



Fats, Oil and Grease (FOG) Manual and Policy

Adopted per 2012 IPC

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EXECUTIVE SUMMARY

Fats, oil and grease, collectively known as FOG, are found in most residential and commercial kitchens. The discharge of FOG to sanitary sewer systems is a problem because the FOG can accumulate in the sewer and cause a backup or overflow resulting in significant hazards to public health, the environment, to the Food Service Establishment, damage to other businesses and residences, or damage to the public sewer system. This manual will serve to define the problems with FOG, what you as a food establishment owner and/or manager can do within your business to control FOG discharges, and define the legal authority provided to the City of Southlake to regulate FOG discharges.

INTRODUCTION

FOG: What is it? FOG refers to fats, oil and grease found in most residential and commercial kitchens. Waste FOG is a semisolid, viscous or liquid material that is generated during the food cooking process or during cleaning, maintenance, and sanitizing processes. Many foods that are processed and served contain FOG, including; meats, sauces, soups, gravies, dressings, deep fried foods, baked goods, cheeses, butter and others. Residential users and many different businesses generate FOG wastes by processing or serving food, including; caterers, hospitals, churches, nursing homes, day care centers, schools, grocery stores, etc.

What's the problem with FOG? Liquid wastes containing FOG that are discharged down the sewer drain can coagulate and congeal into a hardened layer on the inside of building drain pipes (private service lines) and wastewater Collection Lines (Utility owned mainlines) in the Wastewater Treatment System. Over time this causes a reduction in the effectiveness of these wastewater pipes to transport wastewater away from residences and businesses to the wastewater treatment plant. Wastes containing FOG can accumulate on the inside of these wastewater pipes to such an extent, that the wastewater pipes become completely blocked with FOG. When building drain pipes and wastewater Collection Lines become blocked, the normal flow of wastewater is obstructed, which can cause wastewater to back up into residences and businesses within the vicinity of the blockage. If the FOG originates from your business, you may be the first one affected.

Consequences from wastewater blockages can be significant. These blockages can result in significant public health hazards as well as property damages. When the wastewater collection lines become blocked with FOG, untreated wastewater may overflow out of the Wastewater System into streets, parking lots, storm sewers, and ultimately to the environment.

According to Health Department regulations, a public health hazard is created in the event a food service establishment has a wastewater backup. It requires the business to shut down until the problem has been corrected and the contaminated area properly sanitized. This creates an obvious disruption to the operation of the food service establishment.

DEFINITIONS

Best Management Practices (BMPs): For purposes of this manual, Best Management Practices are methods carried out within the food service establishment designed to reduce the discharge of Fats, Oil and Grease (FOG) to the building drain and to the Wastewater System. All food service establishments are required to develop and follow BMP's suitable for their location.

Director: The director of public works and/or his designee to enforce and administer liquid waste program.

City Code: City Code of the City of Southlake.

Collection Line: That portion of the Wastewater Treatment System through a network of pipes which collects and carries Wastewater from Users to the wastewater treatment plant, excluding Service Lines.

Domestic Wastes or Wastewaters: (i) Wastewater from normal residential activities including, but not limited to, Wastewater from kitchen, bath, and laundry facilities; (ii) Wastewater from the personal sanitary conveniences (toilets, showers, bathtubs, fountains, non-commercial sinks and similar structures) of commercial, industrial or institutional buildings, provided that the Wastewater exhibits characteristics that are similar to those of Wastewater from normal residential activities; and (iii) Specifically excluded is Wastewater from commercial, industrial or institutional laundries or food preparation facilities.

Effective Date: The date of adoption of this manual by the Public Works Director, or his/her designee, as provided on the adoption page to this manual.

Emulsifying Additives: Defined as any hydromechanical grease interceptor or gravity grease interceptor additive that suspends fat, oil and grease in solution. The fat, oil and grease get carried through the interceptor to the wastewater collection system.

Existing Food Service Establishment: Any Food Service Establishment, which is not a New Food Service Establishment.

Fat, Oil and Grease (FOG): A semi-solid, viscous liquid organic polar compound derived from animal and/or plant sources that contain multiple carbon chain triglyceride molecules. These substances are detectable and measurable using analytical test procedures established in 40 Code of Federal Regulations (CFR) Part 136, as may be amended.

Food Preparation: Preparing food such that any wastewater from the activity has the potential to cause harm or interference in the wastewater collection system.

Food Service Establishment: Commercial facilities partially or fully engaged in preparing and/or serving food for consumption by the public, such as restaurants, caterers, hospitals, churches, nursing homes, day care centers, schools, grocery stores, etc.

Gravity Grease Interceptor: For purposes of this manual, a Gravity grease interceptor is a large outside, underground, multi-compartment tank designed to capture all kitchen wastewater for removal of fats, oils, and grease (FOG) prior to discharging into the Wastewater Treatment System. This design incorporates two or more compartments in series, a minimum volume of 300 gallons and uses its larger volume of water to slow the velocity down allowing the time required for buoyancy of FOG in the water for separation.

Hydromechanical Grease Interceptor: A plumbing appurtenance or appliance that is installed in a sanitary drainage system to intercept nonpetroleum fats, oils, and grease (FOG) from a wastewater discharge and is identified by flow rate, and separation and retention efficiency. A deviceThe device must be installed designed to retain grease from one to a maximum of four fixtures per International Plumbing Code, with a design that incorporates air entrainment, hydro mechanical separation, interior baffling, and/or barriers in combination or separately, and an external flow control, with air intake (vent). A Hydromechanical grease interceptor is not appropriate for use on

heated water (e.g., dishwasher) or in-line to a waste disposal unit (e.g., garbage disposal and grinders) without a food interceptor.

For purposes of this manual, a Hydromechanical grease interceptor is a smaller, indoor device. Southlake Public Works requires that the capacity of the trap for installation in food service establishments that prepare food on-site, serve catered food, and have a dishwasher or a garbage disposal.

Interference: A discharge which, alone or in conjunction with a discharge or discharges from other sources: i) Inhibits or disrupts the Publicly-Owned Treatment Works, its treatment processes or operations, or its sludge processes, use or disposal; and ii) Therefore is a cause of a violation of any requirement of the Publicly-Owned Treatment Works' CDPS permit. Or, per City Code of Ordinances, 836, as may be amended.

Liquid Waste Hauler: Any person, firm, corporation or other entity that collects, pumps, transports and/or disposes of liquid wastes and regulated per City Code of Ordinance 914, as may be amended.

New Food Service Establishment: (1) Any Food Service Establishment for which a contract for Significant Construction/Reconstruction, or for which tenant finish in a pre-existing building, was entered into after the Effective Date of this standard. (2) Any food service establishment for which a **Substantial Change of Use** occurs.

Non-emulsifying Biological/Chemical Additives: Defined as a gravity grease interceptor additive that has been proven through independent research to break down or digest fat, oil and grease. NOTE: Prior to using any non-emulsifying additive, a Material Safety Data Sheet (MSDS) is required to be submitted to the City of Southlake Public Works Department. The use of this product may or may not be authorized by the City of Southlake Public Works Department.

Pretreatment: Application of physical, chemical and/or biological processes to reduce the amount of pollutants in or to alter the nature of the pollutant properties in wastewater prior to discharging such wastewater into the wastewater treatment system.

Publicly Owned Treatment Works (POTW): The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to, or in lieu of, introducing such pollutants in to the POTW. This reduction or alteration can be obtained by physical, chemical, or biological processes; by process changes, or by other means, except by diluting the concentration of the pollutants unless allowed by an applicable pretreatment standard.

Service Line: The wastewater collector line extending from the wastewater disposal facilities of the premises up to and including the connection to the Collection Line.

New Source: For the purposes of this manual, means new construction, construction activities or plumbing modifications which have the possibility of causing harm to, or interference with, the wastewater collection or treatment system. See City Code of Ordinances 9.5-201, definitions.

Standards & Specifications: Southlake Public Works Standard Construction Details for the sanitary sewer system and the currently adopted plumbing code, per city code.

Substantial Change in Use: A change in cuisine, food preparation, menu items, seating capacity or similar operation which have the possibility of causing harm to, or interference with, the wastewater collection or treatment system.

User: A source of indirect discharge.

LEGAL AUTHORITY

PRETREATMENT PROGRAM AUTHORITY

The control of discharges of FOG into the Wastewater Treatment System is part of a larger program to regulate discharges of non-domestic wastes, referred to as the “pretreatment program.” The pretreatment program is a national program required by the federal Clean Water Act and developed by the United States Environmental Protection Agency (EPA). The intent of the pretreatment program is to assure that all pollutants discharged to a sanitary sewer system are treated properly before release to the environment. Certain pollutants can “pass-through” a treatment plant without being treated and other pollutants such as FOG can “interfere” with treatment processes or the collection portion of the Wastewater System. Thus, dischargers may be required to “pre-treat” certain non-domestic wastewaters before they enter the Wastewater Treatment System.

The City of Southlake’s pretreatment program is implemented as a partnership between the EPA, the State of Texas (Texas Commission on Environmental Quality, TCEQ), the Trinity River Authority (TRA) and the City of Southlake. These entities oversee the development and enforcement of a national to local pretreatment program. Each local entity, such as the City of Southlake, must enforce the national pretreatment program, and may develop more restrictive codes, depending on the needs of that local entity.

FOG CONTROL AUTHORITY

The City of Southlake pretreatment program is implemented primarily through the City Code, Chapter 9.5, Article III (Industrial Wastewater) and Chapter 19, Article V (Liquid Waste; Generation, Transportation, and Disposal) which provides the legal authority for the specific provisions of this manual. Such authority is noted below and in the relevant sections of this manual.

WASTEWATER SERVICE LINE MAINTENANCE:

Schedule of Service required. City Code 19-230: All food manufacturers, restaurants, and full service groceries shall pump their interceptor at a minimum of once every 90 days. All other facilities with pre-packaged foods and minimal food preparation as determined by the director ... shall pump their interceptor at a minimum of once semi-annually. The director ... may require more frequent pumping upon assessment or at his/her discretion.

WASTEWATER TREATMENT FOR FOG REQUIRED:

Liquid Waste Generator Shall Install Collection Device. City Code 19-229 (e)(1): A generator shall install or provide a collection device of size and type specified by building inspections. If the director determines that a collection device is insufficient in size or design, he or she may require the generator to upgrade the collection device.

INTERNATIONAL PLUMBING CODE

2009 International Plumbing Code, City Code 4.5-101, or subsequent adoption: All sub-sections of section 1003, Interceptors and Separators apply.

WASTEWATER DISCHARGE PROHIBITIONS RELEVANT TO FOG CONTROL:

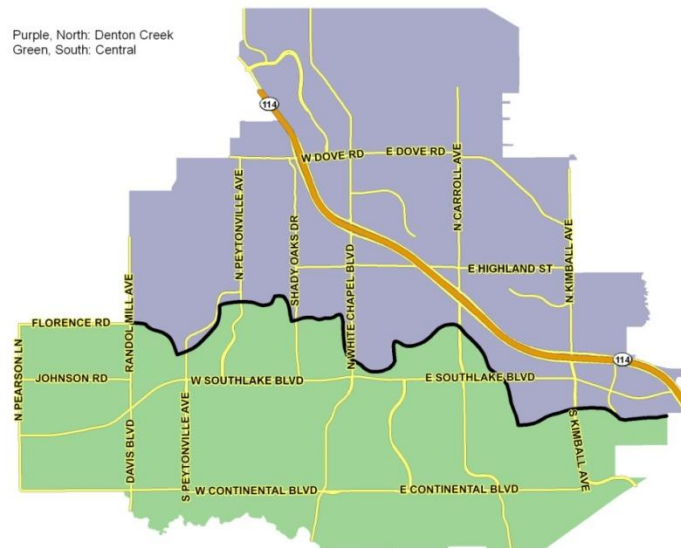
General Prohibitions. City Code 9.5-202 (a)(1): A person commits an offense if the person introduces or causes to be introduced into the POTW any pollutant or wastewater which causes pass-through or interference. These general prohibitions apply to all users of the POTW whether or not they are subject to categorical pretreatment standards or any other national, state, or local pretreatment standards or requirements.

Specific Prohibitions. City Code 9.5-202 (a)(2): A person commits an offense if the person introduces or causes to be introduced into the POTW the following pollutants, substances, or wastewater:

- c. Solid or viscous substances in amounts which will cause obstruction of the flow in the POTW resulting in interference, blockage, or damage to the POTW.
- q. Fats, oils, or greases of animal or vegetable origin in concentrations greater than that specified in the applicable local limits in section 9.5-202(d).

Local limits. City Code 9.5-202(d): Instantaneous Maximum Limits (mg/l)

Constituent	TRA Central	TRA Denton Creek
Oil and Grease	200.0	100.0
pH	5.5 to 11.0	6.0 to 10.0



The above limits apply at the point where the wastewater is discharged to the POTW. The director of the Public Works Department may impose mass limitations in addition to, or in place of, the concentration-based limitations above.

See "[Municipal Inspections](#)" below for more information on oil and grease limits.

CONTROL OF PROHIBITED WASTES:

In City Code 9.5-202 and 9.5-203, wastewater is controlled by the Executive Director, or their designee, through actions such as the following:

- Prohibit the discharge of such wastewater that is listed in the section
- Require a discharger to demonstrate that in-house modifications will reduce or eliminate the objectionable characteristics or substances
- Require treatment to reduce or eliminate the objectionable characteristics or substance
- Require the person making, causing or allowing the discharge to pay any additional cost or expense incurred by the city or utilities for surface or subsurface cleanup and any fines or legal expenses associated with alleged or actual violations. This could include liability for damages to Utility or private property, as well as time and material costs associated with non-scheduled maintenance of Utility sewer mains or stoppage cleanup
- Obtain timely and factual reports from the facility responsible for such discharge
- Take such other or further remedial action as may be deemed to be desirable or necessary to achieve such purposes.

COMPLIANCE MONITORING FOR FOG

Right of Entry. City Code 9.5-207 (a)

“The director of public works... or their designated representative shall have the right to enter a premises of any user to determine whether the user is complying with all requirements of this article...Users shall allow inspecting or sampling person ready access to all parts of the premises for the purposes of inspection, sampling, records examination and copying, and the performance of any additional duties.”

Monitoring Facility (sample port). City Code 9.5-207 (a) (3)

The director of public works and /or control authority may require the user to install monitoring equipment as necessary. The facility’s sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the user at its own expense.

Sample Collection. City Code 9.5-206 (k)(2)

Samples for oil and grease, temperature, pH, cyanide, phenols, sulfides and volatile organic compounds must be obtained using grab collection techniques.

Sampling policy. City Code 19-229 (e) (3) (b)

Policy may be established to allow for sampling and monitoring of a facility for fats, oils, and grease discharged to the sanitary sewer system.

INTERCEPTOR REQUIRED

NEW FOOD SERVICE ESTABLISHMENTS

See [definition](#) of “New Food Service Establishment”

Interceptors shall be provided when in the judgment of City of Southlake Public Works Director or their designee, they are necessary for the proper handling of liquid wastes containing grease or solids which may be harmful to, cause obstruction of or interference with the operation of the Publicly Owned Treatment Works.

In general an interceptor is required for new food service establishments or when there is significant construction/reconstruction or a **substantial change in use**.

Installation of an interceptor shall comply with all Standards and Specifications.

See [definitions](#) of “Significant Construction/Reconstruction”, “Substantial Change in Use”, and “Standards and Specifications”

EXISTING FOOD SERVICE ESTABLISHMENTS

See [definition](#) of “Existing Food Service Establishment”

It is reasonable to expect that existing food establishments with hydromechanical grease interceptors do not need to upgrade to a gravity grease interceptor **assuming** that the ownership/management implement Best Management Practices and do not cause harm to, obstruction of or interference with the Public Owned Treatment Works. Facilities that Southlake Public Works determines are having an impact or are causing harm to the wastewater system may be required to provide additional maintenance, treatment or may be required to upgrade an existing grease removal facilities and/or devices.

Installation of an interceptor shall comply with all Standards and Specifications.

SHARED INTERCEPTOR PROHIBITED

Under no circumstances shall any food establishment be allowed to share an interceptor with a separate entity. There are several issues with a shared interceptor, including establishing proper sizing for individual needs at different times, the difficulty in holding each food establishment responsible for proper FOG handling practices, and the complexity in distinguishing compliance between the establishments.

INSTALLATION REQUIREMENTS

GENERAL

Gravity grease interceptors and hydromechanical grease interceptors shall be installed in accordance with the city’s Standards and Specifications and all governing codes, rules and regulations set down by the City of Southlake. The size, type and location of each interceptor shall be approved and inspected by Southlake Public Works in accordance with this manual and waste water engineering standards. Refer to the current City of Southlake Plumbing Code for more information on fixtures required to be connected to the interceptor. Fixtures to be connected to a gravity grease interceptor include, but are not limited to. scullery sinks, pot and pan sinks, mop sinks, dishwashing and sanitizing machines, soup kettles, hand sinks and floor drains located in areas where grease-containing materials may exist.

CHOOSING THE INTERCEPTOR TYPE

Generally, the type of interceptor is chosen based on need, size and availability of space. A gravity grease interceptor is preferable but a well-designed hydromechanical interceptor that meets sizing requirements described below and shown to meet the needs of the facility will be considered after careful review.

In the event of unique conditions, Southlake Public Works may exercise its discretion to determine which FOG removal device is required to be installed.

In the event a hydromechanical grease interceptor or gravity grease interceptor is installed that was not previously approved in new, existing/redeveloped or expanded food service establishment, the user and the Public Works Department will carefully review the interceptor for compliance. In some cases the user may be required to disconnect from the current interceptor and install equipment that conforms to current standards.

LOCATION

All hydromechanical grease interceptors and gravity grease interceptors shall be readily accessible for inspection and proper maintenance at all times. Interceptor covers should not be covered with asphalt, concrete, landscaping, or other materials. Sampling ports, clean-outs and other facilities serving the interceptor line shall not be blocked or covered at any time.

Other considerations when designing the location of an interceptor:

- Under no circumstances shall a hydromechanical grease trap be installed outside.
- Interceptors **should not** be installed in any part of a building where food is handled. Improper maintenance and handling may pose a health hazard. It is strongly encouraged for a food establishment to consider installing a hydromechanical grease trap in another room or behind a wall adjacent to the food prep area to avoid food contamination.
- Consider the vertical space when installing a hydromechanical grease trap. The lid must be removed for maintenance and the typical lid needs approximately one to three feet of clearance. Review the trap manual before designing or installing the hydromechanical device.

The recommendations of the manufacturer shall be considered in determining the location.

GRAVITY GREASE INTERCEPTOR

See [definition](#) of “Gravity grease interceptor”

If a gravity grease interceptor is required, all drains from the kitchen, food preparation, and dishwashing areas shall be connected to the gravity grease interceptor to ensure proper grease handling and/removal. Fixtures to be connected to a gravity grease interceptor include, but are not limited to, scullery sinks, pot and pan sinks, mop sinks, dishwashing and sanitizing machines, soup kettles, hand sinks and floor drains located in areas where grease-containing materials may exist. Food service establishments utilizing garbage disposals and/or dishwashing machines must install a gravity grease interceptor.

Garbage disposals are strongly discouraged because they are not efficient. Food particles carry over to the gravity grease interceptor taking up interceptor capacity and providing a vehicle for grease carry-over into the wastewater service line and wastewater mainline. If installed, garbage disposals are required to be connected to an approved gravity grease interceptor. Garbage disposals may not be discharged to a hydromechanical grease interceptor or directly to the Public Owned Treatment Works. The preferred method is to strongly enforce kitchen practices such as scraping plate waste to the trash.

SIZING REQUIREMENTS FOR GRAVITY GREASE INTERCEPTORS

The designer shall size the interceptor using the Uniform Plumbing Code Grease Interceptor Sizing Worksheet. An example of the UPC Grease Interceptor Sizing Worksheet is attached in [Appendix A](#). The minimal allowable gravity grease interceptor size is 300 gallons.

HYDROMECHANICAL GREASE INTERCEPTOR

See [definition](#) of “Hydromechanical grease interceptorHydromechanical grease interceptor”

Hydromechanical grease interceptors are approved for installation by Southlake Public Works **only through the variance process** and under very limited conditions because of their minimal holding capacities, poor grease and oil separation capability and difficulty of cleaning. Applicants are encouraged to limit the proposal of a hydromechanical grease interceptors will only be considered on a case-by-case basis for locations that do minimal to no cooking on site, do not serve catered food (pre-packaged food may be acceptable), do not have a dishwasher or garbage disposal, and with the contingency that if conditions change (such as change in menu, the installation of additional kitchen fixtures or improper maintenance to the trap), a gravity grease interceptor may be required. A hydromechanical grease interceptor will not be approved if the applicant requires a dishwasher or garbage disposal; rather, the applicant will be required to install a gravity grease interceptor.

INSPECTION REQUIRED ITEMS

Required items upon installation of a hydromechanical grease interceptor will include:

- A properly sized flow restrictor and air relief valve must be permanently installed on the incoming plumbing to the hydromechanical grease interceptor. The restrictor maintains an acceptable flow of wastewater to the trap. The air valve aids in grease and oil removal. See the PDI-G 101 manual for more information at www.pdionline.org.
- All baffles must be in place inside the hydromechanical grease interceptor. The baffles serve to lengthen the flow path of the wastewater and to increase the time of separation while providing a non-turbulent environment for separation to take place.
- Dishwashers and garbage disposals are prohibited from connecting to hydromechanical grease interceptors and therefore flow directly to the wastewater service and mainline. Disconnect or minimize the use of garbage disposals.

A NOTE ON SELECTING A HYDROMECHANICAL GREASE INTERCEPTOR

Per the Plumbing and Drainage Institute document “Guide to Grease Interceptors, Eliminating the Mystery”, maintenance requirements for different interceptors and activity within the food establishment can vary greatly. However, PDI does calculate that “...it would be easily and correctly assumed that the interceptor must be **cleaned no less than once a week**. In fact, if the user must comply with a code which limits grease to **100 parts per million**, cleaning would be recommended **every 2 to 3 days**.”

Because the Public Works Department regulates per discharge limits at the facility (see the previous section, Fog Control Authority), the applicant will be required to maintain the interceptor so that wastewater discharge meets this code.

SIZING REQUIREMENTS FOR HYDROMECHANICAL GREASE INTERCEPTORS

The designer shall size the hydromechanical grease interceptor in accordance with the Plumbing and Drainage Institute G101 Document, or any subsequent document.

VARIANCES

Variations are given only with the approval of the City of Southlake Public Works. See **“Request for Variance”**, [Appendix C](#).

Variations to the above criteria shall be given only when the discharge from the user is in continuous compliance with the Wastewater Treatment Code, Section 12-5-702: Wastewater Discharge Prohibitions. A variance will be considered on a case-by-case basis for food service establishments that perform minimal to no cooking on-site, do not serve catered food, do not have a dishwasher, and do not have a garbage disposal. Only four (4) fixtures may be connected to a hydromechanical grease interceptor and typically include the 3-compartment sink, veggie prep sink, hand sink and mop sink. Dishwashers cannot connect to hydromechanical grease interceptors. Such an example may be a coffee shop.

A “Request for Variance” form (Appendix C) is required to be submitted to the City of Southlake Public Works Department stating what food related activities are planned at this address and identify the type and number of kitchen fixtures present. A menu must be included with this request. Before issuing a variance, the City of Southlake Public Works personnel may perform a site visit. Generally, exceptional physical constraint or economic hardship does not qualify for a variance. Upon issuance of a variance, the food service establishment is required to notify the City of Southlake Public Works Department in writing within 30 days of any substantial change in use, changes in food preparation methods, or additions to kitchen equipment that could change the nature of the wastewater discharge.

For information contact the City of Southlake Public Works Department at 817-748-8638 or visit the City of Southlake on the web at www.cityofsouthlake.com.

ADDITIONAL INTERCEPTOR SIZING CONSIDERATIONS

While the initial capital investment may be less with a smaller capacity interceptor, a food service establishment risks paying more in pumping costs should the interceptor be undersized. Consider the possibility of future menu changes, later building expansion, etc. Plan for the worst case scenario and invest in an interceptor that is slightly larger than the minimum size calculated.

ALTERNATIVE TECHNOLOGY

For any other considerations such as alternative grease removal technology, special approval and possible testing by an independent company and/or Southlake Public Works will be required by Water and Wastewater Engineering Standards before the installation can be approved.

MONITORING FACILITY REQUIREMENTS FOR HYDROMECHANICAL GREASE INTERCEPTORS AND GREASE INTERCEPTORS

A monitoring facility, or sample port, is required at the discharge of any food establishment for the purposes of determining compliance with the local limits.

The monitoring facility is required for all food establishments with a grease interceptor. The monitoring facility must be installed on the greasy waste line and may not be combined with other waste lines before the monitoring facility. **Under limited circumstances** shall a sample port be located inside a building or in an area that is not readily accessible at all times by municipal staff.

See “Commercial Waste Sampling Port Detail” in [Appendix B](#).

BEST MANAGEMENT PRACTICES FOR INTERCEPTORS

DESCRIPTION AND APPLICABILITY

All food service establishments with interceptors are highly encouraged to follow Best Management Practices to reduce interceptor pumping frequency. Best Management Practices are procedures and practices that reduce the discharge of FOG to the building drain system and to the Wastewater Treatment System. Best Management Practices can be implemented effectively in Food Service Establishments and private dwellings. Applying Best Management Practices over the long term should be a part of the “culture” of the facility, forming continuous habits among employees.

FOOD SERVICE ESTABLISHMENTS

See [definition](#) of “Food Service Establishment”

The following Best Management Practices are provided as guidance and recommendations to assist Food Service Establishments with development of procedures and/or practices to reduce the amount of FOG in their Wastewater discharge.

Because of the variety of food service establishments that generate FOG, every Best Management Practice described in this manual may not apply to every establishment. It is recommended that Food Service Establishment operators identify the FOG sources at their establishment and adopt Best Management Practices to fit the establishment’s needs. Operators are encouraged to contact the City of Southlake Public Works Department at 817-748-8638 for assistance with Best Management Practices.

GENERAL BEST MANAGEMENT PRACTICES

The following best management practices apply to all food service establishments:

- Continually educate kitchen staff to scrape, wipe or sweep off oil/grease and food debris using “dry” methods such as a scraper or disposable paper towel before washing any cooking or eating utensil. Wet methods wash the waste materials into drains where it collects on interior walls of drainage pipes.
- Use paper towels to wipe down work areas or soak up spills.

- Dispose of any spilled or waste food material into the trash; avoid using the sink as disposal.
- Eliminate the use of emulsifying additives in the interceptor. Although emulsifying agents may serve to keep your interior drain lines open, they simply transfer the oil and grease problem to the mainline.
- Non-emulsifying biological additives for interceptors are acceptable; however, even with the use of non-emulsifying biological additives, interceptors are required to be inspected monthly and cleaned as necessary.
- Pour all liquid oil and grease into a grease waste container where it can be recycled or disposed of properly. It can be a valued commodity.
- Capture oil and grease wastes from cleaning of mats and ventilation/exhaust hoods and dispose of properly. Never use the sink or outside drains to dispose of materials.
- Post “Protect the Environment” signs in the kitchen as a reminder to employees, available to download from www.cityofsouthlake.com.
- Use screens over drains to capture waste food materials.
- Disconnect or minimize the use of garbage disposals.

A SPECIAL NOTE ON ADDITIVES

Prior to using any non-emulsifying additive, a Material Safety Data Sheet (MSDS) is required to be submitted to the City of Southlake Public Works Department. The use of this product may or may not be authorized by the City of Southlake Public Works Department. Flushing an interceptor with hot water or the use of chemicals or other agents to dissolve or emulsify grease and allow it to flow into the wastewater treatment system is a violation of City Code.

MAINTENANCE AND RECORDKEEPING

The owner and/or lessee shall be jointly and severally responsible for efficient cleaning and maintenance of the hydromechanical grease interceptor or gravity grease interceptor. Both the hydromechanical grease interceptor and gravity grease interceptor are required to be completely cleaned when oil/grease and solids occupy 25 % of the holding capacity. Hydromechanical grease interceptors must be inspected each day of operation and gravity grease interceptors must be inspected monthly.

During each inspection of an interceptor, it is recommended that users document measurement of the grease layer in inches in both compartments by pushing a garden hoe through the grease layer, or taking a core sample with a “sludge judge”. Confirm that the “Tee” at least on the outlet pipe to the wastewater mainline is intact to assure proper operation.

Maintenance records shall be kept on site for at least three (3) years. Industrial Pretreatment or other authorized personnel may perform unannounced inspections to verify compliance.

BMP'S SPECIFIC TO INDUSTRIES WITH HYDROMECHANICAL GREASE INTERCEPTORS

See [definition](#) of "Hydromechanical grease interceptor"

GENERAL MAINTENANCE

- Inspect the hydromechanical grease interceptor each day of operation, or more often as necessary. Hydromechanical grease interceptors are required to be completely cleaned when floatable particles and solids occupy 25% of the holding capacity of the trap.
- Keep a maintenance log on site of trap cleanings and inspections. On the maintenance log record who cleaned the hydromechanical grease interceptor, what day, approximate amount of floatable particles and solids removed, and how the floatable particles and solids was disposed.
- Do not discharge wastewater above 110 degrees Fahrenheit to the hydromechanical grease interceptor. Water above 110 degrees melts grease in the trap and puts the grease back into suspension and potentially allowing the grease to by-pass the interceptor.
- Never connect a dishwashing machine to a hydromechanical grease interceptor. A food service business wishing to use a dishwashing machine must connect to a gravity grease interceptor.
- In order to ensure the pumping contractor properly cleans and pumps your gravity grease interceptor, it is recommended someone familiar with the proper cleaning methods supervises or oversees your contractors pumping activities. See Appendix E, Proper Pumping Procedures.

CLEANING REQUIREMENTS

Cleaning may be performed by an employee or a permitted liquid waste hauler. If cleaned by an employee, special handling practices must be adhered to.

- Use a wet/dry vacuum designated for this purpose to vacuum out the contents of the hydromechanical grease interceptor.
- Pour the waste into large (5-10 gallon) disposable buckets. Kitty litter, floor dry, or wood chips may be combined with the waste for liquid absorption.
- Once a bucket is full, securely seal the lid on the bucket and have the waste picked up by liquid waste hauler. A manifest for the disposal of the material is required and must be made available for inspection.
- Hydromechanical grease interceptors should be cleaned after hours because the smell can permeate the business. Be sure to use rubber gloves and a face shield to avoid direct contact with the waste.
- Keep a maintenance log on site of gravity grease interceptor cleanings and inspections. On the maintenance log record who cleaned the gravity grease interceptor, what day, approximate amount of floatable particles and solids removed and how the floatable particles and solids was disposed. Copies of these maintenance logs must be retained on site.

BMP'S SPECIFIC TO INDUSTRIES WITH GRAVITY GREASE INTERCEPTORS

See [definition](#) of "Gravity Grease Interceptor"

GENERAL MAINTENANCE

All gravity grease interceptors must be cleaned by a liquid waste hauler registered with the City of Southlake.

- Clean the gravity grease interceptor based on the "25% Rule". Based on gravity grease interceptor manufacturer standards, a gravity grease interceptor's performance severely declines once the accumulation of floatable FOG material and settled solids total 25% of the total liquid depth of the gravity grease interceptor.
- Keep a maintenance log on site of gravity grease interceptor cleanings and inspections. On the maintenance log record who cleaned the gravity grease interceptor, what day, approximate amount of floatable particles and solids removed and how the floatable particles and solids was disposed. Copies of these maintenance logs must be retained on site.
- In order to ensure the pumping contractor properly cleans and pumps your gravity grease interceptor, it is recommended someone familiar with the proper cleaning methods supervises or oversees your contractors pumping activities.
- The gravity grease interceptor shall be left empty upon completion of pumping; no liquids can be reintroduced back into the gravity grease interceptor by the pumping contractor.
- Accessibility to the gravity grease interceptor must be maintained. The lids to the gravity grease interceptor must not be covered by landscaping, paving, or other materials.

CLEANING REQUIREMENTS FOR EXTERIOR GRAVITY GREASE INTERCEPTORS

Cleaning must be performed by a liquid waste hauler possessing a permit for liquid waste hauling, issued by the City of Southlake. Both vaults of a grease interceptor shall be left completely empty upon completion of the pumping operation. The grease mat, liquids, sludge, and scrapings from the interior walls must be removed. Under no circumstances, may the liquid waste hauler reintroduce the removed water or materials back into the grease interceptor. Flushing an interceptor with hot water or the use of chemicals or other agents to dissolve or emulsify grease and allow it to flow into the wastewater treatment system is a violation of the City Code and causes grease accumulation problems in the long-term.

MUNICIPAL INSPECTIONS AND MONITORING OF FACILITIES

The city will conduct periodic inspections of a facility to determine maintenance, activities that may contribute higher FOG content, and compliance with discharge limits.

During the inspections, staff will enter the premises and make observations of the employee kitchen practices and take an inventory of plumbing fixtures.

Any hydromechanical grease interceptor or gravity grease interceptor are inspected for proper maintenance. The inspection of the interceptor will include opening the interceptor to determine the "grease blanket" and performance of the trap. Inspections will include determining the grease layer in inches in both compartments by

pushing a garden hoe through the grease layer, or taking a core sample with a “sludge judge”. Some inspections may require that a liquid waste hauler empty the trap for further inspection of the equipment.

If determined necessary the city may draw a sample of wastewater from the sample port and analyze the waste water for oil and grease. The sample cost will be charged to the customer. Cost is determined by the laboratory plus a sampling fee. Results of the sample will be reported back to the facility as soon as possible.

MUNICIPAL ENFORCEMENT PROCEDURES

This section provides a general outline of enforcement procedures that apply to food service establishments that fail to comply with the requirements in City Code, Chapter 9.5, Article III (Industrial Wastewater) and Chapter 19, Article V (Liquid Waste; Generation, Transportation, and Disposal) which provides the legal authority for the specific provisions of this manual.

WASTEWATER BLOCKAGE AND OVERFLOW INVESTIGATION

Heavy FOG deposits in the wastewater mainline encountered by waste water maintenance crews or customer complaints of a sewage back-up or overflow most often initiate enforcement activities by Southlake Public Works. Enforcement activities often commence with investigations of blockages and overflows of the Wastewater Treatment System through on-site inspection of food service establishments and closed-circuit television inspection of any wastewater mainline. The on-site inspections are performed to identify which food service establishments upstream of the FOG blockage may have contributed to the blockage. During the inspections, observations are made of the employee kitchen practices and an inventory of plumbing fixtures is taken. Additionally, any hydromechanical grease interceptor or gravity grease interceptor are inspected for proper maintenance. The closed-circuit television inspections are performed to check the condition of the wastewater mainline to determine if it may have contributed to the blockage or overflow, and to seek visual evidence of FOG waste accumulation between the site of the blockage or overflow and upstream food service establishments. If significant FOG accumulation is observed in the service line of an upstream food service establishment, that establishment may be identified as causing or contributing to the downstream blockage or overflow.

ENFORCEMENT RESPONSE

The City Code provides a range of enforcement responses that can be applied to food service establishments, including the enforcement authorized by City Code, Chapter 9.5, Article III (Industrial Wastewater) and Chapter 19, Article V (Liquid Waste; Generation, Transportation, and Disposal). The enforcement remedies may be used individually, sequentially, concurrently, or in any order.

APPENDIX A: GREASE INTERCEPTOR SIZING WORKSHEET

Company		Calculated by		Date	
Project		Location		Permit Number	
Follow the six steps below to determine grease interceptor size. Enter calculations here.					
No of Meals per Peak Hours	Waste Flow Rate	Retention Time	Storage Factor	Calculated Interceptor Size	Grease Interceptor
<div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;"></div>
Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
1	Number of Meals per Peak Hour (Recommended Formula): Seating Capacity Meal Factor Meals per Peak Hour <div style="display: flex; align-items: center; justify-content: center; gap: 10px;"> <div style="border: 1px solid black; width: 40px; height: 25px;"></div> x <div style="border: 1px solid black; width: 40px; height: 25px;"></div> = <div style="border: 1px solid black; width: 40px; height: 25px;"></div> </div>			Notes: 	
	Establishment Type: Fast Food (45 min) 1.33 Restaurant (60 min) 1.00 Leisure Dining (90 min) 0.67 Dinner Club (120 min) 0.50				
2	Waste Flow Rate: Condition Flow Rate With a Dishwashing Machine 6 gallons Without a Dishwashing Machine 5 gallons Single Service Kitchen 2 gallons Food Waste Disposer Only 1 gallon			Notes: 	
3	Retention Time Commercial Kitchen Waste 2.5 hours Single Service Kitchen 1.5 hours			Notes: 	
4	Storage Factor Kitchen Type Storage Factor Fully Equipped Commercial Hours of Operation 8 hours 1.00 12 hours 1.50 16 hours 2.00 24 hours 3.00 Single Service 1.50			Notes: 	
5	Calculated Liquid Capacity Multiply the values obtained from step 1, 2, 3, and 4. The result is the approximate grease interceptor size for this application.			Notes: 	
6	Select Grease Interceptor Using the approximate required liquid capacity from step 5, select an appropriate size as recommended by the manufacturer.			Notes: 	

APPENDIX B, SAMPLE PORT DESIGN

- The sample port will be installed immediately following the grease removal device and prior to the confluence of the greasy waste line with other sanitary sewer waste.
- The floor of well shall not be below the flow grade line.
- Opening of the well must be no less than 10" diameter from ground level to water level.
- The lid must be traffic rated if located in traffic area.
- Must not be located in any storage area or an area that will prevent readily available access.
- The sample well may not be located inside the building unless prior approval has been granted by the Public Works Department.

APPENDIX C, VARIANCE REQUEST FOR GREASE INTERCEPTOR

Company		Prepared by		Date	
Project		Location		Permit Number	

Description of the business, type of food products to be prepared in the facility, and expected sales amounts.

Will this facility have a dishwashing machine? _____

Will this facility have a garbage disposal unit? _____

Number of fixtures that will be connected to the grease interceptor. _____
 (Please refer to the plumbing code for a comprehensive list of fixtures that must be connected to the grease interceptor.)

Reason for the request. At a minimum, provide the rational and calculations for the proposed size. You may attach additional supporting documents.

Reduce the gravity grease interceptor from the size calculated using worksheet.

Proposed size	Rational for proposed size. Provide calculation.

Install a hydromechanical grease interceptor in lieu of a gravity grease interceptor. *NOTE* Hydromechanical grease interceptors must be inspected by personnel at the end of each day of operation and, on average, must be maintained on a once to twice a month schedule, if not more frequent, to meet the discharge limits.

Proposed size	Rational for proposed size. Provide calculation.

“I certify that the above information is accurate at the time of this variance request. I understand that the interceptor is designed to remove fats, oils and grease from the wastewater stream in order to prevent discharges that exceed the local limits set by City Code. I understand that the Public Works Department may impose stricter requirements if this facility exceeds local limits, including revoking the issuance of this variance.

 Name Signature Date

Variance Size Approved: _____ Disapproved: _____

Notes regarding decision: _____

Date: _____ Staff Signature: _____