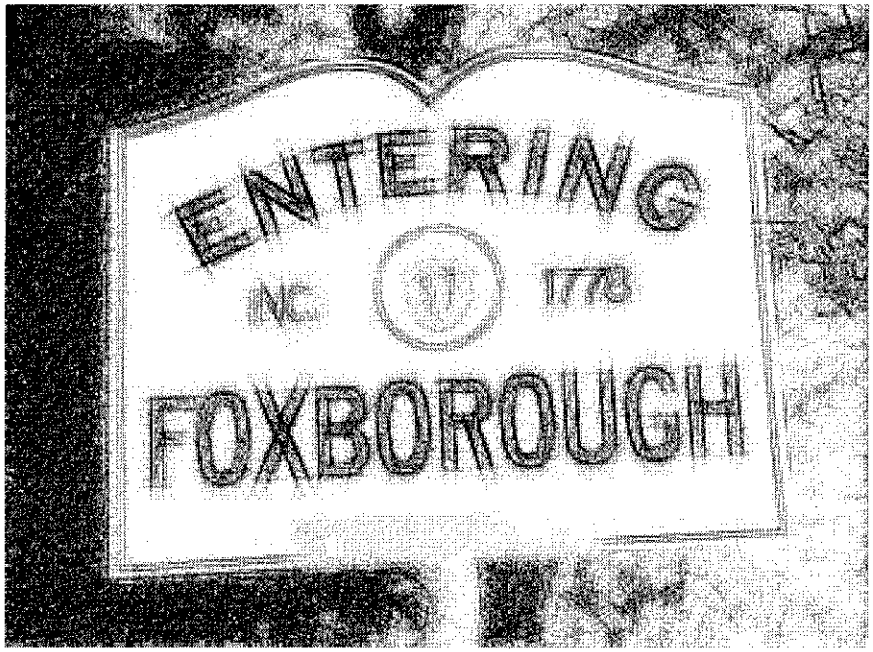
Town of Foxborough
FOG Control Program



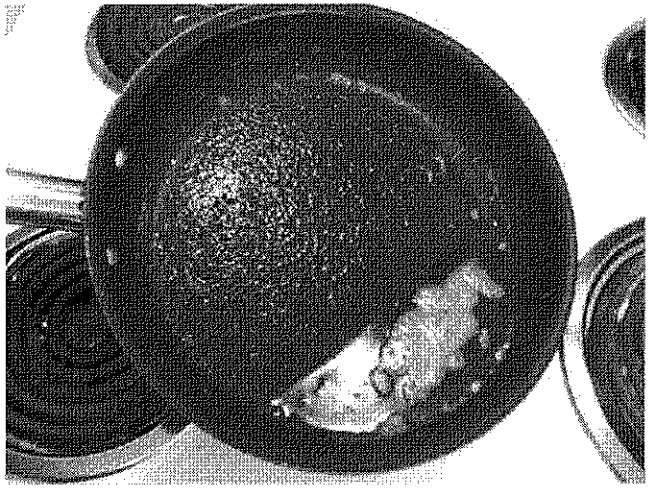
Kevin M. Duquette
Foxborough Board of Health
40 South Street
Foxborough, MA 02035

Agenda

- **Introduction**
  - **What is FOG?**
  - **Why Have a FOG Program?**
- **FOG Management**
  - **Regulations**
  - **Program Management**
  - **Training**
  - **Communication**
- **Challenges and Considerations**
- **Looking to the Future**

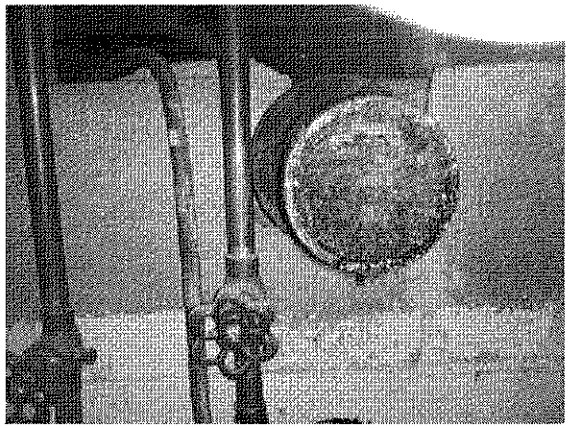
What is FOG?

- FOG or Fats, Oils, and Grease is a byproduct of cooking, food preparation, and clean-up. FOG can be found in meat, shortening, butter, margarine, sauces, and dairy products.



Why Have a FOG Program?

- FOG Characteristics
  - FOG is not soluble in water
  - At high temperature, fats and grease will be in a liquid form, but as the cooling process begins it starts to congeal and become a solid mass, decreasing pipe capacity and restricting flow
  - FOG has corrosive properties



Why have a FOG Program?

- Liquid Assets
  - **In 2008, Penn State Public Broadcasting (WPSU-TV) released a documentary about the country's aging infrastructure.**
  - **<u>Liquid Assets</u> explores the history, engineering, and political and economic challenges of our water/wastewater infrastructure, and engages communities in local discussion about public water and wastewater issues.**

SESSAL
OUTDOOR

Why Have a FOG Program?

- **Environmental Protection Agency (EPA)**
  - **In 2004 the EPA released a report to Congress showing that 47% of all reported sewer blockages in the US were a result of FOG**
  - **FOG management is part of the EPA CMOM Program (Capacity, Management, Operation, Maintenance) (Sewer)**

- **MA Department of Environmental Protection (MADEP)**
  - **Recommends all Cities and Towns adopt a FOG Program**
  - **Title V Regulations (Private Septic Systems)**

- **Centers for Disease Control and Prevention (CDC)**
  - **Wastewater can contaminate the local environment and drinking water supply, thereby increasing the risk of disease transmission**

Why Have a FOG Program?

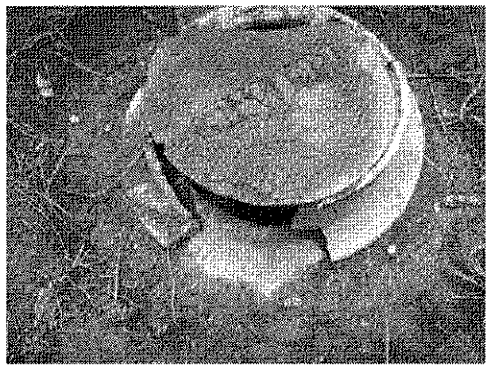
The Big Picture for Establishments

- Establishments on private sewer and/or municipal sewer
- Age of establishments
- Type of establishment
  - Menu
  - Hours
  - Number of fixtures (floor drains, sinks, woks)
  - Number of staff
  - The list goes on.....

Every establishment is unique and requires its own FOG Management Program!

Why Have a FOG Program?

- Protect Public Health and Safety
  - Sewer Overflows
    - There are over 30 types of water-bourn diseases that the public can be exposed to from coming in contact with a wastewater discharge. (Bacterial – Parasitic – and Viral)
  - Property damage
  - Drinking water supply contamination
  - Patron and employee safety



Why Have a FOG Program?

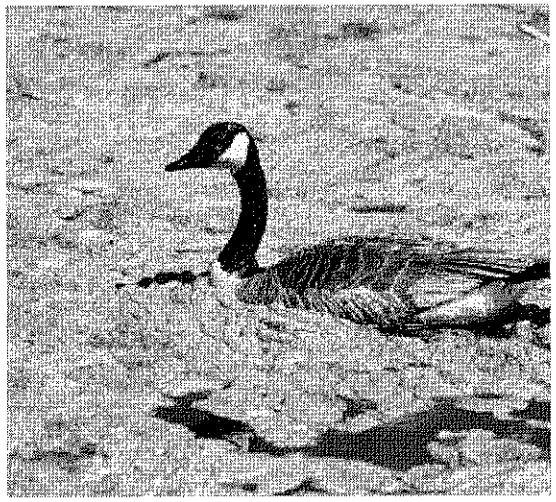
- A FOG Program is proactive!

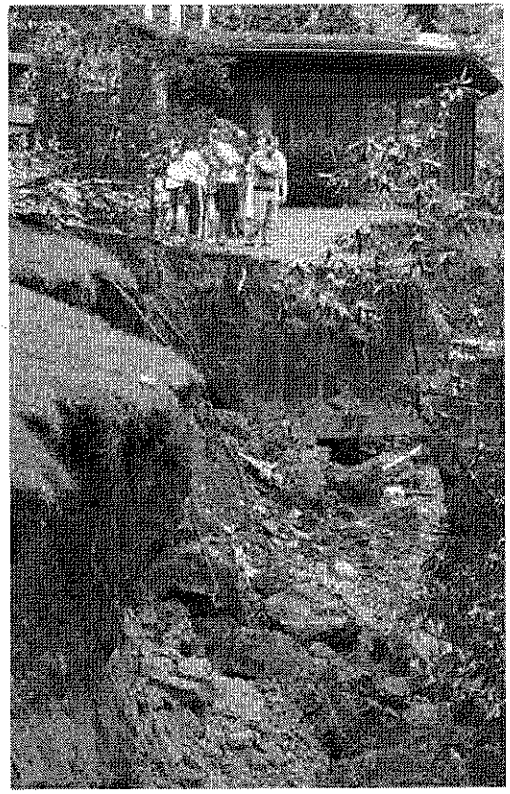
Why Have a FOG Program?

- Protect the public and private sewer system from blockages that could cause property damage and public exposure

Why Have a FOG Program?

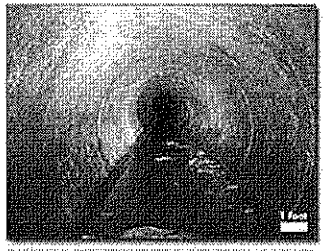
- Protect the Environment
  - Algae Blooms
  - Erosion

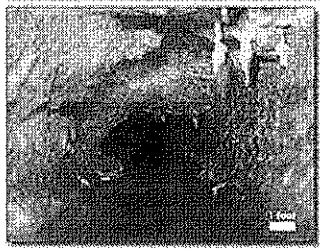




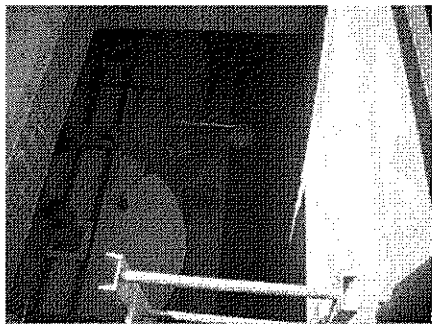
Why Have a FOG Program?

- **Reduction in maintenance and repair costs for the plumbing and private sewer system**
  - **The older the system gets the more maintenance it will need**
- **Avoiding private sewer line breaks and overflows causing:**
  - **Environmental clean-ups**
  - **Additional costs for man hours and resources**
  - **Possible DEP and EPA fines**
  - **Public exposure**



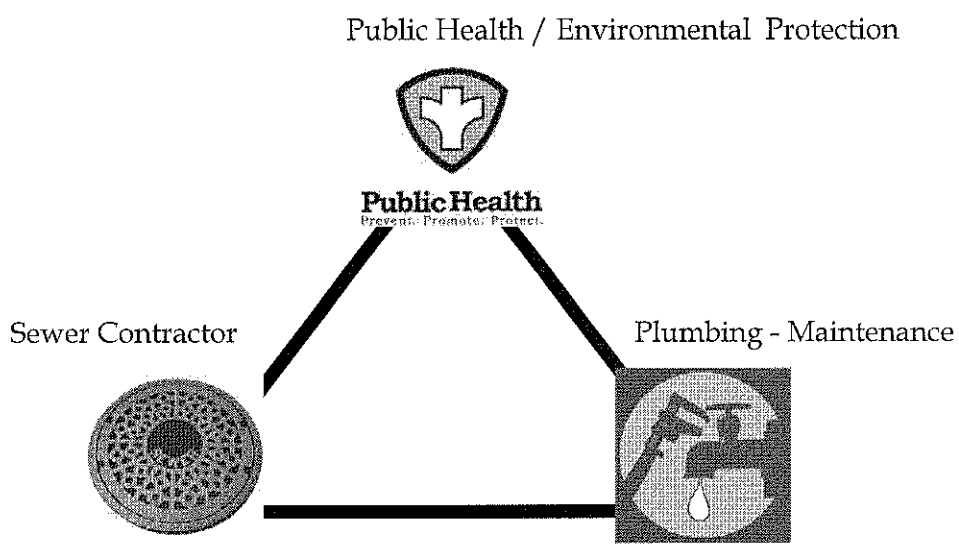


- **Extending the life of the private sewer system and plumbing**
- **Preventing establishment closures**
- **Reduce worker injuries**
- **Compliance with all Federal, State, and Local regulations**
- **Sewer pump stations**



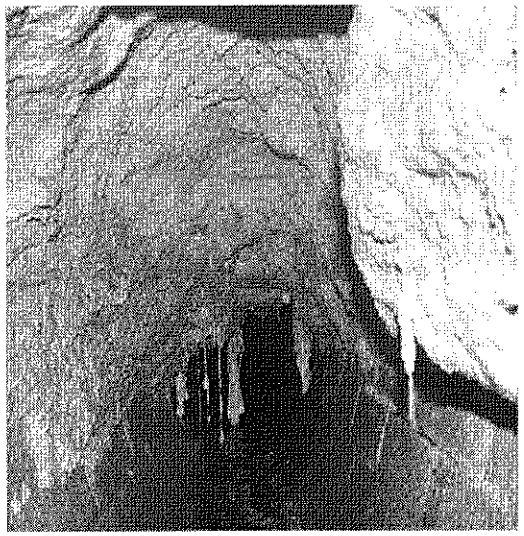
FOG Management

- Who are the players?
  - **Public Health/Food Service**
  - **Municipal Plumbing Inspector / Maintenance Departments / Plumbing Staff/**
  - **Municipal Water/Sewer Department / Sewer Contractors**



The Regulations

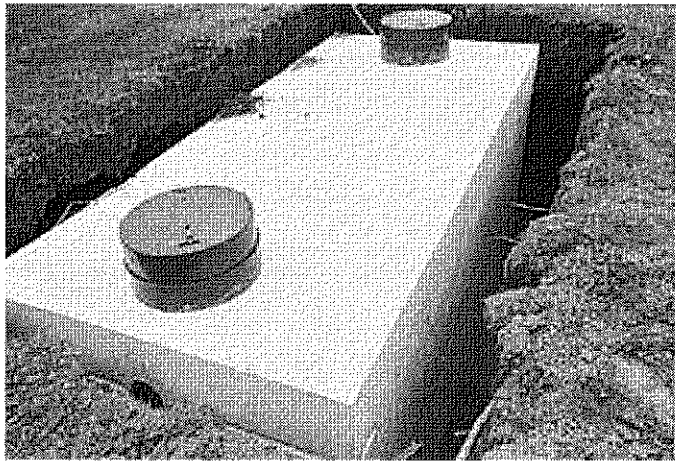
- **Sewer Use Ordinance**
  - **EPA CMOM Program**
  - **Discharge Limits (100 MG/L)**
  - **Other (Superintendent Discretion)**
  - **Fines and fees**
  - **IMA with the Town of Mansfield**

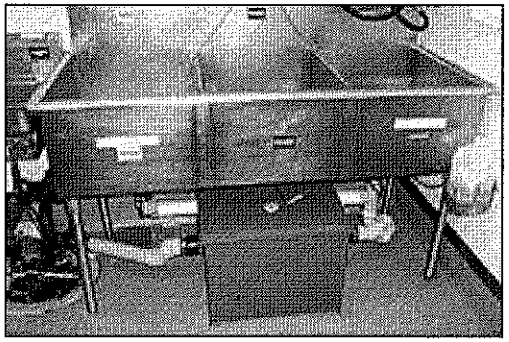


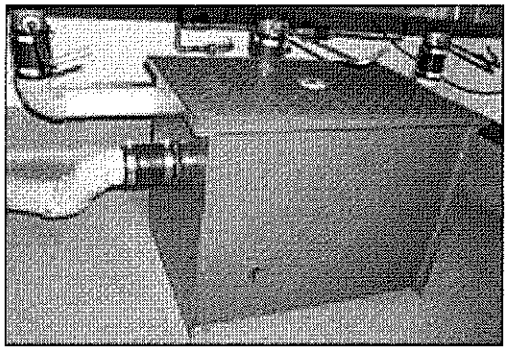
The Regulations

- **Plumbing Code 248 CMR 10.09 Interceptors, Separators and Holding Tanks**

- **There are 2 main types of FOG containment:**
  - **Primary or Point Source Interceptors (Internal)**
  - **Secondary or External Interceptors**



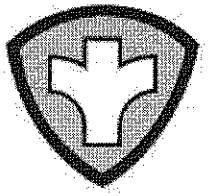




The Regulations

- Plumbing Code 248 CMR 10.09 Interceptors, Separators and Holding Tanks
  - **Size Calculations, Unit Requirements, & Installation Requirements**
  - **External interceptors are a dedicated system**
  - **Readily Accessible**
    - **Direct access without the necessity of removing or moving any panel, door, lock or similar obstruction**
  - **FOG Signage**
  - **Alternative technologies**

The Regulations



Public Health
Prevent. Promote. Protect.

Board of Health – FDA Food Code 2009

- **Maintenance – 5-205.15 System Maintained in Good Repair & 6-501.11 Repairing**
  - **A plumbing system shall be:**
    - **A) Repaired according to law and**
    - **B) Maintained in good repair**
  - **PHYSICAL FACILITIES shall be maintained in good repair.**
- **Accessibility 5-402.12 Grease Trap**
  - **If used, a grease trap shall be located to be easily accessible for cleaning**

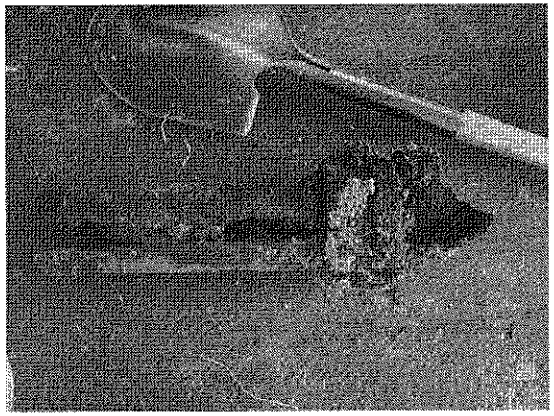
Title V CMR 15.351(2)

- **External grease traps should be inspected monthly and must be cleaned by a licensed septage hauler whenever the level of grease is 25% of the effective depth of the trap, or at least every three months, whichever is sooner.**

Town of Foxborough
FOG Control Regulations

Public Health
Prevent. Promote. Protect.

- **Interceptor maintenance frequency**
  - Secondary containment (min. 3 months or 25%)
  - Kitchen interceptors (Monthly or 6 month evaluation)
  - Seasonal establishments (Closed over 30 days)
- **Record keeping and reporting**
  - Maintenance logs and manifests
  - Training logs
  - Hood cleaning invoices
- **Proper signage**
- **Biological and chemical treatments**
- **Temporary events, temporary use, and other food service**
  - FOG Management Plan
  - Clubs, churches, carnivals, fairs, mobile food service
- **Chronic violators**
  - Board hearing
  - Monitoring devices



Signage

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 system(s).

Town of Foxborough Fats, Oils, & Grease (FOG) Control Program
Foxborough Board of Health
40 South Street – Foxborough, MA 02035
Phone: (508) 543-1207 Fax: (508) 543-6278

Town of Foxborough
FOG Control Regulations

Public Health
Prevent. Promote. Protect.

- **FOG haulers**
  - **Vehicle stickers**
  - **Inspection form to supplement monthly pumping logs**
- **Fees**
  - **$50.00 per year for establishments with up to 3 grease interceptors and/or 1 yellow grease collection container.**
  - **An additional $50.00 per year for each grease interceptor over 3 to a maximum charge of $200.00 per year.**
  - **Any establishment that generates FOG and does not have a FOG containment permit approved by the Board will be assessed a fee of $50.00 per year.**
  - **Exemptions to FOG yearly fee:**
    - **Seasonal mobile food service units**
    - **Non-profit, clubs, and religious organizations approved by the Board of Health**
- **Training and safety**
- **FOG inspections**
  - **Yearly Inspections**
  - **Criteria - Components, paperwork, signage, safety**

Maintenance Logs

Town of Foxborough
Board of Health

40 South Street
Foxborough, MA 02035
Phone: (508) 543-1207 - Fax: (508) 543-6278

Fats, Oils and Grease (FOG) Grease Trap Service Report

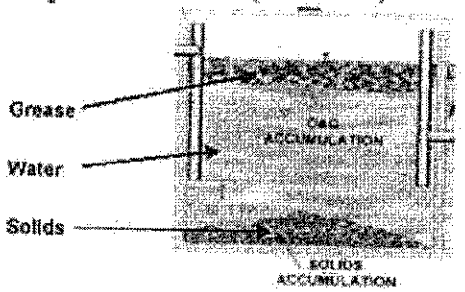
1. **Facility Name:**_____

   Address:_____

   City:_____ **State:**_____ **Zip:**_____

2. **Haulers Manifest Number:**_____

3. **Trap Measurements (25% Rule):**



[ ] Depth of Grease + [ ] Depth of Solids = [ ] Total (M)

[ ] Depth of Trap X [0.25] = [ ] 25% (P)

If M is greater than P, Trap must be pumped out.

4. **Grease Trap Condition:**

A. Fully functional and in good condition_____

Maintenance Log

Town of Foxborough
Board of Health

40 South Street
Foxborough, MA 02035
Phone: (508) 543-1207 - Fax: (508) 543-6278

Grease Trap/Interceptor Maintenance Log

Facility Name_____

Address_____

Depth of water in unit (in inches):_____

Date	Description of Work	Depth of FOG Removed (in Inches)	Depth of Solids Removed (in inches)	Managers Initials

Training Log

Town of Foxborough
Board of Health
40 South Street
Foxborough, MA 02035
Phone: (508) 543-1207 - Fax: (508) 543-6278

FOG Program Employee Training Log Sheet

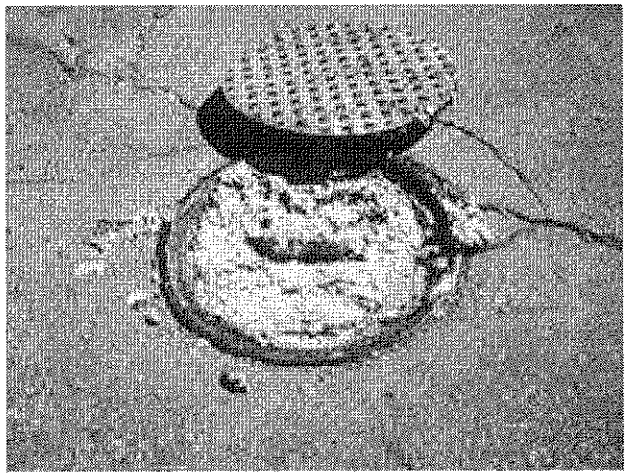
Establishment Name:_____Manager/Owner Name:_____

Establishment Address_____

Training Date:	Print Employee Name:	Employee Signature:

FOG Management

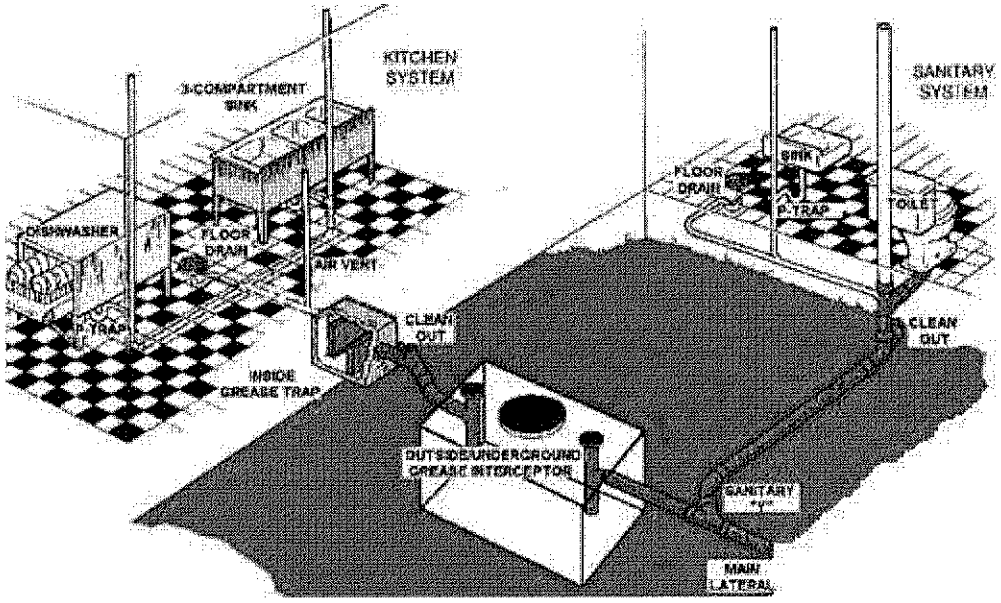
- FOG System
- Contracted Services
- Documentation
- Safety
- Staff
- Training and Communication



FOG Management

FOG System - On-Site Septic Systems Title V

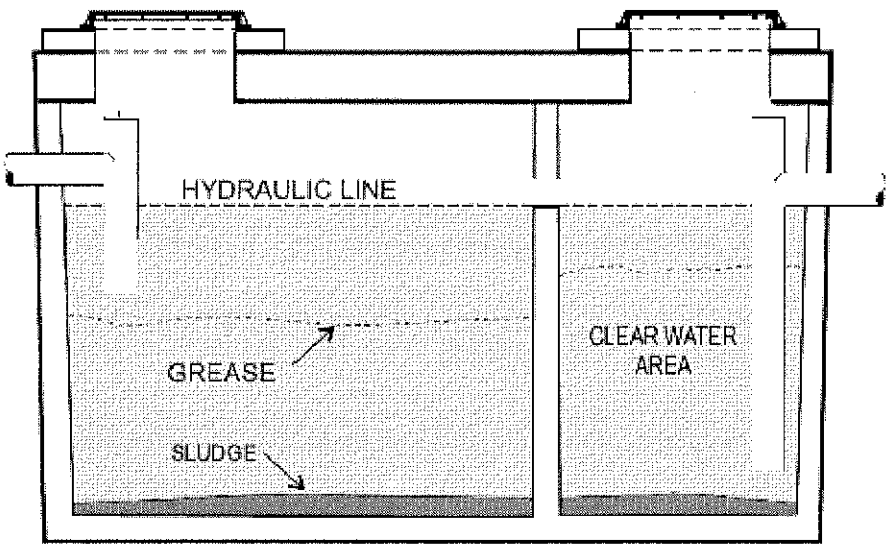
- Location & Design
  - Only kitchen flow
  - Same setback requirements as septic tanks
  - 2 manhole covers <u>to grade</u> and accessible
  - Min. depth of 4 feet and min. capacity of 1,000 gal.
  - Design flow: 15 gal. per seat per day for Food Service



FOG Management

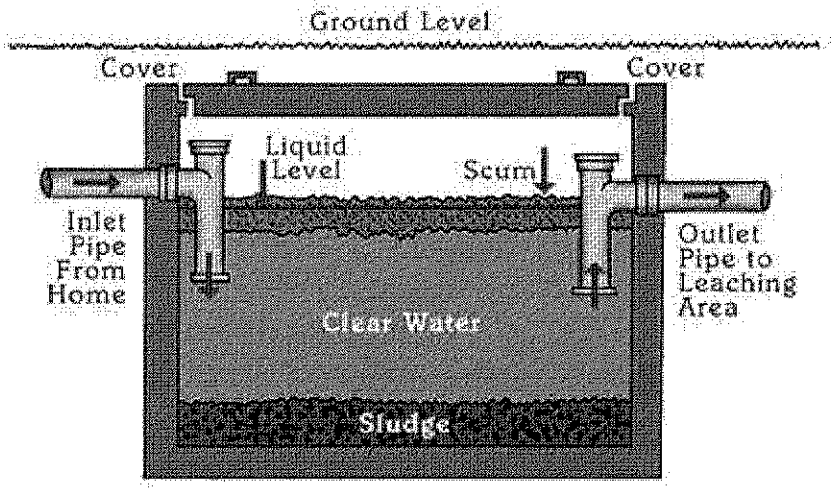
FOG System - On-Site Septic Systems Title V

- External Interceptors
  - Inlet tee: mid depth of tank
  - Outlet tee: within 12 inches of the bottom



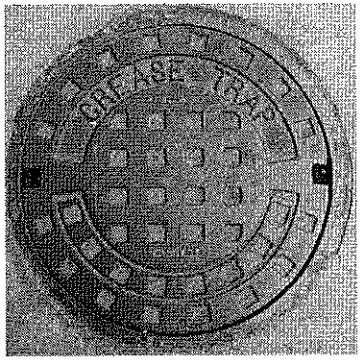
- Septic Tanks
  - Inlet tee: Min. of 10 inches below flow line
  - Outlet tee: See table under 310 CMR 15.227 (6)

    (For a septic tank with a liquid depth of 4 feet the depth of the outlet tee below the flow line is 14 inches)

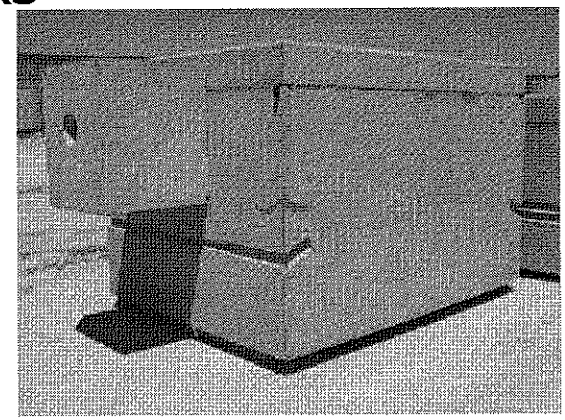


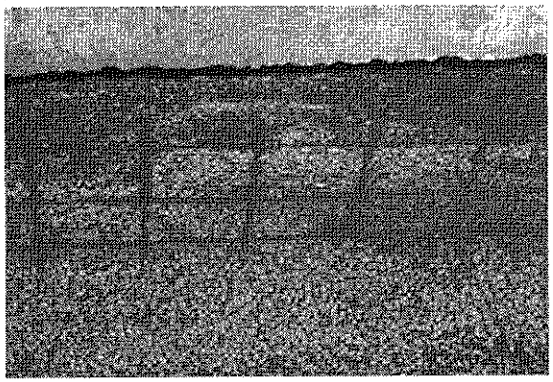
FOG Management

FOG System - On-Site Septic Systems Title V



- Inspections and Calculations
  - Location of covers
  - Sample box
  - Same inspection criteria as septic tanks
  - Corrosion and solidification
  - Cast iron pipe, venting
  - Interceptor Monitoring Devices





25% Rule

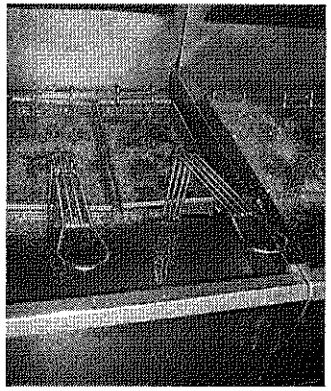
Depth of FOG + Depth of Solids = "X"

Depth of Interceptor x 0.25 = "Y"

If "X" is greater then "Y" the interceptor needs to be pumped

FOG Management

FOG System



- **Internal interceptors**
  - **Proper signage**
  - **Readily accessible and no storage on top of interceptors**
  - **Cover locked and secure**
  - **Inspected and cleaned monthly by staff or by contract**
  - **Repaired as needed by a professional and inspected at least once per year by a professional**
- **External interceptors**
  - **Inspected monthly and pumped when the solids and FOG are 25% of the volume of the tank**
  - **Covers secure and in good repair**
  - **T's in place and functioning to ensure retention time**
  - **Tank in good repair**
- **Biological or chemical treatments for FOG must be approved by the Board of Health**
- **Odors can occur if the gasket is damaged, cover is compromised, or if there is no liquid in the interceptor**
- **Proper Disposal of Yellow Grease**
- **Labeling**

FOG Management

FOG System Alternative Technologies

- **Interceptor Alternative Technologies**
  - **Automatic grease recovery units**
  - **Passive units**
  - **Provides options to manage FOG**
  - **Do your homework**
    - **Cost**
    - **Maintenance (Maintenance of these systems must follow the O & M manual provided with the product)**
  - **In MA the technology must be approved by the Board of Plumbers and Gasfitters. You can look products up on-line using the Approved Plumbing Products Online System.**
- **Grease Interceptor Monitoring Devices**
  - **Management tool**
  - **Accountability tool**

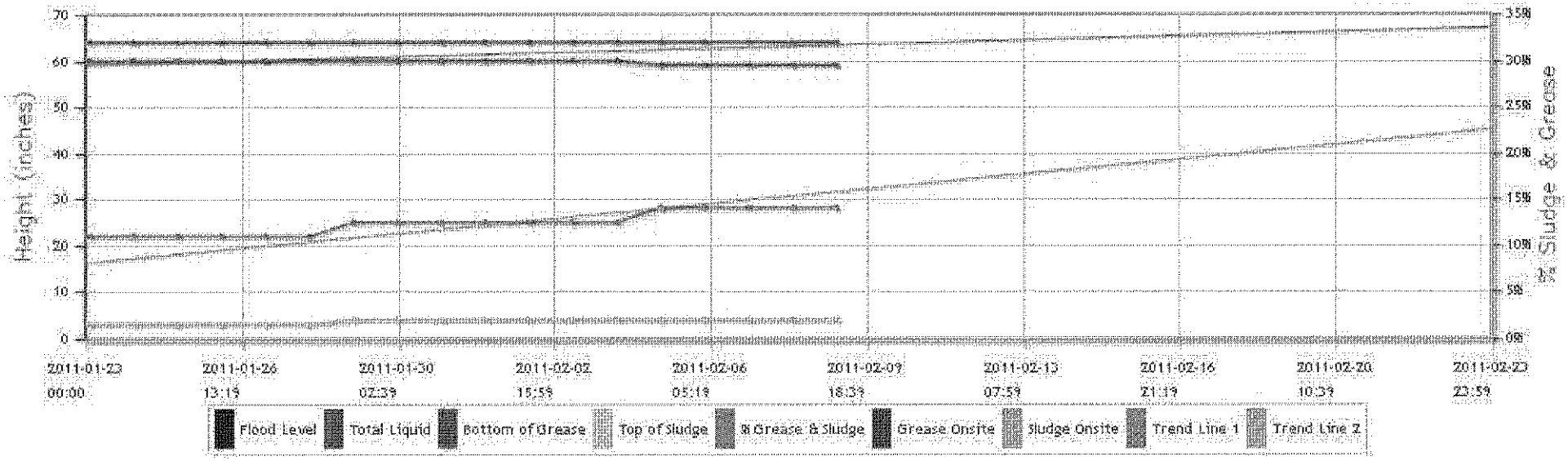
Interceptor Monitoring Devices

Summary **Detail**

For: **range:** Last month Go

Displaying 1 - 18 of 18

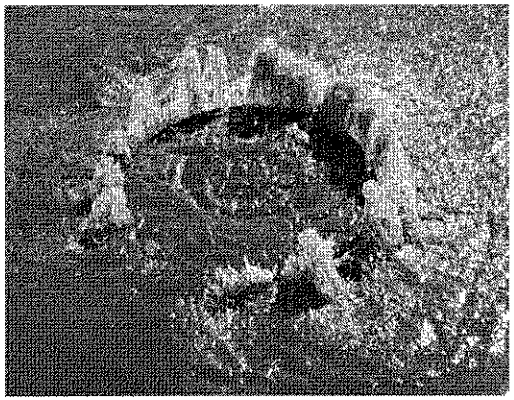
Reset Zoom



Date	Top of Sludge	Bottom of Grease	Water Height	% Grease	% Sludge	% Grease & Sludge	Days Since Last Pumpout	Water Temp	Air Temp	Notes
2011-02-09 02:01	4.0	59.0	64.0	7	6	14	37	76.5257	56.5471	
2011-02-08 02:08	4.0	59.0	64.0	7	6	14	36	73.3561	60.8999	
2011-02-07 02:00	4.0	59.0	64.0	7	6	14	35	72.9094	66.6897	

FOG Management

Contracted Services



- **Plumbers**
  - **Licensed**
  - **Pull proper permits with the Town for any work**
- **Hood Cleaners**
  - **Certified**
  - **Provide invoices and manifests showing proper disposal**
    - **Hood system inspection**
    - **System cleaning**
  - **Must be held accountable for services**
  - **<u>527 CMR 11 Board of Fire Prevention Regulations (Hoods)</u>**
    - **High-Volume Cooking such as 24 HR Cooking , Charbroiling, Wok Cooking – Quarterly**
    - **Moderate-Volume Cooking – Semiannually**

FOG Management

Contracted Services

- **Septic Haulers**
  - **Licensed and Certified with the Town to service FOG Systems**
  - **Provide invoices and manifests showing proper disposal**
    - **Percentage of solids/FOG - Gallons Pumped**
    - **Inspection Criteria**
      - **External - condition of the T's, tank, & covers**
      - **Internal – condition of the interceptor, gasket, cover**
  - **Provide maintenance log at each interceptor**
  - **Must be held accountable for services**

Did you know?

- **There are very few places to dispose of FOG in Massachusetts**

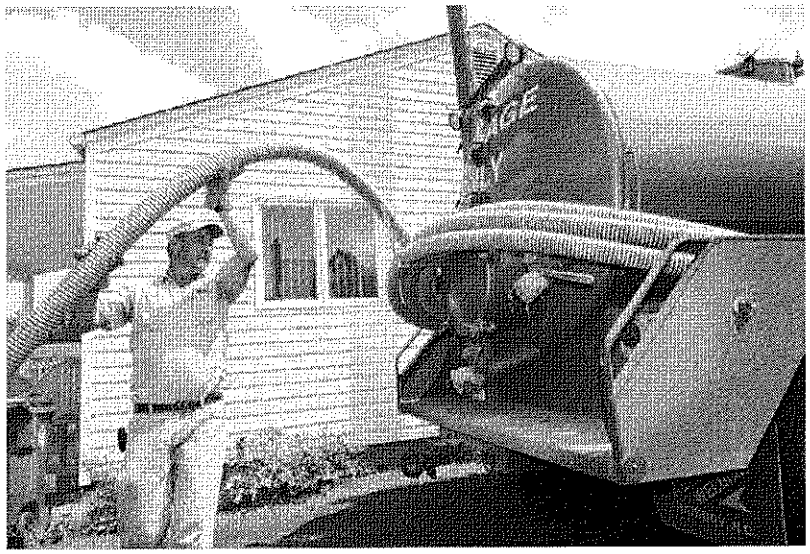
The cost of disposal is much higher than that of sewage (18 cents vs 5 cents)

- **FOG is a waste generated by an establishment and is the responsibility of the owner to dispose of it properly (cradle to grave)**
- **Haulers are an asset to your FOG management program**

FOG Management

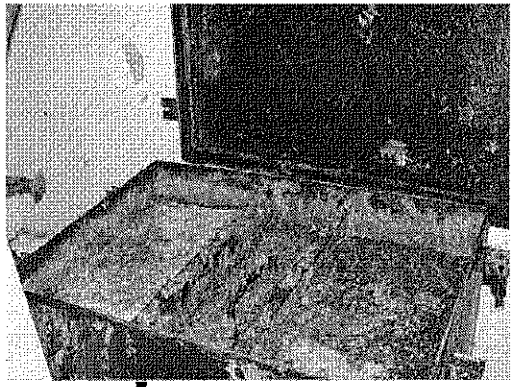
Documentation

- **Keep files of all maintenance and repair work done to these systems**
  - **Interceptor maintenance logs, invoices, and manifests**
  - **Interceptor and hood repairs**
  - **Hood maintenance logs, invoices, and manifests**
  - **Staff training logs**



FOG Management

Safety



- Make sure all interceptor covers are securely locked and seated properly
- All spill clean up stations/carts must have products able to pick up FOG spills
  - Oil absorbent pads
  - Cat litter or flour type products
  - Wet floor signs must be readily available to be placed in the area till a clean up crew arrives.
- When evidence of the blockage is found report the blockage immediately to the supervisor in charge.
  - A blocked sink drain or floor drain

FOG Management

Staff

- **FOG best management practices**
  - **Pour excess FOG from cooking into a can and dispose in the trash**
  - **<u>Do not pour Milk products down the drain. One liter of heavy cream has enough fat to cover the surface of an Olympic-sized swimming pool</u>**
  - **Wipe cooking equipment, plates, bowls etc. of food before placing in a dishwasher or sink to be cleaned**
  - **Use strainers when available**
  - **FOG spill response plan**
  - **Visual inspection**
    - **Signage**
    - **Storage**
    - **Disrepair**
    - **Blockages**
    - **Odors**

A Little Goes a Long Way!

- There are 6,600 residential and commercial kitchens in Foxborough.
  - If we all kept 1 tablespoon of FOG out of the drain per day it would equal 26 gallons of FOG per day!
- Community Outreach Programs
  - Can the Grease!
  - Biodiesel
  - Trainings
  - Awareness materials, flyers, & posters
  - Used oil kiosks – Don't be a turkey day! – Fuel Assistance
  - Garbage disposals

FOG Management

Training and Communication

- **FOG training program for staff and contractors**
  - **Classes – At least one staff manager certified**
  - **Self Study – all staff must do self study**
- **Keep all parties on the same page**
  - **City/Town**
  - **DEP/EPA**
  - **Corporate Office**
  - **Contractors**
  - **Franchise Owners**
- **Create a phone/distribution list (email, mail, phone) to send information out to the group**
- **Add FOG to your list of topics at regular meetings**
- **Town resources**
  - **Email list and yearly FOG inspections**
  - **Check list for new construction and renovations**
  - **Board of Health website**

FOG Management

Communication

- **The Internet**
- **Tracking**

Challenges and Considerations

- Grease interceptor monitoring devices
- Use a team approach
- Hold contractors accountable (time of service)
- Mansfield IMA
- New staff training and refreshers
- Seasonal menu changes
- Rotisserie chicken
- Keeping everyone in the loop
  - **Enforcement and oversight? (Be consistent)**
  - **Communication tools (Language barriers)**

The Future

- **Renewable Energy**
  - **Biodiesel**
  - **Anaerobic Digestion**
  - **Organic Composting**
  - **"Pucks"**
- **CT DEP**
  - **Statewide FSE FOG Ordinance**
- **More Sewer?**
- **Solid Waste Master Plan (Draft) 2010-2020**
- **Don't Wait for a Problem Be Proactive !**

Contact Me

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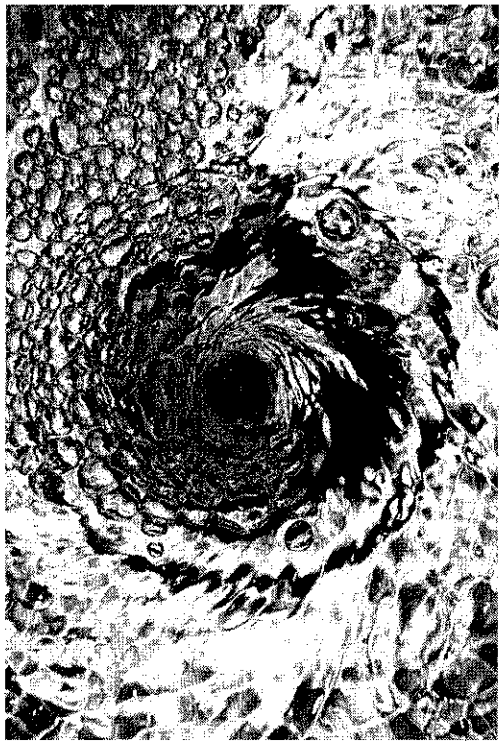

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