

1.13 QUALITY ASSURANCE

- A. Standards: The following publications shall be hereby made a part of these specifications.
1. "Specifications for Structural Concrete for Buildings ACI 301-72 (Revised 1975) with Selected ACI and ASTM Referenced, Sp-15(73)" by the American Concrete Institute.
 2. "Placing Reinforcing Bars, CRSI-WCRSI Recommended Practices" by the CRSI-WCRSI Committee on Bar Placing.
 3. "Standard Specifications for Road and Bridge Construction by the Kentucky Department of Transportation, Bureau of Hwy. 4 Specifications for the Design and Construction Load-Bearing Concrete Masonry by the National Concrete Masonry Association.
- 1.14 Or Equal: All materials referenced are for design purpose only. Any other materials that are "equal" can be used with prior approval from the District.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Concrete: Ready mixed type meeting K.D.O.T "Class A", 3,500 psi at 28 days compressive strength, 4" maximum slump.
- B. Reinforcing Steel: Deformed #5 bars conforming to ASTM A615, A616, or A617, grade 60.
- C. Curing Compound: Acrylic based "non-residual" type meeting ASTM C309 Type 1 not less than % to cure ~~1~~ garden and seal concrete.
- D. Lid: 48" x 54" double door, aluminum lid with locking padlock bar, centered over the meters, Hallicey Products Model #A4854 or approved equal. If padlock bar creates hazard, other locking mechanisms may be considered.
- E. Removable Metal Ladder: Removable metal ladder shall be an approved OSHA Type 1 Industrial Heavy, 250 pound aluminum ladder. Ladder must reach from the pit floor and extend into the pit opening. The bottom of the ladder shall be blocked to prevent it from kicking out but still be removable.
- F. Waterproofing: The exterior side of the pit walls shall be waterproofed with one coat of one of the following materials applied in accordance with the Manufacturer's recommendations: Thoroseal, U.S.S. Chemical Tarmastic #102; Koppers Bitumastic Super Service Black; Damhex; Amercoat #78; or an approved equal.
- VOIDS between pipes and chamber walls shall be grouted with a hydraulic cement such as Waterplug or an approved equal before waterproofing pit.
- G. Waterstop: A waterstop shall be provided in the pit floor to the pit walls.
- H. Floor Drain: Raised or beehive dome grate, 4" minimum, similar to Wade #1634; Josam #7324-N; or an approved equal.
- I. Pit Drain Line: Cast iron, Schedule 40 PVC, Plastic STM #35 or ductile iron, 4" minimum.
- J. Alternate To Pit Drain Line: Electric Submersible Sump Pump, Little Giant, Big John, Stock #3P-639A Model #6-CIA or approved equal. Note: This alternate shall only be used when a drain line is impractical as determined by the District. (See drawing #202 & Part 4 of Pit Specifications)

- K. Packaged, Prefab Meter Vaults: Packaged, prefab meter vaults are acceptable with approval from the Water District.


PART 3 - EXECUTION

- 3.01 WORKMANSHIP: Earth cuts may be used for forms of base slab provided vertical sides are kept true and sharp. All embedded items, reinforcing, piping, etc. shall be secured in place prior to placing of the concrete. Concrete shall be protected from loss of moisture for a curing period of at least 7 days. All concrete shall be deposited within 1-1/2 hours following the initial mixing of water and cement. Wall finish may be a rough form finish. Top slab finish shall be wood float with tooled edges.

PART 4 - ELECTRIC SUMP PUMPS

- 4.01 DESCRIPTION: In general the following specifications are a minimum requirements for the design and installation of Electric Submersible Sump Pumps in meter pits where a normal drain line is impractical.
- 4.02 ELECTRIC WORK: All electric work shall be installed according to the National Electric Code and all other applicable codes. All work shall be inspected by an Electrical Inspector and certification provided to the District.
- 4.03 RESPONSIBILITY: The property owner is responsible for providing continuous electric service for the electric sump pump at the owner's expense. The property owner shall be responsible for the maintenance and upkeep of all electrical boxes, conduit, circuit breaker box, circuit breaker, outlet and wiring outside the pit.
- 4.04 MATERIALS
- A. Electric Submersible Sump Pump: Electric sump pump shall be U.L. Listed, Little Giant, Stock #3P639, Model #6-CIA.
- B. Electric Junction Box: Water resistant, U.L. Listed, P.V.C electrical box shall be installed on the inside of the pit on the wall closest to the sump pump nearest the ceiling.
- C. Electrical Piping: Electric piping shall be U.L. Listed for underground use, rigid or plastic installed at least 18" below grade.
- 4.05 INSTALLATION
- A. Sump Pump Hole: A 4" deep hole shall be provided in the floor of the pit.
- B. Discharge Piping: Piping for the water discharge from the electric sump pump shall be plastic or copper. Minimum piping size shall be 1 1/2". A 1/8" hole shall be bored above the check valve of the discharge pipe if freezing temperatures will affect the pipe.
- C. Water Discharge: Water discharge shall be directed into a storm sewer or drainage ditch, if this is impractical, water discharge shall be directed on to a 16" x 16" concrete pad.
- D. Electric Service Line: The electric line to the pit shall be only used for the pit sump pump, no other electrical taps shall be made on this line.
- E. Manufacturer Instructions: Manufacturer's instructions should be followed for installation.

REVISION	BY	DATE

N. KY. WATER DISTRICT
MATERIAL SPECIFICATIONS FOR PIT CONSTRUCTION
DRAWN BY: SAR
APPROVED: 
DATE: 2/17/10
STANDARD DRAWING NO. 201A