



Fats, Oils & Grease Sector Control Policy

Persigo Wastewater Treatment Plant
Industrial Pretreatment Division
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I. INTRODUCTION

The United States Environmental Protection Agency (EPA) requires the City of Grand Junction (City) / Mesa County Persigo Wastewater Treatment Facility (Persigo) to have an Industrial Pretreatment Program (Pretreatment) to prevent certain pollutants from entering the wastewater system. The pollutants of concern are those that can interfere with the operation of the wastewater treatment process, pass through the wastewater treatment system without adequate treatment or contaminate treatment plant biosolids.

The Fats, Oil and Grease Sector Control Policy (Policy) establishes City requirements for any food service facility that has the potential to discharge Fats, Oil and Grease (FOG) into the sanitary sewer system. FOG pollutants can contribute to sewer blockages causing sanitary sewer overflows and backups into homes and businesses and can interfere with equipment and processes in the sewer collection system and at the wastewater treatment plant.

The purpose of this Policy is to minimize the loading of FOG from entering the sewer system at the source. The Policy encompasses the entire service area of the Persigo 201 sewer boundary, which includes the City of Grand Junction and portions of Mesa County.

Definitions of the terms used in this Policy are found in Grand Junction Municipal Code (GJMC) Sections 13.04.010 and 13.04.360.

II. AUTHORITY

The BMPs in this Policy are authorized by Sections 13.04.370 and 13.04.460 of the Grand Junction Municipal Code (GJMC).

GJMC Section 13.04.370, in addition to other materials, specifically prohibits the discharge of any solid or viscous pollutant in amounts which will cause obstruction or harm to the Publicly Owned Treatment Works (POTW), which includes the sewer collection system and the Persigo facility. GJMC also establishes a discharge limitation of 200 mg/L for FOG of animal and/or vegetable food origin. These limitations are set to prevent blockages or obstruction in the sewer collection system. The gravity grease interceptor (interceptor) BMP described in this Policy is required for treatment of an applicable facility's discharge in lieu of requiring a facility to routinely sample and monitor the facility discharge in order to determine compliance with the 200 mg/L FOG limit.

All facilities to which this Policy applies shall comply with all the requirements in this Policy. Facilities shall permit inspections by the City with or without notice for the purpose of determining applicability and/or compliance with this Policy and requirements. Applicable facilities shall inform the City prior to sale or transfer of ownership of the business; or change in the trade name under which the business is operated; or change in the nature of the services provided that affect the potential to discharge pollutants; or remodeling of the facilities that may result in an increase in the pollutant loading.

The City's Industrial Pretreatment Division staff is responsible for implementing this Policy. Duties include but are not limited to reviewing building plans, inspecting applicable facilities for compliance and enforcing Policy requirements.

III. BACKGROUND

Excess FOG from food service facilities can accumulate in sanitary sewer collection lines, wet wells and pumping stations. Such FOG accumulation can restrict sewer flow and cause collection line blockages, resulting in sewage backups and potential public health risks.

FOG blockages in the sanitary sewer system are very costly to the City and to its sewer customers. FOG blockages can result in emergency sewer call-outs to clean sewer lines, incurring additional costs to sewer customers. In addition, the Mesa County Health Department requires food service facilities to close until sewage backups and associated health risks are eliminated.

IV. APPLICABILITY

All food service facilities are required to complete a City FOG Application to determine applicability of interceptor requirements and to determine proper interceptor sizing.

Any facility where food is prepared and/or served, for mass consumption, using or producing FOG in amounts that could hinder sewage disposal is required to install and maintain a City-approved interceptor and to use the BMPs described in this Policy. This requirement applies to all non-domestic (i.e. commercial or industrial) facilities where preparation, manufacturing, or processing of food occurs and includes, but is not limited to, restaurants, cafes, fast food outlets, pizza outlets, delicatessens, sandwich shops, bakeries, coffee shops, schools, hospitals, institutions, nursing homes and other facilities that prepare, service, or otherwise make food available for consumption.

This includes:

- New facilities, including the new ownership or lessee of existing facilities;
- Existing facilities closed for a period of one year or longer;
- Existing facilities undergoing remodeling which will increase operations by 50% or more by increasing seating capacity and/or kitchen equipment and/or plumbing fixtures; and
- Existing facilities changing from a conditionally exempt facility to one where food is prepared and/or served, for mass consumption, using or producing FOG in amounts that could hinder sewage disposal.

A conditional exemption to not install an interceptor may be granted by the City, but only under very limited provisions. An example of this type of limited use facility would be one that only serves beverages and/or food items that are prepared off-site.

This Policy does not apply to domestic residential users; however, the Kitchen BMPs in Section VI of this Policy are recommended for domestic use to assist in keeping the sewer collection system and private sewer lines flowing freely.

V. GREASE INTERCEPTOR REQUIREMENTS

A gravity grease interceptor (interceptor, see Figure 1.) is a plumbing treatment device that is installed between the facility kitchen drainage and the sanitary sewer system. It is designed to remove FOG from the facility wastewater discharge prior to sanitary sewer discharge. An interceptor is located in the ground outside of the facility, is typically located in the parking lot and can be recognized by the two manhole lids that cover the accesses to the interceptor.

A properly sized and maintained interceptor provides the necessary retention, or holding time, for wastewater to separate into three basic layers. FOG floats to the top, solids sink to the bottom and the clearer mid-water flows out to the sanitary sewer.

The interceptor shall be installed, maintained and operated so as to accomplish their intended purpose of intercepting pollutants from the facility's wastewater and preventing the discharge of such pollutants to the City's wastewater collection system.

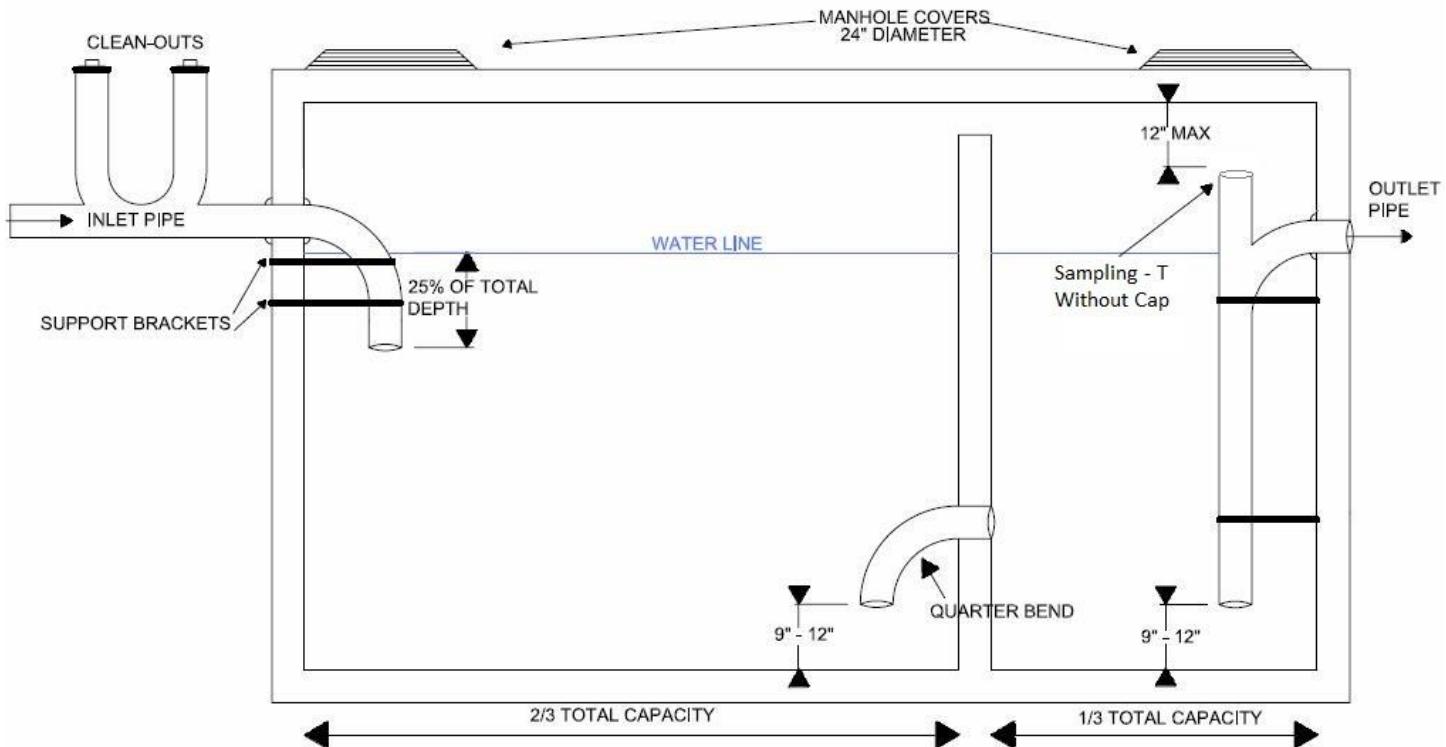


Figure 1. Grease Interceptor Diagram

A. City Requirements

1. **Plan Review.** All food service facilities are required to complete a City FOG Application to determine applicability of interceptor requirements and to determine proper interceptor sizing. The City requires an interceptor be installed at applicable facilities. If an interceptor is required it shall be installed at the expense of the facility owner or lessee prior to opening for business. The facility owner or lessee is responsible for determining the feasibility of the interceptor installation and for performing all engineering, plumbing and design work associated with the interceptor installation.
 - a. The facility property owner or lessee or authorized representative is responsible for contacting the City for the purpose of obtaining a site plan review. The site plan review shall determine the need, size, location, and other interceptor requirements necessary to control facility discharges into the sanitary sewer system. The review of such plans shall in no way relieve the facility from the responsibility of modifying such facilities as necessary to produce a discharge acceptable to the City in accordance with GJMC. The type and capacity of a required interceptor shall be approved by the City prior to installation. Written approval from the City must be obtained prior to installation of an interceptor.
 - b. Plans shall be submitted for approval prior to any of the following:
 - Construction of a new building;
 - Change in the building use or nature of the services provided that affects the potential to discharge FOG;
 - Remodeling of the facility that may result in an increase in flow or FOG loading; and
 - Any other reason that otherwise requires the facility to submit plans or specifications for approval through the City or Mesa County Building Department (Building Department).
 - c. All plans submitted to the City must clearly show:

- Location of the interceptor;
- Proposed interceptor size in accordance with the sizing criteria in Section V.A.3;
- Interceptor detail showing internal plumbing, dimensions, cleanouts and vent piping;
- All building water and sewer plumbing;
- All plumbing and plumbing fixtures that connect to the interceptor;
- Size of plumbing and plumbing fixtures that connect to the interceptor; and
- A table or schedule identifying all plumbing fixtures.

d. The installed interceptor and associated plumbing shall be inspected and approved by the Building Department prior to backfilling. Plans shall not be deviated from once a City Planning Clearance has been issued. If a situation warrants the change of an approved plan, an amended copy must be resubmitted to the City and Building Department for approval.

e. Upon change of ownership of any existing facility which is required to have an interceptor, the applicant for sanitary sewer service shall have the burden to demonstrate that a properly sized and properly functioning interceptor is installed to the satisfaction of the City. The interceptor shall be cleaned by an approved waste hauler prior to use.

2. Plumbing Criteria. The City requires a properly sized gravity grease interceptor with two compartments separated by a baffle wall. Hydromechanical grease interceptors or grease traps are not allowed to be installed in lieu of a gravity grease interceptor.

- a. The interceptor and associated plumbing should only be installed by a licensed plumber or experienced contractor. All sinks, floor sinks, floor drains, mop sinks, disposals, dishwashers and other plumbing fixtures in kitchens, bars, bussing stations and other food service areas into which wastewater is likely to or has the potential to contain FOG must be connected to the interceptor. Toilets, water closets, urinals, hand washing sinks and other plumbing fixtures conveying human waste shall not drain into or through the interceptor.
- b. The interceptor's primary compartment shall have a volume equal to two-thirds of the total capacity and the secondary compartment shall have a volume equal to one-third of the total capacity. Each compartment shall be accessible by a traffic-rated manhole above the inlet and outlet piping with a minimum diameter of 24 inches. Manhole covers shall not be locked, or otherwise fastened in place such that access is restricted.
- c. All plumbing shall be compatible with food service wastewater, such as PVC. The bottom of the inlet piping shall extend down 25% of the total water depth in order to maximize retention time in the primary compartment. Flow from the primary to secondary compartment shall be through a quarter bend elbow, or similar device equivalent in cross sectional area to the inlet piping into the interceptor, and shall extend down in the primary compartment with a height above the base between 9 and 12 inches. A sampling-T shall be placed at the outlet end of the interceptor to allow sampling of effluent. The top of the sampling-T shall be no more than one foot below grade. An outlet T-fitting, or downturn with a sight tube, and extension is required in order for City staff to visually inspect the interceptor. The bottom of the outlet piping in the second compartment must extend down between 9 and 12 inches above the floor of the interceptor. Support brackets are required for the inlet and outlet piping. Cleanouts and venting shall be PVC pipe. Interceptors shall be vented in accordance with local building codes.
- d. If the City has determined that an interceptor is not required to be installed, the facility shall connect all kitchen plumbing fixtures to a sanitary sewer line separate from the domestic sanitary sewer line. This separate sanitary sewer line shall have a cleanout located outside of the building to allow the City access for sampling. The separate sanitary sewer line is designed to allow representative compliance sampling and installation of an interceptor should one be required. This line may be combined with the domestic sanitary sewer at a point after the kitchen cleanout. If a facility's kitchen discharge exceeds the City's limit for oil and grease or contributes to an excess build-up of FOG in the sanitary sewer line, the facility may be required to install an appropriately sized interceptor.

e. Each facility for which an interceptor is required shall install an interceptor serving only that facility. Common interceptors are not permitted for newly constructed facilities. The City may grant a variance for a common interceptor only if it is pre-existing and if the resulting discharge does not exceed the 200 mg/L concentration for FOG as required by GJMC. A common interceptor may be reevaluated for proper sizing and capacity when a facility changes business operations, practices, owners or tenants.

3. Sizing. A City Food Service Application is required to be completed to determine proper interceptor sizing. The design of a grease interceptor shall be in accordance with City sizing requirements and the Mesa County Building Code. The capacity of a grease interceptor is calculated based on specific discharge flow rates for each facility with a minimum detention/treatment time of 10 minutes, assuming maximum flow rates from all kitchen fixtures. The minimum required interceptor size capacity is 750 gallons. The sizing of an interceptor shall be determined by using Table 1.

Table 1 Grease Interceptor Sizing Table

Fixture Type	Number of Fixtures	Flow Gal/Min	Total Flow
Kitchen Area Sinks			
Single Compartment	X	20	= _____
Double Compartment	X	25	= _____
Triple Compartment	X	30	= _____
Mop / Clean-up	X	20	= _____
Dishwashers			
Up to 30 gallon capacity	X	15	= _____
30 to 50 gallon capacity	X	25	= _____
50 to 100 gallon capacity	X	40	= _____
Total Surge Flow = _____			
Factor _____ X 10			
Required Grease Interceptor Capacity = _____			

4. Location. An interceptor shall be located outside the facility between the kitchen drainage plumbing and the sanitary sewer system. The facility must ensure interceptors are installed and connected to be easily accessible for inspection, cleaning, pumping and maintenance at all times. Each manhole cover shall be readily accessible and safely removable for servicing and maintenance. Vehicles or equipment are not allowed to be parked or stored on top of the interceptor.

5. Closure. The City may determine that an interceptor is no longer necessary. This may occur when the wastewater flow through the interceptor is significantly lower due to changes in kitchen practices or if an interceptor is over-sized. A lack of flow through the interceptor can cause it to become septic, producing sulfide gases, odor problems and other potential health and safety hazards.

a. Inactive interceptors shall be closed by:

- Complete removal of all interceptor contents (oil, grease, solids, water, etc.) by a professional service company;
- Submittal of plans or a narrative to the City detailing the proposed scope of work;
- Sealing of all floor drains and fixtures plumbed to the interceptor;

- Capping of inlet and outlet pipes, or installing a direct pipe connection from the inlet to the outlet;
- Filling the empty interceptor with an appropriate fill material such as sand or concrete; and
- Securing the opening(s) to the interceptor by cementing or welding.

b. The City must receive plans detailing the closure activity and written City approval must be issued to the facility prior to beginning work. Inspections of closure activities may be required by the City prior to securing the interceptor opening.

6. Facilities with an Existing Interceptor. An existing interceptor may be undersized for a new facility according to the sizing requirements of Section V.A.3. The City may approve the new facility, which is required to submit plans for review under Section V.A.1., to use the existing interceptor only if the City determines the existing interceptor can adequately protect the sanitary sewer from FOG. The existing interceptor must have two chambers and be retrofitted to meet the requirements of Section V.A.2.

7. Variances. A variance from the requirements of this policy may be granted by the City for good cause. The facility has the burden of proof of demonstrating through data and other information why a variance should be granted. In no case shall a variance result in a violation of any City requirement or effluent limit specified in GJMC. The granting of any variance shall be at the sole discretion of the City. If a variance is granted for a specific Pretreatment requirement, the facility is still required to institute BMPs and other mitigation measures as determined by the City. If a variance is granted, and if the City determines there have been changes to the facility or to the facility's operation that occurred after the time of granting the variance that would have required a specific Pretreatment requirement, the facility will be required to install such Pretreatment.

B. Operation and Maintenance Requirements

1. A facility shall properly maintain and clean an interceptor at its own expense in order to keep it in efficient operating condition at all times. All facilities are required to structurally maintain all components of their interceptor per the design requirements in Section V.A.2. Maintenance of interceptors shall be done only by a licensed plumber or business professional normally engaged in the servicing of such fixtures.
2. The addition of biological or bacterial treatments, enzyme treatments or the use of additives or emulsifiers are prohibited and shall not be a substitute for the pumping of grease interceptors at the frequency specified by the City.
3. The facility will be directed by the City to perform regularly scheduled required interceptor pumping by an approved waste hauler. The total accumulation of solids, debris, and oil shall not exceed 25% of either the total capacity of the interceptor or 25% of the capacity of any one chamber. The City will require an interceptor to be pumped out if FOG are observed being discharged from the interceptor outlet.

An interceptor shall be pumped at a minimum of every 90 days or more frequently as needed or required by the City. A variance from the required pumping schedule may be obtained if the facility can demonstrate that less frequent pumping is sufficient and receives City approval. Facilities seeking a reduced pumping schedule shall submit a written request to the City demonstrating a less frequent pumping schedule is adequate. The request shall be reviewed by the City and written approval issued before a reduction in a pumping schedule is allowed.

4. A facility should ensure that the company used for the removal and transportation of grease waste is properly registered with the Colorado Department of Public Health and Environment (CDPHE). The City and CDPHE require that approved waste grease haulers completely pump and remove the entire interceptor contents each time. Partial removal of contents (i.e., removal of grease layer or liquid, oil layer, water or sludge layer only) is prohibited.
5. Facilities are responsible for the maintenance, servicing and proper waste disposal of the interceptor and cannot abrogate this responsibility to a contractor, pumping service, or any other agent. After pumping, all interceptor

contents must be properly disposed of at an approved waste grease facility in accordance with federal, state and local regulations. Under no circumstances shall interceptor contents be reintroduced to the sanitary sewer system.

6. The waste hauler must provide a certification of proper disposal on a waste manifest for each load pumped to the facility. The facility must document each pumping with a waste manifest issued by the CDPHE, which must be kept on site for at least three (3) years.

VI. BEST MANAGEMENT PRACTICES

- A. Kitchen Best Management Practices (BMPs). The purpose of kitchen BMPs is to minimize the discharge of FOG and other prohibited materials into the interceptor and the sanitary sewer system. The following BMPs shall be implemented by applicable facilities:

1. Installation of drain screens. Drain screens shall be installed on all drainage pipes in food preparation areas. This includes kitchen sinks, floor drains and mop sinks. Drain screens shall be cleaned as needed.
2. Segregation and collection of waste cooking oil and grease. All waste cooking oil and grease shall be collected, segregated and stored properly in waste grease bins (WGB) or similar devices. WGBs shall be maintained and secured to ensure that they do not leak or be turned over and are weather-tight. WGBs shall have a cover or lid which is to remain in place at all times when the WGB is not being used. WGBs shall be located in an area that is clean and easily accessible. WGBs shall be pumped before they are 90% full by a licensed waste hauler or an approved recycler to dispose of waste cooking oil. WGB waste hauling manifests shall be retained onsite for three (3) years.
3. Disposal of food waste. Food wastes shall be disposed of directly into the trash or garbage and not in the drain.
4. Kitchen signage: Signs shall be posted above all sinks prohibiting the discharge of FOG and food waste in violation of this Policy down the drains.
5. Employee training. Employee training shall be provided as part of the normal orientation process and annually thereafter including, at a minimum, the following subjects:
 - This Policy;
 - How to scrape excess food into the garbage and “dry wipe” pots, pans, dishware and work areas before washing to remove grease;
 - The location, use, and disposal of absorption products to clean any spills under fryer baskets and other locations where grease may be spilled or dripped;
 - Never pour FOG or oily liquids down any drain;
 - How to properly dispose of FOG from cooking equipment into a grease receptacle without spilling;
 - The need for and cleaning of drain screens; and
 - Proper clean-up techniques of cleaning product or other chemical spills.

Training shall be documented and employee signatures retained indicating each employee's attendance and understanding of the practices reviewed. Training records shall be retained for a period of three (3) years and made available for review at any time by the City.

- B. Spill Prevention and Secondary Containment. All facilities are required to have measures in place and take proper precautions necessary to control unwanted discharges to the sanitary sewer. Chemicals, liquid products and wastes must be stored away from drains or within adequate containment to reduce the potential for spills reaching the sanitary sewer and/or storm drainage system. All chemical and waste storage areas must be properly maintained.
- C. Prohibition. A facility may not introduce into the POTW any pollutant(s) which cause(s) pass-through or interference.

A list of general and specific prohibitions is contained in GJMC Chapter 13.04.

- D. Hazardous Wastes. Hazardous waste as defined in 40 CFR Part 261 and/or as determined by the Colorado Department of Public Health and Environment shall not be discharged to the sanitary sewer system unless specifically authorized by the City. A facility may request approval from the City for the discharge of a hazardous waste. Such a request must be made in writing; no such discharge is allowed until written approval by the Division is obtained.
- E. Discharge Request. A completed Request to Discharge Industrial Process Wastewater (Discharge Request) form shall be submitted for approval by the City for any non-domestic wastewater discharge that is non-routine or unique. Any such discharge must include the Safety Data Sheet and/or lab analysis results for all parameters requested to be discharged. No discharge may occur without written City approval.

VII. ENFORCEMENT

- A. The City is required under federal regulation to enforce against violations pursuant to its Enforcement Response Plan. The City has the authority to seek and assess civil and/or criminal penalties for each violation for noncompliance by all industrial users of the publicly owned sewer system and has the authority to enforce the requirements in this Policy.
- B. If an inspection of a facility shows non-compliance with any of the Policy requirements or any violation of the GJMC the facility will be issued a Notice of Violation to correct the violation. Inspection results will be provided in writing to the facility upon request.
- C. Corrective deadlines for violations are as follows:
 - Spills or leaks shall be cleaned-up within 24 hours;
 - Records, receipts, and/or manifests of interceptor maintenance not available for review upon inspection must be provided to the City within five (5) calendar days;
 - Chemical storage/ secondary containment issues must be resolved within ten (10) calendar days;
 - Interceptor pumping must be completed within ten (10) calendar days;
 - Missing drain screens must be replaced within ten (10) calendar days;
 - Missing signage must be replaced within ten (10) calendar days;
 - Violations involving improper employee BMP adherence shall require retraining of the employee with documentation of such training to be provided to the City within ten (10) calendar days; and
 - Interceptor repairs must be completed within fifteen (15) calendar days.
- D. If a facility fails to make the corrections within the allotted timeframe or as designated on the NOV, the facility will be subject to further enforcement including but not limited to increased fines and penalties and revocation of water and sewer service.
- E. The City has the authority to perform work or hire a contractor to perform work necessary to bring a facility into compliance with this Policy. Any extraordinary costs incurred by the City due to Interference, damage, Pass through, or maintenance necessary in the treatment and/or collection system shall be paid by the facility to the City. The direct costs of all labor, equipment and materials incurred in rectifying the Interference or damage, including reasonable attorney's fees, shall be billed directly to the owner or the facility by the City, and such costs shall become part of the total charges due and owing to the City and shall constitute a lien on the facility until paid in full.

VIII. REFERENCES

- A. Grand Junction Municipal Code Chapter 13.04
- B. CDPHE Waste Grease Regulations 6 CCR 1007-2
- C. 40 CFR Part 261