

FOG – An Integrated Approach



THE CITY OF
COLUMBUS
ANDREW J. GINTHER, MAYOR

DEPARTMENT OF
PUBLIC UTILITIES

City of Columbus

Fats, Oils and Grease (FOG) Reduction Program

OTCO Industrial Pretreatment Workshop
May 10, 2016

THE CITY OF
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ANDREW J. GINTHER, MAYOR

DEPARTMENT OF
PUBLIC UTILITIES



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Presented by:
Chris Harper, Wastewater Pretreatment Analyst

Definitions/Acronyms

- **Fats, Oils and Grease (FOG)** – A semi-solid, viscous liquid organic polar compound derived from petroleum, animal or plant sources that contain multiple carbon chain triglyceride molecules. These substances are detectable and measurable using analytical test procedures established in 40 Code of Federal Regulations (CFR) Part 136, as may be amended.
- **Food Service Establishment (FSE)** – a commercial facility engaged in preparing or serving food for consumption by the public, such as but not limited to: restaurant, commercial kitchen, cafeterias, nightclubs, delicatessen, meat cutting-preparation, bakeries, bagel shops, grocery stores, caterer, hotel, school, hospital, correctional facility or care institution.

Definitions/Acronyms

- **Grease Interceptor**

- **Hydro mechanical:** A device located in a food service facility or under a sink designed to collect, contain or remove food wastes and grease from the wastewater while allowing the balance of the liquid waste to discharge to the wastewater collection system by gravity. Hydro mechanical grease interceptors shall have a removable lid on the top surface to facilitate inspection, cleaning and maintenance.
- **Gravity:** A device located underground and outside of a food service facility designed to collect, contain or remove food wastes and grease from the wastewater while allowing the balance of the liquid waste to discharge to the wastewater collection system by gravity. Gravity grease interceptors shall have at least one inspection hatch on the top surface to facilitate inspection, cleaning and maintenance

Acronyms

- Best Management Plan (BMP)
- Columbus City Code (CCC)
- Enforcement Response Plan (ERP)
- Notice of Violation (NOV)
- Publicly Owned Treatment Works (POTW)



Acronyms

- Building and Zoning Services (BZS)
- Columbus Public Health (CPH)
- Division of Sewerage and Drainage (DOSD)
 - Industrial Wastewater Pretreatment Group (IWPG)
 - Sewer Maintenance Operations Center (SMOC)
 - Stormwater Regulatory Management Section (SRMS)

Need for FOG Reduction Program



- FOG is a leading cause of sewer blockages and overflows
- Required to reduce overflows
 - Ohio EPA Consent Decrees

Need for FOG Reduction Program

- Contributes to sewer overflows by reducing capacity in the system
 - Affects performance of City Sewer System
 - Can affect other users



Need for FOG Reduction Program



- City incurs maintenance costs which are passed along
 - All rate payers
 - Determined source

FOG Reduction Program Overview

- Applies to all Columbus FSEs including restaurants, hospitals, schools, daycare, catering facilities, etc.
- Also applies to 22 suburban communities who contract with Columbus for wastewater treatment
 - Bexley
 - Brice
 - Dublin
 - Gahanna
 - Grandview Heights
 - Grove City
 - Groveport
 - Hilliard
 - Lockbourne
 - Marble Cliff
 - Minerva Park
 - New Albany
 - Obetz
 - Reynoldsburg
 - Riverlea
 - Shawnee Hills
 - Upper Arlington
 - Urbancrest
 - Valleyview
 - Westerville
 - Whitehall
 - Worthington

FOG Reduction Program Overview

- When required, grease interceptors must be installed outside
 - CCC 1145.04 (B)
- Requires all FSEs to develop and implement FOG BMP and Grease Interceptor Cleaning Log(s)
 - CCC 1145.20 (B) (1)(a)
- Requires all FSEs to make its FOG BMP, Grease Interceptor Cleaning Log(s) and supporting documentation available upon request by DOSD or CPH personnel
 - CCC 1145.20 (B)(1)(d)
- Requires all FSEs to maintain inspection records and Grease Interceptor Cleaning Log(s) for three years
 - CCC 1145.20 (B)(1)(e)

FOG Reduction Program Overview

- Establish grease interceptor cleaning practices
 - Director's Rule No. 08-01
- Establish minimum cost recovery assessment of \$2000 for typical response
 - Director's Rule No. 15-04
- Establish local Hydrocarbon FOG concentration limit of 200,000 $\mu\text{g/L}$
 - Director's Rule No. 02-2013

FOG Reduction Program Overview

- ERP outlines enforcement procedures regarding FSEs when found in noncompliance
 - When FSEs cannot provide FOG Reduction Program documentation...
 - During CPH FOG inspection with no harm to POTW
 - During investigation of the illicit discharge of FOG
 - NOV fine policy
 - \$0 to \$2,000 and then evaluated for further Administrative enforcement
 - 3 year NOV frequency calendar

FOG Reduction Program Overview

Grease Interceptor Determination Form

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THE CITY OF
COLUMBUS
MICHAEL B. COLEMAN, MAYOR

757 Carolyn Avenue
Columbus, Ohio 43224-3218

DEPARTMENT OF BUILDING
AND ZONING SERVICES

GREASE INTERCEPTOR DETERMINATION FORM

Project Address: _____
Tenant Owner: _____
Contact Number: _____ E-mail Address/Fax: _____
Owner: _____
Owner's Address: _____
Owner's Number: _____ E-mail Address/Fax: _____

Is the facility required to have a Food Service License or a Retail Food Establishment License?
 Yes No

Is a three compartment sink required by the Health Department? Yes No

If yes what is the fixture used for? _____

Does the facility have a Type I exhaust hood for grease removal? Yes No

Indicate which plumbing fixtures receiving grease laden waste will be at the facility:

Pot Sink (Three Compartment Sink)
 Soup Kettle
 Wok Station
 Commercial Dishwasher
 Automatic hood wash unit (Type I hood)
 Floor drain or floor sink used to dump kettles / grease
 Other _____

Identify if any of the following will be used

Dairy products served: _____
 Meat cutting including cutting deli meats: _____

Description of operation and provide a copy of the menu: _____

Based on the information provided above, the following determination is:
 Grease separation is **required**.
For additional information concerning the management of grease, fat and oils see:
<http://utilities.columbus.gov/DCSD/FatOilsGrease.htm>

A gravity grease interceptor is required
 A hydromechanical grease interceptor is acceptable.
 A grease interceptor is **not** required.

Amir Ghosh, Chief Building Official
By Assistant Chief Building Official
City of Columbus
757 Carolyn Ave.
Columbus, Ohio 43224
614-645-3984 Fax 614-645-7840
greaseinterceptor@columbus.gov

Date: _____

Revised: July 30, 2015

Variance Request Form

CIC #01
Page 3

City of Columbus, Division of Sewerage and Drainage
1145.04 (B) Variance Request Form

(If handwritten, must be printed in ink and legible.)

Property Owner Name: _____
Food Service Name: _____
Business Address: _____
City, State, Zip Code: _____
Parcel Identification Number (PID): _____
Contact name: _____
Phone number(s): _____
E-mail: _____
Agency Issuing Plumbing Permit: _____

Check all that apply:
____ New Construction
____ Existing Structure

____ The property size is not adequate for an outside interceptor.
____ There are documented physical limitations with the property or structure that preclude installation of an outside interceptor.
____ The work encompassed by the plumbing permit does not affect kitchen function. This would include but not be limited to equivalent replacement of any kitchen fixtures and the addition or replacement of sanitary fixtures.

List any attachments: _____

If not fully addressed by the categories you checked above, explain why installation of an outside interceptor is impractical (you may use additional pages or the back of this form if you require additional space):

Signature: _____ Date: _____
Printed Name: _____

FOG Reduction Program Overview

FOG BMP

THE CITY OF
COLUMBUS
DEPARTMENT OF
PUBLIC UTILITIES

CITY OF COLUMBUS
DIVISION OF SEWERAGE AND DRAINAGE
FATS, OILS and GREASE (FOG)
BEST MANAGEMENT PLAN (BMP)
FOOD SERVICE OPERATIONS

Facility Name: _____
 Address: _____
 Grease Interceptor Size(s): _____

Note: FOG BMP and Grease Interceptor Cleaning Log(s) must be maintained on-site and available for review upon request by Columbus Public Health and Division of Sewerage and Drainage personnel. Grease Interceptor Cleaning Log(s) must be maintained on-site and available with the FOG BMP for any facility with grease interceptor(s).
 (Follow attached instructions and use extra sheets if necessary)

- List FOG sources:

- Handling/cleaning/facility practices to minimize discharge of FOG or buildup in sewer lines:

- List routine inspection and maintenance procedures of the grease interceptor, including any contract cleaning company used and grease interceptor cleaning frequency. Attach a copy of the manufacturer's Operations and Maintenance procedures for the grease interceptor(s) if available:

CERTIFICATION STATEMENT

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION IN THIS BEST MANAGEMENT PLAN FOR FATS, OILS, AND GREASE REDUCTION AND BELIEVE THE INFORMATION IS TRUE, ACCURATE AND COMPLETE.

Authorized Representative Signature _____ Title _____ Date _____

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Grease Interceptor Cleaning Log

THE CITY OF
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CITY OF COLUMBUS
DIVISION OF SEWERAGE AND DRAINAGE
FATS, OILS and GREASE (FOG)
BEST MANAGEMENT PLAN (BMP)
FOOD SERVICE OPERATIONS

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 (Make extra copies of this form for future use)

GREASE INTERCEPTOR CLEANING LOG

RETAIN RECORD(S) IN A PERMANENT LOG BOOK FOR A MINIMUM OF 3 YEARS
 SEPARATE LOG(S) MUST BE MAINTAINED FOR EACH GREASE INTERCEPTOR

Date Cleaned	Gallons or Percent of Grease and Solids Removed	Grease Interceptor Condition Mark satisfactory or unsatisfactory (If unsatisfactory, indicate corrective actions)
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____
9. _____	_____	_____
10. _____	_____	_____

CERTIFICATION STATEMENT

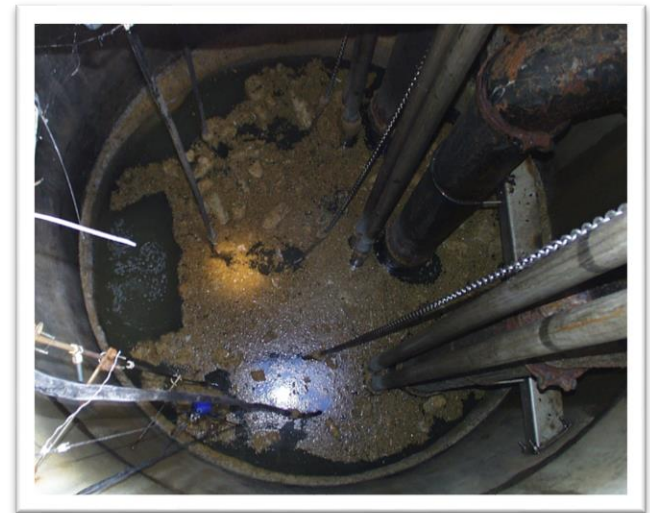
I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION ON THIS GREASE INTERCEPTOR CLEANING LOG AND BELIEVE THE INFORMATION IS TRUE, ACCURATE AND COMPLETE.

Authorized Representative Signature _____ Title _____ Date _____

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Why An Integrated Approach?

- Within Columbus...
 - There are over 3000 FSEs
 - This does not include the contracting communities
 - Does not include local neighborhoods which are prone to blockages or have recently experienced FOG obstruction in the sewer system.
 - FOG Reduction Program encompasses:
 - Permitting
 - Installation
 - Documentation
 - Maintenance
 - Inspection
 - Investigation
 - Enforcement



Solution?

- Utilize and encourage coordination



- BZS
 - Grease Interceptor Determination Form
 - Permitting/installation
- CPH
 - Plan review
 - Change in facility operations
 - FOG inspections

Solution?

- Utilize and encourage coordination
 - SMOC
 - City sewer maintenance
 - Issue identification
 - SRMS
 - Investigation (Storm)
 - Enforcement
 - IWPG
 - Variance Request Form
 - Investigation (Documentation, Sanitary or Combined)
 - Enforcement



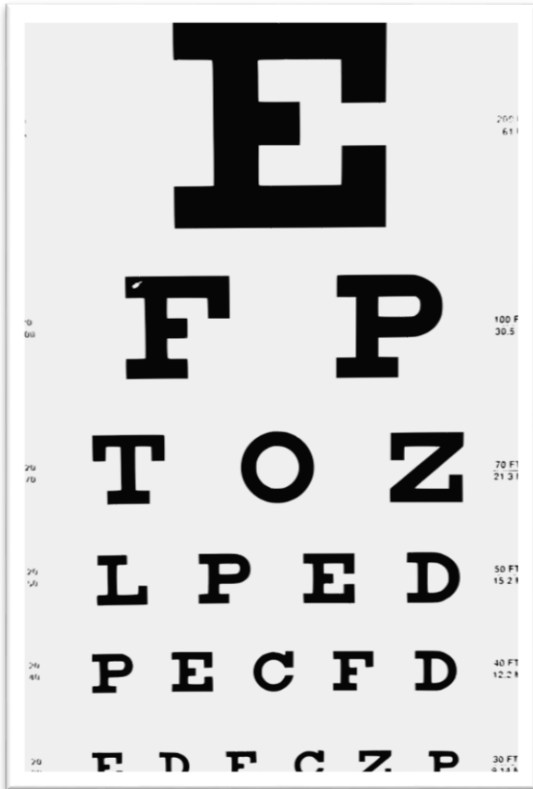
Further Integration

- Training
 - Annual CPH refreshers
- Increased communication and collaboration
 - Email
 - Joint inspections and investigations
 - Standard Operating Procedures
- Evaluation of program aspects



Results

Integrated approach



- FOG inspections and education reaching all FSEs
 - Previously time-permitting
- Able to provide complete guidance to all FSEs
 - New facilities
 - Renovations
 - Menu changes
- Quicker response and resolution
 - FOG-related issues are often correlated
- Results of FOG Reduction Program pass “eye test”

Results

City of Columbus 2015 Pretreatment Program Annual Effectiveness Report

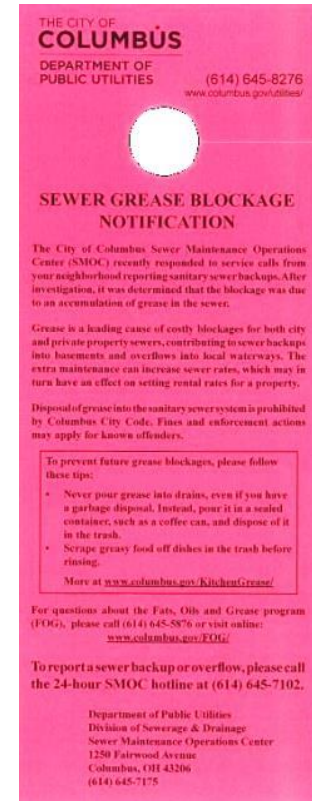
FSEs

- Over 4300 CPH FOG Inspections conducted
- 6 SMOC FOG referrals
- 20 FSEs identified
- 15 NOVs issued to FSEs
- 1 Cost Recovery Assessment issued

Public Neighborhoods

- 962 FOG Door Hangers

Figures are lower than 2014, however...



Results



... the 2016 Annual Report is expected to indicate higher:

- SMOC FOG referrals,
- NOVs
- Cost Recovery Assessments
- Distribution of FOG Door Hangers

Does this data suggest the FOG Reduction Program is failing?

Future Direction



- Emphasize FOG Reduction Program with FSEs
 - Difficulties
 - High turnover within industry
 - Tragedy of the Commons
- Continue to promote internal collaboration
- Continue to evaluate FOG Reduction Program
 - Including further data analysis

QUESTIONS?

Christopher Harper

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Industrial Wastewater Pretreatment Group

Division of Sewerage and Drainage

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