

NORTH CAROLINA DEPARTMENT OF HEALTH AND HUMAN SERVICES  
DIVISION OF PUBLIC HEALTH  
ENVIRONMENTAL HEALTH SECTION  
ON-SITE WATER PROTECTION BRANCH

SEPTIC/PUMP TANK RISER ASSEMBLIES APPROVAL
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Septic/Pump Tank Riser Assemblies Approval: SR-13-R6

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For: 20-inch, 24-inch and 30-inch glass/polypropylene EZSet and TW Septic Tank and Pump Tank Riser Assemblies

Date: July 10, 2001  
April 12, 2002  
April 12, 2005 (addition of 30-inch riser assembly)  
May 16, 2006  
January 25, 2010  
November 27, 2012 (addition of TW Riser assembly)

In accordance with North Carolina General Statute 130A-335, 130A-335.1, and 15A NCAC 18A .1954, an application by Dave Lentz of Infiltrator Systems Inc. for modification of their approval for septic tank and pump tank riser assemblies has been reviewed. These riser assemblies have been found to meet the minimum requirements established by statute and rule, when the following conditions for use, installation, operation and maintenance are met:

I. Description

- A. Riser assemblies and associated accessories shall be designed and manufactured in accordance with plans, specifications and supporting documents provided by the manufacturer in their application for approval submitted to the On-Site Water Protection Branch. The On-Site Water Protection Branch shall be notified in writing of any new assemblies or modifications to the approved risers assemblies and accessories prior to use in septic tank systems.
  
- B. Approved riser assemblies and other accessories shall meet the specifications outlined in Table 1.

Table 1. Approved Risers Model Specifications

Riser Models	Inside dia.	Min. Tank Top Width Required	Riser Installation Limitations <sup>1,2</sup>
20" Polyfort® FPP Round Riser (6" and 12" high stackable sections) and Lid Assembly EZSet by Infiltrator	20"	28"	Septic tank - must be installed 6" below finished grade or at least 3" above finished grade.
24" Polyfort® FPP Round Riser (6", 12" and 18" high stackable sections) and Lid Assembly EZSet by Infiltrator	24"	32"	Septic tank - must be installed 6" below finished grade or at least 3" above finished grade. Pump tank - must be installed at least 6" above finished grade.
30" Polyfort® FPP Round Riser (12" high stackable sections) and Lid Assembly EZSet by Infiltrator	30"	38"	Septic tank - must be installed 6" below finished grade or at least 3" above finished grade. Pump tank - must be installed at least 6" above finished grade.
24" Polyfort® FPP Round Riser (6", 12" and 18" high stackable sections) and Lid Assembly TW Riser by Infiltrator	24"	32"	Septic tank - must be installed 6" below finished grade or at least 3" above finished grade. Pump tank - must be installed at least 6" above finished grade.

Notes:

1. This riser system must not be subjected to vehicular or other excessive live loads, or buried deeper than three feet below finished grade (consideration for use with traffic-rated tanks with deeper burial depths may be considered for approval on a case-by-case basis).
2. Septic tank and pump tank manufacturers shall provide a minimum of one mechanism to prevent accidental entry to the tank (see further conditions, below).

II. Use

A tank manufacturer may propose to use these approved riser assemblies in one or more of their septic tanks or pump tanks. The tank manufacturer must notify the On-Site Water Protection Section in accordance with Rule .1953 of the tanks in which they propose to utilize any of these approved risers, showing any modifications to the approved tank plans which may be necessary to utilize the proposed risers.

III. Installation

- A. The riser assemblies shall be assembled and installed in accordance with the manufacturer's specifications, applicable rules and approval conditions.
- B. For septic tank installations, the EZSet and TW risers shall be cast into the tank during tank construction. The bottom riser section (6 or 12-inch section for 20" riser, 6, 12 or 18-inch section for 24" riser) shall be cast in the concrete (with the riser lid in place), retaining a concrete inner collar around the internal circumference of the riser (to form at least a 17-inch diameter opening). The riser shall be placed in the tank top mold in such a manner that 1-½ inches of concrete shall be cast below the riser bottom. A tapered concrete support collar shall surround the riser beginning at a height of at least four-inches above the bottom of the riser tapering away from the riser on a projected slope of 1:8. Four No. 3 rebars (one each on every side of the riser,

making a picture frame) shall be placed one inch away extending three to six inches beyond the riser.

- C. For pump tank installations the 24-inch EZSet and TW bottom riser section (6-inch, 12-inch or 18-inch high section) shall be cast directly into the tank fully penetrating the tank top. When the tank top slab is less than four inches thick, a concrete fillet shall be provided around the riser so that the total thickness of the concrete slab will be at least four inches around the riser, tapering away from the riser on a projected slope of 1:8. Four No. 3 rebar (one each on every side of opening, making a picture frame) shall be placed one inch away from the opening extending three to six inches beyond the tank opening.

Wire connections shall be made through bulkhead or gasket type connectors provided by the riser manufacturer and installed per manufacturer's recommendations, to make a secure watertight connection.

The pump discharge pipe shall exit the riser through bulkhead type or manufacturer approved flexible gaskets provided by the riser manufacturer and installed per manufacturer's recommendations, to make a secure watertight connection. For systems where the discharge pipe is designed to pass through the riser, make certain the pump disconnect is reachable from the top of the riser (12-18 inches, maximum, below riser lid), and the pipe shall remain below the local frost line (12-18 inches, minimum, in most of North Carolina).

The top (highest) riser section may be a riser safety pan to accommodate an internal concrete plug (no other riser safety pans shall be used in the riser). The lip of the riser section pan extends over the riser section wall. The riser safety pan is removable to facilitate access to the pump and floats.

- D. Riser retrofit installations may be used for repairs, expansions, or modifications when used with an existing approved structurally sound septic tank or pump tank. Risers shall be attached in a structurally sound, watertight fashion in accordance with the riser manufacturer's specifications.
- E. Multiple riser sections may be used by placing a manufacturer-approved silicone (which may be supplied by the manufacturer) between riser sections, and attaching the riser sections together with a minimum of six (6) 18-8 stainless steel #10 x 1-1/4 self-tapping screws provided by the riser manufacturer, installed through the lower flange of the upper section into the upper flange of the underlying section, per manufacturer's specifications.
- F. The riser lid with poured in place gasket shall be secured by the tank manufacturer to the upper flange of the upper riser section with six (6) 18-8 stainless steel #10 x 1-1/4 self-tapping screws (10 screws required for the 30-inch riser) provided by the riser manufacturer. Screws shall pass through screw bosses into the pre-formed holes located equidistant in the top of the lid into the upper flange of the riser, per manufacturer's specifications. Screws shall not protrude through the secondary flange on the riser.
- G. For both the EZSet and TW septic tank risers, the following methods for additional security are approved: an internal concrete lid with handle, weighing at least 50 pounds, provided by the tank manufacturer, to be placed on the internal concrete lid; stainless steel self-tapping screws with at

least one screw with a tamper resistant design (requiring the use of a special tool); or State approved equal or better security method provided.

For the EZSet pump tank riser, additional security against unauthorized entry may be obtained by the following methods: use of the riser pan and stainless steel screws securing the lid to the riser top with at least one screw with a tamper resistant design (requiring the use of a special tool); stainless steel screws securing the lid to the riser top with at least one screw with a tamper resistant design (requiring the use of a special tool); a stainless steel locking ring with padlock; two padlocks installed 180-degrees apart securing the lid to the riser; or an equal or better security method subsequently approved by the State.

For the TW pump tank riser, additional security against unauthorized entry may be obtained by the following methods: use of the 20-inch EZSet safety lid with the 24-inch riser pan and stainless steel screws securing the lid to the riser top with at least one screw with a tamper resistant design (requiring the use of a special tool); stainless steel screws securing the lid to the riser top with at least one screw with a tamper resistant design (requiring the use of a special tool); or an equal or better security method subsequently approved by the State. See the manufacturer's approved installation guidelines for detailed installation instructions.

- G. This riser system must not be installed in areas subjected to vehicular traffic, or where the tank shall be buried more than three feet below finished grade.

#### IV. Literature

The riser assembly manufacturer shall furnish with each riser assembly (and/or with associated riser assembly components) all pertinent installation and maintenance details.

#### V. Maintaining approval status

The approval status is governed by Rule .1954(e).