

*Information and Instructions  
for Obtaining a*

**Fats, Oils, and Grease  
Wastewater Discharge  
Permit**



**THIS PERMIT APPLICATION PACKET  
CONTAINS INFORMATION ON:**

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## **I. FATS, OILS, AND GREASE WASTEWATER DISCHARGE PERMIT PROGRAM**

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- The Orange County Sanitation District (OCSD) administers a Fats, Oils, and Grease (FOG) Source Control Program to protect the public and the environment through the regulation of wastewater discharges from Food Service Establishments.
- A permit program is implemented to limit the discharge of FOG from Food Service Establishments by establishing prohibitions, requirements for implementation of kitchen best management practices, requirements for installation of grease interceptors when necessary, self-monitoring requirements, reporting requirements, and others.

## **II. PERMIT REQUIREMENTS FOR DISCHARGING WASTEWATER FROM FOOD SERVICE ESTABLISHMENTS**

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- OCSD's *Fats, Oils, and Grease Ordinance* (FOG Ordinance) requires Food Service Establishments that desire to discharge wastewater to the sewer system to apply for a FOG Wastewater Discharge Permit (permit).
- All Food Service Establishments requiring a permit to discharge directly into OCSD's sewerage facilities must file an application and pay the applicable fees pursuant to Sections 3.1 and 3.4 of OCSD's FOG Ordinance.

## **III. FOOD SERVICE ESTABLISHMENTS THAT NEED FOG WASTEWATER DISCHARGE PERMIT**

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- Permits are required for Food Service Establishments within the jurisdictional boundaries of OCSD, operating in a permanently constructed structure that is maintained, used, or operated for the purpose of storing, preparing, serving, or manufacturing, packaging, or otherwise handling food for sale to other entities, or for consumption by the public, its members or employees, and which has any process or device that uses or produces FOG, or grease vapors, steam, fumes, smoke or odors that are required to be removed by a Type I or Type II hood, as defined in the California Uniform Retail Food Service Establishments Law (CURFFL) Section 113785.

## **IV. FACILITIES EXEMPT FROM OBTAINING A FOG WASTEWATER DISCHARGE PERMIT**

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- Establishments engaged in limited food preparation are not considered as Food Service Establishments and are exempt from obtaining a permit. Limited Food

Preparation Establishments are typically engaged only in reheating, hot holding or assembly of ready to eat food products and as a result, there is no wastewater discharge containing a significant amount of FOG. A Limited Food Preparation Establishment does not include any operation that changes the form, flavor, or consistency of food.

## **VI. PENALTIES FOR DISCHARGING WITHOUT A VALID FOG WASTEWATER DISCHARGE PERMIT**

Facilities discharging without a valid permit are subject to the following penalties:

- **Civil Penalties.** Pursuant to the authority of California Government Code Sections 54739 - 54740, any person who violates any provision of OCSD's FOG Ordinance shall be liable civilly for a sum not to exceed \$25,000 per violation, for each day in which such violation occurs. Pursuant to the authority of the Clean Water Act, 33 U.S.C. Section 1251 et seq., any person who violates any provision of OCSD's FOG Ordinance shall be liable civilly for a sum not to exceed \$25,000 per violation, for each day in which such violation occurs. Pursuant to California Government Code Sections 54740.5 and 54740.6, the OCSD may impose administrative fines up to the greater of \$5,000 per day or \$10 per gallon for discharge violations.
- **Criminal Penalties.** Any person who violates any provision of the OCSD's FOG Ordinance is guilty of a misdemeanor, which upon conviction is punishable by a fine not to exceed \$1,000, or imprisonment for not more than thirty (30) days, or both. Each violation and each day in which a violation occurs may constitute a new and separate violation of OCSD's FOG Ordinance and shall be subject to the penalties contained herein.

## **VI. MAINTAINING A VALID FOG WASTEWATER DISCHARGE PERMIT**

An approved permit is no longer valid if any one of the following occurs:

- The Food Service Establishment has undergone a change in ownership.
- The Food Service Establishment has changed locations.
- Permit has expired.

Permits issued under the FOG Ordinance are for a specific user for a specific operation at a specific location. A new permit application must be filed when there is a change in ownership or when the Food Service Establishment moves to a different location. Permits are not transferable. Upon expiration of the permit, a permit renewal application must be submitted.

## **VII. FOG WASTEWATER DISCHARGE PERMIT CONDITIONS AND REQUIREMENTS**

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A permit contains all of the following conditions or limits:

- Limitations on discharge of FOG that may accumulate and/or cause or contribute blockages in the sewer system or at the lateral which connects the Food Service Establishment to the sewer system.
- Requirements for implementation of kitchen Best Management Practices and periodic reporting of status of implementation.
- Requirements for the Food Service Establishments to construct, operate and maintain, at its own expense, a grease interceptor. When applicable, a permit may contain a Conditional Waiver from the grease interceptor requirement.
- Requirements for proper maintenance of grease interceptors based on specified frequency and schedule, keeping maintenance logs and wastehauling records, and periodic submission of Grease Interceptor Wastehauling Reports.
- Additional requirements as otherwise determined to be reasonably appropriate by the FOG Control Program Manager to protect OCSD's sewer system or as specified by other Regulatory Agencies.
- Other terms and conditions, which may be reasonably applicable to ensure compliance with the FOG Ordinance.

A permit contains all of the following prohibitions:

- Installation of food grinders in the plumbing system of new construction of Food Service Establishments, except when expressly allowed by the FOG Control Program Manager.
- Introduction of any additives into a Food Service Establishment's wastewater system for the purpose of emulsifying FOG or biologically/chemically treating FOG for grease remediation or as a supplement to interceptor maintenance, unless a specific written authorization from the FOG Control Program Manager is obtained.
- Disposal of waste cooking oil into drainage pipes. All waste cooking oil shall be collected and stored properly in receptacles such as barrels or drums for recycling or other acceptable methods of disposal.
- Discharge of wastewater from dishwashers to any grease trap or grease interceptor.
- Discharge of wastewater with temperatures in excess of 140°F to any grease control device, including grease traps and grease interceptors.

- Discharge of wastes from toilets, urinals, wash basins, and other fixtures containing fecal materials to sewer lines intended for grease interceptor service, or vice versa.
- Discharge of any waste including FOG and solid materials removed from the grease control device to the sewer system. Grease removed from grease interceptors shall be waste hauled periodically as part of the operation and maintenance requirements for grease interceptors.
- Operation of grease interceptors with FOG and solids accumulation exceeding 25% of the design hydraulic depth of the grease interceptor (25% Rule).

### **VIII. FOG WASTEWATER DISCHARGE PERMIT DURATION AND RENEWALS**

- Permits are normally issued for a period of two (2) years. The Food Service Establishment must apply for renewal of the permit in accordance with the provisions of OCSD's FOG Ordinance, at least 60 days prior to the expiration of the permit, if the permit holder wishes to renew the permit.

### **IX. FOG WASTEWATER DISCHARGE PERMIT FEE**

- The permit fee is \$200 for a 2-year permit duration.
- The permit fee must be paid at the time a permit application is submitted for the issuance of a new permit. No permit application will be processed prior to payment of the permit fee.

### **X. FACILITIES REQUIREMENTS**

- **Requirements For Kitchen Best Management Practices** - All Food Service Establishments are required to implement kitchen Best Management Practices to minimize the discharge of FOG to the sewer system. At a minimum, the following Best Management Practices must be implemented, when applicable:
  - Installation of drain screens. Drain screens shall be installed on all drainage pipes in food preparation areas.
  - Segregation and collection of waste cooking oil. All waste cooking oil shall be collected and stored properly in recycling receptacles such as barrels or drums. Such recycling receptacles shall be maintained properly to ensure that they do not leak. Licensed waste haulers or an approved recycling facility must be used to dispose of waste cooking oil.

- Disposal of food wastes. All food waste shall be disposed of directly into the trash or garbage, and not in sinks. Double-bagging food wastes that have the potential to leak in trash bins are highly recommended.
- Employee training. Employees of the Food Service Establishment shall be trained by ownership/management periodically as specified in the permit, on the following subjects:
  - a) How to “dry wipe” pots, pans, dishware and work areas before washing to remove grease.
  - b) How to properly dispose of food waste and solids in enclosed plastic bags prior to disposal in trash bins or containers to prevent leaking and odors.
  - c) The location and use of absorption products to clean under fryer baskets and other locations where grease may be spilled or dripped.
  - d) How to properly dispose of grease or oils from cooking equipment into a grease receptacle such as a barrel or drum without spilling.

Training shall be documented and employee signatures retained indicating each employee's attendance and understanding of the practices reviewed. Training records shall be available for review at any reasonable time by the FOG Control Program Manager or an inspector.

- Maintenance of kitchen exhaust filters. Filters shall be cleaned as frequently as necessary to be maintained in good operating condition. The wastewater generated from cleaning the exhaust filter shall be disposed properly.
- Kitchen signage. Best management and waste minimization practices shall be posted visibly in the food preparation and dishwashing areas at all times.
- **Grease Interceptor Requirements** - Food Service Establishments are required to pretreat their wastewater using grease interceptors to remove FOG prior to discharge to the sewer system. Food Service Establishments required to provide FOG pretreatment shall install, operate, and maintain an approved type and adequately sized grease interceptor necessary to maintain compliance. Grease interceptor sizing and installation shall conform to the current edition of the Uniform Plumbing Code. Refer to Appendix C for more detailed information.

An existing Food Service Establishment may obtain a Conditional Waiver from installation of a grease interceptor, if it can demonstrate that it has negligible FOG discharge and insignificant impact to the sewer system. See Section 2.6 of OCSD's FOG Ordinance for more information.

- **Grease Interceptor Maintenance Requirements** - Grease Interceptors shall be maintained in efficient operating condition by periodic removal of the full content of the interceptor which includes wastewater, accumulated FOG, floating materials, sludge

and solids. All existing and newly installed grease interceptors shall be maintained in a manner consistent with a maintenance frequency approved by the FOG Control Program Manager.

## **XI. APPLYING FOR A FOG WASTEWATER DISCHARGE PERMIT**

1. Complete the **Application for FOG Wastewater Discharge Permit**. Detailed instructions on how to fill out the permit application are provided in **Appendix A** of the information brochure.
2. If required, complete the **Drawings and Information Submittal Requirements** specified in **Appendix B**. Design Guidelines for Grease Interceptors can be found in Appendix C.
3. Fill out the **FOG Permit Application Package Check List** provided to ensure that all requirements have been completed. This must be submitted with your application.
4. Submit all the above requirements. The permit fee for \$200 must be enclosed. **The complete package must be returned to:**

**Orange County Sanitation District**  
**P.O. Box 8127, Fountain Valley, CA 92728-8127.**  
**Attn: Tom Gaworski, Div. 640**

NOTE: OCSD will not process the permit application if any of the above requirements are either missing or incomplete. Please make sure that all information required is complete to avoid any delays in the issuance of the permit. Discharging wastewater from a Food Service Establishment without a valid permit is a violation of OCSD's FOG Ordinance and may be subject to fines and penalties.

## **XII. WHERE TO GET ADDITIONAL INFORMATION**

- Should you have questions on how to fill out the permit application or on how to comply with the permit application requirements, please contact the following:

**Tom Gaworski**  
Principal Environmental Specialist  
Phone: (714) 593-7422  
E-mail: [tgaworski@ocsd.com](mailto:tgaworski@ocsd.com)

or

**Merrill Seiler**  
Principal Environmental Specialist  
Phone: (714) 593-7436  
E-mail: [mseiler@ocsd.com](mailto:mseiler@ocsd.com)



### **XIII. PERMIT APPLICATION REVIEW AND EVALUATION PROCESS**

- The applicant will be notified of the receipt of permit application in writing.
- OCSD will conduct an inspection of a new applicant's facility to verify the information provided in the permit application.
- A comprehensive review and evaluation will be conducted to identify any submittal deficiencies.
- If all requirements are satisfied, the Permit will be issued within approximately three weeks after receipt of the application.

**APPENDIX A**  
**SPECIFIC INSTRUCTIONS TO FILL OUT A**  
**FOG WASTEWATER DISCHARGE PERMIT APPLICATION**

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Clearly print or type the information requested and return the signed original to OCSD. All questions must be answered. **DO NOT LEAVE BLANKS.** If the question is not applicable, indicate "N/A" on the form.

**LINE A** Enter the Food Service Establishment's official or legal name.

**LINE B** If the Food Service Establishment is doing business under a different name other than indicated in LINE A, enter the name.

**LINE C** Provide the address (physical location) of the Food Service Establishment where wastewater is being discharged.

**LINE D** Enter the Food Service Establishment's telephone number, fax number, and e-mail at its physical location.

**LINE E** Check the appropriate box to indicate type of business entity. A sole proprietorship is a business owned by one person for profit. A partnership is a business owned by two or more persons for profit. A corporation is a business owned by shareholders.

**LINE F** Enter the name of owner, general partner, or chief executive officer. If the type of business is sole proprietorship, indicate the name of the sole proprietor. If the type of business is a partnership, list the name of a general partner. If the type of business is a corporation, list the name of the Chief Executive Officer or equivalent. Provide the title, address, phone number, and fax number of the owner, partner, or chief executive officer.

**LINE G** Enter the name of the Designated Representative and Signatory who has been authorized by the corporate officer, general partner, or proprietor to be responsible for receiving notices and signing all correspondence and reports. Provide the title, address, phone number, and fax number of the owner, partner, or chief executive officer. **Note that all correspondence, permit, and notices from OCSD will be sent to this person.** The Designated Representative and Signatory is defined as follows:

1. A responsible corporate officer, if the business is a corporation. For the purpose of this paragraph, a responsible corporate officer means:
  - A. a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or
  - b. the manager of one or more manufacturing, production, or operation facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
2. A general partner or proprietor if the business is a partnership or sole proprietorship respectively.
3. A duly authorized representative of the individual designated in paragraph (1) or (2) of this section if:
  - a. the authorization is made in writing by the individual described in paragraph (1) or (2);

- b. the authorization specifies either an individual or a position having responsibility for the overall operation of the facility from which the wastewater discharge originates, such as the position of a manager, or a position of equivalent responsibility for environmental matters for the company; and
- c. the written authorization is submitted to OCSD.

**LINE H** Enter the name, title, and phone number of the person that OCSD can contact during facility inspections.

**LINE I** Under the **Type of Food Service Establishment** column, check the box(es) that appropriately describes the type of food service provided in the facility. Under the **Location** column, check the box(es) the location of the facility.

**LINE J** Under the **Food Processing Equipment** column, check box(es) corresponding to equipment used to prepare/cook food in your facility and indicate the quantity for each. Likewise, do the same thing for the **Kitchen Equipment** column.

**LINE K** For each day of operation, indicate start/stop hours when the facility is open for business or check the appropriate box when the facility is open 24 hrs or when it is closed.

**LINE L** Provide the following miscellaneous information:

**No. of Employees** – total number of employees in the facility

**Seating capacity** – the number of seats available for dining inside and outside the facility

**Average No. of Meals served during Peak Hour** – indicate the average number of meals served during the busiest hour. If the facility is close to being full during the peak hour, this should approach or at the most equivalent to the total seating capacity.

**Do you wash plates** – indicate whether dishes used in the facility are washed.

**Chain Status** – Indicate if the facility belongs to a chain of restaurants or an an independent facility.

**Seating** – Indicate whether the facility sit-down dining facility or a take-out only facility or both.

**LINE M** Indicate whether or not your facility is already in operation at the sewer address indicated. If not, enter the date when you anticipate to start operation.

**LINE N** Indicate whether or not a grease interceptor is used in your facility. A grease interceptor is device typically underground and located outside a Food Service Establishment designed to collect, contain, or remove food wastes, fats, oils, and grease from the wastestream prior to discharge to the sewer. This is not to be confused with a grease trap which is a device typically located inside a Food Service Establishment or under a sink designed to collect smaller quantities of fats, oils, and grease.

**LINE O** Provide the name, address, phone number, and fax number of the owner of the premises.

**LINE P** The permit application must be signed and dated by the Owner, a General Partner, or Chief Executive Officer identified in Line F.

**LINE Q** Provide the name, address, phone number, and e-mail of the person that OCSD can contact if there are questions regarding the permit application.

## APPENDIX B

### GUIDELINES ON DRAWING AND INFORMATION SUBMITTAL REQUIREMENTS

All drawings shall clearly convey all the information required and shall have good contrast, clear background, and legible labeling. Drawings shall have a minimum dimension of 11 " x 17" and shall not exceed a maximum dimension of 30" x 42". Three sets of the following are required:

- I. Plot Plan
- II. Grease Interceptor Information and Drawings

#### I. PLOT PLAN

The **Plot Plan** shall provide information identifying the location of the Food Service Establishment relative to the streets and surrounding area, show general dining and kitchen areas, and provide information on the **general** piping connections for incoming water and wastewater discharged to the sewer. As a **minimum requirement**, the drawing shall be drawn to scale and shall clearly identify each of the following:

- a. Map orientation or North arrow.
- b. Name of Food Service Establishment and address, drawing name and number, scale size, date drawn/revised, name of person approving the drawings and approval signatures.
- c. Legend for symbols used.
- d. The property lines, building outline and location with respect to streets. Identify relative location of suite for multi-tenant buildings.
- e. All general work areas including the dining and kitchen areas.
- f. The overall building dimensions and work area dimensions.
- g. All floor drains and sewer connections.
- h. Above-ground and below-ground waste/wastewater piping and sewer connection to the city's main sewer line. In some cases, this may entail illustrating your facility's access to the city sewer via common private sewer line(s).
- i. All water meter locations.
- k. Location of grease interceptor.

**Failure to clearly show the above minimum requirements may result in your application being returned for correction of deficiencies, which may delay permit issuance.**

## II. GREASE INTERCEPTOR DETAIL INFORMATION AND DRAWINGS

The grease interceptor design shall conform to the Design Guidelines described in Appendix C.

### A. Grease Interceptor Sizing Worksheet

The **Grease Interceptor Sizing Worksheet** shown on the following page must be completed and submitted with the grease interceptor drawing.

### B. Grease Interceptor Drawing

The **Grease Interceptor Drawing** shall provide details of the interceptor. At a minimum, the drawing shall be drawn to scale and shall provide different views of the interceptor (front and side elevations, and plan view) to show, at a minimum, the following:

- a. Influent line
- b. Vents
- c. Access manholes
- d. Primary chamber with inlet/outlet piping
- e. Secondary chamber with inlet/outlet piping
- f. Grease interceptor discharge line
- g. Baffles
- h. Dimensions

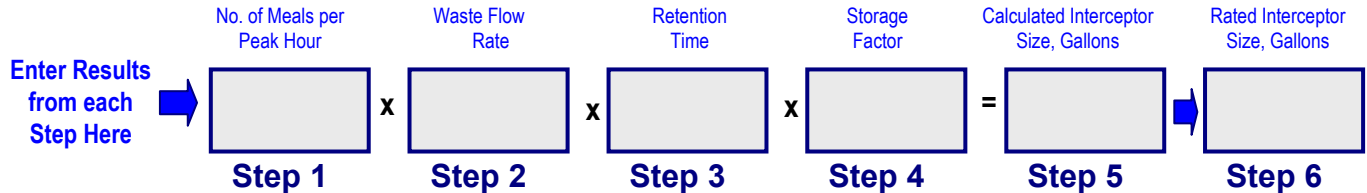
In addition to the above, the drawing shall also include the following information:

- a. Name of Food Service Establishment and address
- b. Approval signatures and dates
- c. Name of manufacturer and model
- d. Rated hydraulic capacity of the grease interceptor in gallons

## Grease Interceptor Sizing Worksheet

Name of Food Service Establishment	<b>Contact Person for this worksheet</b>	Name
Address		Phone <span style="float: right;">E-mail:</span>

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



<b>Step 1</b>	<p><b>Number of Meals per Peak Hour</b> (Recommended Formula)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; font-size: small;">Seating Capacity</td> <td style="width: 10%;"></td> <td style="width: 30%; font-size: small;">Meal Factor</td> <td style="width: 10%;"></td> <td style="width: 20%; font-size: small;">Meals per peak hour</td> </tr> <tr> <td style="border: 1px solid black; width: 60px; height: 30px;"></td> <td style="text-align: center;">x</td> <td style="border: 1px solid black; width: 60px; height: 30px;"></td> <td style="text-align: center;">=</td> <td style="border: 1px solid black; width: 60px; height: 30px;"></td> </tr> </table> <p><b>Establishment Type</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"><input type="radio"/> Fast Food (45 min)</td> <td style="width: 40%; text-align: right;">1.33</td> </tr> <tr> <td><input type="radio"/> Restaurant (60 min)</td> <td style="text-align: right;">1.00</td> </tr> <tr> <td><input type="radio"/> Leisure Dining (90 min)</td> <td style="text-align: right;">0.67</td> </tr> <tr> <td><input type="radio"/> Dinner Club (120 min)</td> <td style="text-align: right;">0.50</td> </tr> </table>	Seating Capacity		Meal Factor		Meals per peak hour		x		=		<input type="radio"/> Fast Food (45 min)	1.33	<input type="radio"/> Restaurant (60 min)	1.00	<input type="radio"/> Leisure Dining (90 min)	0.67	<input type="radio"/> Dinner Club (120 min)	0.50	Notes:
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<b>Step 2</b>	<p><b>Waste Flow Rate</b> (Add all the apply)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"><b>Condition</b></td> <td style="width: 40%;"><b>Waste Flow Rate</b></td> </tr> <tr> <td><input type="checkbox"/> With a dishwashing machine</td> <td style="text-align: right;">6 gallons</td> </tr> <tr> <td><input type="checkbox"/> Without a dishwashing machine</td> <td style="text-align: right;">5 gallons</td> </tr> <tr> <td><input type="checkbox"/> Single service kitchen (Disposable Dishes and Utensils)</td> <td style="text-align: right;">2 gallons</td> </tr> <tr> <td><input type="checkbox"/> Food waste disposer (Grinder)</td> <td style="text-align: right; border-bottom: 1px solid black;">1 gallon</td> </tr> <tr> <td colspan="2" style="text-align: center;"><b>Total Waste Flow Rate</b> ⇨</td> </tr> </table>	<b>Condition</b>	<b>Waste Flow Rate</b>	<input type="checkbox"/> With a dishwashing machine	6 gallons	<input type="checkbox"/> Without a dishwashing machine	5 gallons	<input type="checkbox"/> Single service kitchen (Disposable Dishes and Utensils)	2 gallons	<input type="checkbox"/> Food waste disposer (Grinder)	1 gallon	<b>Total Waste Flow Rate</b> ⇨		Notes:						
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<b>Step 3</b>	<p><b>Retention Time</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"><input type="radio"/> Commercial kitchen waste Dishwasher</td> <td style="width: 40%; text-align: right;">2.5 hours</td> </tr> <tr> <td><input type="radio"/> Single service kitchen Single serving</td> <td style="text-align: right;">1.5 hours</td> </tr> </table>	<input type="radio"/> Commercial kitchen waste Dishwasher	2.5 hours	<input type="radio"/> Single service kitchen Single serving	1.5 hours	Notes:														
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<b>Step 4</b>	<p><b>Storage Factor</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2"><b>Fully equipped commercial kitchen</b></td> </tr> <tr> <td><input type="radio"/> 8-hr operation</td> <td style="text-align: right;">1</td> </tr> <tr> <td><input type="radio"/> 16-hr operation</td> <td style="text-align: right;">2</td> </tr> <tr> <td><input type="radio"/> 24-hr operation</td> <td style="text-align: right;">3</td> </tr> <tr> <td><input type="radio"/> <b>Single-Service Kitchen</b></td> <td style="text-align: right;">1.5</td> </tr> </table>	<b>Fully equipped commercial kitchen</b>		<input type="radio"/> 8-hr operation	1	<input type="radio"/> 16-hr operation	2	<input type="radio"/> 24-hr operation	3	<input type="radio"/> <b>Single-Service Kitchen</b>	1.5	Notes:								
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<b>Step 5</b>	<p><b>Calculate Hydraulic Capacity</b></p> <p>Multiply the values obtained from steps 1, 2, 3 and 4. The result is the minimum approximate grease interceptor size for this application.</p>	Notes:																		
<b>Step 6</b>	<p><b>Select Grease Interceptor Size</b></p> <p>Using the approximate required hydraulic capacity from Step 5, select an appropriate size as recommended by the manufacturer.</p>	Notes:  <b style="text-align: right;">Minimum Size: 750 gallons</b>																		

## APPENDIX C

### DESIGN GUIDELINES FOR GREASE INTERCEPTORS

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The installation and use of a grease interceptor that is properly designed and sized for the type and size of the Food Service Establishment (FSE), is an important measure in ensuring that an FSE does not contribute with blockages in the sewer system or experience back-ups in the facility itself. Food Service Establishments should weigh costs and benefits when evaluating grease interceptor design and capacity need. While the initial capital investment may be less with smaller capacity grease interceptor, pumping and maintenance fees may increase. Plans for future expansion should be considered since menu expansion, seating capacity expansion or menu changes impact the effectiveness of the grease interceptor.

#### I. APPLICATION

Grease interceptors are mainly used in treating kitchen wastewater from Food Service Establishments and other similar institutions with a large volume of wastewater. Influent to grease interceptors usually contains high organic loads, including FOG and dissolved particles, as well as detergents and suspended solids. Sanitary wastewaters are not usually treated by grease interceptors. Wastewater with high solids loadings should not be discharged to grease interceptors as it can upset the interceptor performance and greatly increase both solids accumulation and the need for frequent pump out.

#### II. BASIC DESIGN CRITERIA

In order to ensure effective separation, grease interceptors must be designed to satisfy four basic criteria:

- **Time.** The grease interceptor must provide sufficient retention time for emulsified FOG to separate and float to the surface of the chamber.
- **Temperature.** The grease interceptor must provide adequate volume to allow the wastewater to cool sufficiently for emulsified FOG to separate.
- **Turbulence.** Turbulence through grease interceptors must be controlled so that the FOG and solids are not suspended in the wastewater. Turbulence control is especially important during peak flow discharge periods.
- **Tankage.** The grease interceptor must provide sufficient storage capacity for accumulated FOG and solids between cleanings.

#### III. FACTORS AFFECTING GREASE INTERCEPTOR PERFORMANCE

- **Velocity of Incoming Water.** A high velocity wastewater flow causes turbulence. This will slow the FOG separation process, thereby reducing the grease interceptor efficiency.
- **Ratio of FOG to Water.** The higher the ratio of FOG particles to the water, the lower the efficiency of the interceptor.
- **Specific Gravity (Density) of FOG.** FOG has a lower specific gravity than water and will rise to the surface quickly. FOG-laden food particles having a higher specific gravity than water will linger and accumulate at the bottom, eventually passing out of the interceptor.
- **Possible Presence of Detergents in the System.** Grease-cutting detergents will break the liquid grease into minute particles that can cause these liquids to pass through the interceptor.

- **Percentage of Maximum Flow Capacity.** If the maximum recommended flow is exceeded, the efficiency of the interceptor will decrease considerably.
- **Location of Grease Interceptor.** The interceptor should be located as close as possible to the source of FOG. Plumbing leading to the grease interceptor may become clogged if the wastewater cools prior to entering the grease interceptor.

**IV. SIZING GREASE INTERCEPTORS**

Grease interceptors are designed and sized for maximum efficiency based on anticipated flow rates and organic load. The FOG Ordinance adopted by the Orange County Sanitation District requires grease interceptor sizing to conform to the **Uniform Plumbing Code**. Contact your city building department to enquire about interceptor sizing and installation criteria. To calculate the size of a grease interceptor needed by a Food Service Establishment, refer to the following formula taken from Appendix H of the Uniform Plumbing Code (see Grease Interceptor Sizing Worksheet):

<b>No. of Meals per peak hour</b>	x	<b>Waste Flow Rate</b>	x	<b>Retention Time</b>	x	<b>Storage Factor</b>	=	<b>Interceptor Size (Liquid Capacity)</b>
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**V. GREASE INTERCEPTOR DESIGN AND CONSTRUCTION GUIDELINES**

- Grease interceptors shall be placed as close as practical to the fixture(s) being served. It shall be located where it is easily accessible at all times for inspection, cleaning, and removal of accumulated grease.
- Minimum grease interceptor size shall be 750 gallons; the maximum size shall be 1500 gallons. Use multiple interceptors for sizes more than 1500 gallons.
- Grease interceptors shall have two compartments. The inlet compartment shall be 2/3 of the total capacity of the interceptor and in all cases shall be longer than the maximum inside width of the interceptor. The outlet compartment shall have a capacity of 1/3 of the total interceptor capacity. The liquid depth shall not be less than 2 feet 6 inches nor more than 6 feet.
- Access to each grease interceptor shall be provided by a manhole over the inlet and a manhole over the outlet. There shall also be an access manhole for each 10 feet of length for interceptors over 20 feet long. Manholes shall extend to grade, have a minimum size of 24 inches diameter or square opening, and shall have a gasketed cover at grade.
- The inlet and outlet shall have a baffle tee or similar flow device with a minimum cross sectional area equal to the required cross sectional area of the inlet. Each baffle shall extend from at least 4 inches above the liquid level to within at least 12 inches of the inside floor of the interceptor.
- Adequate partitions or baffles shall extend at least 6 inches above the liquid level. Flow from inlet compartment to outlet compartment shall be through a quarter bend, or similar device equivalent in cross sectional area to the inlet into the interceptor, and shall extend down to within 12 inches of the inside floor.
- The Inlet, outlet and main baffle shall have a free vent area equal to the required cross sectional area of the inlet pipe.

**For more details regarding construction, structural, and material requirements, consult Appendix H of the UPC.**