FATS, OIL, and GREASE (FOG) MANAGEMENT POLICY

Prepared by the Environmental / Regulatory Compliance Department
Cleveland Utilities Authority
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SECTION 1: DEFINITIONS and ACRONYMS

- Black Water - Wastewater from sanitary fixtures such as toilets and urinals.
- CU – Cleveland Utilities
- FOG – Fats, Oil, and Grease - A material composed primarily of fats, oil, and grease from animal, vegetable, or petroleum sources. The term fats, oil, and grease may be referred to as grease or types of grease in this document and includes petroleum-based products.
    - Brown grease – Fats, oils, and grease that is discharged to the grease control equipment.
    - Yellow grease – Fats, oils, and grease, usually spent oil from deep frying, that has not been in contact with or contaminated from other sources (water, wastewater, solid waste, etc.) and can be recycled. Yellow grease is typically stored in a rendering container outside the FSF.
- Food Service Facility (FSF) - Any establishment, business, or facility (commercial or industrial) engaged in preparing, serving, or making food available for consumption. This does not include residential customers.
- Garbage Grinder - A device which shreds or grinds up solid or semisolid waste materials into smaller portions for discharge into the sanitary sewer collection system.
- Gray Water - Refers to all wastewater other than "Black Water" as defined in this section.
- Grease Control Equipment (GCE) - A device for separating and retaining grease and solids prior to wastewater exiting the FSF. The GCE is so constructed as to separate and trap or hold grease from entering CU's sanitary sewer collection system. Devices include grease interceptors and grease traps.
- Grease Interceptor - Grease control equipment identified as a large tank or device so constructed as to separate and trap or hold fats, oil, and grease substances from the sewage discharged from a facility in order to keep fats, oil, and grease substances from entering the sanitary sewer collection system. Grease Interceptors are typically located outside of FSFs due to their size. The minimum size of grease interceptor allowed by CU is 1,500 gallons.
- Grease Trap - Grease Control Equipment identified as an internal grease trap, usually installed inside and under or in close proximity to sinks or other fixtures likely to discharge grease in an attempt to separate, trap or hold fats, oils and grease substances to prevent their entry into the sanitary sewer collection system. Grease traps are sized by retention capacity (i.e. 20 lbs., 30 lbs., 40 lbs., etc.). All grease traps must be installed with a flow restrictor and vent. Grease traps are only allowed under specific conditions including, but not limited to, if no cooking is occurring at the facility.
- Non-Food Service Facility (NFSF) - Any establishment, business, or facility (commercial or industrial) engaged in activities capable of generating petroleum-based FOG. This includes, but not limited to: carwashes, automotive repair shops, automotive dealerships, service stations, chemical manufacturing, waste haulers, oil tank firms and transport, and others as

determined by CU. For the purposes of his document, this includes prohibiting residential customers from disposing petroleum-based oil into the sewer collection system.

- Oil/Water Separator (OWS): Large capacity oil control device that is passive in operation and is typically installed underground. This type of device may or may not be equipped with a baffle wall, but typically utilizes inlet and outlet Tee's as the primary means of flow control. However, oil control equipment may also incorporate coalescing devices or media to enhance oil-water separation by promoting globule adhesion.
- POTW – Publicly Owned Treatment Works. A combination of both the sanitary sewer collections system and the Wastewater Treatment Facility.
- User - In this document, the term User shall mean a CU sewer customer operating a FSF or NSFS inside the CU wastewater service area who is obligated to follow the requirements of this FOG Management Policy.
- Waste Hauler - One who transfers waste from the site of a customer to an approved site for disposal or treatment. The waste hauler is responsible for assuring that all federal, state and local regulations are followed regarding waste transport.

SECTION 2: SCOPE AND APPLICATION OF THE FOG MANAGEMENT POLICY

Grease buildup is one of the primary causes of flow restrictions, backups, and overflows in our sanitary sewer collection system. These issues can be costly to Cleveland Utilities (CU) and its customers, cause interruptions in service, interfere with wastewater treatment operations, and pollute the environment. The scope of this policy is to reduce and/or prevent grease from entering into the sanitary sewer collection system. This is achieved through an effective FOG Management Policy and routine sanitary sewer collection system maintenance.

CU's FOG Management Policy consists of four important components:

- <u>Regulating Food Service Facilities (FSFs)</u>
  As part of the FOG Management Policy, FSFs are required to capture and dispose of the FOG generated by their operation. CU requires FSFs to install approved FOG control equipment and to maintain them in good working condition by implementing Best Management Practices (BMPs). Through this effort, the goal of improved sewer service through proper grease control can be achieved.

- <u>Regulating Non-Food Service Facilities (NFSFs)</u>
  As part of the FOG Management Policy, NFSFs are required to capture and dispose of the FOG generated by their operation. CU requires NFSFs to install approved FOG control equipment and to maintain them in good working condition by implementing Best Management Practices (BMPs). Through this effort, the goal of improved sewer service through proper

grease control can be achieved.

- Enforcement
  In the event that a FSF, NFSF, or a residential customer (single or multi-family) fails to comply with the requirements of this policy or any condition imposed by CU, then any necessary enforcement will be initiated by CU based on the authority granted by the Sewer Use Ordinance.

- Public Education Program
  All residential customers, whether in single family or multi-family residences, receive information about CU's "Hold the Grease" Program. The program is designed to raise awareness about the proper way to dispose of grease. The "Hold the Grease" Program recommends scraping cooled grease into a metal can for disposal in the trash. The program can also be targeted to those areas that are identified as contributors to excessive grease buildup or sanitary sewer overflows. Other forms of public education include periodic articles within the CU Newsletter and information on CU's website.

This policy is applicable to all users of the CU wastewater collection system and treatment works to enable the compliance with the provisions of the Clean Water Act and other applicable federal and state law and regulations.

SECTION 3: LEGAL AUTHORITY

- **Federal and State:**
  - 40 CFR 403.5 (b) (3) and TDEC Rule 0400-40-.05 (2) (c) – "Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in Interference."
  - 40 CFR 403.5 (b) (6) and TDEC Rule 0400-40-.05 (2) (f) – "Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through."
  - Tennessee Oil and Grease Control Guidance Document – June 2002

- **Local: City of Cleveland, TN Municipal Code; Title 18; Chapter 1 – Sewer Use Ordinance**
  - 18-103 (7) – "Grease traps, grit traps, oil traps, and lint traps. All new and existing restaurants, laundries, wash racks, vehicle service stations, private multi-user systems, engine or machinery repair shops, and other facilities that produce, grease, grit, oil, lint, or other materials which accumulate and cause or threaten to cause stoppages or impair the efficiency of the utility's sewers or threaten the safety of its employees, shall install and maintain a grease trap, grit trap, lint trap, oil interceptor, or other

appropriate device of standard design and construction to prevent excess discharges of such materials. The design and construction of any such device shall be subject to prior approval of the utility and constructed in accordance with applicable building codes."

- 18-106 (2) (c) – "Solid or viscous pollutants in amounts which cause obstruction to the flow of the sewers, or other interference with the operation of or which cause injury to the POTW, including waxy or other materials which tend to coat and clog a sewer line or other appurtenances thereto."
- 18-106 (2) (h) – "Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that cause interference or pass-through."
- 18-107 (4) – "Oil and grease discharge, control program. Disposal of oil by discharge to the sewer system is not permitted. Oils include automotive lubricating oils, transmission and brake fluid, other industrial oils, and vegetable oils used in a restaurant or food processing facility. The utility shall contact all wastewater discharge permit holders, restaurants, service stations, septic tank pumpers, commercial food processors, oil tank firms and transporters, and others as appropriate, by letter as often as needed to advise them of requirements for oil and grease discharge control. These dischargers will also be informed of approved oil and grease disposal options available in the Cleveland vicinity. The dischargers of oil and grease waste shall be required to provide an equivalent of primary treatment based on gravity separation of visible and floating oil and grease and oil and grease sludge from wastewater discharges. Such pretreatment processes shall be subject to the best management practices as required by § 18-107(8) (f) and approval by the utility. Discharges shall also be subject to monitoring, entry, inspection, reporting, and other requirements as determined by the utility at his discretion. These dischargers may be required by the utility to apply for industrial waste discharge permits if the utility determines that the dischargers are a source of prohibited pollutants, toxic pollutants in toxic amounts, or are otherwise controlled by federal or state regulations. All dischargers of oil and grease as listed above are subject to all enforcement and penalty provisions of this chapter.
- 18-110 – Enforcement

SECTION 4: REGULATING FOOD SERVICE FACILITIES

The appropriate type of grease control equipment for FSFs will be determined by CU based on the FSF type, plumbing fixtures, and amount of food preparation. Grease control equipment shall be installed and connected so that it is easily accessible for inspection, cleaning, and removal of the intercepted (trapped) grease at any time and be located in an area that is a sufficient distance from any air intake to avoid intaking any odors generated from the equipment.

- **Installation Requirements for New or Remodeled FSFs:**

  All proposed or newly remodeled FSFs inside the CU wastewater service area are required to install or upgrade to approved, adequately sized, properly installed and maintained grease control equipment in accordance with this document. Remodeling of an FSF may include, but is not limited to, the addition of new plumbing fixtures or kitchen equipment.

- **Installation Requirements for Grease Interceptors**
  - Construction of Grease Interceptors: Grease interceptors shall be constructed of sound durable materials, not subject to excessive corrosion or decay and in accordance with CU's standards described in this document and shall have a minimum of two compartments with fittings designed for grease retention. Other grease removal devices or technologies shall be subject to the written approval of CU. Such approval shall be based on demonstrated removal efficiencies of the proposed technology. CU's standard drawings for grease interceptors is in **Exhibit A**.
  - Access: Access to grease interceptors shall be available at all times to allow for their maintenance and inspection. Access to grease interceptors shall be provided by at least two manholes terminating 1-inch above finished grade with a cast iron frame and cover. One manhole shall be located above the inlet tee and the other manhole shall be located above the outlet tee.
  - Load-Bearing Capacity: In areas where additional weight loads may exist (example: vehicular traffic in parking or driving areas), the grease interceptor and manhole lids shall be designed to have adequate load-bearing capacity.
  - Inlet and Outlet Piping**:** Wastewater discharging to a grease interceptor shall enter only through the inlet tee of the grease interceptor. Each grease interceptor shall have only one inlet and one outlet tee. Tees must be constructed of non-collapsible material. Refer to **Exhibit A** for tee installation specifications.
  - Location: A grease interceptor may not be installed inside any part of a building. Location of the grease interceptor shall meet the approval of CU. The best location for grease interceptors is in an area outside of an outside wall, but upstream from the black water drain line(s).
  - Grease Interceptor Sizing: The required size of a grease interceptor is determined by using the CU Grease Interceptor Sizing Formula shown in **Exhibit C** of this policy. Grease interceptors will have a capacity of not less than 1,500 gallons nor exceed a capacity of 2,000 gallons. If the calculated capacity using the CU Grease Interceptor sizing formula exceeds 2,000 gallons, multiple units in series or additional equipment may be necessary. A Certified High Performance Grease Interceptor with equivalent capacity can be used after review and approval by CU (*See New Grease Control Equipment Technologies*).

Grease interceptor designs represent minimum standards for normal usage for grease control. Installations with heavier usage require more stringent measures for which the user is responsible and the user shall pay the costs to provide additional measures if required by CU. CU reserves the right to evaluate interceptor sizing on an individual basis for FSFs with special conditions, such as highly variable flows, high levels of grease discharge, or other unusual situations that are not adequately addressed by the formula.

- **Installation Requirements for Grease Traps**
  - Required Components for Grease Traps: Grease traps are required to be installed as per manufacturer specifications, which include a flow restrictor and venting prior to the discharge entering the grease trap. See **Exhibit B** for CU's standard drawing for grease traps.
  - Access. Access to grease traps shall be available at all times, to allow for their maintenance and inspection.
  - Inlet and Outlet Piping: Wastewater discharging to a grease trap shall enter only through the inlet tee of the grease trap. Each grease trap shall have only one inlet and one outlet tee.
  - Grease Trap Sizing. The appropriate size of grease trap will be determined by CU upon consultation with the FSF and based on the type of FSF, but in no case may it be less than a 20 gpm / 40 lb rated trap. Exceptions to this requirement may be approved by CU in unique situations. FSFs are prohibited from installing a dishwasher and/or garbage grinder to a grease trap.
  - Location: The best location for grease traps is inside the FSF in an area that can be easily accessed for maintenance.

- **New Grease Control Equipment Technologies**

  All grease removal devices or technologies different from CU's current specifications included in this document shall be subject to review and approval by CU prior to use. Such approval shall be based on demonstrated removal efficiencies of the proposed technology and meeting the requirements/certifications specified in section 1003 (Interceptors and Separators) of the International Plumbing Code.

- **Best Management Practices (BMPs) for Food Service Facilities**
  - Pumping and Cleaning: Pumping and cleaning grease control equipment as directed by CU. Pumping shall be 100% (dry pump); partial pumping is prohibited.
  - Maintaining Records: Maintain records of all activities related to grease control equipment. This includes; manifests, pumping records, cleaning records, and any plumbing work completed. These records are required to be kept for 3 years.

- Drain Screens: Make sure all drain screens are installed.
- Practice Dry Clean-up: Scrape or dry wipe excess grease from frying pans, pots and dishes into containers or garbage bags for disposal in a trash can or other garbage receptacle.
- Oil Recycle Bins: All FSFs shall have oil recycle bins for yellow grease. Pour all cooking oils (including salad oils, frying oil/grease, marinades, etc.) into a bin for recycling or ultimate disposal with the trash.
- Food Scraps: Place leftover foods, meat and vegetable trimmings, etc. in the trash can or other garbage receptacle and not down the sink drain.
- Spills: Preventing spills reduces the amount of food waste that enters the wastewater system. Empty waste collection containers before they are completely full. Use a cover to transport grease trap contents to the grease barrel.
- Signs: CU provides signs to FSFs. These signs should be clearly displayed in kitchen areas. CU's FOG Coordinator can direct the FSF to display the signs in locations at his/her discretion.
- FSF Employee Training: FSFs shall train their employees on proper grease disposal practices, proper kitchen cleaning, and the requirements of this program.
- Never dump motor oil or other lubricants down the drain. Take them to a collection station.
- Never use the toilet for disposal of kitchen wastes. Also, do not flush paper towels and other bulky paper products down the toilet. These bulky items, combined with the grease build-up will stop the flow of wastewater through private plumbing and the sewer system.

- **Inspections and Compliance for FSFs**
  - All FSFs shall conduct their operations in such a manner that complies with the FOG Management Policy. This is ensured through routine inspections by CU.
  - Inspections are based on the following:
    - A defined schedule by CU
    - An as-needed basis
    - Trouble shooting – CU has the ability to identify grease problem areas in the wastewater collection system. FSFs located upstream of these problem areas are identified as potential contributors to the grease build-up. Each FSF in the vicinity of the problem area shall be inspected to determine compliance with the FOG Management Policy.
  - Following the inspection, CU provides the FSF with a copy of the inspection report and other program materials if necessary. The inspections typically result in one of the following actions:

- Facilities equipped with adequately-sized and properly maintained grease control equipment and are in compliance with the FOG Management Policy are provided a copy of the inspection form indicating compliance.
- Facilities may be required to correct deficiencies to achieve compliance such as improved housekeeping, proper signage, employee training, and/or increased maintenance and pumping on the existing grease control equipment. CU will schedule a re-inspection to confirm that any deficiencies have been corrected.
- Facilities that are not successful in achieving compliance with the FOG Management Policy and other applicable rules and regulations of CU through improved housekeeping and increased maintenance and cleaning of the existing grease control equipment will be required to install and maintain adequate grease control equipment to bring the facility into compliance. CU recognizes that it may not be possible for the facility to immediately come into compliance with the requirements and in such cases, if appropriate, CU, at its sole discretion, may be willing to work with the customer to arrive at an acceptable compliance schedule for the customer.

- **Upgrades or Changes to Existing FSFs.**

  Any changes or upgrades to an existing FSF (including the addition of new plumbing fixtures or kitchen equipment) which, directly or indirectly, affects grease discharge to the CU sanitary sewer collection system must be reported to CU to determine if the existing grease control equipment is adequate.

- **Prohibited Discharges to Grease Control Equipment**

  The following shall not be discharged to the grease control equipment.

  - Black water as defined in Section 1.
  - Yellow grease as defined in Section 1.
  - Any additive(s) placed into the grease interceptor, grease trap, or building discharge line system on a constant, regular, or scheduled basis is prohibited. Such additives include, but are not be limited to, chemicals, drain cleaners, acids, caustics, enzymes, commercially available bacteria, emulsifiers, surfactants, or other product designed to absorb, purge, consume, treat, or otherwise eliminate fats, oils, and grease. Written approval may be given by CU under specific circumstances; however, approved use may be discontinued at any time if grease is found downstream of the FSF. In addition, approved use will in no way be considered as a substitution to the required maintenance procedures and pumping schedule.

- **Floor Drains**

  Only floor drains which discharge or have the potential to discharge grease shall be connected to a grease interceptor.

- **Limitations on the Use of Garbage Grinders**

  No waste from commercial or institutional garbage grinders shall be discharged into the utility's sewers except from private garbage grinders used in an individual residence or upon approval of the utility for preparation of food consumed on premises, and then only where applicable fees are paid. Installation of any garbage grinder equipped with a three-fourths horsepower (or greater) motor shall require approval. The utility may grant approval when there is inadequate space on the user's premises to properly store food preparation waste between regularly scheduled garbage pickup by a service with in equal or greater frequency of collection. Provided, further, that such grinders shall shred the waste sufficiently that it can be carried freely under normal flow conditions prevailing in the utility's sewer lines. It shall be unlawful for any person to use a garbage grinder connected to the sewer system for the purpose of grinding and discharging plastic, paper products, inert materials, or anything other than the waste products from normal food preparation/consumption.

- **Dishwasher Connection**

  Commercial dishwashers, in most cases, should be connected to a grease interceptor and are prohibited from being connected to a grease trap. Dishwashers discharge hot water and soap, which can melt grease stored in grease control equipment. Melted grease may then pass through the grease control equipment into the customer's private service lateral and ultimately to CU's sanitary sewer collection system, where the grease can harden and causes buildup and overflows. CU will review proposed dishwasher to grease interceptor connections.

- **Cleaning/Pumping**
  - The user, at the user's expense, shall maintain all grease control equipment.
  - Grease Traps: Maintenance of grease traps includes the removal of all fats, oil, and grease from the detention compartment of the trap. Removal is usually accomplished by hand-dipping or scooping the collected grease, solids, and wastewater from the trap. Maintenance may also be performed by a waste hauler.
  - Grease Interceptors: Maintenance of grease interceptors must be performed by a waste hauler and includes the <u>complete</u> removal of all contents, including floating materials, wastewater, bottom sludge and solids, as well as grease that has accumulated on the side walls. Dewatering or discharging removed waste back into

the grease interceptor from which the waste was removed or into any other grease interceptor, for the purpose of reducing the volume to be disposed of, is prohibited.

- **Cleaning/Pumping Frequency**
  - Grease Traps: Must be cleaned no less than monthly or as often as necessary to prevent grease from entering CU's sanitary sewer collection system. Failure to perform cleaning and maintenance of a grease trap as required may result in a mandatory contract with a waste hauler to perform the cleaning per the required schedule or result in a requirement for the FSF to install a larger capacity grease control device that could include an external grease interceptor.
  - Grease Interceptors: Must be pumped out completely a minimum of once every three months (unless alternate schedule is approved by CU) or as needed to prevent grease from entering the sanitary sewer collection system. Measurement of solids greater than or equal to 25% of the capacity of the grease interceptor shall be considered non-compliance with CU's FOG Management Policy. This compliance monitoring and evaluation may be conducted by a sludge judge or electronic measuring device.
    - A grease interceptor effluent pH of < 5.0 S.U. is prohibited.

- **Disposal of Grease Waste**

  Waste removed from grease traps must be disposed of with other solid waste or garbage in a sealed container to prevent leakage unless cleaned and disposed of by a waste hauler. All waste removed from grease interceptors must be disposed of at a facility approved by CU to receive such waste in accordance with the provisions of this policy. In no way shall the pumpage be returned to any private or public portion of the sanitary sewer collection system.

- **Types of Records**
  - Manifests - All pumping's from grease interceptors must be tracked by a manifest, which confirms pumping, hauling, and disposal of waste. The customer should obtain a manifest from the waste hauler with signatures for their records.
  - Maintenance Log - A Grease Control Equipment Cleaning Record Maintenance Log and pumping manifest indicating each cleaning or pumping for the previous 24 months shall be maintained by each facility required to install grease control equipment. This log shall include the date and time of the cleaning, and the company or person conducting the cleaning. For grease interceptors, the log should also include the volume pumped and disposal site. Maintenance logs shall be kept in a conspicuous location for inspection and be made immediately available to the CU representative upon request.

- Grease Control Equipment Certification Program - All FSFs with grease control equipment must have their grease interceptor or trap inspected every other year to verify that all components of the interceptors and traps are installed and working properly. Documentation of the equipment inspection shall be submitted to certify that there are no missing inlet or outlet tees, holes or cracks, deterioration of the equipment, overflowing grease at the outlet tee, or any other obvious problems with the interceptor or trap and there is access to all interceptor chambers. A detailed corrective action response is required from the FSF owner or authorized representative if deficiencies are discovered and the grease control equipment fails the certification.

  Corrective actions are reviewed by CU and an appropriate course of action will be agreed to between CU and the FSF. Failure to appropriately address the deficiencies noted in the failed certification will result in enforcement action as outlined in CU's Enforcement Response Plan for the Grease Control Program. Immediate corrective action may be necessary if grease is found to be entering the CU sanitary sewer collection system.

  It is prohibited for facilities to have grease control equipment that malfunctions due to structural failure. For example, a collapsed or deteriorated baffle wall, leaks, improperly located or missing tees, and other deficiencies will prevent the grease control equipment from working properly. These deficiencies must be addressed through repair of existing equipment or installation of a larger device.

- **Inspection and Entry**

  Authorized personnel of CU, bearing proper credentials and identification, shall have the right to enter upon all properties subject to this program, at any time and without prior notification, for the purpose of inspection, observation, measurement, sampling, testing or record review, in accordance with this program.

SECTION 5: REGULATING NON-FOOD SERVICE FACILITIES

Oil/Water Separators (OWS) – Disposal of oil by discharge to the sewer system is not permitted. Oils include automotive lubricating oils, transmission and brake fluid, and other industrial oils. The dischargers of oil and grease waste shall be required to provide an equivalent of primary treatment based on gravity separation of visible and floating oil and grease and oil and grease sludge from wastewater discharges.

- **Installation Requirements for Oil/Water Separators (OWS):**
  - Construction of OWS: The OWS shall be constructed of sound durable materials, not subject to excessive corrosion or decay.
  - Access: Access to the OWS shall always be available to allow for their maintenance and inspection. Access to the OWS in shall be provided by at least two manholes

terminating 1-inch above finished grade with a cast iron frame and cover. One manhole shall be located above the inlet tee and the other manhole shall be located above the outlet tee.

- Load-Bearing Capacity: In areas where additional weight loads may exist (example: vehicular traffic in parking or driving areas), the OWS and manhole lids shall be designed to have adequate load-bearing capacity.
- Inlet and Outlet Piping**:** Wastewater discharging to a OWS shall enter only through the inlet tee of the OWS. Each OWS shall have only one inlet and one outlet tee. Tees must be constructed of non-collapsible material.
- Location: A OWS may not be installed inside any part of a building. Location of the grease interceptor shall meet the approval of CU. The best location for the OWS is in an area outside of an outside wall, but upstream from the black water drain line(s).
- OWS Sizing: The OWS will have a capacity as determined by evaluation by the CU, but in no case less than 300 gallons.

- **Best Management Practices (BMPs) for Oil/Water Separators (OWS):**
  - Pumping and Cleaning: Pumping and cleaning oil control equipment as directed by CU. Pumping shall be 100% (dry pump); partial pumping is prohibited.
  - Maintaining Records: Maintain records of all activities related to oil control equipment. This includes manifests, pumping records, cleaning records, and any plumbing work completed. These records are required to be kept for 3 years.
  - Drain Screens: Make sure all drain screens are installed.

SECTION 6: ENFORCEMENT

The goal of CU's FOG Management Policy is to achieve compliance through cooperation. Unfortunately, there are cases in which it may become necessary for CU to take enforcement actions.

- **Enforcement Responses for Violations of the FOG Management Policy or Sewer Use Ordinance**

  Any person who is in noncompliance and/or violates any provision of CU's Sewer Use Ordinance, FOG Management Policy requirements, or a compliance order shall be subject to an enforcement response, including but not limited to a civil penalty in an amount not to exceed ten thousand ($10,000) dollars per offense, and the possibility of water and/or wastewater service termination. Violations may include, but not be limited to the following:
  - Failure to install grease control equipment or to meet CU guidelines for grease control equipment design and installation
  - Inadequate grease control equipment

- Structural failure of grease control equipment
- Inadequate maintenance of grease control equipment
- Pumping records not maintained
- Failure to report upgrades/changes to existing facilities to CU
- Failure to report improper operation or failure of grease control equipment
- Denial of entry
- Inadequate FSF employee training and/or recordkeeping
- Failure to respond to CU enforcement action

Violations will be addressed as follows:

- First Notification: A written warning will be issued by CU and indicated on the inspection form. The nature of the violation will determine the time period allowed to achieve compliance.
- Second Notification: If compliance is not achieved by the time period allowed, an Notice of Violation (NOV) – Compliance Order will be issued detailing the nature of the violation, time period to correct, and further enforcement if compliance is not achieved.
- Third Notification: Enforcement will be administered as authorized in Section 18-110 of the Sewer Use Ordinance and Enforcement Response Plan.

- **Assessment of Damages to Users**
  When the discharge of waste or any other act or omission cause an obstruction, damage, or any other impairment to the utility's facilities which causes an expense or damages of whatever character or nature to the utility, the utility shall assess the expenses and damages incurred by the utility to clear the obstruction, repair damage to the facility, and otherwise rectify any impairment, and bill the person responsible for the damage for reimbursement of all expenses and damages suffered by the utility. If the person responsible refuses to pay, then the utility shall forward a copy of the statement and documentation of all expenses to the utility's attorney who shall be authorized to take appropriate legal action.

- **Emergency Suspension of Services**
  CU may suspend water or wastewater service when such suspension is necessary, in the opinion of CU, in order to stop an actual or threatening discharge which:
  - Presents or may present an imminent or substantial endangerment to the health or welfare of persons or the environment;
  - Causes stoppages, sanitary sewer overflows, or excessive maintenance to be performed to prevent stoppages in the sanitary sewer collection system;
  - Causes interference to the POTW; or

- Causes CU to violate any condition of its NPDES permits, orders or consent decrees.

SECTION 7: PUBLIC EDUCATION

Education of restaurant personnel and the public at large is an important part of the FOG Management Policy. Education may lead to greater support of the program, thereby increasing the chance of success.

- **Benefits of Education**
  Part of an education program is alerting the audience, from restaurants to residential, of the benefits of an FOG control program. Some of the benefits waste generators and handlers can experience by increased awareness and proper training are as follow:
  - Restaurants – Restaurants suffer from grease-related wastewater backups that create health concerns, employee safety issues and expenses to correct these situations. Proper disposal and handling of FOG wastes are predictable and allow management to schedule preventive maintenance. These preventive measures can easily be included in current training programs or presented as stand-alone training sessions for employees. The training will carry over into the homes of the restaurant employees and impact practices in the disposal of domestic wastes.
  - Environment – Sewer blockages caused by grease can cause raw sewage to back up into restaurants, homes, and streets, contaminating these areas. The overflows are considered violations of NPDES and state operating permits. Proper disposal of FOG will decrease blockages and sewer back-ups. This will, in turn, decrease the amount of harsh chemicals used to clear blockages in the sewer system.
  - Recyclers – Stressing to restaurants the importance of keeping FOG out of the sewer system should increase the amount of FOG recycled, benefiting recyclers as well as the environment.
  - Public – Blockages in sewer collection systems can cause sewage to back up into houses, destroying personal property and jeopardizing the health of the public. Control of FOG by restaurants and the public can greatly reduce blockages. In addition, savings by the POTW will ultimately be passed on to the public. Having a progressive program to combat FOG problems would be a bonus from a public relations standpoint.

Public Education Documents

- **FOG Brochure**

Cleveland Utilities

"Hold the Grease..Please"

Help Cleveland Utilities Protect the Environment by Keeping Grease Out of the Sewer System.

Why is cooking grease a problem?

If you pour cooking grease down your drains, it may build up, block your pipes, and cause rancid odors or messy, costly sewage backups in your home.

It can also clog CU's sewer lines. In fact, grease is a major cause of dry weather sewer overflows, which are a potential threat to our environment.

And don't believe the old wives' tale about running hot water after pouring grease down the drain: It doesn't work. The grease eventually cools, then congeals and coats pipes. When enough grease builds up, it can block your plumbing or CU's sewer lines.

Where is grease produced?

Restaurants, condominiums, apartment buildings, homes, schools, churches, food-processing plants, shopping malls, hospitals, hotels, and many more locations all produce grease.

Grease is a by-product of cooking and is found in things like these:
- Meat fats • Food scraps
- Lard • Baking goods
- Cooking oil • Sauces
- Shortening • Dairy products
- Butter and margarine

How can you help protect your home's plumbing and our environment?

- Never pour grease down sinks, toilets, or any drains.

- Pour grease into a can for disposal in the trash. You can make your own grease can using any empty metal can (not plastic, which melts) and disposable, heat-resistant oven bags. Just toss the bags in the trash (after grease cools) and reuse the can. **[Note: Please use caution when pouring hot grease or wait for it to cool slightly. Hot grease can burn skin.]**

- Scrape grease and food scraps into a can or the trash for disposal.

- Use strainers in sinks to catch food scraps, and empty the strainers into the trash.

- Don't rely on a garbage disposal to get rid of grease—it grinds food into smaller pieces, but it doesn't keep grease from going down the drain.

- Wipe cookware and dishes before washing. Commercial additives in detergents only dissolve grease temporarily.

- Clean kitchen exhaust system filters routinely.

- Call Cleveland Utilities at 478-0698 if you have any questions about grease control.

Safety Tip

If you have a grease-related sewer backup or see an overflow outside, avoid contact or wash with soap and water. The Centers for Disease Control and Prevention (CDC) says skin contact isn't a serious health risk, but swallowing bacteria or a virus may cause illness. So always wash your hands before preparing or eating food, after using the bathroom (or helping another as a caregiver), and after touching objects exposed to a backup.
For more information, visit the CDC Web site at www.bt.cdc.gov/disasters/floods/sanitation.asp.

Make Your Own Grease Can.

A metal coffee can with a plastic lid or empty metal soup or vegetable cans make great grease cans. Line your can with disposable heat-resistant oven bags. Throw the liners away (after grease cools) and reuse the can.

CLEVELAND UTILITIES
PO Box 2730
2450 Guthrie Dr. NW
Cleveland, TN 37320-2730
(423) 472-4521
www.clevelandutilities.com

Remember

Never pour grease down sink drains or other drains. Scrape grease and food scraps from all cookware and dishes into a can or the trash for disposal.

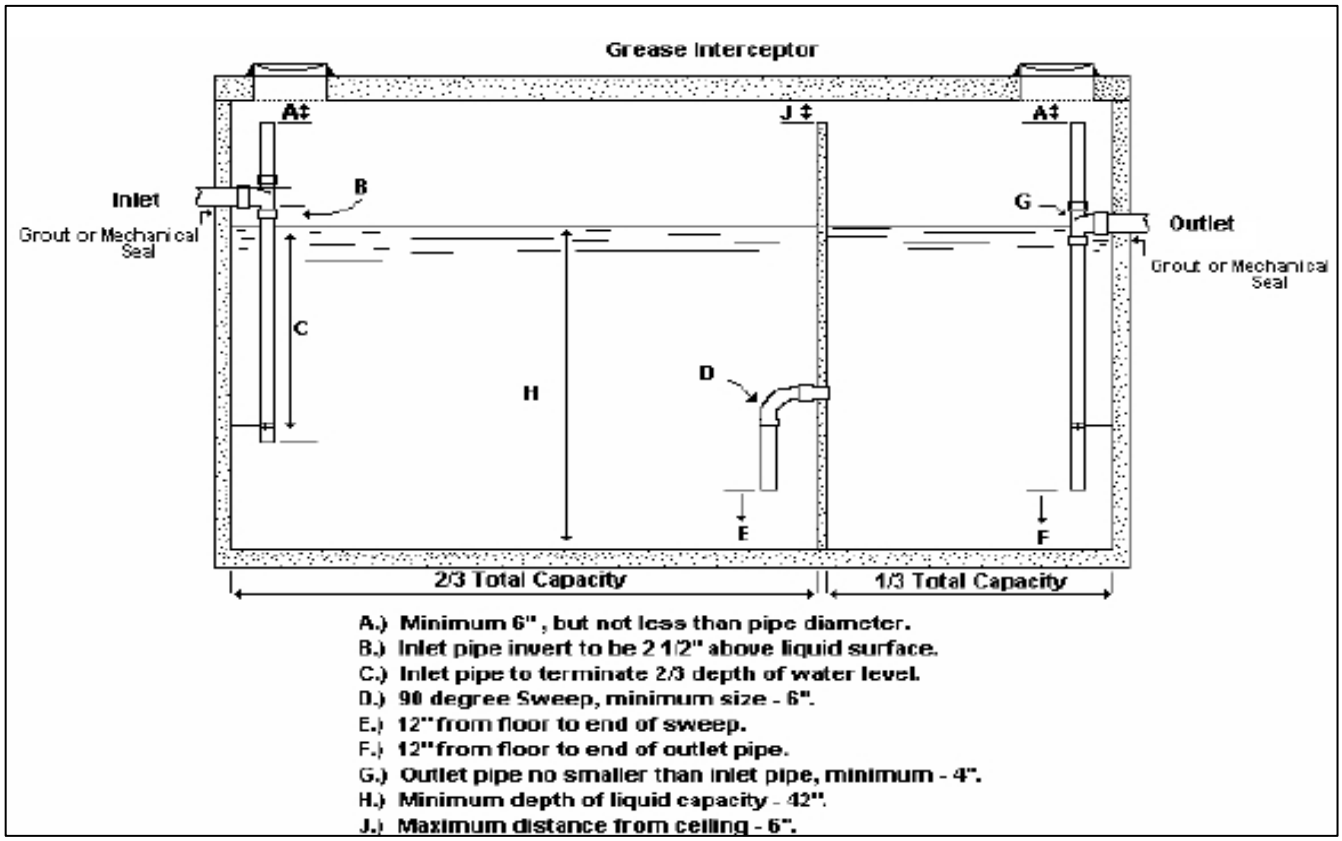
Prevent grease-related sewage overflows: Keep cooking grease out of the sewer system.

- **Restaurant Posters (English, Spanish, and Chinese)**

EXHIBITS

EXHIBIT A

External Grease Interceptor Typical Installation and Designs



Grease Interceptors

Piping Design

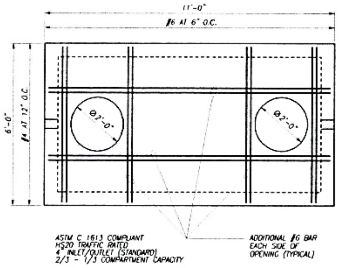
1. The inlet and outlet piping shall have 2-way cleanout tees installed.
2. The inlet piping shall enter the receiving chamber 2 ½" above the invert of the outlet piping.
3. On the inlet pipe, inside the receiving chamber, a sanitary tee of the same size pipe in the vertical position with the top unplugged shall be provided as a turndown. To provide air circulation and to prevent "air lock", a pipe (nipple) installed in the top tee shall extend to a minimum of 6" clearance from the interceptor ceiling, but not less that the inlet pipe diameter. A pipe installed in the bottom of the tee 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 tee installed vertically with a pipe (nipple) installed in the top of the tee to extend to a minimum of 6" clearance from the interceptor ceiling, but not less that the pipe diameter, with the top open. ***See illustration.***

Baffles

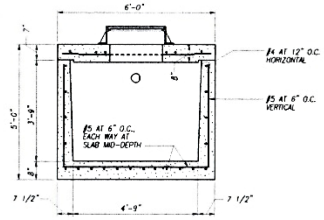
1. The grease interceptor shall have a non-flexing (i.e. concrete, steel, etc.) baffle the full width of the interceptor, sealed to the walls and the floor, and extend from the floor to within 6" of the ceiling. The baffle shall have an inverted 90 degree sweep fitting at least equal in diameter size 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.*** In lieu of a sweep, three (3) 4" holes spaced evenly and 12"above the floor base can be used.
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.

Access Openings (Manholes)

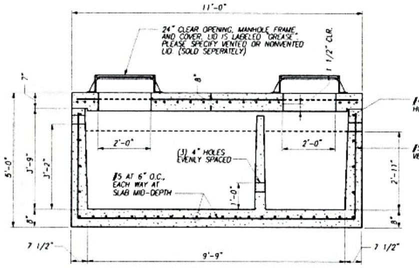
1. Access to grease interceptors shall be provided by a minimum of 1 manhole per interceptor division (baffle chamber) and of 24" minimum dimensions terminating 1 inch above finished grade with cast iron frame and cover. An 8" thick concrete pad extending a minimum of 12'' beyond the outside dimension of the manhole frame shall be provided. One manhole shall be located above the inlet tee hatch and the other manhole shall be located above the outlet tee 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 by CU.



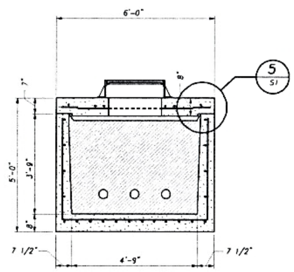
1 / S1 — 1,000 GALLON GREASE TRAP - TOP VIEW
SCALE: 1/2" = 1'-0"



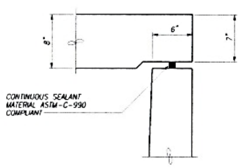
2 / S1 — END VIEW
SCALE: 1/2" = 1'-0"



3 / S1 — SIDE VIEW
SCALE: 1/2" = 1'-0"



4 / S1 — BAFFLE VIEW
SCALE: 1/2" = 1'-0"



5 / S1 — DETAIL
SCALE: 1 1/2" = 1'-0"

REINFORCED CONCRETE NOTES :

3.01 ALL CONCRETE WORK SHALL CONFORM TO ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS. DESIGN IS BASED ON ACI 318, BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.

3.02 UNLESS NOTED OTHERWISE, ALL CONCRETE SHALL BE NORMAL WEIGHT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

ALL EXTERIOR CONCRETE SHALL HAVE 5% - 7% ENTRAINED AIR, U.N.O.

3.03 THE PROPOSED MATERIALS AND MIX DESIGN SHALL BE FULLY DOCUMENTED AND REVIEWED BY A TESTING LABORATORY. RESPONSIBILITY FOR OBTAINING THE REQUIRED DESIGN STRENGTH IS THE CONTRACTOR'S. CONCRETE PROPORTIONS SHALL BE ESTABLISHED ON THE BASIS OF FIELD EXPERIENCE AND/OR TRIAL MIXTURES WITH MATERIALS TO BE EMPLOYED IN ACCORDANCE WITH ACI 318 AND 301.

3.04 USE OF CALCIUM CHLORIDE, CHLORIDE IONS, OR OTHER SALTS IN CONCRETE IS NOT PERMITTED.

3.05 CHAMFER OR ROUND ALL EXPOSED CORNERS MINIMUM 3/4".

3.06 DETAIL CONCRETE REINFORCEMENT AND ACCESSORIES IN ACCORDANCE WITH ACI 315 DETAILING MANUAL. SUBMIT SHOP DRAWINGS FOR APPROVAL, SHOWING ALL FABRICATION DIMENSIONS AND LOCATIONS FOR PLACING REINFORCING STEEL AND ACCESSORIES. DO NOT BEGIN FABRICATION UNTIL SHOP DRAWINGS ARE COMPLETED, REVIEWED AND APPROVED. WRITTEN DESCRIPTION OF REINFORCEMENT WITHOUT ADEQUATE SECTIONS, ELEVATIONS, AND DETAILS IS NOT ACCEPTABLE.

3.07 REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 DEFORMED BARS UNLESS NOTED OTHERWISE.

3.08 TIE ALL REINFORCING STEEL AND EMBEDMENTS SECURELY IN PLACE PRIOR TO PLACING CONCRETE. PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN THE POSITION OF REINFORCEMENT WITHIN SPECIFIED TOLERANCE DURING ALL CONSTRUCTION ACTIVITIES. "STICKING" DOWELS INTO WET CONCRETE IS NOT PERMITTED.

3.09 PROVIDE CONTINUOUS REINFORCEMENT WHEREVER POSSIBLE. SPLICE ONLY AS SHOWN OR APPROVED. STAGGER SPLICE WHERE POSSIBLE. USE FULL TENSION SPLICE (CLASS "B") UNLESS NOTED OTHERWISE. DOWELS SHALL MATCH THE SIZE AND SPACING OF THE SPECIFIED REINFORCEMENT AND SHALL BE LAPPED WITH FULL TENSION SPLICES (CLASS "B") UNLESS NOTED OTHERWISE. TERMINATE BARS WITH STANDARD HOOKS.

3.10 REINFORCING STEEL SHALL HAVE THE FOLLOWING CONCRETE COVER UNLESS NOTED OTHERWISE.

CONCRETE AGAINST EARTH (NOT FORMED) .... 3"

FORMED CONCRETE EXPOSED TO EARTH OR WEATHER
#6 THROUGH #18 BARS .... 2"
#5 BARS AND SMALLER .... 1 1/2"
COVER FOR TOP BARS IN CONCRETE FOOTINGS SHALL BE 2".

CONCRETE NOT EXPOSED TO EARTH OR WEATHER
SLABS AND WALLS .... 1"

3.11 DO NOT WELD OR TACK WELD REINFORCING STEEL UNLESS APPROVED OR DIRECTED BY THE STRUCTURAL ENGINEER.

3.12 THE DESIGN AND CONSTRUCTION OF FORMS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS :

A. FORMS SHALL CONFORM TO SHAPE, FORM, AND LINES ON DRAWINGS.
B. ADEQUATE BRACING SHALL BE USED.
C. FORMS SUPPORTED ON GROUND SHALL HAVE ADEQUATE MUD SILLS.
D. QUALIFIED WORKMEN SHALL CONSTANTLY OBSERVE AND ADJUST, AS REQUIRED, ALL SHORES DURING CONCRETE PLACING.
E. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE ADEQUATE DESIGN AND CONSTRUCTION OF ALL FORMS.

3.13 SHORING SHALL REMAIN IN PLACE UNTIL CONCRETE HAS ATTAINED 75% OF ITS 28 DAY STRENGTH.

DESIGN LOADS : 2012 IBC

DEAD LOADS:
WEIGHTS OF MATERIAL

LIVE LOADS:
SOIL WEIGHT .... 240 PSF
TRAFFIC HS20

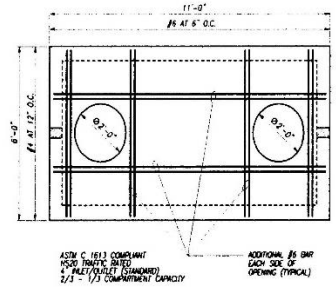
ALLOWABLE SOIL BEARING PRESSURE .... 1,500 psf (DESIGN BASIS)

PRECAST TANKS
HS20 LOADING

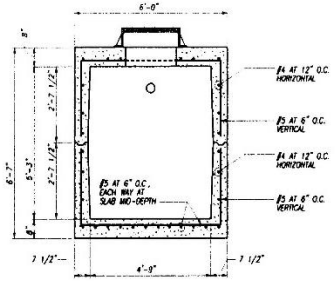
1,000 GALLON
GREASE TRAP

PROJ. MGR.	DESIGNED BY	DRAWN BY
No.	Revision/Issue	Date

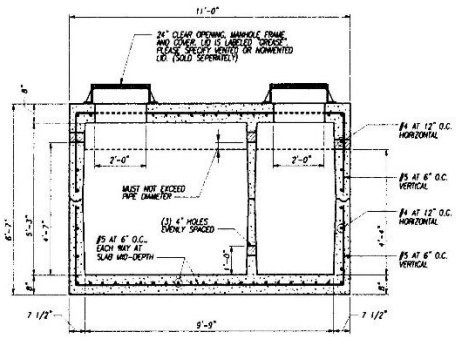
Project 243.110	Sheet
Date 01/29/15	S1
Scale AS NOTED	



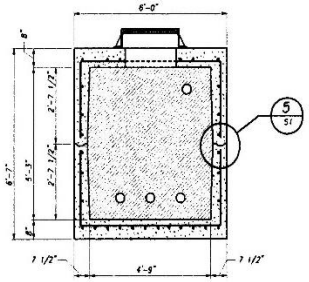
1 / S1 1,500 GALLON GREASE TRAP - TOP VIEW
SCALE: 1/2" = 1'-0"



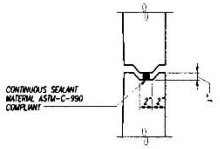
2 / S1 END VIEW
SCALE: 1/2" = 1'-0"



3 / S1 SIDE VIEW
SCALE: 1/2" = 1'-0"



4 / S1 BAFFLE VIEW
SCALE: 1/2" = 1'-0"



5 / S1 DETAIL
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DESIGN LOADS : 2012 IBC
DEAD LOADS: WEIGHTS OF MATERIAL
LIVE LOADS: SOIL WEIGHT ..... 240 PSF TRAFFIC HS20
ALLOWABLE SOIL BEARING PRESSURE ..... 1,500 psf (DESIGN BASIS)

PRECAST TANKS
HS20 LOADING

1,500 GALLON
GREASE TRAP

PROJ. MGR	DESIGNED BY	DRAWN BY	No.	Revision/Issue	Date

Project	Sheet
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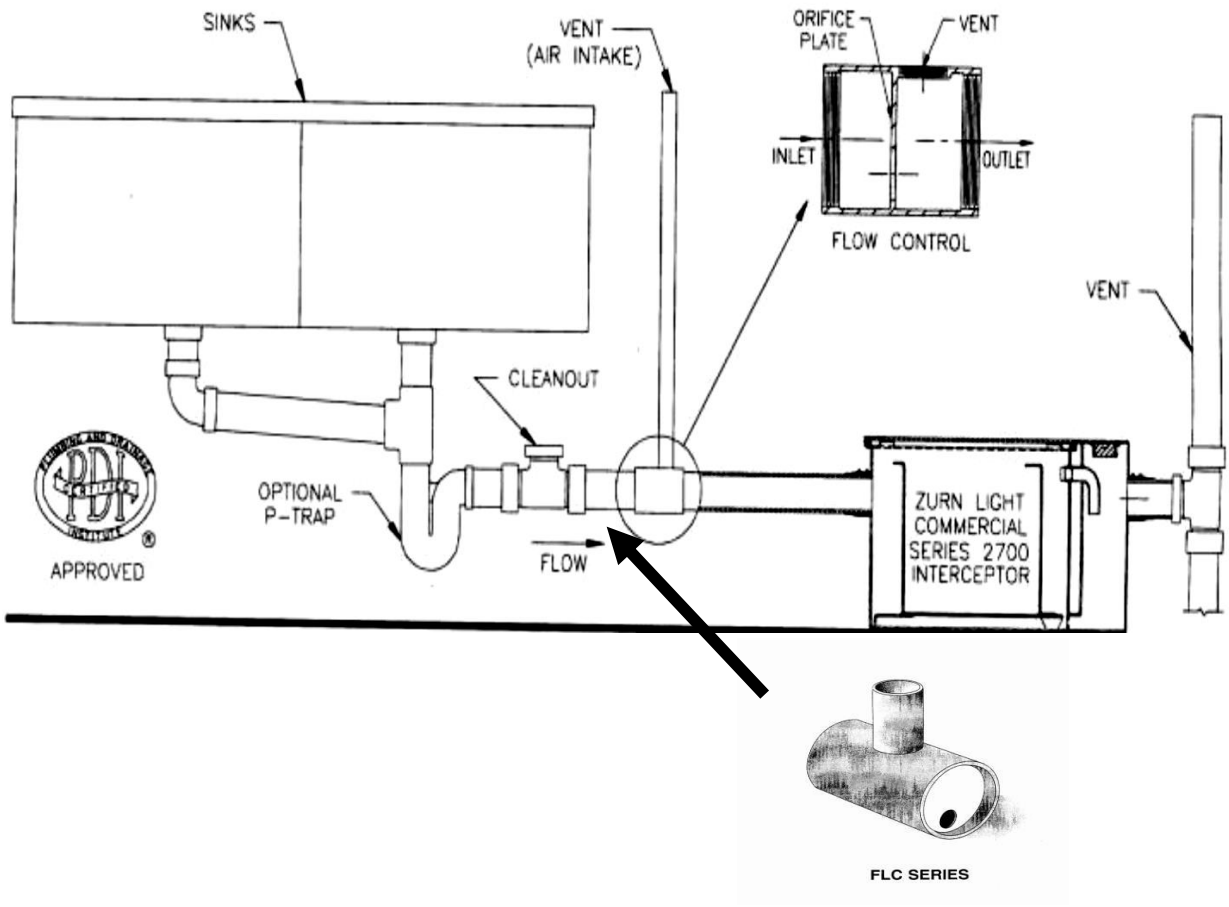
Date	
01/28/15	
Scale	
AS NOTED	

EXHIBIT B

Internal Grease Trap Typical Installation and Design



Grease Trap Sizing, Installation, Cleaning & Maintenance

1. All grease traps shall be installed and connected to be easily accessible for inspection, cleaning and removal of the intercepted grease at any time.
2. All grease traps shall have a flow control restrictor and be vented. Failure to have the flow restrictor and venting will be considered a violation.
3. All new FSFs that are allowed to install grease traps must have CU approval prior to starting operations.
4. Grease Trap minimum size requirement is a 20 gallon per minute/40 pound capacity trap.
5. Grease Traps must have the Plumbing Drainage Institute certification and be installed as per manufacturer's specifications.
6. No automatic dishwasher shall be connected to an under-the-sink grease trap or floor grease trap. Dishwashers will cause hydraulic overload of the grease trap.
7. No automatic drip or feed system additives are allowed prior to entering the grease trap.
8. A single grease trap device shall be installed for each significant kitchen fixture unit (i.e. each 3 compartment sink). CU must approve the number of grease traps and connections to the grease trap.
9. During cleaning of the grease trap, the flow restrictor shall be checked to ensure it is attached and operational.
10. Grease Traps shall be cleaned of complete fats, oils and grease and food solids at a minimum of once a week. If the FOG and food solids content of the grease trap are greater than 25%, then the grease trap must be cleaned as frequently as needed to prevent 25% of capacity being taken from FOG and food solids. Removal of FOG is usually accomplished by hand-dipping or scooping the collected material from the trap.
11. Grease Traps that are cleaned by a professional cleaning company may be cleaned once every thirty (30) days at the discretion of the FOG Coordinator.
12. Grease Trap waste should be sealed or placed in a container to prevent leachate from leaking, and then disposed or hauled offsite by a grease waste hauler to an approved disposal site.
13. Grease Trap waste should not be mixed with yellow grease in the grease recycle container unless approved.

EXHIBIT C

Example Grease Interceptor Sizing Formula
Environmental Biotech Model Based on EPA-2 Model

A. Determine maximum drainage flow from fixtures:

Type of fixture	Flow rate/per unit	Amount
China hand 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 in. drain	35 gpm	
Triple sink 2 in. drain	35 gpm	
30 gal. Dishwasher	15 gpm	
50 gal. Dishwasher	25 gpm	
50-100 gal. dishwasher	40 gpm	
B. Total – Divided by no. of fixtures		/ = gpm (per kitchen)

C. Loading Factors

Restaurant type

Fast food-paper delivery: = 0.50
Low volume: = 0.50
Medium volume: = 0.75
High volume: = 1.0

D. B x C = sub total _____

E. Total x 60 min. = max flow for 1 hour _____

F. x 2 hours retention time = volume of trap in gallons _____

Chart assumes inclusion of floor drains and lesser fixtures such as soup kettles with intermittent flows.

EPA SIZING METHODS FROM THE DESIGN MANUAL: ONSITE WASTEWATER TREATMENT AND DISPOSAL SYSTEMS

1. Restaurants:

(D) x (GL) x (ST) x (HR/2) x (LF) = Size of Grease Trap, gallons, where:
D = Number of seats in dining area
GL = Gallons of wastewater per meal, normally 5 gallons
ST = Storage capacity factor ---minimum of 1.7
Onsite disposal – 2.5
HR = Number of hours open
LF = Loading factor----------1.25 interstate freeways
1.0 other freeways
1.0 recreational areas
0.8 main highways
0.5 other highways

2. Hospitals, nursing homes, other type commercial kitchens with varied seating capacity:

(M) x (GL) x (ST) x (LF) = Size of Grease Trap, gallons, where:
M = Meals per day
GL = Gallons of wastewater per meal, normally 4.5 gallons
ST = Storage capacity factor----minimum of 1.7
Onsite disposal – 2.5
LF = Loading factor----------1.25 garbage disposal & dishwasher
1.0 without garbage disposal
0.75 without dishwashing
0.5 without dishwashing and garbage disposal

Minimum size grease trap should be 1,500 gallons