



## **Industrial Pretreatment Division**

### *FOG Control and Grease Interceptor Estimate*

City of Northglenn  
**Industrial Pretreatment Division**  
12301 Claude Court  
Northglenn, CO 80241

**Email:** [ipprogram@northglenn.org](mailto:ipprogram@northglenn.org)  
**Phone:** 303.450.4026  
**Fax:** 303.450.4020

Protecting public health and safety in Northglenn is the primary responsibility of the Industrial Pretreatment Division through prevention with proper FOG management. Improper disposal of Fats, Oils and Grease (FOG) has the potential to cause sewer blockages and spills which may pose a threat to public health and safety. FOG includes animal fat products, dairy, cooking oil, shortening, and grease. FOG is often used in the preparation of food and beverages. Water used to wash equipment, dishes and floors in food service and preparation facilities contain FOG through cross contamination.

When FOG, or food and wastewater containing FOG, are poured down the drain, it cools and usually solidifies in the sewer pipes of buildings and the City's sewer collection system, which restricts and eventually clogs wastewater flow. Wastewater back-up into homes, businesses and the environment is known as sanitary sewer overflow and causes serious water quality problems, property damage and threat to public health. The most effective way to prevent sanitary sewer overflow and minimize FOG accumulation in sewer pipes is to prevent the introduction of FOG into the sanitary sewer system with Best Management Practices (BMPs).

All non-domestic facilities that prepare, serve, or otherwise make any type of food or beverages available for consumption (Food Service Establishment) are required to install and maintain a gravity grease interceptor. Interceptors prevent FOG from entering the City's sewers in the event of BMP failure. Full gravity grease interceptor criteria are given in the City's Grease Interceptor Design Form, but see page 2 of this document to estimate the required volume.

Interceptors shall be maintained by regularly scheduled cleaning (pump-out) at a minimum every 90 days, or more often if required by the City.

Food Service Establishments are required to have a plan review approved by the City of Northglenn's Public Works.

As part of this review, facilities submit to the City the following:

1. Industrial Waste Questionnaire
2. Grease Interceptor Design Form, completed and stamped by a Professional Engineer, or otherwise approved by City of Northglenn Public Works.
3. List of fixtures and appurtenances that discharge to the sanitary waste system with manufacturer and model number.
4. Building/Kitchen floor plan with fixtures noted
5. Anticipated Best Management Practices (BMPs) used to limit FOG entering sanitary system
6. Anticipated maintenance (pump-out) schedule for grease interceptor.

The Industrial Waste Questionnaire and Grease Interceptor Design Forms are found at [Northglenn.org](http://Northglenn.org).

## Industrial Pretreatment Division

### *Gravity Grease Interceptor Volume Estimate*

The following is provided as a guide to estimate the volume required for a gravity grease interceptor. Volume calculated using this document is **not** accepted as a replacement for the completed Gravity Grease Design Form when submitting documents for a food service establishment plan review. Structurally, the interceptor must also be equipped with a particular design of inlet, baffle wall and outlet tee. This guide is only intended to allow a food service professional to quickly estimate the approximate volume of gravity grease interceptor required for their establishment. The estimate may vary high or low by up to 33% of actual depending on kitchen design factors.

Gravity grease interceptors are sized based on the expected flow rate of different categories of kitchen fixtures in gallons per minute (gpm) with criteria of a hydraulic residence time of 30 minutes and a 25% FOG and solids storage factor. The design flow rate is one-third the maximum flow rate because of the bulk hydraulic compensation of short-term peak flow events. Refer to Water Research Foundation project reports 03-CTS-16Ta & b for design justification.

$$\text{Volume} = [\text{Maximum Flow Rate (gpm)}] \times 30 \text{ minutes} \times 1.25 \text{ storage factor} / 3$$

To calculate the Maximum Flow Rate, select the appropriate fixture flow rate from the table below. Fixture flows are displayed for different drainage pipe diameters. Sum together the flow rates of all fixtures and insert into the Volume equation above.

		Fixture Flows (gpm)		
		1.5"	2.0"	2.5"
<b>A</b>	Ware Washing (3-comp sinks)	15	30	60
<b>B</b>	Food Preparation		2.2	
<b>C</b>	Pre-Rinse		2.2	
<b>D</b>	Dishwashing Machine		5	
<b>E</b>	Cooking Equipment	15	30	60
<b>F</b>	Mop Sink / Service Fixture		5	
<b>G</b>	Waste Food Disposal		2.2	
<b>H</b>	Floor Drains (one or many)		5	

Consider the following example for a kitchen with:

Two 3-comp wash sinks, 2" diameter drain pipe	A = 2 × 30	= 60
Two 2-comp prep sinks	B = 2 × 2.2	= 4.4
One pre-rinse sink	C = 1 × 2.2	= 2.2
One dishwashing machine	D = 1 × 5	= 5
One wok range, 1.5" diameter drain pipe	E = 1 × 15	= 15
One mop sink	F = 1 × 5	= 5
No waste food disposals	G = 0	= 0
Several floor drains	H = 5	= 5
<b>A + B + C + D + E + F + G + H =</b>		<b>96.6</b>