

# Fats, Oil and Grease Program Kit

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**Compliance, Requirements and Best Management  
Practices for FOG Control at Food Service Establishments**

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# Fats, Oil and Grease Program Kit

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Rochester, MN

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### Notes:

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# FOG Overview

Fats, oil and grease, also referred to as “FOG”, are by-products from cooking with items such as meat fats, lard, oil, shortening, butter, margarine, food scraps, baking goods, sauces, and dairy products. These are found in hotels, hospitals, restaurants, and other Food Service Establishments (FSEs) as well as residential homes. When grease in liquid or solid form goes down the drain, it accumulates and sticks to pipes and causes blockages that result in raw sewage back-ups into kitchens or basements. FOG can even block pipes to the point of sanitary sewer overflows (SSOs) in which untreated sewage may flow onto streets and into storm drains, creeks, or surface water, posing a threat to human health and polluting the local environment.



**Figure 1: Image of FOG in pipe**

The Environmental Protection Agency (EPA) has estimated that uncollected grease entering sewage treatment plants and collected grease trap waste ranges from 800-17,000 pounds/year per restaurant. This is a significant amount of grease that needs to be controlled. The EPA has set a high priority on controlling grease blockages which in turn has resulted in many states requiring its cities to adopt FOG control programs. Minnesota is one of the states that require Food Service Establishments to install grease interceptors along with required regular maintenance and record keeping to ensure that the interceptors are working efficiently.

This Program Kit will help Food Service Establishments better understand the role of grease interceptors in their facilities along with Best Management Practices (BMPs) to keep FOG out of the sewer system.

## FOG Myths

**Myth:** Pouring hot water and detergent or degreasers into the drain dissolves oil or grease.

**Fact:** This pushes oil or grease deep into the sewer pipe where it cools and coats the inside of the pipe. Eventually, the pipe will clog and could cause raw sewage to back up into the building.

**Myth:** Storm drains and catch basins are for disposal of dirty water, debris, etc.

**Fact:** Outside drains are built to direct stormwater runoff to the nearest creek or wetland. Using them for any other purpose is a violation of the Federal Clean Water Act and Rochester City Ordinance 146A.

**Myth:** If the sewers back up, the City will fix it.

**Fact:** Owners are responsible for the sewers on their property. If they damage or back up the public sanitary sewer or drainage systems, they may pay for cleanup and repair and may be subject to fines and penalties.

# Grease Interceptors

This program kit is provided for Food Service Establishments (FSEs) that are connected to the City of Rochester's public sewer system or FSEs outside the city that want to haul FOG to the Rochester Water Reclamation Plant. An FSE means an operation or enterprise subject to licensure by the Olmsted County Public Health, Minnesota Department of Agriculture, or an establishment that stores, prepares, packages, serves, vends, or otherwise provides food for human consumption. An FSE shall have an approved grease interceptor unless grandfathered in as an establishment before the FOG Program inception and meets other requirements as outlined in Rochester Code of Ordinances 12-5. A grease interceptor is a device designed and installed so as to separate and retain fats, oils, and grease while permitting normal sewage to discharge into the collection system by gravity. *Interceptors must be properly sized, installed, and maintained to keep FOG and food debris out of the collection system.* All greasy waste from fixtures or sources in food preparation or cleanup areas, including floor drains, trough drains, floor sinks, mop sinks, and 3-compartment (scullery) sinks, through which fats, oils, or grease may be discharged into the public sewer system must first pass through a properly maintained and functioning grease interceptor.

There are two major types of grease interceptor, the first being a **hydromechanical grease interceptor**, which is a small device that is typically installed inside of a kitchen, usually under a sink, on the ground, or under the floor. These interceptors are typically around 20-500 gallons, which does not always provide enough time for the grease to cool and float to the top. If the grease is not sufficiently cooled, it will pass through and enter the sewer system where it will eventually solidify in the pipes and cause backups. Hydromechanical grease interceptors cannot be hooked up to pre-wash sinks or dishwashers because the water coming out of these is too hot and creates the problem stated above. If an FSE has a dishwasher or pre-wash sink, it must have an associated 3-compartment (scullery) sink installed to allow for the collection of greasy waste.

The second is a **gravity grease interceptor**, which is a large device that is typically located outdoors and designed to capture oil and grease from wastewater before it gets to the public sewers. They have a much larger capacity and contain several compartments where the grease cools and congeals. Therefore, dishwashers and pre-wash sinks may be connected to them. Gravity grease interceptor volumes must be in the range of 1,000 gallons to 3,000 gallons in order to be in compliance with the FOG Ordinance. For more information on properly locating, constructing, and sizing grease interceptors, contact your local plumber, the Water Reclamation Plant, or the local Plumbing Inspector.

# Grease Interceptor Examples

Both gravity interceptors and hydromechanical interceptors remove FOG and solids when properly maintained. All components of these interceptors must be installed and in working order to retain FOG as designed. The diagrams below are examples of hydromechanical and gravity grease interceptor designs. There are many different designs that exist, but all designs will have the same working components.

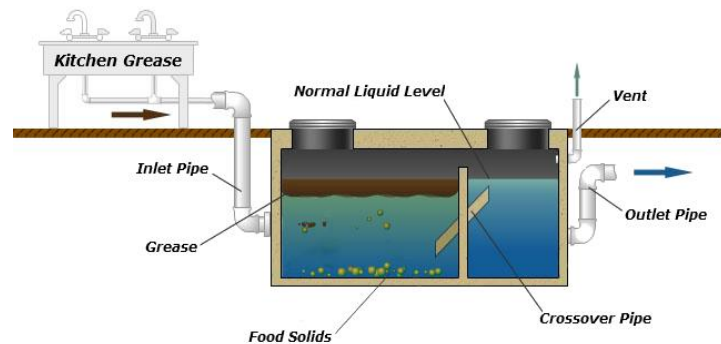


Figure 2: Gravity grease interceptor

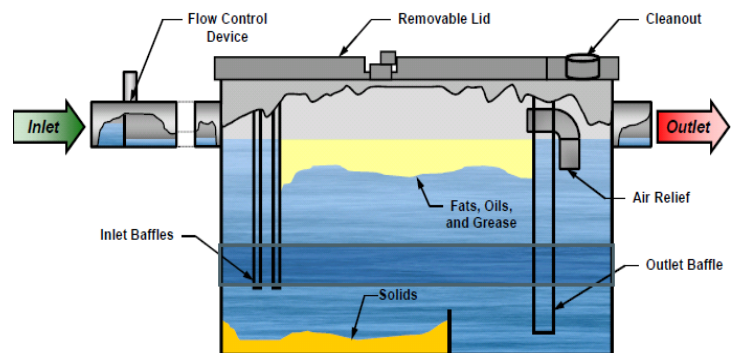


Figure 3: Hydromechanical grease interceptor

# Cleaning and Maintenance

Maintenance is key to avoiding FOG blockages. Regardless of the type of FOG removal system that is in place, ensuring that equipment is regularly maintained is key to effective removal. All staff or contractors who will be maintaining grease interceptors shall go through a training and certification program that will be provided by staff of the Water Reclamation Plant. However, all staff should be familiar with the FOG program and how to prevent FOG from entering the sewer system. A daily and weekly maintenance schedule is highly recommended and, depending on the FSE's menu and best management practices, may be necessary in order to comply with the ordinance.

For the interceptor to perform correctly, the floating grease and settled solids must be removed before they accumulate beyond a certain level to avoid clogging the plumbing in the collector. Buildup in the interceptor beyond a certain level can affect the ability of the interceptor to separate the waste material from the wastewater. The standard maintenance level for floating grease and settled solids accumulation is "The 25% Rule". **According to "The 25% Rule", if the combined accumulation of floating grease and settled solids exceeds 25% of the capacity of the grease interceptor, the interceptor must be completely cleaned or pumped. Along with this rule, grease interceptors should be cleaned and inspected at least every three (3) months.** These practices ensure that carry-over of grease does not enter the sewage system.

The person cleaning the grease interceptor shall:

- 1) Measure and record the depths of solids on the bottom and FOG on the top of the grease interceptor. Also record the total percent of FOG and solids compared to the design liquid depth.
- 2) Completely empty and remove the contents (liquids and solids) of all vaults of the grease interceptor, and remove the grease mat and scrapings from the interior walls.
- 3) Dispose of waste and wastewater removed from a grease interceptor at the Rochester WRP or at a facility approved for disposal of such waste. Waste and wastewater removed from a grease interceptor shall not be discharged to any public or private sanitary or storm sewer system.
- 4) Not deposit waste and wastewater removed from a grease interceptor back into the grease interceptor from which the waste or wastewater was removed or into any other grease interceptor, for the purpose of reducing the volume of waste and wastewater to be disposed of.

- 5) Not introduce enzymes, emulsifying chemicals, hot water, or other agents into a grease interceptor to dissolve or emulsify grease or as a grease abatement method. Introduction of bacteria as a grease degradation agent is permitted with prior written approval by the WRP Manager.
- 6) Not use an automatic grease removal system to clean a grease interceptor without prior written approval of the WRP Manager. If the use of an automatic grease removal system is approved, it must operate in a manner that the grease wastewater discharge limit of 100 milligrams per liter, as measured from the system's outlet, is consistently achieved. It also must be completely emptied for inspection on a quarterly basis.
- 7) Check that interceptor is in good condition and working order.
- 8) Check that the sanitary "tees" on the inlet and outlet sides of the grease interceptor are not obstructed, loose, or missing.
- 9) Verify that the baffle is secure and in place.
- 10) Inspect the grease interceptor for any cracks or other defects.
- 11) Check that the flow restrictor is secure.
- 12) Check that lids are securely and properly seated after completion of cleaning.
- 13) Completely fill out a Cleaning and Maintenance Log Sheet, which is required to be kept at each FSE and be readily available for inspection.



# Grease Interceptor Cleaning

Hydromechanical grease interceptors must typically be cleaned manually or, if space allows and the location is secure, a vacuum pump may be used. Gravity grease interceptors are typically cleaned by means of a vacuum system.



Remove lid



Remove grease from top



Scrape side and inspect baffles and flow restrictors



Remove solids from bottom

**Figure 4: Manually cleaning a hydromechanical grease interceptor**



**Figure 5: Vacuum truck cleaning of gravity grease interceptor**



# Record Keeping

Owners of FSEs are required to maintain a written record of grease interceptor maintenance, including a log showing the date upon which waste and wastewater was removed from the grease interceptor and disposed of and an estimated percentage of the combined FOG and solids of the design liquid level. The log must also include the location and means of disposal of waste and wastewater, along with the name and company who is hauling and disposing the grease.

A log sheet to be filled out is attached at the end of this program kit. This log sheet is also located online. If an FSE already has a record keeping system that provides all the information required by the ordinance, it may keep this system, rather than using the attached Log Sheet.



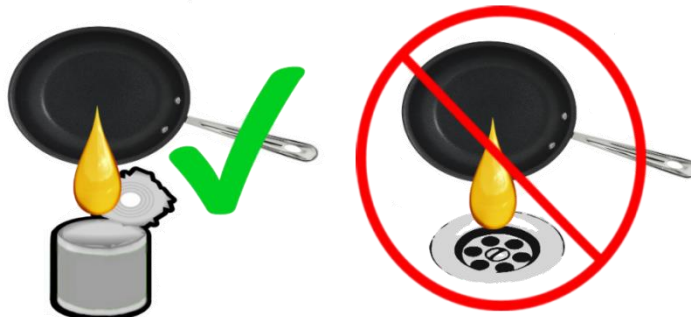
# Inspections

FSEs must allow for an inspection of the grease interceptor at least once per year. These inspections may include observation, sampling, and record review. City personnel will be allowed to enter the facility at any reasonable time to complete their inspections. Inspections may include routine or non-routine samplings depending on the history with the FSE.

In order for inspections to occur, the monitoring facilities (such as a suitable manhole or undersink lid) must be properly maintained and allow safe access for inspectors. Inspectors will also determine if the necessary parts of the grease interceptor are in place and maintained in good operating condition.

# Best Management Practices

- 1) Train all kitchen staff on proper fats, oil, and grease management.
- 2) Scrape dishes or “dry wipe” before putting them in the dishwasher or sink.
- 3) Place food scraps from dishes into trashcans or garbage bags and dispose of properly.
- 4) Allow FOG to cool first before it is skimmed, scraped, or wiped off of all preparation and servicing surfaces.
- 5) Never pour grease, oils, oily sauces or dressing down the drain.
- 6) Never “hot flush” oil and grease down sinks and drains.
- 7) Dispose of FOG in covered collection containers.
- 8) Have FOG removed by a certified person for disposal.
- 9) Cover the kitchen sink drain and floor drain with screening and empty debris into the garbage as needed.
- 10) Recycle used fryer oil.
- 11) Inspect and clean interceptors and traps regularly.
- 12) Keep records for all FOG-related cleaning, maintenance, and inspection.
- 13) Never discharge any material removed from a grease interceptor or grease trap into the sanitary sewer line.
- 14) Do not pour chemicals or additives into the grease interceptor or trap.



# Contacts

The following are contacts associated with installing and mandating a grease interceptor:

## ***General FOG program information, inspections, and maintenance***

FOG Program Coordinator  
Water Reclamation Plant  
(507) 328-2660  
FOG@rochestermn.gov

## ***Waste disposal site option***

Water Reclamation Plant  
301 37<sup>th</sup> Street  
Rochester, MN 55901  
(507) 328-2650

## ***Grease interceptor installation and sizing requirements***

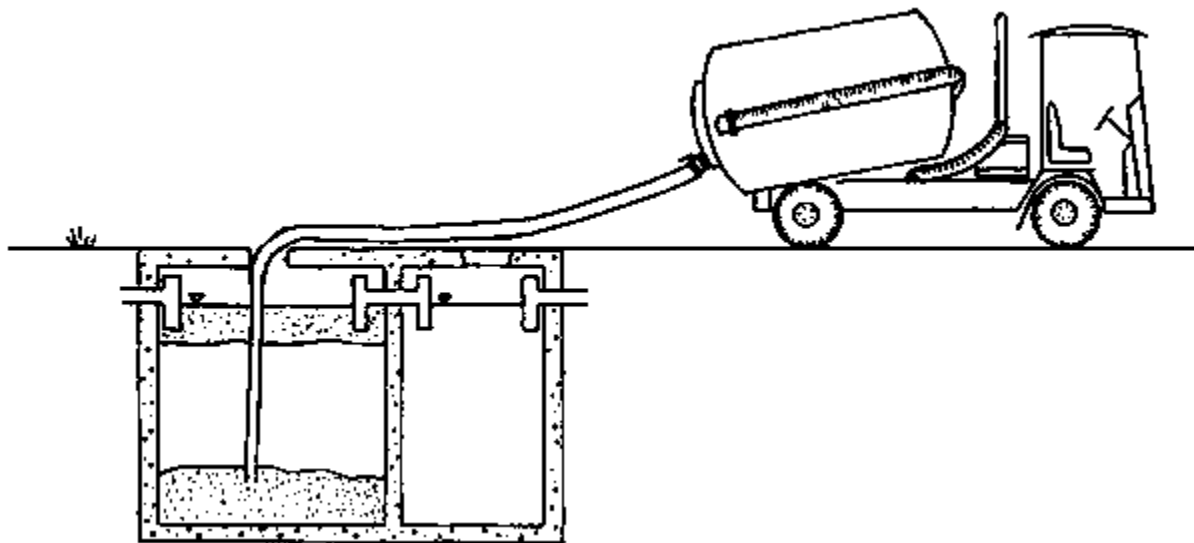
Building and Safety  
Plumbing Inspector  
(507) 328-2600

## ***Additional Information***

Please visit the Wastewater Management Website at <http://www.rochestermn.gov/wastewater> for more information on FOG and the Water Reclamation Plant.

# Certified Grease Interceptor Cleaners and Haulers

Many local plumbers and septic pumping businesses offer grease interceptor cleaning and hauling services. These companies are certified by the Water Reclamation Plant and have had training on how to properly clean grease interceptors, keep necessary cleaning and maintenance records, and dispose of grease, according to Ordinance 12-5.



For a full list of certified grease cleaners and haulers, visit <http://www.rochestermn.gov/wastewater>, and click on the FOG Program tab on the left. In the section titled "FOG Program Documents," click the link titled "List of Grease Interceptor Contractors & WRP Certified Waste Haulers."



# Fats, Oil and Grease Management Food Service Establishment Self-Assessment Checklist

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This checklist will help you, the owner/operator of a food service establishment, identify sources of fats, oil, and grease and how they are being managed. By completing this checklist, you will know if your current practices are adequate in minimizing FOG discharges to the public sewer system. Improper FOG disposal can result in costly and unhealthy sewer overflows and back-ups directly into your FSE.

## General Food Service Establishment Information

Facility Name:

Date:

Facility Address:

Facility Owner:

Facility Manager:

Type of food service operation: \_\_\_\_\_

Responsible person/organization: \_\_\_\_\_

Hours of Operation: \_\_\_\_\_

Number of meals served/day: \_\_\_\_\_

Number of Seats: \_\_\_\_\_

## Grease Interceptor

Type: Hydromechanical      Gravity

Number of units: \_\_\_\_\_

Size: \_\_\_\_\_ gallons

Dimensions: \_\_\_\_ x \_\_\_\_ x \_\_\_\_

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

Hauler: \_\_\_\_\_

Cleaning Frequency: \_\_\_\_\_

Manufacturer: \_\_\_\_\_

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

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### Kitchen Equipment/Devices

Are the following kitchen devices plumbed to discharge to the grease interceptor?			
	Yes	No	
Dishwashers	<input type="checkbox"/>	<input type="checkbox"/>	
Pre-wash sink	<input type="checkbox"/>	<input type="checkbox"/>	
Multi-compartment sinks	<input type="checkbox"/>	<input type="checkbox"/>	
Trough drains	<input type="checkbox"/>	<input type="checkbox"/>	
Floor drains	<input type="checkbox"/>	<input type="checkbox"/>	
Floor sinks	<input type="checkbox"/>	<input type="checkbox"/>	
Food steamers	<input type="checkbox"/>	<input type="checkbox"/>	
Food grinders/pulpers	<input type="checkbox"/>	<input type="checkbox"/>	
Steam kettles	<input type="checkbox"/>	<input type="checkbox"/>	
Mop sinks	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	
Are the following cleaned or maintained periodically? Is the cleanup water discharged to the grease interceptor? If not, where is it discharged?			
	Location	Yes	No
Exhaust hoods and filters		<input type="checkbox"/>	<input type="checkbox"/>
Floor mats, floors, and grill tops		<input type="checkbox"/>	<input type="checkbox"/>
Exterior of the grease interceptors/traps		<input type="checkbox"/>	<input type="checkbox"/>
Dumpsters/trash cans		<input type="checkbox"/>	<input type="checkbox"/>
Parking lots, sidewalks, etc.		<input type="checkbox"/>	<input type="checkbox"/>
Other:		<input type="checkbox"/>	<input type="checkbox"/>

### Dry Cleanup

	Yes	No
Are serving wares, utensils, or food preparation surfaces wiped clean before washing?	<input type="checkbox"/>	<input type="checkbox"/>
Do employees know not to allow FOG or food wastes into the drains?	<input type="checkbox"/>	<input type="checkbox"/>
Are employees instructed to use dry methods before using water for cleanup?	<input type="checkbox"/>	<input type="checkbox"/>
Are employees provided the necessary training and tools (rubber scrapers, brooms, absorbent materials for spill) for dry cleanup?	<input type="checkbox"/>	<input type="checkbox"/>

### Spill Cleanup and Prevention

	Yes	No
Are cleanup kits in visible and accessible areas?	<input type="checkbox"/>	<input type="checkbox"/>
Are employees provided adequate conveyance methods/tools (ladles, containers with lids) to prevent oil and grease spills while transferring them from inside the facility to the outside storage bin?	<input type="checkbox"/>	<input type="checkbox"/>
Is there a designated employee(s) to manage/monitor cleanup?	<input type="checkbox"/>	<input type="checkbox"/>

### Employee Awareness Training

	Yes	No
Have employees received training on Best Management Practices for handling oil and grease (spill prevention, dry cleanup, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>
Are employees involved in keeping FOG out of the drains?	<input type="checkbox"/>	<input type="checkbox"/>
Are signs posted in key areas that remind staff to keep oil and grease out of the drains?	<input type="checkbox"/>	<input type="checkbox"/>
Are new employees trained on FOG Best Management Practices and existing employees trained on a routine basis?	<input type="checkbox"/>	<input type="checkbox"/>

### Grease Disposal

	Yes	No
Are the outside oil and grease storage bins kept covered?	<input type="checkbox"/>	<input type="checkbox"/>
Are the outside storage bins located away from storm drains and catch basins?	<input type="checkbox"/>	<input type="checkbox"/>
Are dumpsters and grease recycling bins cleaned and checked for leaks often?	<input type="checkbox"/>	<input type="checkbox"/>
Is there a spill prevention plan and materials available in the event of a spill?	<input type="checkbox"/>	<input type="checkbox"/>

### Grease Management Contractors

	Yes	No
Does your grease hauler have the proper legal licenses and permits to handle the oil and grease waste?	<input type="checkbox"/>	<input type="checkbox"/>
Do you know how and where the waste grease is sent for final disposal?	<input type="checkbox"/>	<input type="checkbox"/>
Who do you contact when there is a problem?		

For further information on proper management of oil and grease from your food service operations, contact the Water Reclamation Plant at (507) 328-2650 or visit us on our website at [www.rochestermn.gov/wastewater](http://www.rochestermn.gov/wastewater).

## FOG Program Cleaning and Maintenance Log Sheet

Per the City of Rochester's FOG Ordinance, this information must be recorded for every maintenance and cleaning activity on the grease interceptor that is completed by the facility. This log must be available for inspection by City staff at any time. Copies of the logs must be kept on site for a period of at least 3 years.

**Facility Name:** \_\_\_\_\_ **Phone Number:** \_\_\_\_\_

**Address:** \_\_\_\_\_ **Min. Cleaning Frequency:** \_\_\_\_\_

**Location of Grease Interceptor:** \_\_\_\_\_

Date	Name of Hauler - OR - Name of Person Cleaning	Cert. #	Depth Measurements				Maintenance Comments	Destination of Waste Hauled/Removed	Verification* by Owner or Manager
			Total Liquid Depth	FOG	Solids	% full			

\*If self-cleaning, please attach a photo of the cleaned grease interceptor.

\*\*Use the following formula to calculate % full:  $\frac{(\text{Level of FOG (inches)} + \text{Level of Solids (inches)})}{\text{Total Depth of Contents (inches)}} \times 100 = \% \text{ Full}$





# Fats, Oil and Grease Management



## FOG DO

- Place cooled oil and grease into trash bins or covered collection containers.
- Scrape food scraps into trash bins.
- Manually wipe off all visible fats, oils, grease, and food residue from dishes and cookware into trash bins.
- Use a strainer in the sink to collect excess food particles.
- Encourage others to help keep fats, oils, and grease out of the sewer system.



## FOG DON'T

- Don't pour oil or grease down the drain.
- Don't put food scraps down the drain.
- Don't pour liquid foods (dairy products, syrups, batters and gravy, etc.) down the drain.
- Don't run water over greasy dishes, pans or fryers.
- Don't use chemicals to remove grease clogs; they can damage the piping system.
- Don't rely on a garbage disposal to get rid of grease.

[FOG@rochestermn.gov](mailto:FOG@rochestermn.gov)

[www.rochestermn.gov/wastewater](http://www.rochestermn.gov/wastewater)





# A FACT SHEET FOR PROPER DISPOSAL OF FATS, OIL & GREASE

## What is FOG?

Fats, oil and grease, also referred to as “FOG”, are by-products from cooking with items such as meat fats, lard, oil, shortening, butter, margarine, food scraps, baking goods, sauces, and dairy products. These are found in Food Service Establishments (FSEs) as well as residential homes.

## What happens if FOG is not properly managed?

When FOG is poured down the drain, it solidifies and builds up in the pipes. Blockages from the FOG can cause back-ups in kitchens or basements, or can lead to sanitary sewer overflows. These back-ups and overflows are a health risk along with causing unpleasant odors. Back-ups are expensive and unpleasant to clean up and often must be paid for by the business/homeowner.

## What can you do?

- Never pour grease down sink drains, floor drains, or into toilets.
- Scrape grease and food scraps into a can or the trash for disposal.
- Use a strainer in the sink to collect excess food scraps.
- Do not rely on a garbage disposal to get rid of grease; they are not trash cans!
- Never use chemicals to remove clogs; they can damage the piping system.
- Encourage others to help keep FOG out of the sewer system.



[FOG@rochestermn.gov](mailto:FOG@rochestermn.gov)

[www.rochestermn.gov/wastewater](http://www.rochestermn.gov/wastewater)







## Water Reclamation Plant

301 37<sup>th</sup> St NW  
Rochester, MN 55901

Phone: (507) 328-2650

Visit Wastewater Management at  
[www.rochestermn.gov/wastewater](http://www.rochestermn.gov/wastewater)



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