PART 1  GENERAL

1.1 Scope of work

1.1.1 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.

PART 2:  PRODUCTS

Note: It is Purdue’s expectation that the A/E of Record will work jointly with Purdue’s Telecommunication representatives to address specific technical issues and Owner requirements. All questions, deviations, comments concerning guideline(s) interpretation, content, and/or use must be submitted in writing to the Project Manager for approval. No deviations from these guidelines shall be incorporated into the project without written approval from the Project Manager and Purdue Telecommunications representative.

2.1 Telecommunications Installation

2.1.1 General: 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.

2.1.2 New buildings and major renovations will be treated differently than existing buildings. Existing buildings will utilize plenum-rated category 5E cabling and termination hardware for voice and data. New building construction and Owner approved large-scale renovations will utilize plenum-rated category 5E cabling and termination hardware for voice and plenum-rated category 6 cabling and termination hardware for data. Contact the Purdue IT Infrastructure Services Representative for approval of cabling systems before installation.

2.1.3 Standard PIC Room Outlet Devices in Flush Mounted Devices:

2.1.3.1 Voice device shall consist of (1) Panduit #CJ5E88TGIW, Office White, Category 5E, T568B wiring standard, 8 conductor jacks.

2.1.3.2 Data device shall consist of either:

2.1.3.2.1 (2) Panduit #CJ688TGGD/N, Gold, Category 6, T568B wiring standard, 8 conductor jacks, where Category 6 is required.

2.1.3.2.2 (2) Panduit #CJ5E88TGBL, Black, Category 5E, T568B wiring standard, 8 conductor jacks, where Category 5E is required.

2.1.3.3 Cover plate shall be (1) Panduit #CBEIW-2GY, Office White, 2-gang, double opening wall plate with (2) Panduit #CHF2IW-X, Flat, Office White snap-in modules located in the top faceplate openings, (1) Panduit #CMBIW-X blank module in the right jack opening of the right flat module, and (2) Panduit #CHB2IW-X blank modules in the bottom faceplate openings. See 2.02 Attachment #1 for jack configuration.

2.1.4 Standard PIC Room Outlet Devices in Surface Mounted Raceway:

2.1.4.1 Voice device shall consist of (1) Panduit #CJ5E88TGIW, Office White, Category 5E, T568B wiring standard, 8 conductor jacks.

2.1.4.2 Data device shall consist of either:

2.1.4.2.1 (2) Panduit #CJ688TGGD/N, Gold, Category 6, T568B wiring standard, 8 conductor jacks, where Category 6 is required.
2.1.4.2 (2) Panduit #CJ5E88TGBL, Black, Category 5E, T568B wiring standard, 8 conductor jacks, where Category 5E is required.

2.1.4.3 Cover plate shall be (1) Panduit #CBEIWY, Office White, single-gang, double opening wall plate with (2) Panduit #CHF2IW-X, Flat, Office White snap-in modules, (1) Panduit #CMBIW-X blank module in the right jack opening of the bottom flat module. See 2.02 Attachment #1 for jack configuration.

2.1.5 Residence Hall Room Outlet Device:

2.1.5.1 Voice device shall consist of (1) Panduit #CJ5E88TGIW, Office White, Category 5E, T568B wiring standard, 8 conductor jacks.

2.1.5.2 Data device shall consist of either:

2.1.5.2.1 (2) Panduit #CJ688TGGD/N, Gold, Category 6, T568B wiring standard, 8 conductor jacks, where Category 6 is required.

2.1.5.2.2 (2) Panduit #CJ5E88TGBL, Black, Category 5E, T568B wiring standard, 8 conductor jacks, where Category 5E is required.

2.1.5.3 Cover plate shall be (1) Panduit #CBEIWY, Office White, single-gang, double opening wall plate with (2) Panduit #CHF2IW-X, Flat, Office White snap-in modules, (1) Panduit #CMBIW-X blank module in the right jack opening of the bottom flat module. See 2.02 Attachment #1 for jack configuration.

2.1.6 Single Voice Outlet Device:

2.1.6.1 Telephone device shall consist of (1) Panduit #CJ5E88TGIW, Office White, Category 5E, T568B wiring standard, 8 conductor jack.

2.1.6.2 Cover plate shall be (1) Panduit #CBEIWY, Office White, single gang, single opening wall plate with (1) Panduit #CHB2IW-X, Office White, blank fittings in bottom opening. Place (1) Panduit #CMBIW-X blank module in the right side of the top module. See 2.02 Attachment #2 for jack configuration.

2.1.6.3 When installing the faceplate horizontally, install the modules and jack as if it were mounted vertically.

2.1.6.4 Wall phone outlets shall utilize an Allen-Tel #AT630B-8, stainless steel phone plate.

2.1.7 Data Only Outlet Device:

2.1.7.1 Data device shall consist of either:

2.1.7.1.1 (2) Panduit #CJ688TGGD/N, Gold, Category 6, T568B wiring standard, 8 conductor jacks, where Category 6 is required.

2.1.7.1.2 (2) Panduit #CJ5E88TGBL, Black, Category 5E, T568B wiring standard, 8 conductor jacks, where Category 5E is required.

2.1.7.2 Cover plate shall be (1) Panduit #CBEIWY, Office White, single gang, single opening wall plate with (1) Panduit #CHB2IW-X, Office White, blank fittings in bottom opening. Place (1) Panduit #CMBIW-X blank module in the right side of the top module. See 2.02 Attachment #2 for jack configuration.

2.1.7.3 When installing the faceplate horizontally, install the modules and jack as if it were mounted vertically.

2.1.8 Fiber Only Outlet Device:

2.1.8.1 Multimode fiber device shall consist of (1) Panduit #CMDAQSCIW, Office White, SC Laser Optimized multimode fiber optic adapter module.
2.1.8.2 Single-mode fiber device shall consist of (1) Panduit #CMDBUSCZIW, Office White, SC single-mode fiber optic adapter module.

2.1.8.3 Cover plate shall be (1) Panduit #CBEIWY, Office White, single gang, single opening wall plate with (1) Panduit # CHS2IW-X, Office White, sloped snap-in module in bottom opening, and (1) Panduit #CHB2IW-X, Office White, blank fittings in top opening. See 2.02 Attachment #3 for jack configuration.

2.1.9 Fiber Terminations

2.1.9.1 Each multimode fiber shall be terminated with (1) Corning Cable Systems #95-050-41-X, Laser Optimized SC UniCam fiber optic connector.

2.1.9.2 Each single-mode fiber shall be terminated with (1) Corning Cable Systems #95-200-42, SC UniCam Ultra PC Polish fiber optic connector.

2.1.10 Existing PIC Locations:

2.1.10.1 Where new jacks are being installed in existing PIC locations with Hubbell faceplates, utilize Panduit #KJ588IW office white keystone jacks for voice and Panduit #KJ5E88TPBL black keystone jacks for Category 5E data installations.

2.1.10.2 Large renovations where category 6 data outlets are being installed shall utilize new Panduit faceplates with new Panduit jacks.

2.1.11 PIC Locations in Divided Raceways

2.1.11.1 Where jacks are being installed in a divided 4000 Wiremold raceway for telecommunications and power, utilize Wiremold #V4047C-1 one-gang device plates for the mounting of the Panduit #CBEIWY, Office White, single gang, single opening wall plate. Electrical devices shall utilize a separate Wiremold #V4048B duplex receptacle device.

2.1.12 CATV Terminations

2.1.12.1 Type 6 (RG-6) Cable Installations

2.1.12.1.1 Terminate all RG-6 cable with Belden #FSNS6U compression connectors.

2.1.12.2 Type 11 (RG-11) Cable Installations

2.1.12.2.1 Terminate all RG-11 non-plenum cable with Belden #SNS1P11 compression type connectors.

2.1.12.3 CATV outlet within a PIC shall utilize (1) Panduit #CMFIW F-type module.

PART 3: EXECUTION

3.1 Telecommunications Installation

3.1.1 General:

3.1.1.1 This Section describes the installation locations for the products and materials, as well as methods and Owner’s Standards associated with the Telecommunications Installation portions of the Project. These Specifications, along with the drawings and other Owner supplied specifications shall be followed during the course of the installation.

3.1.1.2 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.

3.1.1.3 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.
3.1.1.4 The Contractor shall verify space requirements and locations with the Purdue IT Infrastructure Services Department before starting cable installations and terminations.

3.1.1.5 The Contractor shall verify the category of the data jacks required with the Purdue IT Infrastructure Services Department before starting termination.

3.2 CATV Termination

3.2.1 CATV Cable Termination:

3.2.1.1 All RG-6 CATV cable shall be terminated as follows:

3.2.1.1.1 Strip off 7/16” of outer jacket without disturbing braided shield underneath.

3.2.1.1.2 Bend braided shield back over the outer jacket.

3.2.1.1.3 Cut dielectric without scoring center conductor to obtain 3/16” of dielectric left.

3.2.1.1.4 Slide the RG-6 connector down cable until dielectric is flush with inner surface and bottoms out.

3.2.1.1.5 Compress fitting using appropriate compression tool.

3.2.1.2 All RG-11 CATV cable shall be terminated as follows:

3.2.1.2.1 Strip off 1/2” of outer jacket without disturbing braided shield underneath.

3.2.1.2.2 Bend braided shield back over the outer jacket.

3.2.1.2.3 Cut dielectric without scoring center conductor to obtain 3/16” of dielectric left.

3.2.1.2.4 Slide the RG-11 connector down cable until dielectric is flush with inner surface and bottoms out.

3.2.1.2.5 Crimp using HEX type crimp tool.

3.3 Equipment Installation and Cable Terminations

3.3.1 All equipment shall be installed in a neat and workmanlike manner, arranged for convenient operation, testing and future maintenance.

3.3.2 All telecommunications cables, faceplates, and connectors shall be installed and terminated by technicians experienced in the installation and termination of telecommunications items listed herein.

3.3.3 The Contractor shall employ certified system installation technicians and have at least 5 years experience in the installation of similar and equivalent systems.

3.3.4 The Contractor shall supply verification of experience, for this type of work, to the Architect for approval before performing any work.

3.4 As Built Information

3.4.1 Contractor shall provide as-built information and all test result information to the Purdue IT Infrastructure Services Department.

3.4.2 As-built information shall be in red-lined format on a copy of construction drawings. Indicate location of all PICs, skeletal and riser conduit routes, distribution cable trays, junction boxes, and all additions and deletions pertaining to telecommunications. Include correct PIC labeling next to all telecom symbols.

3.4.3 If construction drawings are not utilized, Contractor shall provide all telecommunications location information on an accurate scaled floor plan.

3.4.4 Contractor shall perform all labeling requirements and provide testing documentation for verification as described herein.
3.4.5 Contractor shall submit cable records to reflect all moves, adds, and changes.

3.4.6 Contractor shall provide floor plans showing locations of all telecommunication outlets and spaces. Electronic versions of as-builts are preferred.
3.5 Standard PIC Faceplate Configuration:

![Faceplate Diagram](image)

3.6 Standard PIC Faceplate Configuration with CATV:

![Faceplate Diagram with CATV](image)
3.7 Telephone Only Faceplate Configuration:

Room # - 1

VOICE 1

3.8 Data Only Faceplate Configuration:

Room # - A/B

DATA 1  DATA 2
3.9 Single Mode Fiber PIC Faceplate Configuration:

![Diagram of Single Mode Fiber PIC Faceplate Configuration]

Room #FOS - A

3.10 Standard PIC with Fiber Faceplate Configuration:

![Diagram of Standard PIC with Fiber Faceplate Configuration]

Room # A/B/1/2

DATA 1  DATA 2  VOICE 1

Room #FOS - A