

University of New Hampshire

University of New Hampshire Scholars' Repository

Division 22 – Plumbing

Chapter 5 – Technical Construction and
Renovation Standards

4-23-2015

221353 - Facility Septic Tanks

Stephanie Weatherbee

University of New Hampshire, Durham, s.weatherbee@unh.edu

Follow this and additional works at: https://scholars.unh.edu/pdch_5_22

Recommended Citation

Weatherbee, Stephanie, "221353 - Facility Septic Tanks" (2015). *Division 22 – Plumbing*. 5.
https://scholars.unh.edu/pdch_5_22/5

This Article is brought to you for free and open access by the Chapter 5 – Technical Construction and Renovation Standards at University of New Hampshire Scholars' Repository. It has been accepted for inclusion in Division 22 – Plumbing by an authorized administrator of University of New Hampshire Scholars' Repository. For more information, please contact Scholarly.Communication@unh.edu.

SECTION 22 1353 – FACILITY SEPTIC TANKS

1.1 SUMMARY

- A. Section Includes:
 - 1. Septic tanks.
 - 2. Distribution boxes.
 - 3. Pipe and fittings.
 - 4. Absorption systems.
- B. See Chapter 5, Division 01, Section 017700.1.1.B.1.i Closeout Procedures - Project Record Documents for equipment list requirements for all equipment provided in this section.

1.2 CONCRETE SEPTIC TANKS

- A. Description: ASTM C 1227, precast, reinforced-concrete tank and covers; single chamber, single chamber with internal baffle, or two chambers.
- B. Design: For A-8 (H10-44), A-12 (HS15-44), or A-16 (HS20-44) traffic loading according to ASTM C 890.
- C. Manholes: 24-inch- (610-mm-) minimum diameter opening with reinforced-concrete risers to grade and access lid with steel lift rings. Include manhole in center of each septic tank compartment top.
- D. Filter Access: Reinforced-concrete access hole, large enough to remove filter, over filter position.
- E. Inlet and Outlet Access: 12-inch (305-mm) minimum diameter, reinforced-concrete access lids with steel lift rings. Include access centered over inlet and outlet.
- F. Resilient Connectors: ASTM C 923 (ASTM C 923M), of size required for piping, fitted into inlet and outlet openings.

1.3 POLYETHYLENE SEPTIC TANKS

- A. Manufacturers:
 - 1. Chem-Tainer Industries.
 - 2. Norwesco, Inc.
 - 3. Plastic-Mart, Inc.
 - 4. Premier Plastics Ltd.
 - 5. Premier Tech Environment.

- B. Description: Molded, HDPE or PE construction; fabricated for septic tank application; single chamber, single chamber with baffle and at least one access riser and manhole, or two chambers each with an access riser and manhole.
- C. Manholes: 18-inch- (457-mm-), 20-inch- (508-mm-), or 22-inch- (559-mm-) minimum diameter opening with HDPE or PE access risers to grade and cover.
- D. Filter Access: Include access hole, large enough to remove filter, over filter position.
- E. Resilient Connectors: ASTM C 923 (ASTM C 923M) or other watertight seal, of size required for piping, fitted into inlet and outlet openings.

1.4 FILTERS

- A. Manufacturers:
 - 1. Premier Tech Environment.
 - 2. Tuf-Tite Corporation.
 - 3. Zabel Industries International, Ltd.; a Polylok company.
- B. Description: Removable, septic-tank-outlet filter that restricts discharge solids to 1/8 inch (3.2 mm).
- C. Housing: HDPE or PVC.
- D. Outlet Size: NPS 4 (DN 100) or NPS 6 (DN 150).

1.5 CONCRETE DISTRIBUTION BOXES

- A. Description: Precast concrete, single-chamber box and cover.
- B. Design: Made according to ASTM C 913, and for A-8 (H10-44), A-12 (HS15-44), or A-16 (HS20-44) traffic loading according to ASTM C 890. Include baffle opposite inlet.
- C. Manholes: 20-inch- (508-mm-), 22-inch- (559-mm-), or 24-inch- (610-mm-) minimum diameter opening with reinforced-concrete risers to grade and cover with steel lift rings in center of distribution box cover.
- D. Resilient Connectors: ASTM C 923 (ASTM C 923M), of size required for piping, fitted into inlet and outlet openings. Include watertight plugs in outlets not required.

1.6 PE DISTRIBUTION PIPE AND FITTINGS

- A. Tube and Fittings: ASTM F 405, perforated corrugated tube with solid-wall fittings.
- B. Couplings: PE band, matching tube and fitting dimensions.

1.7 NONPRESSURE PIPE COUPLINGS

- A. Description: Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground nonpressure piping. Include ends of same sizes as piping to be joined, with corrosion-resistant-metal tension band and tightening mechanism on each end.
 - 1. Sleeve Materials for Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
 - 2. Sleeve Materials for Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.

1.8 TRENCH OR BED ABSORPTION-SYSTEM MATERIALS

- A. Filter Material: ASTM D 448, Size No. 24, 3/4 to 2-1/2 inches (19 to 63 mm), washed, crushed stone or gravel; or broken, hard-burned clay brick.
- B. Filter Mat: Geotextile woven or spun filter fabric, in one or more layers, for minimum total unit weight of 3 oz./sq. yd. (101 g/sq. m) or untreated building paper or similar porous material.
- C. Cover for Distribution Pipe: Geotextile woven filter fabric, in one or more layers, for minimum total unit weight of 3 oz./sq. yd. (101 g/sq. m).
- D. Fill Material: Soil removed from trench.

END OF SECTION 22 1353