To calculate the appropriate size GCE, the FSE's engineer, architect or contractor should use a formula that considers fixture units, storage capacity, type of facility, and a detention time of at least 30 minutes. The grease control equipment minimum acceptable size for the above listed FSE classifications (Class 1 through 5) must be met.

The Department will review GCE sizing information received from the Wastewater Grease Interceptor / Trap Application completed by the FSE's architect, contractor, engineer or other representative. The Department will approve or require additional grease control equipment volume, based on the type of FSE, the number of fixture units, and additional calculations (the criteria and formula used by MWSD for calculating GCE capacity requirements is based on the U.S. Environmental Protection Agency's EPA Procedure 2 Model; modified to meet WERF specifications). Grease interceptor capacity should not exceed 2,000 gallons for each interceptor tank. In the event that the grease interceptor calculated capacity exceeds 2,000 gallons, the FSE shall install an additional interceptor of the appropriate size. If additional baffled interceptors are required, they shall be installed in series; non-baffled interceptors shall be installed per the grease interceptor manufacturer's specifications.

Multiple tank grease interceptors shall be installed in such a manner as to ensure positive flow between the tanks at all times. Therefore, tanks designed to use a baffle as the primary means of flow control shall be installed in series with the influent (inlet) invert of each successive tank set at a minimum of 2 inches below the outlet invert of the preceding tank. Non-baffled tanks must have the NSF or Plumbing Drainage Institute certification and shall be installed per the manufacturer's specifications.

Grease Control Equipment Specifications

Grease Control Equipment must remove fats, oils, and grease to a level at or below that which is required by Sections 33-36 (A) and 33-36 (B) of the Murfreesboro City Code. Failure to comply will require enforcement action in accordance with the Murfreesboro Water and Sewer Department's Food Service Establishment Enforcement Response Guide.

Grease Traps

Grease traps are considered "under the sink" or "floor trap" units. New or replacement grease trap installations shall be of the Automatic Grease Recovery Unit (AGRU) type. Passive style grease trap installations shall not be permitted. Grease traps must have the NSF or Plumbing Drainage Institute certification. The minimum acceptable size is rated at 20 gpm / 40lbs. All grease traps must be installed in accordance with the manufacturer's specifications, which include the flow restrictor and venting prior to the discharge entering the grease trap. No additives (i.e. enzymes, bacteria, etc…) shall be added prior or directly to any chamber of the grease trap or any component of the plumbing connected to a grease control device.

Grease Trap Cleaning / Maintenance Requirements

1. ***All*** grease traps will have flow control restrictor and must be properly vented. Failure to have the flow restrictor and venting will be considered a violation.
2. Grease Trap minimum size requirement is a 20 gallon per minute / 40 pound capacity trap.
3. Existing Passive style Grease Traps will be cleaned completely of fats, oils, and grease and food solids at a minimum of every two (2) weeks, unless an alternate cleaning interval is authorized by the Director. If the FOG and food solid content of the grease trap is greater than 25%, then the grease trap must be cleaned every week, or as frequently as needed to prevent 25% of liquid capacity displaced by FOG and food solids (25 % Rule criterion).
4. Automatic Grease Recovery Unit (AGRU) style Grease Traps will be cleaned per the manufacturer's recommendations, which typically includes FOG disposal and removal of food solids from the strainer basket on a daily basis and weekly maintenance of the skimming mechanism.
5. Grease Trap waste should be sealed or placed in a container to prevent leachate from leaking and then lawfully disposed of.
6. Grease Trap waste should not be mixed with yellow grease in the grease recycle container.

Grease Interceptors

Piping Design

1. The inlet and outlet piping shall have 2-way cleanout tees installed
2. The inlet piping shall enter the receiving chamber 2 ½" above the invert of the outlet piping.
3. On the inlet pipe, inside the receiving chamber, a sanitary tee of the same size pipe in the vertical position with the top unplugged shall be provided as a turndown. To provide air circulation and to prevent "air lock", a pipe (nipple) installed in the top tee shall extend 2 inches, but not more than 6 inches, above the interceptor ceiling. A pipe installed in the bottom of the tee shall extend to within 18" of the floor of the interceptor. ***See illustration.***
4. The outlet piping shall be no smaller than the inlet piping, but in no case smaller than 4" ID.
5. The outlet piping shall extend to 12" above the floor of the interceptor and shall be made of a non-collapsible material, preferably schedule 40 PVC pipe.
6. The outlet piping shall contain a tee installed vertically with a pipe (nipple) installed in the top of the tee to extend 2 inches but not more than 6 inches above the interceptor ceiling. ***See illustration***
7. *All pipe penetrations and connections to the interceptor and the sampling box shall be made with resilient connectors Openings in the sidewall for pipe shall be precast or cored The opening shall be of a size to allow for lateral or vertical adjustments through 20 degrees.*
8. *A resilient connector, such as Kor-N-Seal or approved alternative, between the interceptors and pipes shall be placed in the precast or cored opening .The resilient connector shall be molded from a EDPM or polyisoprene compound meeting the requirements set forth in ASTM C923.* An external corrosion resistant stainless steel band shall be used to seal around

the pipe. The void between the pipe and the connector shall be filled (on the inside only) with grout or a flexible gasket material such as RUB R NEK LTM or an approved equal.

Baffles

1. Grease interceptors designed with an internal baffle as the primary means for the effective and proper operation of the grease interceptor, shall have a non-flexing (i.e. concrete, steel, etc.) baffle the full width of the interceptor, sealed to the walls and the floor, and extend from the floor to within 2" but not more than 6 "from the ceiling. The baffle shall have an opening centered from the sidewalls at least equal in diameter size to the inlet piping, but in no case less than 6" ID. The opening shall be 24 to 30" from the bottom. Slot type openings spanning at least half of the tank width are preferable. ***See illustration.***
2. The baffle shall divide the grease interceptor as follows: The influent (inlet) compartment shall be 2/3 of the total liquid capacity with the effluent (outlet) compartment at 1/3 liquid capacity of the interceptor.
3. Grease interceptors designed to use a device other than a baffle as the primary means for flow control must have the NSF or Plumbing Drainage Institute certification.

Access Openings (Manholes)

1. Access to grease interceptors shall be provided by a minimum of 1 manhole per interceptor division (baffle chamber) and of 24-inch minimum dimensions terminating 1 inch above finished grade or 2 inches above finished grade when located in natural terrain such as grass or landscape beds with a cast iron frame and cover. One manhole shall be located above the influent (inlet) Tee hatch and the other manhole shall be located above the effluent (outlet) Tee hatch. A minimum of 24" of clear opening above each manhole access shall be maintained to facilitate maintenance, cleaning, pumping, and inspections.
2. The manholes are to be accessible at all times for inspection by the Department or other authorities having jurisdiction.

Sampling Port

A sampling port will be installed after the effluent (or outlet) pipe of the grease interceptor. The opening of the sampling port will be a minimum 11" x 13" and sufficient to allow sampling using a 1 liter glass container. The drop from the grease interceptor effluent pipe to the bottom of the sampling port will be a minimum of 12", unless approved otherwise by the Director.

Additional Requirements

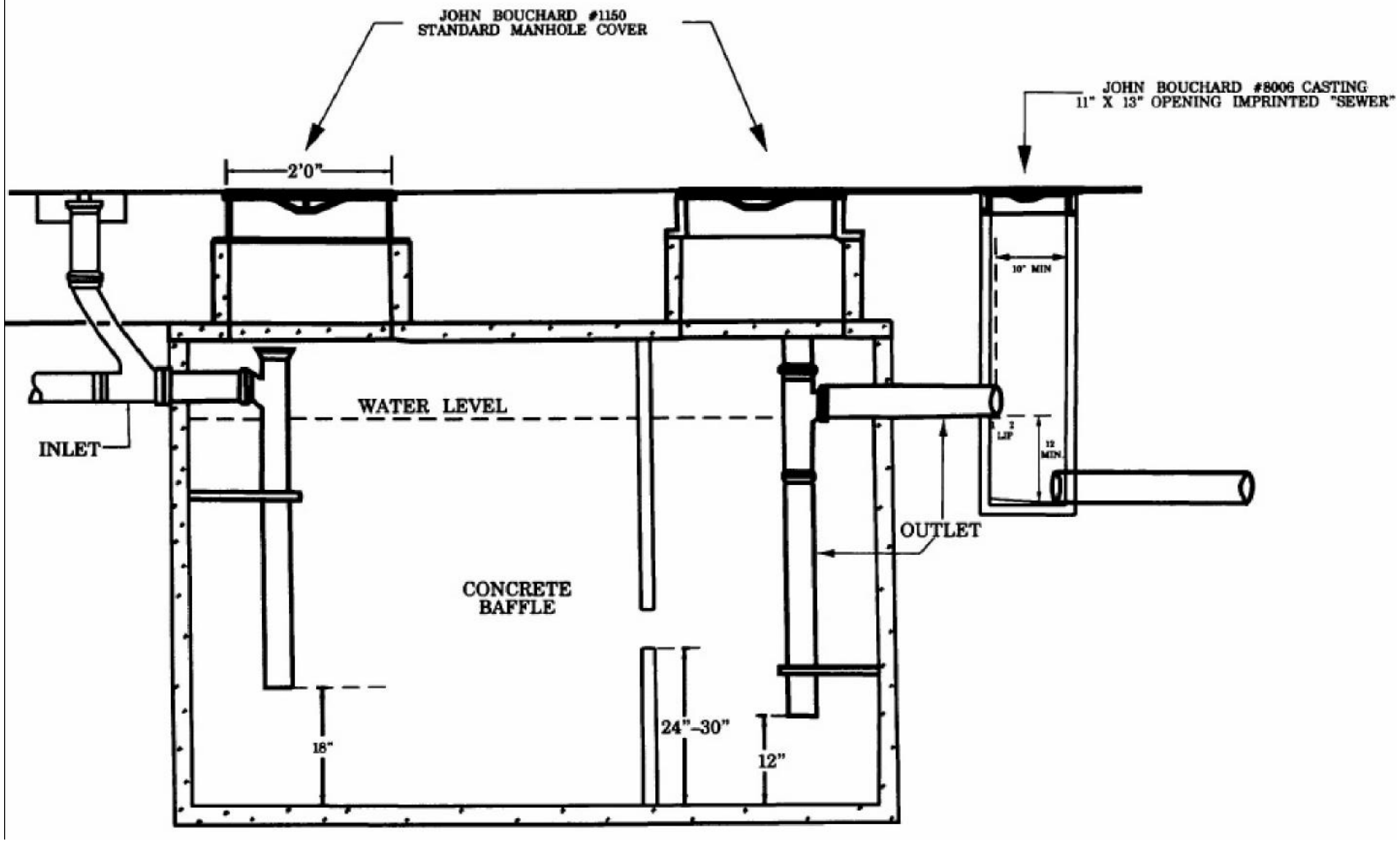
Watertight – Grease interceptors and sampling ports shall be constructed to be watertight. A static water test shall be conducted by the installer and timed so as to permit visual verification by the Department. The water test shall consist of plugging the inlet of the tank (or first tank in series, if applicable) and the outlet of the sampling port, filling the tank(s) with water to the top of the casting on the manholes and sampling port and let stand for a minimum one hour without visible leakage or drop in the water level in the tank(s).
In the alternative to water testing vacuum testing is acceptable. Testing shall be in accordance with Section 5.1.2 of American National Standard for prefabricated Gravity Grease Interceptors, IAPMO/ANSI Z1001 most current edition. Certification by the plumbing contractor shall be supplied to the Department prior to final approval of grease control equipment.

Location – Grease Interceptors shall be located so as to be readily accessible for cleaning, maintenance and inspections. They should be located close to the FOG point of discharge and / or in a location approved by the Director.

Responsibility – Removal of the grease from the wastewater routed to a public or private sanitary system; and maintenance of the structural integrity of the grease control device (traffic rated, water tight, etc.) is the responsibility of the FOG waste generator. In the absence of the FOG waste generator, the owner or other duly authorized representative of any such real property shall assume all grease control equipment maintenance responsibilities.

Construction Material – Grease Interceptors shall be constructed of sound durable materials, not subject to excessive corrosion or decay, and shall be water and gas tight. Each interceptor shall be structurally designed to withstand any anticipated load to be placed on the interceptor (i.e. vehicular traffic rating for parking, service or driving areas) or of a design approved by the Director.

GREASE TRAP WITH GREASE SAMPLING BOX



Grease Interceptor Cleaning / Maintenance Requirements

1. Grease Interceptor minimum size will be 1,000 gallons or equivalence in capacity and maximum size will be 2,000 gallons or equivalence in capacity. If the FSE needs additional capacity, then grease interceptors will be installed as follows: Baffled Grease Interceptors - In Series; Non-baffled Grease Interceptors - per the manufacturer's specifications.

2. Partial pump of interceptor contents or on-site pump & treatment of interceptor contents will **not** be allowed due to reintroduction of fats, oils and grease to the interceptor and pursuant to the Code Federal Regulation (CFR) § 403.5 (b) (8), which states "*Specific prohibitions.* In addition, the following pollutants shall not be introduced into a POTW: Any trucked or hauled pollutants, except at discharge points designated by the POTW".

3. Grease interceptors must be pumped-in-full at minimum every 90 days, more often as needed or when the total accumulations of surface FOG (including floating solids) and settled solids reaches twenty-five percent (25%) of the grease interceptor's overall liquid depth. This criterion is referred to as the "25 Percent Rule". At no time, shall the capacity exceed the 25% criteria or the cleaning frequency exceed 90 days unless an alternate cleaning frequency has been approved by the Director. Some existing FSE's in Class 2 through 5 as defined earlier by NAICS will need to consider pumping more often to meet this requirement. Requests for variances to the 90 day complete pump requirement may be granted on a case by case situation with submittal by the FSE documenting proof of the proposed frequency.

4. Grease interceptor effluent (outlet) Tee will be inspected during cleaning and maintenance and the condition noted by the grease waste hauler's company or individual conducting the maintenance. Effluent Tee's that are loose, defective, or not attached must be repaired or replaced immediately.

5. Grease Interceptors must have access manholes over the influent (inlet) Tee and effluent (outlet) Tee for inspection and ease of cleaning / maintenance. Access manholes will be provided for all separate compartments of interceptors for complete cleaning (i.e. interceptor with two main baffles or three compartments will have access manholes at each compartment) and are to be accessible at all times.

6. A record of all servicing of the grease interceptor shall be kept on file at the FSE and shall be accessible to City inspectors during normal business hours. Such records shall include the dates, quantities pumped, condition, any repairs and the identity of the person or business that conducted the service. The Director may require such records to be submitted directly to the Department.