



Templeton Community Services District

Fats, Oils and Grease (FOG) Program

Grease Trap and Interceptor Selection and Maintenance Guide

Introduction

Templeton Community Services District (TCSD) has a mandated Sewer Ordinance that requires establishments engaging in the preparation of food to install approved grease removal devices and conduct regular maintenance of these devices. Appropriate and frequent grease interceptor maintenance can significantly reduce the discharge of fats, oils, and grease (FOG) into the district's wastewater system.

Questions and Answers

WHY IS FOG A PROBLEM?

When FOG enters the sewer system, they coat sewer pipes and cause blockage. This can lead to sanitary sewer overflows (SSOs) which can require costly repairs, temporary closures of your establishment, not to mention certain health hazards. Properly maintained grease removal devices prevent excess FOG and solids from entering the district's sewer system by routing wastewater from fixtures and equipment that may contain FOG through a trap or inceptor to slow the flow of wastewater. This allows the FOG to solidify and float at the top of the device instead of being washed down into the sewer laterals.

WHAT DETERMINES WHETHER I NEED A GREASE TRAP OR GREASE INTERCEPTOR?

The type of grease removal device required is determined by the number of fixtures or equipment in the facility that discharge grease to the sewer system and the flow from these fixtures. Refer to the "Sizing Worksheets" section of this guide.

WHAT ARE THE REQUIREMENTS AFTER THE GREASE TRAP/INTERCEPTOR IS INSTALLED?

Food establishments are asked to implement *best management practices (BMPs)* for FOG. Refer to the "Your Restaurant and FOG" brochure to see recommended BMPs. Templeton will require *regular maintenance* of grease trap/interceptors in order to properly protect the District's sewer collection system. A grease trap/inceptor *maintenance log* will be required to be kept to document cleaning intervals. *Receipts* for cleaning interceptors should be maintained and available for review.

WHO PERFORMS MAINTENANCE ON GREASE TRAPS?

Generally, grease trap maintenance is performed by the maintenance staff, or other employees of a food establishment. Refer to your particular grease trap manufacturer's recommended maintenance procedures. Remember, as the owner, you are ultimately responsible for the

functionality and maintenance of your grease trap, so you may wish to oversee all maintenance procedures.

WHO PERFORMS MAINTENANCE ON GREASE INTERCEPTORS?

Grease interceptor maintenance and service is usually performed by permitted haulers or recyclers. This maintenance consists of removing all solids and liquids from the grease interceptor and properly disposing of the material in accordance with federal, state, and/or local laws. Remember, as the owner, you are ultimately responsible for the functionality and maintenance of your grease interceptor, so you may wish to oversee all maintenance procedures.

HOW OFTEN DO I NEED TO PERFORM MAINTENANCE ON MY GREASE TRAP OR INTERCEPTOR?

The required frequency for grease trap and interceptor maintenance depends greatly on the amount of FOG a facility generates as well as any best management practices (BMPs) that your establishment implements to reduce the FOG discharged into the sewer system. A good rule of thumb is to clean out grease traps on a weekly basis and grease interceptors on a monthly basis. Refer to the "Your Restaurant and FOG" brochure to see recommended BMPs.

WHAT FIXTURES OR EQUIPMENT CANNOT BE PLUMBED TO A GREASE INTERCEPTOR?

Food grinders, dishwashers, and wastes from toilets, urinals, wash basins, and other fixtures containing fecal matter should not be plumbed through the grease inceptor.

WHAT REQUIREMENTS MUST BE MET?

New facilities and remodels must install a grease interceptor (to be approved by TCSD) per the 2007 California Plumbing Code.

Existing facilities should install a grease interceptor per the 2007 California Plumbing Code; however, grease traps may be approved by the District due to physical constraints. Multiple units may be used to achieve the intent of the law must be approved by TCSD.

WHAT IS THE APPROVAL AND INSTALLATION PROCESS REQUIREMENTS?

- **Contact a licensed contractor** to help determine the proper sizing of the grease removal device.
- **Submit your completed Grease Trap/Interceptor Sizing Worksheet with all plan sets**, showing location and size of grease trap to TCSD District Engineer for approval.
- **Apply for a building permit** from the County of San Luis Obispo and provide a copy of the application and receipt for permit fees to TCSD.
- **Install the grease removal device** and obtain inspections from the County per the permit requirements and inspection approval by TCSD representative.
- **Provide a copy of the Building Permit completion (sign-off card)** obtained from the County of San Luis Obispo to verify compliance with grease trap/interceptor installation requirements.

- **Grease Inceptors**

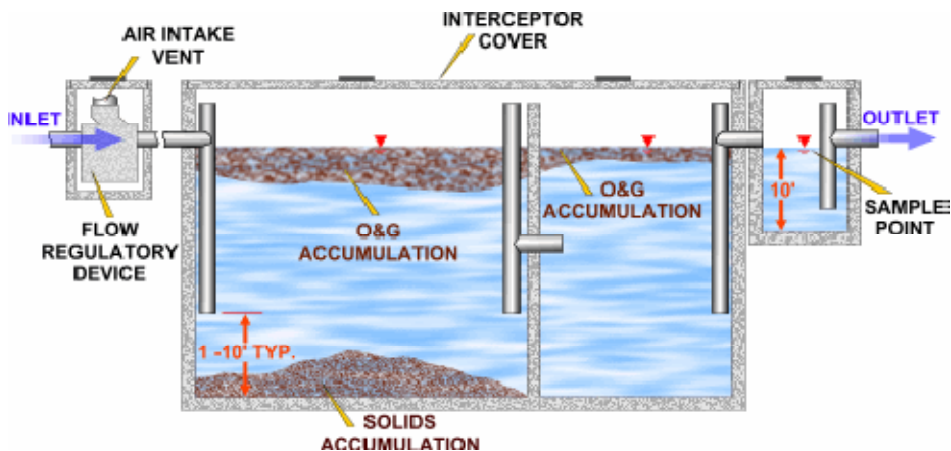
What is a Grease Inceptor? Grease inceptors are usually in-ground devices located outside of the building, made of concrete with a minimum capacity of 750 gallons, and are usually configured with multiple chambers. The capacity of the interceptor allows time for the wastewater to cool, allowing the grease time to congeal and rise to the surface. Interceptors are the most efficient method for removing grease.

Grease Interceptor Maintenance

Grease interceptors will usually be cleaned by a state licensed septic hauler, grease hauler, or recycler. It is recommended that you clean your grease interceptor once a month but is ultimately dependent on the type of establishment, the size of the interceptor, and the volume of flow discharged to the interceptor.

Proper procedure for grease interceptor maintenance:

Step 1	Schedule your grease hauler or recycler for cleaning service.
Step 2	Shut of the isolation valve to stop flow to the grease interceptor.
Step 3	Remove lid and dip out any water in the interceptor. Dispose of this water into the sewer system.
Step 4	Remove baffles, if possible.
Step 5	Scoop out the accumulated grease from the interceptor and contain in a watertight container (ex: a 55 gallon drum with lid)
Step 6	Pump out the settled solids and any remaining liquids.
Step 7	Using a putty knife or other applicable tool, scrape sides, lid, and baffles to remove as much grease residue as possible. Dispose of into a watertight container.
Step 8	Replace the baffle and lid.
Step 9	Document your maintenance on your <i>Maintenance Log</i> .



REMINDER: DEGREASERS, DETERGENTS, AND WATER EXCEEDING 140 DEGREES SHOULD NOT BE PASSED THROUGH THE GREASE REMOVAL DEVICES.

Sizing Worksheet

Grease Interceptor Sizing Worksheet

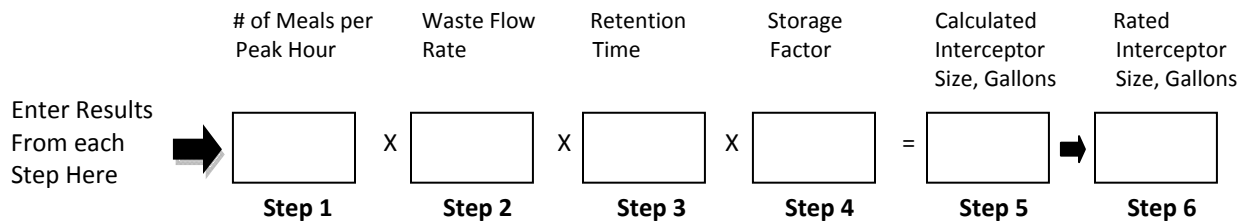
Establishment Name: _____

Address: _____

Contact Name: _____ Phone: _____

Contact Email Address: _____

Follow these six simple steps to determine the size of your grease interceptor:



Step 1 Number of Meals per Peak Hour (Recommended Formula)

1

Seating Capacity	Meal Factor	Meals per Peak Hour
<input type="text"/>	X <input type="text"/>	= <input type="text"/>

Establishment Type

- | | |
|--|------|
| <input type="checkbox"/> Fast Food (45 minutes) | 1.33 |
| <input type="checkbox"/> Restaurant (60 minutes) | 1.00 |
| <input type="checkbox"/> Leisure Dining (90 minutes) | 0.67 |
| <input type="checkbox"/> Dinner Club (120 minutes) | 0.50 |

Step 2 Waste Flow Rate (Add all that apply)

2

Condition	Waste Flow Rate
<input type="checkbox"/> With a dishwashing machine	6 gallons
<input type="checkbox"/> Without a dishwashing machine	5 gallons
<input type="checkbox"/> Single service kitchen	2 gallons
<input type="checkbox"/> (Disposable dishes and utensils)	
<input type="checkbox"/> Food waste disposer (Grinder)	1 gallon

Total Waste Flow Rate

Step 3 Retention Time

3

Commercial kitchen waste	
○ Dishwasher	2.5 hours
Single service kitchen	
○ Single serving	1.5 hours

(cont'd on next page)

Step 4	Storage Factor	
	Fully equipped commercial kitchen	
	<input type="checkbox"/> 8-hr operation	1
	<input type="checkbox"/> 16-hr operation	2
	<input type="checkbox"/> 24-hr operation	3
	Single service kitchen	
	<input type="checkbox"/> Single Service Kitchen	1.5

**Step
5** **Calculate Hydraulic Capacity**

Multiply the values obtained from steps 1, 2, 3, and 4. The result is the minimum approximate grease interceptor size for this application.

**Step
6** **Select Grease Inceptor Size**

Using the approximate required hydraulic capacity from Step 5, select an appropriate size as recommended by the manufacturer. Attach copy of manufacturer specifications.

**Minimum size: 750 gallons

The Sewer Ordinance adopted by Templeton Community Services District requires grease interceptors to be designed sized and designed in accordance with the Uniform Plumbing Code. This Grease Interceptor Sizing Worksheet follows the formula taken from Appendix H of the Uniform Plumbing Code.

FACTORS AFFECTING GREASE INTERCEPTOR PERFORMANCE:

- **Velocity of Incoming Water.** The higher the velocity of water coming into the system, the more turbulence there is created. This disrupts the FOG separation process, therefore reducing the efficiency of the grease interceptor.
- **FOG to Water Ratio.** The higher the ration of FOG particles to the water, the lower the efficiency of the grease interceptor.
- **Specific Gravity (Density) of FOG.** The specific gravity of FOG is lower than that of water allowing the FOG to rise to the surface quickly. Food particles having a higher specific gravity that water will accumulate on the bottom of the system and will ultimately pass through the interceptor to the sewer system.
- **Detergents in the System.** Grease-cutting and cleaning detergents will break the liquid grease into very small particles which will allow these undesirable FOGs to pass through the interceptor into the sewer system.
- **Hot Water.** Water exceeding 140 degrees should not be sent through the grease interceptor as it will dissolve grease and pass it through into the sewer system.

Grease Traps

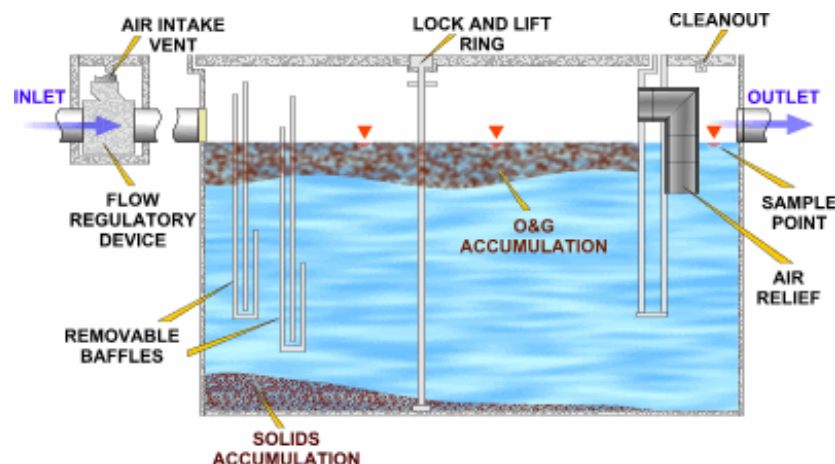
What is a Grease Trap? Grease traps are small units usually found inside the building under a sink or near the fixtures discharging grease. Grease traps are usually single chambered devices with baffles inside designed to slow the flow of wastewater allowing the grease to rise to the surface. Their capacities are rated in gallons of flow and pounds of grease they hold. Grease traps are not as efficient at removing grease as an interceptor and require more frequent cleaning in order to properly maintain them and to prevent odors.

Grease Trap Maintenance

Grease traps are usually maintained by maintenance staff or other employees of the food establishment. Since these units are much smaller than its larger interceptor counterpart, it is recommended that they be cleaned out on a weekly basis.

Proper procedures for grease trap maintenance:

Step 1	Dip out any water in the trap. Dispose of this water into the sewer system.
Step 2	Remove baffles, if possible.
Step 3	Scoop out the accumulated grease from the interceptor and contain in a watertight container (ex: a 55 gallon drum with lid)
Step 4	Using a putty knife or other applicable tool, scrape sides, lid, and baffles to remove as much grease residue as possible. Dispose of into a watertight container.
Step 5	Contact a hauler or recycler for grease pick-up as your disposal container gets close to being full.
Step 6	Replace the baffle and lid.
Step 7	Document your maintenance on your <i>Maintenance Log</i> .



REMINDER: DEGREASERS, DETERGENTS, AND WATER EXCEEDING 140 DEGREES SHOULD NOT BE PASSED THROUGH THE GREASE REMOVAL DEVICES.

Sizing Worksheet

Grease Trap Sizing Worksheet

Establishment Name: _____

Address: _____

Contact Name: _____ Phone: _____

Contact Email Address: _____

For a multi-fixture grease trap, the following method may be used for grease trap sizing:

1. Calculate the capacity of each fixture.

Cubic content of each fixture = $\frac{\text{Length (in)} \times \text{Width (in)} \times \text{Depth (in)}}{231 \text{ (cubic inches per gallon)}}$ = Capacity in Gallons

$$\boxed{} \text{ in} \times \boxed{} \text{ in} \times \boxed{} \text{ in} / 231 = \boxed{} \text{ Gallons}$$

2. Calculate the flow rate.

$\frac{\text{Capacity in Gallons}}{\text{Drainage Period in Minutes}}$ = Flow Rate in gallons per minute (gpm)

Note: The most generally accepted drainage period is one minute. The maximum drainage period allowed is 2 minutes.

$$\frac{\boxed{} \text{ gallons}}{\boxed{} \text{ mins}} = \boxed{} \text{ gpm}$$

3. Total flow rate. Add the gpm requirement for each fixture to arrive at a total flow rate. For fixtures that do not have a calculable volume, ie. water wash hoods, wok ranges (with or without curtain) and pre-rinse stations, allow 10 gpm or the actual flow rate, whichever is greater.

4. Grease trap capacity. Use the grease trap table to approximate grease trap capacity. If the maximum flow rate is exceeded from the number of fixtures, the grease trap is to be sized by selecting a device with an appropriate flow rate.

Number of Fixtures	Maximum Rate of Flow (gpm)	Grease Capacity (lbs)
1	20	40
2	25	50
3	35	70
4	50	100

