

FATS, OILS  
AND GREASE  
MANAGEMENT POLICY

SOUTH & CENTER CHAUTAUQUA LAKE  
SEWER DISTRICTS

AUGUST 5, 2003

## AUTHORITY:

The South and Center Chautauqua Lake Sewer Districts, in accordance with the provisions of Local Law 6-94 of the County of Chautauqua, State of New York regulating the use of public sewers and with any applicable provisions of federal and/or state laws and regulations, provides this FOG Management Policy as a defining tool for best management practices concerning grease abatement policies for the Districts and Users alike.

# TABLE OF CONTENTS

Purpose and Applicability.....	1
Definitions.....	2
Requirements.....	4
Who is regulated?	
When is it regulated?	
Application	
Plumbing connections	
Grease Traps.....	5
Grease Interceptors.....	10
Terms and Conditions.....	15
Charges.....	19
Fees and Enforcement.....	20
Appendix A..... Sizing Calculations.....	25
Formula 1 Grease Traps	
Formula 2 Grease Interceptors-EPA	
Formula 3 Grease Interceptors-Uniform Plumbing Code	
Formula 4 Grease Interceptors-Districts'	
Figure 1 Grease Interceptor Specifications	
Appendix B..... Maintenance Methods.....	31
Procedure 1 Establishing a Cleaning Schedule for Grease Traps	
Procedure 2 Grease Trap Maintenance	
Procedure 3 Grease Interceptor Maintenance	

## PURPOSE AND APPLICABILITY:

Purpose – This Policy establishes uniform permitting, maintenance and monitoring requirements for controlling the discharge of fats, oils and grease from food service facilities discharging into the Districts' wastewater collection system. The objectives of this Policy are:

- a) To prevent the introduction of grease into the South & Center Chautauqua Lake Sewer District's wastewater collection system.
- b) To prevent the introduction into the treatment plant of pollutants which will interfere with the proper operation of the system, or contaminate the resulting sludge, or will cause the Districts to be in violation of any discharge permit requirements into receiving waters or the atmosphere.
- c) To prevent clogging or blocking of the Districts' sewer lines due to grease build-up causing backup and flooding of streets, residences and commercial buildings, resulting in potential liability to the Districts.
- d) To implement a procedure to recover the costs incurred in cleaning and maintaining sewer lines and disposing of grease blockages.
- e) To implement a procedure to recover costs for any liability incurred by the Districts for damage caused by grease blockages resulting in the flooding of streets, residences or commercial buildings.
- f) To notify and educate food service facilities requiring maintenance, monitoring, compliance, and enforcement activities.
- g) To establish administrative review procedures and reporting requirements.
- h) To establish fees for the recovery of costs resulting from the program established herein.
- i) To establish enforcement procedures for violations of any part or requirement of this Policy.

Applicability – The provisions of this Policy shall apply to all existing food service facilities that are located within the municipal boundaries of the South and Center Chautauqua Lake Sewer Districts and to all food service facilities that begin operations within the municipal boundaries of the Districts.

## DEFINITIONS:

Food Service Facility or Facility – means any food service facility that prepares and/or packages food or beverages for sale or consumption, on or off site, with the exception of private residences. This includes non-cooking establishments primarily engaged in the preparation of precooked foodstuffs that do not include any form of cooking. Food service facilities shall include, but are not limited to: food courts, food manufacturers, food packagers, restaurants, grocery stores, bakeries, lounges, hospitals, hotels, institutions, nursing homes, churches, schools and all other food service facilities not listed above.

Garbage disposal – means a device which shreds or grinds up waste materials into smaller portions for discharge into the Districts; wastewater collection system.

Gray water – means all of the liquid contained in a grease interceptor that lies below the floating grease layer and above the food solids layer.

Grease – means a material either liquid or solid, composed in part of fat, oil and grease from animal or vegetable sources. The terms “fats, oils and grease (FOG)”, “oil and grease”, or “oil and grease substances” shall all be included within this definition.

Grease Hauler – means a person who collects the contents of a grease interceptor or trap and transports it to an approved recycling or disposal facility. A grease hauler may also provide other services to a food service facility related to grease interceptor maintenance.

Grease interceptor – means a device located underground and outside of a food service facility designed to collect, contain or remove food wastes and grease from the waste stream while allowing the balance of the liquid waste to discharge to the wastewater collection system by gravity. Interceptors shall have at least one inspection hatch on the top surface to facilitate inspection, cleaning and maintenance by a grease hauler.

Grease trap – means a device located in a food service facility or under a sink designed to collect, contain or remove food wastes and grease from the waste stream while allowing the balance of the liquid waste to discharge to the wastewater collection system by gravity. Traps shall have a removable lid on the top surface to facilitate inspection, cleaning and maintenance.

## FOOD SERVICE FACILITY REQUIREMENTS:

Each food service facility shall be evaluated by the Districts to determine whether it falls within the definition of a Significant Industrial User (SIU). Facilities classified as SIU's shall be subject to permitting as provided in Article 10 of Local Law 6-94. All other food service facilities shall be evaluated as a Fats, Oils and Grease (FOG) Discharger. It is a violation of the Districts' Local Law 6-94 for any food service facility to discharge wastewater containing floatable fats, waxes, grease or oil which becomes floatable when the wastes cool to the temperature prevailing in the wastewater at the POTW treatment plant; or containing more than 100 mg/liter of emulsified oil or grease; also any substances which will cause interference or obstruction to the flow in the collection system.

## WHO IS REGULATED:

Restaurants, grocery stores, bakeries, lounges, hospitals, hotels, institutions, mall food courts, food manufacturers, food packagers, nursing homes, churches, schools, prisons, and all other food service facilities not listed above.

## WHEN IS IT REGULATED:

*New sources* – Food service facilities which are newly proposed or constructed, or existing facilities which will be expanded or renovated to include a food service facility, where such facility did not previously exist, shall be required to install, operate and maintain a grease interceptor or grease trap according to the requirements contained in this Policy.

*Existing sources* – Food service facilities existing within the Districts prior to the effective date of this Policy shall be permitted to operate and maintain existing grease interceptors or grease traps provided their grease interceptors or grease traps are in efficient operating condition and performing to requirement.

On or after the effective date of this Policy, the Districts may require an existing food service facility to install, operate and maintain a new grease interceptor or grease trap that complies with the requirements of this Policy or to modify or repair any

noncompliant plumbing or existing grease interceptor or grease trap within 90 days of written notification by the Districts when any one or more of the following conditions exist.

- a) The facility is found to be contributing oils and/or grease in quantities sufficient to cause line stoppages or necessitate increased maintenance on the wastewater collection system.
- b) The facility does not have a grease interceptor or grease trap.
- c) The facility has an undersized, irreparable or defective grease interceptor or grease trap.
- d) Remodeling of the food preparation or kitchen waste plumbing system is performed.
- e) The existing facility is sold or undergoes a change of ownership.
- f) The existing facility does not have plumbing connections to a grease interceptor or grease trap in compliance with the requirements of this Policy.



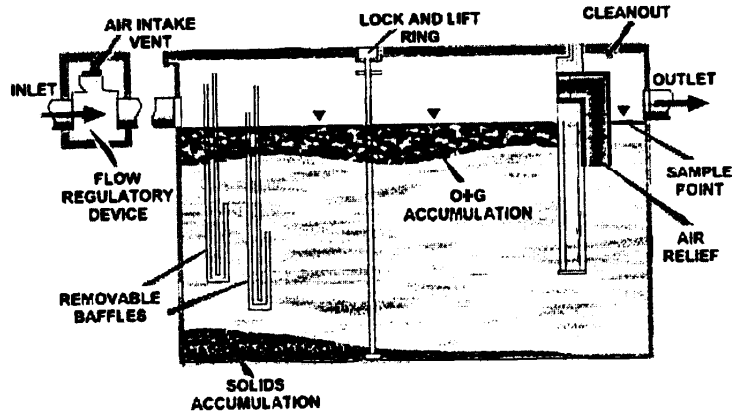
## *PROCEDURES:*

*Application forms* – The Districts shall provide to the food service facility an application form for installation of a grease trap or a grease interceptor. The application form shall include the name of the person or firm who will perform the proposed work, as well as the plans and specifications for the proposed system. The application form shall be signed and dated assuring that the information is accurate, and that the applicant agrees to abide by the regulations contained in Local Law 6-94 and this Policy. Once plans are approved by the Districts, work may commence. The owner shall coordinate notifying the Districts of work schedules and progress. The Districts has the authority to require correction of errors in said plans or specifications, or to prevent construction when in violation of this Policy or revoke any approval when issued in error. When the system has been installed, the Districts shall be notified by phone or in writing, at least 24 hours in advance, to inspect and certify the work. The unit must pass a 24-hour water test conducted by Districts personnel. No portion of the work shall be concealed until inspected and approved. The Districts will not be liable for expense entailed in the removal or replacement of material to permit inspection.

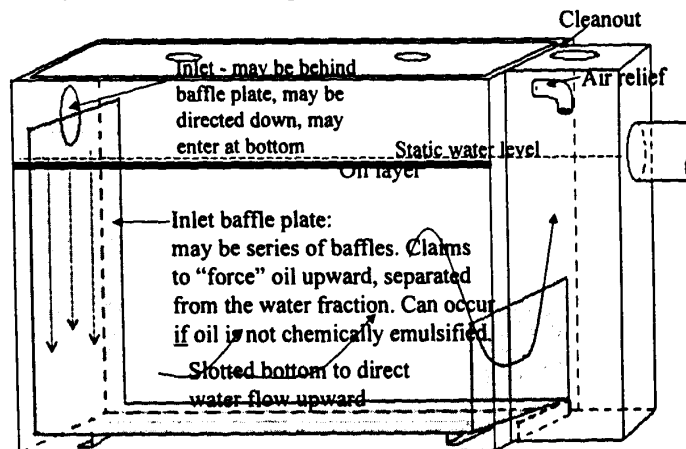
*Plumbing connections* – Grease interceptors or grease traps shall be located in the food service facility's lateral sewer line between all fixtures which may introduce grease into the sewer system and the connection to the Districts' wastewater collection system. Such fixtures shall include but not be limited to, sinks, dishwashers, garbage disposals, floor drains in food preparation and storage areas, mop sinks, and any other fixture that is determined to be a potential source of grease. Wastewater from sanitary facilities and other similar fixtures shall not be introduced into the grease interceptor or the grease trap under any circumstances. When food grinders are part of the waste system, a properly sized and vented solids interceptor, cleaned daily, should be located ahead of the grease trap or interceptor.

# GREASE TRAPS

## The Grease Trap



## A Typical Grease "Trap" Usually small and in/on kitchen floor (MANY design variations exist)



## GREASE TRAPS:

Grease traps of the type typically located indoors beneath sinks are generally not acceptable by the Districts. They will be considered only in instances where extreme low grease discharges can be determined, or where the installation of an outdoor grease interceptor would be excessive in terms of need. A grease trap approved by the Districts for a food service facility shall meet the following criteria:

*Trap design and location* - Grease traps shall conform to the standards in the Plumbing and Drainage Institute (PDI) standards G101. Grease trap design and capacity calculations shall be approved by the Districts prior to the installation of the interceptor.

- a) Grease traps shall be installed in strict accordance with the manufacturer's instructions. Grease traps shall be equipped with a cover that can be opened for inspection and sampling and a mechanism for secure closing.
- b) *Trap capacity.* The capacity of the grease trap shall be related to the flow rate as indicated in Table 1 from the appendix of the PDI Standards G101 document.

**Table 1**

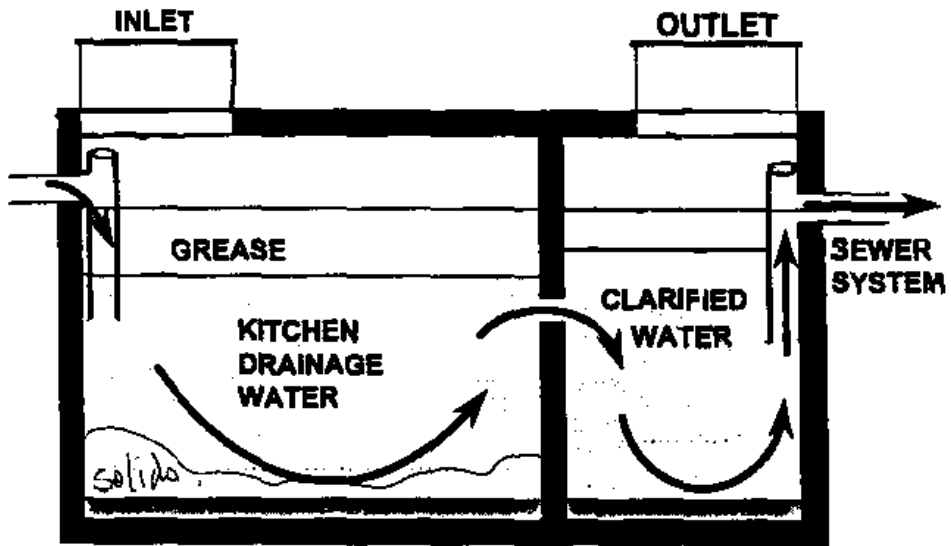
PDI Size Symbol	4	7	10	15	20	25	35	50
Flow Rate, GPM	4	7	10	15	20	25	35	50
Grease Capacity, pounds	8	14	20	30	40	50	70	100

- c) *Flow-through rate.* Flow-through rates shall be calculated in accordance with the procedures in the PDI Standard G101 and Formula 3 of the Appendix.
- d) *Flow control device* - Grease traps shall be equipped with a device to control the rate of flow through the unit. The rate of flow shall not exceed the manufacturer's rated capacity recommended in gallons per minute for the unit.
- e) *Venting* - The flow control device and the grease trap shall be vented in accordance with New York State Plumbing codes. The vent shall terminate not less than six inches above the flood-rim level or in accordance with the manufacturer's instructions.
- f) *Inspection, cleaning and maintenance* - Each food service facility having a grease trap shall be solely responsible for the cost of trap installation, inspection, cleaning and maintenance. Each food service facility may contract

with a grease hauler for cleaning services or it may develop a written protocol and perform its own grease trap cleaning and maintenance procedures. Cleaning and maintenance must be performed when the total volume of captured grease and solid material displaces more than 20% of the total volume of the unit. Each food service facility shall determine the frequency at which their grease trap shall be cleaned, but all grease traps shall be opened, inspected, cleaned and maintained at a minimum of once per week. PDI certified traps have a rated retention capacity equal to twice their flow rate expressed in pounds. For example, a 35 GPM trap is rated to retain at least 70 lbs. of grease. A user may determine how much grease has been trapped over a period of time. Grease will weigh about 7 pounds per gallon. If it is determined that a 35 gallon trap accumulates about 5 gallons of grease every day, it would be easily and correctly assumed that the trap must be cleaned no less than once a week. In fact, with compliance limits of grease at 100 mg/L, cleaning every 2 to 3 days would be necessary.

- g) The user is responsible for the proper removal and legal disposal of the grease trap waste. It is specifically prohibited to maintain grease traps by bacteriological, chemical, or enzymatic addition or treatment unless approved by the Districts.
- h) *Inspection* – Grease traps shall be inspected by the Districts as necessary to assure compliance and to assure proper cleaning and maintenance schedules are being adhered to.
- i) *Repairs* – The food service facility shall be responsible for the cost and scheduling of all repairs to its grease trap(s). Repairs required by the Districts shall be completed within 14 calendar days after the date of written notice of required repairs is received by the facility.
- j) *Disposal* – Grease and solid materials removed from a grease trap shall be disposed of in the solid waste disposal system.
- k) *Record keeping* – The food service facility shall maintain records of the date and time of all cleaning and maintenance of each grease trap in a logbook and shall make this book available for inspection by the Districts on demand. The food service facility shall also maintain the written protocol concerning grease trap cleaning and maintenance procedures and shall make this available on demand.

# GREASE INTERCEPTORS



**Concrete Outdoor In-Ground Interceptor**

## *GREASE INTERCEPTORS:*

All new grease interceptors shall meet the following criteria:

- a) *Interceptor design and location* - Grease interceptors shall have a minimum of two compartments and shall be capable of separation and retention of grease and storage of settled solids. Interceptors are generally made of pre-cast concrete, and are purchased completely assembled. They are usually buried so as to intercept the building sewer. They must be level, located where they are easily accessible for cleaning, and as close to the wastewater source as practical. Nongrease bearing fixtures such as walk-ins and icemakers may be wasted through the interceptor. Wastewater from sanitary facilities and other similar facilities shall be connected to the lateral downstream of the interceptor. To allow for proper maintenance, manholes to finished grade shall be provided with a minimum of one per compartment. The manhole covers shall be of gas-tight construction with a minimum opening dimension of 20 inches, and should be designed to withstand expected loads.
- b) *Configuration* - The desired length/ width/depth ratio of the interceptor is 2-3/1/1. The longer a particle's horizontal travel, the more gravity has a chance to affect its ultimate direction: rising, settling, or staying in suspension. A 20 - 30 minute hydraulic retention time is the desired range. Tanks must be proportioned so that influent flow is distributed with uniform velocity. Depth is not as important as width.
- c) *Interceptor capacity* - Minimum capacity shall be 750 gallons (unless granted a dispensation) and maximum capacity shall be two thousand (2000) gallons. Where sufficient capacity cannot be achieved with a single unit, installation of grease interceptors in series is required. Interceptor capacity calculations shall be approved by the Districts prior to the installation of the interceptor. Grease interceptor capacity calculations shall be performed by the food service facilities contractor, engineer, or plumber based on size and type of operation according to the formulas contained in Tables 1, 2, and 3 in the Appendix.
- d) *Design features* - Interceptors shall have the following design features: the inlet and outlet have fittings of a "T" design. At the inlet side, one tee branch shall extend a minimum of 1 foot below the liquid level, the other reaching well above the water line; the outlet "T" shall have a minimum submergence of 2/3 the liquid depth, the other end shall also be above the water line for clean-out

and sampling. There shall be a baffle to separate the trap into two compartments and two manhole access ways for inspection, maintenance and monitoring.

- e) *Dispensation* from the requirements of this Policy - The Districts' may, under unusual circumstances, grant dispensation from the requirements of this Policy when deemed necessary, useful, or beneficial to the facility providing the provisions of Local Law 6-94 are maintained. In cases where there is limited available space for an outside interceptor, the Districts will review alternate ideas.
- f) *Installation* - interceptors shall be installed according to the following criteria:
1. There shall be a minimum slope of 1/8" per foot leading to the interceptor.
  2. The interceptor shall be footed on 12" of 1" stone.
  3. At least 6" of pea stone shall surround the unit.
  4. There shall be a minimum coverage of 18" above the interceptor.
  5. When connecting to Grinder or Gravity system, connections shall be made with cast iron or schedule 35 PVC pipe. Connection to Vacuum system shall be made with Schedule 40 PVC pipe and joints shall be glued with gray glue.
  6. The location of the trap will mandate certain precautions. When located in pavement, out of traffic areas, marked posts shall protect unit. When located in traffic area, unit, frame and covers must be water rated to withstand as AASHTO H<sub>2</sub>O-44 wheel load plus appropriate earth and hydrostatic loads pertinent to the installed location conditions.
  7. If the unit is to be located in an area with a high water table, steps shall be taken to prevent possible floatation.
  8. Interceptor must pass a 24-hour water test with no loss in fluid level.
- g) *Inspection, pumping and maintenance* - Each food service facility shall be responsible for the costs of installing, inspecting, pumping, cleaning and maintaining its grease interceptor. All food service facilities that have grease interceptors shall utilize a grease hauler for pumping services. Pumping services shall include the initial complete removal of all contents, including floating materials, wastewater and bottom sludge and solids from the interceptor. The return of gray water back into the grease interceptor from

which the wastes were removed is allowable, provided that grease and solids are not returned to the interceptor and further provided that the grease hauler has written authorization from the food service facility to return the gray water. Grease interceptor cleaning shall include removing excessive solids from the walls, floors, baffles, and all pipe work. The grease hauler shall wait at least 20 minutes to allow the interceptor waste to separate in the truck tank before attempting to re-introduce the gray water to the interceptor. It shall be the responsibility of each food service facility to inspect its grease interceptor during the pumping procedure to ensure that the interceptor is properly cleaned out and that all fittings and fixtures inside the interceptor are in working condition and functioning properly.

- h) *Interceptor pumping frequency* – Each food service facility shall have its grease interceptor(s) pumped at a minimum frequency of twice every calendar year. In addition to required biannual pumping, each food service facility shall determine an additional frequency at which its grease interceptor(s) shall be pumped according to any or all of the following criteria:
1. When the floatable grease layer exceeds six inches (6") in depth, or;
  2. When the settleable solids layer exceeds eight inches (8") in depth, or;
  3. When the total volume of captured grease and solid material displaces more than 20% of the capacity of the interceptor as calculated, or;
  4. When the interceptor is not retaining/capturing oils and greases. If the removal efficiency of the device, as determined through sampling and analysis, is less than eighty percent (80%).
- i) *Inspection* – Grease interceptors may be inspected by the Districts as necessary to assure compliance with the Policy and to determine if proper cleaning and maintenance schedules are being adhered to.
- j) *Repairs* – Each food service facility shall be responsible for the cost and scheduling of all repairs to its grease interceptor(s). Repairs required by the Districts shall be corrected within 14 calendar days after the date a written notice from the Districts is received, or unless the Districts establishes a different compliance date.
- k) *Disposal* – Neither grease nor solid materials removed from interceptors shall be returned to any grease interceptor, private sewer line or to any portion of the Districts' wastewater collection system without prior written permission from the Director.



- l) *Record keeping* – Each food service facility shall maintain a logbook in which a record of all interceptor maintenance is entered, including the date and time of the maintenance, details of any repairs required and dates of repair completion, pumping activities and receipts, hauler information, and any other records pertaining to the interceptor. This logbook shall be made available for review upon request of the Districts.
- m) *Reporting* – Each food service facility shall submit to the Districts a copy of the hauler's invoice, which shows the date of cleaning, and any repairs that have been made to the Districts within 14 days of receipt.

*Interceptor Additives* – Any chemicals, enzymes, emulsifiers, live bacteria or other grease cutter or additives shall be approved by the Districts prior to their use by the food service facility or the grease hauler. MSDS sheets and any other applicable information concerning the composition, frequency of use and mode of action of the proposed additive shall be sent to the Districts together with a written statement outlining the proposed use of the additive(s). Based upon the information received and any other information solicited from the potential user or supplier, the Districts shall permit or deny the use of the additive in writing. Permission to use any specific additive may be withdrawn by the Districts at any time. Currently, the use of soaps, detergents and other chemicals to control grease usually ends up moving the grease downstream where it reforms.

*Alternative grease removal devices or technologies* – Alternative devices and technologies such as automatic grease removal systems shall be subject to written approval by the Districts prior to installation. Approval of the device shall be based on demonstrated removal efficiencies and reliability of operation. The Districts may approve these types of devices depending on manufacturer's specifications on a case-by-case basis. The food service facility may be required to furnish analytical data demonstrating that grease discharge concentrations to the Districts' wastewater collection system will not exceed the limits established in Article 9 of Local Law 6-94.

## *TERMS AND CONDITIONS:*

The terms and conditions of this Policy are subject to modification by the Districts if limitations or requirements in this program are modified.

Food service facilities shall be informed of any proposed changes at least 60 days prior to the effective date of the change(s), allowing a reasonable schedule for achieving compliance.

*Entry* – Each food service facility shall allow the District's duly authorized employees or agents bearing proper credentials and identifications access at all reasonable times to all parts of the premises, including easement properties, for the purpose of inspection, observation, records examination, measurement, sampling and testing in accordance with the provisions of Local Law 6-94 and this Policy. The refusal of a food service facility to allow the Districts; officials entry to or upon the facility's premises for purposes of inspection, sampling effluents or inspecting and copying records or performing such other duties as shall be required by the Districts shall constitute a violation of this Policy. The Director may seek a warrant or use such other legal procedures as may be advisable and reasonably necessary to discharge his duties pursuant to this Policy.

*Inspection* – All food service facilities shall be inspected as follows:

- a) *Inspections* – The Districts official shall inspect food service facilities on both an unscheduled and unannounced basis or on a scheduled basis. Inspections shall include all equipment, food processing and storage areas and shall include a review of the processes that produce wastewater discharged from the facility through the grease interceptor or grease trap. The Districts official shall also inspect the grease interceptor or grease trap maintenance logbook and file, other pertinent data, the grease trap or grease interceptor and may check the level of the contents and/or take samples as necessary. Any deficiencies shall be noted, including but not limited to:
  1. Failure to properly maintain the grease trap or grease interceptor in accordance with the provisions of this Policy.
  2. Failure to report changes in operations, or wastewater constituents and characteristics.

3. Failure to report pumping activities or keep copies of manifests or receipts.
4. Failure to maintain logs, files, records or access for inspection or monitoring activities.
5. Any other inconsistency with the program that requires correction by the food service facility concerned.

If any deficiencies are recorded by the Districts' official during an inspection, the official shall provide the food service facility a written notice to correct the deficiency within 30 days, and a tentative date for a first re-inspection.

- b) *Re-inspections* - The Districts' official shall re-inspect food service facilities which received deficiency notices. The Districts' official shall inspect any repairs or other deficiencies and shall provide written notice of compliance or non-compliance as the case may be. In the event that the food service facility has returned to compliance with all of the deficiencies, there shall be no charge for the re-inspection. In the event of continuing non-compliance, successive re-inspections will be scheduled and appropriate fees shall be charged to the food service facility concerned for the first and all successive re-inspections. A first re-inspection shall be performed after a minimum of 3 months has elapsed to allow for corrective action by the food service facility to be completed.

*Monitoring* - The Districts shall have the right to sample and analyze the wastewater from any food service facility at any time to determine compliance with the requirements of the Districts Code. If violations of the oil and grease limit are detected, enforcement action may be initiated and demand-monitoring costs billed to the food service facility.

*Enforcement Cleaning* - The Districts may, under extreme conditions, where the User is failing to comply with documented violations and when or if the Districts' collection system is documented as becoming blocked by excessive build-up of solids from the User's non-compliance which may pose a threat to the health and safety of the community, contact with a hauler to clean said User's interceptor. The appropriate amount for this cleaning will be billed directly to the User.

*Interceptor Abandonment* – A User shall, prior to abandoning a facility or selling properties for a different use, contact the Districts for proper closing methods for their grease interceptor. An abandoned or discontinued interceptor to which no waste or soil pipe from a plumbing fixture is connected shall have the sewage removed and be completely filled with earth, sand, gravel, concrete, or other approved material.

## CHARGES:

- a) All facilities discharging or depositing wastes into the public sewer system shall pay a sewer service charge which shall be collected as a sewer use charge pursuant to Section 266 of the County Law.
- b) Surcharge for Abnormal Sewage – All persons discharging or depositing wastes with concentrations in excess of the pollutant concentrations in normal sewage shall pay a surcharge. The total sewer service charge, (which shall be called the “User Charge”), is comprised of two parts, as follows:

$$UC_{(t)} = UC_{(n)} + UC_{(an)}$$

Where:  $UC_{(t)}$  = total User Charge for Districts’ operation and maintenance

$UC_{(n)}$  = User Charge associated with normal sewage

$UC_{(an)}$  = User Charge associated with abnormal sewage

- c) Recovery of Costs – When a discharge of waste causes an obstruction, damage or any other impairment to the facilities, or any expense of whatever character or nature to the Districts, the Director shall assess the expenses incurred by the Districts to clear the obstruction, repair damage to the facility, and any other expenses or damage of any kind or nature suffered by the Districts. The Director is empowered to recover costs, seeking reimbursement for any and all expenses or damages suffered by the Districts.

## FEES AND ENFORCEMENT:

Fees and Penalties and other enforcement of this Policy are imposed pursuant to the Sewer Use Law of the Districts, Chautauqua County Local Law 6-94.

No charges will be made with respect to the installation permit, the initial inspection of the installation under the permit, or random inspections. As a matter of guidance, the following charges are expected to be made in the discretion of the Director under the circumstances specified:

- \$ 50.00 Re-inspection after an initial inspection shows a deficiency
- 100.00 Second re-inspection after an initial inspection shows a deficiency
- 200.00 Third and subsequent re-inspections after an initial inspection shows a deficiency
- 50.00 Failure to conduct or report scheduled cleanings
- Cost Monitoring, sampling and analysis of wastewater discharges, sewer cleaning and other costs incurred by the Districts in connection with a discharge to the public sewer.

*Notification of Violation* – Whenever the Director finds that a User had violated or continues to violate the Law or a permit, order, prohibition, limitation, or requirement permitted by the Law, the Director may serve upon such a person a written notice stating the nature of the violation. Within 10 calendar days of the date of the notice, an explanation of the violation and a plan for the satisfactory correction and prevention thereof shall be submitted to the Director, by the User. The correction and prevention plan shall include specific actions. Submission of this plan in no way relieves the User of liability for any violation caused by the User before or after receipt of the Notice.

*Consent Order* – The Director may issue orders, which shall include specific action to be taken by the User to correct the noncompliance within a time period also specified by the order.

*Administrative or Compliance Order* – When the Director finds that a User has violated or continues to violate this Law or a permit or order issued thereunder, he may issue an order to the User responsible for the discharge directing that, following a specified time period, sewer service shall be discontinued unless the violation is

corrected and that there is no reoccurrence of the violation. Orders may also contain such other requirements as might be reasonably necessary and appropriate to address the noncompliance, including the installation of pretreatment technology, additional self-management, and management practices. The User may, within 15 days of receipt of such order, petition the Director to modify or suspend the order. Such petition shall be in written form and shall be transmitted to the Director by registered mail. The Director may reject any frivolous petitions, modify or suspend the order, request additional information, or order the petitioner to show cause.

*Civil Penalties* – Notwithstanding any other section of this Law, any User who is found to have violated or continues to violate any provision of this Law, or permits or orders issued hereunder, shall be liable for a civil penalty in an amount not to exceed one thousand dollars per violation as initially established by the Director subject to modification, if any, made by the Districts' Board. Each day on which the noncompliance shall occur or continue shall be deemed a separate and distinct violation. The User may, within 15 calendar days of notification of such civil penalty, petition the Director to modify or suspend the civil penalty. Such petition shall be in written form and shall be transmitted to the Director by registered mail. The Director may reject any frivolous petitions, modify or suspend the order, request additional information, or order the petitioner to show cause.

*Cease and Desist Orders* – When the Director finds that a User has violated or continues to violate this Law or any permit or order issued hereunder, the Director may issue an order to cease and desist all such violations and direct those persons in noncompliance to comply forthwith, and to take such appropriate remedial or preventative action as may be needed to properly address a continuing or threatened violation, including halting operations or terminating the discharge. The User may, within 15 calendar days of receipt of such order, petition the Director to modify or suspend the order. Such petition shall be in written form and shall be transmitted to the Director by registered mail. The Director may reject any frivolous petitions, modify or suspend the order, request additional information, or order the petitioner to show cause.

*Termination of Permit* – Any User who violates the following conditions of this Law or a wastewater discharge permit or order, or any applicable or State and Federal law, is subject to permit termination:

- a) Violation of permit conditions
- b) Failure to accurately report the wastewater constituents and characteristics of its discharge
- c) Failure to report significant changes in operations or wastewater constituents and characteristics
- d) Refusal of reasonable access to the User's premises for the purpose of inspection, monitoring, or sampling.

Non-compliant Users will be notified, by registered mail, of the proposed termination of their wastewater permit. The User may, within 15 calendar days of receipt of such notification, petition the Director to permit continued use. Such petition shall be in written form and shall be transmitted to the Director by registered mail. The Director may reject any frivolous petitions, request additional information, or order the petitioner to show cause.



# APPENDIX A

## SIZING CALCULATIONS

# FORMULA 1

## S&CCLSD'S GREASE TRAP SIZING FORMULA Based upon Plumbing & Drainage Institute Formula

Steps	Formula	Example
1	Determine cubic content of all fixtures by multiplying length x width x depth. Sum.	Two one-compartment sinks, 24" long by 20" wide by 12" deep. Cubic content $24 \times 20 \times 12 = 5760$ cubic inches each. Total = 11,520.
2	Determine capacity in gallons. 1 gal = 231 cubic inches.	Contents in gallons: $\frac{11,520}{231} = 49.9$ gallons
3	Determine drainage load. The fixture is normally filled to about 75% capacity with water. The items being washed displace about 25% of the content, thus actual drainage load = 75% of the capacity.	Actual drainage load: $0.75 \times 49.9 = 37.4$ gallons
4	If the facility has a dishwasher, add amount the unit discharges per minute. An industry-based figure of 20 gallons per minute is acceptable if amount is unknown.	$37.4 + 20 = 57.4$ gallons
5	Determine flow rate and drainage period. In general, drainage period is the actual time required to completely drain the fixture. Flow Rate = $\frac{\text{Actual Drainage Load}}{\text{Drainage Period}}$	Calculate the flow rate on the basis of a two-minute drainage period: $\frac{57.4}{2} = 28.7$ GPM Flow Rate
6	Select indoor grease trap using Table A1 for sizing and rating, which corresponds to the flow rate calculated. Note: Select next larger size when flow rate falls between two sizes listed.	28.7 GPM requires PDI size "35"

**Table A2**

PDI Size Symbol	4	7	10	15	20	25	35	50
Flow Rate, GPM	4	7	10	15	20	25	35	50
Grease Capacity, pounds	8	14	20	30	40	50	70	100

## FORMULA 2

### EPA GREASE INTERCEPTOR SIZING FORMULA

The following equation is recommended by the United States Environmental Protection Agency for grease trap sizing at restaurants of any size:

$$\text{Size (gal)} = D \times GL \times \frac{HR}{2} \times LF$$

Where: D = number of seats in the dining room

GL = 5 gallons of waste per meal

HR = number of hours restaurant is open

LF = loading factor

1.25 - interstate highways

1.0 - other freeways and recreational areas

0.8 - main highways

0.5 - other highways

**EXAMPLE:** A small restaurant, open for lunch and dinner has 35 seats. It is open from 10:30 AM until 9:30 PM; a total of 11 hours. Kitchen drainage units: one 3-compartment pot sink and one meat prep sink. It is located on Pennsylvania Ave. in Washington, DC.

If: Pennsylvania Ave. is considered “other highway”, grease interceptor would have to be

$$D \times GL \times HR \times LF$$

$$35 \times 5 \times \frac{11}{2} \times 0.5 = 481 \text{ gallon interceptor}$$

If: Pennsylvania Ave. is considered “main highway”, interceptor would calculate to 770;  
“freeway and recreational”, interceptor would calculate to 963;  
“interstate highway”, interceptor would calculate to 1203.

## FORMULA 3

### UNIFORM PLUMBING CODE GREASE INTERCEPTOR SIZING FORMULA

The following equation is recommended by the International Association of Plumbing and Mechanical Officials in the Uniform Plumbing Code™, 2000 Edition:

Size (gal) = #meals at peak hr x waste flow rate x RT x storage factor

Waste flow rate:

With dishwashing machine: 6-gallon flow

Without dishwashing machine: 5-gallon flow

Single service kitchen: 2-gallon flow

Food waste disposer: 1-gallon flow

Retention time:

Commercial dishwasher: 2.5 hours

Single service kitchen: 1.5 hours

Storage factor:

Fully equipped commercial kitchen open 8 hours: 1

open 16 hours: 2

open 24 hours: 3

Single service kitchen: 1.5

EXAMPLE: A nursing home serves 300 meals per hour. It has a dishwashing machine, a fully equipped kitchen, and is open 8 hours.

300 meals x 6 gal flow x 2.5 hr RT x 8 hrs open = 4,500 gal interceptor

# FORMULA 4

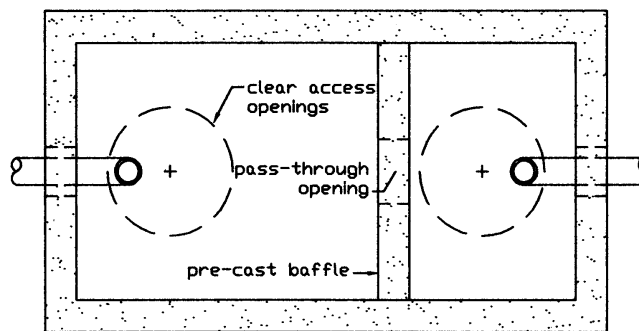
## S&CCLSD'S GREASE INTERCEPTOR SIZING FLOW RATE FORMULA Based upon Plumbing & Drainage Institute Formula

Steps	Formula	Example
1	Determine cubic content of all fixtures by multiplying length x width x depth. Sum.	Two one-compartment sinks, 24" long by 20" wide by 12" deep. Cubic content $24 \times 20 \times 12 = 5760$ cubic inches each. Total = 11,520.
2	Determine capacity in gallons. 1 gal = 231 cubic inches.	Contents in gallons: $\frac{11,520}{231} = 49.9$ gallons
3	Determine drainage load. The fixture is normally filled to about 75% capacity with water. The items being washed displace about 25% of the content, thus actual drainage load = 75% of the capacity.	Actual drainage load: $0.75 \times 49.9 = 37.4$ gallons
4	If the facility has a dishwasher, add amount the unit discharges per minute. An industry-based figure of 20 gallons per minute is acceptable if amount is unknown.	$37.4 + 20 = 57.4$ gallons
5	Determine flow rate and drainage period. In general, good practices dictate a one (1) minute drainage period. Drainage period is the actual time required to completely drain the fixture. Flow Rate = $\frac{\text{Actual Drainage Load}}{\text{Drainage Period}}$	Calculate the flow rate for a one minute period: $\frac{57.4}{1} = 57.4$ GPM Flow Rate
6	A 20-30 minute hydraulic retention time is the desired range for grease separation. Multiply the flow rate by 30 to achieve necessary capacity of the interceptor.	Size of interceptor based on a 30 minute retention time: $57.4 \times 30 = 1722$ gallons
7	Recommended interceptor will be closest sized unit to 1/2 the calculated size. Cleaning frequency will then be based on facility's output.	$1722 / 2 = 861$ gallons Closest manufactured unit would be 1000 gal. Set cleaning schedule accordingly.

FIGURE 1

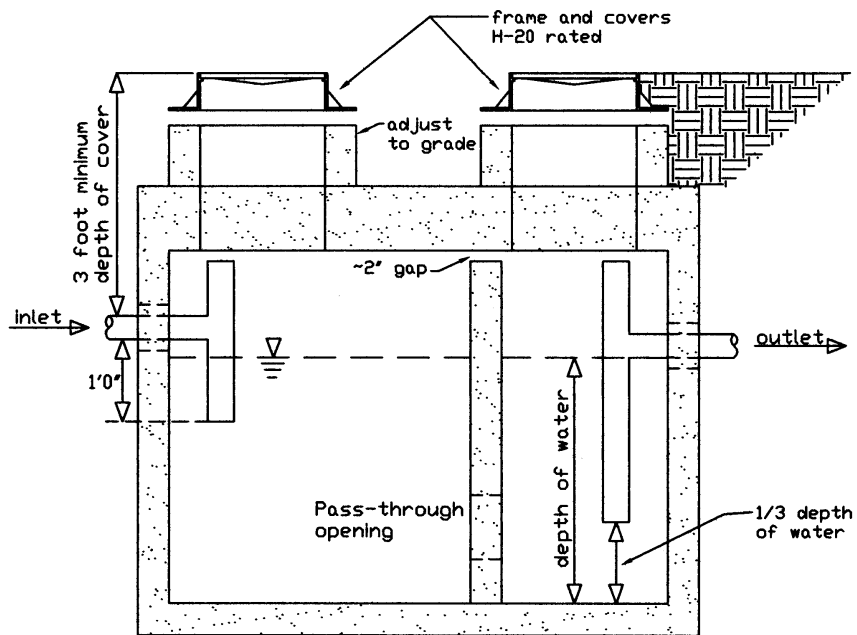
# INTERCEPTOR SPECIFICATIONS

## TYPICAL GREASE INTERCEPTOR LAYOUT



PLAN VIEW

SIZE OF STRUCTURE TO BE DETERMINED BY NEEDED CAPACITY



# APPENDIX B

## MAINTENANCE METHODS

## PROCEDURE 1

### ESTABLISHING A CLEANING SCHEDULE FOR A GREASE TRAP

Beginning with a unit that is completely clean and free of grease, has been installed correctly, and has correct venting, a good cover gasket, and has its cover secured tightly, measure the grease trapped on a daily basis. When attempting to measure the amount of grease trapped daily, it is important that the interceptor and its system are in perfect condition. If it is not, the interceptor may not be capable of trapping all of the grease that enters, and the grease will pass downstream (possibly exceeding the allowable limits), giving a false sense of how much grease is actually generated.

Remove trapped grease daily and measure the amount until it is clear that there is a definite pattern to or a consistency to the amount of grease generated over a period of time. Grease and oils will weigh about 7 pounds per gallon, and the amount generated over a period of time can be compared with the grease capacity of the interceptor.

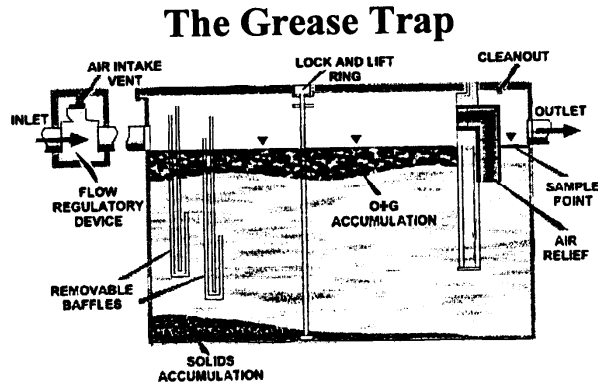
The trap's capacity should be shown on the certification plate. By determining how many days of operation it will take to trap an amount of grease equal to the capacity the minimum cleaning frequency can be established.

Example: Assume a gallon of grease (on average) is accumulated every day. Assume the trap has a seventy-pound grease capacity rating. The absolute minimum cleaning frequency would be every 10 days because a gallon of grease equals 7 pounds and in 10 days the trap limit would be reached.



## PROCEDURE 2

### GREASE TRAP MAINTENANCE



1. Start by removing the grease and scum that has accumulated on the top of the trap chambers, preferably with a ladle. It is important to try to remove as little water as possible at this time.
2. When the floating grease is removed, note the position of the baffles and (assuming they are removable) remove them. Wipe the baffles clean with a paper towel.
3. Ladle or scoop the water from the trap, and save it because it can be poured back into the unit. Avoid scooping any solids materials that may have accumulated on the bottom.
4. After as much water as possible has been removed, remove the remaining water and solids mixture, disposing of these in the solids waste container for disposal. Wipe the trap interior so it is relatively clean.
5. Inspect the small vent opening, which will be near or at the top of the separation chamber going into the discharge end of the trap. If necessary clean this vent so it is unobstructed. Inspect the outlet pipe. Make sure it is unobstructed. If necessary, remove any materials that may have entered or blocked the outlet.
6. Replace the baffles, making sure they are positioned exactly as required. Failure to do so, or failure to replace them in the proper position may result in a failure of the trap. Inspect the cover gasket. Make certain it is secure and free of any damage. Check the gasket resiliency and verify that the gasket will make contact with the cover around the entire perimeter of the cover. If there is any problem, replace the gasket.
7. Pour the saved water back into the trap (if grease floated to the top while the trap was being cleaned, it should be removed before pouring the water back.) Replace the cover and make sure the cover is secured tightly. Any failure of the gasket or a failure to tighten the cover may result in a failure of the trap.
8. Enter date of cleaning and any maintenance performed into the grease trap logbook.

## PROCEDURE 3

### GREASE INTERCEPTOR MAINTENANCE

#### **Maintenance schedule:**

All grease interceptors should be cleaned *at least twice per year*. Most establishments will find it necessary to clean theirs more often.

#### **Condition criteria:**

Although interceptors have a relatively large volume, if the trapped greases and solids are not removed before the capacity of the interceptor is reached, the interceptor will no longer be capable of separating and trapping, and grease will pass (illegally) into the collection system. Preventing that through maintenance is what is required. Cleaning is recommended when any of the following conditions are reached:

- a) the amount of floatable grease exceeds 6" or;
- b) the settleable solids layer exceeds 8", or;
- c) the total volume of grease and solids exceeds 20% of the interceptor capacity
- d) 25% of the wetted height of the interceptor is taken up with accumulated surface grease and bottom solids and/or;
- e) 50% of the height between the bottom of the interceptor and the bottom of the discharge pipe is taken up with accumulated solids.

Inspection criteria is:

<i>Percent of Trap Filled</i>	<i>Trap Condition</i>
25	FAIR; Time to Clean
25-50	POOR; Overdue
>50	IN VIOLATION

If the trap is in FAIR condition, the establishment will be advised to keep an eye on the maintenance schedule. The cleaning frequency may need to be increased. If the trap is in POOR condition, the establishment may be issued a compliance order to have it cleaned immediately. The establishment would then be required to contact the Districts within 14 days to verify that the interceptor has been properly cleaned.

#### **Cleaning:**

- ❖ Contact a grease hauler or recycler for cleaning.
- ❖ Witness the cleaning procedure.
- ❖ The hauler will perform mechanized vacuum cleaning by
  - Completely dewatering the unit
  - Back flushing with water to break-up remaining grease in bottom and on walls
  - Completely dewatering again.
  - Repeating process until clean.
- ❖ Inspect, or have hauler inspect for any structural damage or leaks.
- ❖ Record date of cleaning in maintenance log and mail or fax Districts a copy of invoice.