



## Grease Trap and Grease Interceptor Policy Guide

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## INTRODUCTION

The City of Perryville supplies water and sewer service to the citizens of Perryville Missouri.

The City of Perryville works to maintain approximately 100 miles of pipe throughout the area.

Blockages in the sanitary sewer lines causes Sanitary Sewer Overflows ( SSOs ). When sewer lines are blocked, the wastewater backs up until it overflows from manholes. The wastewater, which has overflowed from a manhole, may flow into storm drains or directly into creeks. Wastewater back up in residential plumbing lines will cause hardship to homeowners and take costly repairs.

Investigations by The City of Perryville indicate that grease maybe the leading cause of SSOs. When grease is disposed in the sewer system it cools, solidifies, accumulates in the sewer lines restricting flow. Increased concentrations of Fats, Oils, and Grease (FOG) are found in the wastewater discharged from Food Service Establishments (FSEs).

When the City of Perryville implements a grease control program with FSE's, it will be designed to decrease the amounts of FOG discharged to the sanitary sewer system from these facilities. This program is one of many The City of Perryville is pursuing to eliminate SSOs and to comply with the Clean Water Act.

The City of Perryville is providing this Grease Control Manual to each FSE to help them understand and comply with the requirements of the Grease Control Program. See City of Perryville Ordinance Chapter 13.16 for specific information.



# CITY OF PERRYVILLE GREASE CONTROL PROGRAM

## Section 1:

### WHAT IS GREASE?

Grease is the accumulation of plant and animal fats usually bonded together by starches and proteins found in cooking materials. Grease may be in the form of warm water liquid and may not appear harmful. However, as the liquid cools, the grease of fat congeals causing mats on the surface of settling tanks, digesters, the interior of pipes, and other surfaces which may cause a shutdown of treatment plant units. Also, the grease can solidify in sewer collection lines obstructing flow through the lines. This causes back-ups, odors, excessive maintenance, etc.

Grease originates from homes, restaurants, food service operations, and other grease producing establishments. The term “fats oil and grease” (FOG) applies to a wide variety of organic substances of animal, vegetable, or mineral origin that may be extracted from aqueous solution or suspension by an organic solvent, such as hexane. Problems caused by wastes from restaurants and other grease producing establishments have served as the basis for regulations governing the discharge of grease materials to the sanitary sewer system. This type of waste has forced the requirements of the installation of preliminary treatment facilities, commonly known as grease traps and interceptors. Although grease traps are the most common means of removing grease from the wastewater discharge, other mechanical devices in addition to chemical and biological additives also are available for reducing FOG concentration in wastewater.

A grease control trap works by slowing down the flow of hot greasy water and allowing it to cool. As the hot water cools, the grease and oil separate and float to the top of the grease trap. The cooler water continues to flow down the pipe to the sewer. The “baffles” which cover the inlet and outlet of the tank trap the grease, preventing grease from flowing out of the trap. Other mechanical devices work by skimming or filtering the waste water.

### HOW DOES GREASE INTERFERE WITH THE OPERATION AND MAINTENANCE OF THE SEWER SYSTEM?

1. Oil and grease cause the formation of deposits of greasy solids along the water line of sewers, thereby reducing the sewer capacity. These deposits can lead to the breakaway of accumulated grease at times of high or very low flow.
2. Oil and grease accumulate in the wet wells and lift stations. When mixed with other materials present in the sewage, the oil and grease cause blockages and failure of the pumps.
3. Grease deposits in bends of the sewer and causes restriction and blockages.
4. Grease deposits cause overflows in the drains of commercial and industrial properties.
5. Grease accumulates on lift station equipment causing failures
6. Grease accumulates on screens at treatment facilities causing blockages and expensive repairs.
7. Grease and oil reduce the efficiency of sewage treatment and the quality of the effluent discharged into the environment.



## **CITY OF PERRYVILLE GREASE CONTROL PROGRAM**

### **WHAT KITCHEN OPERATIONS ARE RESPONSIBLE FOR GREASE ENTERING THE SEWER SYTEM?**

Grease discharges are predominantly generated from washing and cleaning operations not from deep-frying as most people might think. The pot washing sink, pre-rinse station prior to the dishwasher, trenches and the floor drains fed by soup kettles, automatic and manual ventilation hoods, etc., are the major sources of grease discharges to the sewer system

### **HELPFUL HINTS FOR REDUCING GREASE IN YOUR DISCAHRGE ARE IN THE BEST MANAGEMENT PRACTICES (BMP) SECTION OF THIS MANUAL**

## **Section 2: Design, Installation and Maintenance of Grease Interceptors**

1. All new/replacement grease interceptors shall be designed and constructed in accordance with the current version of the IPC adopted by the City of Perryville Section 1003. All grease interceptor plans and specifications shall be submitted and approved by the Building Official prior to installation.
2. All grease interceptors shall be professionally installed by a Plumbing Contractor and maintained by the User at the User's expense so as to be in continuously effective operation.  
Maintenance shall include the complete removal of all contents, including floatable materials, wastewater, sludge and solids, on a routine basis.
3. All User shall be responsible for the proper removal and lawful disposal of the grease interceptor waste. All waste removed from each interceptor should be disposed of properly. No grease interceptor waste shall be discharged directly to the wastewater collection system or wastewater treatment facility.
4. The City may conduct mandatory inspections of every Food Service Establishment connected to the sewer collection system once a year, and at other times as the City deems necessary, in its discretion. If grease is responsible for a sewer blockage, all Food Service Establishments upstream from the blockage will be inspected.
5. All Food Service Establishments shall have their grease interceptors professionally cleaned and inspected no less than annually. At which point, inspection and cleaning records shall be submitted to the Building Official.



# CITY OF PERRYVILLE GREASE CONTROL PROGRAM

## Section 3: Required Grease Trap Size Calculation based on the IPC "Seats" method for restaurants

What is the total number of customer seats?\* \_\_\_\_\_ (D)\*

\*If there are no customer seats (carryout facility) use 25 for the number of seats.

Add 25 seats to facilities that have a drive-thru, unless they have no seats.

### Choose the following for the facility.

- Has dishwashing machine 6 pts
- Does not have dishwashing machine 5 pts
- Is single service kitchen 2 pts
- Has garbage disposal (for food waste) 1pts

Total: \_\_\_\_\_ Enter total here. \_\_\_\_\_(GL)

### Is the facility...

- Storage Capacity Factor
  - Single service kitchen 1.7 pts
  - Fully equipped commercial kitchen 2.5 pts

Enter total here. \_\_\_\_\_(ST)

### How many hours per day is the facility operating?

- 8 hours
- 12 hours
- 16 hours
- 24 hours

Enter hours here. \_\_\_\_\_(HR)

### Loading factor:

- Interstate locations 1.25
- Other freeways/recreational areas 1.00
- Main highways/other highways 0.80

Enter total here. \_\_\_\_\_(LF)

### The formula for calculating the required grease trap size is:

$$D \times GL \times ST \times (HR/2) \times LF = GT \text{ (gallons)}$$

The minimum grease trap size required is the size as determined by the above formula. If this size (as determined by the formula) is less than 750 gallons, then the grease trap size shall be 750 gallons.



# CITY OF PERRYVILLE GREASE CONTROL PROGRAM

## Section 4: Service Records

All Food Service Establishments shall maintain a written record on site of grease interceptor maintenance for 3 years. A copy of each maintenance record shall be mailed to the City no later than 15 days after the end of the month during which the maintenance occurred.

## Section 5: Existing Facilities with Grease Interceptors

1. All existing Food Service Establishments shall maintain grease interceptors for continuous, satisfactory and effective operation. Any grease interceptor to be found substandard during routine maintenance or inspection shall be replaced according to Section 6.
2. Maintenance shall include the complete removal of all contents, including floatable materials, wastewater, sludge, and solids. Separation, decanting or back flushing of the interceptor or its waste is prohibited.
3. The Food Service Establishment should have all interceptors serviced by a licensed professional at intervals not to exceed thirty (30) days.
4. Service records shall be submitted as stated in Section 4.
5. Any additional fixtures that are added to the food service establishment and discharge a grease-laden wastestream shall be plumbed into the interceptor and/or a new interceptor may be required.

## Section 6: Food Service Establishments in New Facilities

1. Food Service Establishments, locating in newly constructed facilities, shall install an exterior type grease interceptor adequately sized (min 750 gallon) and should conform to the current version of the IPC adopted by the City of Perryville.
2. All new grease interceptors shall be designed and constructed per the current version of the IPC adopted by the City of Perryville. A licensed engineer or architects seal will be required with commercial building permits.
3. No new Food Service Establishment will be allowed to initiate operations until grease interceptors are installed and inspected by the Building Official.
4. Following installation of a grease interceptor, all Food Service Establishments shall comply with maintenance requirements set forth in this manual.
5. Food Service Establishments with a bona fide hardship (as determined by the Building Official) of a physical property restriction shall install a point-of-use grease interceptor.



## **CITY OF PERRYVILLE GREASE CONTROL PROGRAM**

### **Section 7: New Food Service Establishments in Existing Facilities**

1. New Food Service Establishments locating in existing buildings are required to comply with the grease interceptor standards applicable to new facilities, as set forth in Section 6.
2. For cases in which exterior type grease interceptors are infeasible to install due to physical property restrictions, a "point-of-use" grease trap shall comply with sizing criteria located in the current version of the IPC adopted by the City of Perryville.
3. The City must approve control devices and grease interceptors prior to installation.

### **Section 8: New Building (Strip Centers) with the Potential for Food Service Establishments**

All new buildings or strip centers containing sections designated for commercial enterprise of the strip center are encouraged to provide a stub-out for a separate waste line for future grease interceptor installation. The owner of a new strip center shall consider suitable physical property space and sewer gradient that will be conducive for the installation of an exterior, in ground-grease interceptor for any flex space contained within the strip center. Physical property restrictions and sewer gradient shall not be a defense for failure to install an exterior, in-ground grease interceptor.

### **Section 9: Substandard Grease Interceptors**

1. Any Food Service Establishment without a grease interceptor will be given a compliance deadline not to exceed six (6) months from date of notification to have approved and installed grease interceptors.
2. In the event an Existing Food Service Establishment's grease interceptors are either under-designed or substandard in accordance with this policy, the owner will be notified in writing of the deficiencies and required improvements, and given a compliance deadline not to exceed (6) six months to conform with the requirements of this standard. In some cases an exterior in-ground interceptor may be required and installation and maintenance shall follow Section 5 of this policy.
3. For cases in which exterior type grease interceptors are infeasible (as determined by the Building Official) to install due to physical property restrictions, a point-of-use grease trap shall comply with sizing criteria specified in the current version of the IPC adopted by the City of Perryville. Maintenance procedures shall follow Section 5.
4. The Building Official must approve control devices and grease interceptor design prior to installation.



# CITY OF PERRYVILLE GREASE CONTROL PROGRAM

## Section 10: Prohibitions and Violations

No User shall contribute or cause to be contributed into the sanitary sewer system (Per current version of the IPC and Ordinances 13.16.130B, 13.16.140A, 13.16.280, 13.16.290, 13.16.300, 13.16.310) the following:

1. Hot water running continuously through grease interceptor.
2. Discharge of concentrated alkaline or acidic solutions into a grease interceptor.
3. Discharge of concentrated detergents into grease interceptors.
4. Discharge of oils and grease into the sanitary sewer system.

It shall be a violation of this ordinance for any person or user to:

1. Modify a grease interceptor structure without consent from the City.
2. Provide falsified maintenance records.
3. Not comply with this policy.

## Section 11: Enforcement

Any Food Service Establishment that is identified, in whole or in part, as the source of a sanitary sewer blockage and/or overflow, will be notified by the Perryville Code Enforcement officer of the violation and charged for the cost of cleanup, in addition to any fines dispensed from the State of Missouri. If the City Code Enforcement officer finds the violation is not rectified in the given time period a citation will be issued to appear in municipal court. (Per Perryville Ordinance 13.16.160)

## Section 12: Business Types

The following business types will be required to install a grease trap in their establishment:

- Gas Stations serving any type of hot food
- Private Clubs
- Deli
- Ice Cream Shops
- Beverage Bars
- Mobile Food Vendors
- Caterers
- Daycare Facilities (over 4 children and not considered a "home occupation")
- Limited Service Restaurants/Fast Food Facilities
- Full Service Restaurants
- Buffet and Cafeteria Facilities
- Institutions (Schools, Hospitals, Prisons, Nursing Homes/Extended Care Facilities)

## FORMS

This is a summary of the forms that shall be on file at the Food Service establishment (FSE) when The City of Perryville inspects the facility. There are directions on the individual forms to aid FSE personnel in completing the forms. However, if there are any questions, please contact The City of Perryville.

The Owner or Owner's Representative of the FSE shall complete the ***Grease Control Program Action Plan*** and ***Grease Control Program*** form. Both of these forms are provided with this manual and should be kept on file for reference during an inspection of the facility.

The FSE shall complete the ***Grease Trap Inspection Checklist Form*** and keep it on file at the facility. It is a record of how often the trap is checked and the corresponding results. Information that will not change each time the trap is inspected can be entered on the form before copies are made to save employees time. If the FSE is using an alternative device, the FSE shall create its own form and track the use and maintenance of the alternative device. Use and maintenance of the device shall be compliant with the manufacturer's recommendation. A copy of those recommendations shall be provided to The City of Perryville.

The City of Perryville shall complete the ***Facility Inspection Checklist*** during the quarterly inspection. It gives the FSE and The City of Perryville an indication of how well the FSE's grease control measures are working to exclude grease from entering the The City of Perryville system. FSE shall keep a copy of the completed checklist on site to provide a recode of their compliance and/or the areas that may need improvement.



# GREASE CONTROL PROGRAM ACTION PLAN

**Date:** \_\_\_\_\_

**Facility's Name:** \_\_\_\_\_

**Owner or General Manager:** \_\_\_\_\_

**Physical Address** (plus city, state, zip): \_\_\_\_\_

**Mailing Address** (plus city, state, zip): \_\_\_\_\_

**Phone Number:** (\_\_\_\_\_) \_\_\_\_\_ **Fax Number:** (\_\_\_\_\_) \_\_\_\_\_

**Current Grease Trap Size:** \_\_\_\_\_ gallons

**Required Grease Trap Size:** \_\_\_\_\_ gallons

**Circle Option Chosen for Compliance:**

**Option 1** – Replace existing grease trap with new trap of required size.

**Option 2** – Add additional capacity by installing more grease trap(s) in series to meet required size.

Attach diagram showing layout of proposed trap(s) and size(s).

**Option 3** – Install an alternate grease device.

**Attach the following information to this completed form:**

- Drawing of facility, plumbing layout and location of grease interceptor.
- Cut sheets from manufacturer

**Implementation Date:** \_\_\_\_\_

Authorized Facility Representative	Position/Title

\_\_\_\_\_  
Print Name of Signature Above



# GREASE CONTROL PROGRAM

The purpose of this form is to guide you, the owners and managers of Food Service Establishments (FSEs), through the development of a training program specifically designed for *your* unique facility. Your staff needs to understand how the equipment and operational procedures in your FSE affect the sanitary sewer lines. When you realize which practices are allowing excessive FOG to be discharged to the sanitary sewer system, you can replace them with Best Management Practices (BMPs) to prevent such discharges. This form contains a few questions and reminders to help you develop a successful training program.

## To be completed by Owner or Manager\*

Your Name/Title: \_\_\_\_\_

Facility Name: \_\_\_\_\_

Facility Address: \_\_\_\_\_

### 1. What are the sources of Fat, Oil, and Grease (FOG) in your facility? Circle all that apply.

- |              |         |                      |                |
|--------------|---------|----------------------|----------------|
| Fryer grease | Nuts    | Plant/Vegetable Oils | Dairy Products |
| Soups        | Gravies | Condiments           | Sauces         |
| Pastas       | Butter  | Milk                 | Dish Soaps     |

### 2. What devices discharge to the public sanitary sewer system? Circle all that apply.

- Pre-rinse station      sink      dishwashing machine      toilet      floor drain

### 3. How can your employees prevent fats, oils, and grease (items in #1) from getting into the sewer system?

- |   |   |
|---|---|
| NEVER empty waste from a deep fryer into a floor drain.   | Scrape or wipe fat, oil, grease, and other food residue from cookware, utensils, etc. before washing or placing in dishwashing machine. |
| Use paper towels to wipe down work areas.   | Use food grade paper to soak up oil and grease under fryer baskets  |
| Use kitty litter to absorb spills - sweep and dispose in trash  | Collect and empty grill scrapings and fryer vat grease in grease recycling container  |
| Do not put food or liquid food, including dairy products, milk shake syrups, batters and gravy down the drain   | Empty grease containers before they are completely full to avoid spilling   |
| Use strainers designed for the sinks in your facility to capture as much of the solid material as possible  |   |
| Use garbage grinders as sparingly as possible. Food particles that can pass through the grinder may be trapped in the grease trap, and will require expensive maintenance for the facility. Those that do not get trapped will pass through to the sewer collection system, where they may cause a blockage, and/or may result in fees assessed to your facility. |   |

\* Keep this form on file as an outline for the Food Service Establishment and as part of the inspection.



## **REMINDERS**

- Go over your answers to previous questions (1-3) with your employees
- Post BMP pages 13-15 in the workplace to remind employees of the grease problem
- Train selected responsible employees to check the grease trap
- Train selected employees on how to complete the grease trap inspection form
- Clean grease interceptor at regular intervals according to manufacturers recommendations.
- Be consistent in your training by training each new employee
- Remain current with inspections of grease interceptors.
- Observe employees and correct Grease Control deficiencies as needed



# GREASE CONTROL PROGRAM

## GREASE TRAP INSPECTION CHECKLIST

The purpose of this standardized checklist is to offer the Food Service Establishment (FSE) and inspectors a general format to follow during inspections. Inspect all grease traps and list on this form. Fill this form out during initial training visit.

FSE Name/Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone number: (\_\_\_\_\_) \_\_\_\_\_

**Model Number:** \_\_\_\_\_

Describe Location: \_\_\_\_\_

**\*\*Attach site plan/floor plan clearly identifying the grease trap location**

Comments: \_\_\_\_\_  
\_\_\_\_\_

Size of Trap: \_\_\_\_\_ gallons How was the size determined? \_\_\_\_\_

Dimensions: \_\_\_\_\_ ft deep, \_\_\_\_\_ ft wide, \_\_\_\_\_ ft long, or \_\_\_\_\_ diameter (if round)

Baffle? \_\_\_ No \_\_\_ Yes If yes, are all compartments accessible for cleaning? \_\_\_ No \_\_\_ Yes

Inlet pipe: Visible? \_\_\_ Yes \_\_\_ No Depth: \_\_\_\_\_ ft. Condition: \_\_\_\_\_

Outlet pipe: Visible? \_\_\_ Yes \_\_\_ No Depth: \_\_\_\_\_ ft. Condition: \_\_\_\_\_

\*Outlet Standpipe length: \_\_\_\_\_ inches

\_\_\_\_\_  
FSE Representative

\_\_\_\_\_  
Date Inspected



## **BEST MANAGEMENT PRACTICES**

Grease Control Best Management Practices (BMPs) are practices that will reduce the amount of fats, oils, and grease (FOG), which enter the public sewer system from your food service establishment.

The following pages give examples of BMPs that will reduce the amount of grease entering the sewer system from your food service Establishment. It also gives examples of harmful practices that you should avoid because they increase the amount of grease entering the sewer system.

High oil and grease concentrations can be lowered by minimizing the amount of food being discharged down all drains (including those attached to two or three compartment sinks and automatic dishwashers). The least expensive alternative that can be used in reducing grease in the sewer is improved kitchen management practices.

- NEVER empty waste from a deep fryer into a floor drain.
- Scrape or wipe fat, oil, grease, and other food residue from cookware, utensils, etc. before washing or placing in dishwashing machine.
- Use paper towels to wipe down work areas.
- Use food grade paper to soak up oil and grease under fryer baskets
- Use kitty litter to absorb spills - sweep and dispose in trash
- Collect and empty grill scrapings and fryer vat grease in grease recycling container
- Do not put food or liquid food, including dairy products, milk shake syrups, batters and gravy down the drain
- Empty grease containers before they are completely full to avoid spilling
- Use strainers designed for the sinks in your facility to capture as much of the solid material as possible
- Use garbage grinders as sparingly as possible. Food particles that can pass through the grinder may be trapped in the grease trap, and will require expensive maintenance for the facility. Those that do not get trapped will pass through to the sewer collection system, where they may cause a blockage, and/or may result in fees assessed to your facility.



## ***Grease Prevention Tips for Everyone***

***Healthy, FAT FREE sewers can do the job they are designed to do!***

***Do your part to keep them clean.***

- Scrape excess food into garbage can instead of using a garbage disposal.
- Wipe out pans with a paper towel before washing them to remove all the grease you can.
- Collect cooking grease in a used glass jar and discard into the garbage.
- Don't pour cooking grease, bacon grease, butter, or any other melted grease down the sink drain, even if you use hot water.
- Don't use chemicals to remove grease clogs. Chemicals damage the piping system and move the problem. It doesn't go away.



**DON'T TRASH YOUR SEWERS!  
DON'T KNOW?  
STOP!  
ASK MANAGER**

**DO:**

- Put all solid and liquid food, including dairy products, milk shake syrups, batters and gravy into trash or recycling bin.
- Scrape food from plates and utensils into trash or recycling bin before washing or placing in dishwasher.
- Always use sink basket strainers to collect food waste.
- Collect and empty grill scrapings & fryer vat grease in grease recycling container.
- Clean grease trap regularly (ask manager).
- Follow proper grease trap cleaning procedures (ask manager).

**DON'T:**

- Never put food or liquid food, including dairy products, milk shake syrups, batters and gravy down the sink.
- Never pour grease into the sink.
- Never use sink when cleaning grease trap.
- Never pour sanitary sewage or kitchen waste down your outside storm sewer.



## CHOOSING A GREASE HAULER

When selecting a grease hauler to pump and transport the grease from your grease trap, be aware that services can vary. Services should include at minimum:

- Complete removal of grease trap contents, rather than skimming just the top grease layer
- Thorough cleaning of the grease trap to remove grease and scum from inner walls and baffles
- Disposal at an approved location

### RECYCLABLE GREASE

Waste grease from fryers is recyclable and can be used in making soap, animal feed, biodiesel fuel, etc. Grease from a grease trap may **not** be used in this way. All Food Service Facilities should have waste grease containers to store recyclable oil and grease. The containers should have proper lids to keep rainwater out if they are stored outside. There are renderers in the local area that service facilities by picking up the oil and grease and hauling it to their processing plant. The more grease that you recycle the less grease there is to be pumped from the grease trap.