DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WATER PROTECTION SECTION

North Carolina Prefabricated Tank Approval

Issued To: Snyder Industries, Inc.
PO Box 577
Marked Tree, AR 72365

For: 1050, 1250, and 1500-Gallon Polyethylene Septic Tanks and 900, 1250, and 1500-Gall Polyethylene Pump Tanks

Date: January 10, 2007

I. Material and Design Criteria

a. Material: Polyethylene shall be type II or III and Category 3 per ASTM Standard D 1248,Specification for Polyethylene Plastics Molding and Extrusion Materials, Class B (requiring an ultraviolet stabilizer) or Class C (requiring a minimum of 1-percent carbon black); and shall have the following physical properties:

Property	Minimum value	Test procedure
Stress crack resistance	150 hours	ASTM D 1693
Ultimate tensile strength	2400 psi	ASTM D 638
Flexural modulus of elasticity	85,000 psi	ASTM D 790

b. Design:
i. Inlet, liquid depth, risers, access covers as per Rules .1954(a) and (b) and other dimensions as shown on the plans.

Septic Tank size	**1050-gallon**	**1250-gallon**	**1500-gallon**
Approval number	STB-566	STB-567	STB-568
Length (outside dimension)	126 inches	146 inches	175 inches
Width (outside)	60 inches	60 inches	60 inches
Total inside depth	50.5 inches	50.5 inches	50.5 inches
Wall thickness	1/4-inch, min.	¼-inch, min.	1/4-inch, min.
Access opening inside diameter	20 inches	20 inches	20 inches

Pump Tank size	**900-gallon**	**1250-gallon**	**1500-gallon**
Approval number	PT-509	PT-510	PT-511
Length (outside dimension)	111 inches	146 inches	175 inches
Width (outside)	60 inches	60 inches	60 inches
Total inside depth	50.5 inches	50.5 inches	50.5 inches
Wall thickness	1/4-inch, min.	¼-inch, min.	1/4-inch, min.
Access opening inside diameter	20 inches and 24 inches	20 inches and 24 inches	20 inches and 24 inches

II. Siting criteria

a. **Tanks shall not be installed in areas with saturated soil conditions or indication of a seasonal high water table, per 15A NCAC 18A .1942(a), between the ground surface and the bottom of the proposed tank installation excavation.**
b. Tanks shall not be installed in areas which are to be subject to vehicular loading of any kind.
c. Tanks shall not be installed in areas which may be subject to exposure to open flame or heat in excess of 180 degrees, Fahrenheit.
d. Tanks shall be located and oriented in such a way that the inlet pipe shall enter the tank through the preformed inlet pipe penetration point at its inlet end wall. No side entry of these tanks are allowed. Inlet shall be through gasket provided by the manufacturer.
e. Tank top must be at least 6 inches below the finished grade. Maximum burial depth is 24 inches below grade. The riser over the pump (outlet end) must be 6 inches above finished grade.
f. Other siting criteria as specified in 15A NCAC 18A .1900, et seq. and minimum setback distances, as specified in 15A NCAC 18A .1950, shall be met.

III. Tank sizing

Per the criteria established in 15A NCAC 18A .1952.

IV. Design criteria

Per the approved drawings, specifications and testing results. All other wastewater system components shall be as described in 15A NCAC 18A .1900, et seq.

V. Pump Tank Calibration

A dipstick (measuring stick) and calibration chart specific to the pump tank size must be provided to allow the operator to perform a valid pump draw down test.

VI. Installation and testing procedures

a. Sharp objects must be kept away from the tanks.
b. Tanks must be bedded with at least six inches of clean compacted backfill, as specified in item i. below, when the bottom of the tank is installed in soil or unconsolidated material. Tanks must be bedded with at least twelve inches of clean compacted backfill, as specified in item i. below, when the bottom of the tank is installed in partially-weathered rock or rock.
c. The excavation hole must be as small as possible while allowing for a minimum of 12 inches clearance.
d. The following items must be done after the setting the tank into the excavation and before backfilling the tank: inlet pipe is entered straight from the opening provided (no side entry), and effluent filter installed.
e. Risers with approved sealant and stainless screws, when used, must be provided by Snyder Industries, Inc., and installed prior to backfill or addition of water to the tank.
f. Tops are to be secured to riser with tamper-resistant stainless steel screws (minimum of four per opening), and include stainless steel bolts with the EZ Set riser. The Tuf-Tite riser attaches with stainless steel bolts provided by Snyder Industries, Inc. The Snyder riser is installed with the Snyder

Industries, Inc., tamper resistant screw kit, P/N 3471197. The Snyder riser (inlet side riser) will have the safety plug installed in the riser.

g. Risers (Snyder Industries, EZ Set, and Tuf-Tite) shall be installed according to the supplied installation procedures to ensure a watertight fit. This procedure includes applying the appropriate sealant to the sealing surfaces, locking the riser into place, and installing stainless steel bolts.
h. Tank must be backfilled with maximum 12-inch thick layers of clean compacted backfill, as specified in item i. below. Backfill under inlet and outlet pipes must be tamped and compacted.
i. The tank excavation must be backfilled with clean compacted backfill, as specified in item k. below, to at least six inches above the top of the tank. The remaining backfill required to bring the level to finished grade may be additional compacted stone, or native soil material. Maximum backfill over the top of the tanks (tank depth) is 24 inches. Final grading must divert surface water away from the tank area and its access openings. Perforated or slotted tubing or PVC pipe may be used within the gravel bedding to intercept and drain stormwater which may accumulate within the gravel matrix. Tank may be filled with water to stabilize the tank during backfilling.
j. A 24-hour tank leakage test may be required by the local health department following tank installation. Vacuum testing is not recommended for buried polyethylene tanks.
k. The bedding under the tank and backfill surrounding and covering the tank must be free of any wood, masonry debris, or sharp objects and shall consist of a mixture of sand and gravel, with 80 to 100 percent retention on a #200 sieve, 40 to 50 percent retention on a 1/4-inch sieve and zero percent retention on a 1-1/2-inch sieve, or in accordance with the recommendations of Snyder Industries, Inc. **This bedding/backfill specification may be met by using #78M, NC DOT-approved stone.** The fill material must be compacted in layers not exceeding 12 inches and must be compacted by hand-tamping to a density of 90-percent of the maximum, as determined by the Modified AASHTO Method of Compaction Testing.
l. Manufacturer's installation instructions for Snyder Industries Inc. Polyethylene Tanks shall be adhered to, except as required herein or by 15A NCAC 18A .1900, et seq.
m. Tanks shall be distributed through a network of dealers/distributors authorized by Snyder Industries, Inc., after all personnel involved in the sale of the septic tanks have completed Snyder Industries, Inc.-authorized product training. Authorized dealers may only sell tanks to authorized installers.
n. Tanks shall be installed by an installer who has been authorized in writing by Snyder Industries, Inc.

VII. Operation, maintenance and monitoring requirements

a. System management entity, inspection/maintenance and reporting frequency requirements shall be in accordance with 15A NCAC 18A .1961.
b. The operator in responsible charge (ORC), where applicable, during their regular inspection and the local health department, during their regular system review, should remove any access lids and inspect the tanks for signs of infiltration, leakage and structural failure. Any problems noted shall be reported to the local health department, Snyder Industries, Inc. and the Division of Environmental Health, On-Site Water Protection Section. Repairs made shall be consistent with the recommendations of Snyder Industries, Inc., and the Division of Environmental Health, On-Site Water Protection Section.