

# San Francisco’s “SFGreasecycle”: How to Start a Successful FOG Program

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# Defining the Problem: The cost of Fats, Oil and Grease (FOG) still in sewers



Beach & Embarcadero

## FOG in S.F. Manholes and Sewer Mains



California & Montgomery

# Challenge: SF Regulatory Landscape

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Styrofoam Ban

Plastic Bag Ban

Health Care Requirement

Noise Enforcement Program

Nutrition Labeling Requirement

Trans-fat Ban

Outdoor Seating Restrictions

Healthy Food Initiatives Ordinance

Sick Pay Requirement

(San Francisco also prohibits kerchoo powders, stink balls, and elephants off leash)

# Challenge: Political Sensitivity



...with an ex-restaurant owner as  
Mayor, at the time

San Francisco's a world-class  
restaurant town





# Program Strategies (Sources of Grease)

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- Household kitchens
- Restaurant used cooking oil
- Restaurant grease traps



# Solution (Household Drop-offs)

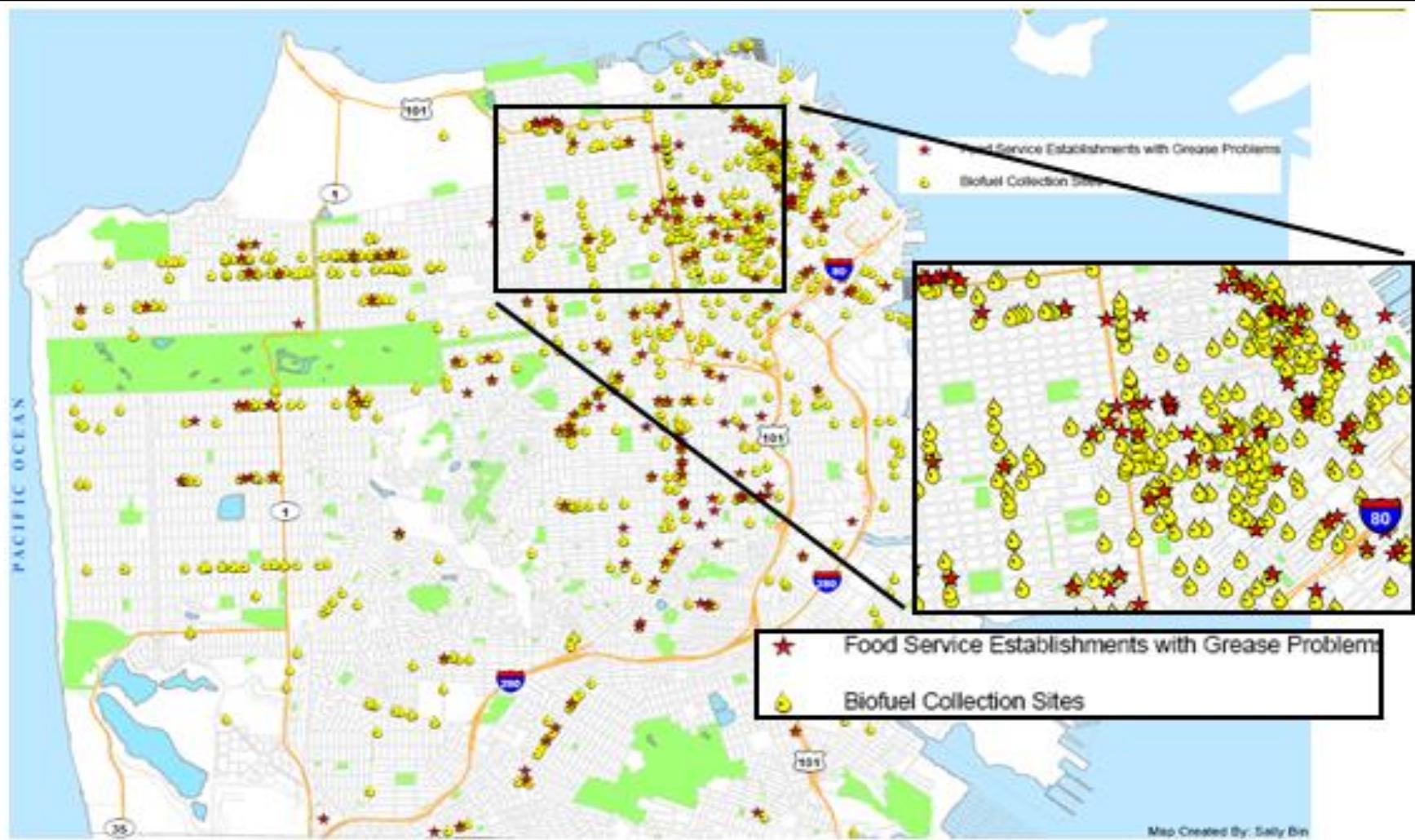


# Solution (Restaurant used cooking oil )





# Solution (Targeting “Hot Spots”)



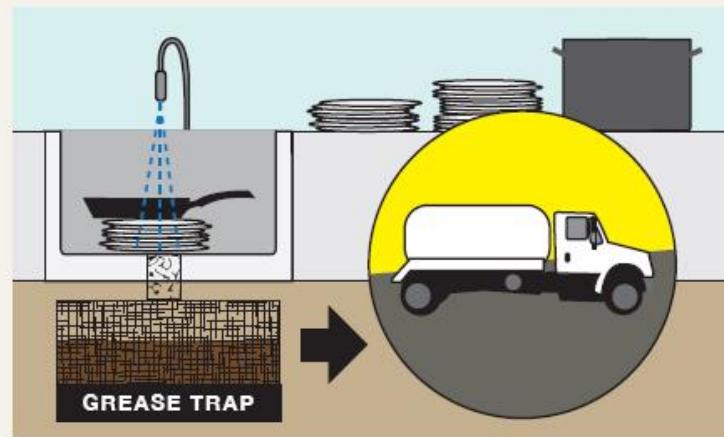


# GREASE TRAP GUNK (AKA “BROWN GREASE”) IS PROCESSED INTO CLEAN-BURNING BIOFUEL

Technology developments and enterprising water agencies are solving environmental and energy issues by using the scrapings at the bottom of the grease trap barrel. Here's how:

## 1. COLLECTION

Most, if not all, grease and food scrapings from dirty dishes and pots from commercial kitchens are captured in a grease trap. Instead of flowing straight from a restaurant's sink drain down into the sewer pipes, brown grease is collected (restaurants pay \$ for this service) and hauled to a wastewater treatment plant (haulers then pay \$ for disposal).



## 2. CONVERSION

At the plant, the patent-pending conversion process occurs, refining brown grease and creating three kinds of biofuel:

1. High-grade, road-worthy certified biodiesel for vehicles;
2. Lower grade boiler fuel for running sewage treatment plant equipment; and
3. Electricity converted from methane to run the treatment plant



### 3. DIVERSION

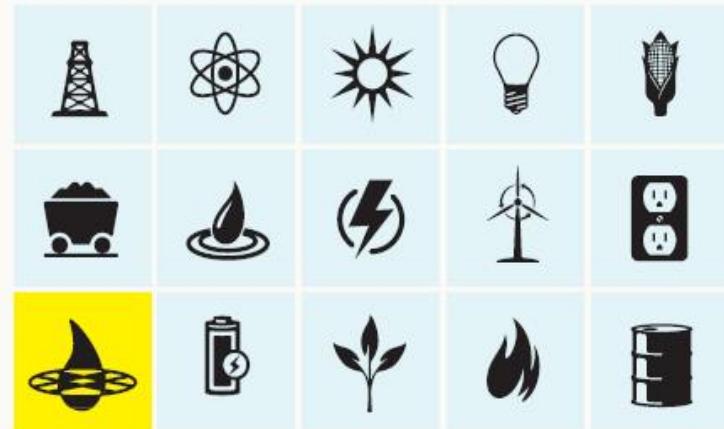
Unlike cooking oil from deep fryers, which can easily be processed and recycled, trap grease is so rancid that it is considered a pollutant. It has typically been sent to an incinerator or landfill. Today's technology enables this waste to be converted into alternative energy.



### 4. CONSERVATION & MARKET CREATION

Sewer maintenance, including repairs when brown grease clogs sewer pipes, costs municipalities millions of dollars annually. By being the raw material for biofuel, "brown grease" becomes a commodity. It assumes market value and less gets dumped down the drain, minimizing costs for sewer maintenance and repair.

**In the end, every drop, every scrap is used to produce energy, leaving nothing wasted.**



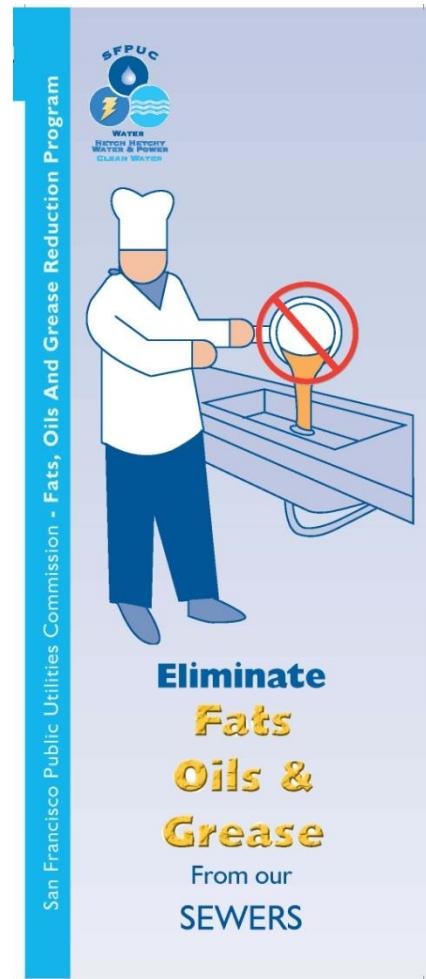
SFGREASECYCLE: SFPUC  
(415) 695-7366      [sfgreasecycle.org](http://sfgreasecycle.org)





# Existing FOG Source Control Program

- Wastewater Inspector visits (Began in 2004)
- FOG Best Management Practices taught
- Education and Handouts
- Not focused on grease capturing equipment



# STEP 1: Address Restaurant Concerns

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What will I be required to do?

How much will it cost to comply?

We only make sandwiches!!

What if my restaurant has been complying with the existing ordinance?

I don't have time to pour through legislation...

# STEP 1: Address Restaurant Concerns

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What will I be required to do?

We only make sandwiches!!

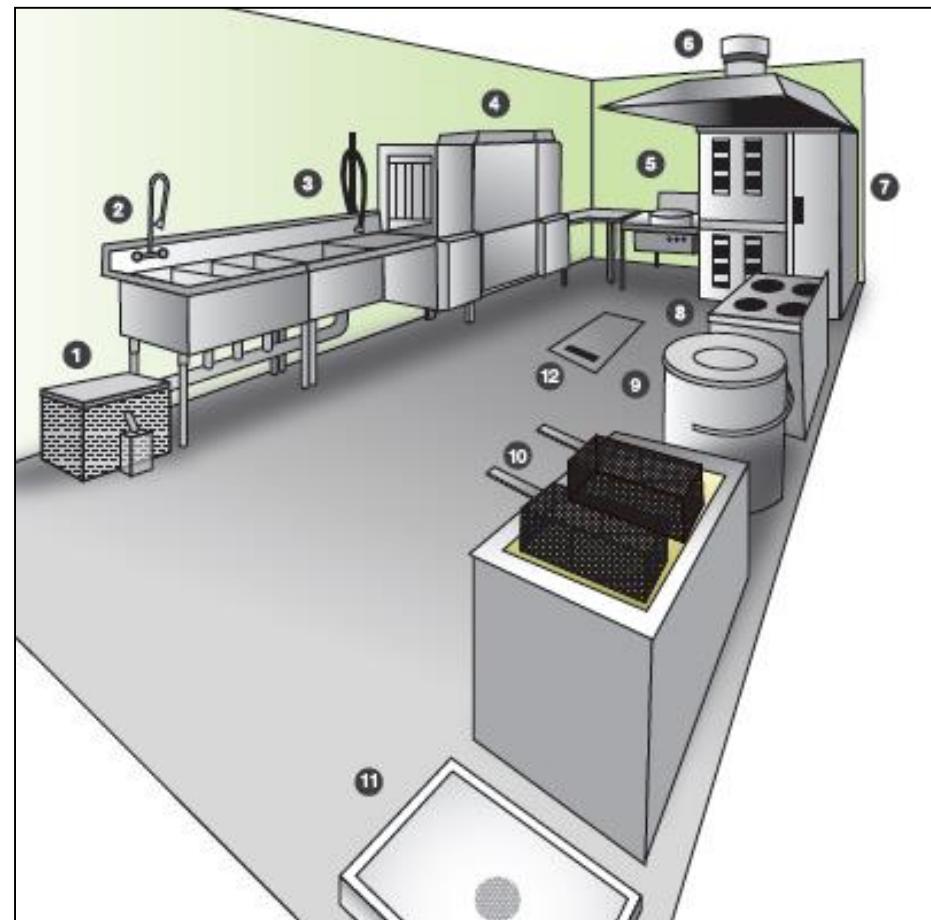
What if my restaurant has been complying with the existing ordinance?

Restaurants are divided into four simple categories, based on the number of appliances in their kitchen and their existing grease capturing equipment.

# Category Determination

**FOG DISCHARGER CATEGORY TOOL**

Equipment Type	Score
<b>Warm Only Equipment</b>	
<input type="checkbox"/> Microwave	0
<input type="checkbox"/> Toaster	0
<input type="checkbox"/> Toaster Oven	0
<b>Low Risk Cooking Equipment</b>	
<input type="checkbox"/> Bread Oven	1
<input type="checkbox"/> Combi-Oven (Convection/Steam)	2
<input type="checkbox"/> Pizza Oven	2
<input type="checkbox"/> Steamer	1
<b>Moderate Risk Cooking Equipment</b>	
<input type="checkbox"/> Stove (Range)	4
<input type="checkbox"/> Oven/Range	4
<b>High Risk Cooking Equipment</b>	
<input type="checkbox"/> Char-broiler	8
<input type="checkbox"/> Deep Fryer	8
<input type="checkbox"/> Griddle	8
<input type="checkbox"/> Grill	8
<input type="checkbox"/> Kettle	8
<input type="checkbox"/> Rotisserie	8
<input type="checkbox"/> Smoker	8
<input type="checkbox"/> Tilt Skillet	8
<input type="checkbox"/> Wok	8
<input type="checkbox"/> Other _____	8
<b>Other Factors</b>	
<input type="checkbox"/> Single Service Kitchen <sup>1</sup>	0
<input type="checkbox"/> Full Service Kitchen	4
<input type="checkbox"/> Seating > 100	# of seats _____
	<b>Total Score</b> _____



# Discharger Category Tool

## DISCHARGER CATEGORIZATION

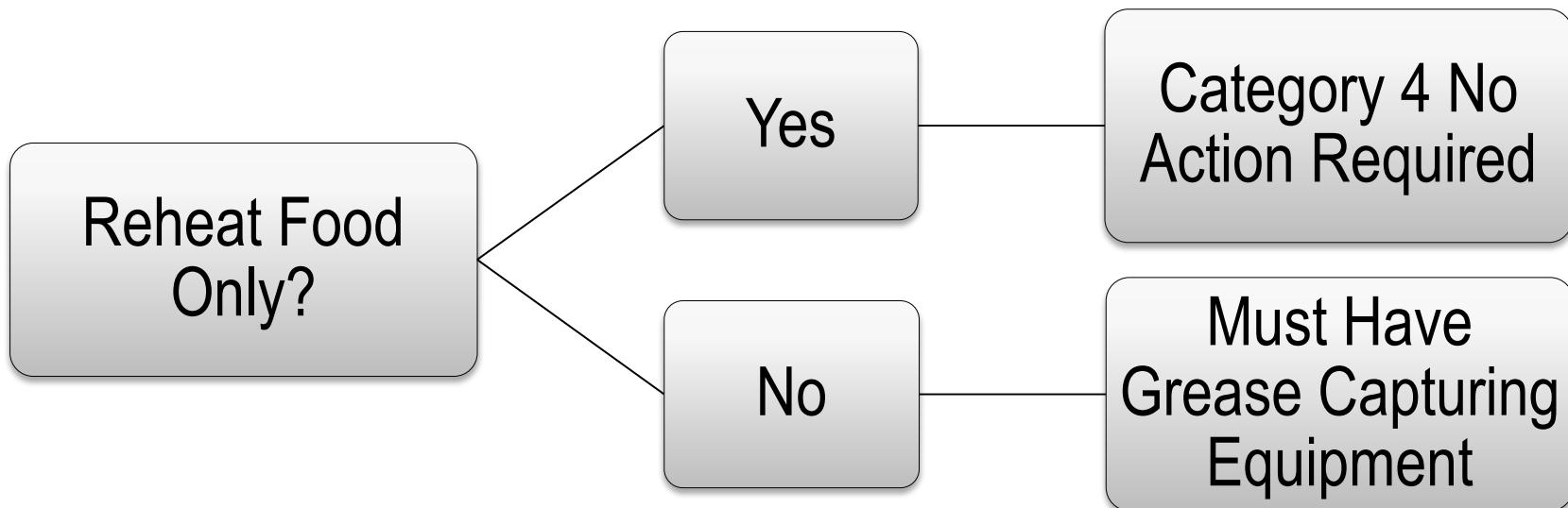
**0 – 9 Points** = Category 4 (Limited Food Preparation Establishment)

**10 – 15 Points** = Category 3 (Less Significant Grease Discharger)

**> 15 Points** = Category 1 or Category 2 (Category 2 has equipment already installed)

# Category 4 Restaurants: Reheat Only?

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# Categories 1 - 3



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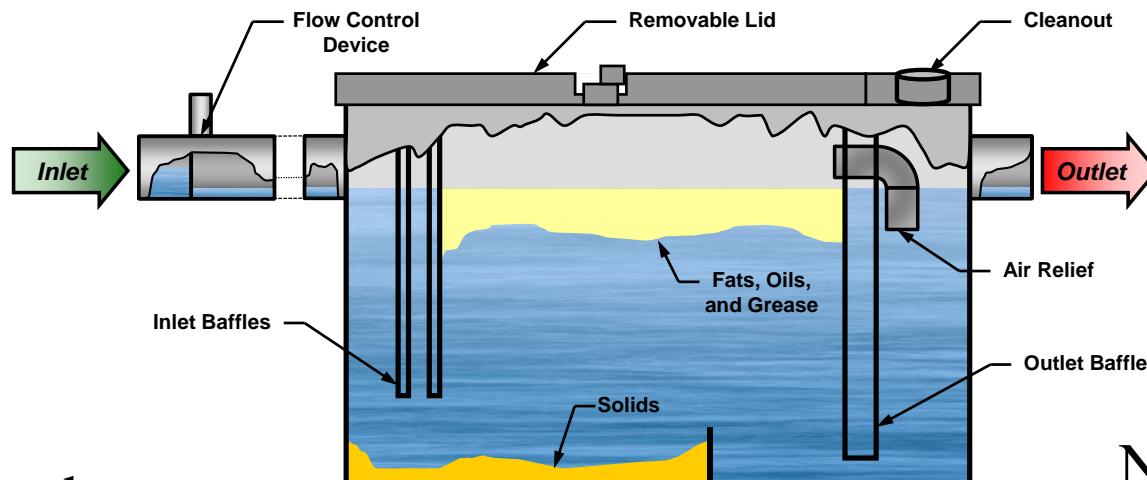
Grease Removal Device (GRD)

Or



Trap

# Trap (Hydro-mechanical grease interceptor)



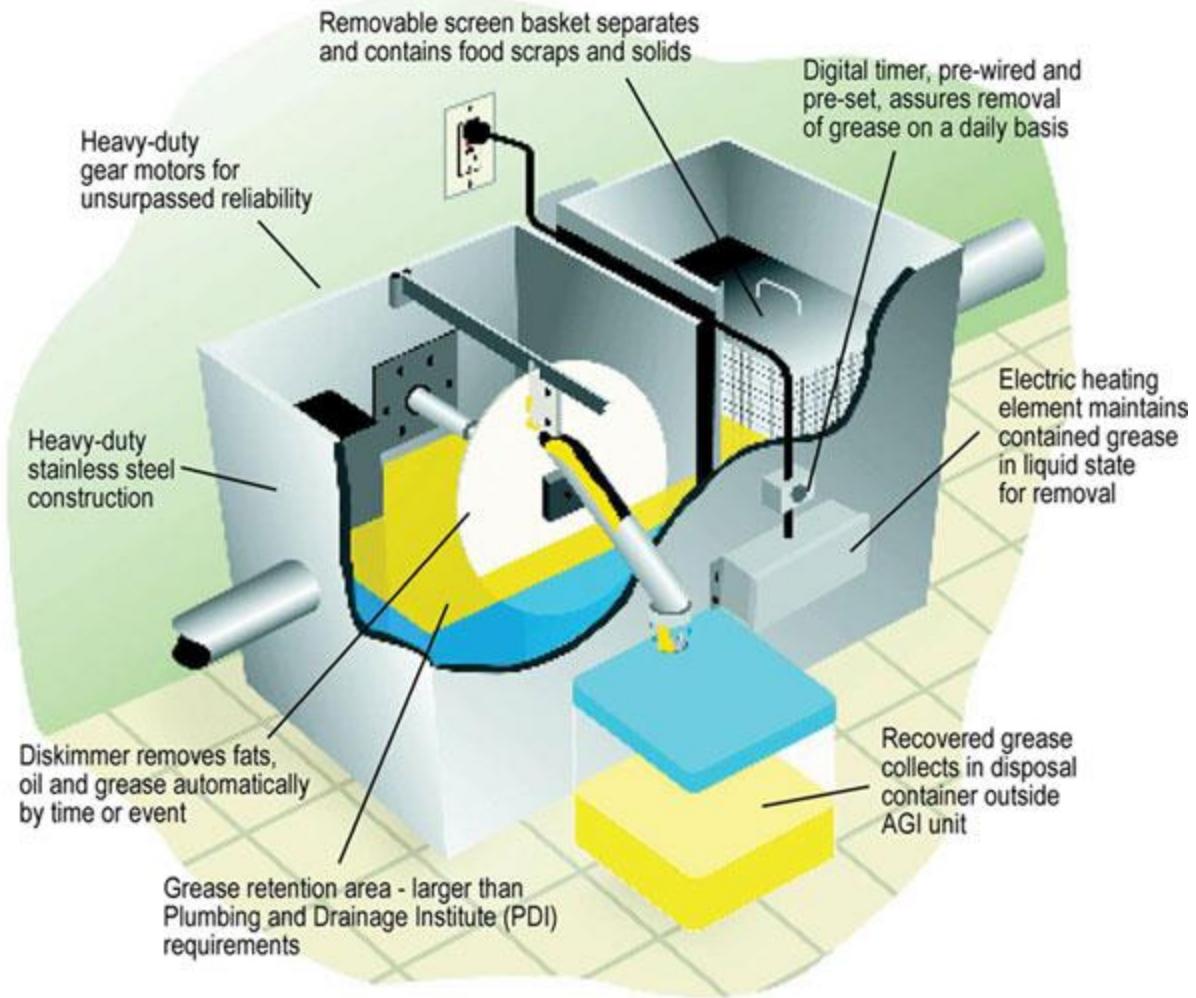
Serviced



Not Serviced



# Automatic GRD (Grease Removal Device)



# STEP 1: Address Restaurant Concerns

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How much  
will it cost  
to comply?

**Restaurants that don't have grease capturing equipment and are determined to generate a lot of grease will be required to install an Automatic Grease Removal Device (GRD)**

## One-Time Costs

- Average purchase costs for GRDs
  - \$2,800 ( $\leq$  30 gallon/min) to \$5,500 for  $\geq$  30-50 gpm
  - Plus installation: ~\$500 - \$2,000

# Reducing Financial Impact on Food Service Establishments

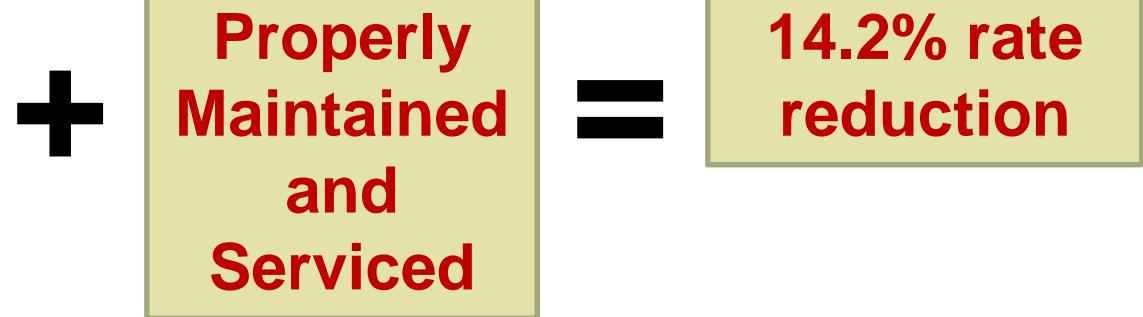
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How much  
will it cost  
to comply?

1. Sewer Service Rate adjustment of **-14.2%** for FSEs with Automatic GRDs and own water account
2. Lease-to-Buy Options
3. Loan Opportunities (ex: Opportunity Fund)
4. Categorized approach crediting existing equipment

# Sewer Bill Reductions

- If you are required to install a Grease Removal Device, or if you wish to install one, **you may qualify for a 14.2% reduction on your sewer service rate**



**Install a GRD**

# Rate Reduction Calculation

## B: Average Pollutant Concentrations (mg/L)

O&G(T)	T.S.S.	COD
100	303	715

## C: O&G Compliance Status

No Violations

Local Limits (mg/L)	
Hydrocarbon Oil & Grease	100
Total Recoverable Oil & Grease	300

## D: Sewer Service Charges

(using FY 2009/2010 rates)

Reduction based on O&G Load Reduction and related COD Reduction (no TSS change) [1, 2]

	Average (mg/L)	O&G(T) Violation?	Average (lbs/unit)	Cost (\$/lb)	Cost (\$/unit)
Total Recoverable Oil & Grease	100	NO	0.624	1.1035	0.6886
Total Suspended Solids	303		1.891	0.8819	1.6677
Chemical Oxygen Demand	715		4.462	0.2156	0.9620
Flow (\$/unit)					6.5548

Adjusted Sewer Service Charge Rate (\$/unit) :

**\$9.8731**

Historical Restaurant Sewer Service Charge Rate (\$/unit) :

**\$11.5018**

**14.2%**

# Micro-loan Opportunities

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## Small Business Loans

Apply for a small business loan  
today

# Step 2: Coordinated Outreach

Para leer esto en español, ingrese a  
[www.sfsewers.org](http://www.sfsewers.org)

看中文翻譯, 浏覽  
[www.sfsewers.org](http://www.sfsewers.org)

## The **SFPUC** invites you to a Town Hall regarding the upcoming **Grease Removal Device Ordinance**

### TOWN HALL MEETING DETAILS:

Scoma's San Francisco  
2:30 PM on Tuesday, March 2, 2010  
Pier 47 on Al Scoma Way, San Francisco

Jewish Community Center of  
San Francisco – Fisher Family Hall  
2:30 PM on Wednesday, March 3, 2010  
3200 California Street at Presidio Ave, San Francisco

**PLEASE RSVP TO**  
[Townhall@ororkeinc.com](mailto:Townhall@ororkeinc.com) or call (415) 543-5937

The San Francisco Public Utilities Commission (SFPUC), in  
partnership with the Golden Gate Restaurant Association (GGRA),  
invites you to a Town Hall to discuss the upcoming ordinance requiring  
installation of new grease removal devices (GRD) at food service  
establishments in San Francisco.



*Your water, wastewater and municipal power utility.*

# Step 2: Coordinated Outreach

Fats, Oils and Grease (FOG) Control Ordinance 2011

## How You Can Reduce Compliance-Related Costs



**INSTALL A GREASE REMOVAL DEVICE<sup>1</sup> AND LOWER  
YOUR SEWER SERVICE CHARGES BY 14.2%**

# Implementation Timeline Prior-Ordinance

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## 2007 – 2010: Lay the Groundwork with Key Stakeholders

- ❑ Golden Gate Restaurant Association (GGRA)
- ❑ Inter-departmental Cooperation (DBI, Port, DPH)

## Outreach Began February 2010

- ❑ Draft Ordinance & Fact Sheet posted on [sfwater.org](http://sfwater.org)
- ❑ Presentation to Restaurants: Town Hall Meetings
- ❑ Chinese Chamber of Commerce presentation
- ❑ Building Owners and Managers Association presentation
- ❑ Door-to-Door bilingual outreach to smaller restaurants
- ❑ Chronicle front page article [3/18/10]
- ❑ KCBS radio [3/3/10]
- ❑ All materials on website; Dedicated email for questions

# Implementation Timeline Post-Ordinance

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**February 2011: Adoption of Ordinance**

**February - April 2011: Outreach & Education**

Workshops, Presentations, Written Materials, Website, Equipment vendor fairs

- Work with key stakeholders (ex: GGRA, Office of Small Business, Inter-agency Restaurant Consultation Team led by OEWD, Chinese Chamber, Board of Supervisors)

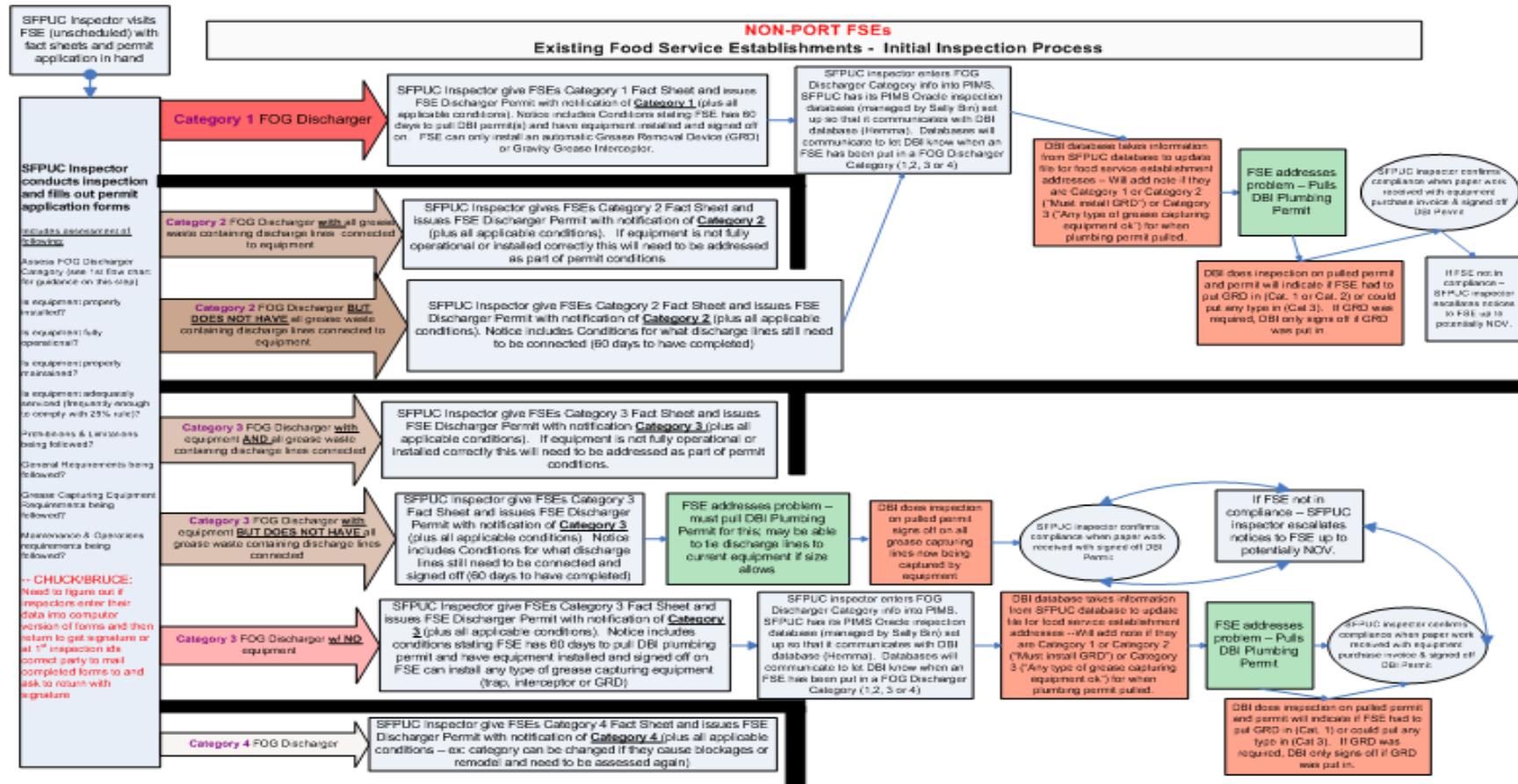
**April/May 2011:**

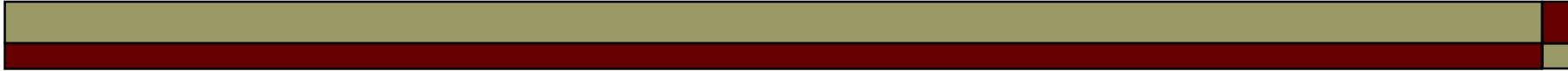
- SFPUC Inspectors begin initial site compliance visits

# Restaurant Canvassing Sites Visited

	<i>Name of Restaurant</i>	<i>Language Focus</i>		<i>Name of Restaurant</i>	<i>Language Focus</i>		<i>Name of Restaurant</i>	<i>Language Focus</i>
13	San Sun Restaurant	Cantonese		13 LA PALMA	Spanish	13	Penang Garden Restaurant	Mandarin
14	Joy Hing B.B.Q. Noodle House	Cantonese		14 IZALCO RESTAURANT	Spanish	14	Washington Bakery & Restaurant	Mandarin
15	Good Mong Kok	Cantonese		15 TAQUERIA EL FAROLITO #3	Spanish	15	Chinatown Restaurant	Mandarin
16	New Golden Daisy	Cantonese		16 TORTAS LOS PICUDOS	Spanish	16	Imperial Palace	Mandarin
17	Napoleon Super Bakery Corp	Cantonese		17 LA GALLINITA	Spanish	17	New King Tin Restaurant	Mandarin
18	Sam Wo Restaurant	Cantonese		18 Usulutan Restaurant	Spanish	18	Great Oriental Restaurant	Mandarin

# Interdepartmental Implementation





# Thank you

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