

**1. GENERAL TANK DESCRIPTION:**

- 1.1. The SafeWaste Aboveground Used Oil Collection and Storage Systems are constructed in accordance with National, State, and Locally recognized Aboveground Storage Tank Standards, such as: Underwriters Laboratory Standard 142 for the primary tank, National Fire Protection Association Sections 30 & 30A, and Uniform Fire Code.
- 1.2. The SafeWaste Systems provide a minimum of 110% secondary containment for the primary tank, and 360° radius containment for the primary tank and control assemblies.
- 1.3. The control assemblies shall be new, and installed on top of the primary tank at the factory.
- 1.4. The anchoring tie downs shall be an integral part of the exterior support feet and shall be welded to the bottom of the Environmental Tank Enclosure.
- 1.5. The SafeWaste Systems must be off-loaded on site with a large forklift or crane.
- 1.6. All openings in the primary tank shall be from the top, with threaded NPT fittings.
- 1.7. The SafeWaste Systems shall include a one (1) year warranty for the tanks and accessories.
- 1.8. The SafeWaste manufacturer shall provide proof of a minimum 10 years of manufacturing SafeWaste Systems.

**2. PRIMARY STORAGE TANK:**

- 2.1. The primary storage tank shall be rectangular in design and constructed of UL specified steel thickness, with continuous welds.
- 2.2. The primary storage tank shall be constructed and listed in accordance with UL 142 standards.
- 2.3. The primary tank shall be fitted with a minimum of: a 3/4" product inlet, a 2" overfill prevention valve, a 2" suction tube for product withdrawal, a 2" primary working vent, either a 4" or 6" emergency vent, a 2" product level gauge, and a 1" sampling port.
- 2.4. The primary tank shall be pressure tested to UL 142 Standard (minimum 3 to maximum 5 psi) at the factory.
- 2.5. The primary tank shall be mounted within the secondary containment cabinet by means of at least four (4) stabilizing brackets to prevent the primary tank from shifting.
- 2.6. The primary tank shall be placed within the secondary containment cabinet with a minimum of 3" visual clearance around all sides to allow for 100% visual inspection.
- 2.7. The exterior of the primary tank shall be cleansed of foreign material, and coated with a corrosion resistant industrial paint (3 to 5 mils dry film thickness).

**3. FIRE PROTECTION:**

- 3.1. The standard fire protection material shall be lightweight concrete and surround the primary tank. The tank design shall provide a minimum two (2) hour fire rating per UFC Appendix Standard A-II-F (formerly UFC 79-7), and UL 2085 Protected Secondary Containment Tanks.
- 3.2. The fire protective material shall allow liquid leaking from the primary tank to penetrate the material and communicate with the leak detection tube according to UL 2085 Protected Secondary Containment Tanks.
- 3.3. The fire protective material shall be of a monolithic pour, poured at the factory.
- 3.4. The fire protective material shall provide a minimum of a R-10 insulating factor.

**4. BULLET RESISTANCE:**

- 4.1. The fire protected primary tank shall be tested by a qualified engineering firm to be resistant to penetration of the primary tank by a 150 grain, M 2 Bullet, traveling at a velocity of at least 2700 feet per second, when fired from a .30 caliber rifle, located a maximum of 100 feet from the target.
- 4.2. The fire protected tank must be able to be repaired in the field by a factory representative, when impacted by a bullet.
- 4.3. The factory representative must be able to certify that the primary and secondary containment do not leak, and that the fire protective material regains its minimum two (2) hour protection.

**5. ENVIRONMENTAL TANK ENCLOSURE:**

- 5.1. The Environmental Enclosure (secondary leak containment tank) shall be rectangular in design and constructed with a minimum 12 ga. steel. All welds shall be full penetration.
- 5.2. The Environmental Enclosure shall be separate from the primary tank, and shall not be welded or attached to the primary tank in any fashion.
- 5.3. The secondary leak containment tank shall completely enclose the primary tank and all operating equipment (360° radius), providing secondary containment to the primary tank and operating equipment. It shall be sized to contain 110% of the primary tank storage capacity.
- 5.4. The inside bottom of the secondary tank shall be fitted with a minimum of two (2) raised steel channels (a minimum of 2" in height), to support the primary tank above the secondary tank floor.
- 5.5. The secondary tank shall be supported by two (2) 4" high steel support feet channels with integral anchoring holes to maintain ground clearance for better anchoring to concrete foundation.

- 5.6. The secondary tank shall contain a removable, locking roof that provides at least 30" of clearance from the top of the primary tank to the bottom of the roof.
- 5.7. The secondary containment cabinet shall contain louvered vents on the cabinet, which is above the level of the primary tank. These vents shall provide a minimum of 20" of venting capacity.
- 5.8. The secondary containment cabinet shall contain a knock-out hole above the primary tank level to provide for the working vent installation. Internally threaded couplers for air supply hose (1/2") and product suction (3/4") shall be welded into the side of the cabinet above the top of the primary tank, so that the respective hoses are easily installed, and contractors do not have to create any hole in the side of the cabinet. The cabinet shall not be drilled or penetrated, or in any way destroy the integrity of its containment capacity.
- 5.9. The secondary containment cabinet shall include a hinged, locking security door with viewport for the product level gauge and OPTIONAL annular space leak detection gauge, and shall be mounted on a removable door frame, at or above the level of the primary tank. This will provide access to the components for service or extraction operations. The removable door frame shall allow for easy replacement of the door and frame if they are damaged during operating procedures.
- 5.10. The interior surface of the secondary containment cabinet shall be cleansed of foreign material, and coated with a corrosion resistant industrial paint (3 to 5 mils dry film thickness). The exterior surface of the secondary containment cabinet shall be cleansed of foreign material, and coated with a corrosion resistant industrial paint (3 to 5 mils dry film thickness).
- 5.11. The primary tank shall be stabilized from lateral movement within the enclosure by placement of four (4) lateral supports, one at each corner of the primary tank, welded to the base plate of the enclosure.

## **6. CONTROL ASSEMBLIES:**

- 6.1. The control assemblies shall be installed on top of the primary tank, enclosed totally within the environmental containment cabinet and tested at the factory before shipment.
- 6.2. PUMP ASSEMBLY:
  - 6.2.1. The pump assembly consists of a 1" UL Listed air operated double diaphragm suction pump with a capacity of 10-15 gpm at 50 psi.
- 6.3. AUTOMATIC OVERFILL VALVE ASSEMBLY:
  - 6.3.1. The automatic overfill valve assembly consists of air operated valve that is preset at the factory to stop the air flow to the suction pump when the liquid level in the storage tank reaches 95% of its capacity. This assembly also includes an air filter/regulator, pressure gauge, and flexible air supply hose to connect the valve to the 1/2" coupler and air pump.
- 6.4. AUDIBLE ALARM:
  - 6.4.1. The audible alarm is incorporated within the automatic overfill valve assembly, and engages at the 95% capacity level.
- 6.5. PRODUCT INTAKE LINE:
  - 6.5.1. The product intake line consists of a UL Listed 3/4" by 8' hardwall suction hose with in-line strainer, one each 3/4" female quick coupler and 3/4" male quick coupler, and hose hanger bracket.
- 6.6. PRODUCT REMOVAL:
  - 6.6.1. The product contained inside the primary tank shall be removed through a 2" cam and groove fitting with locking cap assembly and 2" suction tube.
- 6.7. NORMAL VENTING:
  - 6.7.1. The working vent consists of a 2" mushroom vent cap and rubber grommet for sealing penetration through the secondary tank.
- 6.8. EMERGENCY VENT:
  - 6.8.1. The emergency vent consists of a 4" or 6" emergency relief device.
- 6.9. PRODUCT LEVEL GAUGE:
  - 6.9.1. The sight level gauge is mechanical, reading in". A tank conversion chart shall be provided to convert the inch readings into gallons.
- 6.10. ANNULAR SPACE LEAK DETECTOR:
  - 6.10.1. An OPTIONAL leak gauge can be installed.

## **7. INSTALLATION AND OPERATING INSTRUCTIONS:**

- 7.1. Installation and Operating Manual and instructions shall be provided for each system.