



## CITY OF WORCESTER, MASSACHUSETTS

Michael V. O'Brien  
City Manager  
cm2006oct12085749

Attachment for Item # 12 E

October 17, 2006

TO THE WORCESTER CITY COUNCIL

COUNCILORS:

Per City Council request, attached please find the status report relative to the City's Fats, Oil and Grease (FOG) Program, received from Robert L. Moylan, Jr., Commissioner of Public Works and Parks, is forwarded for the information of your Honorable Body.

In October of 2005 the City of Worcester was issued an Administrative Order from the United States Environmental Protection Agency (EPA). The Order was based on violations of Worcester's National Pollution Discharge Elimination System (NPDES) permit and contained several requirements meant to eliminate unauthorized wastewater collection system discharges. Included in the Order was a requirement to develop and implement a Fats, Oils, and Grease (FOG) Program. This brought greater focus on the City's effort to aggressively reduce FOG at its source. Although much has already been done, the City must finalize the FOG Program and begin to enforce our updated sewer regulations in order to meet the requirements of the EPA. Failure to comply with the Administrative Order may mean additional action and monetary fines. The City must reduce its number of Sanitary Sewer Overflows (SSOs) in order to protect its residents and to comply with state and federal regulations.

The City has implemented a more aggressive program to control FOG as mandated by the EPA's Administrative Order. The City's improved FOG program includes a revised City Ordinance which references and complements the Uniform State Plumbing Code and the State Sanitary Code. The new Ordinance is more specific as to where and when FOG control devices are needed and how they are sized. It also specifies how the devices are to be maintained.

In an effort to assist businesses in the City that may not be compliant, the City has developed an appeal process for those that believe that the Ordinance is inappropriate to them or are otherwise seeking relief from the FOG Program requirements. To start the appeal process the business would be required to file the appropriate paperwork to the Director of Public Health stating the specific basis of the appeal, at which time all actions for compliance will in abeyance for up to 45 days.

I want to thank Commissioner Moylan for swiftly moving to satisfy the EPA's unfunded mandate while continuing to work with local business owners in their efforts to become compliant. I will continue to update City Council as this program progresses.

Respectfully submitted,

Michael V. O'Brien  
City Manager



# CITY OF WORCESTER, MASSACHUSETTS

Department of Public Works and Parks

Robert L. Moylan Jr., P.E.  
Commissioner of Public  
Works and Parks

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**To:** Michael V. O'Brien, City Manager 

**From:** Robert L. Moylan Jr., P.E., Commissioner of Public Works and Parks

**Date:** October 11, 2006

**Re:** Communication Relative to Fats, Oil and Grease (FOG) Program Status Report

## **Purpose**

The purpose of this memorandum is to provide a detailed update on Worcester's FOG (fats, oil and grease) management program. It is provided because businesses that have been determined to not be compliant with the new ordinance are being notified. The noncompliant businesses may face costly upgrades to their sewer discharge system which in turn will generate questions. In fact of the 777 facilities inspected and for which the new FOG ordinance is applicable only 231 or 31% meet the requirements. The remaining 540 (69%) are deficient in either needing additional devices or increasing the size of their existing device and 144 (19%) of the surveyed premises had no FOG control devices at all.

As this program is implemented and businesses determine the cost of compliance, there are likely to be calls and inquiries as to the need and appropriateness of the program. To this end, the following report is submitted.

## **Background**

Sanitary Sewer Overflows (SSOs) are unintended discharges of raw sewage from the sanitary sewer system before it reaches the treatment plant. SSOs can release untreated sewage into basements, out of manholes onto city streets, yards, playgrounds, and into lakes and streams. SSOs can expose the public to dangerous pathogens through direct contact or through contaminated drinking water; as well as damage property and the environment. One of the leading causes of SSOs nationwide is the buildup of fats, oils, and grease (FOG) in sewer systems. Grease that is permitted to discharge through drains solidifies on the inside of sewers restricting the flow of sewage; similar to the way that cholesterol restricts the flow of blood through arteries



and veins. The City of Worcester **must** reduce its number of SSOs in order to protect its residents and to comply with state and federal regulations.

Worcester has historically experienced sanitary sewer overflows and backups, due to both capacity constraints and blockages in the sewer system. Capacity constraints and blockages in sanitary sewers can be caused by a number of problems including infiltration and inflow, collapsed or broken pipes, debris build up, roots growing in the pipes, and, deposits of fats, oils, and grease (FOG) on pipe walls. Records show that between September 2001 and September 2003 there were over 50 sanitary sewer overflows (SSO) in the City of Worcester; the majority of which were caused by blocked sewers. FOG was found to be one of the primary causes of blockages that resulted in SSOs.

In the spring of 2005, the City of Worcester began developing the Fats, Oils, and Grease (FOG) Program in order to address the capacity problems encountered throughout the City. Components of the Program include a citywide survey of grease collection equipment being used in food service facilities, development of a FOG database for tracking activities at food service facilities, amending language in the Worcester Sewer Use Ordinance pertaining to FOG collection, and developing a program for routine inspection of FOG equipment. The goal of the FOG Program is to reduce the amount of FOG entering the sanitary sewer system thereby reducing the need for costly cleanup and the strain on system capacity.

In October of 2005 the City of Worcester was issued Administrative Order Docket No. 05-21 from the United States Environmental Protection Agency (EPA). The Order was based on violations of Worcester's National Pollution Discharge Elimination System (NPDES) permit and contained several requirements meant to eliminate unauthorized wastewater collection system discharges. Included in the Order was a requirement to develop and implement a Fats, Oils, and Grease (FOG) Program. This brought greater focus on the City's effort to aggressively reduce FOG at its source. Although much has already been done, Worcester must finalize the FOG Program and begin to enforce their updated sewer regulations in order meet the requirements of the EPA. If the city does not comply with the Administrative Order additional action and monetary fines may be imposed on City of Worcester.

### **Improvement of Sanitary Code**

The City of Worcester regulates activities involving the use of the sanitary sewer system through the City's Sewer Use Ordinance. Regulations pertaining to fats, oils, and grease are addressed under Part I: Regulatory Ordinances, Section B: Environmental, Chapter 5: Sewer & Storm Water Management. One of the goals of the FOG Program is to enhance the existing regulations and improve their approach to FOG requirements. In 2005 a new section, Section 35 - Fat, Oil, and Grease Control, was added to Chapter 5 with the purpose of establishing "uniform maintenance and monitoring requirements for controlling the discharge of grease from food service and other facilities discharging into the city's wastewater collection system."

- **Former Sewer Use Ordinance**

**The former Sewer Use Ordinance prohibited the discharge of FOG to the sewer system.** However, it was vague about exactly what was required of food service facilities for FOG management. The only stated requirement for FOG

management in the former Sewer Use Ordinance was that “Grease, oil and sand traps shall be provided when, in the opinion of the Commissioner, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts...” (Section 23). There were no guidelines provided for choosing the appropriate size of grease trap or interceptor or for how to maintain the equipment.

- **Revised Sewer Use Ordinance**

The revised Sewer Use Ordinance is much clearer in the requirements for grease management at food service facilities and the consequences for not meeting these requirements. In addition to its requirements, the new Sewer Use Ordinance references the Uniform State Plumbing Code (248 CMR 10.00) and the State Environmental Code, Title 5 (310 CMR 15.230). Together, these describe which facilities are required to have grease collection equipment, guidelines for the sizing of grease traps and interceptors, and the maintenance required for each trap or interceptor.

One of the important changes to the Sewer Use Ordinance is that the new requirements are focused on proper maintenance of grease collection equipment. During the survey of grease management activities at food service facilities, it was revealed that while most establishments have some form of grease collection equipment, very few perform regular maintenance. Under the revised Ordinance, facilities must inspect grease traps once per week and interceptors at least once per month. The equipment must be cleaned immediately if the grease layer exceeds 25% of the available volume or, at a minimum, traps must be cleaned once a month and interceptors must be cleaned once every three months. Additionally a record of all inspections and cleaning activities must be kept up to date and available during facility inspections.

The revised Sewer Use Ordinance enables the City to enforce the requirements it has long held for FOG management. Maintenance records and equipment inspections will give city officials the information necessary to know if a facility management of FOG is threatening the city’s sewer operations. When a facility is found in violation of the FOG requirements, either through inadequate equipment or lack of proper maintenance, they can be fined and eventually have their Permit to Operate a Food Establishment suspended or revoked. Compliance with the new requirements is expected to greatly reduce sewer capacity loss and blockages caused by FOG.

### **Uniform State Plumbing Code 248 CMR 10.00**

Worcester’s revised Sewer Use Ordinance states that its requirements for grease traps and interceptors are “in addition to any applicable requirements of the Uniform State Plumbing Code (248 CMR 10.00)...” The Uniform State Plumbing Code sets the standard for all construction, inspection, or repair of plumbing in Massachusetts. Like the city’s Sewer Use Ordinance, in March of 2005 the Plumbing Code was updated in its requirements for grease traps and interceptors.

Originally, the Plumbing Code contained basic instructions for grease traps and interceptors. The revised Plumbing Code is much more specific in its requirements for

grease management equipment, particularly in terms of where equipment is needed and what type or size of equipment is required. It even provides a method for calculating the required size of equipment, based on either the amenity it is connected to, for traps, or activities at the facility, for interceptors, and examples of calculations. A complete list of the changes to the grease trap and interceptor sections of the Uniform State Plumbing Code is shown below in Table 1.

In addition to providing more information for users, the revised Plumbing Code had some significant changes in what amenities are required to discharge to grease traps or interceptors. The original Plumbing Code required that “the waste line from sinks, drains, and other fixtures...” be connected to grease collection equipment. Food grinders and automatic dishwashers were specifically excluded from this requirement. Under the revised Plumbing Code, more equipment is named in the requirements including soup kettles, wok stations, and automatic hood wash units. In addition to this, automatic dishwashers are now required to discharge to grease collection equipment. This change will affect many food service facilities.

Stopping the use of treatment agents and chemicals meant to break up grease is another change that will affect many establishments. Food service facilities use these chemicals to clear FOG out of their pipes and sometimes even their grease traps. The original Plumbing Code made no mention of the use of treatment agents that are now prohibited by the revised Plumbing Code. They are now prohibited because the chemicals are often just strong enough to emulsify the grease in the traps and local pipes, but when the grease enters the sewer it usually recombines and coats pipes.

Regulations nationwide are beginning to be more focused on FOG management. FOG is widely recognized as the number one cause of SSOs. In order to protect residents from the dangerous effects of SSOs, it is important for all communities to address problems caused by FOG. The City of Worcester has taken the necessary steps to provide regulations to help protect the community. However, the effectiveness of the regulations will depend on how well they are enforced and the work that follows.

**Table 1**  
**Changes to Grease Management Requirements of the Uniform State Plumbing Code**

<b>Subject</b>	<b>Former Code 248 CMR 2.09</b>	<b>Current Code 248 CMR 10.09</b>
<b>Maintenance or Grease Traps/Interceptors</b>	"Maintain efficient operating condition by periodic removal of accumulated grease..."	Additional section that states that local health code requirements must be met and requires a sign that reads "IMPORTANT This grease trap/interceptor shall be inspected and thoroughly cleaned on a regular and frequent basis. Failure to do so could result in damage to the piping system, and the municipal or private drainage systems(s)."

<b>Facilities That Require Grease Management</b>	"Restaurant, cafeteria, hotel, hospital, institutional, factory, club, and other commercial kitchens; food and meat packing and processing establishments; super markets, bakeries, and other establishments where grease can be introduced into the drainage system in quantities that can cause line stoppage or hinder sewage disposal."	Bars where food is prepared and served was added to the original list.
<b>Amenities That Grease Traps/Interceptors</b>	"Sinks, drains, or other fixtures"	"Pot sinks and scullery sinks with depths exceeding 10", floor drains, floor sinks, automatic dishwashers, pre-rinse sinks, soup kettles or similar devices, wok stations, and automatic hood wash units"
<b>Automatic Dishwashers</b>	Not Required to discharge to grease trap/interceptor.	Required to discharge to grease trap/interceptor
<b>Food Grinders</b>	Food grinder waste shall not discharge to a trap/interceptor	No change
<b>Capacity of Traps/Interceptor</b>	Retention capacity of not less than two pounds for each GPM of flow	No change
<b>Flow Control</b>	Grease traps/interceptors shall be equipped with flow control devices.	Additional information for vented vs. non-vented designs.
<b>Water-Cooled Interceptors</b>	Prohibited	No change
<b>Treatment Agents and Chemicals</b>	No comment	"Chemicals, liquids or agents of any type used for the primary purpose of emulsification and separation of grease that by formula allow grease to be transferred or conveyed from the trap or interceptor to the drainage system are prohibited."
<b>Procedures for Sizing</b>	No comment	Provides sizing procedures for large and small systems based on restaurant activities and fixture sizes

### **Appeal for Relief from FOG Requirements**

An appeal process is an essential element of the new FOG ordinance. The appeal for relief will be to the Director of Public Health. The criteria for relief will be specific and based on evidence that the business is not contributing to FOG in the city's sewer system. The burden of proof will be on the business to satisfactorily demonstrate to the city that it is not contributing to FOG. Other requests for appeal including the appropriateness of applying the FOG program to businesses "retroactive" to their operation and financial hardship will **not** be grounds for a waiver. However, business may seek an extension of time to comply with the ordinance if the 90 day period appears to be overly burdensome based on evidence presented to the city. The appeal to the Director of Public Health will "freeze" the order given to the business until a decision by the Director is made but not to exceed calendar 45 days.

The appeal process allows the city the ability to work cooperatively with each establishment to consider their unique challenges and simultaneously achieve comprehensive compliance.

### **Status of FOG Program to Date**

Two hundred eighty-two (282) businesses have been re-inspected by DPH, Food Protection Program. Two hundred sixty-five (265) orders have been issued, informing business owners of their requirement to comply with the FOG ordinance within 90 days. Seventeen (17) businesses are currently being resurveyed by a technical team from DPWP & DPH to confirm necessary plumbing infrastructure upgrades.

Other materials provided to each establishment include:

- A FAQ on the FOG Program (see attached)
- A sticker (**DO NOT DUMP GREASE**)
- Information about the appeal process and grounds for appeal

We expect to resume another round of Orders to non-compliant businesses by November 1<sup>st</sup>. The process will continue until all 777 locations have been properly directed.

### **SUMMARY**

Sanitary sewer overflows (SSOs) are unintended discharges of sanitary waste to receiving waters. SSOs can expose the public to dangerous pathogens through direct contact or through contaminated drinking water; as well as damage property and the environment. Fats, oil and grease is the leading cause of SSOs in Worcester. A more aggressive program to control FOG was mandated by the EPA as part of an administrative Order. The FOG program includes a revised city ordinance which references and complements the Uniform State Plumbing Code and the State Sanitary Code. The new ordinance is more specific as to where and when FOG control devices are needed and how they are sized. It also specifies how the devices are to be maintained. It does not however mandate devices; that requirement was contained in the former ordinance.

Of the 777 facilities that were inspected and are subject to FOG regulations, 540 or 69% were deficient in some way. Notification of those noncompliant businesses is now underway. They will be given 90 days to comply which is consistent with the provisions of the ordinance. For businesses that believe that the ordinance is inappropriate to them or are otherwise seeking relief from the FOG Program requirements, an appeal to the Director of Public Health stating the specific basis of the appeal will be permitted. The appeal will hold all actions in abeyance for up to 45 days or until answered.

Sincerely,



Robert L. Moylan Jr., P.E.  
Commissioner of Public Works and Parks  
[#211 FOG Program]

## WHAT RESTAURANT AND BUILDING OWNERS NEED TO KNOW ABOUT GREASE TRAPS OR INTERCEPTORS

*Restaurants, cafeterias, and other establishments that prepare and serve food are required to have grease traps or interceptors.*

The City of Worcester Sewer Use Ordinance was amended in 2005 to address the growing problems caused by FOG. It now has specific requirements for:

- (1) **Size and type** of grease collection equipment at food service facilities.
- (2) **Installation and access** to grease collection equipment.
- (3) **Maintenance** of grease collection equipment

More information can be found on the City of Worcester's website (chapter five, section 35):

[www.ci.worcester.ma.us/cco/ordinances/revisedordinances1996.pdf](http://www.ci.worcester.ma.us/cco/ordinances/revisedordinances1996.pdf)

If restaurants and other establishments fail to meet the new requirements, their Permit to Operate a Food Establishment may be suspended or revoked.

### NOTICE OF VIOLATION

The food service facility shall have ninety (90) days from the Notice of Violation to perform corrective work. Once corrective actions are made, the food service facility shall contact (within 90 days of notice of violation) the Public Health Division in writing (ATTN: GREASE PROGRAM). The city shall perform a re-inspection to confirm that all deficiencies have been corrected.

### RELIEF FROM FOG REQUIREMENTS

Relief from the NOTICE OF VIOLATION is an essential element of the FOG program. Relief can be sought against the appropriateness of the FOG requirements or the schedule to conform to the Notice as detailed below:

#### Relief from Program Requirements

Relief from the Notice of Violation Order is available to facilities that can demonstrate that they are not contributing FOG to the city's sewer system. The burden of proof is on the appellant to provide evidence that the facility is not

used for food preparation and therefore cannot be a FOG contributor. Relief from FOG for other reasons including retroactivity of provision on existing facilities will not be considered.

#### Relief from Schedule

Relief from the schedule of 90 day Notice of Violation can be requested if the repairs or upgrades will affect the operation of the facility unreasonably or if the total cost of the work will be a financial hardship. In such case, relief can be sought so long as the appellant can make a case such relief is needed and if a revised schedule of compliance can be substituted for the original.

Relief will be requested to the Director of Public Health. It will "freeze" the Notice of Violation until a decision on the appeal for relief is rendered but not to exceed 45 days.

### TIME-EXTENSION

If the food service facility cannot complete the required repairs or maintenance within ninety (90) days from the Notice of Violation, the food service facility may apply for a one-time extension. The facility must provide proof that a "good faith effort" was made to contact/schedule a contractor to perform work.

### WHAT YOU CAN DO TO HELP

The easiest way to solve the problem and help prevent overflows of raw sewage is to keep grease out of the sewer system in the first place.

*There are several ways to do this.*

- 1) **Never** pour grease down sink drains or into toilets. Pour used grease into an old jar or can and dispose of in the trash.
- 2) Scrape grease and food scraps from trays, plates, pots, pans, utensils, and grills and cooking surfaces into a can or trash for disposal.
- 3) Do not put grease down garbage disposals. Put baskets/strainers in sink drains to catch food scraps and other solids, and empty the drain baskets/strainers into the trash for disposal.



20 East Worcester Street

Worcester, MA 01604

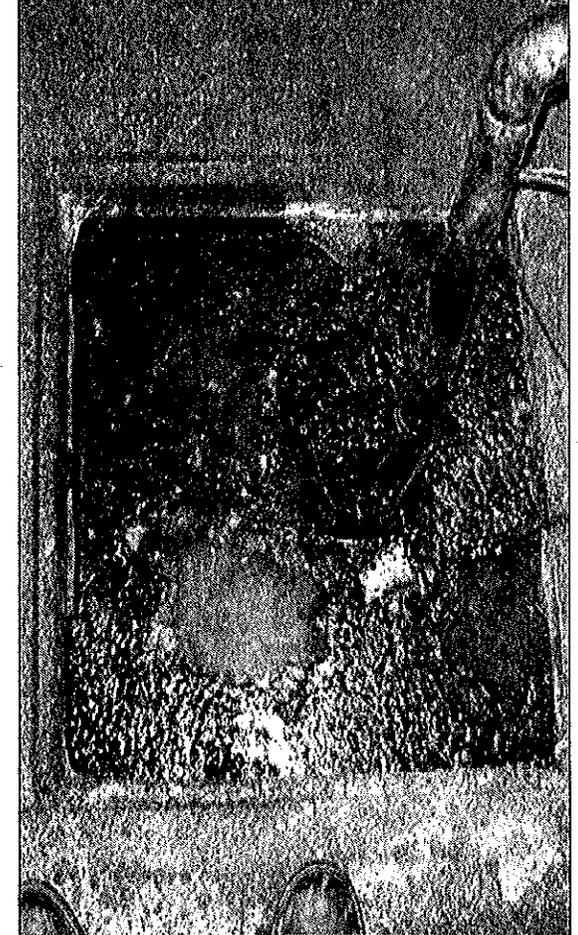
Phone: (508) 929-1300

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## TRIMMING THE FAT OUT OF OUR SEWERS



**Understanding the Effects of Fats, Oils, & Grease in Worcester's Sewer Systems**

**Fats, Oils, and Greases aren't just bad for your arteries; they're bad for sewers, too.** Sewer overflows and backups can cause health hazards, damage property, and threaten the environment. A growing reason for overflows nationwide is sewer pipes blocked by grease. Grease gets into the sewer from sewer drains as well as from poorly maintained grease traps in restaurants and other businesses.

## WHERE DOES THE GREASE COME FROM?

Grease in sewers is most commonly produced as a cooking byproduct. Grease has many sources, such as:

- Food Scraps
- Butter and margarine
- Meat fats
- Baking goods
- Lard
- Sauces
- Cooking oil
- Dairy Products
- Shortening
- Salad Dressings

## THE RESULTS CAN BE:

- Sanitary Sewer Overflows (SSOs) Discharges of sewage in public and private areas;
- Sewage backups in homes and businesses;
- Sewage overflowing into Worcester's waterways and sensitive environmental areas;
- Potential contact with disease-causing organisms;
- Increased sewer operation and maintenance costs leading to higher sewer bills for our customers.
- Expensive and unpleasant cleanup that often must be paid for by you, the customer; and
- The Environmental Protection Agency (EPA) prohibits SSOs. Worcester can be penalized by the EPA and other regulatory agencies for occurrences of SSOs.



## POINTS OF ENTRY:

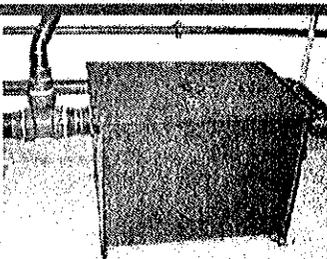
Often, grease is washed into the plumbing system, usually through sinks and floor drains. Grease sticks to the insides of plumbing and sewer pipes. Over time, the grease can build up and block the entire pipe.

Garbage disposals can also be sources of grease. These units only shred solid material into smaller pieces and do not prevent grease from going down the drain.

Commercial additives, including detergents, that claim to dissolve grease may pass grease down the line and cause problems in other areas.

## WHAT ARE GREASE TRAPS AND GREASE INTERCEPTORS?

A grease trap or interceptor is a device designed to collect and remove grease from wastewater discharged from restaurants and food service facilities. Most grease traps and interceptors separate grease from water by gravity. Since grease weighs less than water, the grease floats and can be skimmed from the surface of the wastewater. Grease traps are small collection units that can be installed indoors, often under sinks or other equipment. Grease interceptors are larger units that must be installed in the ground outside a restaurant.



## WHAT ARE THE GREASE PREVENTION REQUIREMENTS IN THE CITY OF WORCESTER?

The City of Worcester recently revised the Sewer Use Ordinance to make it more clear where grease collection equipment is installed and how it is to be maintained. The size, type, and amount of equipment required depends on the type of fixtures (e.g., sink), expected wastewater flows, and grease production.

## WHAT MAINTENANCE IS REQUIRED FOR GREASE TRAPS AND INTERCEPTORS?

The Sewer Use Ordinance requires that all grease collection equipment be properly maintained. Maintenance includes inspections to determine grease layer thickness and cleaning to remove and properly dispose of the contents of the grease trap or interceptor. Cleaning is needed when the grease layer thickness is more than 25% of the available depth. If the thickness of the grease layer is more than 25% of the depth, the grease trap or interceptor can no longer remove grease efficiently. The Sewer Use Ordinance requires grease traps to be inspected once a week and cleaned at least once a month. Grease interceptors must be inspected once a month and cleaned at least every three months. Grease pumped from an interceptor must be managed by a certified waste hauler and brought to a facility for processing or incineration. A log of the inspections and cleanings must be kept by the restaurant or food service facility. These records will be checked during City inspections.