Highland Tank

1510 Stoystown Road • Friedens, PA 15541 • www.highlandtank.com

# Model SB-R-PGI

Aboveground Rectangular Single-wall, Single Basin Passive Grease Interceptor

### Specifications: Aboveground Steel Gravity Based Grease Interceptor

### Project Description/Summary: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Contractor shall furnish the labor, materials, equipment, appliances, services and hauling, and perform operations in connection with the construction and installation of the work. Work shall be as herein specified and as denoted on the accompanying drawings but not limited to the following general terms of work:

Provide and install \_\_\_\_\_\_ Highland Tank 500 gallon capacity Model SB - 500 Single Basin Passive Grease Interceptor (PGI). Gravity-based grease interceptor shall be constructed of high-strength, mild carbon steel to ASTM specifications.

Interceptor(s) shall be 5'-8” long, 4’-0” wide and 4'-0” high; having a total volume of 300 gallons and a grease holding capacity of 1,289 pounds (169 Gallons) to comply with the retention time requirements of the plumbing code. The sizing and construction of this interceptor is consistent with industry protocols for complying with the sewer pretreatment regulations, therefore an interceptor of smaller volume or multiple, interconnecting vessel construction is not permissible.

PERFORMANCE

Grease Interceptor shall be designed to prevent large amounts of pipe-clogging fats, oil, and grease (FOG) and solid waste materials from entering the sanitary sewer system. Interceptor shall minimize turbulence and promote separation. Interceptor shall retain wastewater long enough to allow liquefied grease to cool down, separate, and congeal. The free fats, oil, and grease (FOG) concentration in the effluent from the interceptor shall not exceed 100 mg/l (100 PPM) to satisfy sanitary sewer pretreatment requirements.

1.0 APPLICATION

The Single Basin Passive Grease Interceptor shall be designed to intercept and collect liquid greasy waste and/or garbage from the discharge piping originating from the (food service facilities, large commercial/institutional kitchen). Flow to the interceptor shall be by gravity. Interceptor shall remove the floating and settleable wastes and prevent their interference with the proper drainage and treatment of municipal wastewater. Interceptor shall be installed underground with top access at or above grade level.

2.0 DESIGN CRITERIA

* 1. The Interceptor shall be constructed of high-strength, mild carbon steel with capacities, dimensions, construction, and thickness in strict accordance with Underwriters Laboratories, Subject UL-142 Standard for Safety, Steel Aboveground Tanks for Flammable and Combustible Liquids, December 28, 2006, Single-wall construction.
  2. The Interceptor shall be the standard product of a steel tank manufacturer regularly engaged in the production of such equipment. No subcontracting of tank fabrication shall be permitted.
  3. The Interceptor shall be fabricated, inspected and pressure tested for leakage before shipment from the factory by manufacturer as a completely assembled, single vessel ready for installation.
  4. The Interceptor shall be rectangular, horizontal, atmospheric-type steel vessel. The Interceptor shall have the structural strength to withstand static and dynamic hydraulic loading while empty and during operating conditions. Calculations, signed and stamped by a Registered Professional Engineer shall be submitted to document structural strength under specified overbearing or external pressure. An interceptor with a reduced shell thickness is not permissible.
  5. Interceptor shall consist of inlet and outlet connections with internal influent nozzle, non-clogging flow diffusion and energy dissipater baffle, separation basin with heavy duty sludge baffle, effluent flow transfer baffle, large sludge and FOG pump-out access, lifting lugs and fittings for vent, sampling, and gauging.

3.0 GENERAL DESCRIPTION

The Interceptor shall be rectangular with construction and thickness in strict accordance with Underwriters Laboratories Subject 142, using flat-flanged heads. The Interceptor shall be a pre-packaged, pre-engineered, ready to install unit consisting of:

* 1. An influent connection \_\_\_\_\_\_ inch, with plain end (PE). A factory welded internal influent nozzle at the inlet end of the interceptor. Nozzle discharge to be located at the furthest diagonal point from the effluent discharge opening.
  2. Nozzle to discharge influent across non-clogging flow diffusion baffle, with discharge located below the normal liquid level. Flow diffusion baffle shall be angled and designed to:
     1. Reduce horizontal velocity and flow turbulence.
     2. Distribute the flow equally over the interceptors cross sectional area.
     3. Direct the flow in a serpentine path in order to enhance hydraulic characteristics and fully utilize all interceptor volume.
     4. Completely isolate all inlet turbulence from the interceptor fore chamber to prevent re-suspension of separated FOG.
     5. Promote the separation of settleable solids from wastewater.

3.3 A large internal separation basin to disperse flow and collect separated FOG and sludge.

3.4 A heavy-duty sludge baffle to retain sludge and prevent it from entering the effluent Indirect Flow Transfer Baffle. Cylindrical bottom shall concentrate sludge along bottom centerline for easy removal from above.

3.5 An internal effluent Indirect Flow Transfer Baffle. Baffle is designed to prevent short-circuiting by transferring flow back into the interceptor and allowing treated wastewater to indirectly exit from the bottom sides of baffle only.

3.9 Two (2) \_\_\_\_\_\_ inch diameter manhole, UL approved, complete with cover, gasket, and bolts. Manhole shall be placed over the inlet and outlet to facilitate access into the separation basin for inspection, pumping, cleaning, and access. Heavy-duty striker plates shall be placed under the manholes to protect the tank shell during pump-out operations.

3.10 A factory welded effluent connection \_\_\_\_\_\_ inch, with plain end (PE).

3.11 Fittings for cleanout, vent, sampling, and gauge.

3.12 Lifting lugs at balancing points for handling and installation.

3.13 Identification plates: Plates to be affixed in prominent location and be durable and legible throughout equipment life.

* 1. External Corrosion Protection System consisting of:
     1. External surfaces commercial grit blast coated with epoxy primer and finish coating.
  2. Internal surfaces commercial grit-blast coated 15 mils DFT Full Immersion, High

Temperature, Acid-resistant Polyurethane Lining. Lining shall be of a light color

to aid in visual inspection of the interior.

4.0 CONSTRUCTION AND MATERIALS

Refer to UL 142.

5.0 QUALITY ASSURANCE

* 1. Submittals:
     1. Shop Drawings: Shop drawings for grease interceptors shall show principal

dimensions and location of all fittings.

* + 1. Instructions: Provide three complete sets of installation, operation, and

maintenance instructions with interceptor.

* + 1. Quality Control: Quality control and inspection procedures and reports shall be

considered of the submittal package.

* 1. Warrant
     1. The manufacturer shall warrant its products to be free from defects in material and workmanship for a period of one year from the date of shipment. The warranty shall be limited to repair or replacement of the defective part(s).

6.0 OPTIONS

Interceptor shall be furnished with:

* 1. \_\_\_\_\_\_Access ladder, platform, walkway.
  2. FOGSWatch monitoring system
  3. Support Saddles

7.0 APPROVED MANUFACTURERS

The Triple Basin Passive Grease Interceptor shall be manufactured by:

Highland Tank, 1510 Stoystown Rd., Friedens, PA 15541

814.443.6800, Fax: 814.444.8662, [www.highlandtank.com](http://www.highlandtank.com)