

SECTION 28 1100 – COMMUNICATIONS ROOM

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Parts and equipment required for equipment in the communications room (Comm Room)

1.02 SYSTEM DESCRIPTION

- A. All equipment in the communications room shall be installed so that access is provided to all components, mechanical and electrical.
- B. All components of the communications room shall work together to form a cohesive and complete communications infrastructure.

1.03 COORDINATION

- A. Coordinate rack/cabinet work with the Electrical Contractor for placement of electrical connections.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Approved Equals for Racks and Cable Ladder Hardware:
 - 1. Hubbell.
 - 2. Ortronics
 - 3. Panduit.
 - 4. Great Lakes Case and Cabinet.
 - 5. Middle Atlantic.

2.02 COMMUNICATIONS ROOM EQUIPMENT

- A. Patch Cord Organizers:
 - 1. Patch cords organizers shall be steel and shall allow routing of patch cables from electronics to the patch panels.
 - 2. Single rack unit organizer shall be Hubbell #HS13C with cover. Refer to PCO-1 on detailed drawings.
 - 3. 2 rack unit organizer shall be Hubbell #HS23C with cover. Refer to PCO-2 on detailed drawings.
 - 4. Approved equals, Ortronics and Great Lakes Case and Cabinet.
- B. Tie Wraps:
 - 1. Tie wraps shall be used on exterior cables only.
 - 2. Tie wraps should not be used above the drop ceiling or in cable tray. The pathway shall support the cables without the use of extra tie wraps.
 - 3. Tie wraps shall never be used to support cables from building structure, electrical conduits, or lighting systems.
 - 4. Panduit No. PLT2S-C or equal standard tie wrap. For use in general locations that are not plenum rated.
 - 5. Panduit No. PLT2S-C702 or equal plenum rated tie wrap. Use only this type of tie wrap in plenum rated areas.
 - 6. Panduit No. PLT2H-L00 or equal ultraviolet rated outside plant tie wrap. Use only this type of tie wrap for outside uses.
- C. Hook and Loop Wraps:
 - 1. Hook and Loop wraps shall be used on the cable ladder of the rack systems to bundle the cables as they pass along the cable ladder. Cables shall be bundled in groups of no more than 24 cables.

2. Hook and Loop wraps should not be used above the drop ceiling or in cable tray except in limited circumstances. The pathway shall support the cables without the use of extra tie wraps.
 3. Wraps shall never be used to support cables from building structure, electrical conduits, or lighting systems.
 4. Panduit HLT2I or equal.
- D. Rack Mounted shelf
1. Install shelves where equipment needs to be installed but is not rack mountable.
 2. Identify equipment and depth of equipment and order shelf to match
 3. Cantilevered shelves:
 - a. 3.5" high, 14" depth with weight up to 50 lbs. Hubbell #MCCCS1
 - b. 7" High, 20" depth with weight up to 200 lbs. Hubbell #MCCWS19HD

2.03 WALLFIELD EQUIPMENT

- A. Plywood for Wallfields:
1. Plywood shall be American Plywood Association (APA), Grade A-C at minimum. Meaning that the "A" side is smooth and paintable, neat repairs are permissible. "C" side allows knotholes to 1 inch and limited splits are permitted. "A" side is used for mounting; "C" side is installed towards the wall.
 2. Plywood shall be 3/4-inch-thick and shall come in 4 foot x 8 foot sheets with a quantity of sheets installed as per the detailed drawings.
 3. All plywood used for wallfields shall be fire-retardant plywood and shall be stamped as such.
 - a. Shall have a Flame-spread rating of 25 or less,
 4. Each piece of plywood with one coat of white paint. Paint all edges.
 - a. Do not paint over one of the Fireproof stamps on the plywood. Leave this so that the owner can identify that the plywood installed is fire-retardant.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Location of the communications infrastructure shall be finalized in the communications room prior to installation.
- B. Locate all equipment to be installed, and make certain that space is available for maintenance and service during the life of the system.
- C. If any changes from the drawings are required, the Contractor shall submit a proposed layout of the communications room to the Engineer for approval prior to installation.

3.02 PREPARATION

- A. Clean floor prior to installation of the communications racks.
- B. Coordinate with all other Contractors and ensure that the locations of all cable tray and conduits are correct and will feed the rack system adequately.

3.03 INSTALLATION OF COMM ROOM EQUIPMENT

- A. Patch cord organizers shall be installed between all patch panels and electronics.
 1. Horizontal organizers shall be used for routing fiber and copper patch cords between patch panels and electronics.
 2. Refer to Rack layouts on detailed drawings for quantity of organizers to provide.
 3. Organizers shall be installed side by side where multiple racks are installed.
 4. If changes in the rack layout are required, contact the Engineer and get changes approved prior to installation.
- B. Tie wraps shall be used sparingly in the overall installation.
 1. Tie wraps shall not be used in the cable tray or above the drop ceiling for support of cables. All cables shall utilize J-hooks, conduits, cable ladder, or cable tray for support in the ceiling area.
 2. Tie wraps can be used to group cables on the cable ladder of the rack systems. Group cables in bundles of no more than 24 cables.
 3. Trim all tie wraps so that the cut edge is smooth.

- C. Hook and Loop shall be used sparingly in the overall installation.
 - 1. Hook and Loop should not be used in the cable tray or above the drop ceiling for support of cables. All cables shall utilize J-hooks, conduits, cable ladder, or cable tray for support in the ceiling area.
 - 2. Hook and Loop can be used to group cables on the cable ladder of the rack systems. Group cables in bundles of no more than 24 cables.
 - D. Shelves and blank panels
 - 1. Install in the rack where required and/or where shown on the drawings.
- 3.04 WALLFIELD EQUIPMENT
- A. Paint plywood with prior to installation on the wall.
 - 1. Plywood shall be installed from 12 inches AFF to 7 feet above the floor or as noted on the drawings.
 - 2. Mount plywood to the wall with screws attached to studs in the wall. Contractor is responsible for securely mounting the plywood to the wall.
 - 3. Grade "A" side of the plywood shall be used for mounting all communications components.
 - 4. If the plywood will cover an electrical receptacle, the Contractor shall cut the plywood to allow access to the receptacle.

END OF SECTION 28 1100