



**Washington Suburban
Sanitary Commission**

WSSC FOG Program Expectations of Food Service Establishments (FSEs)

“Effective Management Practices for Maintaining
Grease Removal Devices”



IMPORTANT NOTE ABOUT THIS PRESENTATION

- This presentation is meant to assist in the training of individuals involved with the oversight or execution of maintenance or cleaning of grease removal devices for WSSC
- The manufacturers, contractors, suppliers or any other vendors or commercial entities seen in this presentation are for illustrative purposes only and are not to be interpreted as recommended, allowable, or otherwise approved equipment, business or vendor by WSSC

General FOG Program Enforcement

WSSC has:

- Investigative and Enforcement authority over FSE's; including how they operate and maintain grease removal/abatement devices;
- Investigative Authority for Grease Disposal (e.g. septic or grease haulers);
- Permitting Authority;
- Enforcement authority over the Utility Code that includes plumbing design, fixtures, drainage, interceptors and traps.
- Specific limitations for prohibiting discharges to the sanitary sewer.

WSSC's FOG program's primary objective is Sanitary Sewer Overflow (SSO) PREVENTION

- **SSO's in a service area have the potential to discharge thousands or even millions of gallons of raw or partially treated sewage into the storm drain system and ultimately to the local water bodies**
- **In addition, business sewer backups can cause additional damages to property and the environment.**
- **It has been estimated that 40-60% of all SSOs and business sewer backups nation wide are grease related!**



**EDUCATING GREASE
ABATEMENT
MAINTENANCE
PERSONNEL
PERSONNEL BEGINS
“IN THE SEWER”**

CLEAN SEWER PIPE

05/05/10 09:04
MH START: 0630
MH STOP: 0630





GREASE BUILD-UP FORMING IN SEWER PIPE IS AN UNDESIRABLE PROCESS

13 1:38PM



GREASE BUILD UP

SEWER PIPE CLOGGED WITH GREASE



SEWAGE OVERFLOW IN PARKING LOT

**FAILURE TO MAINTAIN A GREASE
ABATEMENT DEVICE WILL RESULT IN
UNWANTED RELEASES OF GREASE TO
THE SEWER SYSTEM, CAUSING CLOGS.**

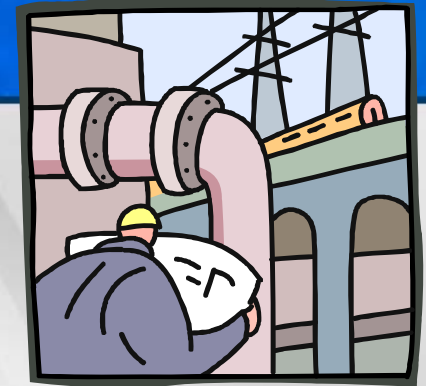
WSSCs FOG Program goals

- Education of the FSE
- ‘Proactive’ inspections
- Increased Enforcement
- Recordkeeping
- Best Management Practices (BMPs)
- Customer Outreach (partnering)
 - Restaurant Associations, County Health Departments, Utility website, Office of Communications.
- Permitting (FOG [wastewater] Discharge Permit)
 - Contains requirements for control and management of FOG, many with grease interceptor/recovery device operation and maintenance instructions.
 - In addition, there are be Permits issued to grease haulers for responsibilities in cleaning of units.



Typical Inspection Checklist

Routine Inspections



- ✓ **Owner's Name and Address**
- ✓ **Manager's Name (if applicable)**
- ✓ **Account Number if available**
- ✓ **Service Address if available**
- ✓ **Distribute outreach package (brochures, etc...)**
- ✓ **Distribute Permit Application and explain permit concepts**
- ✓ **Observe Best Management Practices**
- ✓ **View Maintenance Records**
- ✓ **Verify that all required fixtures are connected to grease abatement (i.e. grease interceptor)**
- ✓ **Verify that the grease abatement device is adequately sized for the connected fixtures**

Inspection Checklist (con't.)

Routine Inspections

- ✓ **Verify that the grease abatement device is operational and maintained.**
- ✓ ***Take Photographs***
- ✓ **Check for grease accumulation in the sewer if the situation warrants**



Most common FOG program violations

- GRD not being maintained properly.
- Improper tail pieces from sinks / potential for overloading the flow rating of a GRD*
- One or more kitchen fixtures not connected to GRD inside or out (flow or volume based)
- Floor drains not connected to interceptor
- Floor mop sink not connected to GRD inside or out
- No interceptor / passive GRD for amount of wastewater that can potentially be discharged
- Wrong / unapproved device for grease removal
- Garbage disposal to GRD

*GRD-Grease Removal Device: can be categorized as flow or volume based via utility code-it is NOT just a small kitchen based unit of 50 gal. or less.

Most common FSE challenges (in general order of expense/investment)

- Unfamiliarity with the FOG Program, their FOG permit or applicable portions of the WSSC Plumbing Code.
- Best Management Practices (BMP's) for grease discharge prevention.
- Unfamiliarity with maintenance requirements/needs for a GRD.
- Older/outdated/obsolete kitchen devices or plumbing needing modernized.
- Ability to comply with the plumbing or drainage of all related fixtures to grease abatement system(s)

MAIN CHALLENGE-TRAINING AND EDUCATION

- FOG control must be tied with environmental stewardship
- The FOG pollution prevention strategies must become “second nature”
- The following slides and video illustrate general requirements for maintaining Grease Removal Devices (GRDs)



Grease Removal Devices

- Are your “***last line of defense***” against illicit FOG discharges.
- GRDs (any type) need to be installed, registered/inspected, and regularly maintained.
- This keeps wastewater from backing up and overflowing into the FSE and also keeps FOG from damaging the sanitary sewer system.



Types of Grease Abatement (from WSSC Code)

- **“FLOW” BASED (usually indoor)**
 - **Manual Grease Trap** - *a passive interceptor that has a rated flow of 50 gpm (50 gal volume) or less. (IPC)*
 - **Automatic Grease Recovery Device (GRD)** – *An electrical/mechanical device designed to ‘automatically’ remove grease; still requires manual cleaning of residuals caught.*
- **“VOLUME” BASED (usually outdoor)**
 - **‘Outside’ Grease Interceptor** – *an interceptor that has a rated flow greater than 50 gpm (50 gal volume) or generally no flow restriction requirements. (IPC) Requires certified contractor (hauler) cleaning.*

Grease “Traps” or “Flow Based GRDs”

- Grease traps are generally located underneath sinks.
- FSE employees may clean grease traps.
- Usually, flow based GRDs over 50 GPM (100 lb) in size must be cleaned by an approved grease hauler.



Grease Interceptors or “Volume based GRDs”

- Most grease interceptors are located outside of the FSE, underground.
- A grease hauler must be hired to clean a grease interceptor.
- If possible, watch the grease hauler to make sure that the interceptor is completely cleaned and free of FOG buildup.



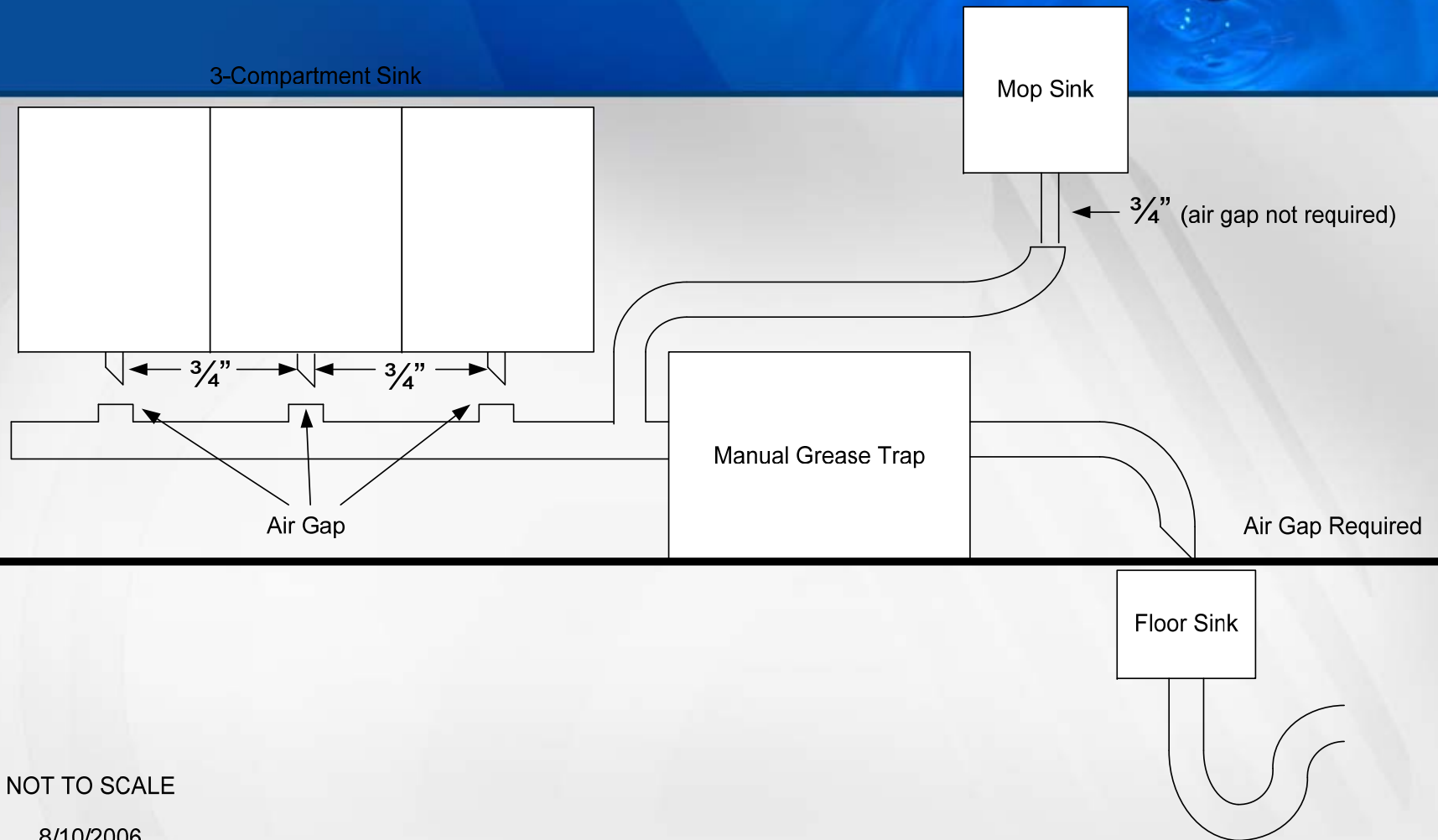


FLOW BASED INTERCEPTORS



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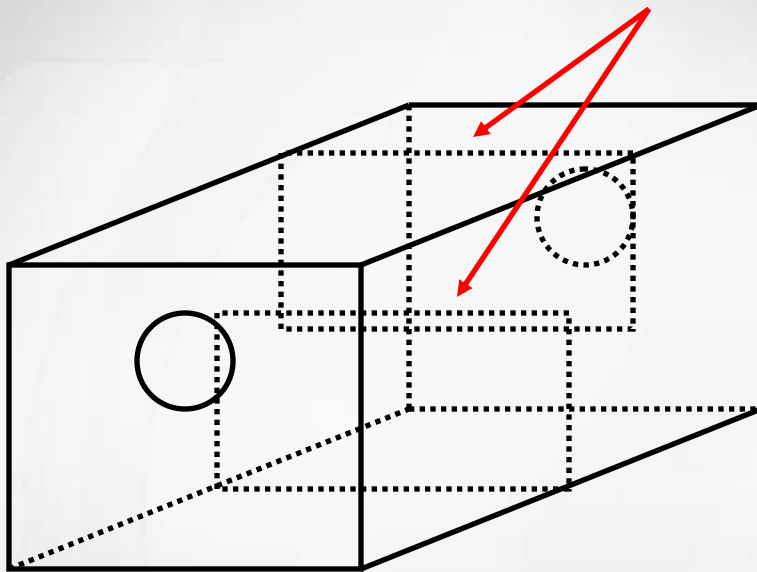
TYPICAL MANUAL GREASE TRAP INSTALLATION (ABOVE FLOOR)



Grease Trap Cleaning-be aware of the basic parts of a GRD

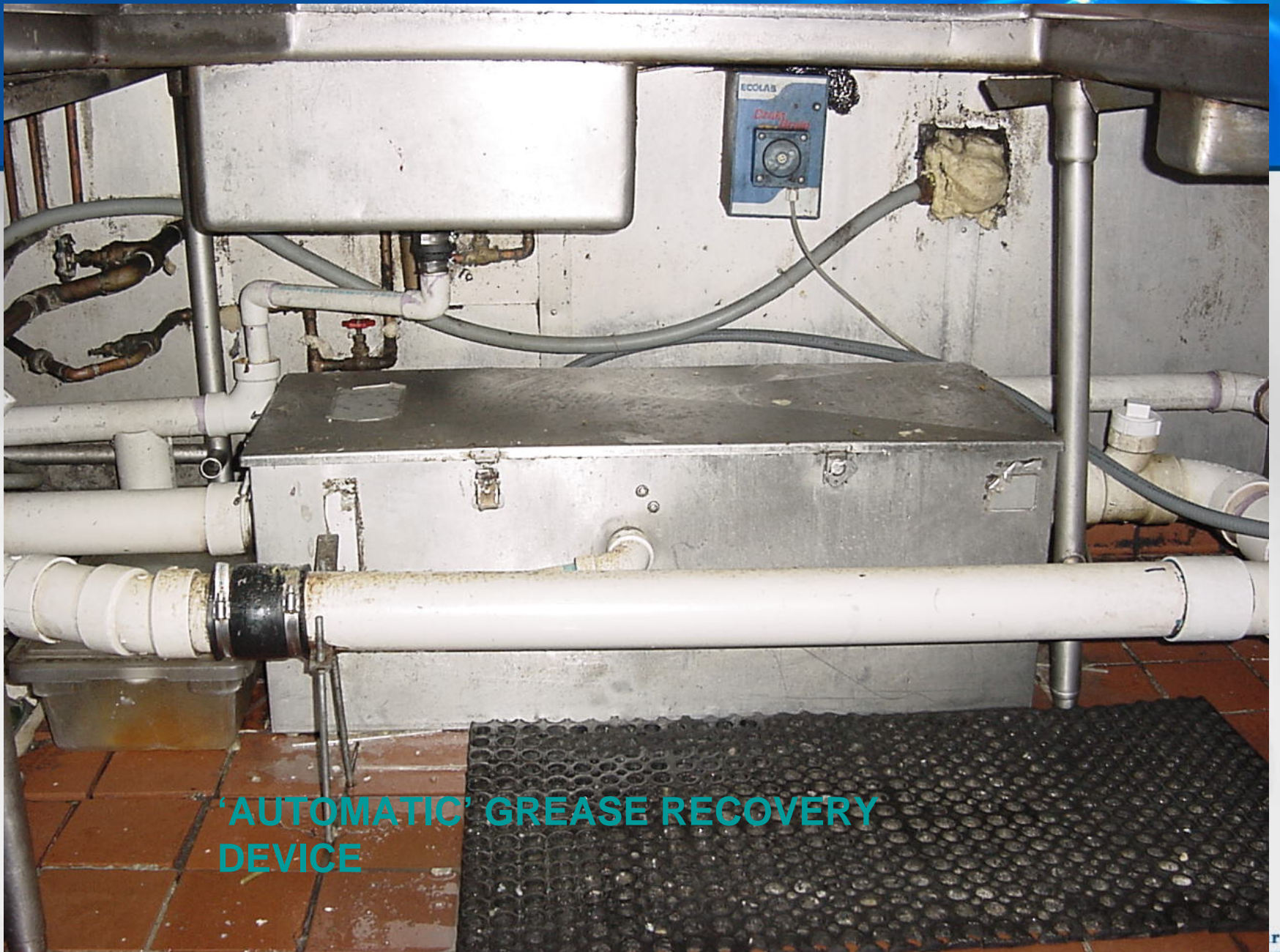


Baffles



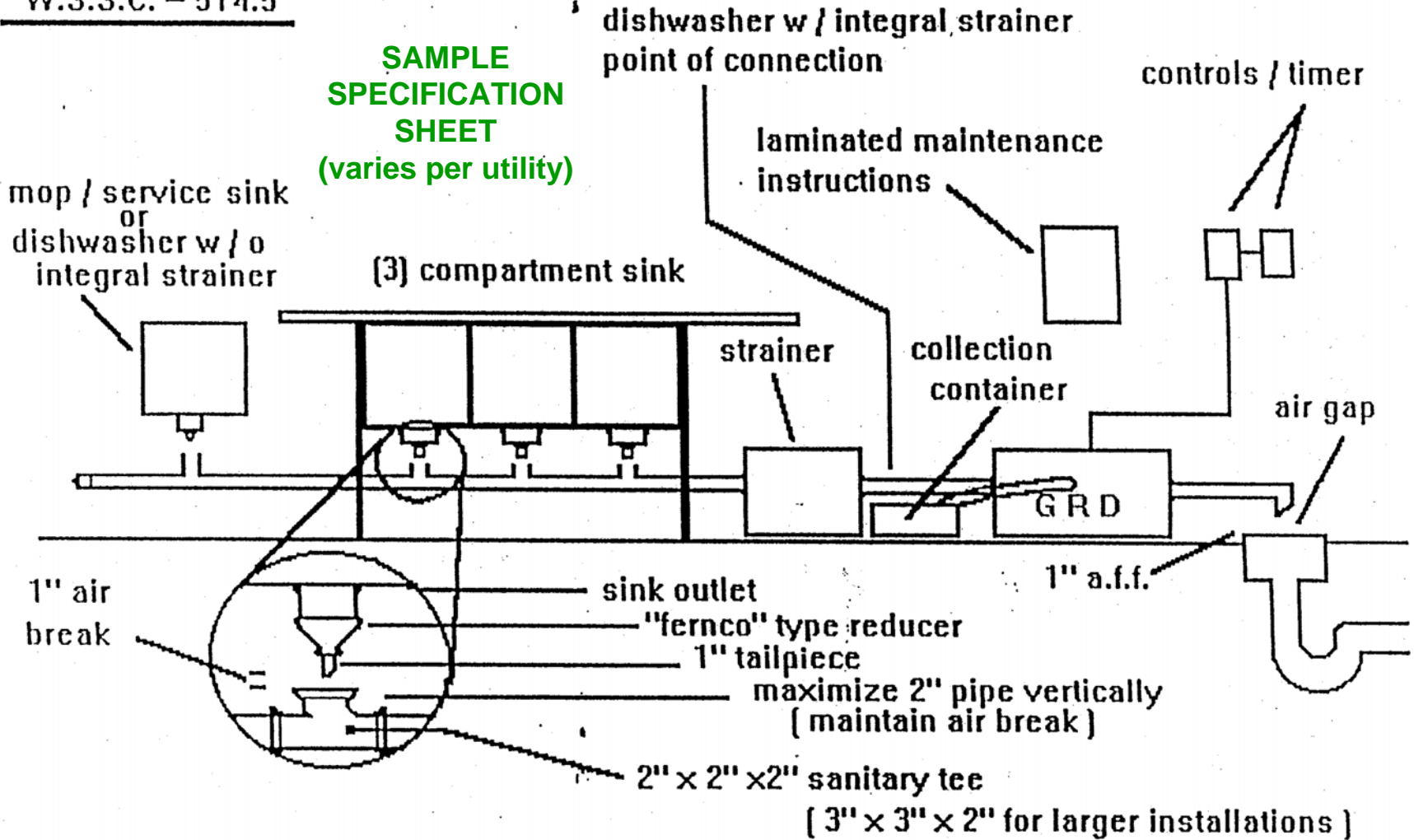
Fixture for food debris





**'AUTOMATIC' GREASE RECOVERY
DEVICE**

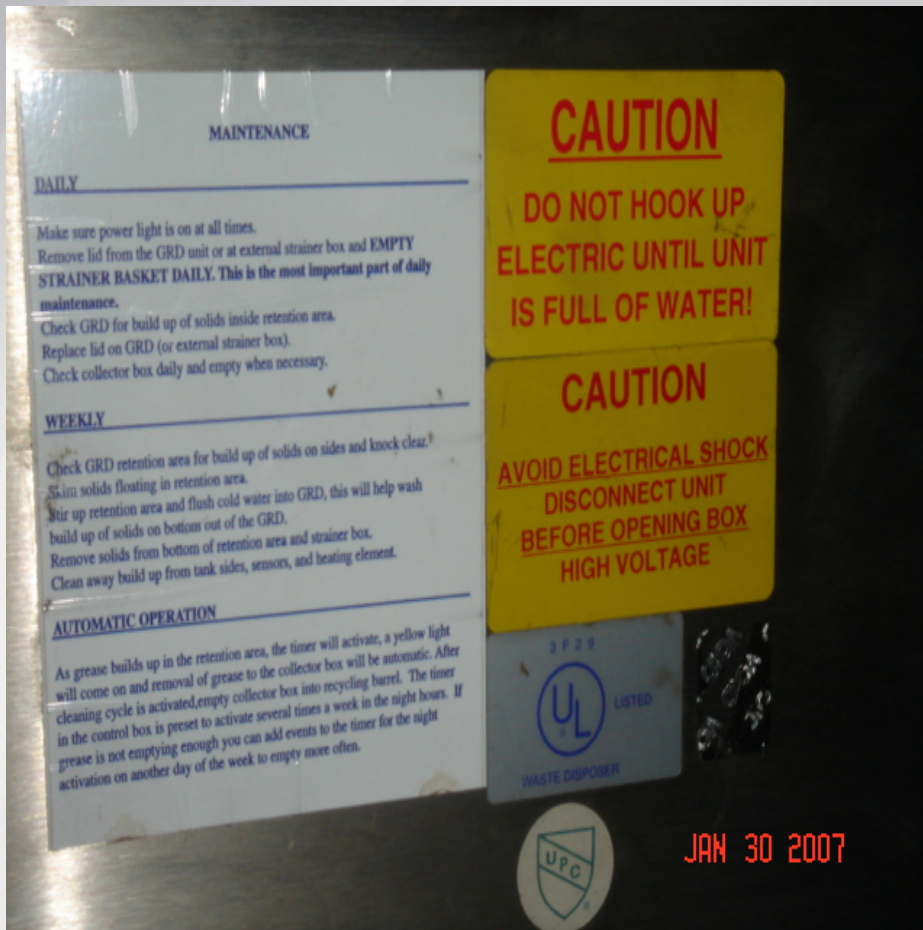
**SAMPLE
SPECIFICATION
SHEET**
(varies per utility)



ELEVATION	GREASE RECOVERY DEVICE	SCALE NONE
	A RECOMMENDED INSTALLATION	DATE 1-1-90

FLOW BASED (usually indoor) Grease Removal Devices will have instruction manuals and references.

- Hold onto the manual and any other written directions about the care and maintenance of any GRD.
- Many have daily and weekly requirements, including frequency of cleaning.



GRD OPERATION AND MAINTENANCE

- Always keep any and all labeling, safety precaution, and manufacturer labels in good care and on the equipment as provided.
- In addition, keep a copy of the exact info in a separate maintenance book.
- Learn the proper “flow rate” that is allowable through the unit and do not exceed it.
- Ask your plumber or FOG Investigator to confirm.



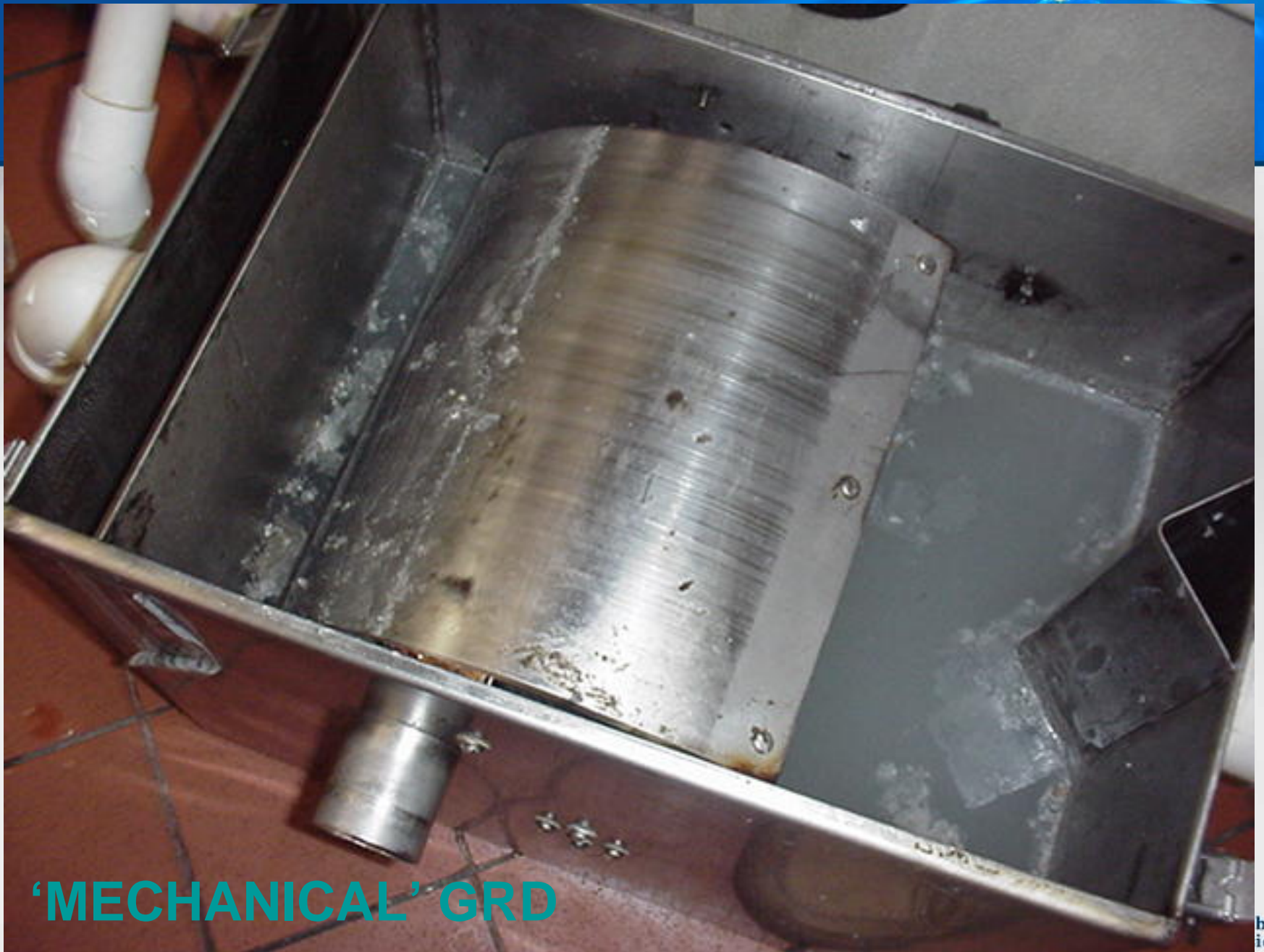
GRD INSPECTION AND CLEANING



- Cleaning frequency depends on the following (any/all):
 - The capacity of the device.
 - The amount of grease the facility generates.
 - Best Management Practices (BMPs) the facility has implemented to reduce the fats, oils and grease discharged.
 - The degree to which the facility has contributed to system blockages in the past.
 - Your specific permit or FOG Investigator written requirements

NOT A GOOD SIGN





'MECHANICAL' GRD

MECHANICAL' GRD
with skimmer drum



Internal GRD's-the devices that are flow based and can be manual or mechanical in their "abilities" to separate grease from kitchen liquids. Usually-when they're used as a "shelf", they're not being maintained ☺



Grease Trap Cleaning

- Clean out the grease trap ENTIRELY.
- Remove the baffle.
- Scrape the baffle and inside walls of the tank to remove FOG buildup.
- Dry wipe the trap rather than using water and cleaning chemicals.



Grease Trap Cleaning-continued

- Trap should be placed so that it is easy to open and clean.
- The grease that is cleaned out should be placed into a container and disposed of in the trash.
- Frequent skimming of the trap makes it easier to clean later.



Grease Trap Maintenance Frequency

- A grease trap should be cleaned out completely when about a quarter of its volume is FOG and solids.
- The grease trap should be checked every day to make sure it does not need to be cleaned, and it must be cleaned a minimum of once per week.



Maintenance Logs and Documentation

- After cleaning out a grease trap, remember to enter the information into the maintenance log.
- If a grease hauler cleaned out the trap or interceptor, put a copy of the grease hauler's manifest into the maintenance log.
- The date and approximate volume of FOG waste removed should be recorded.
- Maintenance documents are to be kept on site at the FSE for at least three (3) years.
- The grease hauler will also send a copy of the manifest to WSSC. No manifest=cleaning not documented.

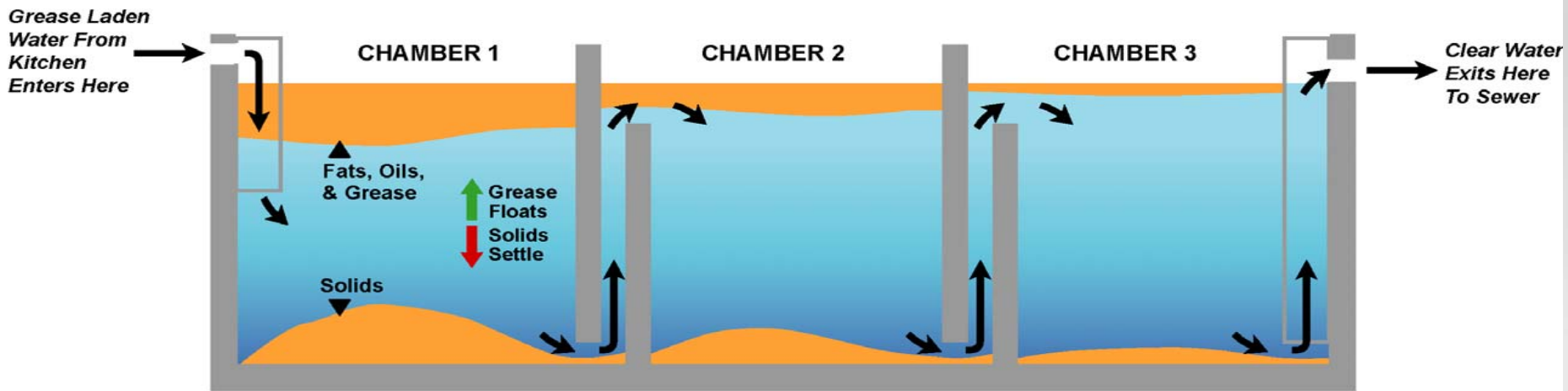


VOLUME BASED INTERCEPTORS



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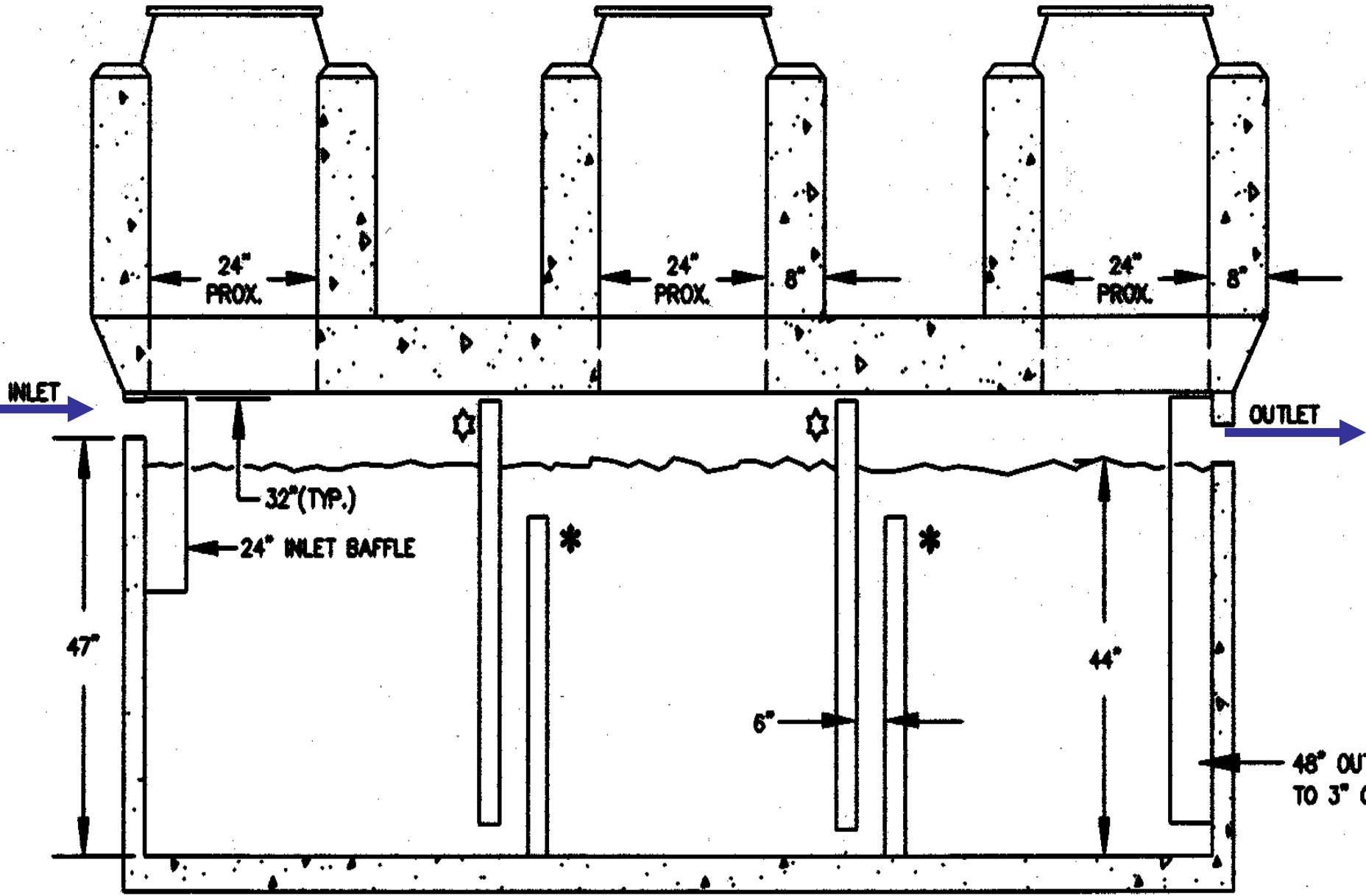
FOG Program Outside Grease Interceptor



All three chambers are pumped out periodically. The contents are hauled to a disposal site.



OUTSIDE GREASE INTERCEPTOR





11 9:00 PM

GreaseSolutions.com



INTERCEPTOR INSPECTION



- Learn to visually inspect the interceptor
- The influent (or entry) side usually has the heavier amounts of grease (top photo here). A baffle or elbow should be showing.
- You should be able to see an outlet arrangement to gauge efficiency on the other end (bottom photo).

25% Rule

- The WSSC Code specifies what satisfactory maintenance is in an Interceptor:
 - ***It shall be the owner/operator's responsibility to ensure that the accumulation of solids, grease, and oils does not exceed 25% of the liquid retention capacity of the interceptor, trap, or separator.****

For example-a 4 foot deep interceptor cannot have more than 1 foot of combined floating FOG and settled FOG/sludge

Dipstick Pro

EXAMPLE MEASUREMENT TOOL FOR A TYPICAL INTERCEPTOR



General Interceptor maintenance guidelines

- There should be an adequate number of access manholes to provide access for cleaning all areas of an interceptor.
- All grease interceptors should be cleaned at regular intervals. This varies with regulatory requirements and experience and usually varies from bi-weekly to quarterly.
- When cleaning, the entire tank should be cleaned, including solids from the bottom. “Definition of clean” means the tank is entirely pumped out.
- Always deal with a reliable company for grease interceptor cleaning service. WSSC requires ones that are both licensed and permitted.
- Ask the hauler for his permit number and if he has any enforcement actions levied against him.



Project set-up



- Assure your contractor specifications are clear and concise, pinpointing all details of your cleaning expectations.
- Usually the “hired help” has many years of experience but different expectations from a diverse group of customers. Never assume they know your requirements.
- Let them know your specifications and witness their work.

Interceptor cleaning operations- typical



- The outdoor Interceptor usually has at least one, and can have up to three access manholes for inspection and cleaning.
- It is advisable for you to have the “prints” or “as-builts” so you know what the Interceptor cross-section looks like.
- The operation begins with an inspection of the top grease layer and using truck suction hose(s) to vacuum up the top layer of FOG, then the bottom layer the heavier sludge and FOG, then completing by pumping out the remaining “water” or liquid.
- This may be followed by high-pressure water ‘scrubbing’ or ‘mixing’.

CLOCKWISE FROM UPPER LEFT: preparing jetter machine for use; use of rigid threaded rod to stabilize jetter hose/nozzle; tech preparing to use jetter pressure with suction hose; use of high pressure water and suction hose.



Assuring pump-outs or cleanings are proper

- A coordinated effort is needed to assure all solids are removed and the tank is left “clean”.
- Sometimes using all access ports are necessary to “coax” the solids out to the suction hoses.
- Assure what is left behind is reasonable and satisfactory for the situation.
- Frequency of cleanings, FSE planned operations and contractor availability all contribute to ‘definition of clean’.

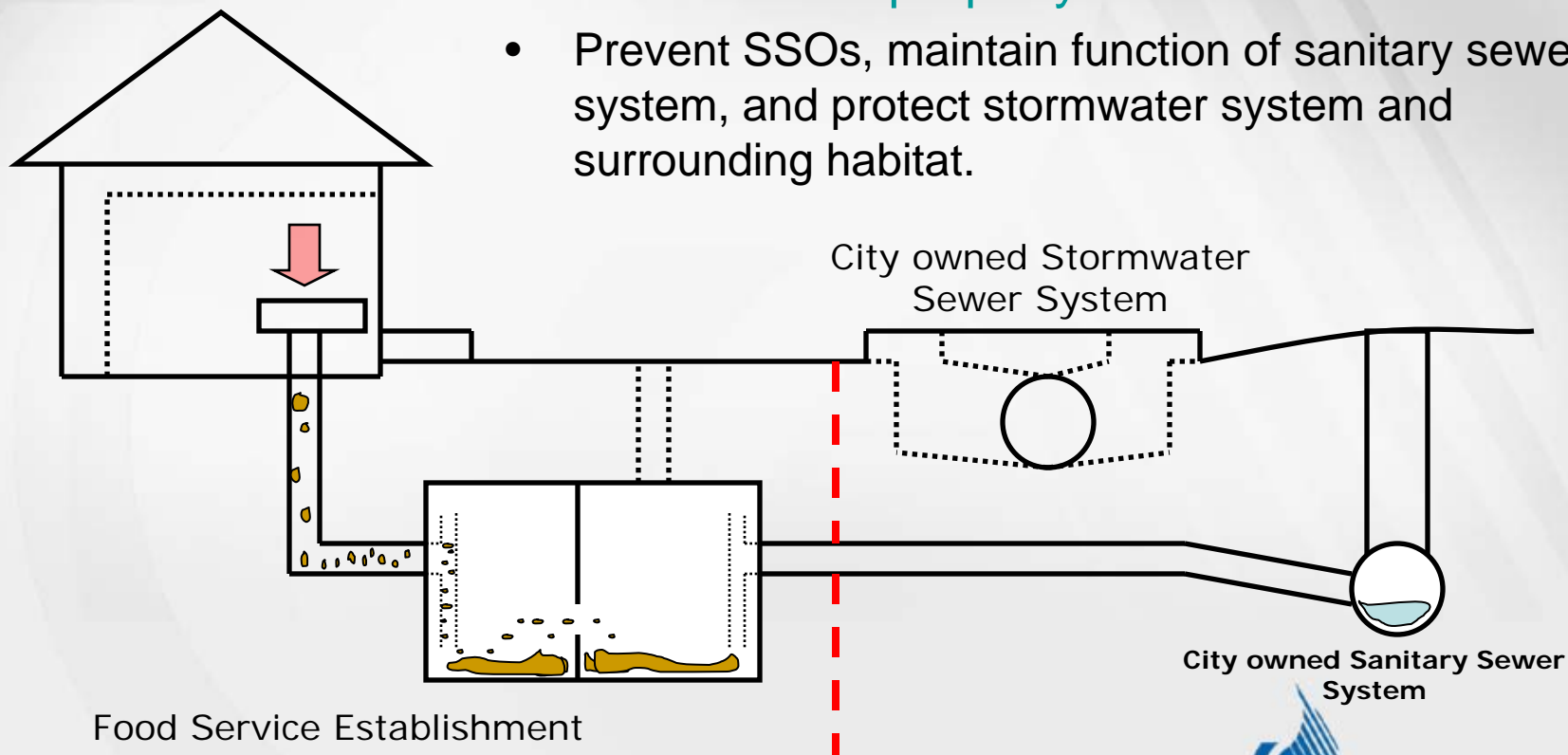




ASSURE YOUR HAULER DISPOSES OF AND/OR RECYCLES ALL GREASE IN A SAFE AND LEGAL MANNER

Reducing FOG from FSEs

- Kitchen Best Management Practices (BMPs)
- Installed and properly maintained GRDs
- Prevent SSOs, maintain function of sanitary sewer system, and protect stormwater system and surrounding habitat.



Food Service Establishment

City owned Stormwater
Sewer System

City owned Sanitary Sewer
System

OTHER TIPS: Reducing FOG from FSEs

- Put yellow grease in a grease recycling bin, usually located outside the FSE.
- Keep the lid on the grease bin closed so that rainwater does not get in. Spills or overflows from FOG containers and dumpsters are extremely damaging to the stormwater system and harmful to the environment.
- NEVER pour or dispose of grease, oil, food debris, or trash into a grease control device!



Reducing FOG from FSEs

- Call the company that is responsible for removing the grease and ask them to empty the bin before the receptacle is full.
- NEVER pour or dispose of FOG, food debris, or trash into the storm water system!





GREASE COLLECTION DUMPSTER



GREASE COLLECTION BARRELS

EFFECTIVE MANAGEMENT PRACTICES FOR FLOW OR VOLUME BASED GRD MAINTENANCE



- COMMITTED FOOD SERVICE ESTABLISHMENT FSE MANAGEMENT AND STAFF
- KNOWLEDGABLE AND CONSCIENTIOUS FSE PERSONNEL
- FSE EDUCATION AND TRAINING-INTERNAL AND EXTERNAL
- COMMITTED, KNOWLEDGABLE GREASE DISPOSAL CONTRACTORS
- FSE FOG PERMIT LANGUAGE.
 - Unit cleaning/maintenance requirements.
- FSE RECORD-KEEPING PROGRAM.
- FOG WASTE HAULER PERMITS, MANIFESTS AND CONDITIONS.
 - Unit maintenance requirements-defining what is 'clean'
- TIMELY AND THOROUGH INSPECTIONS BY FSE STAFF
- COMMUNICATION WITH WSSC

• **KEEPS YOU GREEN**



FOG Program Expectations

Maintaining Grease Interceptors:

MAKE IT A HABIT

Goals for the month



MAKE THE BED



ORGANIZE THE CLOSET



CLEAN THE GARAGE



**CLEAR THE
INTERCEPTOR!**

