boundaries that contain fixtures or equipment that produce grease-laden waste are required to have a grease interceptor to prevent FOG from discharging into the GVW sewer collection system. The Uniform Plumbing Code 2021 defines grease-laden fixtures as “Grease-laden waste fixtures shall include, but not be limited to sinks and drains, such as floor drains, floor sinks, and other fixtures or equipment in serving establishments, such as restaurants, cafes, lunch counters, cafeterias, bars and clubs, hotels, hospitals, sanitariums, factory or school kitchens, or other establishments where grease is introduced into the drainage or sewage system in quantities that can effect line stoppage or hinder sewage treatment...” Two types of grease interceptors are commercially available and approved for use in the GVW collection system, as described below.

### **2.1.1. Hydromechanical Grease Interceptors**

Hydromechanical Grease Interceptors are approved for use in GVW for Commercial Establishments with three (3) or less Drainage Fixture Units (DFU's) connected to the grease interceptor. Drainage Fixture Units are

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defined in the Uniform Plumbing Code 2021, Tables 702.1 and 702.1(1). A typical layout for a restaurant with a Hydromechanical Grease Interceptor would only include a three-compartment sink. No food waste disposal units (garbage disposals) can discharge to a Hydromechanical Grease Interceptor. All Hydromechanical Grease Interceptors within GVW must be installed outdoors and graded such that water shall not pond or enter the grease interceptor. All hydromechanical interceptors must be constructed of a corrosion resistant material (stainless steel or polymer). All approved Hydromechanical Grease Interceptors must be Plumbing and Drainage Institute (PDI) certified or UPS/IAPMO certified.

### 2.1.2. Hydromechanical Grease Interceptor Sizing

Hydromechanical Grease Interceptor sizes are based on flow rate and grease retention capacity. A size 50/100 Hydromechanical Grease Interceptor will have a maximum flow rate of 50 gallons per minute and can hold 100 pounds of FOG. The minimum size Hydromechanical Grease Interceptor allowed within GVW is a 50/100.

### 2.1.3. Gravity Grease Interceptors

Gravity Grease Interceptors are required for all Commercial Establishments within GVW that produce grease-laden waste and have more than three (3) Drainage Fixture Units (DFU's) connected to the grease interceptor. Drainage Fixture Units are defined in the Uniform Plumbing Code 2021, Tables 702.1 and 702.1(1). All Gravity Grease Interceptors within GVW must be installed outdoors and graded such that water shall not pond or enter the grease interceptor. Gravity Grease Interceptors shall be manufactured from a polymer or fiberglass material: Gravity Grease Interceptors manufactured from concrete are not allowed.

### 2.1.4. Gravity Grease Interceptor Sizing

Gravity Grease Interceptor sizes are based on normal fluid depth capacity, in gallons. Gravity Grease Interceptor sizing is based on the Uniform Plumbing Code, modified for a 2-hour detention time, per the following table:

Green Valley Water Gravity Grease Interceptor Sizing	
Drainage Fixture Units (DFU's) <sup>1</sup>	Minimum Gravity Grease Interceptor Volume (gal) <sup>2</sup>
3	750
4	1250
5	1500
6 - 8	2000
9 - 12	2500
13 - 18	3000
19 – 40	4000 <sup>3</sup>
41+	5000 <sup>3</sup>
<p><b>Notes:</b></p> <p>1 The allowable DFU's plumbed to the kitchen drain lines that will be connected to the Gravity Grease Interceptor.</p> <p>2 Based on a 2-hour detention time.</p> <p>3 May use two (2) Gravity Grease Interceptors in parallel to achieve required volume. An engineered plan shall be submitted to GVW for approval.</p>	

### 2.1.5. Installation and Replacement

Per GVW Rules and Regulations, all grease interceptors being installed or replaced within the GVW corporate boundary must be approved through a plan review and permitting process. All plans must be submitted to the Town of Payson Building Department at 303 N Beeline Hwy, Payson, AZ 85541. Subsequently, GVW will issue a sewer construction permit. Once installation and testing are complete, GVW considers the Grease Interceptor a part of the property sewer service account.

### 2.1.6. Testing

#### 2.1.6.1. Hydromechanical Grease Interceptors

All Hydromechanical Grease Interceptors shall be tested per the manufacturer's recommendations.

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### 2.1.6.2. Gravity Grease Interceptors

All Gravity Grease Interceptors shall be tested using a 2-hour, free-standing water test above all inlet and exit points and up to the neck risers of the interceptor. Zero (0) water loss over the 2-hour test period is allowed.

## 3. Maintenance/Recordkeeping Requirements

Grease Interceptor maintenance is critical to proper separation of fats, oils, and grease. Consequently, maintenance of grease interceptors **must include thorough pump-out and/or cleaning per the manufacturer's recommendations for Hydromechanical Grease Interceptors, at a minimum frequency of four (4) times per year for Gravity Grease Interceptors, or a frequency determined by the GVW Inspector.** The owner(s) shall be responsible for the proper removal and disposal by appropriate means of the captured material. Any removal and hauling of the collected materials, not performed by the owner(s) personnel for Hydromechanical Grease Interceptors, must be performed by a currently licensed waste disposal firm. Pump-outs/cleaning records and disposal invoices shall be kept for a minimum of two (2) years and recorded on the Maintenance Log form for each grease interceptor. Cleaning invoices must be submitted to GVW upon request. Appendix "A" contains a sample grease interceptor Maintenance Log. Maintenance Logs shall be posted in a conspicuous, visible, and easily accessible location for GVW inspection. Failure to maintain a maintenance log or perform the required quantity of pump-outs/cleaning will result in an unsatisfactory inspection rating. Note, the owner(s) is ultimately responsible for the proper maintenance of the grease interceptor facility(s). Appendix "B" contains a description of grease interceptors, maintenance recommendations, best management practices, and the inspection process for grease interceptors.

## 4. Inspections

GVW personnel shall inspect all active grease interceptors monthly. Inspections are to ensure compliance with the Federal Clean Water Act, GVW Rules and Regulations, and this Standard Policy. The grease mat in a grease interceptor shall not exceed one-quarter (1/4 or 25%) of the normal fluid level depth of the grease interceptor. Grease mats greater than one-quarter (1/4 or 25%) of the normal fluid depth will result in an unsatisfactory inspection rating.

## 5. Enforcement

Failure to comply with the terms of this Policy will give rise to the following enforcement actions by GVW:

1. Upon discovery of a violation, GVW will provide written notice to the Commercial Establishment of the nature of the violation and the opportunity to cure the violation within thirty-days without further consequence.
2. In the event the Commercial Establishment fails to cure the violation within the thirty-day period described in the preceding paragraph, GVW may, in its discretion, issue a service charge in the amount of \$250.00 pertaining to the violation. The service charge shall be included on the Establishment's billing statement and shall be immediately due and payable. Notice of the issuance of this service charge shall also advise the Commercial Establishment that, if the violation is not cured within thirty-days from the date of the notice, GVW may, in its discretion, disconnect the Establishment from GVW's wastewater collection system pending resolution of the violation.
3. In the event the Commercial Establishment fails to cure the violation within the thirty-days following the issuance of the notice and service charge referenced in the preceding paragraph, GVW may, at its discretion, disconnect the Establishment from its wastewater collection system until the violation is cured. In this event, the Commercial Establishment shall be charged all costs and fees typically charged by GVW in the case of a disconnection.

**6. Appendix “A” – Grease Interceptor Maintenance Log**



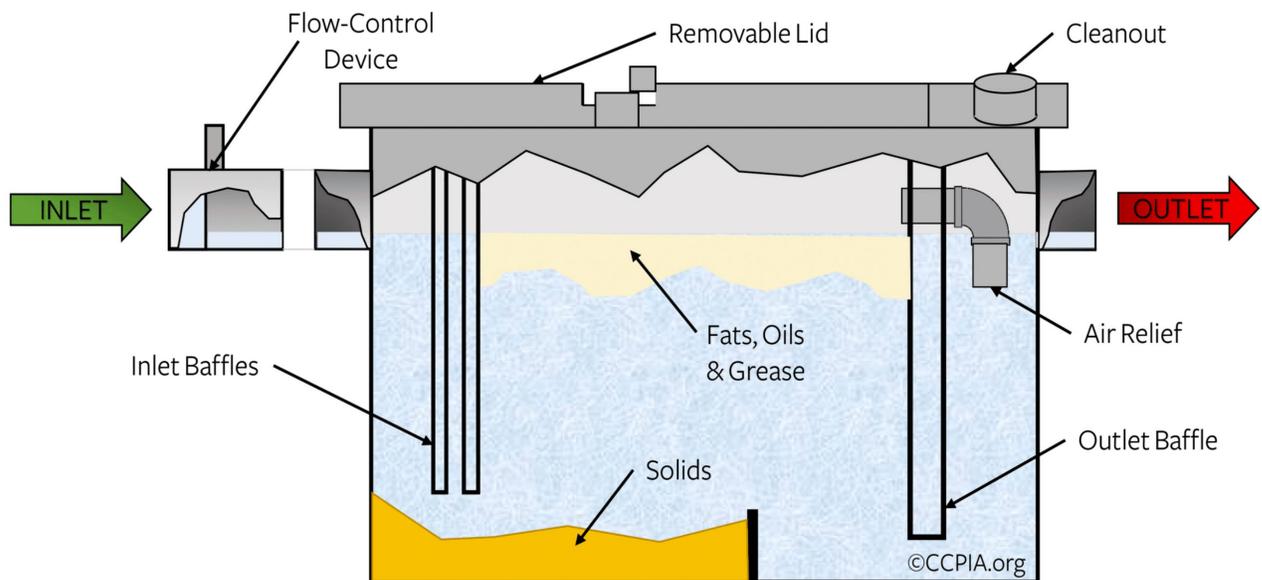
## 7. Appendix “B” – Grease Interceptors, Maintenance, BMP’s, and Inspections

### Grease Interceptors

Two types of grease interceptors are commercially available and approved for use in the GVW collection system. Although they are both interceptors, they are very different, as described below.

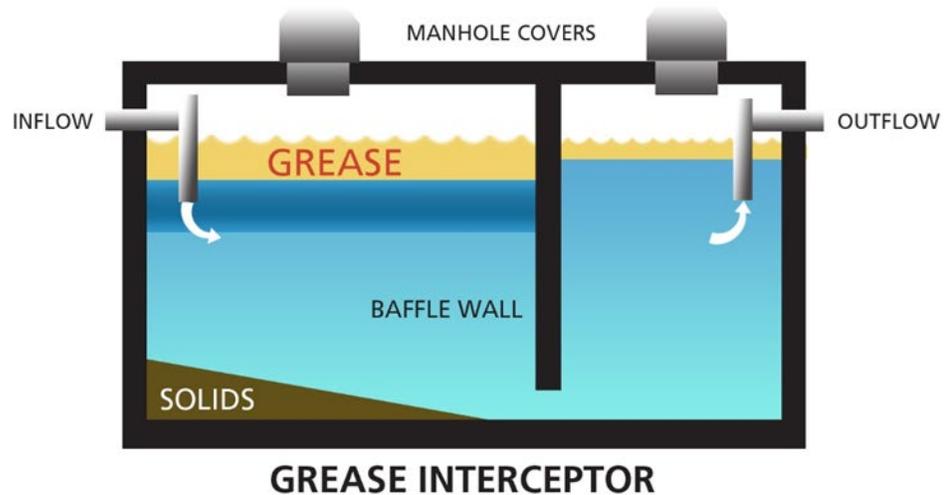
#### Hydromechanical Grease Interceptors

Hydromechanical Grease Interceptors, commonly known as grease traps, are usually small and use gravity separation aided by vented flow control to remove FOG from wastewater flows. Following is a graphical representation of a properly working Hydromechanical Grease Interceptor.



#### Gravity Grease Interceptors

Gravity Grease Interceptors provide a 2-hour minimum detention time to allow suspended FOG to separate and coagulate at the top of the interceptor, allowing FOG free water to exit the interceptor. Gravity Grease Interceptors are generally much larger than Hydromechanical Grease Interceptors. Following is a graphical representation of a properly working Gravity Grease Interceptor.



### Maintenance of Grease Interceptors

Routine maintenance is necessary to ensure proper operation of any grease interceptor. For a grease interceptor to work efficiently, it must be completely pumped out and cleaned periodically. Most types of interceptors stop working effectively when fats, oils, and solids reach 25% of the device's capacity. If the FOG and solids occupy greater than 25% of the interceptor's capacity, the Food Service Establishment is required to perform a full cleaning of the interceptor. Cleaning must be performed by a licensed pumper. The interceptor must be left completely empty upon completion of the pumping operation. The FOG mat, liquids, sludge, and scrapings from the interior walls must be removed and disposed of at a licensed waste disposal facility. Under no circumstances, may the pumper reintroduce the removed water or materials into the interceptor or the sanitary sewer. The use of chemicals, enzymes, proteins, bacteria, grease solvents, or emulsifiers to temporarily dissolve fats, oils, and grease is prohibited.

#### **How Often Should I Pump Out My Interceptor?**

A good starting point for a new food service establishment is:

1. Every 30-days for a Hydromechanical Grease Interceptors.
2. Every 90-days for a gravity interceptor.

Once a new facility is open, it should monitor the interceptor with the help of their plumbing company and adjust the frequency to the actual amount of FOG accumulated. Frequency of pumping the interceptor can be adjusted to actual conditions within the interceptor.

Maintenance of grease interceptors is the sole responsibility of the user, or in the case of multiple user interceptors, the property owner. All records documenting

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maintenance activities, including invoices provided by third-party service contractors, need to be available on-site for two (2) years. Upon request, the user or owner must be able to provide GVW with any documentation necessary to demonstrate the maintenance requirements and frequencies are being met.

### **Kitchen Best Management Practices (BMP's)**

The best and easiest way to prevent FOG related problems is to keep FOG from entering your facility plumbing to begin with. Best Management Practices (BMP's) are simple steps that can be taken to prevent grease from entering the drainage plumbing. Implementing BMP's can also save you money by reducing the pumping frequency needed for your grease interceptor and reducing the risk that a clogged sewer line could force your business to close temporarily.

- The less FOG that enters the grease interceptor, the less the interceptor needs to be pumped and less money spent on pumping and disposal fees.
- Keeping FOG out of the plumbing from the start reduces the likelihood of a grease blockage in or downstream from your facility reducing the need for the routine jetting of the sewer lines; the possibility of having to shut down during business hours for an emergency overflow; or the possibility of causing damage downstream that you could be back billed to remediate.

#### **The Following BMP's Should Be Implemented In All Businesses With A Kitchen**

1. Train employees on the following BMP's and document the training.
2. Scrape or dry-wipe excess food and grease from pots, pans, fryers, utensils, screens, and mats, then dispose of it in the trash instead of putting it down the drain.
3. Install screens on all kitchen drains to keep food scraps from going down the drain. Screens should be removable for frequent cleaning.
4. Witness the Grease Interceptor cleaning to ensure the pumping company is completely cleaning the interceptor. This is also a good time to inspect for damaged or missing parts.
5. Recycle waste cooking oil. There are many companies who specialize in taking waste cooking oil from fryers and other types of equipment to make fuels like biodiesel from it. Some companies pay or offer discounts on interceptor pumping in exchange for used fryer oil.
6. Use "Spill Kits" to clean up grease and oil spills using dry methods prior to mopping. You can make your own spill kits with absorbent material such as absorbent pads or kitty litter.

## Inspections



GVW personnel inspect Grease Interceptors on a monthly basis to ensure compliance with the Federal Clean Water Act, GVW Rules and Regulations, and this policy.

### **What To Expect From An Inspection**

Grease Interceptor inspections are performed on a monthly basis by GVW personnel. All GVW personnel will be in uniform, have a GVW issued identification, and drive a GVW vehicle.

Upon arrival, the Inspector will present identification, explain the purpose of the inspection, and make the facility management/owner aware of the following rights:

- You may accompany the inspector(s) on the premises, except during confidential interviews.
- You have the right to copies of any original document(s) taken from the premises by the inspector(s) if GVW is permitted by law to take the original document(s) (GVW does not take original documents from facilities).
- You have the right to copies of any analysis performed on samples taken by the inspector(s).
- Each person whose conversation with the inspector(s) is tape-recorded will be informed that their conversation is being recorded.
- Each person interviewed by the inspector(s) will be informed that their statements may be included in the inspection report.

### **During the Inspection, The Inspector Will Want to See the Following**

#### Grease Interceptor Maintenance Log

- The maintenance log shows the frequency of interceptor maintenance.

#### The Grease Interceptor

- The inspector will check the grease interceptor to see if any parts are missing or if the interceptor itself has rotted out and needs to be replaced. The inspector will also check how much grease is in the interceptor to establish if the current maintenance schedule is adequate to keep the interceptor operating efficiently.

#### The Kitchen Area

- The Inspector may document how many grease bearing fixtures are in the facility. This includes sinks, floor sinks, floor drains, garbage disposals, mop sinks, dishwashers, etc. Counting fixtures is necessary to determine if the current grease interceptor is properly sized.

#### Outside

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- The inspector may look at the tallow bin and trash areas to ensure that the areas are clean and that no cooking oil or garbage is on the ground and that the dumpsters are closed when no one is adding trash to them. Oil and debris on the ground will be washed off the property into the storm drain system during rain events and end up in the environment.

At the end of the inspection, the inspector will review the findings with ownership/management. The inspector can provide educational material and advice on how to better manage FOG. If there is an issue that needs correction (interceptor needs to be cleaned, broken or missing part, etc.) the inspector will issue a notice of violation to correct the problem. The inspector will prescribe a time frame for the requirement to be completed. The time frame is based on the impact it will have on the sewer system and how much work it will take to complete. GVW's goal is to gain compliance through cooperation. Extensions can be granted based on business needs if the request is in writing.