

GENERAL:

1. The scope of this document is to provide instruction for the installation of manhole accessories.

DESIGN GUIDELINES:

1. Materials

- 1.1. Covers and Frames

- 1.1.1. Manhole cover and frame shall be 36", black, Fiberlite composite cover with gasket and frame. Frame shall be set in concrete per manufacturer's instructions.
 - 1.1.2. Vent cover and frame shall be 8-1/2" clear opening, cast iron, heavy duty, Neenah R-5901-A with open grate.

- 1.2. Ladders

- 1.2.1. Ladders shall be welded carbon steel, hot dipped galvanized per ASTM A123 (minimum 2 oz./sq. ft.)
 - 1.2.2. Rails shall be 2-1/2" x 1/2" bars. Rails shall be 18" apart.
 - 1.2.3. Rungs shall be 3/4" diameter deformed reinforcing bars, ASTM A615, Grade 40, on 12" centers. Rungs shall be set in holes drilled in rails and welded in place. Through holes shall be plug welded and ground smooth.
 - 1.2.4. Ladder shall have minimum clearance of 7" between vertical mounting surfaces and center of rung.
 - 1.2.5. Side rails shall be fastened at the top and bottom with galvanized angle brackets fastened to the concrete with 1/2" (minimum) stainless steel expansion anchors.
 - 1.2.6. Ladders with 20' vertical length or greater shall be equipped with a safety cage designed, fabricated and installed in accordance with OSHA requirements.