

Electrical and Communications Support Statement of Objectives (SOO) for Building 1990, Room 248, 250, & 251

AFIMSC, Detachment 9, requires this electrical and communications work in building 1990, rooms 248, 250, and 251. (Drawing areas 3, 4, 5, 6-13, 14-15, 17-20)

Electrical

-This work requires the removal of electrical connections from existing systems/modular furniture which includes five (5) pods (four (4) desks per pod) and three desks separate system/modular type furniture desks before the existing systems/modular can be removed by a separate furniture installer.

-This work also requires connecting electrical power to new systems/modular type furniture which includes one (1) collaboration area, thirteen (13) desks, eight (8) workstations, and one (1) conference room table.

-Additionally, the electrical work requires the installation of one (1) dual outlet in room 250 behind the TV.

-In room 250, connect conference room table's two power modules to electrical power.

Note: Det 9 requires one active electrical outlet in the front of room 248 for the duration of the project.

Communications

The communications element of the work requires the removal of existing all CATX cables, zone box, and fiber optic cables in room 248, and room 251. Except as noted below, all CAT6 cables shall be home runs back to room 257.

-Install two (2) CAT6 drops at each of the thirteen (13) desks, eight (8) workstations, east wall of room 251, east wall of room 248 near the two power panels, and east wall of room 250. (Drawing areas 3, 4, 6-13, 14-15, 17-20)

--Connect CAT6 drops to the base network

-In room 250, Install/mount government provided network switch cabinet to the east leg of conference room table and connect the switch to one of the new CAT6 drops on east wall.

--Install eight (8) CAT6 cables from a government provided network switch to the power/data modules in the conference room table.

--Install one (1) additional CAT6 drop at each end of the table.

--Connect all drops to the government provided network switch

-Install three (3) CAT6 drops at the front of room 248 (on the east wall near the northeast corner)

--Connect three drops to the base network

-In room 248 collaboration room, Install/mount government provided network switch cabinet to the south leg of collaboration room table and connect the switch to one of the new CAT6 drops on east wall. (Drawing area 5)

--Install six (6) CAT6 cables from a government provided network switch to the power/data modules in the conference room table.

--Install one (1) additional CAT6 drop at each end of the table.

--Connect all drops to the government provided network switch

-Install three (3) CAT6 drops at the front of room 248 (on the east wall near the northeast corner) (Drawing print area)

--Connect three drops to the base network

NOTE: Det 9 requires two active CAT6 drops at the front of room 248 for the duration of the project.

All work under this project must comply with the following base standards:

1.0 Communications Service Information

Below items are for consideration by local contracting officer prior to issuing a request for proposals or quotes. It is informational only and should not be included in Not to Exceed (NTE) pricing or percentages of Tier I contracts.

- 1.1** Contractor shall provide professional cabling services with install of new product. Any electrician provided by contractor shall be a licensed electrical contractor. Any cabling specialist provided by contractor shall be a Building Industry Consulting Service International, Inc. (BICSI) certified.
- 1.2** Contractor shall install all data/voice communications cabling to provide proper communications capability for each cubicle/workstation. Contractor must field verify any measurements, locations and or numbers.
 - 1.2.1** Include a minimum of 2 Connection ports at each workstation for this install. Note – this is a deviation from standard practices which typically require two data and one voice connection ports.
 - 1.2.1.1** All cabling will be installed from workstation locations to zone box patch panels unless identified otherwise.
 - 1.2.2** Label comm. room#/rack#/patch panel#/port# on each drop
 - 1.2.2.1** Example: (Rm111-R1-PP2-Port33)
 - 1.2.2.2** If an labeling scheme already exists, acceptance by 375 CS will be required.
 - 1.2.3** Contractor shall provide verifiable test results for cabling installed by contractor.
 - 1.2.3.1** See following section for test plan. (Pass/Fail results are not acceptable unless testing criteria thresholds are well defined and agreed to prior to testing)
 - 1.2.4** Install cabling on interior of modular systems furniture or inside adjacent walls for non-modular furniture.
 - 1.2.5** All new cabling should be CAT6 or better.
 - 1.2.6** All cabling shall be installed to standard TIA/EIA 568C
 - 1.2.7** All cabling installed shall be terminated to TIA/EIA 568B Configuration.
 - 1.2.8** 3 foot maintenance loop for cable installs are required.
- 1.3** Any existing power poles/panels and/or service connections not used and identified by the government will be removed with wires terminated and holes patched.
- 1.4** Contractor shall be responsible for collection and verification of information relevant to redesign of a space and required communications installation.
- 1.5** Contractor shall be responsible for submitting for government review all information sheets of proposed installation material for communications drops.

TEST PLAN

- 2.0 The Contractor shall notify the 375 CS/SCXP at least five (5) calendar days prior to any testing. The Contractor shall furnish all test equipment and personnel required to conduct all required testing. All testing will be IAW accepted telecommunications industry standards listed below. 100% QA testing must be conducted by The Contractor and shall provide test reports to the government within ten (10) calendar days of completion. The Contractor is required to locate, repair, and retest all irregularities found during the testing phase caused by the cable installation.
- 2.1 All test results need to be verifiable (Pass/Fail results will not be accepted unless specific testing parameters guidelines are outlined and approved through RFI process from Base Communications Cable technicians). Test results shall include the following:
- 2.1.1 Wire Map
 - 2.1.2 Length
 - 2.1.3 Insertion Loss
 - 2.1.4 Near End Cross Talk (NEXT)
 - 2.1.5 Power Sum Near End Cross Talk (PSNEXT)
 - 2.1.6 Equal Level Far End Cross Talk (ELFEXT)
 - 2.1.7 Power Sum Equal Level Far End Crosstalk (PSELFEXT)
 - 2.1.8 Return Loss
 - 2.1.9 Propagation Delay
 - 2.1.10 Delay Skew
- 2.2 During any testing phase, the Government reserves the right to perform any of the contractor-performed inspections and tests to assure solutions conform to prescribed requirements. The Contractor shall provide on-site support during the acceptance testing. The Contractor shall participate with the Government in testing the complete communications system. When any system, subsystem, component, or requirement test fails to meet the requirements of the test, Government acceptance and payment will be withheld until the cause of the failure is corrected to the Government's satisfaction. After appropriate corrective action has been taken, all tests including those previously completed, related to the failed test and the corrective action shall be repeated and successfully completed prior to Government acceptance.

Appendix X - APPLICABLE Communications STANDARDS

The Contractor shall utilize the most current revisions of these standards. This list is not all-inclusive list of standards. The Contractor shall comply with all applicable commercial codes and standards. Air Force Instruction	AFI 91-203	Air Force Consolidated Occupational Safety Instruction
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ANSI/NECA/BICSI	607-2011; 2011	Standard for Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings
Building Industries Consulting Services International (BICSI)	BICSI TDM Manual	Telecommunications Distribution Methods (TDM) Manual
Base Information Transport Infrastructure (BITI) Wired Base Area network (BAN) Technical Requirements Document (TRD)	BITI January 2014, or most recent	Version 1.4
BICSI TDM Manual	Most recent	Building Industries Consulting Services International Telecommunications Distribution Methods (TDM) Manual
Commercial Building Telecommunications Cabling	TIA/EIA 568-B.1	Commercial Building Telecommunications Standard Part 1: General Requirements
Commercial Building Telecommunications Cabling	TIA/EIA 568-B.2	Commercial Building Telecommunications Standard Part 2: Balanced Twisted-Pair Cabling Components
Commercial Building Standards for Telecommunications Pathways and Spaces	TIA/EIA 569-A	Commercial Building Telecommunications
Department of Defense	UFC 3-580-01 01 June 2016 Change 1, 01 Jun 2016	Unified Facilities Criteria (UFC) Telecommunications Interior Infrastructure Planning and Design
National Electric Code	NEC 2014	National Electric Code Book
National Electrical Manufacturers Association (NEMA)	NEMA TC 2	Electrical Polyvinyl Chloride (PVC) Tubing and Conduit
National Fire Protection Association (NFPA)	NFPA 70	National Electric Code