

## **FATS, OILS, AND GREASE MANAGEMENT PROGRAM**

Approved by Water Authority of Dickson County Board of Commissioners

Date: 09/09/2019

**TABLE OF CONTENTS**

<b>Section</b>	<b>Page</b>
<b>I. Scope and Purpose</b> .....	3
<b>II. Definitions</b> .....	3
<b>III. General Requirements</b> .....	5
<b>IV. Grease Control Equipment Plans Review and Sizing Requirements</b> .....	6
1. Plan Submission.....	6
2. Existing FSEs .....	6
3. Minimum Grease Interceptor/Trap Sizing .....	7
4. Classifications.....	7
<b>V. Grease Control Equipment Specifications</b> .....	7
1. Interceptor & Traps .....	7
2. Interceptor Pipe Design.....	7
3. Baffles .....	8
4. Access Openings (Manholes).....	8
5. Additional Requirements.....	8
<b>VI. Special Requirements for Existing FSE's</b> .....	9
1. Requirement to Upgrade, Repair or Replace Grease Interceptor/Traps .....	9
2. Existing FSE's Without Approved Grease Interceptors/Traps.....	10
3. Existing FSE's Which Intend to Undergo a Facility Upgrade or Remodel .....	10
4. Inspection Requirements for Existing FSE's .....	10
5. Existing FSE Timeline for WADC Approved Grease Interceptor/Trap .....	10
<b>VII. Grease Interceptor/Trap Inspections and Cleaning/Maintenance Requirements</b> .....	10
1. Inspections .....	10
2. Cleaning/Maintenance of Interceptors:.....	11
3. Cleaning/Maintenance of Traps:.....	11
4. Additives .....	12
<b>VIII. Best Management Practices (BMPs) for FOG Management</b> .....	12
<b>IX. Right to Entry for Inspection and Monitoring</b> .....	13
<b>X. Administrative Requirements Enforcement Action &amp; Fees</b> .....	13
1. Initial Data Acquisition & Application Fee .....	13
2. Enforcement Action .....	13
3. Notice of Violation Fee Schedule .....	13

## I. Scope and Purpose

The purpose of the Fats, Oils, and Grease Program is to prevent sanitary sewer system blockages, obstructions, and overflows due to the contribution and accumulation of fats, oils, and grease from food service establishments, commercial facilities and industrial facilities.

## II. Definitions

Authorized Representative of the Food Service Establishment: A person who is one of the following:

- a) The Owner
- b) The General Manager
- c) The Manager
- d) A duly authorized representative of one of the three individuals designated above if such representative is responsible for the overall operation of the facilities from which the indirect discharge originates.

Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the introduction of fats, oils, and grease into the sanitary sewer system.

Black Water: Wastewater containing human waste, from sanitary fixtures (e.g. toilets, urinals).

Brown Grease: Fats, oils, or grease discharged into the grease control equipment.

Enforcement Action: A prompt corrective action directive assessing money penalties as determined by WADC, which may also include interruption and/or termination of water service.

Fats, Oils, and Grease (FOG): Organic polar compounds derived from animal and/or plant sources that contain multiple carbon chain triglyceride molecules. These substances are detectable and measurable using analytical test procedures established in the United States Code of Federal Regulations 40 CFR 136 and may be referred to herein as "grease" or "greases."

Food Service Establishment (FSE): Any establishment, business or facility engaged in preparing, serving or making food available for consumption including but not limited to; restaurants, grocery stores, hotels, hospitals, nursing homes, retirement centers, prisons, bars/lounges, malls, retail outlets and mobile food units. FSEs shall be classified as follows:

- a. **Class 1**: Delis (NAICS 445210), Snack and Beverage Bars engaged in the sale of cold-cut and heated foods with no frying or grilling on site (NAICS 722515), and Mobile Food Vendors (NAICS 722330). Exceptions to Class 1 are some ice cream and frozen yogurt shops (NAICS 311520) doughnut shops with on premise baking, pizzerias and large coffee shops, as determined by WADC, which are classified as Class 2 or Class 3 facilities.
- b. **Class 2**: Limited Service Restaurants (fast food facilities, drive-in, carry-out) as defined by NAICS 722513, Caterers (NAICS 722320), Delis/Sandwich Shops (with Frying, Grilling, Rotisserie, etc.), Grocery Stores (NAICS 445110), Convenience Stores and Gasoline stores with Convenience Stores that engage in the on-site preparation of food (NAICS 452112).
- c. **Class 3**: Full Service Restaurants as defined by NAICS 722511

- d. **Class 4:** Buffet and Cafeteria Facilities as defined by NAICS 722514.
- e. **Class 5:** Institutions (Schools, Hospitals, Nursing Homes, Prisons, etc.) which include NAICS classifications 611110, 611310, 623110, 623311, 623312, 722310, 813110, and 922140, but not to exclude self-run operations.

Any business that began service as an FSE prior to the effective date of WADC's FOG Management Program shall be considered existing.

Gray Water: Wastewater from baths, sinks, washing machines etc. Gray water refers to all other wastewater other than black water as defined in this section

Grease Control Equipment (GCE): A device for separating and retaining wastewater fats, oils, and grease substances prior to exiting the food service establishment and entering the sewer system. The GCE is so constructed as to separate and trap or hold fats, oils and grease substances from entering the sewer system. Devices include grease interceptors, grease traps, or other devices approved by WADC.

Grease Interceptor: A device for separating and retaining wastewater fats, oils, and grease prior to exiting a food service establishment and entering the sanitary sewer system. Grease interceptors must be approved by WADC and new interceptors shall be located outside the FSE unless a variance has been requested and granted.

Grease Recycle Container: A container used for the storage of yellow grease.

Grease Trap: A plumbing device designed to intercept most greases and solids before they enter a wastewater disposal system (e.g. "under the sink" trap, a small container with baffles, or a floor trap). Grease traps must be approved by WADC. Minimum grease trap size shall be 15 gallons per minutes/30 pound capacity. All grease traps shall have flow restrictors and venting.

Grease Waste Hauler Agreement: An agreement that defines the scope for cleaning of grease interceptors/traps as defined by WADC. A list of approved haulers shall be maintained at the WADC Pretreatment office.

North American Industry Classification System (NAICS): Codes used by businesses and government authorities to differentiate types of business according to their process or production (<http://www.census.gov/eos/www/naics/>).

Notice of Violation (NOV): Generally issued by WADC inspector/field personnel, the NOV is an official communication to the user that informs of a FOG Program violation. The NOV will typically be issued within five working days of identification of the violation followed by a fee assessment. The NOV provides the user with an opportunity to correct the noncompliance on its own initiative rather than according to a schedule of action determined by WADC. The NOV documents initial attempts of WADC to resolve the noncompliance.

Publicly Owned Treatment Works (POTW): A term used in the United States for a sewage treatment plant that is owned, and usually operated, by a government agency.

T (influent-T or effluent-T): 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 constructed of PVC or equivalent material, and should extend to within 12" to 15" of the bottom of the interceptor.

WADC: Water Authority of Dickson County.

Yellow Grease: Recyclable fats, oils, or grease that has not been in contact with or contaminated from other sources (water, wastewater, solid waste, etc.).

### III. General Requirements

1. The successful removal of FOG from wastewater originating from a FSE is the sole responsibility of said establishment. Damages and/or blockages sustained by WADC's sanitary sewer system due to improper, inadequate, or negligent removal of FOG is the liability of the FSE and may result in enforcement action.
2. All new FSEs are required to have grease interceptors/traps installed, maintained and operating properly, in accordance with sections IV and V of this Program. Existing FSEs operating without grease interceptors/traps meeting sections IV and V are required to comply with the applicable requirements of Section VI – Special Requirements for Existing FSEs.
3. Grease traps <15gpm/30lbs, while not prohibited, are not considered acceptable devices to eliminate uncontrolled discharge of FOG to the public sanitary sewer collection system. Grease traps **MUST** have prior approval by WADC.
4. FSEs are required to maintain records of cleaning and maintenance of grease interceptors/traps. Maintenance records should include the date of cleaning, name of the company or person conducting the service, and the estimated/actual volume of grease wastewater removed. A grease waste hauler completed manifest should include this information. Records are subject to inspection/audit and shall be maintained for three years.
5. Grease interceptors/traps shall be accessible for inspection by WADC. This requirement includes both right of entry, as specified within Section IX – Right to Entry for Inspection and Monitoring, as well as refraining from placement of objects on or within the vicinity of the grease interceptor which would impede adequate inspection.
6. Grease interceptor/trap access openings shall be clear and free from mulch, gravel and other debris which could enter the grease interceptor/trap and cause operational issues.
7. Introduction of any additives into a FSE wastewater system for the purpose of emulsifying FOG is prohibited.
8. Garbage disposal units shall not be connected to sinks or other connections to the sewer. (Sink garbage grinders or disposal systems will contribute grease discharge to sewer and accelerate the frequency that the grease interceptor/trap will need servicing by filling up the grease trap and reducing efficiency. Food waste should be recycled or disposed in solid waste garbage receptacles).
9. No automatic dishwasher shall be connected to an under-the-sink grease trap or floor grease trap. Dishwashers will cause hydraulic overload of grease traps.

10. Discharge of waste from toilets, urinals, and other fixtures containing fecal materials to sewer lines routed to a grease interceptor is prohibited.
11. Yellow grease shall be disposed of in an approved container that prevents the contents from being discharged to any storm water grate, drain or conveyance.
12. Discharge of any FOG, including solid materials removed from a grease interceptor, into WADC's sanitary sewer system is prohibited.
13. The shared use of a grease interceptor by multiple FSEs is prohibited without prior written approval.
14. In special circumstances, and with prior approval by WADC, a FSE may utilize multiple grease interceptors in series in order to achieve the total required grease interceptor capacity.
15. All existing and/or permitted FSEs must notify WADC in writing prior to any change in ownership, location, or significant change in operation. FSE permits are non-transferable.

#### **IV. Grease Control Equipment Plans Review and Sizing Requirements**

##### **1. Approval of Grease Control Equipment:**

All new FSEs, FSEs that are renovating their facilities, and FSEs that are changing ownership must contact WADC for approval of grease control equipment (GCE). Final approval will include onsite inspection of the GCE. Rough-in inspections may be required on a case-by-case basis. Failure of the FSE to obtain GCE approval prior to commencing operating may result in enforcement action.

##### **2. Plan Submission**

New FSEs must submit in electronic (PDF) and/or hard copy format, plumbing and architectural plans identifying all proposed cooking and food preparation equipment (fryers, grills, woks, etc.) as well as the number and drain sizes of dishwashers, sinks, floor drains, and other kitchen plumbing fixtures, during plans review for application of water and wastewater service.

New strip malls must have two separate sewer line connections to each unit within the strip mall. One sewer line shall be for sanitary wastes and one sewer line shall be for the kitchen area or potential kitchen area that will be plumbed to the GCE. The property owner shall set aside sufficient physical property space for installation of a minimum 1,000 gallon GCE. Grease interceptors must be approved by WADC.

##### **3. Sewer Line Requirements**

All new construction shall have separate sanitary (restroom) and grease waste lines. The grease waste line shall be plumbed to the appropriately sized GCE. No sanitary waste or stormwater shall be plumbed to the GCE.

4. Existing FSEs

Existing FSEs must comply with the applicable requirements of Section VI – Special Requirements for Existing FSEs of this Program.

5. Minimum Grease Interceptor/Trap Sizing

The minimum grease interceptor/trap sizing shall be determined by WADC based upon FSE classification, the number and types of proposed kitchen equipment, and plumbing fixtures to be connected to the grease interceptor. See paragraph IV.4 for further requirements.

6. Classifications

Minimum acceptable size of GCE for each FSE Classification is as follows:

- a. Class 1: 15 GPM / 30 lb. grease trap
- b. Class 2: 1,000 gallon grease interceptor
- c. Class 3: 1,500 gallon grease interceptor
- d. Class 4: 2,000 gallon grease interceptor
- e. Class 5: 2,000 gallon grease interceptor

Note: The use of grease traps will not reduce the required size of a grease interceptor.

**V. Grease Control Equipment Specifications**

1. Interceptor & Traps

Grease Control Equipment must remove fats, oils, & grease at or below the WADC local limit of 100 mg/L. Failure to comply will result in enforcement action in accordance with the WADC Enforcement Response Plan (ERP).

Grease traps must have the Plumbing Drainage Institute Certification. The minimum acceptable size is rated at 15 GPM / 30 lbs. All grease traps are to be installed per manufacturer specifications, which includes the flow restrictor and venting prior to the discharge entering the grease trap.

2. Interceptor Pipe Design

1. The inlet and outlet piping shall have 2-way cleanout T's installed.
2. The inlet piping shall enter the receiving chamber 2 ½" above the invert of the outlet piping.
3. On the inlet pipe, inside the receiving chamber, a sanitary influent-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 (nipple) 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.
4. The outlet piping shall be no smaller than the inlet piping, but in no case smaller than 4" ID.

5. The outlet piping shall extend to 12" above the floor of the interceptor and shall be made of a non-collapsible material.
6. The outlet piping shall contain a T installed vertically with a pipe (nipple) 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.

### 3. Baffles

1. The grease interceptor 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 extend from the floor to within 6" of the ceiling. The baffle shall have an inverted 90 degree sweep fitting at least equal in diameter size to the inlet piping, but in no case less than 6" ID. The bottom of the sweep shall be placed in the vertical position in the inlet compartment 12" above the floor. The sweep shall rise to the horizontal portion, which shall extend through the baffle into the outlet compartment. The baffle wall shall be sealed to the sweep. See illustration.
2. The inlet compartment shall be 2/3 of the total liquid capacity with the outlet compartment at 1/3 liquid capacity of the interceptor.

### 4. Access Openings (Manholes)

1. Access to grease interceptors shall be provided at a minimum of 1 manhole per interceptor division (baffle chamber) and of 24inch minimum dimensions terminating 1 inch above finished grade with cast iron frame and cover. One manhole shall be located above the inlet T hatch and the other manhole shall be located above the outlet T hatch. A minimum of 24" of clear opening above each manhole access shall be maintained to facilitate maintenance, cleaning, pumping, and inspections.
2. Access openings 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.
3. The manholes are to be accessible for inspection.

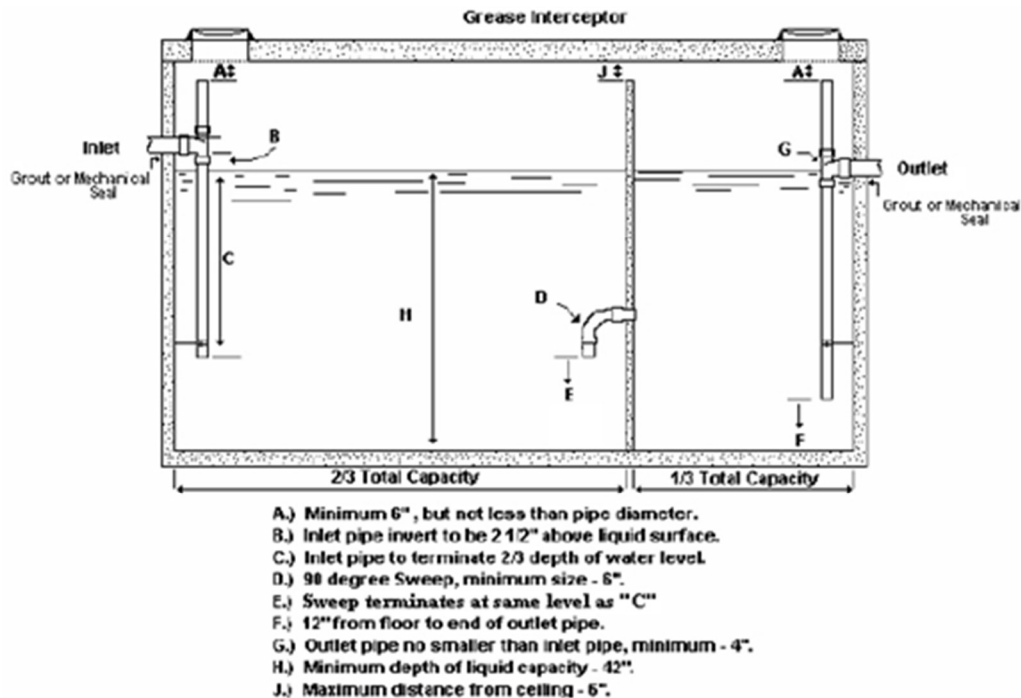
### 5. Additional Requirements

Water Tight – Precast concrete grease interceptors shall be constructed to be watertight. A static water test shall be conducted by the installer and timed so as to permit verification through visual inspection. The water test shall consist of plugging the outlet (and the inlet if necessary) and filling the tank(s) with water to the top a minimum of 24 hours before the inspection. The tank shall not lose water during this test period. Certification shall be supplied to the FSE for final approval of grease control equipment.

Location – Grease Control Equipment shall be located so as to be readily accessible for cleaning, maintenance, and inspection. It should be located close to the fixture(s) discharging the greasy waste stream.



Construction Material – Grease Interceptors shall be constructed of sound durable materials, not subject to excessive corrosion or decay, and shall be water and gas tight. Each interceptor shall be structurally designed to withstand any anticipated load to be placed on the interceptor (i.e. vehicular traffic in parking or driving areas).



## VI. Special Requirements for Existing FSE's

### 1. Requirement to Upgrade, Repair or Replace Grease Interceptor/Traps

Existing FSEs with grease interceptors/traps shall be required to upgrade, repair or replace their grease interceptor/traps as applicable and subject to WADC's approval in the event any of the following:

- a. A facility change, upgrade, or remodel performed which affects the cooking or food preparation area resulting in the addition of plumbing fixtures and/or cooking and food preparation equipment. In such instances, if additional capacity is required in accordance with WADC's grease interceptor sizing criteria, the FSE shall be required to make improvements to achieve the necessary grease interceptor/trap capacity if:
  - i. The required grease interceptor capacity exceeds the existing grease interceptor capacity by 1,000 gallons or more, and/or
  - ii. The required grease interceptor/trap capacity exceeds the existing grease interceptor/trap capacity by 50% or more of the existing capacity.
- b. The existing grease interceptor/trap is found to be damaged, defective, and/or in disrepair.

2. Existing FSE's Without Approved Grease Interceptors/Traps

Existing FSEs without WADC approved grease interceptors/traps may be allowed to continue current operations without installing approved grease interceptors until such time as:

- a. A change of FSE ownership occurs, and/or
- b. A facility upgrade or remodel is performed at the FSE, and/or
- c. It is determined that the FSE is the cause of a FOG blockage in the sanitary sewer collection system.

3. Existing FSE's Which Intend to Undergo a Facility Upgrade or Remodel

Any existing FSE that intends to perform a facility upgrade or remodel must submit to WADC in electronic (PDF) and/or hardcopy format, plumbing and architectural plans identifying all proposed cooking and food preparation equipment (fryers, grills, woks, etc.) as well as the number and drain sizes of dishwashers, sinks, floor drains, and other kitchen plumbing fixtures.

4. Inspection Requirements for Existing FSE's

Existing FSEs required to install and maintain an approved grease interceptor/trap for any reason other than a facility upgrade or remodel must permit the inspection of the FSE's cooking and food preparation areas to determine the minimum required grease interceptor/trap capacity. During this inspection, WADC representatives shall inform the FSE which plumbing fixtures must be drained, separately from the sanitary sewer, to the proposed grease interceptor. Failure to allow for this inspection may result in enforcement action.

5. Existing FSE Timeline for WADC Approved Grease Interceptor/Trap

The timeline by which the existing FSE must have a WADC approved grease interceptor/trap installed and operational shall be determined on a case by case basis; the timeline will take into consideration the scope of work required in order for compliance with this Program as well as risks to the public sanitary sewer collection system. Failure to meet the established timeline may result in enforcement action.

**VII. Grease Interceptor/Trap Inspections and Cleaning/Maintenance Requirements**

1. Responsibility

Removal of the grease from the wastewater routed to a public or private sanitary system is the responsibility of the user/owner.

2. Inspections

- a. WADC inspects all grease interceptors/traps and any equipment that contributes to FOG impact within the service area on an annual basis. These inspections are at cost to the FSE. The fee shall be established to insure full cost recovery and shall include, but not limited to, the cost of field, administrative, engineering, and clerical expenses involved. The fees shall not be less than \$50 per year per facility. Right of entry for such inspections shall be granted in accordance with Section IX - Right to Entry for Inspection and Monitoring of this Program.
- b. Following an inspection, WADC shall provide the FSE with an inspection report identifying any issue(s) of noncompliance. If issues are identified, WADC staff will issue a Notice of Violation (NOV) establishing a timeframe for the issues to be addressed. Failure to address NOV issues in the allotted time may result in enforcement action.

3. Cleaning/Maintenance of Interceptors:

- a. Grease interceptors MUST have the complete contents pumped or cleaned at least every 90 days and more often if needed. Additionally, grease interceptors MUST have the complete contents pumped or cleaned when the total accumulation of surface FOG and settled solids combined reaches 25% of the grease interceptor's overall liquid depth. Any contract grease hauler/pumper MUST be approved by the "Grease Waste Hauler Agreement" prior to pumping any interceptor.
- b. Allowing surface FOG and settled solids to exceed 25% of the grease interceptor's overall liquid depth will result in a NOV.
- c. Partial pump of interceptor contents or onsite pump & treatment of interceptor contents will not be allowed due to the reintroduction of fats, oils and grease to the interceptor and pursuant to the Code Federal Regulation (CFR) § 403.5 (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".
- d. Grease interceptor effluent-T shall be inspected during cleaning and maintenance with the condition noted by the grease waste hauler's company or individual conducting the service. Effluent-T's that are loose, defective, or not attached must be repaired or replaced immediately.
- e. Grease Interceptors must have access manholes over the influent-T and effluent-T for inspection and ease of cleaning/maintenance. Access manholes will be provided for all separate compartments of interceptors for complete cleaning (i.e. interceptor with two main baffles or three compartments will have access manholes at each compartment).

4. Cleaning/Maintenance of Traps:

- a. All grease traps shall have flow control restrictor and venting. Failure to do so will be considered a violation.
- b. Grease trap minimum size requirement is 15 gallon per minute / 30 pound capacity.

- c. Grease traps shall be cleaned completely of fats, oils, grease, and food solids at a minimum of every two (2) weeks. If the FOG and food solids content of the grease trap is greater than 50%, then weekly cleaning is mandated or as frequently as needed to prevent 50% of capacity being taken from FOG and food solids. Any contract grease hauler/pumper MUST be WADC approved prior to pumping any trap.
- d. Grease trap waste should be sealed or placed in a container to prevent leachate from leaking, and then disposed of properly.
- e. Grease trap waste should not be mixed with yellow grease in the grease recycle container.

#### 5. Additives

WADC prohibits the use of additives as grease management and control. Additives include, but are not limited to, products that contain solvents, emulsifiers, surfactants, caustics, acids, enzymes, and bacteria.

### **VIII. Best Management Practices (BMPs) for FOG Management**

FSEs should implement BMPs that are recognized and necessary to minimize the potential for accidental discharge of FOG into the sanitary sewer system.

Examples of BMPs include, but are not limited to:

- a. Recycling waste cooking oil
- b. Posting "NO GREASE" signs above all kitchen sinks to remind employees
- c. "Dry Wiping" and scraping into a trash container as much food particles and grease residue from pots, pans, and plates as possible
- d. Using strainers in sink drains and floor drains to prevent large food particles and containers from going into the sewer line
- e. Using "dry" oil absorbent material or ice to make grease solidify
  - Cleaning up and disposing of waste into a trash container when an oil or grease spill occurs
- f. Disposing of food items in the trash
  - Garbage disposal device use is prohibited due to the buildup of solids in the grease interceptor/trap which causes decreased efficiency and the need to increase cleaning and pumping frequency of the grease interceptor/trap
- g. Water temperature for commercial dishwashers is to be maintained at or below 160° F
  - Temperatures in excess of 160° F will dissolve and disguise grease, leaving it to re-congeal or solidify in sewer collection system
- h. The amount of detergent used for dishwashing should be held to the minimum amount required to achieve effectiveness
  - Detergent surfactants have negative impacts on grease control
  - Reducing detergent usage also saves money
- i. Placing BMP posters near sinks or on employee bulletin boards
- j. Educating and training all employees on grease control

## **IX. Right to Entry for Inspection and Monitoring**

An authorized representative of WADC, upon presentation of proper credentials, shall have the right to enter the premises of FSEs to perform routine inspections of grease interceptors/traps and maintenance records to determine compliance with this Program. WADC may require 24-hour notification prior to any pumping, cleaning or maintenance for visual inspection and condition assessment of the total grease interceptor/trap tank.

## **X. Administrative Requirements Enforcement Action & Fees**

### **1. Initial Data Acquisition & Application Fee**

Upon inspection of each FSE, WADC's Inspector shall collect the necessary grease control data to facilitate the population of WADC's Fats, Oil and Grease Program database. The database will be updated with additional or modified information after each inspection. The fees shall not be less than \$150 per facility.

### **2. Enforcement Action**

Enforcement Action against the FSE includes, but is not limited to:

- a. failure to clean or pump grease control equipment
- b. failure to maintain grease control equipment including inspection and installation of properly functioning influent-T, effluent-T and baffles
- c. failure to install grease control equipment
- d. failure to control FOG discharge from the FSE
- e. use of additives

### **3. Notice of Violation Fee Schedule**

- a. First Violation - Fee of not less than \$100 per facility with 30 days to resolve the issue(s)
- b. Second Violation - Fee of not less than \$200 per facility with 30 days to resolve the issue(s)
- c. Third Violation - Fee of not less than \$300 per facility with 30 days to resolve the issue(s)
- d. Fourth Violation - will result in disconnection of services