



## **Fats, Oils & Grease (FOG) Management Policy**

### **Purpose:**

The purpose of this policy is to protect Sanitation District No. 1 (SD1) collection systems, pumping stations and treatment works from the discharge of excess fats, oil and grease (FOG) by ensuring that Food Service Establishments (FSE) are in compliance with the requirements of the SD1 Rules and Regulations, as well as commitments made by SD1 in the Capacity, Management, Operations and Maintenance (CMOM) Self-Assessment conducted under SD1 Consent Decree signed by SD1, the Environmental Protection Agency (EPA) Region 4 and the Kentucky Department of Environmental Protection (KDEP), in April 2007.

The accumulation of FOG in the collection system causes blockages which may lead to Sanitary Sewer Overflows (SSO). SSOs can lead to the degradation of water quality in the receiving waterbody, adversely impact SD1 operations and cause violations of the Clean Water Act (CWA) and/or the provisions contained in the Consent Decree. FOG blockages may also cause sewer back-ups into homes and businesses thereby causing property damage and the disruption of business activities.

### **Authority:**

The intent of this policy is to authorize SD1 staff to establish clear design standards and/or procedures and/or guidelines to regulate FSE operations, as well as the disposition of FOG wastes pumped from FSE Grease Control Equipment (GCE) during routine maintenance. The authority for this policy is contained in SD1 Rules and Regulations. Enforcement actions taken under this policy will be in accordance with SD1 Enforcement Response Plan (ERP).

### **Pretreatment of Wastewater**

FSEs shall install and maintain appropriately sized GCE in accordance with the provisions of this policy and its related design standards, guidelines and/or procedures. GCE shall be installed, operated, properly maintained and repaired at the sole expense of the FSE owner/operator.

### **Schedule for Compliance with the FOG Management Policy:**

As users discharging to the SD1 sewer system, FSEs shall comply with all requirements of the SD1 Rules and Regulations.

FSEs discharging to the SD1 collection system are subject to the FOG Management Policy and related design standards and/or procedures and/or guidelines, as well as the SD1 ERP.

New construction of FSEs shall be in full compliance with the policy before commencing operations. New construction of FSEs shall have separate sanitary (restroom) and kitchen process lines. The kitchen process lines, including mop sinks, dishwashers and kitchen floor drains, shall be plumbed to appropriately sized GCE.

FSEs undergoing significant remodeling shall be in full compliance with the policy before recommencing operations after the remodeling work is completed.

FSEs in existence prior to the effective date of this policy may be allowed to continue current operations without significant modifications until such time as:

1. Significant remodeling is performed at the FSE facility, and/or
2. The facility's existing GCE is deemed to be of substandard size and/or design, and/or
3. The FSE is shown to be the cause of a FOG blockage in the SD1 collection system.
4. Any other reason deemed by SD1 as appropriate for significant modifications.

Existing FSEs found to be in noncompliance with this policy will be subject to the provisions of the ERP and shall be required to take immediate action pursuant to this policy and/or related procedures and/or guidelines.

SD1 or their designees will make the determination of whether a FSE has caused or contributed to a blockage in the collection system, as well as what actions will be required of the FSE to return to compliance.

**FSEs Responsibilities:**

1. GCE design and construction plans shall be submitted, reviewed and approved by SD1 Plan Review Department.
2. GCE shall meet the minimum requirements for GCE contained in SD1 Design Criteria
3. Waste and/or wastewater removed from FSE GCE shall be disposed of at a properly permitted facility that is authorized to accept such waste/wastewater in accordance with applicable federal, state and local laws and regulations. Waste/wastewater removed from GCE shall not be discharged to a private or public sewer unless permitted to accept said waste/wastewater.
4. FSEs shall not discharge FOG in amounts that contribute to a blockage in the collection system.
5. FSEs shall provide facilities and institute procedures in accordance with the SD1 FOG Management Policy and/or procedures and/or guidelines as are reasonably necessary to prevent or minimize the potential for accidental discharge of FOG into the sewage collection system. This includes implementation of "Best Management Practices (BMP)" protocols.
6. All FOG Permitted FSEs in SD1 jurisdiction shall have a SD1 Certified Grease Waste Hauler complete a GCE certification annually.
7. "Additives" shall be prohibited for use as grease management and control except as described in SD1 Fats, Oils & Grease Management Guidelines.
8. FSE facilities that permanently close for business shall completely pump out and clean all GIs on the premises and shall fill the GI with water. Pumping/cleaning of the GI prevents odors and deterioration of the GI from the weak acid FOG wastewater. Filling the out of service GI with water provides weight for the GI not to shift position, and provides a barrier from exposure to further deterioration.

### **SD1 Responsibilities:**

1. SD1 staff will develop and maintain definitions, design criteria and/or procedures and/or guidelines that are consistent with this policy.
2. SD1 may issue FOG permits to FSEs to control FOG discharges to the SD1 sewer system, prevent obstruction and interference to SD1 collection system, pump stations and/or treatment plants, as well as prevent sanitary sewer overflows. SD1 may establish FSE FOG permit classifications, or issue general FOG permits to FSEs.
3. SD1 may require that the FSE install monitoring equipment and/or additional GCE deemed necessary for compliance with this policy, and/or related design standards, procedures and/or guidelines and/or the SD1 Rules and Regulations.
4. SD1 and/or their authorized representatives may conduct inspections of FSEs for GCE installation and maintenance, review of best management practices, and to gather information regarding FOG discharge impacts.
5. SD1 and/or their authorized representative, has the right to enter the FSE's premises to determine impacts to the SD1 sewer system.
6. SD1 and/or their authorized representative may conduct monitoring of the effluent from FSE GCE for the purpose of determining compliance with this policy and/or related procedures and/or guidelines and/or SD1 Rules and Regulations and/or to assess a surcharge to the FSE.
7. SD1 may charge inspection, monitoring, assessment, impact and permit fees to FSEs to obtain reimbursement for FOG program costs.
8. SD1 will administer a Certified Hauler program that includes training for those entities that pump, transport and dispose of FOG- waste/wastewater from FSEs.

### **FSE GCE Haulers Responsibilities:**

1. Haulers wishing to transport GCE waste to an approved SD1 facility must complete the Certified Hauler Program. These haulers shall:
  - Participate in certification classes conducted by SD1 in order to become a listed "Approved Hauler" by SD1.
  - At SD1's request, submit specific information regarding FSEs in a format specified by SD1.

# Sanitation District No. 1

## Fats, Oils & Grease (FOG) Management Guidelines

### **DEFINITIONS**

1. **Additives**: Include but are not limited to products that contain solvents, emulsifiers, surfactants, caustics, acids, enzymes and bacteria.
2. **Certified Waste Hauler**: Individuals or entities that have successfully completed the SD1 certification classes.
3. **Significant Remodeling**: Modifications made to an existing FSE sufficient to require issuance of a building permit or the temporary closure of the FSE for building renovation or as deemed needed by SD1.
4. **Fats, Oils, & Grease (FOG)**: Organic polar compounds derived from animal and/or plant sources. FOG may be referred to as “grease” or “greases” in this section.
5. **Food Service Establishment (FSE)**: Any establishment, business, facility or user engaged in preparing, serving or making food available for consumption. Single family residences are not a FSE. Under the discretion of SD1, FSEs will be classified as follows:

**Class 1**: Day Care Facilities, Deli, Ice Cream shops, Coffee Shops, Beverage Bars – engaged in the sale of cold-cut and microwaved sandwiches/subs with no frying or grilling on site, defined by North American Industry Classification System (NAICS) 722213. SD1 reserves the right to add or subtract categories of the NAICS from this class at its discretion.

**Class 2**: Limited-Service Restaurants - (i.e. Fast Food Facilities) as defined by NAICS 722211, Caterers as defined by NAICS 722320, Supermarkets and other Grocery (except Convenience) Stores that engage in the on-site preparation of food as defined by NAICS 445110 , both Convenience Stores and Gasoline Stations with Convenience Stores that engage in the on-site preparation of food as defined by NAICS 445120 and 447110, respectively, and Discount Department Stores that engage in the on-site preparation of food as defined by NAICS 452112. SD1 reserves the right to add or subtract categories of the NAICS from this class at its discretion.

**Class 3**: Full Service Restaurants - as defined by NAICS 722110. SD1 reserves the right to add or subtract categories of the NAICS from this class at its discretion.

**Class 4**: Buffet and Cafeteria Facilities - as defined by NAICS 72212. SD1 reserves the right to add or subtract categories of the NAICS from this class at its discretion.

**Class 5**: Institutions (i.e. Schools, Hospitals, Prisons, etc) - as defined by NAICS 722310. SD1 reserves the right to add or subtract categories of the NAICS from this class at its discretion.

6. **Exemption**: A release from the requirement to install GCE Exemptions are approved by SD1 based on responses to questions on the SD1 Request for Exemption form.

7. Alternative Design: A release from the requirement to install GCE meeting the Design Criteria of the FOG Management Policy with the substitution of GCE of an alternate design. Alternative Designs will be approved by SD1 based on responses to questions on the SD1 Request for Alternative Design Form.
8. Garbage Disposal: A kitchen appliance designed to grind food particles to a small enough size to dispose to a sink drain.
9. Grease (Brown): Fats, oils and grease that is discharged to the grease control equipment, or is from kitchen or food prep wastewater.
10. Grease (Yellow): Fats, oils and grease that has not been in contact or contaminated from other sources (water, wastewater, solid waste, etc) and can be recycled.
11. Grease Control Equipment (GCE): Devices for separating and retaining FSE wastewater FOG prior to entering the SD1 sewer system. The GCE is constructed to separate and trap or hold fats, oils and grease substances from entering the SD1 sewer system. GCE should only receive kitchen wastewater. Devices include grease interceptors, grease traps, or other devices approved by SD1.
12. Grease Interceptor (GI): GCE identified as a large multi-compartment tank, usually 1,000 gallon to 2,000 gallon capacity with proper inlet and outlet T's, and other necessary components, that provides FOG control for a FSE. No sanitary wastewater (black water) line should be connected to the grease interceptor. Grease interceptors will be located outside the FSE.
13. Grease Trap (GT): GCE identified as an "under the sink" trap, a small container with baffles, or a floor trap. For a FSE approved to install a grease trap, the minimum size requirement is the equivalent of a 25-gallon per minute/50 pound capacity trap. Grease traps shall have flow control restrictor and a vent pipe. No sanitary wastewater (black water) line shall be allowed to be connected to a "under the sink" or floor grease trap. A separate grease trap is required for each commercial dishwasher. The size of the trap is determined by the GPM discharge rate of the dishwasher as specified by the manufacturer. Select proper interceptor of equivalent or next higher rate from Table 8.3.2 of the Plumbing and Drainage Institute publication titled **Standard PDI-G 101 Testing and Rating Procedure for Grease Interceptors – Revised March 2010**.
14. Grease Recycle Container: A container used for the storage of yellow grease.
15. Multi-Unit Facility: A single building or facility with multiple separate but adjoining units, each with separate plumbing and possibly other utilities.
16. NAICS: North American Industry Classification System. The website is found at: (<http://www.census.gov/epcd/www/naics.html>)
17. Series (Grease Interceptors Installed in Series): Grease interceptor tanks are installed one after another in a row and are connected by plumbing pipe.
18. Single Service Kitchen: A FSE that does not prepare food onsite (heat and serve only) and which uses only disposable serviceware (utensils and dishes).

19. Tee or T (Influent & Effluent): A T-shaped pipe extending from the ground surface below grade into the grease interceptor to a depth allowing recovery (discharge) of the water layer located under the layer of FOG. Influent & effluent T's are recommended to be made of PVC – schedule 40 or equivalent material. Influent T's should extend 2/3 of the grease interceptor water depth, and effluent T's should extend to within 12" to 15" of the bottom of the interceptor tank to prevent short-circuiting.
20. User: Any person that contributes, causes, or permits the contribution or introduction of wastewater or pollutants into the SD1 sanitary or combined sewer system and / or stormwater into the Municipal Separate Storm Sewer System (MS4), whether intentional or unintentional, and whether direct or indirect.
21. Water (Black): Wastewater containing human waste, from sanitary fixtures such as toilets and urinals.
22. Water (Gray): Wastewater other than black water as defined in this section.
23. Sanitary Sewer Overflow (SSO): A condition whereby untreated sewage is released into the environment prior to reaching treatment facilities thereby escaping wastewater treatment.

## **REQUIREMENTS**

1. GCE shall be designed and constructed in accordance with the provisions of the FOG Management Policy, these guidelines and/or SD1's Design Manual.
  - A. Final GCE sizing determination will be made by FSE's engineer, architect or contractor based on criteria such as, but not limited to, flow rate, discharge rate, fixture ratings and wastewater retention time.
  - B. **Minimum** acceptable size of GCE for each FSE Classification will be as follows:
    - i. Class 1: Deli, Ice Cream shops, Beverage Bars, Coffee Shops, - 25 gallons per minute / 50 pound.
    - ii. Class 2: Limited-Service Restaurants / Caterers / Supermarkets, other Grocery Stores and Discount Department Stores with on-site food preparation – 1,000 gallon GI
    - iii. Class 3: Full Service Restaurants - 1,000 gallon GI
    - iv. Class 4: Buffet and Cafeteria Facilities - 1,500 gallon GI
    - v. Class 5: Institutions (Schools, Hospitals, Prisons, etc) - 2,000 gallon GI or two 1000 gallon GI installed in series.
  - C. SD1 will review GCE sizing information received from the FSE's engineer, architect or contractor. SD1 will make a decision to approve, or require additional GCE volume, based on the type of FSE, the number of fixture units, and additional calculations. Grease interceptor capacity should not exceed 2,000 gallons for each interceptor tank. In the event that the grease interceptor calculated capacity needs to exceed 2,000 gallons, the FSE shall install an additional interceptor of the appropriate size. If additional interceptors are required, they shall be installed in series.
  - D. Grease interceptors that are installed in series shall be installed in such a manner to ensure positive flow between the tanks at all times. Therefore, tanks shall be

installed so that the inlet invert of each successive tank shall be a minimum of 2 inches below the outlet invert of the preceding tank.

- E. Grease interceptors that are installed in series shall include adaptors, gaskets or flexible transition couplings of minimum of schedule 40 PVC pipe.
2. Property service connections shall be sized based on fixture units with a minimum size of a 6-inch connection to GCE
  3. New FSEs (class 2 – 5), as well as existing facilities (class 2 – 5) that are undergoing significant remodeling shall install and maintain at a minimum, an approved 1,000 gallon grease interceptor located outside the FSE building.
  4. New FSEs (class 1), as well as existing facilities (class 1) that are undergoing significant remodeling shall install and maintain, at a minimum, a GT whose size is rated at 25 gallons per minute / 50 pounds capacity.
  5. New construction of FSEs shall have separate sanitary (restroom) and kitchen process lines. The kitchen process lines shall be plumbed to appropriately sized GCE. Kitchen process lines and sanitary lines may combine prior to entering the public sewer; however the lines cannot be combined until after the GCE. Sanitary wastewater, or black water, cannot be connected to GCE.
  6. When an existing building and/or building's plumbing is being renovated and the facility is a FSE, internal plumbing shall be reconstructed to separate sanitary (restroom) flow from kitchen process flow. Sanitary flow and kitchen process discharges shall be approved separately by SD1 and shall discharge from the building separately. The kitchen process line(s) shall be plumbed to appropriately sized GCE. Kitchen process lines and sanitary lines may combine prior to entering the public sewer; however the lines cannot be combined until after the GCE.
  7. New multi-unit facility, or new "strip mall" facility, owners shall contact SD1 prior to conducting private plumbing work at the multi-unit facility site. Multi-unit facility owners, or their designated contractor, shall have plans for separate private wastewater lines for kitchen and sanitary wastewater for each "individual" unit. In addition, the plans shall identify "stub-out" locations to accommodate a minimum 1,000 gallon grease interceptor for each unit of the multi-unit facility. New multi-unit facility, or new "strip mall" facility owners shall consider suitable physical property space and sewer gradient that will be conducive to the installation of an exterior, in-ground GI when determining the building location.
  8. SD1 Plan Review Group will review plans for any FSE in classes 1 through 5 as part of the building permit acquisition process.
    - A. FSE owners or their designee shall submit 2 sets of FSE facility plans to:  
**SD1**  
**Plan Review Group**  
**1045 Eaton Dr**  
**Ft. Wright KY, 41017**  
for review and approval by SD1.

- B. Facility plans shall include the following sheets: a floor plan detailing kitchen prep equipment and showing how greasy waste lines discharge to GCE, plumbing (P1 & P2) sheets, and a GCE specification sheets.
  - C. Plumbing sheets shall include identification of all cooking and food preparation equipment (i.e. fryers, grills, woks, etc...); the number and size of dishwashers, sinks, floor drains, and other plumbing fixtures; greasy waste bearing plumbing lines, the location of GCE, and specifications for GCE. The discharge from the following fixtures shall be plumbed to GCE: all sinks (3-compartment, vegetable prep, mop, etc), dishwashers, floor drains in food preparation and storage areas, garbage disposals, and other fixtures through which grease may be discharged such as woks and soup ladles.
  - D. SD1 Plan Review Group personnel will review the plumbing plans and GCE sizing; and approve, or make changes as necessary to aid in the protection of a FOG discharge from the FSE.
  - E. If the plans are approved by SD1, an Approval Letter will be issued to the FSE.
  - F. Personnel from SD1 Inspection Group will inspect the GCE. Call 859-578-7460 forty-eight (48) hours prior to installation to schedule the inspection. SD1 will not approve GCE that has not been inspected and approved by SD1.
  - G. If the installed GCE is approved by SD1, an Acceptance Letter will be issued to the FSE.
9. Single service kitchens with no onsite food preparation (heat and serve only), and which use only disposable service ware (utensils) may not be required to install GCE. The FSE owner or designee must complete and submit a Request for Exemption form in order to be considered for an exemption. However, if kitchen practices change in an exempted FSE, or if the exempted FSE is found to directly cause or contribute to a grease blockage or SSO in SD1's collection system, the exemption will become null and void. Call the Industrial Monitoring Department at 859-331-6674 or visit [www.SD1.org/fog](http://www.SD1.org/fog) to obtain a Request for Exemption form.
10. Substandard GCE - In the event an existing FSE's GCE is deemed by SD1 to be either undersized or substandard in design, the FSE owner(s) will be notified in writing by SD1 of the deficiencies and required improvements, and given a compliance deadline not to exceed six (6) months to comply.

#### 11. Prohibitions

- A. FSEs shall not contribute or cause to be contributed into the SD1 collection system the following:
  - i. Hot water running continuously through GCE;
  - ii. Discharge of concentrated alkaline or acidic solutions into GCE;
  - iii. Discharge of concentrated detergents into GCE.

#### 12. SD1 Certified Waste Hauler Program

- A. All GCE waste haulers wishing to transport GCE waste to an SD1 approved facility shall:
  - i. Attend annual hauler certification training sessions presented by SD1.

- ii. Agree to conduct GCE certifications in the manner presented by SD1 in training sessions by SD1 personnel.
- iii. Agree to provide information on GCE certifications to SD1 in a timely manner.
- iv. Agree to completely evacuate FOG from GCE when servicing such GCE at FSEs; unless prior written approval is granted by SD1. If the volume of the GCE is greater than the tanker capacity, the hauler agrees to provide additional tankers so that the GCE is fully evacuated within a 24-hour period.
- v. Agree to provide information relative to FOG removed at FSEs in format required by SD1.
- vi. Dispose of FOG waste at an SD1 approved facility that is authorized to receive such waste in accordance with applicable federal, state and local laws and regulations.
- vii. Perform GCE maintenance in accordance with these guidelines.

B. SD1 will:

- i. Provide certification training to the haulers wishing to participate in the program.
- ii. Provide a listing of all certified haulers to FSEs
- iii. Require minimum GCE maintenance frequencies of FSEs

C. Annual Requirement for Grease Interceptor or Grease Trap Certification (GCE)

- i. FSEs under SD1 jurisdiction must have their grease interceptor or grease trap inspected and certified annually. Certification of the interceptor or trap must be conducted by a SD1 Certified Grease Waste Hauler to verify that all necessary components of the grease interceptor or grease trap are properly installed and in proper working condition. If a grease interceptor or grease trap “passes” the certification requirement, then no further action is required. If a grease interceptor or grease trap “fails” the certification requirement, then the SD1 Industrial Monitoring Department will issue the FSE a Notice of Violation. (NOV).
- ii. Failure of GCE Certification:  
The FSE owner or authorized representative is responsible for submitting an NOV Response no later than the due date indicated in the original NOV. The NOV Response must address all matters detailed in the original NOV. Failure to submit the NOV Response by the indicated due date and/or failure to address all requirements stated in the original NOV may result in additional enforcement actions, up to and including, Administrative Fines and/or the termination of the FOG Wastewater Discharge Permit. NOV Responses must be submitted to:

SD1  
Industrial Monitoring Department  
2999 Amsterdam Rd  
Villa Hills KY, 41017

- iii. FSEs who service their own GCE shall maintain a Maintenance Log of the pumping/cleaning maintenance activities performed for all GCE on the premises. GCE Maintenance Log records shall include, at a minimum, the date of cleaning/maintenance, person conducting the cleaning/maintenance and specific volume of grease wastewater removed from the GCE.

- iv. GCE Maintenance Logs shall be available at the FSE premises so they can be provided to SD1 personnel or their representative. The FSE shall maintain GCE maintenance records onsite for two (2) years.
- v. Each GCE shall be fully evacuated (complete pumpout of GI contents) unless the volume is greater than the tank capacity of the pumper vehicle in which case the hauler shall arrange for additional transportation capacity so that the GCE is fully evacuated within a 24 hour period.
- vi. The return of gray water back into the GCE from which the waste was removed is prohibited, unless the Certified Waste Hauler has received prior written permission from SD1.
- vii. Waste removed from GCE shall be disposed of at an SD1 approved facility that is authorized to receive such waste in accordance with applicable federal, state and local laws and regulations. Pumped waste shall not be discharged to a private or public sewer unless as permitted above.

13. FSEs shall observe Best Management Practices (BMPs) for controlling the discharge of FOG from their facility.

#### 14. Grease Interceptor (GI) Cleaning/Maintenance Requirements

- A. Grease interceptors must be pumped-in-full when the total accumulations of surface FOG (including floating solids) and settled solids reaches twenty-five percent (25%) of the grease interceptor's overall liquid depth. This criterion is referred to as the "25 Percent Rule". At no time shall the cleaning frequency of the grease interceptor exceed 90 days unless approved by SD1. Some existing FSEs in Class 2 through 5 will need to consider a 30 day pumping frequency or a 60 day pumping frequency to meet the 25 Percent Rule requirement. SD1 requires that an SD1 Certified Grease Waste Hauler perform all GCE servicing for all FOG Permitted FSE's, unless GCE servicing is performed by an FSE employee.
- B. Partial pump of interceptor contents or on-site pump & treatment of GI contents will not be allowed without prior written SD1 approval to reintroduction of fats, oils and grease to the interceptor and pursuant to the Code Federal Regulation 40 CFR403.5(b)(8), which states "Specific prohibitions. In addition, the following pollutants shall not be introduced into a POTW: Any trucked or hauled pollutants, except at discharge points designated by the POTW".
- C. Special pumping frequency approval may be granted and/or required by SD1, on a case by case basis, for unusual circumstances.
- D. All FOG Permitted FSEs in the SD1 jurisdiction must have a SD1 Certified Grease Waste Hauler complete a grease interceptor certification annually. The grease interceptor certification must be signed by the FSE owner or authorized representative. If a GI passes the certification, no further action is required on the part of the FSE. If a GI fails a certification, the SD1 Industrial Monitoring Department will issue the FSE an NOV detailing follow-up actions and requirements.
  - i. Grease interceptor effluent-T shall be inspected during all routine cleaning and maintenance and the condition noted by the grease waste hauler's company or individual conducting the maintenance. Effluent-T's that are

loose, defective, or not attached must be repaired or replaced as soon as possible.

- E. SD1 shall monitor the method and location of grease removed from accepted GCE.

All grease removed from permitted FSE's must be disposed of in accordance with all federal, state and local regulations, as well as, the SD1 Waste Hauler Permit. SD1's Industrial Monitoring Department will review disposal locations on a case by case basis.

#### 15. Grease Trap (GT) Cleaning/Maintenance Requirements

- A. GTs shall be completely cleaned of fats, oils, and grease (FOG) and food solids at a minimum of every two (2) weeks, unless more or less cleaning frequency is authorized/required by SD1. If the FOG and food solids content of the grease trap is greater than 25% of the water depth capacity of the grease trap, then the grease trap shall be cleaned every week, or as frequently as needed to prevent 25% of capacity being occupied with FOG and food solids.

FSEs in the SD1 jurisdiction shall have a SD1 certified grease waste hauler complete a grease trap certification annually. The grease trap certification shall be signed by the FSE owner or authorized representative. If a GT passes the certification, no further action is required on the part of the FSE. If a GT fails a certification, the SD1 Industrial Monitoring Department will issue the FSE an NOV detailing follow-up actions and requirements.

- i. During all routine cleanings of the grease trap, the flow restrictor shall be checked to ensure it is attached and operational.
- B. Grease Trap waste shall be sealed or placed in a container to prevent leachate from leaking, and then disposed of properly.
- C. Grease Trap waste shall not be mixed with yellow grease in the grease recycle container.

#### 16. "Additives" are prohibited for use as grease management and control.

- A. If SD1 identifies an FSE that is using "additives" and is contributing FOG to the SD1 sewer system, or has caused any interference to the sewer system, the FSE shall immediately stop use of the "additive".
- B. At no time shall additives be used just prior to under the sink or floor grease traps.
- C. The use of additives is prohibited with the following exceptions:
  - i. If the product used can be proven to contain 100% bacteria, with no other additives. Approval of the use of the product must come from SD1, and the FSE must submit a full disclosure Material Safety Data Sheet and certified sample results from the manufacturer of the product.
- D. The use of approved additives shall in no way be considered as a substitution to the maintenance procedures required per this policy.

## 17. Right of Entry – Inspection and Monitoring

- A. SD1 shall have the right to enter the premises of FSEs to determine whether the FSE is complying with the requirements of this policy and/or SD1 Rules and Regulations. FSEs shall allow SD1 personnel, upon presentation of proper credentials, full access to all parts of the premises for the purpose of inspection, monitoring, and/or records examination. Unreasonable delays in allowing SD1 personnel access to the FSE premises shall be a violation of this policy and the SD1 Rules and Regulations.
- B. SD1 may require that the FSE install monitoring or additional pretreatment equipment deemed necessary for compliance with this policy and/or SD1 Rules and Regulations.

## 18. Enforcement Action

- A. Enforcement action or a Notice of Violation may be issued to an FSE for instances that include, but not limited to, failure to clean or pump grease control equipment, failure to maintain grease control equipment including inspection and installation of properly functioning effluent-T and baffles, failure to install grease control equipment, failure to control FOG discharge from the FSE, contributing to a sewer line blockage or obstruction, contributing to a Sanitary Sewer Release, failure to submit a Notice of Violation Response and use of additives in such quantities so that FOG is pushed downstream of the FSE. Enforcement actions will be based on the SD1 Enforcement Response Plan.

## **SD1 Design Specifications for Grease Control Equipment** **Grease Interceptor (GI) Design and Installation for FSE established after January 1, 2012:**

### Piping Design

1. Inlet, outlet and baffle piping shall have 2-way cleanout T's installed.
2. Inlet piping shall enter the receiving chamber 2 1/2" above the invert of the outlet piping.
3. On the inlet pipe, inside the receiving chamber, a sanitary T of the same size pipe in the vertical position with the top unplugged shall be provided as a turndown. To provide air circulation and to prevent "air lock", a pipe installed in the top T shall extend to a minimum of 6" clearance from the interceptor ceiling, but not less than the inlet pipe diameter. A pipe installed in the bottom of the T shall extend to a point of 2/3 the depth of the tank. . See illustration on page 9.
4. The outlet piping shall be no smaller than the inlet piping, but in no case smaller than 4" inner diameter (ID).
5. The outlet piping shall extend to 12" above the floor of the GI and shall be made of a non-collapsible material. The top of the outlet T pipe should be no less than 4" above the static water line. T's must be anchored securely at the bottom.

6. The outlet piping shall contain a T installed vertically with a pipe installed in the top of the T to extend to a minimum of 6" clearance from the interceptor ceiling, but not less than the pipe diameter, with the top open. See illustration on page 17.

### **Design Baffles**

1. The inlet compartment shall be 2/3 of the total liquid capacity with the outlet compartment at 1/3 liquid capacity of the GI.
2. The GI shall have a non-flexing (i.e. concrete, steel, etc.) baffle the full width of the interceptor, sealed to the walls and the floor, and extended from the floor to within 6" of the ceiling. The baffle shall have a sanitary T located on the receiving side of the baffle wall which shall extend through the baffle into the outlet compartment. The baffle wall piping shall be installed vertically with a pipe installed in the top of the T to extend to the height of the baffle wall. The baffle wall piping shall extend from the bottom of the T to 12" above the floor of the GI. The baffle wall piping shall be at least equal in diameter size to the inlet piping, but in no case less than 6" ID. The baffle wall shall be sealed to the T and the baffle wall piping secured to the baffle wall. All baffle wall piping shall be made of a non-collapsible material. See illustration on page 17.

### **Access Openings (Manholes)**

1. Access to GIs shall be provided by a minimum of one manhole per GI division (baffle chamber) and of 24" minimum dimensions terminating 1" above finished grade with cast iron frame and cover. If manhole access exists in a paved area, a slope of greater than or equal to 0.2 may be used to achieve the 1" terminating manhole access requirement. An 8" thick concrete pad extending a minimum of 12" beyond the outside dimension of the manhole frame shall be provided. One manhole shall be located above the inlet T hatch and the other manhole shall be located above the outlet T hatch, so as to provide a clear view of both the inlet and outlet T for inspection. 1000 gallon GI's that possess a manhole access opening over only the inlet and outlet must possess a 6" cleanout access located over the baffle wall. A minimum 24" of clear opening above each manhole access. GI's 1500 gallons and larger must possess a minimum of 3 manholes; one above the influent, one above the effluent and one above the baffle.
2. Access openings (manholes) shall be maintained to facilitate maintenance, cleaning, pumping, and inspections.
3. Access openings (manholes) shall be mechanically sealed and gas tight to contain odors and bacteria and to exclude vermin and ground water, in a manner that permits regular reuses.
4. Manhole covers shall be secure, watertight, sturdy and able to withstand vehicle traffic.

### **Leak Testing**

GIs shall comply with one of the following:

- 1. Water test** - Seal the interceptor, fill with water raised to a level that will submerge all inlet and outlet points of the manhole, and let stand for a minimum of 4 hour. There shall be no visible leakage. Prefabricated concrete gravity grease Interceptors shall not be rejected for damp spots due to condensation on the exterior surface.

**Note:** It is highly recommended that the water remain in the GI prior to initiation of usage. The GI will function better if it contains water upon initiation of usage.

**2. Air test** - Air test procedure shall follow STI F 921 and PEI RP 100 Section 3.

**Note:** The regulated air supply test pressure used for this test is not to be less than 3 psig (21 kPa) nor more than 5 psig (35 kPa). Use only calibrated diaphragm type air pressure gauges with a zero to 10 psig dial span. Set pressure relief valve in test air supply line at 4.5 psig.

Temporarily plug, cap or seal of all tank openings to hold pressure. Install air supply piping to appropriate tank penetration with air supply piping, over pressure relief device, air isolation valve and pressure gauge. Close air isolation valve to tank and turn on air supply. Slowly open air isolation valve to pressure primary tank. Pressure gauge should read minimum 3 psig to 5 psig maximum. Record the pressure reading. Close air isolation valve and disconnect air supply line to tank.

**Note:** A steady drop in pressure indicates there may be a leak in the primary tank.

Hold primary air test for 1 hour minimum. No leaks shall be allowed.

If the tank(s) fails to meet the testing described above, it shall be repeated with new samples. Test reports shall show total number of tanks tested, number passing, number failing, and reason for failure.

### **Location**

1. GIs shall be located so as to be readily accessible for cleaning, maintenance, and inspections. GIs shall be located close to the fixture(s) discharging the greasy wastestream(s).
2. GIs shall not be installed in “drive-thru” lanes or a parking area. GIs shall never be paved over.
3. GIs shall be installed at a minimum distance of 10’ from sinks and dishwashers to allow adequate cooling of wastewater. The influent to GIs shall not exceed 140 degrees Fahrenheit (140° F).

### **Size**

1. Without prior written approval, GI minimum size shall be 1,000 gallon capacity, and maximum size will be 2,000 gallon capacity. If additional capacity is required, the FSE shall install multiple GIs in series. SD1 retains the right to take all factors into consideration for determination of final GI sizing. Upon consideration of special conditions SD1 may approve the use of GIs smaller than 1,000 gallons with a corresponding increase in pumping frequency. SD1 will review special conditions on a case by case basis.
2. GIs installed in series shall be installed in such a manner to ensure positive flow between the GIs at all times. Therefore GIs shall be installed so that the inlet invert of each successive GI shall be a minimum of 2 inches below the outlet invert of the preceding GI.

3. GIs installed in series shall have adaptors or gaskets or flexible transition couplings used as piping connections between the GIs installed in series. The adaptors or gaskets or flexible transition couplings shall be constructed of a minimum of schedule 40 PVC.

### **Construction Material**

1. GIs shall be constructed of sound durable materials, not subject to excessive corrosion or decay, and shall be water and gas tight. Each GI shall be structurally designed to withstand any anticipated load to be placed on the GI (i.e. vehicular traffic in parking or driving areas). Concrete is the standard material approved by SD1, however, SD1 will consider other materials, such as fiberglass or plastic grease interceptors, if a professional engineer (PE) provides calculations and evidence that the device will meet SD1 requirements and not be a danger to the public, or environment.

**Note: Concrete materials and other grease interceptor materials shall meet the American National Standards Institute, Inc. (ANSI) and International Association of Plumbing and Mechanical Officials (IAPMO) standards.**

**ANSI and IAPMO Concrete Materials Requirements as per IAPMO/ANSI Z1001-2007 document are:**

- **Concrete:** Material requirements shall comply with the “Materials and Manufacture” section of ASTM C 1613 and shall have a minimum compressive strength of 4000 psi (28 MPa) at 28 days of age and shall have a maximum water to cementitious ratio (w/c) of 0.45.
- **Sealants:** Flexible sealants employed in the manufacture or installation of GIs shall comply with ASTM C 990. Rigid (mortar) sealing or grout sealant of GI sections shall not be permitted.
- **Lifting:** Lifting devices, embedded or otherwise attached to the GI, shall comply with the requirements of ASTM C 890.
- **Synthetic fiber-reinforced concrete GIs:** Polypropylene or polyolefin fibers are only permitted as a secondary reinforcing material, at the manufacturer’s option, in precast concrete GIs. For the purposes of this standard, secondary reinforcing material is only used to resist temperature and shrinkage effects. Only fibers of Type III conforming to the requirements of ASTM C 1116 shall be accepted.
- **Steel fiber-reinforced concrete GIs:** Steel fibers are only permitted as a secondary reinforcing material, at the manufacturer’s option, in prefabricated GIs. For the purpose of this standard, secondary reinforcing material is only used to resist temperature and shrinkage effects. Steel fibers shall meet the requirements of ASTM A 820.
- **Fiberglass-reinforced polyester:** Fiberglass reinforced polyester prefabricated gravity GIs shall comply with the requirements for fiberglass – reinforced polyester septic tanks in paragraph 4.2 of IAPMO/ANSI Z1000.
- **Gaskets:** Gaskets shall be of a resilient material, resistant to attack by acids or alkalis that may be present in soils or sewage. The manufacturer shall specify the appropriate ASTM standards that the gasket material meets and the acids or alkalis that the material is resistant to.

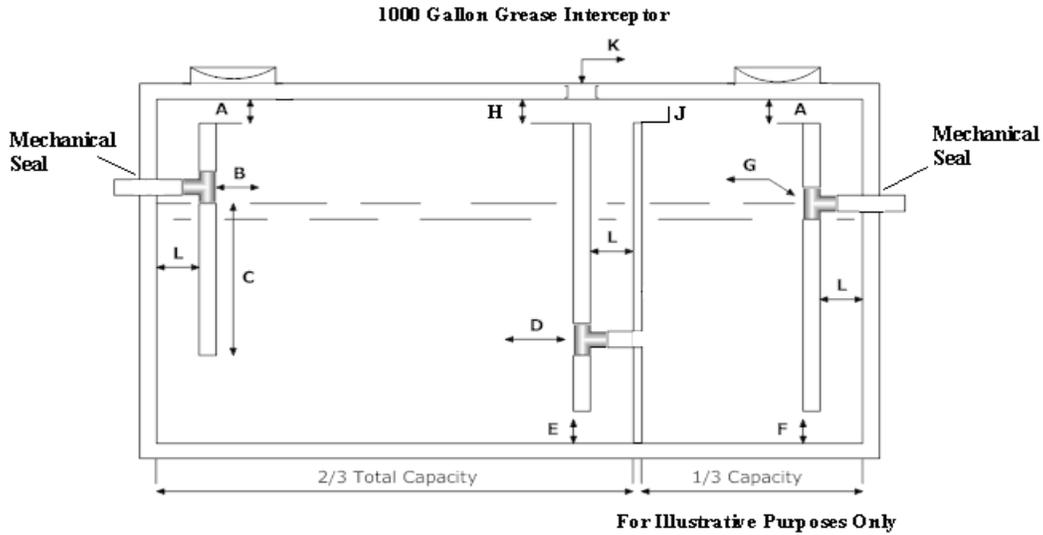
- **Polyethylene:** Polyethylene prefabricated gravity GIs shall comply with the requirements for polyethylene septic tanks in paragraph 4.3 of IAPMO/ANSI Z1000.

- **Coated steel:** Interior steel GI walls shall be coated with material complying with the requirements of UL 58 and UL 1746 and manufactured per the requirements of the Steel Tank Institute (STI).

### **Marking and Identification**

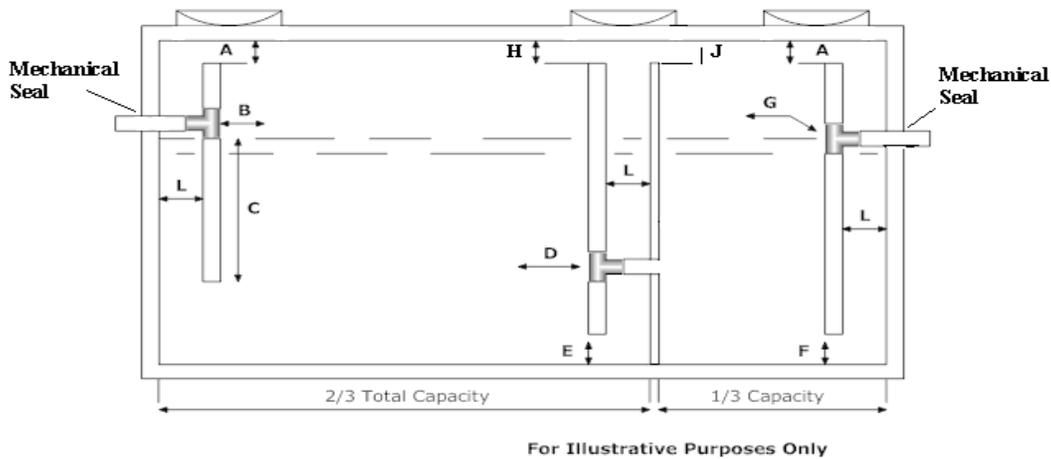
1. Prefabricated gravity GIs shall be permanently and legibly marked with the following:
  - Manufacturer's name or trademark, or both
  - Model number
  - Capacity
  - Month and year of manufacture
  - Load limits and maximum recommended depth of earth cover in feet; and Inlet and outlet.
2. The marking shall appear on a plate that has been permanently attached, molded, cast, or wet set onto the GI, located either on the left hand side of the inlet or on top of the GI near the inlet. Permanent markings shall be adequately protected from corrosion so as to remain permanent and readable over the life of the GI.
3. Each GI shall be accompanied by manufacturer's installation instructions.

## SD1 Design Specifications for 1000 Gallon Grease Interceptor



- A) Minimum 6", but not less than pipe diameter
- B) Inlet pipe invert to be 2 1/2" above liquid surface
- C) Inlet pipe to terminate 2/3 depth of water level
- D) Baffle T
- E) 12" from floor to end of baffle pipe
- F) 12" from floor to end of outlet pipe
- G) Outlet pipe no smaller than inlet pipe
- H) Top of baffle pipe terminates no lower than baffle height
- I) Inlet chamber is 2/3 total capacity; outlet chamber 1/3 total capacity
- J) 6" minimum distance from ceiling
- K) Minimum 6" cleanout

## SD1 Design Specifications for $\geq 1000$ Gallon Grease Interceptor $\geq 1500$ Gallon Grease Interceptor



- A) Minimum 6", but not less than pipe diameter
- B) Inlet pipe invert to be 2 1/2" above liquid surface
- C) Inlet pipe to terminate 2/3 depth of water level
- D) Baffle T
- E) 12" from floor to end of baffle pipe
- F) 12" from floor to end of outlet pipe
- G) Outlet pipe no smaller than inlet pipe
- H) Top of baffle pipe terminates no lower than baffle height
- I) Inlet chamber is 2/3 total capacity; outlet chamber 1/3 total capacity
- J) 6" minimum distance from ceiling

### Grease Trap (GT) Design and Installation:

1. GTs shall have the Kentucky State Plumbing Code certification. The **minimum** acceptable size is rated at 25 gallons per minute / 50 pounds capacity. All GTs shall be installed as per manufacturer's specifications, which include the flow restrictor and venting prior to the discharge entering the GT.
2. GTs shall have flow control restrictor and be vented.
3. A separate grease trap is required for each commercial dishwasher. The size of the trap is determined by the GPM discharge rate of the dishwasher as specified by the manufacturer. Select proper interceptor of equivalent or next higher rate from Table 8.3.2 of the Plumbing and Drainage Institute publication titled **Standard PDI-G 101 Testing and Rating Procedure for Grease Interceptors – Revised March 2010.**
4. Any floor GT must be an approved "floor" trap that is able to be installed below the floor level. Many standard "under-the-sink" units are not made of proper materials that allow an in-floor installation. Unapproved floor trap units will rust and leak within a few months of operation.

