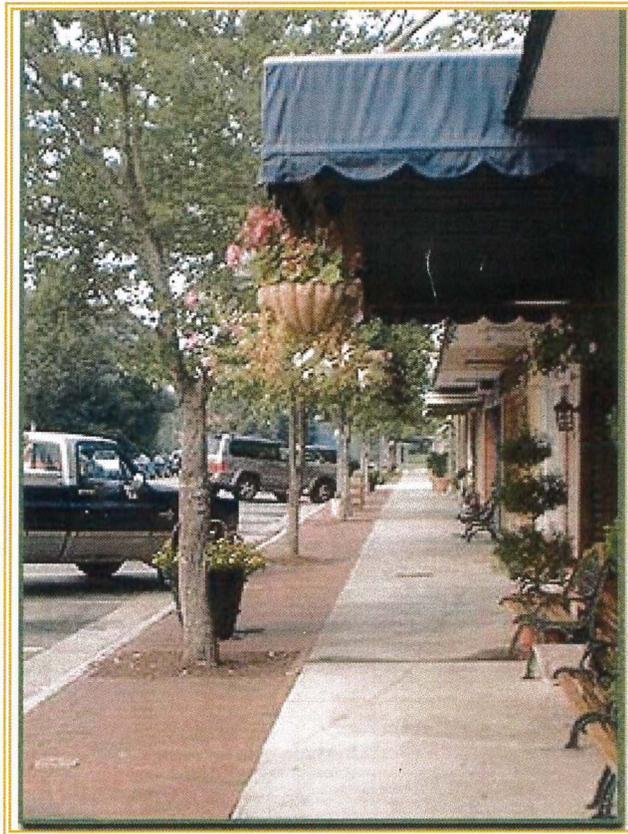


Town of Southern Pines Public Works Department

Town of Southern Pines FOG Program

Residual Fats, Oil and Grease Control Policy

*Town of Southern Pines
Sewer Use Ordinance, Mandatory Grease Traps*



This photo was taken on Broad Street in Southern Pines the Spring of 2002.
The picture was taken and edited by John Brock of Edge of X Web Designs and skylawrence.com

Table of Content

1. Introduction

2. Background/Issues

3. Benefits of a FOG Control Program

4. Town Ordinance, 50.59 Mandatory Grease Traps

5. Grease Control Policy

Authority

Scope and Purpose

Word Interpretation and Definitions

General Requirements

Exemption from Installation Requirements

New Establishments

Existing and/or New Establishment locating in Existing Building

Trap/Interceptor Design and Sizing Requirements

Maintaining and Cleaning/Pump Out of Grease Handling Facilities

Record Keeping

Inspections

Sampling

Enforcement of the Fats, Oils and Grease Policy

6. Resources

Frequently asked questions

Grease Trap/Interceptor Maintenance Information

Grease Interceptor Cleaning and Disposal Log

Grease Trap Cleaning and Disposal Log

Grease Trap / Interceptor Maintenance Log

NCDENR, Best Management Practices (BMPs) for Fats, Oils, and Grease

NCDENR, Restaurant Oil and Grease Rendering

NCDENR, Managing Food Materials

Grease Goblin Posters (English and Spanish)

Introduction

FOG (fats, oil and grease) is a major concern for the Town of Southern Pines sanitary sewer collection system. When not disposed of properly, FOG forms thick layers inside sewers constricting flow, similar to the way cholesterol affects blood flow in our arteries. Clogged sewers result in sewage spills and overflows. FOG also attracts flies and vermin and causes odor problems, which creates environmental and public health concerns.

Restaurants are a significant source of FOG because of the amount of grease used in cooking and other food prep work. Improper cleanup practices allow food particles, oil and grease, and cleaning products to flow to the sanitary sewer. In certain parts of Southern Pines FOG can enter storm drains and flow directly to the streams and rivers causing serious pollution.

The Town of Southern Pines Utility Department devotes many pieces of equipment and man hours to unstoping and cleaning the sanitary sewer collection system which includes, but not limited to, manholes, lift stations, gravity lines, and service lines clogged with oil and grease.

This Policy maintains the discharge limitation from users of the Town's sanitary sewer collection system for oil and grease at 100 mg/L (milligrams per liter). Additionally the Policy requires the user to install and keep maintained, at his own expense, a grease trap/interceptor at his establishment.

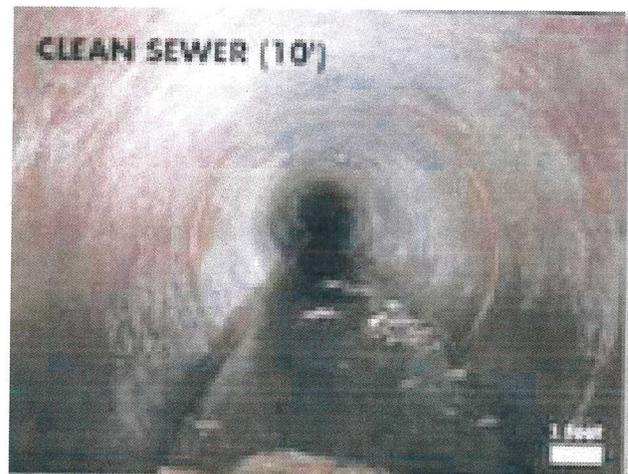
All establishments required to become a part of this Policy will be subject to periodic inspections and sampling to ensure they stay within the guidelines set out in the Policy. Once a user is identified as a part of this Policy, the user will also be required to follow all other aspects of this Policy. The exclusive use of enzymes, grease solvents, emulsifiers, etc. is not considered grease interceptor maintenance practice.

The following sections provides valuable information, best management practices (BMPs), and resources which can greatly reduce the amount of FOG entering the Town's sewers and storm drains.

By doing your part you can contribute to a cleaner and healthier Southern Pines.

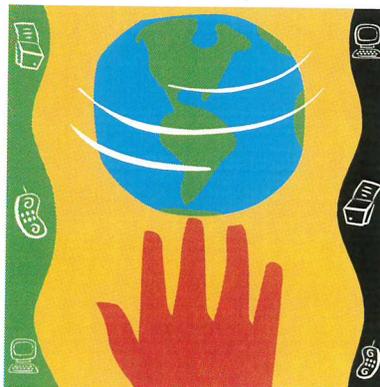
Background / Issues

- Public health and safety are two of the major responsibilities of all municipalities and units of local government
- To comply with these responsibilities, The Town of Southern Pines is committed to providing adequate wastewater management service for citizens.
- Whenever a blockage occurs in the sanitary sewer collection system, there is reduced capacity in the line. A spill or overflow may occur. Raw sewage is discharged from sewer access-ways and onto the streets or sewer lines from properties that fail to drain properly
- These sewage spills may pose a threat to public health and safety.
- Examination of Unauthorized Discharge Reports in NC between 1997 and 2004 have shown that sewage spills are caused by roots, grease accumulation, debris, or vandalism.
- Municipalities have determined that one way to address the grease accumulation problem is to prevent the introduction of grease in the sewers in the first place.
- Regulations to prevent the introduction of Fats, Oil and Grease (FOG) into the sewer lines are often adopted by the City Councils.
- Under these regulations, all Food Services Establishments (FSEs) are required to implement and demonstrate compliance with Best Management Practices (BMPs).



Benefits of the FOG Control Program

- Reduction of SSOs
- Improve public health and safety
- Minimize spill related potential fines
- Minimize property damage claims
 - Minimize the risk of lawsuits
- Improve sewer maintenance
- Better FSE business environment



Town Ordinance

§ 50.59 MANDATORY GREASE TRAPS.

- (A) All services with the capacity for preparing or processing food with the sole exception of private, single-family, in-unit, residential units will be required to install at their own expense on their own property a suitable grease trap. The property owner is solely responsible for operating the grease trap. Existing service may delay installation for 60 days after notification by the Director of Public Works to comply with this division (A).
- (B) Failure to comply will require the town to discontinue water and sewer service to the property until the property owner complies with the above.
- (C) Inspection Fee:

<i>Description</i>	<i>Fee</i>
Grease trap annual inspection fee	\$75.00
Violation of grease trap requirement	Cost of grease trap, plus \$100 per billing period

(Ord. - - , passed 3-13-84; Am. Ord. 209, passed 2-21-91; Am. Ord., passed 9-13-94; Am. Ord. 1201, passed 4-11-06 Am. Ord., passed 6-11-13)

Grease Control Policy

Authority

By the adoption of the Moore County Sewer Use Ordinance (SUO), the Town of Southern Pines requires that all sewage discharges will comply with the SUO, to the extent that the Town is required to comply.

Sections of the Moore County Sewer Use Ordinance state that no user shall contribute or cause to be contributed into the POTW, directly or indirectly, any pollutant or wastewater which causes interference or pass through. It further specifically prohibits the discharge of fats, oils, or greases of animal or vegetable origin in concentrations greater than one hundred (100) mg/l.

Food Service Establishments shall provide means of preventing residual fat, oil, and grease discharges to the Town's sanitary sewer collection system. Where grease handling facilities currently exists, or is required by the Town, it shall be maintained for continuous, satisfactory, and effective operation, at their expense. The grease interceptor(s) shall be designed by a NC Professional Engineer of a type and capacity approved by the Town Engineer/Chief Plumbing Inspector and shall be located as to be readily accessible for inspection, cleaning and maintenance.

Scope and Purpose

The provisions of this policy are applicable to any non-residential facility, connected to the Town of Southern Pines sanitary sewer collection system, involved in the preparation or serving of food and/or food products.

This policy may apply to other types of commercial, institutional, and/or industrial establishments when, in the opinion of the Town Engineer, it is necessary for grease trap(s)/interceptor(s) to be installed to properly handle liquid wastes, containing fats, oils and/or greases, that may exceed the local limit of one hundred (100) mg/l.

To promote the prevention and reduction of sanitary sewer blockages and overflows resulting from the accumulation of fats, oils and greases on the interior of the sanitary sewer collection system pipes, generated primarily from commercial, institutional, and industrial food preparation and serving facilities.

Grease Control Policy

Word Interpretation and Definitions

The following terms shall have the meanings hereinafter designated and/or in addition to the terms and phases as specifically indicated otherwise.

- Fats, Oils and Greases – Organic polar compounds 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 the United States Code of Federal Regulations 40 CFR 136, as may be amended from time to time. All are sometimes referred to herein as “grease” or “greases”.

Greases – means rendered animal fat, vegetable shortening, and other such oily matter used for the purposes of and resulting from cooking and/or preparing foods. Includes the accumulation of oils, fats, cellulose, starch, proteins, and wax.

Oil – Any one or a combination of mineral, vegetable, and synthetic substances and animal and vegetable fats that are used in a variety of processes.

- Food Service Establishment – A facility primarily engaged in activities of preparing, serving, or otherwise making foodstuffs available for consumption by the public such as restaurants, commercial kitchens, caterers, hotels, cafeterias, delicatessens, meat cutting-preparations, bakeries, ice cream parlors, cafes, hospitals, schools, bars, correctional facilities, care institutions and any other facility discharging kitchen or food preparation wastewaters which, in the Town’s discretion, would require a grease trap installation by virtue of its operation. Preparation activities include but are not limited to cooking by frying, baking, grilling, sautéing, rotisserie, broiling, boiling, blanching, roasting, toasting, or poaching. And 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.
- Grab Sample – means a sample which is taken from a waste stream on a one-time basis without regard to the flow in the waste stream and over a period of time not to exceed 15 minutes.
- Grease Interceptor – A device utilized to effect the separation of grease and oils in wastewater effluent from a Food Service Establishment. Such interceptors may be of the “outdoor” or “underground” type normally of a 1000 gallons or more capacity.

Grease Control Policy

- Grease Trap – A device utilized to effect the separation of grease and oils in wastewater effluent from a Food Service Establishment. Such traps are the “under-the-counter” type normally 100 gallons or less capacity.
- Local Limits – A maximum pollutant level placed on wastewater discharged to the Town’s sewer. These limits are listed in the Moore County Sewer Use Ordinance.
- Non-Cooking Establishment – means a facility primarily engaged in the preparation of precooked food products that do not include any form of cooking. These include cold dairy and frozen food product preparation and serving establishments.
- Minimum Design Capacity – means the design features of a grease interceptor and its ability or volume required to effectively intercept and retain greases and grease-laden wastewater’s discharged to the public Sanitary Sewer System.
- Sanitary Sewer Overflow – An overflow or discharge of raw sewage from municipal sanitary sewer systems often due to a blockage in a line.
- Sewer Use Ordinance (SUO) – A Town or City legal document stating the requirements of all facilities (including restaurants) discharging to the local POTW.
- Sanitary Sewer System – The collection of pipes, pumps, lifts, and other equipment throughout town designed to handle and safely transport used water wastes as sewerage to its treatment plants.
- User – means any person, including those located within the Town’s area of extraterritorial jurisdiction, who contributes, caused or permits the contribution or discharge of wastewater into the POTW, including persons who contribute such wastewater from mobile sources, such as those who discharge hauled wastewater.

Grease Control Policy

General Requirements

All food service establishments discharging wastewater to the Town of Southern Pines sanitary sewer collection system are subject to the following requirements:

- All Food Service Establishments shall have grease-handling facilities installed and maintained, at the user's expense. Non-Cooking Establishments and other commercial, institutional and/or industrial establishments may also require grease-handling facilities be installed when deemed necessary by the Town Engineer.
- Any Food Service Establishments without any grease handling facilities will be allowed until *January 31, 2004* to install grease handling equipment in compliance with the Town Code of Ordinance and this policy.
- No non-grease laden sources are allowed to be connected to sewer lines intended for grease interceptor service. Where food-waste grinders are installed, the waste from those units shall discharge directly into the building drainage system without passing through a grease trap/interceptor. All other fixtures and drains receiving kitchen and food preparation wastewater shall pass through a grease trap/ interceptor.
- Those Food Service Establishments whose grease handling facilities or methods are either under-designed or substandard, or not adequately maintained to prevent floatable fats, oils or greases from entering the sanitary sewer system shall be notified, in writing, of the deficiencies, the required improvements, and provided a compliance deadline. The Food Service Establishments shall be required to provide a schedule whereby corrections will be accomplished.
- Those Food Service Establishments receiving two (2) consecutive unsatisfactory evaluations or inspections may be subject to civil penalties and/or other corrective actions. A continuous violation of the Town Ordinance and/or this policy may be considered grounds for discontinuance of services.
- Food Service Establishments whose operations cause or allow excessive grease to discharge or accumulate in the Town's sanitary sewer collection system may be liable to the Town for costs related to service calls for line blockages, line cleanings, line and pump repairs, and other repairs, including all labor, materials, and equipment. Failure to pay all service-related charges may be considered grounds for discontinuance of services.
- Failure to comply with notification will be considered a violation of the Town's Sewer Use Ordinance and will subject the establishment to civil penalties and corrective actions, pursuant to the Town of Southern Pines Code of Ordinance and/or this policy.

Grease Control Policy

Exemption from Installation Requirements:

A Food Service Establishment determined to have no immediate adverse impact on the Town's sanitary sewer collection system because of the business type may be granted an exemption from the grease trap/interceptor installation requirements.

The Town Engineer may, at any time, revoke an exemption and require that a grease trap/interceptor be installed.

To obtain an exemption, a Food Service Establishment must request an inspection, and then be approved by the Town Engineer.

Exemption for grease trap/interceptor requirements by virtue of the business type:

- Residential Group Home Classification by NC State Agency having authority;
- An establishment serving beverages only;
- An establishment serving beverages and/or ready to eat, packaged or unpackaged food items; (with or without warming)
- A snack bar with no food preparation other than food warming;
- A produce stand that only offers whole, uncut fresh fruits and vegetables;
- A bed-and-breakfast that prepares and serves breakfast only to guest, with no more than six (6) guestrooms and no more than twelve (12) guests;
- Other establishments serving only ready to eat foods with or without food warming

Grease Control Policy

New Establishments

- All new Food Service Establishments shall be required to install grease interceptor(s) approved by the Town Engineer/Chief Plumbing Inspector. Grease interceptor(s) shall be adequately sized, with no interceptor less than 1,000 gallons total capacity, unless approved by the Town Engineer.
- No new Food Service Establishments will be allowed to initiate operations until grease handling facilities are installed and approved by the Town Engineer.

Existing Establishments and/or New Establishment Locating in Existing Buildings

- All existing Food Service Establishments and new Food Service Establishments locating in existing buildings shall have grease handling facilities, meeting the same requirements for installation and design as for new establishments.
- Where it is determined by the Town Engineer that the installation of an approved “outdoor” grease interceptor is infeasible or physically impossible to install, then an adequate and approved “under-the-counter” grease trap, may be allowed for use on individual fixtures, including sinks, dishwashers, and other potentially grease containing drains. The location of these units must be located as near as possible to the source of the wastewater.

Grease Control Policy

Trap/Interceptor Design and Sizing Requirements

- All grease traps/interceptors shall be designed by a NC Professional Engineer and be of a type, capacity, and location approved by the Town Engineer/Chief Plumbing Inspector. Such traps/interceptors may be of the “outdoor” or “underground” type normally of a 1,000 gallon capacity or more, or the “under-the-counter” package units which are typically less than 100 gallon capacity.
- All grease interceptors, whether singular or two (2) tanks in series, must have each chamber directly accessible from the surface. It shall be properly located to allow for complete access to the inner chambers.
- It shall be designed and installed to provide means for servicing and maintaining of the interceptor in working and operating condition, and for inspecting, viewing, and sampling of effluent wastewater discharged to the sewer to achieve compliance with the 100 mg/l discharge limit.
- A baffle, screen or other intercepting device shall prevent passage into the drainage system of solids 1/2-inch or larger in size. The baffle or device shall be removable for cleaning purposes.
- For grease trap(s)/interceptor(s) to be effective, the units must be properly sized, constructed, and installed in a location to provide for a minimum detention period of 20 minutes between influent and effluent baffles with 20 percent total volume allowed for a sludge pocket.
- Access manholes, with a minimum diameter of twenty-four (24) inches, shall be provided over each chamber and sanitary tee. The access manholes shall extend at least to finish grade and be designed and maintained to prevent inflow or infiltration. The manholes shall also have readily removable covers to facilitate inspection, grease removal, and wastewater sampling activities.

Grease Control Policy

Maintaining and Cleaning/Pump Out of Grease Handling Facilities

- The user is solely responsible for maintaining the grease handling facilities at a capacity capable of intercept fat, oil and grease and operate efficiently at all times, or to achieve compliance with the 100 mg/l grease and oil limit.
- The exclusive use of enzymes, grease solvents, emulsifiers, etc. is not considered acceptable grease trap maintenance practice.
- To ensure continuous and adequate operation of grease-handling facilities regularly scheduled maintenance of grease-handling facilities is required. The user shall determine and strictly follow an appropriate cleaning / pump-out schedule, based on the type of establishment and the amount of grease to be generated.
- At a minimum, grease interceptors shall be serviced and documented no less than every 90 days. Grease traps shall to be serviced and documented daily or at the manufactured recommended frequency. If the grease trap is not serviced daily, the user must demonstrate compliance with the 100 mg/l grease and oil limit.
- The user shall be responsible for the proper removal and disposal of captured material, by appropriate means. All organic and inorganic solids, such as grit, rocks, gravel, sand, eating utensils, cigarettes, shells towels, rags, etc, which settle into the sludge pocket and thereby reduce the effective volume of the grease trap/interceptor, are required to be removed and all floating material is required to be skimmed from trap or basin tank.
- Water removed from trap(s)/interceptor(s) shall not be reintroduced to the trap itself or to the Town's sanitary sewer collection system without prior written approval from the Town of Southern Pines.

Grease Control Policy

Record Keeping

- The user shall maintain and retain such written record of such cleanings / pump outs, on-site, for a period of three (3) years. These records will be reviewed by the Town of Southern Pines during their inspection of your establishment.
- A copy of each interceptor service record shall be sent to the Town Engineer at the Public Works Department, Town of Southern Pines, 140 Memorial Park Court, Southern Pines, North Carolina 28387, no later than 15 days after the end of the month during which the maintenance occurred. Grease trap service records shall submitted every 90 days.
- A complete report shall include the receipt, signed by the contractor for the work performed, and the clean out date. The receipt shall bear the name of the firm performing the work, the name of the person responsible for the clean out, the disposal method for and destination of material removed, and whether the interceptor was refilled with clean water or water from the trap.
- It is highly recommended that the user be present during any cleaning, pumping, or skimming performed by a contractor, in order to appropriately respond to any questions the Town may have about the services performed.

Grease Control Policy

Inspections

- All Food Service Establishments grease-handling facilities shall be subject to review, evaluation, and inspection by authorized representative(s) of the Town of Southern Pines during normal working hours.
- Results of inspections will be made available to user. The Town may make recommendations for correction and improvement.
- The Town will inspect each establishment at least twice a year, to check such things as, but not limited to, the sink and trap set-up, quantity of grease in the trap, clarity of the effluent, grease recycling bin, and vendor hauling records. However, the Town will initiate additional inspections, sampling, and pursue enforcement if the required hauling vendor paperwork is not in order or if the facility is located in the area where a blockage occurs.

Sampling

- Those Food Service Establishments whose effluent discharge is determined to cause interference in the conveyance or operation of the Town's sanitary sewer system will be required to sample its grease trap discharge and have it analyzed for fat, oil and grease, at the expense of the user. Results of such analyses shall be reported to the user.
- Samples for fats, oils and greases must be obtained using grab collection techniques. Sampling shall be done from a point near the effluent tee to get an indication of the effluent flowing from the interceptor.
- The reports shall include the date, exact place, method, and time of sampling, the name of the person(s) taking the samples, the dates analyses were performed, who performed the analyses, the techniques or methods used, and the results of such analyses.

Grease Control Policy

Enforcement of the Fats, Oils, and Grease Control Policy

In general, enforcement actions against Food Service Establishments (FSE) will be taken in accordance with this plan, however, the Town of Southern Pines reserves the right to implement other enforcement responses available to it under the Town Code of Ordinance and North Carolina law, separately or in combination with this plan.

The enforcement response plan outlined below will be an effective way to ensure that the Town of Southern Pines takes fair, consistent and equitable enforcement actions against Food Service Establishment for violations of this FOG Control Policy and/or the Town of Southern Pines Code of Ordinance. In response to unusual instances of non-compliance, judgment and flexibility will be needed. Some violations may require a response that deviates from this enforcement action plan depending on the particulars of the situation.

Notice of Non-Compliance:

- If a Food Service Establishment fails to complete and return the mandatory survey questionnaire by May 31, 2006 or it is found that the grease handling facilities are not installed or are not being routinely cleaned and maintained, we will issue a notice of non-compliance to advise the FSE that it is in violation of the Town Code of Ordinance and this policy and what needs to be done in order to comply.

The notice of non-compliance will only be provided once. All future actions after a notice of non-compliance has been sent will proceed directly to a notice of violation.

Notice of Violation:

- If, at the time of the first inspection, to occur between October – December 2006, it is found that the grease handling facilities are not installed, are not being routinely cleaned and maintained, or any other violation(s), we will issue a notice of violation to advise the FSE that it is in violation of the Town Code of Ordinance and this policy and what needs to be done in order to correct the violation.

A notice of violation shall be issued to the property owner for a specific Food Service Establishment and sent by certified mail. A notice of violation shall require that corrective action be taken by a given date or may require attendance at a meeting to submit a compliance schedule agreement. Failure to install a grease trap will result in a fee of \$100.00 per billing cycle and the cost to install a grease trap, civil penalties and/or may be considered grounds for discontinuance of water and sewer services to the property.

Grease Control Policy

The primary reasons for the issuance of a notice of violation are, but not limited to:

- Failure to complete and return survey questionnaire by the due dates, as required by written notification.
- Failure to install a grease trap/interceptor by an assigned date.
- Failure to provide a collection drum or container for segregating oils, grease and/or greasy solids by an assigned date.
- Failure to properly maintain, clean/pump out, the grease trap/interceptor at a frequency that ensures efficient operation.
- Failure to repair grease trap/interceptor by an assigned date.
- Failure to maintain grease trap/interceptor maintenance records on site.
- Failure to provide grease trap/interceptor maintenance records to the Public Works Department.
- Failure to pay appropriate fee(s) and/or fine(s).
- Denied our authorized inspector access to your facility to observe conditions, obtain information, and/or perform sampling related to discharges to the Towns sanitary sewer collection system on a given date.

Order to Comply:

- If, after a follow-up inspection to the notice of violation, between April – June 2007, it is found that the FSE has continued the violation(s), we will issue an order to comply to advise the FSE that it is in continued violation of the Town Code of Ordinance and this policy, what needs to be done in order to correct the violation. Failure to comply to the order to comply will include a fee of \$100.00 per billing cycle and the cost to install a grease trap, \$50.00 per day civil penalty, and/or may be considered grounds for discontinuance of water and sewer services to the property.

Non Compliance to Discharge Limits:

A sample of the Food Service Establishment's discharge will be collected and analyzed for grease and oil concentration. This will be performed by a contracted laboratory. When the result of the analysis becomes available, the FSE will be notified in writing. All cost associated with such sampling and testing will be at the user's expense. If the concentration of grease and oil exceeds the discharge limit, the FSE will be routinely inspected and the discharge will be considered in non-compliance until laboratory analysis confirms compliance.

Discontinuance of Water and Sewer Services

- If, after a follow-up inspection to the order to comply identifies continued violation(s), this will be considered grounds for discontinuance of water and sewer services to the property.

Grease Control Policy

Policy Charges and Fees:

In addition to Civil Penalties, the Town may assess reasonable fees for reimbursement of cost for:

1. Legal fees
2. Equipment repair and replacement
3. Cost associated with the clean up or decontamination of a site after the discharge of substances into the Town sanitary sewer collection system, storm water, and or the environment that cause interference, pass-through or sanitary sewer blockage. This includes clean up and decontamination of all structures/areas including residential, commercial, and the environment
4. Sampling/monitoring costs
5. Other fees as the Town may deem necessary to carry out the requirements contained herein. These fees shall relate solely to the matters covered by this Policy and are separate from all other fees, fines, and penalties chargeable by the Town.

Personnel Responsible for Enforcement Actions:

The Town Engineer is responsible for all enforcement actions.

The Town Attorney may be requested to review escalated penalties prior to issuance, if the Town Engineer deem it necessary.

Severability:

If any provision of this Policy is invalidated by any court of competent jurisdiction, the remaining provisions shall not be effected and shall continue in full force and effect.

Frequently Asked Questions

Q. “Do I have a grease trap or interceptor?”

A. If you are not sure whether you have a grease trap or not, please contact a local plumber for assistance.

Q. “Do I need a grease trap?”

A. The Town of Southern Pines requires installation of a grease handling device if your wastewater contains grease, oils, fats, sediments, particular matter, or any other material that can impair the flow of the wastewater through the sanitary sewer collection system.

Q. “What is the difference between grease traps and interceptors?”

A. An interceptor is a device connected to your plumbing system, designed to remove oil and grease from the wastewater before it enters the Town’s sanitary sewer collection system. It is a big concrete box portioned off to remove grease and food waste by trapping things that float and things that settle to the bottom. Interceptors are installed in the ground outside a food service establishment.

A grease trap is a smaller unit, often stainless steel, that works by the same principles. Traps are installed indoors, often under a counter.

Q. “How often should I service my grease interceptor?”

A. The proper pumping and cleaning frequently is dependent upon the many variables, including but not limited to, type of food prepared, cooking and cleaning methods, volume of food or meals prepared, and the size of your grease interceptor. The Town requires that all grease interceptors be pumped and cleaned out at least every 90 days and grease traps daily.

Q. “What size grease trap should I have?”

A. To effectively remove oil and grease, a grease interceptor must retain the water long enough for the oil and grease to separate and float or rise to the baffle chamber. The period of time the water is detained in the unit is called the detention time. The Town of Southern Pines requires that grease interceptors provide a minimum of 20 minutes hydraulic detention time between the influent and effluent baffles with 20 percent of the total volume of the grease interceptor being allowed for sludge pocket.

Q. “What kinds of problems do oil and grease cause?”

A. Oil and Grease in the sanitary sewer system builds up on the walls of the sewer lines, accumulates in pump station wet wells and clogs pumping and control equipment. When oil and grease build up on the walls of the sewer line it reduces the system’s capacity and can result in complete blockage. This blockage results in sewer backups and overflows, greatly increased man hours and maintenance costs, and equipment downtime.

Frequently Asked Questions

Q. "Isn't my business grand-fathered in under the old rules?"

A. No, any establishment that does not have a properly sized and properly maintained grease interceptor is in violation of this Policy and Town Code of Ordinance.

Q. "Will a garbage disposal affect a grease interceptor?"

A. Absolutely, the ground up solids that go through the disposal will settle to the bottom of the grease interceptor and take up valuable space. The reduced volume will lower the detention time of the device and will reduce its efficiency. The increase loading will also lead to increased maintenance frequency and cost.

Q. "My restaurant doesn't have space to install an exterior in-ground grease interceptor. Are there other options?"

A. It is possible to permit the installation of interior under-the-counter interceptors instead of exterior in-ground interceptors in instances of space limitations. However, this installation will require increased maintenance and implementation of best management practices to offset trap inefficiency. The automatic grease removal systems are another possible alternative.

Q. "How do I have an Interceptor installed?"

A. Most plumbers and plumbing contractors install grease interceptors. All Grease interceptors must be permitted by the Town prior to installation.

Grease Trap and Interceptor Maintenance

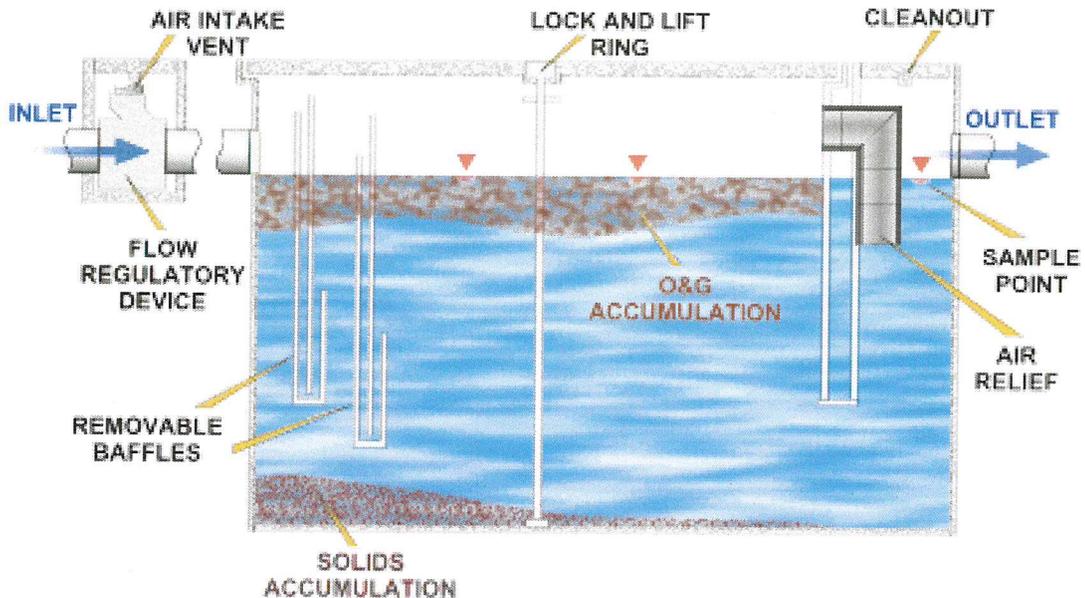
Grease trap maintenance is usually performed by maintenance staff, or other employees of the establishment. Grease interceptor (GI) maintenance, which is usually performed by permitted haulers or recyclers consists of removing the entire volume (liquids and solids) from the GI and properly disposing 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, an establishment that implements BMPs will realize financial benefit through a reduction in their required grease interceptor and trap maintenance frequency.

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:



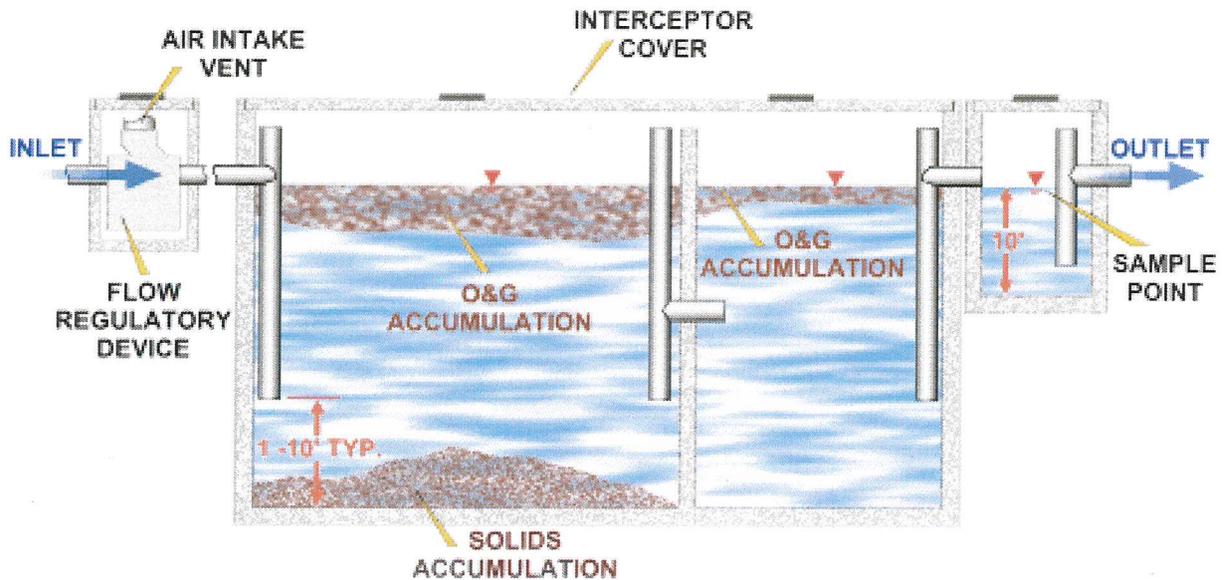
Step	Action
1.	Bail out any water in the trap or interceptor to facilitate cleaning. The water should be discharged to the sanitary sewer system.
2.	Remove baffles if possible.
3.	Dip the accumulated grease out of the interceptor and deposit in a watertight container.
4.	Scrape the sides, the lid, and the baffles with a putty knife to remove as much of the grease as possible, and deposit the grease into a watertight container.
5.	Contact a hauler or recycler for grease pick-up.
6.	Replace the baffle and the lid.
7.	Record the volume of grease removed on the <i>maintenance log</i> .

Grease Interceptor Maintenance

Grease interceptors, due to their size, will usually be cleaned by grease haulers or recyclers. Licensed septic haulers can also pump out grease interceptors and haul the waste to the treatment plant. The hauler must notify DEQ when hauling grease.

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.	Contact a grease hauler or recycler for cleaning.
2.	Ensure that all flow is stopped to the interceptor by shutting the isolation valve in the inlet piping to the interceptor.
3.	Remove the lid and bail out any water in the trap or interceptor to facilitate cleaning. The water should be discharged to the sanitary sewer system.
4.	Remove baffles if possible.
5.	Dip the accumulated grease out of the interceptor and deposit in a watertight container.
6.	Pump out the settled solids and then the remaining liquids.
7.	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.
8.	Replace the baffle and the lid.
9.	Record the volume of grease removed on the maintenance log.

Grease Interceptor Cleaning and Disposal Record



At least Every 90 days, send this completed form to: Brent Lockamy, Town Engineer, Public Works Department, 140 Memorial Park Court, Southern Pines, North Carolina 28387.
Telephone: 910-692-1983 Fax: 910-692-1085

Name of Establishment: _____

Property Address: _____

City: _____ State: _____ Zip: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Contact Person Name: _____ Title: _____

Telephone: _____ Fax: _____

Amount of grease and water pumped and hauled to disposal: _____ gallons

Thickness of the grease cap before pumping grease interceptor: _____ inches / feet

Thickness of the bottom solids before pumping grease interceptor: _____ inches / feet

Condition of the grease interceptor walls, bottom, top, and cover: OK Need Repairs

Are inlet and outlet pipes unbroken and in place: OK Need Repairs

Is the baffle(s) unbroken, unobstructed, and in place: OK Need Repairs

Verification of Origin: This is to certify that to the best of the knowledge and belief of the undersigned representative of the subject business and the hauler representative, that the above information is true and correct and that the subject wastes contain only food wastes, and that there are no sanitary wastes, industrial wastes, or toxic wastes present. I understand that falsification of this information is a violation of the Town of Southern Pines Code of Ordinance, and is subject to enforcement in accordance with the Town of Southern Pines Code of Ordinance.

Establishment Representative Name (Print): _____

Establishment Representative Signature: _____

Date: _____

Hauler's Business Name: _____

Permit / Registration Number: _____

Hauler's Driver Name (Print): _____

Hauler's Driver Signature: _____ Date: _____

Disposal Information (Where Grease Wastes are Off-loaded from Tanker Truck)

Disposal Location Name: _____

Disposal Location Address: _____

Permit / Registration Number: _____

Disposal Date: _____

Certified By (Print): _____

Certified By Signature: _____

Please Note: Attach a copy of all receipts pertaining to grease hauler activities

A FACT SHEET FOR Best Management Practices for Fats, Oils, and Grease



Residual fats, oils, and grease (FOG) are by-products that food service establishments must constantly manage. Typically, FOG enter a facility's plumbing system from ware washing, floor cleaning, and equipment sanitation. Sanitary sewer systems are neither designed nor equipped to handle the FOG that accumulates on the interior of the municipal sewer collection system pipes. Over 30% of North Carolina's 1999 sanitary sewer overflows were the result of pipe blockages from FOG accumulation from residential, institutional and commercial sources. The best way to manage FOG is to keep the material out of the plumbing systems. The following are suggestions for proper FOG management.

Dry Clean-Up

Practice dry cleanup. Remove food waste with "dry" methods such as scraping, wiping, or sweeping before using "wet" methods that use water. Wet methods typically wash the water and waste materials into the drains where it eventually collects on the interior walls of the drainage pipes. Do not pour grease, fats or oils from cooking down the drain and do not use the sinks to dispose of food scraps. Likewise it is important to educate kitchen staff not to remove drain screens as this may allow paper or plastic cups, straws, and other utensils to enter the plumbing system during clean up. The success of dry clean up is dependent upon the behavior of the employee and availability of the tools for removal of food waste before washing. To practice dry clean up:

- Use rubber scrapers to remove fats, oils and grease from cookware, utensils, chafing dishes, and serving ware.
- Use food grade paper to soak up oil and grease under fryer baskets.
- Use paper towels to wipe down work areas. Cloth towels will accumulate grease that will eventually end up in your drains from towel washing/rinsing.

Spill Prevention

Preventing spills reduces the amounts of waste on food preparation and serving areas that will require clean up. A dry workplace is safer for employees in avoiding slip, trips, and falls. For spill prevention:

- Empty containers before they are full to avoid spills.
- Use a cover to transport interceptor contents to rendering barrel.
- Provide employees with the proper tools (ladles, ample containers, etc.) to transport materials without spilling.

Maintenance

Maintenance is key to avoiding FOG blockages. For whatever method or technology is used to collect, filter and store FOG, ensure that equipment is regularly maintained. All staff should be aware of and trained to perform correct cleaning procedures, particularly for under-sink interceptors that are prone to break down due to improper maintenance. A daily and weekly maintenance schedule is highly recommended.

- Contract with a management company to professionally clean large hood filters. Small hoods can be hand-cleaned with spray detergents and wiped down with cloths for cleaning. Hood filters can be effectively cleaned by routinely spraying with hot water with little or no detergents over the mop sink that should be connected to a grease trap. After hot water rinse (separately trapped), filter panels can go into the dishwasher. For hoods to operate properly in the removal of grease-laden vapors, the ventilation system will also need to be balanced with sufficient make-up air.



NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF POLLUTION PREVENTION AND
ENVIRONMENTAL ASSISTANCE AND
DIVISION OF ENVIRONMENTAL HEALTH



Division of Environmental Health

NORTH CAROLINA
PRETREATMENT CONSORTIUM



- Skim/filter fryer grease daily and change oil when necessary. Use a test kit provided by your grocery distributor rather than simply a “guess” to determine when to change oil. This extends the life of both the fryer and the oil. Build-up of carbon deposits on the bottom of the fryer act as an insulator that forces the fryer to heat longer, thus causing the oil to break down sooner.
- Collect fryer oil in an oil rendering tank for disposal or transport it to a bulk oil rendering tank instead of discharging it into a grease interceptor or waste drain.
- Cleaning intervals depend upon the type of food establishment involved. Some facilities require monthly or once every two months cleaning. Establishments that operate a large number of fryers or handle a large amount of fried foods such as chicken, along with ethnic food establishments may need at least monthly cleanings. Full-cleaning of grease traps (removing all liquids and solids and scraping the walls) is a worthwhile investment. Remember, sugars, starches and other organics accumulate from the bottom up. If sediment is allowed to accumulate in the trap, it will need to be pumped more frequently.
- Develop a rotation system if multiple fryers are in use. Designate a single fryer for products that are particularly high in deposits, and change that one more often.

Oil & Grease Collection/Recycling & Food Donations

FOG are commodities that if handled properly can be treated as a valuable resource.

- Begin thinking of oil and grease as a valuable commodity. Some rendering companies will offer services free-of-charge and others will give a rebate on the materials collected. Note that these companies must be properly permitted by the Division of Waste Management, Solid Waste Section at 919.733.0692, in order to remove FOG from a facility. A list of grease collectors can be found in the *Directory of Markets for Recyclable Materials* at www.p2pays.org/DMRM or by calling DPPEA at 1.800.763.0136.
- Use 25-gallon rendering barrels with covers for onsite collection of oil and grease other than from fryers. Educate kitchen staff on the importance of keeping outside barrels covered at all times. During storms, uncovered or partially covered barrels allow storm water to enter the barrel resulting in oil running onto the ground and possibly into storm drains, and can “contaminate” an otherwise useful by-product.
- Use a 3-compartment sink for ware washing. Begin with a hot pre-wash, then a scouring sink with detergent, then a rinse sink.

- Make sure all drain screens are installed.
- Prior to washing and rinsing use a hot water ONLY (no detergent) prerinse that is separately trapped to remove non-emulsified oils and greases from ware washing. Wash and rinse steps should also be trapped.
- Empty grill top scrap baskets or scrap boxes and hoods into the rendering barrel.
- Easy does it! Instruct staff to be conservative about their use of fats, oils and grease in food preparation and serving.
- Ensure that edible food is not flushed down your drains. Edible food waste may be donated to a local food bank. Inedible food waste can be collected by a local garbage feeder who will use food discards for feeding livestock. Food donation is a win-win situation. It helps restaurants reduce disposal costs and it puts the food in the hands of those who can use it. Check the *Directory of Markets for Recyclable Materials* for a list of food waste collectors.

Grease Traps

- For grease traps to be effective, the units must be properly sized, constructed, and installed in a location to provide an adequate retention time for settling and accumulation of the FOG. If the units are too close to the FOG discharge and do not have enough volume to allow amassing of the FOG, the emulsified oils will pass through the unit without being captured. For information on properly locating, constructing, and sizing grease traps, contact your local county and city representatives and examine EPA guidance documents.
- Ensure all grease-bearing drains discharge to the grease trap. These include mop sinks, woks, wash sinks, prep sinks, utility sinks, pulpers, dishwashers, prerinse sinks, can washes, and floor drains in food preparation areas such as those near a fryer or tilt/steam kettle. No toilet wastes should be plumbed to the grease trap.
- If these suggested best management practices do not adequately reduce FOG levels, the operator may consider installing a second grease trap with flow-through venting. This system should help reduce grease effluent substantially.

Consumer Tip

Buyer beware! When choosing a method of managing your oil and grease, ensure that it does what the vendor says it will do. Some technologies or “miracle cures” don’t eliminate the problem but result in grease accumulations further down the sewer line. “Out of sight” is not “out of mind.” Check the vendor’s references.



The **Grease Goblin** is the mascot for DPPEA's Oil and Grease Management Program. He serves as a reminder to keep grease out of sinks and drains before it becomes a nuisance.

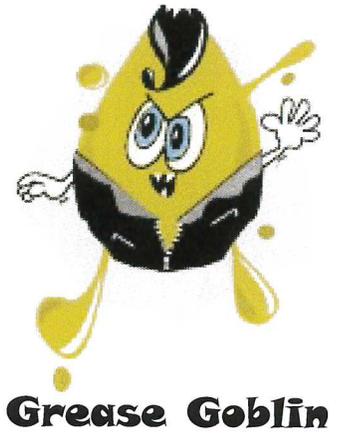
This is a publication by the NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES' DIVISION OF POLLUTION PREVENTION AND ENVIRONMENTAL ASSISTANCE, 1639 MAIL SERVICE CENTER, RALEIGH NC 27699-1639.

Information contained in this publication is believed to be accurate and reliable. However, the application of this information is at the readers' risk. Mention of products, services, or vendors in this publication does not constitute an endorsement by the State of North Carolina. Information contained in this publication may be cited freely.

DPPEA-FY00-08. 2,000 copies of this public document were printed on recycled paper at a cost of \$72.40, or \$0.036 per copy.

A FACT SHEET FOR

Restaurant Oil and Grease Rendering



Introduction

Improperly managed oil and grease from restaurants has become a significant problem for wastewater collection and treatment systems. Fats, oils, and greases (FOG) coat, congeal, and accumulate in pipes, pumps, and equipment, leading to the costly and hazardous flow of waste grease into drain lines, sewer lines, lift stations, drain fields, and Publicly Owned Treatment Works (POTWs). Improper disposal can result in high biological oxygen demand (BOD) and chemical oxygen demand (COD) levels, increased operating costs, and clogged collection systems. Approximately 30% of the 3,800 reported sewer system overflows in North Carolina in 1998 were caused by FOG blockage of the sewers.

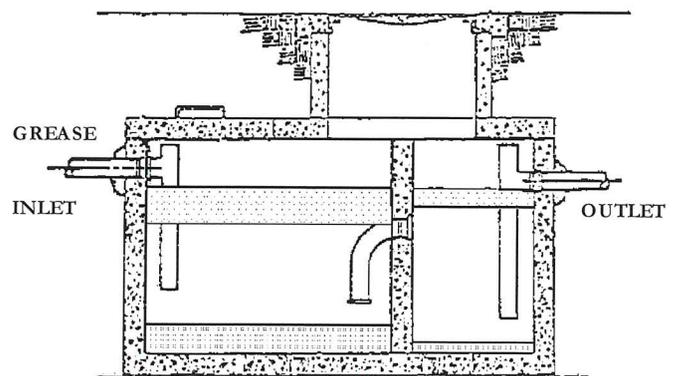
Where Does Grease Go When It Leaves a Restaurant?

A grease trap is designed to prevent grease, oil, solids, and other debris from entering the waste stream, where it becomes a problem by clogging sewers and disrupting the water flow in the system. The grease trap captures those wastes and contains them until a rendering company can properly dispose them.

A grease trap should be checked and maintained to ensure it is working properly. Backups, odors, and drainage problems are signs that the grease trap is not functioning as it should.

Grease Recycling

While pretreating wastewater through the use of grease traps, skimmers, separators, and process flow treatment systems such as carbon filtration or coagulation units can greatly reduce the problem, source reduction of oil and grease must be the first course of action. Through dry cleanup, the development of an efficient collection system and rendering program, wastewater problems can be avoided. Rendering companies or "grease recyclers" will accept oil, grease, and other animal byproducts, including deep fry fat and bones, thereby turning a nuisance waste material into a beneficial product such as animal feeds.



OCTOBER 1999



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF POLLUTION PREVENTION AND ENVIRONMENTAL ASSISTANCE
1639 MAIL SERVICE CENTER ■ RALEIGH, NC 27699-1639

How is Waste Oil and Grease Recycled?

Waste oil and grease is tested for pesticides and other contaminants. Material is placed in a settling tank to remove solids, heated in a vacuum to volatilize impurities and is then sold to companies for use as animal feed additives, in soap production, oils, cosmetic and skin care products, and in composting.

Benefits of Rendering

- **Compliance** – Many communities have sewer use ordinances that severely limit the allowable concentrations of oil and grease in wastewater. New state policies are being enacted that will require more communities to develop sewer use ordinances and wastewater discharge limitations. Penalties may be incurred when higher concentrations are found. Rendering prevents grease from reaching the sewer system and thereby helps restaurants maintain compliance.
- **Cost Avoidance** – The charge for pumping out a grease trap is considerably more than the service fee charged by a renderer. Furthermore, with dry cleanup and other source reduction techniques, many restaurants are reducing their water consumption and sewer use and are saving money. Rendering also helps restaurants avoid discharge penalty charges.
- **Economic Incentives** – Renderers' service fees are low and often provided at no charge. In some cases, rendering companies are willing to pay for restaurant oil and grease.
- **Environmental Savings** – Natural resources and energy are conserved through source reduction and recycling. FOG recycling keeps these materials from clogging municipal sewer lines, as well as using valuable landfill space and diverts it to a useful purpose.

Where to Find Renderers

Visit the North Carolina Directory of Markets for Recyclable Materials at: www.p2pays.org/DMRM/default.htm, or call (919) 715-6500. Local pretreatment coordinators and wastewater superintendents are also good sources of information.



The **Grease Goblin** is the mascot for DPPEA's Oil and Grease Management Program. He serves as a reminder to keep grease out of sinks and drains before it becomes a nuisance.

Grease Processors/Renderers

Bakery Feeds/Griffin Industries, Marshville, N.C.
(704) 624-9140

CBP Resources, Inc., Greensboro, N.C.
(336) 333-3034

CBP/Valley Proteins Inc., Wadesboro, N.C.
(704) 694-3701

East Coast Resources, Cary, N.C.
(919) 387-1906

Enterprise Rendering Co., Oakboro, N.C.
(704) 485-3018

Environmental Recycling, High Point, N.C.
(336) 869-8785

McGill Environmental Systems, Rose Hill, N.C.
(910) 532-2539

Smith Farms, Princeton, N.C.
(919) 736-4336

Waste Management of Wilmington, Wilmington, N.C.
(910) 799-5256

Questions to Ask a Renderer

When looking for an oil and grease renderer, it is important to ask the right questions, which may include:

- 1) Do you provide collection containers?
- 2) Do you provide transportation?
- 3) Can I expect revenue for my material? If not, what is your service fee?
- 4) What are your specifications? What constitutes contamination?
- 5) If there is a problem, who should I contact?

Remember that fats, oils, and greases are commodities and should be treated as valuable resources that can and should be recycled whenever possible.

OCTOBER 1999

This is a publication by the North Carolina Department of Environment and Natural Resources' Division of Pollution Prevention and Environmental Assistance. Information contained in this publication is believed to be accurate and reliable. However, the application of this information is at the readers' risk. Mention of products, services, or vendors in this publication does not constitute an endorsement by the State of North Carolina. Information contained in this publication may be cited freely.

DPPEA-FY99-17. 300 copies of this public document were printed on recycled paper at a cost of \$7.86, or \$0.0262 per copy.

A FACT SHEET FOR

Managing Food Materials



This fact sheet is provided to encourage businesses such as food service providers, processors, distributors, and merchandisers to eliminate waste and recover/recycle food materials. Food waste can produce several environmental impacts. For example, food materials discharged to a wastewater treatment plant will contribute to increased levels of BOD (biological oxygen demand), COD (chemical oxygen demand), TSS (total suspended solids), and O/G (oil and grease). Examples of these food materials include preparation wastes, uneaten portions, grease, batter waste, dairy products, beverages containing sugar, and dressings. Also, food materials discarded into the solid waste stream contribute to odor and methane generation at disposal facilities and to increased BOD and COD levels in landfill leachate.

Food materials are excellent candidates for reduction, recovery, and reuse. Reducing materials at their source, coupled with recovery, reuse, and recycling prevents pollution and reduces, and in some cases eliminates, treatment and disposal costs. A successful waste reduction program can result in cost savings and possible generation of revenues. These activities also contribute to a positive public image for the company, benefits to the community, and protection of the environment.

Reduction at the Start:

Ordering and Inventory Controls

Perhaps the most effective method for reducing waste is to prevent it in the first place. Proper control of raw goods,

final products, and the waste streams associated with food preparation is an important source reduction technique. Improved ordering and inventory control significantly affect the three major sources of waste resulting from improper inventory control: excess, out-of-date, and obsolete raw goods. Below are options for reduction at the start.

- Order bulk supplies.
- Terminate useless packaging from the vendor.
- Refuse samples that will become waste.
- Work with suppliers to return shipping materials and packaging.
- Purchase reusable items.
- Purchase durable items such as air hand dryers that are designed to reduce waste.
- Purchase only the amount of raw goods needed for a set period of time. This practice will help eliminate out-of-date and excess goods and products.
- Develop a review and approval procedure for all raw goods and products purchased. The primary purchaser can regulate the quantity of materials purchased by other personnel to reduce excess and out-of-date inventory.
- Clearly label all materials. Labels can indicate contents, storage and handling, and expiration dates.

Donations, Sales, and Composting of Food Material

Food preparation businesses seeking to reduce food waste should look for opportunities to work closely with poten-

OCTOBER 1999



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF POLLUTION PREVENTION AND ENVIRONMENTAL ASSISTANCE
1639 MAIL SERVICE CENTER ■ RALEIGH, NC 27699-1639

tial reusers such as food donor programs. After donating edible food to reusers, food businesses may work with facilities such as grease renderers, animal food manufacturers, local farmers, or composters who can collect food materials and use them in their operations. Composting is also an option for managing solid food waste. Table 1 lists North Carolina renderers, animal food manufacturers, and composting facilities. Tables 2 and 3 list North Carolina and national food bank/food donor programs.

Segregate Food Wastes for Beneficial Uses

To increase their recyclable potential, food materials should be clean and free of trash such as paper, glass, and plastic. Also, depending upon the requirements of recyclers, solid food wastes should be separated from liquid food wastes to enhance their recyclability.

- **Excess edible food** should be kept separate from waste food and routed to a local food bank or food donor program. North Carolina's model "Good Samaritan Law" was enacted in 1989 and revised in 1991. This law protects any good faith donor from civil or criminal liability unless injury is caused by gross negligence, recklessness, or intentional misconduct of the donor. The local health department

can provide handling and storage procedures applicable to your area. Currently, more than four million pounds of food materials are donated each year to North Carolina food rescue programs alone.

- **Solid food waste** should be segregated from waste oils and greases. Hog, cattle, and poultry producers are interested in collecting food waste to use as animal feed. Dairy and bread waste may be fed to hogs without further handling, but other food waste or mixed food waste must be cooked before being fed to hogs. Farmers who use other or mixed food materials must be licensed garbage feeders. Zylphia Smith of the U.S. Department of Agriculture, Animal Plant Health Inspection Services (APHIS) at (919) 856-4170 can provide information about state regulations and a list of licensed garbage feeders. Local cooperative extension agents also may assist with locating markets for waste food.
- **Waste oils and grease**
 - Free grease is that used for or generated by cooking and has not been mixed with water. It is generated from pots, pans, grills, and deep fat fryers and comes from butter, lard, vegetable fats and oils, meats, nuts, and cereals. Free grease should be kept out of the drains and handled separately. Rendering facilities may

Table 1. North Carolina Renderers and Composting Facilities for Food Waste

Food Waste Service	Company/Address	Contact/Telephone/Fax
Composter	Brooks Contractor 1195 Beal Road Goldston, NC 27252	Dean Brooks (919) 837-5914
Renderer	CBP Resources (Offices statewide) P.O. Box 20687 Greensboro, NC 27420	Charlie Cheek (919) 333-3034 or (919) 378-0435
Renderer	Enterprise Rendering Company 28821 Bethlehem Ch. Rd. Oakboro, NC 28129	Carrol Braun, Jr. (704) 485-3018 or (704) 485-2222
Composter	McGill Environmental Systems 1100 Herring Road Rose Hill, NC 28458	Annette Tyson (910) 532-2539 (910) 532-2542
Renderer	East Coast Resources P.O. Box 5066 Cary, NC 27512	Wallace Woodall (919) 387-1906 (800) 6-GREASE
Renderer	Valley Proteins, Inc. P.O. Box 718, Highway 52 Wadesboro, NC 28170	Michael Boling (704) 694-3701 (704) 694-6145

purchase free grease and meat wastes and provide storage and collection. The market price depends upon factors such as volume, quality, and hauling distances. The rendering services will process free grease by sampling it for pesticides and other chemicals and filtering and volatilizing impurities before reselling it, where prices may range from one to three cents per pound. If the volume of the wastes generated from one restaurant or cafeteria is too small for the rendering facility, businesses should ex-

- o explore the feasibility of setting up a cooperative collection among similar businesses.
- o Trap grease is that collected in a grease trap. Because fats coat, congeal, and accumulate on pipes and pumps and sometimes obstruct sewer lines, some food service establishments may be required by their local government to maintain grease traps. Specific information about trap maintenance is presented below. Some rendering services and local septage haulers will service or pump out these traps for a fee, and some

Table 2. North Carolina Food Bank and Food Donor Programs

Organization/Address/Contact/Telephone	Organization/Address/Contact/Telephone
¹ Albemarle MANNA P.O. Box 1704 Elizabeth City, NC 27906-1704 Debbie Fox, (919) 335-4035	² Inter-Faith Food Shuttle 723 W. Johnson St. Raleigh, NC 27603 Jill Staton Bullard, (919) 829-0056
¹ Cape Fear Community Food Bank P.O. Box 2009 Fayetteville, NC 28302 Walter Hair, (910) 485-8809	^{1,2} MANNA Food Bank 627 Swannanoa River Road Asheville, NC 28805 (704) 299-3663
¹ Food Bank of NC 4701 Beryl Road Raleigh, NC 27606 Greg Kirkpatrick, (919) 833-9027	¹ Metrolina Food Bank Inc. P.O. Box 33264 Charlotte, NC 28233 Anne Register, (704) 376-1785
¹ Food Bank of Northwest NC 3655 Reed Street Winston-Salem, NC 27107 Nan Holbrook Griswold, (910) 784-5770	² North Carolina Harvest, Inc. 2910 Selwyn Ave., No. 127 Charlotte, NC 28209 Bonnie West, (704) 342-3663
² Good Shepherd House 511 Queen Street Wilmington, NC 28401 Tom Whiteside, (910) 251-1124	² Second Helpings 3655 Reed Street Winston-Salem, NC 27107 (910) 784-5770
^{1,2} Greensboro's Table - Greensboro Urban Ministry 305 West Lee Street Greensboro, NC 27406 Faye Ellison, (910) 271-5975	¹ = Food Bank ² = Food Rescue Program

Table 3. National Organizations

Second Harvest, 1-800-771-2303.
National nonprofit organization that coordinates packaged and nonperishable food donations to food banks.

Food Chain - 1-800-845-3008.
National nonprofit organization that coordinates prepared and perishable food donations.

services may reduce the pumping fee if the restaurant is a free grease customer.

Dry Cleanup To Keep Wastes Out of the Drain

Food preparation facilities should develop dry cleanup procedures to the greatest possible extent. Some municipalities will charge (surcharge) for any discharge of BOD, COD, TSS, and O/G above a certain level. For a restaurant that uses 3,000 gallons of water per day, serves seven days a week, and has an average BOD of 1,250 milligrams per liter (mg/L), an annual surcharge could be as much as \$1,173.¹ Dry cleanup procedures will reduce the amount of food waste that enters the drains and, thus, help reduce the possible surcharges.

- ✓ **The “first pass”** in equipment and utensil cleaning should be made with scrapers, squeegees, or absorbents to prevent the bulk of food materials from going down the drain. Studies have shown that for a fast food restaurant, 93 percent of the oil and grease discharged to the wastewater treatment plant is generated from ware washing. For a full service restaurant, 75 percent of the oil and grease discharged to the wastewater treatment plant is generated from the pot sink. Waste collected on this “first pass” could be set aside for rendering or, possibly, composting.
- ✓ **Spills.** Dry cleanup can be applied also to spills in the kitchen. Spills of dry ingredients should be swept up or vacuumed to prevent them from being washed down the drain.
- ✗ **Garbage Disposals.** Businesses that use garbage disposals to dispose of food waste are simply transferring disposal from a landfill to a wastewater treatment plant. Disposal of food waste via the sewer system is more costly than landfill disposal and acts as a disincentive to reduce generation of food waste or to separate food for donations, rendering, animal feed, or composting.

Maintaining Grease Traps

Food preparation facilities that discharge to a municipal sewer should contact the local wastewater treatment plant (WWTP) for any requirements concerning the need for interceptors and grease trap management. The most important management procedure for grease traps is that a company representative be present during any cleaning, pumping, or skimming performed by a contractor. This safeguard

permits management to respond appropriately to any questions about the services performed.

- ✓ **Pump out schedules** should be properly established and strictly followed to prevent overflows, downstream blockage, excessive oil and grease, and BOD loading to wastewater. It is important that these pump outs are complete, i.e., the grease caps removed, the sides scraped or hosed down, and the trap refilled with water. The contractor should indicate whether the trap is refilled with clean water or water from the trap.
- ✓ A food preparation facility should **never “hot flush”** (continuously run hot water) the grease trap as the heated, liquefied grease will be flushed down the sewer. While hot flushing may divert the need for pumping, the facility is liable for any costs associated with clogs caused by the flushing.
- ✓ **Skimming services** are available to skim grease traps on a regular basis. These facilities will reprocess the grease collected and notify owners when complete grease trap pump outs are necessary.
- ✓ **Bioaugmentation**, the addition of selected microorganisms (primarily bacteria) to the trap for improved operation, should be evaluated for each case. The bioaugmentation process is basically a passive treatment system to facilitate grease digestion and control buildup of the grease cap. The effectiveness of bioaugmentation is determined by a variety of factors including retention time in the trap, temperature of the wastewater, strength of the wastewater, and contact surface area. Some information indicates that for completely effective bioaugmentation, a retention time of one to five days is needed; however, a typical grease trap is designed for only one day of hydraulic retention. Since these parameters vary with location, an evaluation of each case should be made. The local WWTP should be contacted before any additives are used.
- ✓ **Alternative grease trap designs.** Some grease trap systems are designed to periodically heat the trap to de-solidify grease so that it can be automatically skimmed and collected. The high-quality grease collected from these systems may have high reuse potential. These grease traps, which may also be smaller than standard traps, can be located under a specific device above ground (i.e., the pot sink).

¹In this example, total pounds for the year are 1,000 mg/L BOD x (3,000 gpd/1 million) x 365 days x 8.34 = 9,132.3 lbs/yr. The surcharge would be 9,143.3 x \$128.40/1,000 = \$1,172.59 per yr.

Composting Food Wastes

Compost Facilities. Businesses interested in diverting wastes to composting could open their own compost facility or investigate the possibility of using local government or private compost facilities already in operation. North Carolina has a compost demonstration program for individuals interested in composting. For regulatory information or a

list of pilot or permanent composting facilities for organic materials, contact Ted Lyon of the Solid Waste Section (SWS) of the N.C. Division of Solid Waste Management at (919) 733 0692, ext. 253. Both the SWS and the Division of Pollution Prevention and Environmental Assistance can provide information and technical assistance to businesses interested in establishing and managing a composting program.

Facility Waste Reduction Program

Management Commitment. The most critical step to successful waste reduction is commitment by the owner(s)/managers of a facility to a waste management plan. A detailed waste reduction program should be developed that outlines policies and procedures for dealing with waste and assigns individual responsibilities for all waste related activities.

Employees will be aware of the degree of commitment by management and will rise or fall to the level that is expected or allowed. It is, therefore, important to have realistic goals that can be achieved, recognized, and rewarded.

Employee training is a significant component of a waste reduction program, and all employees from managers to the clean-up crew should be included. The training sessions, which should be repeated on a regular basis, should teach waste awareness, the impact of various food wastes on the wastewater stream, proper waste handling methods, and the importance of keep-

ing non-food garbage out of food waste containers. Contact the Division of Pollution Prevention and Environmental Assistance at (919) 715-6500 for assistance with setting up training programs.

An Employee Suggestion/Awards Program should be established to maintain employee motivation. Employees can be rewarded for proper waste handling practices. Current incentive programs ("employee of the month") can also incorporate employee waste handling practices as evaluation criteria. An employee awareness program should be highly visible, and managers and supervisors must strongly support these programs.

Also, **employees should be solicited** for ideas/suggestions for conducting efficient dry cleanups, segregating food wastes, or recycling other solid waste products. Employees also may have ideas about methods to generate less food waste or more effectively manage inventory. The most effective waste reduction programs make use of a team concept in which employees at all levels make contributions.

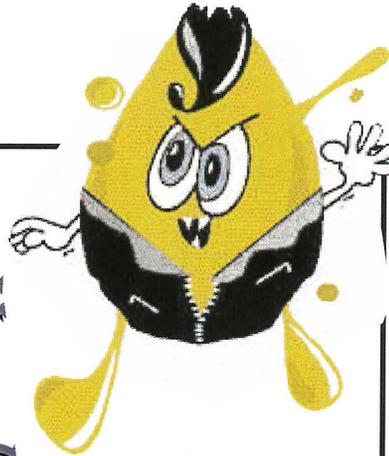


The **Grease Goblin** is the mascot for DPPEA's Oil and Grease Management Program. He serves as a reminder to keep grease out of sinks and drains before it becomes a nuisance.

OCTOBER 1999

This is a publication by the North Carolina Department of Environment and Natural Resources' Division of Pollution Prevention and Environmental Assistance. Information contained in this publication is believed to be accurate and reliable. However, the application of this information is at the readers' risk. Mention of products, services, or vendors in this publication does not constitute an endorsement by the State of North Carolina. Information contained in this publication may be cited freely.

DPPEA-FY99-18. 300 copies of this public document were printed on recycled paper at a cost of \$29.58, or \$0.0986 per copy.



Don't Feed the Grease Goblin!

DO

- ✓ Put oil and grease in collection containers
- ✓ Remove oil and grease from kitchen utensils, equipment and food preparation areas with scrapers/towels/brooms
- ✓ Keep grease out of wash water
- ✓ Place food scraps in collection containers

DO NOT

- ⊘ Pour oil and grease down drains
- ⊘ Wash fryers/griddles, pots/pans and plates with water until oil and grease are removed
- ⊘ Use hot water to rinse grease off surfaces
- ⊘ Put food scraps down drains



¡No Alimente a el Duende de Grasa!

SI

- ✓ Ponga la grasa en contenedores apropiados
- ✓ Remueva el aceite y la grasa de utensilios de cocina, equipos, y áreas de preparación de comidas con espátulas/toallas/escobas
- ✓ Mantenga la grasa fuera de el agua de lavar
- ✓ Ponga los desperdicios de comida en contenedores adecuados

NO

- ⊘ No tire aceite o grasa en los drenajes
- ⊘ No lave con agua freidoras/planchas, ollas/cacerolas y platos hasta que el aceite y la grasa hayan sido removidos
- ⊘ No use agua caliente para limpiar la grasa de las superficies
- ⊘ No tire desperdicios de comida en los drenajes

WAN'T FEED YOUR DRAINS YOUR WORST ENEMY



the Grease Goblin

LAST SEEN

Loitering in Sinks
and Drains

WANTED FOR

Causing Sewer Overflows

Don't Feed the Grease Goblin!



✓ Put oil and grease in collection containers

⊘ Pour oil and grease down drains

✓ Remove oil and grease from kitchen utensils, equipment, and food preparation areas with scrapers/towels/brooms

⊘ Wash fryers/griddles, pots/pans, and plates with water until oil and grease are removed

✓ Keep grease out of wash water

⊘ Use hot water to rinse grease off surfaces

✓ Place food scraps in collection containers

⊘ Put food scraps down drains

Help keep this guy out of your drains and in the hands of the proper authorities!



N.C. DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF POLLUTION PREVENTION AND ENVIRONMENTAL ASSISTANCE 1-800-763-0136

100 copies of this public document were printed on recycled paper at a cost of \$109.85, or \$1.10 per copy.

¡No Alimente a el Duende de Grasa!



El Duende de Grasa

SI

✓ Ponga la grasa en Contenedores apropiados

✓ Remueva el aceite y la grasa de utensilios de cocina, equipos, y areas de preparación de comidas con espátulas/toallas/escobas

✓ Mantenga la grasa fuera de el agua de lavar

✓ Ponga los desperdicios de comida en contenedores adecuados

NO

⊘ No tire aceite o grasa en los drenajes

⊘ No lave con agua, freidoras, planchas, ollas, cacerolas y platos hasta que el aceite y la grasa hayan sido removidos

⊘ No use agua caliente para limpiar la grasa de las superficies

⊘ No tire desperdicios de comida en los drenajes

¡Ayudenos a Mantener Este Chico Fuera de Sus Drenajes!



N.C. DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF POLLUTION PREVENTION AND ENVIRONMENTAL ASSISTANCE 1-800-743-0136

Spanish translation by Enrique Cejello

100 copies of this public document were printed on recycled paper at a cost of \$109.85, or \$1.10 per copy.