**[Utility Name Here]**

**GREASE TRAP AND GREASE INTERCEPTOR STANDARDS**

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**PREFACE**

Wastewater discharges containing high concentrations of oil and grease from food service facilities are the main cause of blockages and overflows in the Utility's wastewater collection system. Overflows of wastewater into the stormwater collection system and natural bodies of water could be greatly reduced by controlling the discharge of oil and grease into the wastewater collection system. It is the intent of these [***Utility Name Here*]** *Grease Trap and Grease Interceptor Standards* (Standards) to provide the specifications for grease trap location, design, installation, construction, operation, inspection and maintenance.

**1.0 DEFINITIONS**

a) **Food Service Establishment**

Any commercial facility discharging kitchen or food preparation wastewater including restaurants, motels, hotels, cafeterias, hospitals, schools, bars, etc. and any other facility that would require a grease trap installation by virtue of its operation. Such definition normally includes any establishment required to have a State of Florida food service license.

b) **Grease Trap/Grease Interceptor**

A device that is utilized to affect the separation of grease and oils in wastewater effluents from food service establishments. Such traps or interceptors may be of the outdoor underground type normally referred to as large grease interceptors, or the "under-the-counter" package units normally referred to as the smaller grease traps. However, for the purposes of this Standard, the words "trap" and "interceptor" are generally used interchangeably.

c) **Grease Handling**

The physical structures, piping and equipment used to collect and separate grease. Grease Handling refers to the entire grease trap or interceptor system used by a Food Service Establishment.

d) **Food Service Seats**

The maximum number of physical seats and locations within the Food Service Establishment that will be available to customers for the consumption of food and beverages.

e) **Grease**

A liquid or solid material composed mainly of fats or oils from animal or vegetable sources.

f) **Grease Interceptor**

A device, usually located underground and outside of a food service facility, designed to collect, contain, and remove food wastes and grease from the waste-stream while allowing the remaining wastewater to be discharged to the wastewater collection system by gravity.

g) **Grease Trap**

A device, usually located inside the building and under a sink of a food service facility designed to collect, contain, and remove food wastes and grease from the wastestream while allowing the remaining wastewater to be discharged to the wastewater collection system by gravity.

h) **Captured Material**

Any grease, fats or organic matter captured and retained in the Grease Handling Facilities

i) **Owner**

The legal owner(s) of the structure in which the Food Service Establishment is located and/or the operator(s) of the Food Service Establishment.

**2.0 GENERAL REQUIREMENTS**

The following administrative, operational, and other general requirements are applicable to **all** food service establishments, new or existing. Particular requirements for Grease Trap/Interceptor construction, specifically pertaining to both new and existing food service establishments, can be found in Section 4 of this Standard.

a) All food service establishments in **[Utility Name Here]**’s wastewater service area shall have Grease Handling Facilities approved by the Utility and that are in conformance with these Standards. Establishments whose Grease Handling Facilities are not in accordance with these Standards shall be given a compliance schedule with a deadline to complete installation of a Grease Trap or Interceptor (whichever is deemed necessary by the Utility and/or these Standards within 3 months from the date of the Utility’s official written notification that grease handling is required.

b) Grease Handling Facilities will be required as outlined in Table 1 below:

**Table 1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | **No Trap or Interceptor Required** | **Grease Interceptor Required** | **Grease Trap Required** |
| New Construction, under 300 gpd | **X** |  |  |
| New Construction, under 600 gpd (Note 1) |  | **X** | **X** |
| New Construction, over 600 gpd |  | **X** |  |
| Redevelopment, under 300 gpd | **X** |  |  |
| Redevelopment, under 600 gpd (Note 1) |  | **X** | **X** |
| Redevelopment, over 600 gpd (Note 2) |  | **X** | **X** |

Note 1 – Designation of Grease Trap or Grease Interceptor to be determined by the Utility

Note 2 – Grease Trap may be used where an interceptor may not be located due to site conditions and must be approved by the Utility prior to installation

c) All food service establishment Grease Handling Facilities and/or operations shall be subject to periodic review, evaluation, and inspection by Utility representatives at any time. Results of inspections will be made available to Grease Handling Facility owners, with overall ratings assigned and recommendations for correction/improvement (if necessary) delineated. The owner, however, is ultimately responsible for the proper maintenance of any Grease Handling Facility.

d) Violations of these *Grease Trap and Grease Interceptor Standard*s will be considered grounds

for discontinuance of wastewater service.

e) Food service establishments whose operations cause or allow excessive grease to discharge or accumulate in the wastewater collection system are liable to the Utility for all costs related to service calls for line blockages, line cleanings, line and pump repairs, property damages, etc. including all labor, materials, equipment, and overhead. Failure to pay all service-related charges may be grounds for wastewater service discontinuance.

f) At the discretion of the Utility, food service establishments will be required to submit periodic inspection reports of the Grease Handling Facilities to the Utility. This includes, but is not limited to, maintenance contracts and/or records of grease removal frequencies for Grease Handling Facilities.

g) At the discretion of the Utility, the Utility may outsource the Utility’s monitoring and inspection process as stipulated in these Standards.

h) Any food service establishment whose effluent is suspected or perceived by the Utility to contain a concentration of greater than 100 mg/l of oil and grease may be required to routinely sample and have analyzed by a certified testing laboratory, their Grease Trap effluent, and will furnish a copy of the analysis to the Utility.

i) All Grease Traps/Interceptors shall be designed, installed and located in accordance with these Standards in a location and in a manner that will allow for complete access for inspection, maintenance, cleaning and repair or replacement.

j) All Grease Traps/Interceptors must be installed by state and locally licensed plumbing contractors.

**3.0 CONSTRUCTION STANDARDS**

a) New Food Service Establishments

1) All newly constructed (or newly located or relocated) Food Service Establishments shall be required to install a Grease Interceptor, approved in advance by the Utility. Grease Handling Facilities shall be sized at 20 gallons per food service seat, with no Interceptor less than 1,000 gallons total capacity.

2) New food service establishments are to complete and submit to the Utility for approval and **prior to any Grease Handling Facility construction,** an initial Grease Handling System application to install a Grease Trap or Grease Interceptor. The application shall include, at a minimum, a description of the Food Service Establishment that documents the number of Food Service Seats, plans, specifications, piping diagrams, riser diagrams and calculations for review and approval by the Utility. The Application Form is provided as “Grease Interceptor/Trap Permit Application.

3) An approval letter from the Utility to connect a new, renovated, expanded or relocated Food Service Establishment must be obtained by the owner(s) of the proposed Grease Handling Facility prior to construction and/or installation of such facilities.

4) The construction and location criteria for Grease Interceptors shall be in accordance with Environmental Protection Agency (EPA) Guidance Document, *"On-site Wastewater Treatment and Disposal Systems, 1980"* Chapter 8.

Grease Interceptors should be sized as follows:

# GI = SC x RT x SF x FF

Where:

GI = Grease Interceptor Volume in gallons

SC = Seating Capacity of Establishment, number of seats

RT = Retention Time must be minimum of 2.5 hours

SF = Storage Factor, must be 1.5

FF = Flow Factor Criteria in gallons/seat/hour determined as follows:

Deep frying and dishwashing machine FF = 3.0

No deep frying but with dishwashing machine FF = 2.5

Deep frying, disposable serving ware, no dishwashing machine FF = 2.5

No deep frying, reusable serving ware, no dishwasher FF = 2.0

No deep frying, disposable serving ware FF = 1.5

No cooking of any type, disposable serving ware FF = 0.5

5) All subsurface Grease Interceptors, whether singular or in series, must be directly accessible from the surface and must be fitted with an extended outlet sanitary tee that terminates 6 inches to 12 inches above the tank floor. The minimum access opening dimensions shall be 18 inches x 18 inches or a minimum of 24 inches in diameter. Two access openings (at the inlet and outlet) to underground Grease Interceptor are required and should be removable with ease by one person.

6) All subsurface Grease Interceptors must either be two-chambered or individual tanks in series. If two-chambered, the dividing wall must be equipped with an extended elbow or sanitary tee terminating 6 inches to 12 inches above the tank floor. An extended outlet sanitary tee must also be provided at the outlet of the second chamber. Both chambers must be directly accessible from the surface.

7) The design of Grease Handling Facilities must allow for ease of maintenance and must be designed to allow for thorough pump-out and/or cleaning as needed. **Dishwashers and Garbage Disposals shall not be tied into a Grease Trap or Grease Interceptor.**

8) Grease Traps or “Under the Counter” or “On the Floor” Trap/Interceptors”

For applications in which subsurface type Grease Traps or Grease Interceptors are not feasible to install, Food Service Establishments will be required to install "under the counter"/”on the floor” Grease Handling Facilities (Grease Traps) for use on individual fixtures, including pot sinks, mop sinks, pre-rinse sinks, wok ovens, and other potential grease-containing drains. In such cases, units will be considered acceptable only if approved flow control fittings are provided to the Grease Trap inlet to prevent overloading of the Grease Trap and to allow for proper Grease Trap operation. The Grease Handling Facility(s) retention capacity rating in pounds shall be at least two times the gallon per minute flow rate of the type plumbing fixtures that it serves. Sizing of “under the counter” Grease Trap units will be in accordance with these Standards and EPA recommended ratings for commercial Grease Traps. Approved manufacturers include [**enter Utility approved names here]** or equal as approved in advance by the Utility. Dishwashers and garbage grinders shall not be piped directly to “under the counter” or subsurface Grease Handling Facilities. Location of "under-the-counter" units must be as close to the source of the wastewater as physically possible, while remaining accessible for maintenance.

Sizing of “under the counter” or “on the floor” Traps/Interceptors (Grease Traps) will be as follows:

The flow capacity of the Trap must be at least equal to the total flow of the units discharging to the Trap. This will also apply to the Trap’s minimum volume. The grease retention capacity, in pounds, before the trap’s efficiency drops below 90%, will equal at least twice the sum of the fixture flow rates in GPM. Additionally, the maximum grease mat plus settled out solids is not to exceed 1/3 the volume of the Trap. Both flow and grease retention conditions must be met for the “under the counter” or “on the floor” Traps/Interceptors to be considered in compliance.

**Example Calculation:**

*Condition 1: Flow*

Fixture 1: 20 GPM

Fixture 2: 30 GPM

Total Flow: 50 GPM

Required Trap size (flow): 50 GPM

Required Trap size (volume): 50 Gal

*Condition 2: Grease Retention*

Minimum required grease retention (weight): 100 lbs (50 gal x 2)

Minimum required grease retention (volume): 12.98 gal (100 lbs / 7.7 lbs per gal.)

Maximum grease retention allowed (volume): 16.6 gal (50 gal X 1/3)

Maximum grease retention allowed (weight): 127.8 lbs (16.6 gal x 7.7 lbs per gal.)

9) Schools

The minimum Grease Trap size for all schools shall be 2000 gallon capacity.

10) Flow Control

Fluid flow through the Grease Interceptor is to be controlled by a flow restrictor. Actual flow (GPM) through the Trap is to be restricted to 50% of the gross volume or initial flow of the Grease Trap.

11) Solids Separator

The volume of the solids separator is to be 5% the volume of the Grease Trap.

**Example Calculation:**

Grease Trap size: 500 gallons

Solids separator size: 25 gallons (5% x 500 gallons)

*Not required when multiple Interceptors are installed in series.*

**b) Existing Food Service Establishments**

1) All existing Food Service Establishments whether existing as is, renovated, relocated or expanded, shall have Grease Handling Facilities installed that meet these Standards. All Standards stipulated in Section 3*. CONSTRUCTION STANDARDS- A.**New Food Service Establishments*above will be applicable to all existing Food Service Establishments.

2) Food Service Establishments without any Grease Handling Facilities will be considered in violation of these Standards and will be subject to enforcement.

**4.0 GREASE HANDLING FACILITY MAINTENANCE AND OPERATION:**

Grease Handling Facility maintenance is critical to proper separation of fats, oils and grease. Consequently, maintenance of Grease Handling Facilities is critical to prevent the discharge of excessive amounts of grease into the Utility wastewater collection system.

a) All Grease Handling Facilities must be thoroughly pumped-out and cleaned at a minimum frequency of four (4) times per year, or more frequently if so determined by the Utility. The owner(s) shall be responsible for the proper removal and disposal, by appropriate means, of the captured material and cleanouts are to be kept and recorded on Maintenance Log form (Attachment “ B”) for each Grease Trap and/or Grease Interceptor.

b) A Maintenance Log form shall be submitted to the Utility at the beginning of each quarter of the calendar year. Failure to maintain and submit a Maintenance Log form or perform the required thorough pump-out and cleaning will subject the owner(s) to possible discontinuation of wastewater service. The Utility reserves the right to have an outside contractor monitor and manage the maintenance requirements. Any Food Service Establishment will be required to report maintenance activities through such a contractor should the Utility elect to use such a contractor.

c) Any removal and hauling of the collected materials not performed by the owner(s) personnel must be performed by a currently licensed waste disposal firm. In addition, if so requested by the Utility, maintenance contracts for the removal of captured materials will be provided to the Utility.

d) The owner(s) is ultimately responsible for the proper maintenance of the Grease Handling Facility(s).

e) The Grease Handling Facilities shall be considered out of compliance and in need of pump-out and cleaning of any of the following exist:

1) The captured material layer in the top section of the Grease Trap or Grease Interceptor exceeds 6 inches in depth, or;

2) The captured material layer in the bottom of the Grease Trap or Grease Interceptor exceeds 8 inches in depth, or;

3) The total volume of captured material of the Grease Trap or Grease Interceptor displaces more than 20% of the internal volume of the Grease Trap or Grease Interceptor, or;

4) The removal efficiency of the Grease Handling Facility is less than 80% as determined by sampling and analysis for COD and TSS.

f) The owner(s) is ultimately responsible for the proper maintenance and operation of the Grease Handling Facility. The owner(s) shall correct any defects or damage or cleaning of any Grease Handling Facilities or will be considered in violation of these Standards.

g) Grease-consuming bacteria may be considered only for interim use for Grease Handling Facilities maintenance, provided approval is obtained in advance of its use by the Utility. Use of bacteria, enzymes, or other grease solvents, emulsifiers, etc. (in lieu of physical cleaning), is not sufficient and not approved for long-term Grease Handling Facilities maintenance.

h) If it is found, as determined solely by the Utility, that an existing Food Service Establishment's Grease Handling Facilities are either under-designed, substandard, or poorly operated, the Utility will notify the owner(s) in writing of the required improvements needed. The owner(s) will be given three months to comply with the requirements of these Standards.

**5.0 DISCHARGE STANDARDS**

The Utility prohibits the discharge to its wastewater collection system of "any wastewater containing fats, wax, grease or oils, of animal or vegetable origin (whether emulsified or not), in excess of a concentration of 100 mg/l, or containing substances which may solidify or become viscous at temperatures between 32°F and 150°F. The Maximum temperature of discharged wastewater into passive type Grease Handling Facilities must not exceed 105° F. The chart below indicates the melting points and densities of commonly used cooking products.

|  |  |  |
| --- | --- | --- |
| Substance | Melting Point in °F | Density in Lbs./gal |
| Tallow | 108 | 7.88 |
| Palm Oil | 95 | 7.63 |
| Cocoa Butter | 93 | 8.04 |
| Coconut Oil | 77 | 7.67 |
| Palm Kernel Oil | 75 | 7.70 |
| Peanut Oil | 37 | 7.62 |
| Cotton Seed Oil | 30 | 7.65 |
| Olive Oil | 21 | 7.66 |
| Poppy Seed Oil | 5 | 7.71 |
| Sesame Oil | 3 | 7.66 |
| Soybean Oil | 3 | 7.73 |
| Corn Oil | -4 | 7.69 |

**6.0 ENFORCEMENT**

a) Grease Handling Facilities that do not comply with these Standards will be considered in violation of these Standards and subject to enforcement actions if:

1) Any Food Service Establishment connects to the Utility wastewater collection system without first installing a Utility approved Grease Handling System, or;

2) The owner(s) does not comply with written directives related to the installation, improper operation of an existing Grease Handling Facility, cleaning of a Grease Handling Facility or any other written directive issued by the Utility related to a Grease Handling Facility, or;

3) Any operational Grease Handling Facility receiving three consecutive unsatisfactory evaluations by the Utility shall be considered in violation of these Standards, or;

4) It is found that the owner(s) is improperly disposing of Captured Materials removed or pumped from a Grease Handling Facility, or:

5) Plans and specifications for a Grease Handling Facility are not submitted to the Utility, are incomplete or are not approved prior to the installation of the Grease Handling Facility, or;

6) It is found that the removal of grease in the effluent being discharged to the Utility wastewater collection system is less than 80% as determined by sampling and analysis for COD and TSS, or;

7) Any other directive related to these Standards issued in writing by the Utility is not complied with.

b) Notices

* 1. Violations of these Standards will be provided to the owner(s) in writing by the Utility.
  2. All violations will be corrected within three months of the date of a written Notice of Violation issued to the owner by the Utility

c) The Utility may undertake enforcement actions as follows:

1) Discontinuation of wastewater service to the Food Service Establishment.

2) Monetary fines and penalties to the maximum extent allowed by law.

* 1. Suspension of any building permit or withholding of any Certificate of Occupancy that the Utility may issue for the Food Service Establishment.

d) Appeals

1) Notice of Violation or of Enforcement Action by the Utility may be appealed to the Utility DIrector. The Utility Director will have the full authority to make the final determination as to the extent and validity of any violation or enforcement action.

Attachment “A”

## Wastewater System Grease Interceptor / Grease Trap Permit Application

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Applicant (Owner) Name:** | | | |  | | | | | | | | | | | | |
| **Facility Name:** | | | |  | | | | | | | **Telephone:** | |  | | | |
| **Facility Address:** | | | |  | | | | | | | | | | | | |
| **Facility Type:**  **(Circle all that apply):** | | | | Dine in | | | | | | Carry out | | | Drive through | | | |
| **Maximum Seating Capacity:** | | | |  | | | | | | **Maximimum Hours of Operation Each Day:** | | |  | | | |
| **Type of Development:**  **(Circle one)** | | | | New Construction | | | | | | | Redevelopment | | | | | |
| **Food Preparation & Practice** | | | | Yes | No | **Equipment Type & Capacity** | | | | | | | L | W | D |
|  | Deep Frying | | |  |  |  | 3-Compartment Sink 1 (in): | | | | | |  |  |  |
|  | Pan Frying | | |  |  |  | 3-Compartment Sink 2 (in): | | | | | |  |  |  |
|  | Grilling | | |  |  |  | Hand Sink 1 (in): | | | | | |  |  |  |
|  | Heating / baking | | |  |  |  | Hand Sink 2 (in): | | | | | |  |  |  |
|  | Pre-prepared food assembly | | |  |  |  | Dishwasher 1 Flow Rate (gpm): | | | | | |  | | |
|  | Garbage Disposal | | |  |  |  | Dishwasher 2 Flow Rate (gpm): | | | | | |  | | |
|  |  | | |  |  |  |  | | | | | |  | | |
| I hereby certify that the above information is correct. I am also aware that changes in any of the above information will require a re-application and possible increase in the size or type of grease interceptor/trap required. I also agree to have the grease interceptor/trap pumped out a minimum of once every three months by a certified grease interceptor / grease trap cleaning company, or more frequently if needed, to maintain the grease interceptor/trap in a proper operating condition. This permit is valid only for the specific facility, ownership, processes and operations indicated above. As such, it cannot be sold, transferred or reassigned. | | | | | | | | | | | | | | | |
|  | | | |  | | | | | | |  | | | | |
| Print Name | | | | Signature | | | | | | | Date | | | | |
| **Grease Interceptor & Grease Trap Sizing Requirements**  (To Be Completed By Uitlity) | | | | | | | | | | | | | | | |
| **Grease Interceptor Sizing** | | | | | | | | **Grease Trap Sizing** | | | | | | | |
| Number of Seats (SC): | | | |  | | | | Sum of Sink Volume (SV): | | | |  | | | |
| Retention Time, hours (RT): | | | |  | | | |  | | | |  | | | |
| Storage Factor, gal per seat-hour (SF): | | | |  | | | |  | | | |  | | | |
| Required Grease Interceptor Size, gallon ( SC x RT x SF x FF ): | | | |  | | | | Required Grease Trap Size:  ( 0.40 x SV ) | | | |  | | | |
|  | | | | | | | | | | | | | | | |
| Special Requirements: | |  | | | | | | | | | | | | | |
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| --- | --- | --- |
|  |  |  |
| Print Name | Signature | Date |

Attachment “B”

**GREASE TRAP AND/OR INTERCEPTOR MAINTENANCE LOG**

Food Service Establishment Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of Contact Person: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Business Telephone (\_\_\_\_\_) \_\_\_-\_\_\_\_

Trap Location: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mobile Telephone (\_\_\_) \_\_\_-\_\_\_\_

Tank Number: \_\_\_\_\_\_

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date Cleaned** | **Name of Vendor/Employee Performing Clean Out** | **Signature of Vendor/Employee** | **Method of Disposal** | **Approximate Quantity Removed** |
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1. **A copy of this form must be provided to the Utility (or to its designated contractor) at the beginning of each quarter of the calendar year.**
2. **This form should be posted in a conspicuous location near the trap/interceptor for review by the Utility.**
3. **Use one log sheet per trap/interceptor system.**