

A. Tank Containment Sump

1. Containment sump assemblies shall be provided over tank manways where required by the Contract Drawings. The Contract Drawings show the type, number, size, and location of sump assemblies required for each tank. Each containment sump assembly shall be Fibrelite Standard Plus Model Access Chamber, as manufactured by Fibrelite Corporation of Cresskill, New Jersey, or approved equal.
2. Each containment sump assembly shall be constructed of resin transfer molded composite FRP. Each containment sump assembly shall consist of a composite sump, a composite internal sump lid, and an integrated composite manhole cover, frame and skirt over the sump. Each manhole cover, frame, and skirt, shall be sealed to the sump but shall not transfer surface loads from the manhole cover and frame to the sump. Each sump base shall be constructed with 16 sides to facilitate entry of piping and conduit.
3. Each containment sump assembly shall be watertight, with a watertight sump and an integrated watertight manhole cover and frame. Each manhole shall be watertight with an integral seal in the manhole cover to prevent the entry of water when the manhole cover is in the frame. Each sump shall include a removable reservoir for collecting water entering when manhole cover is removed in wet conditions.
4. Each opening in the sump base, including openings for piping and electrical conduits, shall be provided with entry boots that secure the piping or conduit to the sump base. Each entry boot shall fasten entirely from the inside of the sump, and shall be replaceable entirely from the inside of the sump after the sump is installed in the ground. All entry boot kits shall be third party tested for prolonged exposure to petroleum products. All entry boot kits shall be provided by the sump manufacturer.
5. Each containment sump assembly shall include appropriate fittings, adapters, and bonding agents for watertight installation on the sump collar of the fiberglass tank as shown on the Contract Drawings. The containment sump shall be designed for installation on the tank manway cover without compromising the integrity of the sump assembly.
6. Each manhole frame shall be designed so that the manhole cover will fit securely and not spin in the frame. Each frame shall incorporate a physical water check system to prevent the entry of surface water into the sump. This system shall include a single vertical gasket and shall incorporate no penetrations. A locking device shall be provided for each manhole.
7. Each manhole cover and frame shall be suitable for use under NYSDOT H-20 live loads. The surface resistivity of each cover shall be less than  $1 \times 10^8$  Ohms to prevent the buildup of static charge.
8. Each manhole cover shall include a lifting handle provided by the sump manufacturer. Each handle shall be formed with 1/8-inch stainless steel tubing with alloy casting for the key and a plastic grip. Each handle shall include a foot lever tool and a locking tool.
9. Each containment sump assembly shall be tested at different stages of

installation to verify the integrity of the sump assembly, including all piping and conduit entry boots, the tank manway, and the manhole cover and frame assembly. This testing method shall be designed for verifying sump integrity after placing of backfill, and when tank top slab is installed and installation is complete. The sump manufacturer shall provide a testing method that employs instruments and procedures that yield reproducible results that will ensure that sump assembly installation is watertight. The sump manufacturer shall provide a factory-trained technician to test the sump.

- c. Pipe & Conduit Entries: The enclosure shall provide a means for 1) pipe fill, from spill container described below, 2) pipe supply from turbine pump, 3) pipe overflow sensing probe and conduit penetrations through the sump wall. All pipe penetrations shall be UL listed, double sided and double walled, constructed of polyethylene as manufactured by Blue Line Technologies approved equal.
- d. The enclosure shall have one discriminating leak sensor as specified in instruments and controls.

## 5. MANHOLE ASSEMBLY

- a. manhole cover, frame, and skirt assemblies shall be provided in the tank top slab over tank openings where required by the Contract Drawings. The Contract Drawings show number, size, and location of manhole assemblies required for each tank top slab. Each manhole assembly shall be a Fibrelite Composite Manhole, as manufactured by Fibrelite Corporation, Cresskill, New Jersey, or approved equal.
10. Cover: Each manhole cover and frame shall be suitable for use under NYSDOT H-20 live loads. Where applicable, each cover shall be provided with a FRP inscription and shall be color-coded to conform to the American Petroleum Institute Color and Symbol Code. The surface resistivity of each cover shall be less than  $1 \times 10^8$  Ohms to prevent the buildup of static charge.
  11. Frame: Each manhole frame shall incorporate a physical water check system to prevent surface water from entering the manhole. This system shall require no penetrations. A locking device shall be provided for each manhole.
  12. Skirt: Each manhole shall be constructed of fiberglass and colored to match the cover with it will be used. The skirt shall extend to within two inches of the manhole cover. Each skirt will be supplied with a stabilizer rod kit for concrete installation. The rod kit shall be made of stainless steel.
  13. Handle: Each handle shall be formed with 1-1/8-inch stainless steel tubing with alloy casting for the key and a plastic grip. Each handle shall include a locking tool. A handle shall be furnished for each individual manhole cover.

## 1.02 SPILL CONTAINMENT FILL BOX ASSEMBLY

- A. Below Grade Spill Containment Fill Box Assembly
  1. Below grade spill containment fill box assemblies shall be provided where

required by the Contract Drawings. The Contract Drawings show the type, number, size, and location of spill containment fill box assemblies required for each tank. Each spill containment fill box, manhole cover, frame, and skirt assembly shall be Fibrelite Spill Containment Fill Box Model 1229-76, as manufactured by Fibrelite Corporation, Cresskill, New Jersey, or approved equal.

2. Spill Containment Fill Boxes:

- a. Each below grade spill containment fill box shall be constructed of 304 stainless steel, capable of withstanding a 150-psi line test.
- b. Each spill containment fill box shall have a capacity of no less than fifteen (15) gallons for containment of product spilled during the coupling and uncoupling of the fill hose and all related tank filling operations. Each spill containment fill box shall be provided with an automatic drain, test plug assembly, lockable fill cap, bronze fill adapter, and a No. 20-mesh brass screen.
- c. An FRP product ID tag shall be provided with each spill containment fill box and inscribed as follows:

Motor Oil  
(Actual Capacity of Tank) Gallons  
Tank No. 1, No. 2, etc.

3. Spill Containment Fill Box Manhole Covers and Frames:

- a. Cover: Each manhole cover and frame shall be suitable for use under NYSDOT H-20 live loads. Each cover shall be provided with a FRP inscription and shall be color-coded to conform to the American Petroleum Institute Color and Symbol Code. The surface resistivity of each cover shall be less than  $1 \times 10^8$  Ohms to prevent the buildup of static charge.
- b. Frame: Each manhole frame shall incorporate a physical water check system to prevent surface water from entering the manhole. This system shall require no gaskets, penetrations, or other mechanical device.
- c. Skirt: Each manhole skirt shall be constructed of fiberglass and colored to match the cover with which it will be used. Each skirt shall extend within two inches of the manhole cover. Each skirt will be supplied with a stabilizer rod kit for concrete installation. Each rod kit shall be made of stainless steel.
- d. Handle: Each handle shall be formed with 1-1/8-inch stainless steel tubing with alloy casting for the key and a plastic grip. Each handle shall include a locking tool. A handle shall be furnished for each individual manhole cover.