



Design Standard

Electrical Manholes

Detailed specifications follow.

PART 1 - GENERAL INSTALLATION PROCEDURES

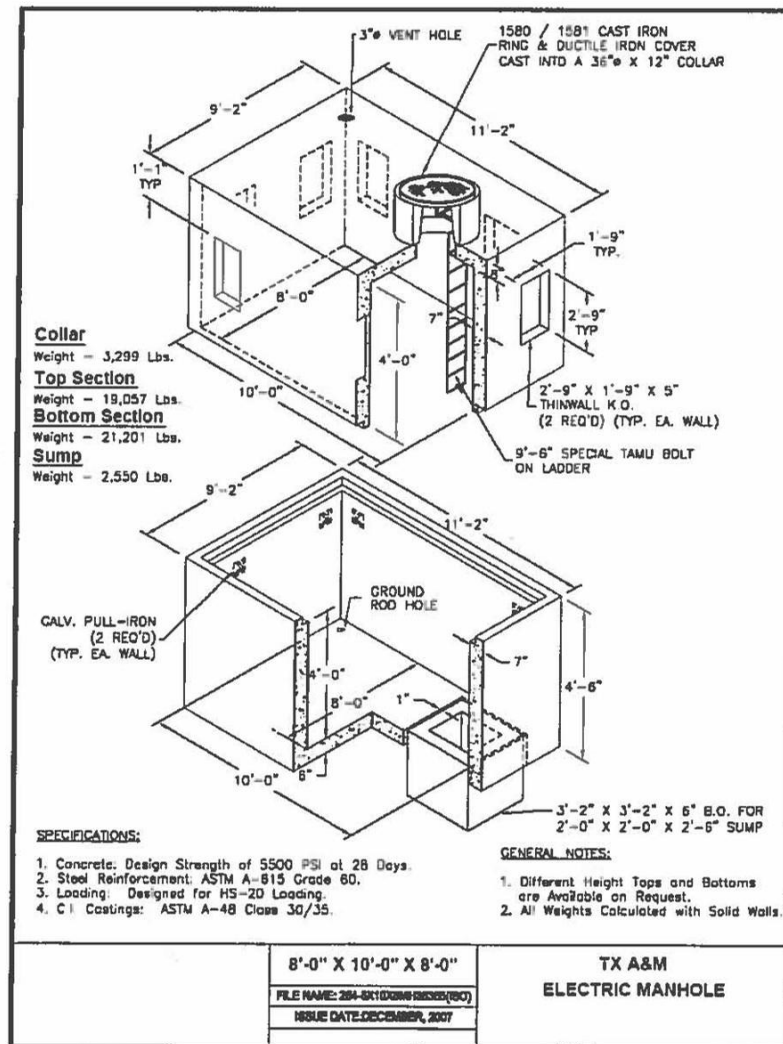
- 1.01** Manholes shall have a minimum of a 42” hole opening.
- 1.02** Ladder ups will be mounted in the center of every ladder.
- 1.03** All 600 amp T-bodies and 200 amp elbows will have test points.
- 1.04** All manholes will be clean at the completion of the project.
- 1.05** Stabilizing sand shall be used for installation of all manholes.
- 1.06** A minimum of 10 feet of rigid conduit with galvanized bell ends shall be required on each duct bank coming in and going out of the manhole.
- 1.07** All conduits shall be cut off flush with the wall in the manholes.
- 1.08** All electrical manhole covers shall be labeled with ‘ELECTRIC’ on the top of them.
- 1.09** All cables shall be labeled with feeder number and bldg. numbers, cables should be marked with red and blue marking tape to identify the phases.
- 1.10** All switches shall be anchor down and set so that it can be operated from manhole lid opening.
- 1.11** Any position on the switch that is not used shall have a bushing well insert on the switch and a dust cover on the bushing and shall be grounded.
- 1.12** Any terminations in the manhole shall be supported between the rack in the manhole and as close the wall as possible.
- 1.13** All empty ducts coming into manholes shall be sealed off.
- 1.14** All fire taping shall be wrapped with cloth taping (3M 77cloth tape).
- 1.15** All ducts shall be swapped before sealing or pulling cable and shall have a pull string in each conduit.
- 1.16** All racks shall be as high as possible in manhole.

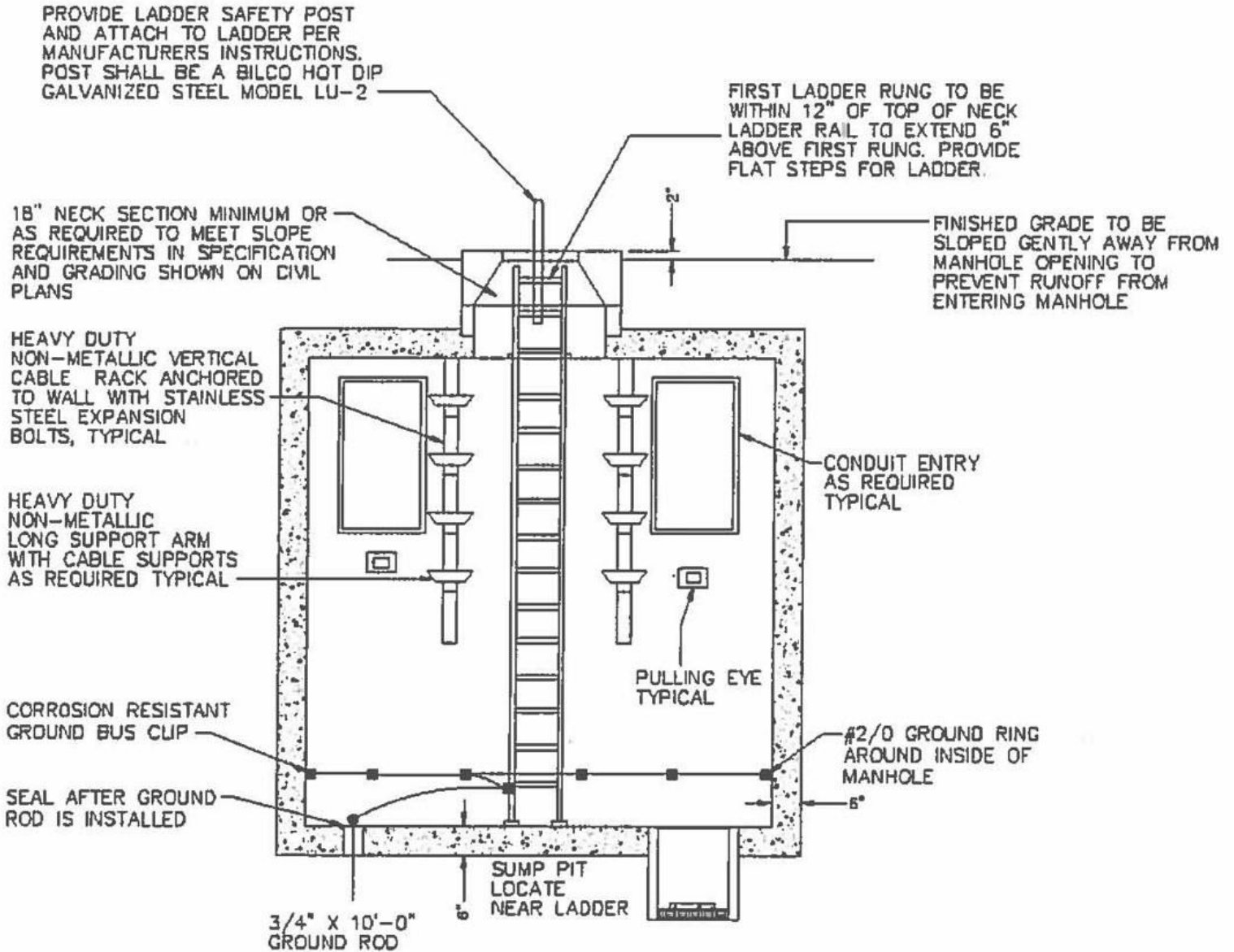


- 1.17 All racks and rack arms shall be fiber glass.
- 1.18 Tie wraps shall be 3' in length and 1/2" in width.
- 1.19 Manhole lids shall be 4" above final grade.
- 1.20 Iron castings for manhole rings and covers shall conform to ASTM A48, Class 30, and be traffic rated.

PART 2 - MANHOLE DIAGRAMS

- 2.01 Precast concrete TAMU electrical manholes 8' x 10' x 8' including thin-wall knockout, pull irons, sump box with grate, ground rod sleeve, "Safraill" fiberglass ladder, "Bilco" ladder up. 1 neck extension and a McKinley #SS38I ring and a ductile iron cover marked "ELECTRIC" cast bin to a 42" diameter precast concrete neck extension X21" high.







PART 3 - MANHOLE CABLING

- 3.01 All cables are to be wrapped one time around manhole.
- 3.02 Every wall shall have two support racks mounted in order to support cable.
- 3.03 Zip tied down.
- 3.04 Fire taping shall be used from duct to the termination.

PART 4 - GROUNDING

- 4.01 All manholes shall have a minimum of two 5/8" by 10' grounding rods.
- 4.02 All switches and electrical equipment mounted in manholes shall be grounded.
- 4.03 The ladder shall be grounded.

PART 5 - SUMP PUMP

- 5.01 All manholes will have sump pumps installed in them.
- 5.02 Three 2" PVC pipe shall be used for sump pump circuit.
- 5.03 All manholes shall have a sump pit that is a minimum of 1 foot deep, and 18" x 18" in width and length with grate.
- 5.04 2" sump pump drainage PVC will be run to manhole lid with one way check valve with quick disconnect.

