

## **PART 1: GENERAL**

### **1.01 SCOPE OF WORK**

- A. Work covered by this Section shall consist of furnishing labor, equipment, supplies, materials, and testing unless otherwise specified, and in performing the following operations recognized as necessary for the installation, termination, and labeling of faceplates and connectors as described on the Drawings and/or required by these specifications.

### **1.02 RELATED SECTIONS**

- A. Division 27, Section 270528 Pathways for Communication Systems.
- B. Division 27, Section 270553 Identification for Communication Systems.
- C. Division 27, Section 271116 Communications Cabinets, Racks, Frames, and Enclosures.
- D. Division 27, Section 271119 Communications Termination Blocks and Patch Panels.
- E. Division 27, Section 271123 Communications Cable Management and Ladder Rack.
- F. Division 27, Section 271313 Communications Copper Backbone Cabling.
- G. Division 27, Section 271323 Communications Optical Fiber Backbone Cabling.
- H. Division 27, Section 271333 Communications Coaxial Backbone Cabling.
- I. Division 27, Section 271513 Communications Copper Horizontal Cabling.
- J. Division 27, Section 271523 Communications Optical Fiber Horizontal Cabling.
- K. Division 27, Section 271533 Communications Coaxial Horizontal Cabling.

## **PART 2: PRODUCTS**

### **2.01 PRODUCTS STANDARD**

- A. The materials and products specified herein reflect the minimum acceptable standards of fabrication and manufacture. All materials and products supplied by the Contractor and specified herein are to be new, unused, of first quality, and in original packaging or shipping containers or as shown on drawings and described in Item 3.01.
- B. New buildings and major renovations will be treated differently than minor remodels in existing buildings.
  - 1. Match existing cabling systems and termination hardware for all adds moves and changes with a minimum of Category 6 (Superior Essex Series 66 or as specified) termination hardware including voice and data unless directed otherwise by UNM IT, even those areas where separate voice and data closets are utilized.

2. New building construction and renovations will utilize a minimum of Category 6 termination hardware or as specified by UNM IT.
- C. Contact UNM IT for approval of cabling systems before installation. Verify exact cabling requirements with UNM IT.
- D. UNM IT will provide patch cords and make all connections to the campus network and phone system unless otherwise specified by UNM IT.
- E. The standard work area outlets consist of 2 Category 6 ports.
- F. Wall phones shall consist of 1 Category 6 connector to be installed within a single gang, modular one-port stainless steel faceplate.
- G. Wireless TOs mounted in ceilings have 2, Category 6 connectors.

## **2.02 STANDARD TELECOMMUNICATIONS OUTLET (TO)**

- A. Standard work area Telecommunications Outlets (TO) shall utilize blue modules/inserts with 45°-degree angled jacks and faceplates and blanks shall be white or shall match the color of electrical faceplates. Floor boxes require flat jacks.
- B. Approved Manufacturers and products shall be:
  1. Ortronics
  2. Leviton
  3. Siemen
  4. Or as specified
- C. Horizontal Fiber Terminations:
  1. At the TO and in the TR, use the manufacturer's matching module and the type of connector as required by the application, LC mechanical connectors, or match existing.
  2. The link Loss budget shall meet all manufacturers' specifications.
- D. Existing Copper TO Locations:
  1. Where new jacks are being installed in existing TO locations, match with the existing connector hardware and patch panel manufacturer.
- E. CATV Terminations
  1. Coaxial RG-6 Cable Installations
    - a. Terminate all RG-6 cables with F-type crimp or compression connectors and correctly sized tools.
  2. CATV outlet within a TO shall utilize F type insert module.

## **PART 3: EXECUTION**

### **3.01 GENERAL**

- A. This Section describes the installation locations for the products and materials, as well as methods and UNM IT Standards associated with the IT Installation portions of the Project. These Specifications, along with the drawings and other UNM IT-supplied specifications shall be followed during the installation.
- B. The contractor is required to be currently listed as an approved manufacturer registered Certified Installer and provide personnel for IT installations who are certified and meet warranty requirements established by the manufacturer.
- C. The Contractor is instructed to coordinate his efforts with the other tradesmen who may be working within the same vicinity to avoid conflict and lost time.
- D. The Contractor is required to supply all necessary tools, equipment, accessories, safety equipment, protective clothing, etc., as customary for the craft and necessary for the installation.
- E. The Contractor shall verify space requirements and locations with UNM IT before starting cable installations and terminations.
- F. All terminations are to use TIA T568B wiring standards.
- G. Terminate according to the manufacturer's instructions

### **3.02 TERMINATIONS**

- A. Twisted pair cable.
  - 1. All twisted pair cables shall be terminated as specified by the manufacturer with the proper tools.
- B. Coax Cable
  - 1. All Coax cables shall be terminated using connectors matching cable type and application, tool assembly matching connector type for crimp or compression type connectors, and follow Manufacturer procedures for termination.
- C. Optical Fiber Cable.
  - 1. Optical Fiber terminated at the desktop will be with LC connectors following the manufacturer's instructions. Optical fiber terminated in TR/ER shall be fusion type LC connectors or fusion spliced pigtails using LC connectors when specified, on all new projects, and existing projects where optical fiber is being added confirm in writing the connector type with UNM IT.

### **3.03 EQUIPMENT INSTALLATION AND CABLE TERMINATIONS**

- A. All equipment shall be installed in a neat and workmanlike manner, arranged for convenient operation, testing, and future maintenance.
- B. All telecommunications cables, faceplates, and connectors shall be installed and terminated by manufacturer-certified technicians experienced in the installation and termination of telecommunications items listed herein.
- C. The contractor shall provide licensed manufacturer-certified technicians and installers.

### **3.04 AS-BUILT INFORMATION**

- A. The contractor shall provide 1 set of preliminary as-built information to UNM IT along with all test result information 2 weeks before occupancy or substantial complication. Partial as-builts shall be submitted as cabling is completed. A final as-built shall be submitted with all corrections made a maximum of 30 days after the cabling installation is complete.
- B. As-built information shall be in electronic DWG and PDF format. Indicate the location of all TOs, pathways, distribution cable trays, junction boxes, and all additions and deletions related to telecommunications. Include correct TO labeling next to all telecom symbols.
- C. If construction drawings are not utilized, the contractor shall provide all telecommunications location information on an accurate and scaled floor plan.

### **3.05 SYSTEM WARRANTY REQUIREMENTS**

- A. The contractor shall perform all labeling requirements and provide testing documentation for verification as described herein.
- B. The contractor shall submit cable records to reflect all moves, adds, and changes.
- C. The contractor shall provide floor plans showing the locations of all telecommunication outlets and spaces.
- D. The contractor shall perform these requirements for category 6 and 6A permanent link configurations and submit to the hardware manufacturer such paperwork and test results as necessary to obtain a minimum 20-year system performance guarantee to UNM as defined by the cable and hardware manufacturers. The 20-year minimum system warranty shall be provided to UNM IT Facilities before final payment for this work.

**END OF SECTION**