

Murfreesboro Water Resources Department

Grease Interceptor Trap and Monitoring Specifications

Grease Interceptors

Size

The default minimum size for Grease Interceptors is 1,000 gallons or equivalent (Schier Products GB-250 or Endura XL 100) in capacity. The maximum capacity for any Grease Interceptor tank is 2,000 gallons or equivalent in capacity. If the FOG Generating Establishment requires additional capacity, subsequent Grease Interceptor tanks will be installed in series in the direction of flow (inlet to outlet).

Construction

Grease Interceptors (GI's) shall be constructed of sound, durable materials; not subject to excessive corrosion or decay; and shall be water and gas tight.

1. Acceptable GI construction materials includes concrete (preferably Xypex® fortified), high density polyethylene (HDPE), fiberglass and stainless steel.
2. Concrete GI's, both precast and poured in place varieties, should include Xypex® additive in the concrete premix at the time of construction. Xypex® will be included in the proper ratio per any given volume of premix concrete as specified by the manufacturer (Xypex®).
3. Each Grease Interceptor and other relative appurtenance (e.g. exterior cleanouts, sampling ports, etc.) shall be structurally designed to withstand any anticipated load as imposed by the location such as traffic designated areas rated for vehicular passage, parking or service; or of a design approved by the Director.

Piping and Plumbing Tee Design

1. The inlet and outlet piping shall have 2-way cleanout Tees installed
2. The inlet piping shall enter the receiving chamber at least two and one half (2 ½") inches 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 to within two (2) inches, but not more than six (6) inches, from the grease interceptor ceiling. A pipe installed in the bottom of the inlet Tee shall extend to within eighteen (18) inches of the floor of the interceptor; *see illustration*.
4. The outlet piping shall be no smaller than the inlet piping, minimum of four (4) inches ID.
5. The outlet Tee piping shall extend to twelve (12) inches 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 within two (2) inches, but not more than six (6) inches from the interceptor ceiling; *see illustration*
7. Inlet and outlet Tees will be accessible and visible from the manhole access openings.
8. *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.*
9. *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.*

Flow Control

1. Grease interceptors designed with an internal baffle as the primary means for flow control, 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 and shall not include any additional plumbing fixtures such as Tees, 90° elbows or sweeps. Slot type or multiple openings are preferable; *see illustration*.
2. The baffle shall divide the grease interceptor as follows: The inlet compartment shall be 2/3 of the total liquid capacity with the 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 shall be certified by the National Sanitation Foundation (NSF) or Plumbing Drainage Institute (PDI).

Access Openings (Manholes)

1. Access to grease interceptors shall be provided by a minimum of one (1) cast iron manhole frame and cover per interceptor division (chamber divided by baffle wall). One manhole shall be located above the inlet Tee chamber and the other manhole shall be located above the outlet Tee chamber.
2. Manhole frames shall have a minimum diameter of twenty-four (24) inches to facilitate maintenance, cleaning, pumping and inspections.
3. The maximum height of manhole frame risers or rings shall not exceed twelve (12") inches.

4. Manhole frames shall terminate one (1) inch above finished grade in traffic designated or otherwise paved areas; or two (2) inches above finished grade when located in greenspace areas such as grass or landscape beds. Where necessary, a two (2") inch iron manhole riser ring may be used to achieve the final height above finish grade in greenspace areas.
5. The manholes are to be accessible at all times for inspection by the Department or other authorities having jurisdiction.

Grease Interceptor Discharge Monitoring

The default wastewater discharge monitoring device for grease interceptors is a sampling port, which is installed after the outlet pipe of the grease interceptor (GI).

Acceptable construction materials are the same as for Grease Interceptor construction. The access opening of the sampling port will consist of a cast iron frame and cover with a minimum opening of 11" x 13" sufficient to allow sampling using a 1-liter glass container.

The drop from the GI outlet pipe to the bottom of the sampling port will be a minimum of 12", unless approved otherwise by the Director.

Under some circumstances, as deemed by the Director, other means of Grease Interceptor monitoring may be required. Other means may include, but are not limited to: the requirement for the installation of remotely accessible electronic monitoring equipment; and/or CCTV surveillance of public sewer line segments immediately downstream receiving GI wastewater discharge.

Additional Requirements

Watertight

Grease interceptors and sampling ports shall be constructed to be watertight. A static water test or vacuum test shall be conducted by the installer to demonstrate the integrity of the GI tank and sampling port in the presence of MWRD personnel. Preparation for the static water test should include pre-testing by filling the tank and sampling port to a level prescribed by the MWRD twenty-four (24) hours prior to the scheduled test date and time. Once a high level of confidence in the integrity of the installation has been attained, a static water test or vacuum test may be confirmed or rescheduled as necessary. The static water test shall consist of the following:

1. Plugging the inlet of the tank (or first tank in series, if applicable) and the outlet of the last tank in series or sampling port.
2. Fill the tank(s) with water to a level above the joint between the tank side and tank lid; or above the top of the crown of the inlet and outlet pipe penetrations; whichever level is higher. The sampling port shall be filled to a level above the joint between the top of the sampling port body and the cast iron access frame.

3. Let stand for a minimum one hour without visible leakage or drop in the water level in the tank(s).

Vacuum 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

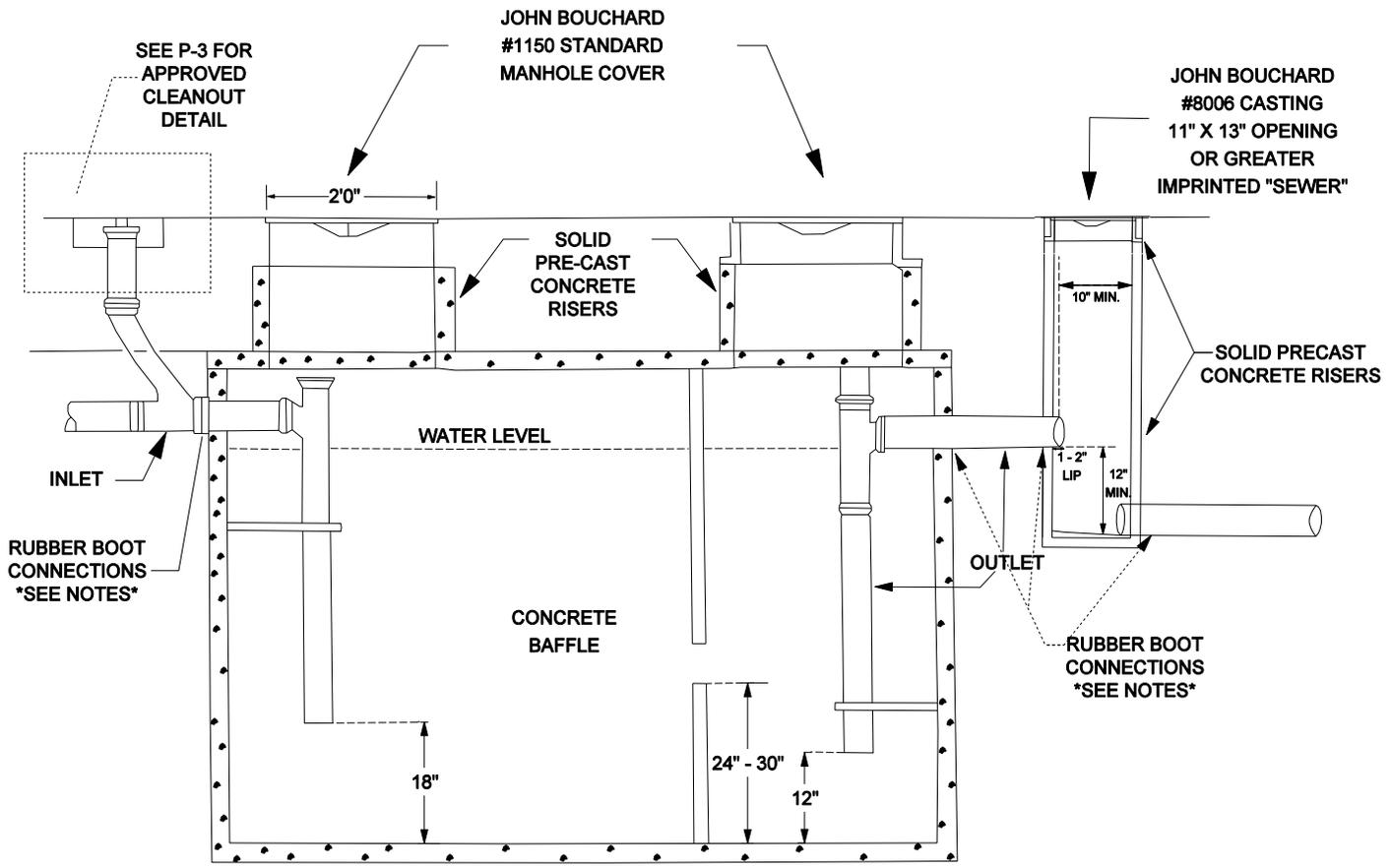
Grease Interceptors (GI's) shall be located to be readily accessible for cleaning, maintenance and inspections.

1. Grease Interceptors shall be located in an area approved by Murfreesboro Water Resources Department prior to installation; and shall not be located behind barricades, fences or any other structure that limits or prohibits reasonable access of the Grease interceptor.
2. GI's should be located close to the grease waste line point of discharge from the FOG Generating Establishment.
3. Whenever possible, GI's should not be located in driveways designated for drive through service or other areas subjected to high motor vehicle traffic flow.
4. To minimize the depth of the final grade cover above the top of the GI, the building grease waste sewer drain piping should exit the building envelope at the minimum depth and the Grease Interceptor should be located as close to the point of discharge as possible.

Responsibility

The FOG Generator (Establishment owner) is responsible for the removal of Fats, Oils and Grease (FOG) from wastewater routed to a public or private wastewater collection system by means of scheduled, routine operational maintenance (cleaning and inspection of essential components); and maintenance of the structural integrity of the Grease Control Equipment (GCE; e.g. traffic rated, water tight, etc.).

However, in the absence of the FOG Generator, such as when a food service tenant vacates a rental space equipped with Grease Control Equipment, the real property owner or their duly authorized representative (property manager) of any such real property shall assume all responsibilities for the maintenance of existing GI installed on the property. The real property owner or their duly authorized representative (property manager) shall be responsible for the servicing of the existing GI prior to entering into future lease agreements with subsequent food service or other FOG generating tenants.



DRAWING NOT TO SCALE

DECEMBER 1, 2005
 DRAWN BY: KMC
 APPROVED BY: GH
 REVISED: 12/18/07

**GREASE TRAP
 WITH GREASE
 SAMPLING BOX**

STANDARD
 DRAWING NO.
P-2

MURFREESBORO WATER & SEWER DEPARTMENT