SECTION 27 11 16 - EQUIPMENT AND TELECOMMUNICATION ROOM

PART 1 - GENERAL

- 1.01 DESCRIPTION
 - A. The IT Room will house the electronics for the network equipment, phone equipment, security and observation systems. Coordinate cable routing and power requirements with other trades utilizing the space.
 - B. All equipment, sleeves, bushing, fire-stop and accessories needed to make this a safe and useable area whether specified or not are to be a part of the contractor's submittals and implemented in the space during construction.

1.02 QUALITY ASSURANCE

- A. All equipment shall be UL listed.
- B. All equipment shall be installed in a neat and professional manner.
- C. Communication grounding and bonding shall be in accordance with applicable codes and regulations. It is recommended that the requirements of IEC, NEC, and ANSI/EIA/TIA-607 shall be observed throughout the entire space.
- D. Refer Section 27 01 00 for additional requirements.
- 1.03 SUBMITTALS AND PRODUCT DATA
 - A. Include shop Drawings depicting wiring and connection diagrams in addition to the requirements in other parts of this Specification.
 - B. The Drawings submitted need to show the amount of space, mounting design, and power requirements needed for the systems.

PART 2 - PRODUCT

- 2.01 MATERIAL
 - A. Plywood
 - 1. ³⁄4"x 4'x8'
 - 2. AC grade
 - 3. Fire-rated or painted all sides fire rated or latex paint depending on utility requirements and local codes.
 - B. Equipment Rack
 - 1. Floor Standing
 - 2. Compatible with EIA 1 ¹/₄"-1/2" hole pattern, both sides
 - 3. UL Listed
 - 4. Finish as listed on plans
 - 5. Size as listed on plan
 - C. Ladder Rack
 - 1. UL listed
 - 2. Include all connecting hardware recommended by manufacturer. Including but not limited to rack-to-runway mounting plate, wall angle support bracket, junction spice kit, and grounding/bonding.

- D. Patch Panels for Structured wiring
 - 1. Mounting pattern per industry standard
 - 2. 48 port Universal Pin-out
 - 3. 19" rack mountable
- E. Horizontal Cable Managers
 - 1. Single sided
 - 2. 2RU
- F. Vertical Cable Managers
 - 1. Finish to match Racks
 - 2. Double sided
 - 3. Pass through ports
 - 4. Bolts to standard industry rack bolt pattern
 - 5. Required to have some means of securing cable within the manager whether covers or latch.
- G. Ground bus bar with #6 AWG to main building ground.
- H. D-Rings
- I. Fire-Stop
 - 1. Appropriate rating for wall penetrated.
 - 2. Re-enterable
- J. Hilti HDI drop in anchors.
- K. Velcro cable ties.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Plywood
 - 1. Plywood is to be mounted to the wall finished side into the room.
 - 2. Anchors are to be flush or recessed.
 - 3. Sand smooth and paint all sides white with Latex paint.
 - 4. Plywood will be mounted 8' high and 4' across trimmed as space dictates with plywood as close to ceiling as possible. If the ceiling is over 8 feet in height then the plywood will be mounted as close to floor as possible not covering baseboard if present and will utilize the full 8 feet of the plywood.
- B. Equipment Rack
 - 1. Anchored to the floor with Hilti anchors.
 - 2. The hardware is to be Grade 5 bolts with washers minimum.
 - 3. The rack shall be plumb and level.
 - 4. A vertical wire manager shall be on both sides of each rack.
 - 5. Each rack having ladder rack attached to it will utilize a rack-to-runway kit.
 - 6. Each rack will have a grounding bar.
 - 7. Each rack will be grounded per industry standards.
 - 8. Rack layout will be per industry standard, also verified with on site representative.
- C. Ladder Rack
 - 1. Ladder rack is to be installed per manufacturer recommendation for support.
 - 2. Securely anchored to wall with wall termination bracket recommended by manufacturer.
 - 3. Attached to racks with rack to runway kit as recommended by manufacturer.
 - 4. Ladder rack to Ladder rack junctions will done with hardware whether it be "butt-splice" or

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"junction splice".

- 5. Ladder rack that does not terminate at a will or into ladder rack i.e. floating end, will utilize an "end closing kit".
- D. Patch Panel
 - 1. Need to allow for 10% expansion at the close of the project.
- E. Horizontal Cable Managers
 - 1. Provide cable mangers as shown in Rack Elevation Detail on the plans.
 - 2. If no detail present on plans provide one horizontal manager above and below each patch panel.
- F. Grounding
 - 1. Each rack is to be grounded
 - 2. Per TIA/EIA-607
 - 3. Any part that has a painted surface will have a spot scraped in order to provide metal-to-metal contact for grounding. The spot scraped clean shall be visible with ground lug attached.
- G. D-Rings
 - 1. Every 2'
 - 2. Placed at every turn in cable path to ensure a clean a professional install.
 - 3. Rings shall used minimally to transition cable from wall mounted equipment to closest cable tray.

3.02 CABLES

- A. All Cables within the Equipment room shall be routed to avoid any electrical interference.
- B. D-rings if used for cable routing shall be sized to allow for future use.
- C. Cables will be supported and secured in a professional manner.
- D. Any Tie Cable passing through, within, or terminating in the space will be labeled with a To-From indication and pair count/strand count of cable. See Section 27 13 00 Cable Plant Overview for additional requirements.

END OF SECTION