

CITY OF JOHNSON CITY, TENNESSEE FATS, OIL AND GREASE (FOG) PLAN

Department of Water and Sewer Services

January 6, 2011



City of Johnson City
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Scope and Purpose

The objective of this policy is to establish certain minimum requirements for any food processing, food sales, or food service establishment (FSE) connected to, or applying to connect to, the City of Johnson City sanitary sewer system regarding the collection and disposal of fats, oils and greases in wastewater. Other industrial or commercial establishments generating wastewater containing fats, oils or greases are also subject to this policy. This policy establishes certain minimum requirements relating to the installation, use, and maintenance of grease traps/interceptors for above said Users.

Excessive amounts of fats, oils and greases in wastewater can and does lead to sewer backups and overflows, creating a public health hazard. Interference with the wastewater treatment process at publicly-owned wastewater treatment facilities and plants is also a problem associated with excessive amounts of fats, oils and grease in wastewater. The requirements contained within this policy are necessary to aid in the prevention of sanitary sewer blockages and obstructions and to prevent interference with the proper functioning of the wastewater treatment process resulting from contributions and accumulations of fats, oils and greases into the sewer system owned and maintained by the City of Johnson City.

Grease Trap/Interceptor Installation, Capacity, and Design

Grease interceptors and grease traps shall be required to receive the drainage from fixtures and equipment with grease-laden waste located in food preparation areas, such as in restaurants, hotel kitchens, hospitals, schools kitchens, bars, factory cafeterias and clubs. Fixtures and equipment shall include pot sinks, pre-rinse sinks; soup kettles or similar devices; work stations; floor drains or sinks into which kettles are drained; automatic hood wash units and dishwashers without pre-rinse sinks. Grease interceptors, grease traps and automatic grease removal devices shall receive waste only from fixtures and equipment that allow fats, oils or grease to be discharged.

Grease traps/interceptors shall have the grease retention capacity indicated in Table 1003.3.4.1 in the ICC Plumbing Code that is currently adopted for the flow-through rates indicated. Grease traps/interceptors and automatic grease removal devices shall conform to PDI G101, ASME A112.14.3 or ASME A112.14.4 and shall be installed in accordance with the manufacturer's instructions. All devices shall conform to Chapter 10 of the ICC Plumbing Code that is currently adopted.

The required size of a grease trap/interceptor shall be approximated by using the grease trap sizing formula listed in the Grease Trap/Interceptor Sizing Formula section of this policy. Most grease traps/interceptors will have a capacity of not less than 1500 gallons nor exceed 3000 gallons. If the calculated capacity, using the Grease Trap/Interceptor Sizing Formula section listed in this policy, exceeds 3000 gallons, multiple units in series shall be installed.

In areas where additional weight loads may exist, the grease trap/interceptor shall be designed to have adequate load-bearing capacity (example: vehicular traffic in parking or driving areas). Traps shall be of the one-piece design, with bolt on lid and manhole covers.

The Director may make determinations of grease trap/interceptor adequacy, need, design, appropriateness, application, location, modification(s), and conditional usage based on review of all relevant information regarding grease trap/interceptor performance, facility site and building plan review by all regulatory reviewing agencies and may require repairs to, or modification or replacement of grease traps/interceptors.

Grease Trap/Interceptor Sizing Formula:

- Restaurant kitchen sink 15 gpm
- Single compartment sink 20 gpm
- Double compartment sink 25 gpm
- 2, single compartment sinks 25 gpm
- 2, double compartment sinks 35 gpm
- Triple sink, 1 ½ or 2 in. drain 35 gpm
- 30 gal. Dishwasher 15 gpm
- 50 gal. Dishwasher 25 gpm
- 50-100 gal. Dishwasher 40 gpm
- Garbage disposal 40 gpm

Total:

****Note**** Calculate average flow rate per fixture

- A. Average Flow rate ___ gpm / Number of fixtures ___ = ___ gpm
- Restaurant Type and sizing factors:
 - Fast food (no dishes) = .50
 - Dine-in (0-100 seats) = .50
 - Dine-in (>100 seats) = .60
 - Cafeteria-Bufferet = .75
 - Food production = .85
- B. Sub Total = A x Sizing Factor = ___ gpm x ___ Factor = ___ gpm
- C. Sub Total = B x 60 min. = avg. flow for 1 hour = ___ x 60 = ___ gph
- D. Total = C x 2 hrs retention time = trap volume = ___ x 2 = ___ gal

Grease Trap/Interceptor Maintenance and Grease Removal Requirements

Grease traps/interceptors shall be maintained at the User’s expense. Users shall not allow wastewater discharge containing fats, oils or greases of animal or vegetable origin to the sanitary sewer in concentrations greater than 100 mg/l, expressed as Hexane Extractable Material. All grease traps/interceptors shall be readily and easily accessible for maintenance and repair, including cleaning and for inspection by City inspectors. All grease traps/interceptors shall be serviced and emptied of accumulated waste content as required in order to maintain minimum design capability or effective volume of the grease trap/interceptor, but not less than every ninety (90) days. Users who are required to pass wastewater through a grease trap/interceptor shall abide with the following:

1. The User shall provide for the minimum hydraulic retention time required of the User's grease trap/interceptor at actual peak flow between the influent and effluent baffles as required by the specifications of the manufacturer of said grease trap/interceptor. Twenty-five percent (25%) of the total volume of the grease trap/interceptor is allowed for any food-derived solids to settle or accumulate and floatable grease-derived materials to rise and accumulate, identified hereafter as a solids blanket and grease cap respectively.
2. The User shall remove any accumulated grease cap and solids blanket as required, but at intervals of not longer than ninety (90) days at the user's expense, or in accordance with a valid program modification or other Director's requirements. When the grease trap/interceptor is cleaned, all accumulated grease, solids blanket and wastewater shall be removed and properly disposed of. Decanting (removing grease, solids and wastewater from a trap/interceptor and reinserting any volume of grease, solids, or wastewater back into the trap/interceptor) is prohibited. The combined depth of the solids blanket and grease cap shall not be allowed to exceed twenty-five percent (25%) of the total liquid depth of the grease trap/interceptor. Grease traps/interceptors shall be kept free of inorganic solids such as grit, rocks, gravel, sand, eating utensils, cigarettes, shells, towels, rags, etc., which could settle into the solids blanket and thereby reduce the effective volume of the grease trap/interceptor.
3. The use of biological or other additives as a grease degradation or conditioning agent is permissible only upon the prior written approval of the Director. Any User using biological or other additives shall maintain the trap or interceptor in such a manner that attainment of any grease wastewater, action level, solids blanket or grease cap criteria, goal or directive, as measured from the grease trap/interceptor outlet or interior, is consistently achieved.

Recordkeeping Requirements

The User shall maintain a written record of grease trap/interceptor maintenance for a period of not less than two (2) years. All such records shall be available for inspection by City Inspector personnel at all times. These records shall include:

1. FSE name and physical location
2. Dates and times of grease trap/interceptor services
3. Name of grease trap/interceptor service company
4. Name and signature of grease trap/interceptor service company agent performing said service
5. Established service frequency and type of service: full pump out, partial pump out, on-site treatment (type and nature of operations)
6. Number and size of each grease trap/interceptor serviced at FSE location
7. Total volume of waste removed from each grease trap/interceptor
8. Destination of removed wastes, food solids, and wastewater disposal
9. Signature and date of FSE personnel confirming service completion

10. Such other information as required by Director

Consequences for Non-compliance

Inspections of facilities will be conducted by City of Johnson City officials at regular intervals. Violations of any portion of this policy will result in verbal and/or written notices of violation and timelines for corrective action. If corrective action is not taken, the City of Johnson City reserves the right to discontinue water and/or sewer services on the premises where the violation has occurred. Water and/or sewer services will be restored, at the cost of the User, once all violations have been corrected. Any obstruction to the sanitary sewer collection system of the City of Johnson City that can be attributed in part or in whole to an accumulation or contribution of fats, oils or greases from an establishment will be subject to enforceable actions in accordance with the Sewer Use Ordinance of the City of Johnson City.

Severability

If any provision, paragraph, word, or section of this policy is invalidated by any court of competent jurisdiction, the remaining provisions, paragraphs, words, and sections shall not be affected and shall continue in full force and effect.

This is the official Fats, Oil, and Grease (FOG) Plan as adopted by resolution during the Johnson City Commission Meeting on January 6, 2011