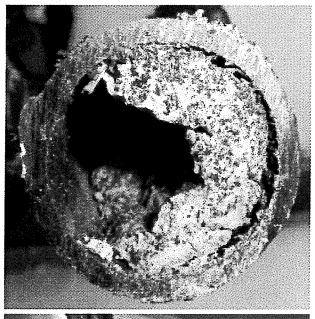
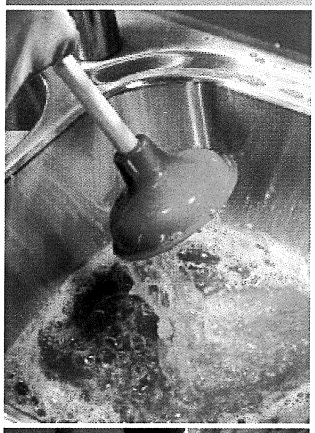
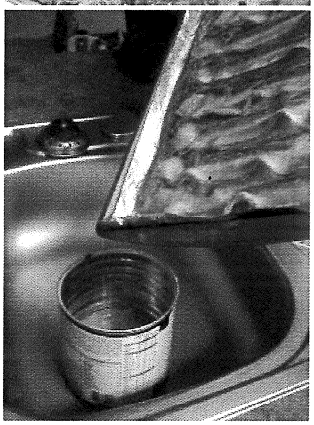






JOINT MUNICIPAL WATER AND SEWER COMMISSION

Progress Through Cooperation

FOG Prevention

What is Fog?

Fats, Oils, and Grease

Why is it important?

Cooking grease poured down the sink drain can block sewer pipelines when it congeals and cause sewer backups and overflow into the environment, and into your home! Sewer backups or overflow can cause increase in operation and maintenance cost for JMWSC, which causes higher sewer bills for customers! Sewer backups in a home service line may result in costly repairs to the customer. In addition to sewage spills and odor FOG also attracts insects and animals.

To keep our pipes "Fat-Free", JMWSC encourages you to:

- Never pour fats, oils, or cooking grease down the sink or garbage disposal.
- Pour excess grease into a container with a tight fitting lid and freeze for disposal with your household garbage; and wipe the remaining grease from the pan with a scraper or paper towel.
- Place baskets/strainers in sink drains to catch food scraps and other solids, and empty into the trash for disposal.
- Place food scraps in appropriate waste containers rather than into the drain or garbage disposal.
- Tell your friends and neighbors about the problem of grease in the sewer system and how to keep it out.

By doing your part, you can help us to contribute to a cleaner healthier environment!!!

I. Best Management Practices (BMPs) to
Prevent Blockages in the Sanitary Sewer System

BMP	Reason For	Benefits to Food Service Establishment
Train kitchen staff and other employees about how they can help ensure BMPs are implemented.	People are more willing to support an effort if they understand the basis for it.	All of the subsequent benefits of BMPs will have a better chance of being 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.
Use water temperatures less than 140° F in all sinks, especially the pre-rinse sink before the mechanical dishwasher. The mechanical dishwasher requires a minimum temperature of 160°F, but the Uniform Plumbing Code (UPC) prohibits discharging the dishwasher to grease traps.	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.
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 previous BMP).	The three-sink system uses water temperatures less than 140°F where a mechanical dishwasher requires a minimum temperature of 160°F. (See above) Note: The Uniform Plumbing Code (UPC) prohibits the discharge of dishwasher water to grease traps.	The food service establishment will reduce its costs for the energy - gas or electric - for heating the water for the mechanical dishwasher and for operating the dishwasher.
Recycle waste cooking oil.	There are many waste oil recyclers throughout Western New York.	The food service establishment may be paid for the waste material and will reduce the amount of garbage it must pay to have hauled away.
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 traps and interceptors.	This will reduce the amount of material going to grease traps and interceptors, which will require less frequent cleaning, reducing maintenance costs.
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.

NJE:amh:BMP-FOG-Blockages.xls

II. Best Management Practices (BMPs) to
Properly Maintain Grease Traps and Interceptors to Prevent Introduction into the Sanitary Sewer System

BMP	Reason For	Benefits to Food Service Establishment
Witness all greasetrap or interceptor cleaning and maintenance activities to ensure the device is properly operating.	Grease trap/interceptor pumpers may take shortcuts. If the establishment manager inspects the cleaning operation and ensures it is consistent with proper cleaning procedures in *Grease Trap and Interceptor Maintenance* (found below), they are more assured of getting full value for their money.	The establishment will ensure it is getting value for the cost of cleaning the grease trap or interceptor.
Clean undersink grease traps weekly.	Undersink grease traps have less volume than grease interceptors. Weekly cleaning of undersink grease traps by the establishment's own maintenance staff will reduce the cost of cleaning the grease interceptor. If the establishment does not have a grease interceptor, the undersink 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 sewer district will require installation of a grease interceptor.	This will extend the length of the cleaning cycle for grease interceptors that the establishment maintains. Grease interceptor installation may be waived.
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.
Keep a *maintenance log*.	The maintenance log serves as a record of the frequency and volume of cleaning the interceptor. It is required by the pretreatment program to ensure that grease trap/interceptor maintenance is performed on a regular basis.	The maintenance log serves as a record of cleaning frequency and can help the establishment manager optimize cleaning frequency to reduce cost.

Grease Trap and Interceptor Maintenance

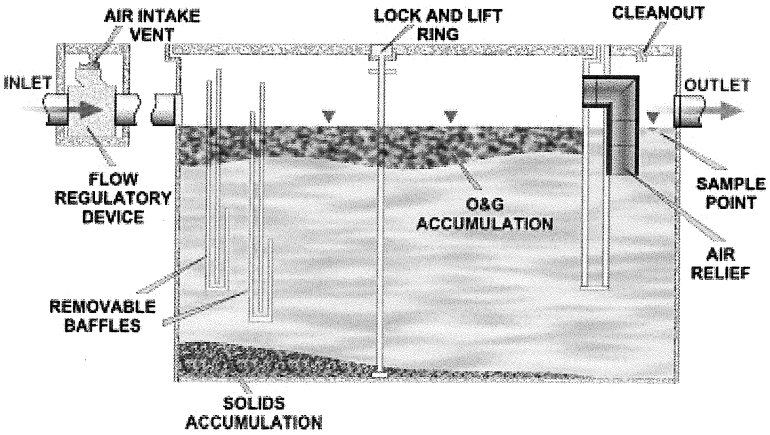
Grease trap maintenance is generally performed by maintenance staff, or other employees of the establishment. Grease interceptor (GI) maintenance, which is usually performed by permitted haulers or recyclers, consists of removing the entire volume (liquids and solids) from the GI and properly disposing 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 fats, oil, and grease (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 best management practices (BMPs) that the establishment implements to reduce the FOG discharged into its sanitary sewer system. In many cases, establishments that implement BMPs will realize financial benefit through a reduction in the frequency of required grease interceptor and trap maintenance. Refer to the "*Best Management Practices*" section for examples of BMPs that FOG generating establishments should implement.

WARNING! *Do not use hot water, acids, caustics, solvents, or emulsifying agents when cleaning grease traps and interceptors.*

Grease Trap Maintenance

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



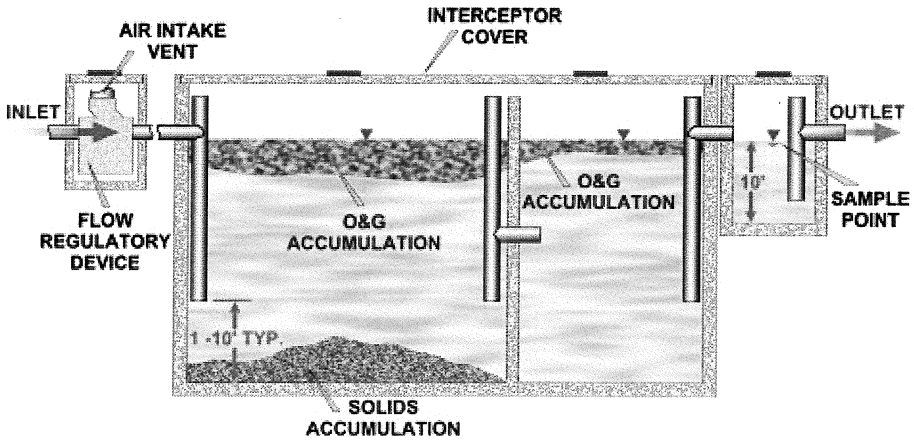
Step	Action
1.	Dip the accumulated grease out of the interceptor and deposit in a watertight container.
2.	Remove baffles if possible.
3.	Scrape the sides, the lid, and the baffles with a putty knife to remove as much of the grease as possible, and deposit the grease into a watertight container.
4	Remove solids from the bottom with a strainer or similar device.
5.	Replace the baffle and the lid.
6.	Record the volume of grease removed on the maintenance log.
7.	Contact a hauler or recycler for grease pick-up.

Grease Interceptor Maintenance

Grease interceptors, due to their size, need to be cleaned by grease haulers or recyclers.

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

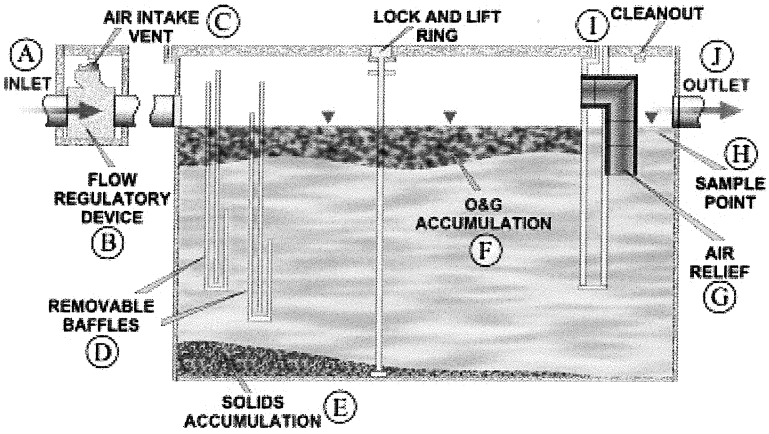
NOTE: Since the establishment is liable for the condition of their pretreatment devices, the establishment owners/representatives should witness all cleaning/maintenance activities to verify that the interceptor is being fully cleaned and properly maintained. (Note: UPC does not require a flow-regulating device. Check with the local jurisdiction to see if they will require a flow regulating device.)



Step	Action
1.	Contact a grease hauler or recycler for cleaning.
2.	Pump out the entire contents of the interceptor..
3.	Clean the sides, the lid, and the baffles to remove as much of the grease as possible.
4.	Replace the baffle and the lid.
5.	Record the volume of grease removed on the maintenance log.

How it Works

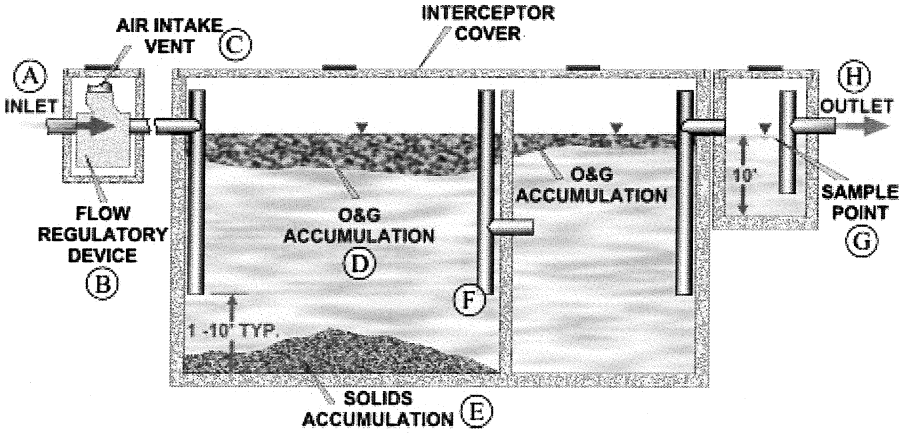
Grease Traps



A	Flow from four or fewer kitchen fixtures enters the grease trap.
B	An approved flow control or restricting device must be installed to restrict the 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	The baffles help to retain grease toward the upstream end of the grease trap since grease floats and will generally not go under the baffle. This helps to prevent grease from leaving the grease trap and moving further downstream where it can cause blockage problems.
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 to the sanitary sewer system.

How it Works

Grease Interceptors



A	Flow from undersink grease traps or directly from plumbing fixtures enters the grease interceptor. The UPC requires that all flow entering the interceptor must enter through the inlet pipe
B	Not required by UPC (Check with the local jurisdiction to see if a flow regulating device will be required).
C	An air intake valve allows air into the open space of the grease interceptor 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 grease interceptor cleaning.
E	Solids in the wastewater that do not float will be deposited on the bottom of the grease interceptor and will need to be removed during routine grease 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 UPC but not required.
H	Flow exits the interceptor through the outlet pipe and continues on to the sanitary sewer system.

III. Best Management Practices (BMPs) to

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

BMP	Reason For	Benefits to Food Service Establishment
Cover outdoor grease and oil storage containers. Some local jurisdictions will have BMPs in place for stormwater also.	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 stormwater system and nearby streams.	The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams. In addition, it is a violation of water quality regulations and might also result in legal penalties or fines.
Locate grease dumpsters and storage containers away from storm drain catch basins.	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. 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.	The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams. In addition, it is a violation of water quality regulations and might also result in legal penalties or fines.
Use absorbent pads or other material in the storm drain catch basins if grease dumpsters and containers must be located nearby. Do not use free flowing absorbent materials such as kitty litter or sawdust.	Absorbent pads and other materials can serve as an effective barrier to grease and oil entering the storm drain system.	The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams. In addition, it is a violation of water quality regulations and might also result in legal penalties or fines.
Use absorbent pads or other material to clean up spilled material around outdoor equipment, containers or dumpsters. Free flowing absorbent materials such as kitty litter or sawdust may be used for minor "spot spills" as long as all material is swept up.	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.	The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams. In addition, it is a violation of water quality regulations and might also result in legal penalties or fines.
Routinely clean kitchen exhaust system filters.	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.	The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams. In addition, it is a violation of water quality regulations and might also result in legal penalties or fines.