



Fats, Oil and Grease (FOG) Best Management Practices (BMP) Manual

FOG can have negative impacts on wastewater collection and treatment systems. Most wastewater collection system blockages can be traced to FOG. Wastewater collection system blockages are serious, causing sewage spills, manhole overflows, sewage backups in homes and businesses, or additional maintenance costs for the Publicly Owned Treatment Works (POTW).

Food Service Establishments (FSE) commonly discharge animal and vegetable-based FOG (polar concentrations) to the wastewater collection system.

This manual is written to provide Pretreatment staff along with FSE business managers and owners with information about animal and vegetable-based FOG pollution prevention techniques focused on their businesses, effective in both reducing maintenance costs for business owners, and preventing FOG discharges to the sewer system.

Many of the nation's FSE participate in FOG recycling programs. Ensuring that Grease Removal Devices (GRD) such as grease traps and grease interceptors are properly installed and most importantly, properly maintained is more difficult.

This manual focuses on proper maintenance of grease traps and interceptors.

Manual contents include:

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www.cityofrockhill.com/fog

Knowledgeable POTW staff, working with business owners and staff can effectively prevent FOG buildup, and other associated problems, for both the POTW and the FSE owner. Visit our website for more information including the City's FOG Ordinance and FOG Policy.

FREQUENTLY ASKED QUESTIONS ABOUT FOG



Is grease a problem?

In the sewage collection and treatment business, the answer is an emphatic “YES!” Grease is singled out for special attention because of its poor solubility in water and its tendency to separate from the liquid solution.

Large amounts of oil and grease in the wastewater cause trouble in the collection system pipes. It decreases pipe capacity and, therefore, requires that piping systems be cleaned more often and/or some piping to be replaced sooner than otherwise expected. Oil and grease also hamper effective treatment at the wastewater treatment plant.

Grease in a warm liquid may not appear harmful. But, as the liquid cools, the grease or fat congeals and causes nauseous mats on the surface of settling tanks, digesters, and the interior of pipes and other surfaces which may cause a shutdown of wastewater treatment units.

Problems caused by wastes from restaurants and other grease-producing establishments have served as the basis for ordinances and regulations governing the discharge of grease materials to the sanitary sewer system. This type of waste has forced the requirement of Grease Removal Device (GRD) installation commonly known as grease traps or interceptors.

What is a grease trap and how does it work?

A trap is a small reservoir built into the wastewater piping a short distance from the grease producing area. Baffles in the reservoir retain the wastewater long enough for the grease to congeal and rise to the surface. The grease can then be removed and disposed of properly. Grease Traps shall be inspected and maintained by FSE staff on a weekly basis until sufficient data logs of the inspections indicate a lower frequency is warranted. See *How Grease Traps and Interceptors Work* for a description of how the various components of a grease trap function.

What is a grease interceptor?

An interceptor is a vault that is usually located on the exterior of the building. The vault includes a minimum of two compartments, and flow between each compartment is through a 90-degree fitting designed for grease retention. The capacity of the interceptor provides adequate retention time so that the wastewater has time to cool, allowing any remaining grease not collected by the traps time to congeal and rise to the surface where it accumulates until the interceptor is cleaned. See *How Grease Traps and Interceptors Work* for a description of how the various components of a grease interceptor function.

How do I clean my GRD?

Grease Traps shall be inspected and cleaned by FSE staff on a weekly basis until sufficient data logs of the inspections indicate a lower frequency is warranted. Grease Interceptors shall be pumped on a monthly frequency by Registered Grease Waste Haulers. Refer to *Maintenance of Grease Traps and Interceptors & FOG Registered Haulers*.

Can you recommend a grease interceptor maintenance schedule?

Each FSE shall have its grease interceptor(s) pumped at a minimum frequency of once every 30 days. In addition to required monthly pumping, each FSE shall determine an additional frequency at which its grease interceptor(s) shall be pumped according to the following criteria:

1. When the floatable grease layer exceeds six inches in depth as measured by an approved dipping method, or;
2. When the settleable solids layer exceeds eight inches in depth as measured by an approved dipping method, or;
3. When the total volume of captured grease and solid material displaces more than 25 percent of the capacity of the interceptor as calculated using an approved dipping method, or;
4. When the interceptor is not retaining/capturing FOG.

Variance procedure: If a FSE determines that monthly pumping of their grease interceptor is unnecessary in order to remain in compliance, the facility may make written application to the City for a variance from the monthly pumping requirements. Variances that are granted may not exceed a six month pumping frequency.

If an FSE believes the GRD needs to be pumped too often to remain in compliance, the owner should consider installing a larger GRD.

Do I have a grease trap?

If the establishment is uncertain whether it has a grease trap, the owner should contact the Grease Management Program (GMP) Official.

Do I need a Grease Removal Device (GRD)?

Any establishment that introduces grease or oil into the drainage and sewage system in quantities large enough to cause line blockages or hinder sewage treatment is required to install a 1000 gallon minimum GRD. Interceptors are usually required for high volume restaurants (full menu establishments operating 16 hours per day and/or serving 100+ meals per day) and large commercial establishments such as hotels, hospitals, factories, or school kitchens. Smaller volume grease interceptors or grease traps are required for small volume (fast food or take-out restaurants with limited menus, minimal dishwashing, and/or minimal seating capacity) and medium volume (full menu establishments operating 8 to 16 hours per day and/or serving less than 100 meals per day) establishments.

Is the grease trap I have adequate?

The minimum size of grease traps shall be based on the maximum rate of flow of all fixtures discharging into the grease trap multiplied by a retention factor of 1.5 minutes. No grease trap shall be installed with an approved rate of flow less than 20 gallons per minute or a retention capacity of less than 40 lbs. No garbage disposal or dishwasher shall be connected to or discharged into any grease trap. The following table provides criteria for sizing grease traps:

RECOMMENDED RATINGS FOR COMMERCIAL GREASE TRAPS			
"Under-the-Counter" Package Units Grease Traps			
<u>Type of Fixture</u>	<u>Flow Rate</u> gpm	<u>Grease Retention Capacity Rating</u> lb	<u>Capacity Per Fixture Connected to Trap</u> gal
Restaurant Kitchen Sink	15	30	50
Single-compartment Scullery Sink	20	40	50
Double-compartment Scullery Sink	25	50	62.5
2 Single-compartment Sinks	25	50	62.5
3 compartment Sinks	40	70	75
2 Double-compartment Sinks	40	70	87.5
Floor Drain	15	30	50

Each grease trap shall be so installed and connected that it will be readily accessible for cleaning and inspection at all times. Grease traps shall be constructed of durable materials satisfactory to the GMP Official and shall have a full size gas tight cover, which can be readily removed. Each grease trap shall have a water seal of not less than 2" in depth or the diameter of its outlet, whichever is greater. No single in-line grease trap shall serve more than two separate fixtures. Grease traps shall be installed and vented in accordance with the International Plumbing Code.

The GRD size will help dictate the maintenance schedule. If a grease trap or interceptor is not maintained regularly it will not provide the necessary grease removal. Running extremely hot water down the drain only moves the problem downstream and is **illegal!** It does not go away. Catch the grease at the source! This is the most economical means to reduce all costs.

What if I don't install a grease trap?

If the FSE uses grease and oil in food preparation, it will eventually encounter a maintenance problem with a plugged building sewer line. The blockage can create a sewer backup situation and ultimately a potential health problem in the FSE. Someone will have to pay for removing the blockage. If the problem is in the building sewer line, then the FSE has direct responsibility for paying for the maintenance. If the blockage or restriction is in the public sewer main and it can be proven that the FSE is the cause of the blockage, then the FSE may have to pay for the public sewer to be maintained. Blocking a sanitary sewer line is also a violation of the federal **Clean Water Act**.

Who determines if I need a grease trap or interceptor?

The Grease Management Program (GMP) Official will aid in determining the necessity of GRD installation. Those establishments primarily engaged in activities of preparing, serving, or otherwise making available for consumption foodstuffs, and that use one or more of the following preparation activities: cooking by frying, baking, grilling, sautéing, rotisserie cooking, broiling (all methods), boiling, blanching, roasting, toasting, or poaching. Also included are infrared heating, searing, barbecuing, and any other food preparation activity that produces a hot, non-drinkable food product in or on a receptacle that requires washing. Those establishments that engage in the preparation of precooked and frozen food materials and meat cutting preparation and applicable to all "Food Service Establishments" that discharge wastewater containing grease to the City of Rock Hill Sanitary Sewer System including but not limited to the following: restaurants, grocery stores, meat markets, hotels, factory and office building cafeterias, public and private schools, hospitals, nursing homes, commercial day care centers, churches, and catering services.

The rules of the Health Department will also assist the establishment in determining if a grease trap or interceptor is required. All administrative authorities prohibit the discharge of materials that can solidify and create blockages in the wastewater collection system or treatment plants. The Health Department makes periodic inspections to see that no health problems exist due to improperly maintained grease interceptors. These rules will be enforced if a problem exists.

How can I get in compliance?

All FSE shall be required to apply for and obtain a "Grease Discharge Permit" (GDP) from the City. The GDP shall be in addition to any other permits, registrations, or occupational licenses which may be required by federal, state, or local law. It shall be a violation of the City of Rock Hill's FOG Control Policy for any FSE identified by the City to discharge wastewater containing fats, oils, and grease to the City's wastewater collection system without a current GDP. Establishments whose grease removal device (GRD) is not in accordance with the FOG Policy shall be given a compliance schedule with a deadline not to exceed six (6) months from initial notification date to bring this equipment into compliance or install adequate equipment approved by the City. A Grease Discharge Permit is required regardless of whether the establishment has an existing trap or is installing a new one.

What are the criteria for inspecting grease traps?

Grease Traps shall be inspected and maintained by FSE staff on a weekly basis until sufficient data logs of the inspections indicate a lower frequency is warranted. Grease Traps are in non-compliance when the total volume of captured grease and solid material displaces more than 25 percent of the capacity or when the Trap is not working properly due to maintenance or mechanical issues. All FSE suspected of causing problems to the collection system or treatment facilities will be inspected. If the trap is in poor condition, the FSE will be issued a compliance order to have it cleaned immediately. The FSE will then be required to contact the issuing authority within 30 days to verify that the Grease Trap has been properly cleaned.

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

Best Management Practices (BMP)

Municipal pretreatment staff and food service industry workers have teamed up to develop BMP that, when implemented, will minimize the adverse impacts of FOG. This chapter summarizes these BMP, and other important information, including the reason for BMP, the benefit of BMP to the FSE, and inspection tips for Pretreatment staff to determine if the BMP are being implemented. Fats, Oil, and Grease can be a BIG problem and the solution starts with you.

Prevent Blockages in the Sanitary Sewer System

BMP	Reason For	Benefits to Food Service Establishment	Pretreatment Inspection Tips
Train kitchen staff and other employees about how they can help ensure BMP are implemented.	People are more willing to support an effort if they understand the basis for it.	All of the subsequent benefits of BMP will have a better chance of being implemented.	Talk to the establishment manager about the training program that he/she has implemented.
Post "No Grease" signs above sinks and on the front of dishwashers.	Signs serve as a constant reminder for staff working in kitchens.	These reminders will help minimize grease discharge to the traps and interceptors and reduce the cost of cleaning and disposal.	Check appropriate locations of "No Grease" signs.
Use water temperatures less than 140° F in all sinks, especially the pre-rinse sink before the mechanical dishwasher.	Temperatures in excess of 140° F will dissolve grease, but the grease can re-congeal or solidify in the sanitary sewer collection system as the water cools.	The food service establishment will reduce its costs for the energy – gas or electric – for heating the water.	Check boiler or hot water heater discharge temperature. Measure the temperature of the hot water being discharged from the closest sink.
Use a three-sink dishwashing system, which includes sinks for washing, rinsing, and sanitizing in a 50-100 ppm bleach solution. Water temperatures are less than 140° F. (See above)	The three-sink system uses water temperatures less than 140° F. Note: The International Plumbing Code (IPC) prohibits dishwasher discharge to traps.	The FSE will reduce its costs for the energy - gas or electric - for heating the water for the mechanical dishwasher and for operating the dishwasher.	Measure temperature of the hot water at the three-sink system.

Prevent Blockages in the Sanitary Sewer System (cont.)

BMP	Reason For	Benefits to Food Service Establishment	Pretreatment Inspection Tips
Recycle waste cooking oil.	There are licensed waste cooking oil recyclers throughout SC. This is a cost recovery opportunity.	The FSE will be paid for the waste material and will reduce the amount of garbage it must pay to have hauled away.	Obtain name of recycler used. Review recycling records. Confirm records with recycler.
"Dry wipe" pots, pans, and dishware prior to dishwashing.	The grease and food that remains in pots, pans, and dishware will likely go to the landfill. By "dry wiping" and disposing in garbage receptacles, the material will not be sent to the grease removal device(s).	This will reduce the amount of material going to grease removal device(s), which will require less frequent cleaning, reducing maintenance costs.	Observe dishwashing practices.
Dispose of food waste by recycling and/or solid waste removal.	Some recyclers will take food waste for animal feed. In the absence of such recyclers, the food waste can be disposed as solid waste in landfills by solid waste haulers.	Recycling of food wastes will reduce the cost of solid waste disposal. Solid waste disposal of food waste will reduce the frequency and cost of grease trap and interceptor cleaning.	Inspect grease traps and interceptors for food waste accumulation. Confirm the recycler or solid waste removal company with the establishment manager.

Properly Maintain GRD to Prevent FOG Introduction into the Sanitary Sewer System

BMP	Reason For	Benefits to Food Service Establishment	Pretreatment Inspection Tips
Clean grease interceptors routinely.	Grease interceptors must be cleaned routinely to ensure that grease accumulation does not cause the interceptor to operate poorly. The cleaning frequency is a function of the type of establishment, the size of the interceptor, and the volume of flow discharged by the establishment.	Routine cleaning will prevent plugging of the sewer line between the food service establishment and the sanitary sewer system. If the line plugs, the sewer line may back up into the establishment, and the business will need to hire someone to unplug it.	Interceptor should have no more than 6 inches depth as grease, and , Interceptor should have no more than 8 inches depth as sediment/ solids, and No more than 25% of the depth should be a combination of grease (top) and sediment (bottom).

Properly Maintain GRD to Prevent FOG Introduction into the Sanitary Sewer System (cont.)

BMP	Reason For	Benefits to Food Service Establishment	Pretreatment Inspection Tips
<p>Witness all grease trap or interceptor cleaning/maintenance activities to ensure the device is properly operating.</p>	<p>Grease trap/interceptor pumpers may take shortcuts. If the establishment manager inspects the cleaning operation and ensures it is consistent with the procedures in the section on <i>Grease Trap and Interceptor Maintenance</i> they are more assured of getting full value for their money.</p>	<p>The establishment will ensure it is getting value for the cost of cleaning the grease trap or interceptor. Otherwise the establishment may be paying for cleaning more often than necessary.</p>	<p>None.</p>
<p>Clean under-sink grease traps weekly.</p> <p>If grease traps are more than 25% full of solids and grease when cleaned weekly, the cleaning frequency needs to be increased.</p>	<p>Under-sink grease traps have less volume than grease interceptors.</p> <p>Weekly cleaning of under-sink grease traps by the establishment's own properly trained maintenance staff will save on the cost of paying a hauler to clean the grease trap.</p> <p>If the establishment does not have a grease interceptor, the under-sink grease trap is the only means of preventing grease from entering the sanitary sewer system. If the grease trap is not providing adequate protection, the City of Rock Hill may require installation of a grease interceptor.</p>	<p>This will allow the establishment to stay in compliance with the City of Rock Hill's Sewer Use Ordinance.</p> <p>This also prevents excessive plumbing costs due to drain blockages, etc.</p>	<p>Visually inspect the contents of the under-sink grease trap.</p> <p>Inspect cleaning records.</p>
<p>Keep a <i>maintenance log</i>.</p>	<p>The maintenance log serves as a record of the frequency and volume of cleaning the interceptor. It is required by the Grease Mgmt. Program to ensure that grease trap/interceptor maintenance is performed on a regular basis.</p>	<p>The maintenance log serves as a record of cleaning frequency and can help the establishment manager optimize cleaning frequency to reduce cost.</p>	<p>Inspect maintenance log.</p> <p>Provide the establishment with a sample maintenance log if it does not have one.</p> <p>Confirm the maintenance log with the grease hauler identified.</p>

Prevent Fats, Oil, and Grease From Entering Creeks and Streams Through the Storm Drain System

BMP	Reason For	Benefits to Food Service Establishment	Pretreatment Inspection Tips
<p>Cover outdoor grease and oil storage containers.</p> <p>Some local jurisdictions will have BMP's in place for storm water also.</p>	<p>Uncovered grease and oil storage containers can collect rainwater. Since grease and oil float, the rainwater can cause an overflow onto the ground. Such an overflow will eventually reach the storm water system and nearby streams.</p>	<p>The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams by adding biological and chemical oxygen demand to the stream. Discharge of grease and oil to the storm drain might also result in legal penalties or fines.</p>	<p>Observe storage area for signs of oil and grease.</p> <p>Inspect containers for covers.</p> <p>Remove covers to ensure containers have not overflowed and do not have excess water.</p>
<p>Locate grease dumpsters and storage containers away from storm drain catch basins.</p>	<p>The farther away from the catch basin, the more time someone has to clean up spills or drainage prior to entering the storm drain system.</p> <p>Be aware of oil and grease dripped on the ground while carrying waste to the dumpster, as well as oil and grease that may "ooze" from the dumpster.</p>	<p>The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams by adding biological and chemical oxygen demand to the stream. Discharge of grease and oil to the storm drain might also result in legal penalties or fines.</p>	<p>Observe storage area for signs of oil and grease.</p> <p>Inspect the closest catch basin for signs of accumulated grease and oil.</p>
<p>Use absorbent pads or other material in the storm drain catch basins if grease dumpsters and containers must be located nearby.</p> <p>Do not use free flowing absorbent materials such as "kitty litter" or sawdust.</p>	<p>Absorbent pads and other materials can serve as an effective barrier to grease and oil entering the storm drain system.</p>	<p>The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams by adding biological and chemical oxygen demand to the stream. Discharge of grease and oil to the storm drain might also result in legal penalties or fines.</p>	<p>Check the nearest catch basin and drainage paths for signs of grease and oil.</p> <p>Require absorbent pads if the basin is within 20 feet of grease dumpsters or containers, or if there are signs of grease in the catch basin at any distance.</p> <p>Do not permit the use of free flowing absorbent material such as "kitty litter."</p>
<p>Use absorbent pads or other material to clean up spilled material around outdoor equipment, containers or dumpsters.</p> <p>Do not use free flowing absorbent materials such as "kitty litter" or sawdust that can be discharges to the storm drain system.</p>	<p>Absorbent pads or materials can help clean up grease and oil that is spilled on the ground and prevent it from flowing to the storm drain system.</p>	<p>The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams by adding biological and chemical oxygen demand to the stream. Discharge of grease and oil to the storm drain might also result in legal penalties or fines.</p>	<p>If grease and oil are observed on the ground in the storage area, recommend the use of absorbents to minimize movement of the grease and oil.</p> <p>Do not permit the use of free flowing absorbent material such as "kitty litter."</p>
<p>Routinely clean kitchen exhaust system filters.</p>	<p>If grease and oil escape through the kitchen exhaust system, it can accumulate on the roof of the establishment and eventually enter the storm drain system when it rains.</p>	<p>The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams by adding biological and chemical oxygen demand to the stream. Discharge of grease and oil to the storm drain might also result in legal penalties or fines.</p>	<p>Inspect roof (if safely accessible) for signs of oil and grease.</p> <p>Require a maintenance schedule and records for cleaning exhaust filters. Cleaning is usually by washing, which will discharge the grease to the interceptor where it can be controlled.</p>

Prohibition Relating to Discharge of FOG



Prohibitions	Basis
Do not discharge fats, oil, and grease in concentrations that will cause an obstruction to the flow in a sewer, or pass through or cause interference at a wastewater treatment facility.	Grease can solidify and trap other solid particles to completely plug the wastewater collection system.
Do not discharge grease, improperly shredded garbage, animal guts or tissues, paunch manure, bones, hide, hair, fleshings, or entrails.	These materials in combination or alone can cause blockages and other operations and maintenance problems in the wastewater collection and treatment system.
Do not discharge wastewater with temperatures in excess of 140° F to any grease traps. This includes water from mechanical dishwashers that have a minimum required temperature of 160° F.	Temperatures in excess of 140° F will dissolve grease, but the grease can re-congeal and cause blockages further downstream in the sanitary sewer collection system as the water cools.
Note: High temperature water, such as from a dishwasher, is discharged to the remotely-located grease interceptor, if there is one. The remote location and the high volume of the interceptor allows the water time to cool so that there is not a problem with dissolving grease and moving it further downstream. The high volume also provides dilution of the detergents in the dishwasher waste.	
Do not discharge waste from a food waste disposal unit to any grease trap.	The food waste will greatly reduce the capacity of the grease trap for retaining grease and can cause worse problems with blockages.
Do not discharge caustics, acids, solvents, or other emulsifying agents.	Though emulsifying agents can dissolve solidified grease, the grease can re-congeal further downstream in the sanitary sewer collection system. Caustics, acids, and solvents can have other harmful effects on the wastewater treatment system and can be hazardous to those working in the wastewater collection system.
Do not discharge fats, wax, grease or oil containing substances that will become viscous between 32° F (0°C) and 150°F (65°C).	The temperatures shown are temperatures that can occur in the wastewater collection and treatment system. If these substances congeal, solidify, or become too viscous, they can cause blockages and other operations and maintenance problems.
Do not utilize biological agents for grease remediation without permission from the sewerage agency receiving the waste.	The biological agents may disrupt the biological treatment process at the wastewater treatment plant.
Do not clean equipment outdoors in an area where water can flow to the gutter, storm drain, or street.	Grease and dirt will be washed off the equipment and enter the storm drain system and flow to nearby streams.

Grease Trap and Interceptor Maintenance

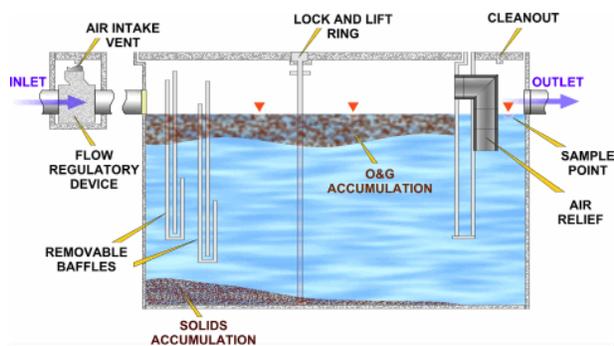
All Grease Removal Devices (GRD) used by food service establishments must be cleaned on a regular basis to ensure that they work properly. Routine cleaning and maintenance of GRD can improve their efficiency and effectiveness.

Grease trap maintenance is usually performed by maintenance staff, or other employees. Grease interceptor maintenance, which is usually performed by Registered Haulers or recyclers (See *Fats, Oil, and Grease Haulers and Recyclers*), consists of removing the entire volume (liquids and solids) from the grease interceptor and properly disposing of the material in accordance with all Federal, State, and/or local laws. When performed properly and at the appropriate frequency, grease interceptor and trap maintenance can greatly reduce the discharge of FOG into the wastewater collection system.

The required maintenance frequency for grease interceptors and traps depends greatly on the amount of FOG a facility generates as well as any BMP implemented to reduce the FOG discharged into the sanitary sewer system. In many cases, an FSE that implements BMP will realize financial benefit through a reduction in their required grease interceptor and trap maintenance frequency. Refer to *Best Management Practices* for examples of BMPs that FOG generating establishments should implement.

Grease Trap Maintenance

A proper maintenance procedure for a grease trap is outlined below:



WARNING!

Do not use enzymes, acids, caustics, solvents or emulsifying products when cleaning or maintaining the grease traps!

STEP	ACTION
1.	Consult grease trap manufacturer's manual for cleaning procedures.
2.	Remove lid. If the trap is equipped with removable baffles, remove them.
3.	Make sure the flow restrictor on the inflow pipe is present.
4.	Scoop the accumulated top grease layer out of the trap and deposit in a tight-sealing container for proper disposal.
5.	Bail out water in the trap to facilitate cleaning solids from the bottom. Set water aside so you can return it to the trap after cleaning. <u>Note: grease haulers can remove the entire content of the trap using their vacuum system.</u>
6.	Remove all the solids from the bottom of the trap, drain liquids from solids and properly dispose of them.
7.	Scrape the sides, the lid, and the baffles with a putty knife to remove the grease, and deposit the grease into the same container used for the grease layer.
8.	Replace lid and baffles.
9.	Reuse gasket or replace gasket if needed.
10.	Return (or fill) water to grease trap.
11.	Record grease trap maintenance activities on your log or request a receipt from your grease hauler. Keep records on site for 3 years. Make them available whenever requested by our inspectors.

Grease Interceptor Maintenance

Each FSE shall be responsible for the costs of installing, inspecting, pumping, cleaning, and maintaining its grease interceptor. All FSE that have grease interceptors shall utilize a grease hauler who has been permitted by the City of Rock Hill for pumping services. Pumping services shall include the initial complete removal of all contents, including floating materials, wastewater, and bottom sludges and solids from the interceptor.

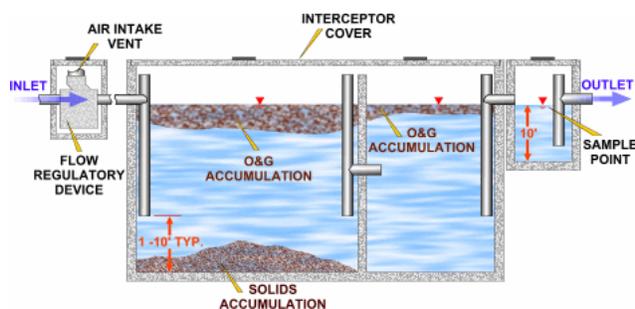
Interceptor pumping frequency: Each FSE shall have its grease interceptor(s) pumped at a minimum frequency of once every 30 days. In addition to required monthly pumping, each FSE shall determine an additional frequency at which its grease interceptor(s) shall be pumped according to the following criteria:

1. When the floatable grease layer exceeds six inches in depth as measured by an approved dipping method, or;
2. When the settleable solids layer exceeds eight inches in depth as measured by an approved dipping method, or;
3. When the total volume of captured grease and solid material displaces more than 25 percent of the capacity of the interceptor as calculated using an approved dipping method, or;
4. When the interceptor is not retaining/capturing oils and greases.

Variance procedure: If a FSE determines that monthly pumping of their grease interceptor is unnecessary in order to remain in compliance, the facility may make written application to the City for a variance from the monthly pumping requirements. Variances that are granted may not exceed a six month pumping frequency.

If FSE believe the GRD needs to be pumped too often to remain in compliance, the owner should consider installing a larger GRD.

A proper maintenance procedure for a grease interceptor is outlined below:



NOTE:

Since the establishment is liable for the condition of their pretreatment devices, the establishment owners/representatives should witness all cleaning/maintenance activities to verify that the interceptor is being fully cleaned and properly maintained.

STEP	ACTION
1.	Record reading using appropriate dipping method (sludge judge reading, etc.).
2.	Skim the entire grease cap and debris from the top of the Grease Interceptor. The interceptor may need to be agitated slightly to loosen the grease cap.
3.	Place the vacuum tube all the way into the Grease Interceptor to withdraw remaining solids from the bottom.
4.	Vacuum water out of the Grease Interceptor.
5.	Clean the sides and bottom of the Grease Interceptor. This may be done by "back flowing" the water from the pump truck or by using an alternative water source to hose down the interceptor. Make sure the Grease Interceptor is completely clean. Grease interceptor cleaning shall include scraping excessive solids from the walls, floors, baffles and all pipe work.
6.	Vacuum the remaining water out of the Grease Interceptor.
7.	Check that the sanitary "Tees" on the inlet and outlet sides of the Grease Interceptor are not clogged, loose, or missing.
8.	Verify that the baffle is secure and in place.
9.	Inspect the Grease Interceptor for any cracks or other defects.
10.	Allow FSE contact to inspect the cleaning for their approval.
11.	Check that lids are securely and properly seated after completion of pumping.
12.	Provide a copy of the waste hauler manifest to the FSE

FOG Registered Haulers and Recyclers

Any person, firm, or business interested in collecting, pumping or hauling grease interceptor wastes from FSE connected to the City's sewer collection system shall be required to apply for and obtain a City of Rock Hill issued "Grease Hauler Permit (GHP)" and registration for each vehicle used in hauling operations. It shall be unlawful for any identified grease hauler to clean or pump out grease interceptors on the City's system without a current GHP.

All grease interceptors shall be pumped completely empty. Excessive solids shall be scraped from the walls and baffles, and inlet, outlet and baffle ports shall be cleared. No grease or solids may be reintroduced into the interceptor.

Registered Fats, Oil and Grease (FOG) Haulers

Allied Premium Protein
Bob Locklair, Corporate Negotiations
Office: 800-845-1188
Cell: 864-491-3124
www.alliedpremiumprotein.com

Providence Environmental, Inc.
Mike Cannon
Phone: 803-754-1175
Fax: 803-754-0687

Carolina By-Products
Valley Proteins, Inc.
Pete Hondros, Procurement Representative
Cell: 704-718-1430
Office: 704-864-9941 or
800-849-5332
Fax: 704-861-9252
phondros@valleyproteins.com

Stanley Environmental Solutions Inc.
Adam Morrison, V.P. of Business Development
Cell: 704-860-5534
Fax: 704-263-1477
www.stanleyenviro.com

Grease Removal Device Sizing Worksheet

Number of Meals Per Peak Hour	X	Waste Flow Rate	X	Retention Time	X	Storage Factor	=	Minimum GRD Size (Gallons)
STEP 1		STEP 2		STEP 3		STEP 4		STEP 5

STEP 1	Number of Meals Per Peak Hour				
	Seating Capacity or Number of Persons	X	Meal Factor	=	Number of Meals Per Peak Hour
	Establishment Type		Minutes Per Meal	Meal Factor	
	<input type="radio"/> Fast Food		45	1.33	
	<input type="radio"/> Restaurant		60	1	
<input type="radio"/> Leisure Dining		90	0.67		
<input type="radio"/> Cafeteria / Hospital		120	0.5		

STEP 2	Waste Flow Rate				
	<input type="radio"/> a. With a Dishwashing Machine		6		Gallon Waste Flow Rate
	<input type="radio"/> b. Without Dishwashing Machine		5		Gallon Waste Flow Rate
	<input type="radio"/> c. Single Service Kitchen		2		Gallon Waste Flow Rate
	<input type="radio"/> d. Food Waste Disposer Only		1		Gallon Waste Flow Rate

STEP 3	Retention Time				
	<input type="radio"/> Commercial Kitchen Waste		Retention Time		
	Dishwasher		2.5		Hours
	<input type="radio"/> Single Service Kitchen		1.5		Hours
Single Service Kitchen is defined as: A kitchen which uses "DISPOSABLE" plates and utensils.					

STEP 4	Storage Factor				
	a. Fully Equipped Commercial Kitchen		Storage Factor		
	Hours of Operation				
	<input type="radio"/> 8 Hours		1		
	<input type="radio"/> 12 Hours		1.5		
	<input type="radio"/> 16 Hours		2		
<input type="radio"/> 24 Hours		3			
<input type="radio"/> b. Single Service Kitchen		1.5			
Single Service Kitchen is defined as: A kitchen which uses "DISPOSABLE" plates and utensils.					

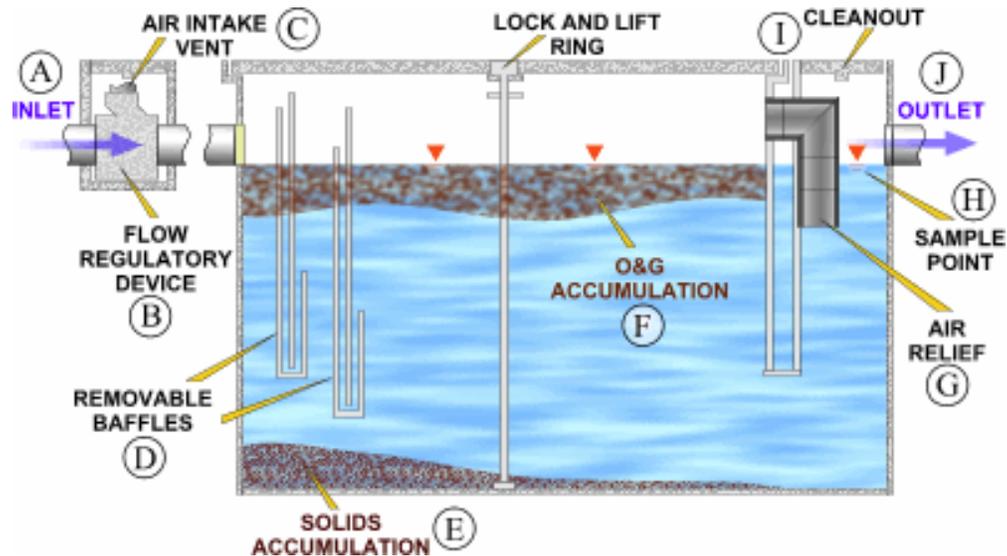
STEP 5	<p>Calculate Liquid Capacity</p> <p>Multiply the values obtained from STEPS 1-4. The result is the approximate minimum Grease Removal Device size for this application.</p>
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Notes: _____

How Grease Traps and Interceptors Work

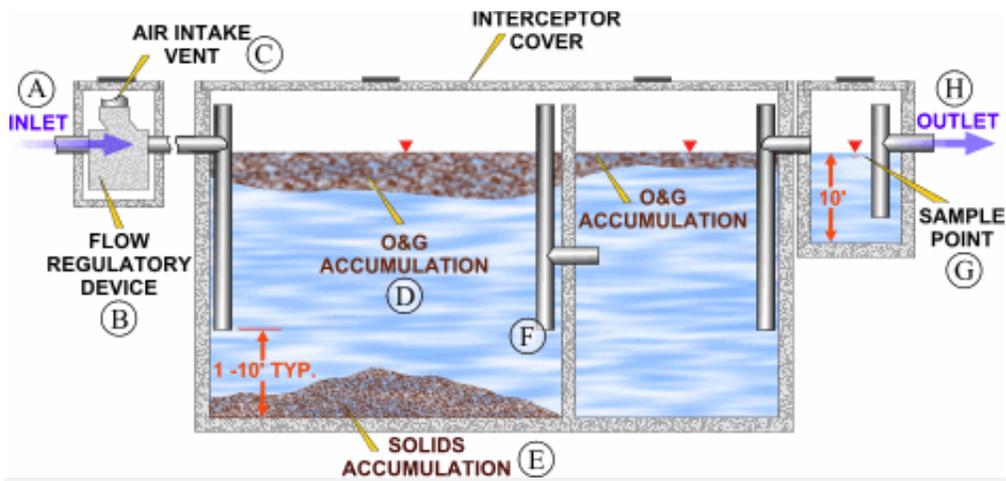
Understanding how the Grease Removal Device works will aid in proper operation and maintenance which in turn will help keep cost down.

Grease Trap



A	Flow from four or fewer kitchen fixtures enters the grease trap.
B	An approved flow control or restricting device is installed to restrict flow to the grease trap to the rated capacity of the trap.
C	An air intake valve allows air into the open space of the grease trap to prevent siphonage and back-pressure.
D	Baffles help to retain grease toward the upstream end of the trap since grease floats and will generally not go under the baffle. This helps to prevent grease from leaving the trap and moving further downstream where it can create blockages.
E	Solids in the wastewater that do not float will be deposited on the bottom of the grease trap and will need to be removed during routine grease trap cleaning.
F	Oil and grease floats on the water surface and accumulates behind the baffles. The oil and grease will be removed during routine grease trap cleaning.
G	Air relief is provided to maintain proper air circulation within the grease trap.
H	Some grease traps have a sample point at the outlet end of the trap to sample the quality of the grease trap effluent.
I	A cleanout is provided at the outlet or just downstream of the outlet to provide access into the pipe to remove any blockages.
J	The water exits the grease trap through the outlet pipe and continues on to the grease interceptor or the sanitary sewer system.

Grease Interceptor



A	Flow from undersink grease traps or directly from plumbing fixtures enters the GI. The IPC requires that all flow entering the interceptor enter through the inlet pipe.
B	An approved flow control or restricting device is installed to restrict the flow to the GI to the rated capacity of the interceptor.
C	An air intake valve allows air into the open space of the GI to prevent siphonage and back-pressure.
D	Oil and grease floats on the water surface and accumulates behind the grease retaining fittings and the wall separating the compartments. The oil and grease will be removed during routine GI cleaning.
E	Solids in the wastewater that do not float will be deposited on the bottom of the GI and will need to be removed during routine interceptor cleaning.
F	Grease retaining fittings extend down into the water to within 12 inches of the bottom of the interceptor. Because grease floats, it generally does not enter the fitting and is not carried into the next compartment. The fittings also extend above the water surface to provide air relief.
G	Some interceptors have a sample box so that inspectors or employees of the establishment can periodically take effluent samples. Having a sample box is recommended by the IPC but not required.
H	Some grease traps have a sample point at the outlet end of the trap to sample the quality of the grease trap effluent.

All FSE are strongly encouraged not to install a garbage disposal unit as they tend to adversely affect the working condition of GRD due to heavy solids contribution. This high solids contribution leads to the necessity of an increased pumping frequency in order to maintain GRD compliance.



cityofrockhill.com/fog
York County Office: 803-818-6513
Rock Hill Office: 803-329-8703

**FOOD SERVICE ESTABLISHMENT (FSE)
FATS, OIL AND GREASE DISCHARGE PERMIT (GDP) APPLICATION FORM**

Note: Please read City of Rock Hill's Fats, Oil and Grease Control Policy and all attached instructions/ definitions prior to completing this application.

RETURN THIS FORM TO:

**FOG Management Program - Attn: Theresa Jenkins
P.O. Box 120
York, SC 29745**

SECTION A – GENERAL INFORMATION (PLEASE PRINT LEGIBLY)

1. FSE Name: _____ Store # _____
Federal ID # / EIN: _____
Phone Number: _____ Website: _____

2. FSE Street Address **DO NOT USE P.O. BOX:** _____ Suite _____
City: _____ State: SC County: York Zip: _____

3. Owner of Premises if different from above:
Type of Ownership: Individual Partnership LLC Corporation Non-Profit Organization
Name (Mr./ Mrs./ Ms.): _____
Business Mailing Address if different from above:
Street: _____
City: _____ State: _____ Zip: _____
Telephone Number: _____

4. Designated signatory authority of the facility: Mark box if same as above
If different from above:
Name: _____
Title: _____
Address: _____
City: _____ State: _____ Zip: _____
Telephone Number: _____ E-mail Address: _____

5. Designated facility contact: Mark box if same as above
If different from above:
Name: _____
Title: _____
Telephone Number: _____ E-mail Address: _____

SECTION B – FACILITY OPERATIONAL CHARACTERISTICS (PLEASE PRINT LEGIBLY)

1. Please choose one description that best describes your facility.

- | | |
|---|--|
| <input type="checkbox"/> Full Service Restaurant | <input type="checkbox"/> Nursing Home / ALF |
| <input type="checkbox"/> Fast Food Restaurant | <input type="checkbox"/> School |
| <input type="checkbox"/> Drive Through / Take-out (only) Restaurant | <input type="checkbox"/> Club / Organization |
| <input type="checkbox"/> Seasonal Restaurant | <input type="checkbox"/> Company / Office Building |
| <input type="checkbox"/> Supermarket | <input type="checkbox"/> Coffee Shop |
| <input type="checkbox"/> Meat Market | <input type="checkbox"/> Religious Institution |
| <input type="checkbox"/> Hotel / Motel | <input type="checkbox"/> Hospital |
| <input type="checkbox"/> Ice Cream Shop | <input type="checkbox"/> Delicatessen/ Sandwich Shop |
| <input type="checkbox"/> Day Care Center | <input type="checkbox"/> Mobile Food Vendor |
| <input type="checkbox"/> Bakery | <input type="checkbox"/> Other: _____. |

2. Please indicate the quantity of each item that you currently have or will install in your facility:

Grill: ___ Grease Tray/ Drawer: Yes No FOG Disposal Method: Recycle Trash
 Convection/ Commercial Oven: ___ Microwave Oven: ___ Pizza Oven: ___
 Range/ Stove Burners: ___ FOG Disposal Method: Recycle Trash
 Deep Fryer: ___ Size (lb.): _____ FOG Disposal Method: Recycle Trash
 Hood: ___ Type: Automatic Manual Company used to clean hood? _____
 Tilt Kettle ___ Steam Table ___ Buffet Warming Cart ___ FOG Disposal Method: Recycle Trash
 3 Compartment Sink ___ 2 Compartment Sink ___ 1 Compartment Sink ___ Hand Sink ___ Bar Sink ___
 Dishwasher ___ Pre-Rinse Sink Basket: Yes No Mop Sink/ Can Wash: ___ Disposal: ___
 Floor Drains: ___ Screened: Yes No Screens installed with screws, liquid nail, etc.: Yes No
 Additional Equipment (Mixer, Hot Dog Roller, Food Chopper, Clothes Washer, etc.): _____

3. What is the seating capacity at your facility? _____
4. What is the number of meals served/ sold per day? _____
5. What is the number of employees and hours of operation? _____

SECTION C – WASTEWATER DISCHARGE INFORMATION

1. Please mark the item which best describes your current wastewater discharge.
 Existing Sewer Discharge Existing Septic System Proposed (New) Sewer Discharge
 Estimated monthly wastewater discharge from food service (gallons) _____

2. Are there any changes or expansions planned in the next three years that could alter the wastewater volumes or characteristics? Yes No
 If you answered Yes to the previous question, briefly describe these changes and their effects on the wastewater volume and characteristics. (Attach additional sheets if needed.)

Provide a copy of the indoor and outdoor plumbing floor diagrams, which should include the location of all water meters, sewer connections, Grease Removal Devices, sinks, floor drains, dishwashers, restrooms, etc. (see instructions for additional information).

**SECTION D – PRETREATMENT GREASE REMOVAL DEVICE (GRD)
(PLEASE PRINT LEGIBLY)**

All GRD shall be easily accessible and shall not be obstructed by landscaping, parked cars, shelving, or other obstructions. Any temporary or permanent obstruction to safe and easy access to the areas to be inspected / monitored shall be removed promptly by the responsible party at the written or verbal request of the City. The costs of clearing such access shall be borne by the responsible party.

1. Do you currently have a GRD? Grease Interceptor Grease Trap Both None
Complete the following for all GRD:

GRD 1: Make and Model: _____

Capacity (in gallons): _____

Location (kitchen, parking lot, etc): _____

GRD 2: Make and Model: _____

Capacity (in gallons): _____

Location (kitchen, parking lot, etc): _____

3. If the **INDOOR** grease trap is being maintained on-site, how often do you clean it and how do you dispose of the waste after cleaning the trap? Cleaning frequency: _____

Trash Contractor disposes of grease Other- explain: _____

4. If a contractor cleans the GRD, please list the following:

Contractor Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone Number: _____ E-mail Address: _____

5. Are there any additives, enzymes or bacteria placed in the plumbing or GRD? Yes No

If Yes, please complete the following and attach Safety Data Sheets for each product:

Additive Name: _____

Additive Frequency: _____

Location additive is added: _____

Additional Comments: _____

SECTION E – RECYCLING

1. Do you or will you recycle the grease produced at your facility? Yes No

If Yes, which company recycles your grease or will recycle your grease:

Contractor Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone Number: _____ E-mail Address: _____

2. Is there a recycling container on-site? Yes No If Yes, how many recycling containers are on-site and where are they located? _____

3. Have pollution prevention measures been implemented (**Best Management Practices**)? Yes No

If Yes, explain briefly the pollution prevention measures that have been implemented. (Attach additional sheets if necessary) _____

ATTACH A LIST OF FOODS TO BE SERVED OR INCLUDE A MENU

**ATTACH COPIES OF MANIFESTS AND / OR RECEIPTS FOR ANY
GREASE REMOVAL DEVICE PUMPING OR MAINTENANCE
ACTIVITIES PERFORMED WITHIN THE PAST YEAR**

Authorized Representative Statement:

I certify that I have read Fats, Oil and Grease Control Policy and understand that all Food Service Establishments (FSE) must have a Grease Removal Device before discharge of fats, oil and grease to York County's sanitary sewer system.

I further certify under penalty of law that this document and all attachments were prepared under my direct supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/ or imprisonment for knowing violations.

Print Name: _____

Print Title: _____

Signature Date

FOR York County USE ONLY

Application Complete [] Yes [] No

Date of pre-permit inspection: _____

Permit to be granted _____ or rejected _____

Explanation for rejection _____

Date: _____

Application Reviewer Signature

INSTRUCTIONS & DEFINITIONS FOR APPLICATION FORMS

Application must be legible. Any missing or incomplete information may result in delays in processing this application.

Applicant shall be the owner of the proposed Food Service Establishment or the presiding officer of the legal entity owning the proposed Food Service Establishment.

Documentation required by this application shall be submitted with this application.

Any section that requires additional space or documentation shall be included as an attachment and labeled to identify the appropriate section.

SIGNATORY AUTHORITY

This refers to legal power delegated by an authoritative body (such as a board of directors) to organizational positions (such as president, managing director, manager) appointing them as agents of the organization for general or specific purposes (such as payment authority, revenue authority, spending authority).

GREASE REMOVAL DEVICE DEFINITIONS

Grease removal device (GRD) refers generically to grease traps and grease interceptors.

Grease interceptor means a device located underground and usually outside of a Food Service Establishment (FSE) designed to collect, contain or remove food wastes and grease from the wastestream while allowing the balance of the liquid waste to discharge to the wastewater collection system by gravity. Interceptors shall be in conformance with the provisions of the [FOG Control Policy](#) and the South Carolina Plumbing Code.

Grease trap means a device located in a FSE usually under a sink designed to collect, contain or remove food wastes and grease from the wastestream while allowing the balance of the liquid waste to discharge to the wastewater collection system by gravity. Traps shall be in conformance with the provisions of the [FOG Control Policy](#) and the South Carolina Plumbing Code.

INDOOR/OUTDOOR PLUMBING FLOOR DIAGRAMS

Refers to a drawing in sufficient detail to show the location of all kitchen equipment that produces wastewater, floor drains, sewer connections, grease interceptors and appurtenances in the FSE's premises if known or it may be readily ascertained.

DIPPING METHODS (SLUDGE JUDGE READINGS, ETC.)

Refers to devices of measurement approved by the City used to determine levels of grease, solids and total depth of G.R.D.(s).