Oregon Environmental Services Advisory Committee
Application for Sponsor Distance Education
OESAC CEU Committee

P. O. Box 577 • Canby, OR 97013-0577
Phone: (503)698-6486
Email: info@oesac.org • Web: http://www.oesac.org

See Distance Education Instructions before completing this application.

Course title: __US-EPA FATS, OILS & GREASE (FOG) ABATEMENT & EMERGING POLLUTANTS TRAINING_

Instructor(s): _Please see application ___

Location(s): _Hood River Inn - Hotel 1108 E Marina Dr. Hood River, OR 97031___

Date(s): __May 14, 2025_____

Requested CEUs (1 hour class time = .1 CEU; do not include time for breaks, lunch)

DW: _____ WW: __0.8__ O2-I: _____ O2-SP: _____

Has this course been through OESAC review before? ☐ No **X Yes** If yes, what was the previous OESAC number __4715_____

Course Format: Online/Internet ☐ **Webinar** CD Rom ☐ Correspondence Course ☐ Video ☐ One time class

☒ **Recurring** Recurring Dates: _____ On-going ❑

Was the content of this course designed by qualified subject matter experts?
Yes X No ☐

Is CEU awarded based on beta-testing results? **Yes X** No ☐ If no, supply accrediting formula and submit results

Is the requested course being bundled with like courses? Name each individual course on a separate paper. *(See instructions)*

Training Objective: ___ Train Municipal staff how to build the business case for developing and implementing an effective fats, oil and grease (FOG) abatement program

Target Audience: __Municipal staff, engineers and manager involved in wastewater management Consultants

Method of Tracking Attendance: _Daily sign in sheets AM & PM_____

Are quizzes or other forms of review and feedback included in this course?
Yes No ☒

If yes, what is the minimum passing score for successful completion of this course? _

Does this course promote a product or apparatus or offer such to those attending? Yes ☐ **No X**

If YES, this must be explained on a separate attachment to this application and disclosed

Course contact name: Patrick Bryan

Address: 8620 Holly Drive, Suite 250,

City, State, Zip: Everett WA, 98208

Phone: (559) 940-5270 Fax: _____

Email: pbryan@pprc.org

Sponsor: Western States Alliance

Address: 8620 Holly Drive, Suite 250

City, State, Zip: Everett WA, 98208

Contact: Ed Gonzalez

Phone: (206) 352-2052 Fax: _____

Email: EGonzalez@PPRC.org

Enclosed:
Instructor Biography☒
Course Agenda X
Course Timeline ☒
Course Brochure ☐

Check #: _____
Amount enclosed: $_____

Do you want the course to be listed on the OESAC website as "closed to registration"?
Yes ☐ No X

If you want to list newly scheduled classes from an already approved course, you must send the new schedule to OESAC.

US-EPA

FATS, OILS & GREASE (FOG) ABATEMENT & EMERGING POLLUTANTS TRAINING:

BUILDING A BUSINESS CASE

EFFECTIVE FOG & EMERGING POLLUTANT ABATEMENT TRAINING PROGRAMS

State of Oregon

May 14, 2025

WSA
a project of pprc.org

POLLUTION PREVENTION
resource center
pprc

8620 Holly Drive, Suite 250,

Everett WA, 98208

Training Course Title: U.S. Environmental Protection Agency (EPA) sponsored National Fats, Oils and Grease (FOG) Pretreatment and Emerging Pollutants Training: Serving Small Communities to Address Common Maintenance and Management Challenges Associated with Industrial Pretreatment Programs (IPPs).

TRAINING OUTLINE AND LEARNING OBJECTIVES

Western States Alliance (WSA) is an organization that helps Fats, Oils and Grease (FOG) professionals identify and implement best practices in FOG management. It is comprised of professionals across the United States. FOG has been identified by USEPA as the primary cause of sanitary sewer overflows.

WSA is an authority with a complete source of knowledge and information to advance technologies and best management practices and consistent standards to conserve Fats, Oils, and Grease (FOG) resources, deriving the most value from FOG while prohibiting its damaging effects in the wastewater system. It is also knowledgeable and on the leading edge of information about contaminants of emerging concern (CEC).

Upon completion of the FOG Pretreatment Training course, the participant will be able to identify FOG sources and generators, Evaluate and Determine Food Service Establishment (FSE) FOG Loading, Identify and Evaluate FSE Grease Removal Equipment, know the Best Management Practices (BMPs) to reduce FOG Discharges, Identify FOG Related Issues within Municipal Infrastructures, Evaluate Municipal Code and Legal Authority, Identify Essential Municipal Staff, Ascertain Staff Cost, Operation and Maintenance Costs Associated with FOG, Identify All Stakeholders, Data Collection and Management, Cost Benefit Analysis, Inspections and Compliance Programs, Interagency and Regulatory Overlap, Develop and Maintain Community Outreach and Education. Participants will also know contaminates of emerging concern (CECs), with particular emphasis on PFAS, Phthalates, and Endocrine Disruptors, the health hazards of these CECs, typical sources and pathways into drinking water and waste water, how people are exposed, what the EPA and states are doing to address CECs, how the POTW is impacted, and how to implement programs to reduce CECs to the POTW.

COURSE OBJECTIVES/LEARNING OUTCOMES

Duration: 8 hours

*__Course Title:__ U.S. Environmental Protection Agency (EPA) sponsored National Fats, Oils and Grease (FOG) Pretreatment and Emerging Pollutants Training

General Course Objectives/Learning Outcomes: At the end of this training program, participants will be able to:

1. ***Characterizing FOG Sources****.* Determine the cause of FOG blockages and the upstream sources of the FOG. Identify major sources of FOG to result in a more effective utilization of municipal resources when developing a FOG Abatement Program.
2. ***Understanding Regulatory Requirements****.* Researching and understanding regulatory requirements and legal framework are necessary for a successful and enforceable FOG Abatement Program.
3. ***Establishing Program Administration****.* There are overlapping jurisdictions within a municipality with an in interest and authority over Food Service Establishments (FSEs). Creating a FOG Abatement Program takes coordination and communication with many stakeholders.
4. ***Developing the FOG Abatement Program****. The* overall program development includes selection of the approach for regulating facilities (e.g., permits, incentives, or education), establishing FOG handling and disposal practices, developing a database, and establishing an operating budget. Developing and improving data collection and analysis tools.
5. ***Providing Outreach.*** The FSEs and the public must be educated about why and how to prevent FOG from entering the sewer conveyance system. Activities may include arranging stakeholder meetings, providing best management practice (BMP) information, and providing educational materials. Training and technical

assistance. Developing and improving data collection and analysis tools. Providing technical resources from partners throughout the country.

6. ***Inspecting Food Service Establishments.*** Inspection methods must be developed to ensure compliance with regulatory requirements and to establish proper FOG handling and disposal procedures.
7. ***Contaminants of Emerging Concern (CEC).*** Introduction to contaminants of emerging concern; the general definition and specific examples including PFAS, Phthalates, and Endocrine Disruptors and the health risks from these CECs.
8. ***Pathways into drinking water and wastewater.*** The sources of CECs and their pathways into both drinking water and wastewater, and BMPs for source reduction.
9. ***EPA and state actions.*** Information and technical resources on how the EPA and various states are beginning to regulate CECs and what they are doing to prevent, mitigate, and clean up contaminated sites.
10. ***Programs to reduce discharges of CECs to POTWs.*** Best management practices (BMP) information, educational materials for outreach, and technical information about the strategies to prevent discharges of CECs.

Training Course Title: The National U.S. Environmental Protection Agency (EPA) sponsored National Fats, Oils and Grease (FOG) Pretreatment and Emerging Pollutants Training: Helping Small Communities Address Common Maintenance and Management Challenges

Location/Dates of Training: Hood River, 1108 E Marina Dr, Hood River, OR 97031 May 14, 2025

Session I: What Does it Cost and Why Do We Care? Operations & Maintenance Cost, Staff Cost and Data Acquisition & Management

Session II: Program Development: Stakeholders, Legal Authority, planning to build the program

Session III: Pretreatment, Grease Removal Devices, Inspections and Preferred Pumper Program

Session IV: Contaminants of Emerging Concern – PFAS, Phthalates, and Endocrine Disruptors

eight hours of training, one 10 minute break 10am and one 10minute break 3PM, 45 minute lunch break

The Purpose of this Training.

Fats, Oils, and Greases (FOG) from food service establishments (FSEs) results in significant increased treatment and sewer infrastructure replacement costs at the Publicly Owned Treatment Works (POTW). In addition, FOG accumulation over time causes significant blockages to wastewater conveyance systems which result in health risks due to sanitary sewer overflows. Contaminants of Emerging Concern (CECs) can be significant, based upon the geographical situation and surrounding industry and military facilities. Small, rural communities typically lack the knowledge and resources to prevent FOG and CECs from entering their wastewater systems. Therefore, Western States Alliance, a project of the Pacific Northwest Pollution Prevention Resource Center (PPRC), a 501(c) 3 not for-profit organization, proposes to conduct three main activities, to help these small, rural communities address these specific issues. The purpose of this project is primarily to provide FOG abatement and CEC training and resources to pretreatment coordinators, publicly owned treatment works personnel, plumbers, pumper companies, public officials such as city or county commissioners, and any other professional that has an interest in FOG abatement. This program is national in scope, and will specifically target communities that include eligible, small, rural, economically disadvantaged communities (including tribes) throughout the entire United States. The proposed Program has three components: 1) Organize and conduct 12 in-person FOG and CEC Abatement Technical Trainings

across the nation, with interactive components, and to create and provide commercially-available data management tools to 12 jurisdictions so trainees can establish and maintain a data-driven FOG Abatement Program, 2) Enhance the National Resource Reference Guide (NRRG), the online, supplemental information resource that programs use for further clarification, details, instruction and best management practices following training to enhance implementation of their FOG abatement program, and 3) Measure Success of programs trained in FY21 and past years.

Will this Training be Conducted In-Plant?

Yes

Training Course Location

Hood River, 1108 E Marina Dr, Hood River, OR 97031

Name of Organization Providing Training

Pacific Northwest Pollution Prevention Resource Center, https://pprc.org/

Western States Alliance, https://westernstatesalliance.org/ (The Western States Alliance is a project of PPRC)

Contact Person: Patrick Bryan, 559-940-5270, pbryan@pprc.org

Address

8520 Holly Drive, Suite 250, Everett, Washington 98208

How does this training relate to operation, maintenance or management of a wastewater treatment plant?

Fats, Oils, and Greases (FOG) from food service establishments (FSEs) and households result in significant increased treatment and sewer infrastructure replacement costs at the Publicly Owned Treatment Works (POTW). In addition, FOG accumulation over time causes significant blockages to wastewater conveyance systems which result in health risks due to sanitary sewer overflows. Pretreatment operators must be aware of and prepared for regulations and potential effects associated with Contaminants of Emerging Concern. Identifying sources and planning to keep these CECs out of the wastewater system is critical.

How is attendance monitored and verified?

Registration and day of training sign in sheet. At the end of the training day, participants take the training course quiz questions. Attendees are required to pass quiz questions which will certify training attendance, training comprehension and course completion.

Satisfactory program completion demonstrated by?

Attendees are required to pass quiz questions which will certify training attendance, training comprehension and course completion.

U.S. Environmental Protection Agency (EPA) sponsored National Fats, Oils and Grease (FOG) Pretreatment and Emerging Pollutants Training

TRAINING OUTLINE/AGENDA

May 14, 2025

Hood River, 1108 E Marina Dr, Hood River, OR 97031

8 hours of training, 2 breaks and 1 hour lunch

Session I 8:00AM - 10:00AM

What Does it Cost and Why Do We Care? Operations & Maintenance Cost, Staff Cost and Data Acquisition & Management

What's the problem with FOG?, Source FSE, Industry, Residential, Blockages " leads to SSOs, reduces wastewater capacity, city-paid maintenance, Treatment, Somewhat difficult to treat, impacts efficiency of POTW, Renewable energy source," FOG has value, don't waste it is it necessary to have a FOG Abatement program (regulation of FSE)? How often does the city clean sewers due to FOG?, How many pump stations are impacted by FOG?, FOG hot spots, What is the cost of this?, How many SSOs occur?, What is the impact on the WWT facility?, What is the lost potential energy recovery?, Is it fair for taxpayers to pay for this treatment from individual FSEs? The Clean Water Act in 1972, facilitated elimination of individual residential sewage treatment to POTW, Effluent from POTW must meet Clean Water Standards (NPDES), gives POTW regulatory authority over industry effluent that comes to POTW, Stakeholder involvement, Results were new term (Hydromechanical Grease Interceptor) and new sizing, In 2006, high-capacity HGIs that are third-party tested, Comparison of FOG capacity for GGI versus HGIs Product Standards and Testing; Rating Protocols for HGI Sizing/selecting the HGI, Evaluate the FSE – how much grease is generated?, Assure all fixtures are connected

Session II 10:00AM - 12:00PM

Program Development: Stakeholders Legal Authority and Planning to Build the Program

Program Development: Your Stakeholders and Your Legal Authority - Who should regulate FOG?, Plumbing codes, product standards, and Jurisdictional Authority, Identify stakeholders (FSEs and city admin and council), Communicate with stakeholders; Overlapping of Plumbing code, pretreatment program, and public health authority, Plumbing code, Specifies capacity and standards for building the facility, Standards provide testing and rating of equipment, Industrial Pretreatment Regulates "significant" industrial users that discharge to POTW, "significant" users, formal Pretreatment program is required, If no "significant" users, can still have goals, outreach, and local ordinance under this authority (must still meet NPDES permit for the city), Inspection staff, Authority for enforcement Build the FOG Abatement Program, Develop program, Identify costs (business case to justify program)

Session III 1:00PM - 3:00PM

Program Development: Pretreatment, Grease Removal Devices, Inspections and Preferred Pumper Program. City management Implement program, gravity-differential separation of free floating Fats, Oils, and Grease, Use phased approach with tasks outlined over 3- 5 years, Use Focused Effort (triage), New construction voluntary plan review, Inspection and follow-up Evaluate most problematic areas for initial inspections/outreach, Priority pump stations, SSOs, Frequency of clean-out, Plan to inspect 15-20% of establishments (largest producers), Update city agreements, Outreach, Set Performance Goals, Initial and annual inspections, Results-oriented inspections and follow-up, Provide education/training for FSEs, BMPs are important but not adequate, Help them understand costs/benefits of FOG recycling, Consider Preferred Pumper Program, Measure outcomes and report to stakeholders, Data management Systems

Session IV 3:00PM - 5:00PM

Program Development: Contaminants of Emerging Concern. PFAS, Phthalates, and Endocrine Disruptors, definitions and examples, potential human health impacts of these contaminants, the sources, the pathways into drinking water and wastewater systems, methods of exposure, regulations both proposed and enacted by EPA and States, impacts on the POTW including costs, recordkeeping, and remedial measures, implementation of source water protection plans and programs to prevent contaminants of emerging concern from entering the wastewater treatment systems.

Trainer Information/Bios

Ed Gonzalez is Executive Director of the Pacific Northwest Pollution Prevention Resource Center (PPRC). The Western States Alliance (WSA) is a regional, wastewater membership network under the control of PPRC. Ed has more than 20 years of experience working in the environmental and health fields, managing programs and projects in Texas, New Mexico, Nevada, California, Washington, Oregon, Idaho, and Alaska. Ed's projects include providing access to potable water and health care for impoverished families in Juarez, Mexico and he has developed many training curriculums.

Clayton Brown, a principal PPRC FOG trainer and WSA Program Manager, Clayton is an award-winning clean water industry professional with over 21 years of pollution control and water treatment experience and helped start the Regional Preferred Pumper Program. He was the SC Manager at CWS for 30 years, and retired in October, 2017. His current role is board chair for the Pacific Northwest Source Control Training Association. He demonstrates innovative leadership, team building and coaching skills with the ability to motivate staff incorporating holistic and collaborative communication. Clayton has proven program and project management skills with demonstrated capacity to drive projects to successful completion. He is responsible for numerous process improvements resulting in significant resource and capital savings and is active in several industry associations. Clayton has a Bachelor of Science degree in Biology from Portland State University, and a Masters in Business Administration from George Fox University.

Ken Grimm, a principal PPRC FOG trainer, is PPRC Industry Outreach Manager with 18 years' experience serving in different training and technical roles, including national trainer for FOG abatement and for spray paint efficiency, as well as database and measurement system development. Ken also provides web services and maintenance for PPRC and WSA websites.

Ed Gilmore, a principal PPRC FOG trainer, is a PPRC Program Manager with 20 years of experience in industrial pretreatment, stormwater and pollution prevention programs with Water Environment Services of Clackamas County, Oregon, and the City of Portland. He developed and implemented the FOG program for the sewer district and assisted in FOG program development across the Portland metro area.

Jean Waters, a PPRC FOG trainer, is a PPRC Project Manager Waters has more than 25 years of experience assisting businesses in pollution prevention and sustainability, helping them increase energy efficiency and eliminate waste at the source. Waters was Deputy State Director for the Nebraska Business Development Center (NBDC), where she supervised and worked with NBDC consultants in the small business development centers, the Procurement Technical Assistance Centers (PTAC), the Pollution Prevention Regional Information Center (P2RIC), the Technology Commercialization Program, and the Export Program. She previously served as program manager for the Pollution Prevention Resource Exchange (P2Rx) national network and was Director of the Pollution Prevention Institute at Kansas State University. Waters has a Masters of Science degree in chemical engineering from Kansas State University and is an Economic Development Finance Professional.

David James, a PPRC FOG trainer, is a PPRC Project Manager with more than 45 years' experience providing environmental technical and compliance assistance to public and private entities, specializing in developing and implementation of SSO and FOG abatement and pollution prevention programs, 26 years with Texas Commission on Environmental Quality, 12 years as WWTP O & M Services, BS and MS, Civil Engineering, Texas A & M. Texas Class A Wastewater Operator, life time member of the American Water Works Association and the Water Environment Federation.

Patrick Bryan, PPRC Technical Program Manager and FOG trainer, has 28 years of experience working in the environmental field, with an AS degree in Hazardous Material and Environmental Technology. He has worked with Stanislaus County's Hazardous Materials Division as Region Inspector; 23 years with the Fresno County Flood Control District, Environmental Department, National Pollution Discharge Eliminations Systems (NPDES) Region QSP Inspector. He has created and developed training programs for a wide range of audiences including municipal staff, industrial facilities, construction/development sector and community outreach & education program. He understands the disconnection that occur between the communities we serve such as Food Service Establishment's (FSEs). These disconnects can occurs within municipal agency departments. Building a relationship within agency departments and private stakeholders is essential for a successful FOG Program.

Arjen DeHoop, PPRC FOG and Contaminant of Emerging Concern (CEC) trainer, is also an Industrial Pretreatment Program Administrator at a community-based organization. He manages all aspects of the industrial pretreatment field with a focus on pollution prevention, and a cooperative working relationship with private businesses with whom he is fortunate to work. Arjen finds it rewarding to work with businesses and seek a cooperative balance in maintaining environmental regulatory compliance and progress within the private community.

Training Course Time Schedule

Day _____ Training Dates _ May 14, 2025_____

Day _____

Time	Topic	Presenter
8:00	**Session I**	
8:15	What Does it Cost and Why Do We Care?	
8:30	Operations & Maintenance Cost, Staff Cost	
8:45	and Data Acquisition & Management	
9:00		
9:15		
9:30		
9:45	10 minute break	
10:00	**Session II**	
10:15	Program Development: Your Stakeholder	
10:30	and Your Legal Authority Effective	
10:45		
11:00		
11:15		
11:30		
11:45		
12:00	Lunch Break	
12:15		
12:30		
12:45		
1:00	**Session III**	
1:15	Pretreatment, Grease Removal Devices,	
1:30	Inspections and Preferred Pumper Program	
1:45		

2:00		
2:15		
2:30		
2:45	10 minute break	
3:00	**Session IV**	
3:15	Contaminants of Emerging Concern. PFAS, Phthalates, and Endocrine Disruptors	
3:30		
3:45		
4:00		
4:15		
4:30		
4:45		
5:00	Adjournment	

Certificate

of acknowledgment and thanks

Aaron Hixenbaugh

WW3-1093478-05

has successfully earned 8 hours of Waste Water CE Us
from the Western States Alliance and
Pacific Northwest Pollution Prevention Resource Center
Fats, Oils and Grease Pretreatment Training Co urse
National FOG Abatement
OEPA-S88858603-OM
Bedford Heights, Ohio
July 1 1, 2023

POLLUTION PREVENTION resource center

pprc

Ed GONZALEZ
Executive Director of Pollution Prevention Resource Center

WSA
a project of pprc.org

Clayton Brown
Western States Alliance Program Manager

FOG Program

Fats, Oils & Grease

Proper disposal of fats, oils and grease protects your business, public health and the environment. It's the law, and it's the right thing to do.

It’s cheaper and easier to prevent than clean up

Grease clog in sewer.

FOG buildup can clog sewer and drainage pipes, resulting in messy, costly overflows. It's bad for business, the environment and public health. Costs of a raw sewage backup may include:

- **Loss of business** while you're closed to clean up and get the kitchen back into service
- **Cleanup** of the premises by staff and a cleaning or restoration service

Common sources of FOG

- **Fried foods**
- **Cooking meats**
- **Butter, ice cream, other dairy products**
- **Gravy and sauces**
- **Mayonnaise and salad dressings**

- **Hiring** a service to clean the sewer lines
- **Repairs or replacement** of the building, fixtures, and equipment
- **Reimbursement** for damages to neighbors and the public sewer system
- **Higher** insurance premiums
- **Fines and penalties**

FOG myths

Myth: Restaurant workers know how to prevent FOG problems.

Fact: Few employees have been properly trained to handle and dispose of cooking fats, oils and grease. The owner and management are responsible to train staff in best management practices (BMPs) and oversee the work of contractors hired to clean, remove and recycle FOG.

Myth: Pour hot water and detergent or degreasers into the drain to dissolve oil or grease.

Fact: That just pushes oil or grease deep into the sewer pipe where it cools and coats the inside of the pipe. Eventually, the pipe will clog and could cause raw sewage to back up into the building.

Myth: Storm drains and catch basins are for disposal of dirty water, debris, etc.

Fact: Outside drains are built to direct stormwater runoff to the nearest creek or wetland. Using them for any other purpose is a violation of the federal Clean Water Act.

Myth: If the sewers back up, the sewer utility will fix it.

Fact: Owners are responsible for the sewers on their property. If they damage or back up the public sanitary sewer or drainage systems, they must pay for cleanup and repair and may be subject to fines and penalties.

Food service establishment inspection

A Source Control inspector from the Sewer Utility will visit all food service establishments to ensure they are properly managing FOG to protect the public sanitary sewer, drainage systems and water quality. Source Control inspectors have that title because they control pollution at its source, for example, by helping food service establishments prevent water pollution.

The Source Control inspector assesses Train staff to prepare for the inspection. the condition of grease removal devices and FOG management practices, and issues a report that indicates any required corrective actions. Establishments that need to be inspected again may pay a fee for the re-inspection. Failure to comply with the law could result in monetary penalties or business closure.

Inspectors prefer to coach and counsel rather than issue penalties. Ask for their advice.

Preparing for the inspection

When the Source Control inspector comes to inspect your food service establishment's FOG management practices, please be prepared. Your assistance with the inspection is appreciated.

- Train staff to assist the inspector and to open and close the GRD.
- Keep maintenance records, training logs and FOG reports nearby.* • Keep a screwdriver or Allen wrench handy to open and close the GRD.

* *Preferred Pumpers submit FOG reports for their clients.*

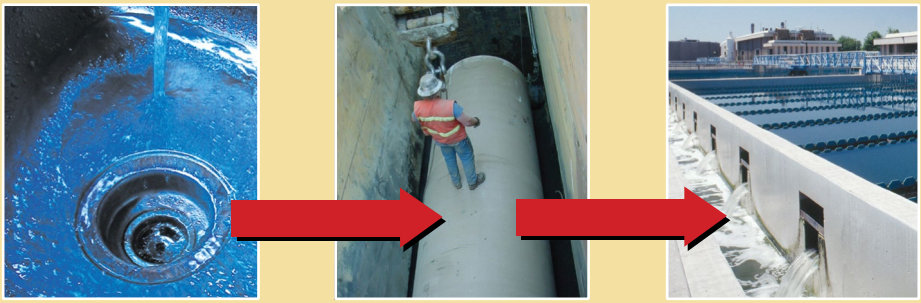
This chart indicates the rankings and required response.

Inspection Rank	Establishment Response
Excellent or Good	Continue proper cleaning and maintenance.
Fair	Increase the frequency of cleaning and maintenance. The inspector may reinspect.
Poor	The establishment is issued a notice of Non-Compliance that

Inspector issues Notice of Non-Compliance Reinspection required	lists required corrective actions, the due date to complete the corrective actions and to notify the inspector for reinspection. **Failure to comply could lead to monetary penalties (up to $25,000 per day/per violation) or business closure.**

About inside and outside drains

It's important to keep FOG out of inside and outside drains to prevent sanitary sewer overflows, drainage backups and pollution of local waterways. Many people don't know that inside drains take wastewater *to the sanitary sewer system and a wastewater treatment facility.* Outside drains take stormwater runoff to pipes or ditches that lead *to the nearest wetland or creek.*



Inside drain → sanitary sewer → wastewater treatment facility

Outside storm drain/catch basin → pipe/ditch → creek or wetland

Storm drains, catch basins and sumps

The public drainage system is designed to carry stormwater runoff and protect local creeks and wetlands from water pollution. It is the food service establishment and property owner's responsibility to maintain the storm drains and catch basins on or near the business premises. The catch basin under the storm drain or grate has a compartment or sump that is designed to capture debris.

Storm drains are for rainwater. What goes in the storm drain goes straight to the nearest creek or wetland.

- Inspect and clean storm drains, catch basins and sumps that serve the establishment.
- Increase the frequency of inspections and cleanings if necessary to prevent problems.
- Properly dispose of material from the catch basin and sump.
- Keep FOG and cleaners from polluting the public drainage system, creeks and wetlands.
- Never wash or sweep liquids, suds, FOG or debris into storm drains.

Disposing of cleaning solutions or soapy water into gutters and storm drains can harm or kill wildlife, even if it's labeled nontoxic or biodegradable. Even when soap is not used, pollutants such as metals, grease and dirt are washed into drains and are harmful to aquatic organisms and wildlife.

Failure to properly clean and maintain the system can result in costly overflows, cleanup, business interruptions or closure. If the public drainage system is clogged or damaged, or pollutants reach waterways due to poor maintenance, the owner may be fined and required to pay cleanup costs.

It is the owner's responsibility to know if the debris cleaned from the catch basin qualifies as a hazardous material that must be handled separately from regular waste. Contact the local sewer utility or municipality for advice.

Place ***"No Dumping – Drains to River"*** markers near storm drains in parking lots and streets as a reminder that all the rain running off impervious surfaces flows directly to our local creeks, streams and wetlands without

treatment. Contact the local Public Utility for markers.

Grease Removal Devices (GRDs)

All food/beverage establishments that are connected to the public sewer system must have an approved Grease Removal Device (GRD). GRDs must be properly sized, installed and maintained to keep FOG and food debris out of the sewer system. If your business does not have adequate GRDs, you will be required to install them.

Kitchens generate a lot of FOG.

A GRD is designed to capture oil and grease from wastewater before it gets to the public sewers. All drains in food/beverage service areas must connect to an approved GRD. If there is a grease interceptor outside, it is a vault with much larger capacity and several compartments where the grease cools and congeals. GRDs need regular inspection and cleaning.

GRDs are inspected by local authority that enforces the federal Clean Water Act and related state and local laws, in partnership with member Cities.

GRDs prevent backups that damage your plumbing and the public sanitary sewer and drainage systems.

Caring for GRDs

GRDs cannot function properly if they are filled with grease and lose efficiency. The recommended cleaning frequency varies by the type of GRD, food type and kitchen cleaning practices.

- Properly install, maintain and clean GRDs.
- Clean grease traps (inside) every 30 days, and more often if necessary.
- Clean grease vaults (outside) every 90 days, and more often if necessary.
- Grease trap to be inspected at least every 7 days by FSE. • Hire a Preferred Pumper to clean and maintain the GRDs.

- Train staff to oversee the work of contractors to ensure they use proper cleaning procedures and comply with the law.

The property and business owners are responsible for the proper installation, maintenance and cleaning of inside and outside GRDs. The business may hire contractors to provide rendering, recycling, and exhaust/vent/hood cleaning services.

Preferred Pumper Program

The Preferred Pumper Program is a registry of companies that pump out and clean GRD equipment, and have agreed to train staff on approved cleaning standards and report to the local authority. For a list of companies that properly pump, haul, and dispose of FOG waste for food service establishments, please go to **preferredpumper.org.**

Oversee contractors for complete, correct service.

A well-maintained GRD is easier to keep clean and prevents odors. For advice on the cleaning schedule or for more training information, call your Source Control inspector or visit **cleanwaterservices.org/fog**

Exhaust hoods, vents and filters

This booklet does not fully address grease removal in exhaust and fire prevention fixtures and equipment such as the exhaust system hoods, vents and filters because they are regulated by agencies other than the local authority. That equipment must be cleaned and maintained to prevent fires and greasy build up on the roof that causes roofing materials to break down and leak or be washed into storm drains, and also to protect the roof.

- Clean vent hoods and filters as needed.
- Inspect the exhaust system often enough to prevent grease buildup.
- Maintain the grease collection unit on the roof to protect your business and avoid penalties.
- Hire a service to clean and maintain the exhaust hoods, vents and filters frequently.
- Ensure waste is properly disposed.

Exhaust systems must be FOG free.

Proper disposal of Fats, Oils, and Grease (FOG)

Kitchen FOG belongs in the trash, a GRD or a recycling container. Keep FOG in its place and out of the building and public sewer and drainage systems.

o Recycle cooking grease, oil and food wastes. ☐ Contact your waste hauler or a rendering company to get a waste oil container. ☐ If containers or bins leak or spill, ask the vendor for new ones.

GRD too full of FOG and not maintained properly.

o Cover the rendering container with a roof if possible. ☐ Clean up any spills or leaks immediately using dry methods.

o Prevent odor, rats and other pests with clean, closed rendering containers and dumpsters. ☐ Never dump used cooking oil down the drain.

o Never use hot water, detergent or degreasers to flush FOG down the drain; this pushes grease into the pipe where it will cool, congeal and clog the sewer.

☐ Never dump FOG (or anything!) on the street, parking lot or into storm drains.

☐ Schedule frequent FOG pickup or service.

o Keep records of training, cleaning, service, preventative maintenance and inspections.

Proper disposal of FOG is easier and cheaper—and that's good for your bottom line.

Is your staff trained in Best Management Practic

It's easy to keep FOG out of the sewer and drainage systems if employees are tr understand how to use the BMPs and tips in this booklet to keep drains and

Dry clean up

Before washing with water, use dry clean up methods to control FOG and food waste.

Dry wipe before washing.

o Scrape or wipe instead of washing food waste from utensils, fixtures and equipment.

o Use rubber scrapers to remove FOG from cook- ware and serving surfaces. ☐ Scrape food waste into trash bins with plastic liners.

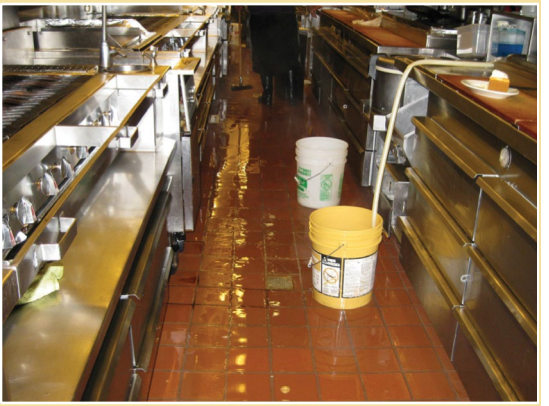
o Soak up oil and grease under fryer baskets with paper. ☐ Sweep floors before mopping.

o Wipe down work areas with paper towels.

o Place disposal and recycling containers in easy reach for kitchen employees.

o Sweep instead of hosing down parking lots, side- walks and outside areas.

Dry clean up methods have many benefits. Dry floors are safer than slick floors that may cause employees to slip and fall.



Sweep floors before mopping.

Dry clean up saves water and energy costs.

ces (BMPs)?

ained in best management practices (BMPs). Make sure staff and management pipes flowing.

Dishwashing, work areas, floors and spills

After dry scraping, wiping and sweeping, use these BMPs to keep FOG and food waste out of drains and sewers. ☐ Keep work areas clean.

o Install properly sized screens, baskets or strainers in sink and floor drains to catch food debris. ☐ Prewash with cold water.

o Wash floor mats and greasy equipment in an area that drains to an approved GRD—not outside. Keep FOG and food waste out of drains.

o Never pour grease or oil into sinks, floor drains or onto a parking lot or street. ☐ When mopping, don't force food debris down the drain. ☐ Keep liquid waste out of trash or dumpster bins. ☐ Train workers to put FOG into recycling/rendering containers without spilling. ☐ Prevent spills by proper storage, handling and transfer of supplies. ☐ Provide proper equipment to handle FOG. ☐ Be careful not to drop or splash fats, oils and grease.

o Keep a spill kit with absorbent materials nearby. ☐ Clean up spills immediately.

Disconnect the garbage disposal; this may

qualify for a reduced sewer bill and will save water and energy.

Is your staff trained in Best Management Practic

It's easy to keep FOG out of the sewer and drainage systems if employees are tr understand how to use the BMPs and tips in this booklet to keep drains and

Storage, trash and recycling areas

Well-run food service establishments keep their storage and trash areas as neat and clean.

Trash and recycling areas reflect your kitchen practices.

Standing water due to clogged drains can damage pavement.

- Store waste oil and cleaners in closed containers indoors or under cover outside.
- Provide dumpsters and bins that are large enough not to overflow.
- Repair or replace leaky dumpsters, trash bins and compactors. ☐ Close dumpster lids.
- Fence and lock dumpster and storage areas, under a roof if possible.
- Build a berm at the edge of the covered dumpster and outside storage areas. Contact building official or inspector for details.
- Keep dumpster and storage areas clean and swept.
- Immediately clean up any spills or leaks.

Proper maintenance reduces costly repairs.

ces (BMPs)?

ained in best management practices (BMPs). Make sure staff and management pipes flowing.

It’s the law, and it’s good business

Grease clog inside a pipe.

Sewer overflows are harmful to public health and the environment. Federal, State and Local laws require FOG control to protect people and water sources. It is the business and property owner’s responsibility to comply with the law and ensure that employees and contractors are using BMPs that protect the public sanitary sewer, drainage systems and water quality. Property and business owners may be held liable for water quality violations, misuse of the public sanitary sewer and drainage systems, and resulting water pollution.

Did you know?

- Storm drains are for clean rainwater only.
- Food service establishments must install and maintain an approved GRD.
- Obstruction of public sewers may result in penalties, fines and other costs.

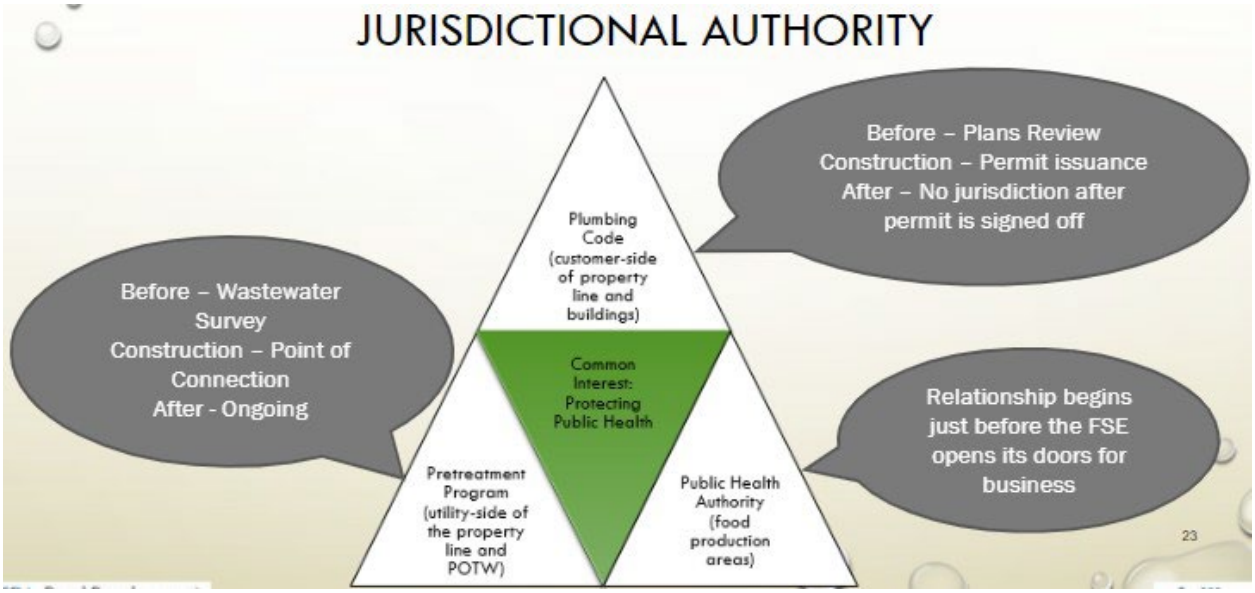
FOG Abatement Program – Establishing Program Administration Worksheet

Overlapping Jurisdictions

There are overlapping jurisdictions, each with its own code and authority:

- Plumbing code (state or local) – jurisdictional authority occurs before construction of the facility.
- Pretreatment program (NPDES) – jurisdictional authority is at the point of connection with the sewer and ongoing authority to regulate waste.
- Public health authority – jurisdictional authority is primarily concerned with food safety.

These jurisdictional authorities are graphically represented below, with their overlap, their common interest in green: Protecting Public Health.



PLAN REVIEW is the time that affords the most economical opportunity for correct sizing of a grease interceptor and to assure all drains (except sanitary) are connected to it.

Are you currently involved in Plan Review? Yes _____ No _____

Do you see that it would have a good return on your investment of time to get involved in some plan review, especially for high and very high FOG producers? YES _____ NO _____

What needs to happen in order to increase your involvement in Plan Review?

Stakeholders

Identify all stakeholders, what is important to them, and when to engage them in the process.

Stakeholder	What is important to them?	When to engage them in the process? (early, medium, later)
Sewer District Manager		
Sewer District Program Manager		
City Environmental Specialist		
Communications specialist		
FSE community		
Chamber of Commerce		
Pumpers		
Plumbers		
Building Dept Officials		
Health Dept. Officials		
City Commission		
Mayor		

Which of these advantages are desired by the stakeholders?

	Desired by city officials or public	Desired by FSEs	Desired by city/sewer authority
Qualified pumpers clean using standards for consistent, effective cleaning			
Pumpers provide reporting to city and FSE prior to and post cleaning			
Pumpers provide routine maintenance, extending the life of grease interceptor and conveyance lines			
Routine, effective maintenance helps prevent sewer backups, protecting public health and the environment			
Qualified pumpers that provide reporting help promote compliance with local sewer ordinances			

Motivations and Goals

What are reasons to have a FOG Abatement Program?

	Yes	No	Unsure
Have you had Sanitary sewer overflows (SSOs) caused by FOG buildup?			
Have SSOs created environmental issues?			
Have you had increased maintenance and operational costs in the collection system?			
Have you documented the cleaning frequency of FOG lines?			
Have you had cleaning costs for grease buildup at pumping stations?			
Have you observed/documented reduced life of your infrastructure?			
Have treatment costs/capacity been issues at the treatment plant? (foaming, FOG removal at treatment plant, FOG effects on BOD)			
Have SSOs created regulatory compliance issues?			

How many SSOs have you had in the last few years?

SSO Date	SSO Location	On FOG Line (Y/n)	Nearby FSEs with med or less FOG loading	Nearby FSEs with high FOG loading	Nearby FSEs with very high FOG loading

What are the desired outcomes of the FOG Abatement Program? What is driving the need? Which stakeholders will resonate most with these outcomes? Check all that apply.

Outcomes	Public (ratepayers) and city officials	Public Works professionals	Regulated community, FSEs
Protect Public Health and the Environment			
Comply with state and Federal regulations			
Produce and operate a cost-effective, data-driven program			

How will you measure desired outcomes?

Outcome	Previous 5-yr average	Current number (previous 12 months)	Regulatory goal (number/yr)	Jurisdictional Goal (number/yr)
SSO to waterway				
SSO through manhole				
SSO into homes				
Number of covered and plumbed trash enclosures				
Number of FOG-related water quality complaints				
Cleaning frequency/cost for Collection system				
Cleaning frequency/cost for pump stations, air valves				
Cleaning costs/time at treatment plant				

Documentation needed:

- Current and planned Corrective action for SSOs.
- Cleaning expense (see Module 3 worksheet).
- Structural degradation expense.

FOG Abatement Program – Establishing the Business Case Worksheet

Utility FOG-line Cleaning Costs

What **data** is currently collected?

- FOG analysis by an environmental laboratory
- Photographs of grease interceptors or FOG build-up
- Videos of clean or dirty sewer lines
- FSE inspections
- Pump-out dates and quantities
- Other _____

How many **lineal feet of collection system are being cleaned** in excess of normal cleaning cycle (normal cleaning is typically 3-5 years)

Number of feet cleaned	Cleaning frequency (months)

What is the routine cleaning frequency for all other sanitary sewer lines?

- Every three years
- Every four years
- Other _____

What is the **cost to clean sanitary sewer lines** per lineal foot?

Column A	Column B	Column C	Column D	
Time to clean each line section (hrs)	Fully loaded labor rate ($/hr)	Equipment cost ($/hr)	Traffic Control ($/hr)	Total cost (A*(B+C+D))

Fully loaded labor rate includes benefits and overhead. For emergency cleanouts, include overtime charges. Equipment costs may be estimated based upon the cost for renting equipment. Traffic control costs may be estimated based on the cost for contracting out for traffic control.

What is the **cost to clean pump stations**?

Column A	Column B	Column C	Column D	
Time to clean each pump station (hrs)	Fully loaded labor rate ($/hr)	Equipment cost ($/hr)	Traffic Control ($/hr)	Total cost (A*(B+C+D))

Are you **cleaning air relief valves**?

- What is the estimated cost of this?
- If not cleaning air relief valves, are you monitoring electricity usage at the pump station?

What does it cost to **dispose of FOG** removed from lines, pump stations or air relief valves?

Column A	Column B	Column C	Column D	Column E	
Number of Loads	Fully loaded labor rate ($/hr)	R.T. Time to haul waste FOG (hrs)	Transportation costs ($/load)	Disposal Costs ($/load)	Total disposal cost (A*(D+E)+B*C)

Transportation costs may be estimated based on the cost for renting equipment to move the waste FOG. Disposal costs are landfill tipping fees, the cost to mix FOG in with municipal biosolids, or to dry it, etc.

What is the **excess wastewater treatment (WWT) plant cost of FOG**? WERF (Water Environment Research Foundation) estimates one pound of FOG is approximately equal to 0.5 pounds of COD. BOD is typically a fifth lower than COD. For cost estimation, use the cost to treat 0.4 pounds of BOD for every one pound of FOG estimated to be treated.

Do you have a surcharge for COD or BOD for non-residential users?

Do you have an estimate of the amount of FOG entering your WWT plant?

Use these estimates to calculate an approximate expense of treating FOG at the wastewater treatment plant.

Pounds of FOG entering the WWT plant/yr * 0.4*(BOD surcharge/lb) = annual WWT plant operations costs.

Does your WWT plant staff track their time spent on FOG issues?
Estimate their fully-burdened rate of maintaining equipment affected by FOG.

This is a summary of the existing costs for cleaning the FOG lines? This is your “do nothing” cost.

Item	Fully burdened Cost/year
Lineal feet/yr that must be cleaned.	
Pump stations that must be cleaned.	
Air Relief valves that must be cleaned.	
FOG Disposal	
Wastewater treatment plant operations	
Wastewater Treatment Plant Maintenance	
Total	

EVALUATING FOG PROGRAM COSTS

How many FSEs are in the jurisdiction? Use previous "Inventory of FSEs in the Jurisdiction" table.

Staff costs

- Estimate number of FSE inspections that can be completed per day (include travel time and data entry):

- Estimate Full Time Employees (FTE) to initiate the program (number of FSE / inspections per day /260 days per year):

- Estimate FTEs to continue the program (number of inspections per day will be higher for ongoing inspections than for initial inspections but data entry and analysis may be significant):

SUMMARY OF FOG PROGRAM CONSIDERATIONS

Program Costs

- Inspections
- Data management
- Oversite

Stakeholder interactions (these take time and thought)

- Public outreach
- FSE regulation/communication
- Communicate the FOG program as a cost-effective service to achieve protection of the public health and environment

Implementation

- Understand grease removal devices (GRDs), their effective uses, how they're sized, and how maintained; have clear expectations and communicate with FSEs
- Try to have consistent plumbing/building codes for GRDs
- Provide clear guidance and technical assistance
- Provide equity between retrofits and new construction
- Have clear objectives for initial and subsequent inspections • Use data management tools to target inspections

Communicate with Food Service Establishments (FSEs).

- Municipality FOG requirements
- They need to have a grease removal device (GRD)
- They must maintain the GRD with regular pump outs
- They must keep records of the pump outs

- There is potential for enforcement action

Cost-Benefit Analysis

Summarize Current Costs of Excess Cleaning Identified in Tables above

Item	Total Cost ($/yr)
cost to clean sanitary sewer lines per lineal foot	
cost to dispose of FOG removed from lines	
cost to clean pump stations	
cost to dispose of FOG removed from pump stations	

Summarize Estimated Costs to Develop and Implement FOG Program

Item	FTE Required	Total cost (FTE * rate)
Initiate Program/initial inspections		
Legal authority implementation		
Stakeholder engagement		
Create process map and communicate it		

Summarize Estimated Costs to Maintain a well-managed FOG program

Item	FTE Required	Total cost (FTE * rate)
Ongoing inspections		
Data analysis (software license or in-house effort)		
Stakeholder engagement and education		

DOES THE COST FOR FOG PROGRAM OUTWEIGH EXISTING COSTS (STATUS QUO)?

EXISTING PROGRAM COSTS _____

FOG PROGRAM IMPLEMENTED COSTS _____