

Design and Performance Criteria for Grease Traps, Grease Interceptors, and Oil/Water Separators

**Prepared By: City of Milton FOG Management Program
Supplement to City Ordinance 1319-09**

1. Introduction

1.1. Wastewater discharges containing high concentrations of fats, oils, and grease from Food service establishments are the primary cause of wastewater collection and transmission system blockages and sanitary sewer overflows in the City's sanitary sewer service area. Overflows of wastewater into the stormwater collection system and natural bodies of water can be significantly reduced by controlling the discharge of fats, oils, and grease into the wastewater collection and transmission system. This source of pollution is also readily preventable by implementing good management practices and proper maintenance at food service establishments and automotive related enterprises. To address this issue, the City has developed the following design and performance criteria for grease traps, grease interceptors, and oil/water interceptors.

The objectives of the following criteria are to:

1.1.1. To regulate the use of the City's wastewater collection and transmission system by effectively precluding the introduction of excessive amounts of fats, oils, and grease into the system; and

1.1.2. To prevent obstruction or blockage of the City's sanitary sewer lines due to grease build-up; and

1.1.3. To eliminate sanitary sewer overflows or releases of wastewater that reach waters of the United States, publicly and privately-owned properties, streets, and residential and commercial buildings, resulting in potential liability to the City; and

1.1.4. To protect the health, safety, and welfare of the citizens of and visitors to the City of Milton and the integrity of the environment; and

1.1.5. To reduce maintenance costs associated with the City's wastewater collection and transmission system and to improve its operation.

2. Definitions

2.1. "Approved". Describing a method or design acceptable to the City of Milton.

2.2. "City". The City of Milton, Florida, or the City Council of Milton, Florida and all authorized representatives.

2.3. "Food Service Establishment" or "FSE". Any business or food service facility, which prepares, processes, and/or packages food for sale or consumption, on or off site, with the exception of private residences. Food service establishments shall include, but are not limited to: food courts, food manufacturers, food packagers, restaurants, grocery stores, delicatessens, bakeries, retail and wholesale meat markets, retail and wholesale seafood markets, lounges, hospitals, nursing homes, assisted congregate living facilities, churches, schools, and all other food service facilities not specifically listed above. For the purpose of this division, food service establishment shall not include a facility that only prepares beverages; an establishment that only sells prepackaged foods, or an establishment that is currently classified as a Significant Industrial User by and permitted through the City's Industrial Pretreatment Program.

2.4. "Grease". A material, either liquid or solid, containing substances which may solidify or become viscous at temperatures between 32 degrees and 150 degrees Fahrenheit, composed primarily of fats, oils or grease from animal or vegetable sources. The phrases "fats, oils and grease", "FOG", "oil and grease," or "oil and grease substances" shall be included in this definition.

2.5. "Grease Interceptor". A device located underground and outside of a food service establishment designed to collect, contain, or remove food waste solids and grease from the waste stream while allowing the balance of the liquid waste ("gray water") to discharge to the City's wastewater collection and transmission system by gravity flow or to a privately-owned collection and transmission system, which discharges to the City's wastewater collection and transmission system. Grease interceptors are required whenever and wherever grease waste is produced in quantities that could otherwise cause line stoppage or hinder sewage disposal and shall be in conformance with the provisions of the most current edition of the Florida Plumbing Code and all other Federal, State, and local regulations.

2.6. "Grease Trap". A device located inside a food service facility or under a sink designed to collect, contain or remove food wastes and grease from the waste stream while allowing the balance of the liquid waste ("gray water") to discharge to the City's wastewater collection and transmission system by gravity flow or to a privately-owned collection and transmission system, which discharges to the City's wastewater collection and transmission system. Grease traps shall be in conformance with the provisions of the most current edition of the Florida Plumbing Code.

2.7. "Grease Waste Hauler". A person who collects the contents of a grease interceptor or grease trap and transports it to an approved grease recycling or grease disposal facility. A grease waste hauler may also provide other services to a food service establishment related to grease interceptor maintenance.

2.8. "Oil/water Separator". A device designed and installed to segregate oil and water to prevent the discharge of oils to the WWF. Oil/water separators are required where oils are discharged in quantities that could hinder the operation of the WWF as determined by the City, including, but not limited to, facilities where automotive vehicles are serviced, greased, repaired, or washed.

3. General Requirements

3.1. All nonresidential establishments that prepare, process, or serve food are required to have a Commercial Wastewater Discharge Permit issued by the FOG Management Program and an approved grease trap or grease interceptor.

3.2. Multi-family dwellings which are found by the City to be contributing fats, oils, and grease in sufficient quantities to cause main line stoppage, maintenance problems at lift stations, or increased maintenance in the collection system may be required to install an approved grease interceptor.

3.3. All nonresidential facilities that service, grease, repair, or wash automotive vehicles are required to have a Commercial Wastewater Discharge Permit issued by the FOG Management Program and an approved oil/water separator.

3.4. Grease traps, grease interceptors, and oil/water separators shall be installed solely at the establishment's expense. Proper operation, maintenance, and repair of grease traps, grease interceptors, and oil/water separators shall be done solely at the establishment's expense.

4. Design and Performance Criteria

4.1. Grease Traps.

4.1.1. Design and location. Grease traps shall conform to the Florida Plumbing Code, most recent edition, and shall be installed in strict accordance with the manufacturer's instructions. Grease traps shall be readily accessible for inspection and cleaning. Grease traps shall be equipped with a cover that can be opened for inspection and cleaning and a mechanism for a secure closing. Modification to or removal of any of the grease retention components, which cause a grease pass through, sufficient enough to pose a threat of blockage, is strictly prohibited.

4.1.2. Capacity. Grease traps shall have the grease retention capacity outlined in the Florida Plumbing Code, most recent edition.

4.1.3. Flow control device. Grease traps shall be equipped with a device to control the rate of flow through the unit. The rate of flow shall not exceed the manufacturer's rated capacity recommended in gallons per minute for the unit. Each FSE is responsible for maintaining appropriate flow control devices.

4.1.4. Venting. The flow control device and the grease trap shall be vented in accordance with the most current edition of the Florida Plumbing Code. The vent shall terminate not less than six (6) inches above the food-rim level or in accordance with the manufacturer's instructions. Each FSE is responsible for maintaining appropriate venting of the grease trap.

4.1.5. Inspection, cleaning and maintenance. Cleaning and maintenance must be performed when the total volume of captured grease and solid material displaces more than twenty-five percent (25%) of the total volume of the grease trap. Each FSE shall determine the frequency at which their grease trap shall be cleaned, but all grease traps shall be opened, inspected, cleaned, and maintained at a **minimum of once per week.**

4.2. Grease Interceptors.

4.2.1. Design and location. Grease interceptors shall be capable of separation and retention of grease and storage of settled solids. Grease interceptor design shall conform to the requirements of the Florida Plumbing Code, most recent edition. A control manhole over each compartment for inspection and monitoring purposes shall be required at the owner/operator's sole expense. Covers shall have a gas tight fit. The grease interceptor shall be designed, constructed, and installed for adequate load bearing capacity. Flow control devices shall be required where the water flow through the interceptor may exceed its rated flow. Interceptors shall be installed in a location outside of the building which provides easy access at all times for inspections, cleaning, and proper maintenance, including pumping.

4.2.2. Capacity. Grease interceptor capacity shall conform to the requirements outlined in the Florida Plumbing Code, most recent edition.

4.2.3. Inspection, pumping, and maintenance. In addition to required quarterly pumping, each FSE shall determine an additional frequency at which its grease interceptor(s) shall be pumped according to the following criteria:

4.2.3.1. When the floatable grease layer exceeds six inches (6") in depth as measured by an approved method; or

4.2.3.2. When the settleable solids layer exceeds eight inches (8") in depth as measured by an approved method; or

4.2.3.3. When the total volume of captured grease and solid material displaces more than twenty-five percent (25%) of the capacity of the interceptor as calculated using an approved dipping method; or

4.2.3.4. When the interceptor is not retaining/capturing oils and greases.

4.2.4. Variance Procedure. If a FSE determines that monthly pumping of their grease interceptor is unnecessary in order to remain in compliance with the criteria of 4.2.3 above, the facility may make written application for a variance from the monthly pumping requirements to the City. The variance procedure shall be as follows:

4.2.4.1. The FSE shall submit an application for an alternate pumping frequency on a form provided by the City along with the appropriate variance application fee. The application shall include the next date and time the facility intends to have its interceptor pumped and cleaned and an affidavit from the applicant stating that it shall permit no further pumping or cleaning of the interceptor until the City has completed its evaluation and notified the applicant of the appropriate pumping frequency.

4.2.4.2. A GMP official shall inspect the interceptor on the specified date and time during or immediately after the pump-out procedure.

4.2.4.3. If the interceptor is in good working condition during the initial inspection, the GMP official shall re-inspect the interceptor in approximately thirty (30) days after the initial inspection.

4.2.4.4. After the initial re-inspection, the GMP official shall inspect the interceptor at intervals of approximately every fourteen (14) working days to determine the grease and solids level using a method approved by the City.

4.2.4.5. If during re-inspection the level of grease reaches six inches (6") or the level of solids reaches eight inches (8"), the GMP official shall use the number of days from the initial pumping date to the final re-inspection date as the alternate pumping frequency requirement to be included in the variance granted.

4.2.4.6. If, at a re-inspection, the level of grease exceeds six inches (6") or the level of solids exceeds eight inches (8"), the GMP official shall use the number of days from the initial pumping date to the previous inspection date as the new pumping frequency requirement to be included in the variance granted.

4.2.4.7. Where two (2) or more interceptors are located at the same FSE of different service laterals, one (1) variance application process shall apply to both interceptors and different variances may be determined for each interceptor.

4.2.4.8. Where two (2) or more interceptors are connected in series on the same service lateral, one variance application process shall apply to all interceptors. The two (2) or more interceptors shall be initially pumped on the same day and the variance for the first interceptor shall be determined when the grease or solids criteria are reached. The first interceptor shall not be pumped at this time and the variance procedure shall continue to monitor the second interceptor until either the grease or solids criteria are reached. At this time both interceptors shall be pumped and the new variances for the first and second interceptors shall be issued.

4.2.4.9. If at any time there is any evidence that the interceptor(s) have been tampered with or pumped out during the variance procedure, the procedure will be declared null and void and a new variance application and fee shall be required for the FSE to re-start the variance procedure.

4.2.4.10. The determined variance shall be in force until there is either a change in ownership of the FSE or extensive remodeling of the kitchen occurs, which requires a County plumbing permit to be issued.

4.2.4.11. If, at any time, the City determines in any inspections conducted subsequent to the FSE being granted a variance in the pumping frequency, that the performance criteria are not met by the alternate pumping frequency, the City shall nullify the alternate frequency and the FSE shall be required to meet the pumping frequency of once every calendar month.

4.2.4.12. In no event shall the pumping-out and cleaning of a grease interceptor exceed ninety (90) days with no return of gray water to the interceptor.

4.2.4.13. Failure to provide complete pump-out of the interceptor at the required intervals granted in a variance may result in the revocation of the approved variance.

4.3. Oil/water Separators.

4.3.1. Design and location. Oil/water Separators shall be designed to provide effective pretreatment of wastewater containing oils in conformance with the Florida Plumbing Code, most recent edition and be capable of separation and retention of oils and storage of settled solids. Oil/water separators shall only receive floor wash down waters; they shall not be used to collect spills or concentrated wastes. Hazardous materials and hazardous wastes stored indoors and in the proximity of open floor drains shall be provided with secondary containment where necessary. All floor drains located in service bays shall be sealed, except those connected either:

4.3.1.1. To a holding tank; or

4.3.1.2. To a sump which pumps to a holding tank; or

4.3.1.3. To an oil/water separator which discharges to the City's WWF.

4.3.2. Capacity. Oil/water separator capacity shall conform to the requirements outlined in the Florida Plumbing Code, most recent edition.

4.3.3. Inspection, pumping, and maintenance. Oil/water separators shall be maintained in good working condition. Proper water level in the separator shall be maintained to prevent pass through of oils and other floatables. Oils shall be removed by a licensed waste oil hauler. Sludges from oil/water separators could be considered a hazardous waste and should be tested by a State certified laboratory to determine if they are hazardous. If so, a licensed hazardous waste hauler shall manage the sludges properly in accordance with Federal, State, and local regulations. A septic tank pumping service should not be used to remove these sludges. In addition to required semi-annual pumping, each automotive related enterprise shall determine an additional frequency at which its oil/water separator(s) shall be pumped according to the following criteria:

4.3.3.1. When the floatable oil layer exceeds a depth with the potential to create a pass through of the device; or

4.3.3.2. When the settleable solids layer exceeds eight inches (8") in depth as measured by an approved method; or

4.3.3.3. When the separator is not retaining/capturing oils.