Section 16116

PRECAST ELECTRICAL MANHOLES AND PULL BOXES

PART 1 GENERAL

1.01 SUMMARY

This Section includes furnishing and installing precast electrical manholes and pull boxes.

1.02 MEASUREMENT AND PAYMENT

No separate payment for Work performed under this Section. Include cost of same in Contract price bid for Work of which this is a component part.

1.03 REFERENCES (NOT USED)

1.04 SUBMITTALS

A. Submit the following in accordance with Specification Sections 01330 – "Submittal Procedures", and 01782 – "Operations and Maintenance Data". As a minimum include the following.

1. Shop Drawings

2. Manufacturer's catalog cuts and data sheets for all equipment and materials to be furnished.

3. Internal and external manhole layouts and arrangement drawings.

4. Installation drawings and data showing where and how equipment will be installed.

B. Operational and Maintenance Data

Data to include corrected shop drawings.

1.05 RELATED REQUIREMENTS

A. Section 01330 – "Submittal Procedures"

B. Section 01782 – "Operations and Maintenance Data"

1.06 QUALITY ASSURANCE

All items of a given type to be furnished by a single manufacturer.

1.07 SYSTEM DESCRIPTION (NOT USED)

1.08 DELIVERY, STORAGE, AND HANDLING

Deliver, store, and handle to prevent damage to equipment. Protect from the elements.

1.09 – 1.13 NOT USED

PART 2 PRODUCTS

2.01 MANUFACTURER(S)

Dalworth Quick Set, Locke Solutions, Old Castle (Brooks), or equal.

2.02 MATERIALS AND/OR EQUIPMENT

A. Manhole

1. 10' *x* 10' or equal octagonal manhole with pulling irons set in the wall opposite the entrance of each duct bank and in the floor directly below the manhole cover. Provide sump with minimum of 11-inch diameter *x* 5 inches deep in bottom of manhole. Manhole bottom to slope towards sump. Manhole cover to be cast iron, traffic-bearing design, 10 inches deep with 27 inches clear opening minimum.

2. Install cable supports in each manhole as required so that distances between supports do not exceed 30 inches. Cable supports to be Hubbard No. 2225 or approved equal with hooks and insulators. Pulling-eyes to be placed at top and bottom of each opposite duct terminator at 45 Degrees (8 pulling-eyes minimum per manhole).

3. Manhole necks to be precast with cast iron traffic cover marked "ELECTRICAL." Adjust the cover to final grade if in a paved area. Cover to be 2 inches above surrounding grade if not in a paved area. Contour area around manhole cover to cause water to drain away from manhole.

B. Pull Boxes

1. 4'-0" *x* 4'-0" *x* 4'-0" -deep interior dimension. Top section with steel traffic cover.

2. 2'-0" *x* 3'-0" *x* 4' -0" -deep interior dimension. Type X traffic cover.

C. Material Specifications

1. Concrete: Design Strength of 5500 psi at 28 days.

2. Steel Reinforcement: ASTM A-615 Grade 60.

3. Loading: Designed for HS-20 Loading.

4. C.I. Castings: ASTM A-48 Class 30/35.

2.03 – 2.04 NOT USED

PART 3 EXECUTION

3.01 – 3.02 NOT USED

3.03 ERECTION/INSTALLATION/APPLICATION AND/OR CONSTRUCTION

A. Excavation for manhole and pullboxes to provide a firm level base with 6-inch sand cover and in complete accord with manufacturer's recommendations.

B. For manholes ducts to have end bells. Ducts to be grouted into place to provide a watertight seal.

C. Inside electrical manhole necks to be affixed to a permanent sign to read “CAUTION - HIGH VOLTAGE.”

D. Install a permanent sign on the control side of the manhole reading “CAUTION - ELECTRICAL.”

E. All joints to be tight and resist leaks.

F. In each manhole and pull box, wrap each conductor continuously with fireproofing tape over entire length, tie wrap conductors from same conduit every 12 inches, route conductors around entire inside perimeter and strap securely to cable supports.

3.04 – 3.10 NOT USED

END OF SECTION