

## **GENERAL:**

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The scope of this document is to provide instruction for the installation of junction boxes, control fiber conduit and pull rope to be run along with chilled water piping.

## **DESIGN GUIDELINES:**

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### 1. Materials

#### 1.1. Fiber Junction Boxes

- 1.1.1. Minimum internal dimensions shall be 24" x 13" x 18" (L x W x D). Box shall be 4,000 PSI concrete with a galvanized steel cover and frame with open bottom. H-20 load rating. Cover shall be for the entire opening with a slotted pick hole and two recessed flat head galvanized screws with anchors. Concrete shall contain polymesh fibers. Box shall be TB – 1627 by Precision Precast or equivalent.

#### 1.2 Fiber Controls Conduit and Pull Rope

- 1.2.1 Buried Conduit: 3" PVC, Schedule 40, rated for 90 degrees C. cable and shall comply with NEMA Standards for electrical non-metallic conduit. PVC conduit shall be as manufactured by Carlon Electrical Sciences, Inc. Cleveland, Ohio or approved equal.
- 1.2.2 Exposed Conduit: Exposed conduit shall consist of all metal raceway, long radius fittings and hardware, EMT type. Conduit shall be hot dipped galvanized.
- 1.2.3 Fittings shall consist of die cast, metal alloy bodies, device boxes, insulated bushings, seal fittings, cord fittings etc. as manufactured by Appleton Electric Co. Or approved equal.
- 1.2.4 Hardware shall consist of all malleable iron conduit clamps, beam clamps and hangers required to install the raceway system. Raceway support spacing shall not exceed 10 feet.
- 1.2.5 Pull Rope: Low stretch polyester braided rope rated for 800 lbs. Greenlee model 78-3310-34122 or approved equal.

### 2. Installation

#### 2.1. Control Conduit and Pull Rope

- 2.1.1. All direct buried PVC conduit shall be straight, level runs to prevent conduit damage during cable installation.
- 2.1.2. Install PVC bell end fittings at each PVC termination. Bell fittings shall be grouted flush with the inside of the wall.
- 2.1.3. All offsets and turns shall be constructed with LONG RADIUS (36" minimum) conduit fittings.
- 2.1.4. All joints shall be sealed with approved joint solvent cement to prevent conduit joints from separating during construction.

- 2.1.5. After installation, contractor shall swab out conduit to remove any rocks and debris. Swabbing shall be conducted with the Owner's Representative present. Owner Representative shall be notified 24 hours prior to swabbing.
- 2.1.6. Install pull rope in conduit. Terminate in junction boxes and in buildings.

### REFERENCES

336115 Process Control Fiber Box Detail  
336115 CW Conduit Wall Penetration Detail