

PERFORMANCE WORK STATEMENT

FOR

90 FSS E-WAPS

F. E. Warren Air Force Base, Wyoming

8 Aug 23

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1. Description of Services.

The contractor shall provide all management, tools, supplies, equipment, and labor necessary to perform cable replacement services at F. E. Warren Air Force Base, Wyoming, in accordance with Attachment 1a - 90th Communications Squadron (CS) Telecommunications Installation Criteria Handbook (TIC) where applicable, and applicable federal, state, local laws and regulations and this performance work statement (PWS).

1.1. Basic Services. Contractor shall furnish and install new wall receptacle outlets and associated wiring on 12 aluminum power poles. Contractor shall install new Category 6 (CAT 6) cables with two Cat 6 drops per pole. Additional work will include but is not limited to install faceplates, patch panel(s), cable management, terminations, labeling, electrical, and any other work as identified in this PWS.

1.1.1. Cable Management. The contractor shall use existing cable pathways where there are no defects to the support system and cable fill will not exceed the 40% rule as stipulated in the National Electrical Code (NFPA 70). If new cable pathways need to be installed the contractor will use the most direct route available and adhere to the TIC standards of installation (TIC page 4). All cable pathways, currently existing or newly installed, will be secured per TIC standards.

1.1.2. Cable Placement. The contractor shall install new CAT 6 cable. Each communication jack in a duplex outlet will have two CAT 6 cables, one for Voice and one for Data and each quad-plex outlet will have four CAT 6 cables, two for Voice and two for Data. Each cable run shall be a continuous individual cable from the communication jack to the switch enclosure at the back of the room. (TIC page 2). The cable jacket for Voice shall be White in color and the LAN cable jacket shall be Blue in color. The CAT 6 cable shall be labeled (TIC page 7) and meet the technical specifications (TIC page 2) of the TIC. Contractor will install a wire cable tray, 6 inches deep, 10 inches wide, max length of 32 feet. It will be placed in the ceiling in the center of the room to support LAN cables to the 12 poles.

1.1.3. Faceplate Installation. The faceplate color will be the same as the building's existing faceplate color, white or ivory. The faceplate shall be able to comply with the labeling requirements (TIC page 8). The faceplates shall be labelled as per the TIC labeling requirements (TIC page 8). The bezel color for Voice will be White and LAN will be Green.

1.1.4. Jack Assembly Termination. The contractor will use CAT 6 RJ45 jack assembly. The jack assembly will meet the RJ45 Pinout T-568B standard (TIC page 9), see Appendix A for diagram.

1.1.5. Patch Panel Installation. The contractor shall install new CAT 6 patch panel with 110-interface, punch down style in the switch enclosure at the back of the room. The patch panel shall have a minimum of 24 ports. The contractor shall make the connections to each port. Each jack from a communication jack outlet shall be terminated on the same patch panel in consecutive order (White first, then Blue corresponding) (TIC page 5), see Appendix B for diagram. The patch panel shall be labelled as per the TIC labeling requirements (TIC page 7).

1.1.6. Electrical Installation. The contractor shall provide and install power wiring, breakers, and conduit to the 12 power poles from the electrical panel IAW Attachment 1b - Floorplan. Power will also be installed at the wall mounted server enclosure at the back of the room. Contractor will install a power outlet at the back of the room for the wall mounted switch enclosure.

1.1.7. Workplace Condition. The workplace shall be clean of all debris and restored to original or better condition.

1.1.8. Drop Ceiling Panels. The Contractor shall be responsible for replacing ceiling panels that are damaged by contractor personnel.

1.1.9 Wall Mount Rack Enclosure. Contractor shall be responsible for the purchase and installation of a wall mountable rack enclosure as listed in Appendix E. Wall mount rack enclosure server cabinet wall mount 13" depth rack with 12 U.

1.1.10. Commercial Internet Service. The contractor shall coordinate with Spectrum Cable to install and make fully operational a 1 GIG internet service from the Communications Equipment Room (CER) to Room 9 in Building 841. Modem/router to be located inside the wall Mounted Rack Enclosure. Any fees Spectrum may charge for the initial setup/connectivity are the responsibility of the contractor.

1.1.11. Switch Installation. The contractor shall be responsible for the purchase and installation of an Unmanaged Network switch: A 24-port Gigabit Ethernet switch, with equivalent performance specifications as the Cisco Catalyst 9300 x copper. This switch will be installed in the wall Mounted Rack Enclosure. Patch panel will connect to the switch via CAT 6 Cables.

1.2. Testing, Drawings, and Acceptance.

1.2.1. Contractor Testing. The Contractor shall certify and test all telecommunication cable as required (TIC page 6). A copy of the results shall be provided to the 90 CS Project Manager (PM) using common electronic software (i.e. PDF, Word, etc.) prior to project acceptance. The Contractor shall make all corrective actions discovered upon testing to bring any deficiencies up to compliance as specified (TIC page 6).

1.2.2. Electrical outlet testing. Contractor shall conduct a test of each newly installed outlet. Contractor shall ensure that each power receptacle shall be checked to ensure proper voltage and that each outlet has been verified to ensure that there are no open grounds, no open hot, no open neutrals, no hot/ground reverse, no hot/neutral reverse and that all wiring is correct. A copy of the results shall be provided to the 90 CS/PM using common electronic software (i.e..PDF, Word, etc.) prior to project acceptance. The Contractor shall make all corrective actions discovered upon testing to bring any deficiencies up to compliance as specified prior to Government acceptance. Any defects will be corrected by the contractor at no expense to the government.

1.2.3. Drawings. The Contractor shall provide drawings reflecting "AS-BUILT" conditions to 90 CS/PM with the cable certification records. These shall include overall routing of new cable and butterfly drawings of each communication conduit used indicating entry and exit of the installed cabling in those conduits, as well items identified in the TIC (TIC page 7). The final drawings will be provided to 90 CS/pm prior to the final acceptance of the work to perform final review of drawings and inspect installation (TIC page 6 and 7).

1.2.3. Acceptance. The Government will review the Contractor's installation to ensure all PWS requirements are met and all required items were complied with prior to acceptance.

1.3. Deliverables Table

Deliverables	Ref	When	Who
Cable Testing	1.2.1	Prior to final acceptance	90 CS/PM
Electrical Testing	1.2.2	Prior to final acceptance	90 CS/PM
Drawings	1.2.3	Prior to final acceptance	90 CS/PM
Personnel Info	4.3.	14 calendar days prior to beginning work	90 FSS/PM
Outside Hours	4.5.3	7 working days in advance	90 FSS/PM
Contract POC	4.9.1	Prior to beginning performance	90 FSS/PM
Records	4.10	5 working days of request	90 FSS/PM

2. Services Summary.

The contractor service delivery requirements are summarized into performance objectives that relate directly to standards of performance required to meet mission essential needs. For the Performance Objective to be met, service delivery must be in substantial compliance with applicable performance standards. The Performance Threshold describes the minimum overall levels of service delivery required for acceptable quality control. Failure to meet these Performance Thresholds means that contractor Quality Control is unacceptable. The following is a list of the key performance objectives that will be verified as contractually compliant by Government personnel; however, inspection of any contract requirement is authorized.

Performance Objective	PWS Para.	Performance Threshold	Percent	Method of Surveillance
CAT 6 Cable Test	1.2.1.	100% Functionality	100%	Provide Strand Test Results
Deliverables	1.3.	100% Timely Reporting	100%	Provide all required deliverables
3-Wire 110-125V AC receptacles	1.2.2	100% Functionality	100%	Provide a report of any issues found during outlet testing.

3. Government Furnished Property and/or Services

3.1. Government Furnished Property.

3.1.1. None

3.2. Government Furnished Services.

3.2.1. Utilities. The Government will furnish the electricity, water, and sewage services (as necessary) for the accomplishment of service IAW this PWS.

3.3. Government Property Incidental to the Place of Performance.

3.3.1. None

4. General Information.

4.1. Quality Control.

The contractor is required to control the quality of service and offer to the Government for acceptance only services which conform to contract requirements. The overall control of quality must meet the specified performance thresholds for each requirement in the Services Summary.

4.2. Quality Assurance

The Government will evaluate the contractor's performance by monitoring the contractor's performance to ensure services are received. The Government will evaluate the contractor's performance through on-site inspections and receipt of customer complaints. The Government will inspect each task as completed. The Government will investigate complaints received from customers. The Government shall make final determination of the validity of customer complaint(s) in cases of disagreement with customer(s). Remedies for non-conforming services will be resolved IAW the applicable Inspection/Acceptance clause attached within the contract.

4.3. Security Requirements.

The Government will provide the contractor with access to the buildings necessary to perform the work under this PWS. The contractor shall be subject to all Department of Defense rules and regulations while working on this military installation. The contractor shall provide all necessary personnel information for base access to the Government PM at least 14 calendar days prior to beginning work.

4.3.1. Personnel Information. The Contractor shall submit a written request on company letterhead to the PM listing the following: contract number, location of work site, start and stop dates, and names of contractor personnel needing access to the base. When reporting to the registration office, the authorized Contractor personnel must provide a valid driver's license for each individual and valid vehicle insurance certificate or rental agreement for each vehicle, to obtain access to the base.

4.4. Operational Security (OPSEC).

The contractor shall adhere to the following minimum requirements in support of this requirement:

4.4.1. Contractor personnel shall not discuss government operations in public or over unprotected or unencrypted communications. Official Business and/or controlled unclassified information may only be transmitted as directed in the PWS.

4.4.2. The Contractor shall not post to company websites, publications, newsletters or other media any images, data or information that reveal sensitive government operations, personnel, equipment, and/or classified or controlled unclassified information. When in doubt, company press releases related to this contract should be coordinated through the 90 FSS PM or Contracting Officer, as applicable.

4.5. Period of Performance/Location/Hours of Operation.

4.5.1. **Period of Performance.** The contractor shall begin performance within 90 days of contract award date and complete performance within 90 days of starting performance.

4.5.2. **Location.** Place of performance is at F. E. Warren AFB WY

4.5.3. **Normal Hours of Operation.** The contractor shall perform the services required under this contract during the normal operating hours of the site. The average workweek consists of 7:00 AM and 4:00 PM (MST), Monday through Friday, excluding holidays and base closures. During the planning phase of the project, the Government will identify any locations that require installation and cutover after normal business hours to avoid unnecessary operational mission impact. Any site work requested by the Contractor to be performed outside of normal duty hours shall be coordinated with the 90th Force Support Squadron (90 FSS) Project Manager and Contracting Officer at least seven working days in advance. The contractor shall accomplish the installation with minimum disruption of daily resident.

4.5.4. **Recognized Holidays.** The contractor is not required to provide service on the following days:

- New Year's Day (January 1).
- Birthday of Martin Luther King, Jr. (Third Monday in January).
- Washington's Birthday (Third Monday in February).
- Memorial Day (Last Monday in May).
- Juneteenth National Independence Day (June 19).
- Independence Day (July 4).
- Labor Day (First Monday in September).
- Columbus Day (Second Monday in October).
- Veterans Day (November 11).
- Thanksgiving Day (Fourth Thursday in November).
- Christmas Day (December 25).

If the holiday falls on Saturday, it is observed on Friday. If the holiday falls on a Sunday, it is observed on Monday. Contractor will not be expected to perform on designated base down days.

4.6. Conservation of Utilities.

The contractor shall instruct employees in utilities conservation practices. The contractor shall be responsible for operating under conditions which prevent the waste of utilities which include the following:

4.6.1. Lights shall be used only in areas where and when work is actually being performed.

4.6.2. Mechanical equipment controls for heating, ventilation, and air conditioning systems shall not be adjusted by the contractor or by contractor employees unless authorized.

4.6.3. Water faucets or valves shall be turned off after the required use has been accomplished.

4.6.4. Government telephones shall be used only for official Government business.

4.7. Environmental Controls.

4.7.1. **Compliance with Laws and Regulations.** The contractor shall be knowledgeable of and comply with all applicable Interstate, Federal, State, and Local laws, regulations, and requirements regarding environmental protection. In the event environmental laws/regulations change during the term of this contract, the contractor is required to comply as such laws come into effect. If there is an increase or decrease in cost as a result of the change, the contractor shall inform the Contracting Officer pursuant to notice requirements and negotiate a modification to the contract.

4.7.4. **Green Procurement Program (GPP).** In performance of this contract, contractors shall use Environmental Protection Agency (EPA) designated recycled content products, Information Technology (IT) Energy Star products/appliances, Federal Energy Management Program (FEMP) Designated Energy Efficient Low Stand By Power products/appliances, U.S. Department of Agriculture (USDA) Bio based/Bio preferred products, Environmentally preferable products, Electronic Product Environmental Assessment Tool (EPEAT) registered products, Water Sense or other water efficient products, non- or Low Ozone depleting substances under the Significant New Alternatives Policy (SNAP), non or Low toxic or hazardous constituents (e.g. non-VOC paint) and any other environmentally sustainable product/method, to the greatest extent possible.

4.8. Safety Requirements.

4.8.1. In performing work under this contract, the contractor shall:

4.8.1.1. Conform to the safety requirements contained in the contract for all activities related to the accomplishment of the work.

4.8.1.2. Record and report promptly (within one hour), to the PM or CO, all available facts relating to each instance of damage to Government property or injury to either contractor or Government personnel.

4.8.1.3. In the event of an accident/mishap, take reasonable and prudent action to establish control of the accident/mishap scene, prevent further damage to persons or property, and preserve evidence until released by the accident/mishap investigative authority through the contracting officer.

4.9. Contractor Personnel.

4.9.1. **Contract Point of Point of Contact (POC):** The contractor shall provide a contract POC who is knowledgeable of telecommunication cable installations and shall be responsible for the performance of the services. Contractor shall provide POC name and phone number to 90 FSS/PM prior to beginning performance. The contract manager must be able to read, write, speak, and understand English.

4.9.1.1 The contract POC shall have full authority to act for the contractor on all contract matters relating to daily operations of this contract.

4.9.1.2 The contract POC shall be available within 24 hours of a request by the Government to meet to discuss problems.

4.9.2. **Contractor Employees:** The contractor shall not employ persons for work on this contract if such employee is a potential threat to the health, safety, security, general wellbeing or operational mission of the installation and its population.

4.9.2.1. The Contractor shall utilize employees who have adequate training, skills, and knowledge to perform the requirements in this PWS.

4.9.2.2. Contractor personnel shall present a neat appearance and be easily recognized as contractor employees. This may be accomplished by wearing distinctive clothing bearing the name of the company or by wearing appropriate badges, which contain the company name and employee name in English. Contractor personnel who interact with Government personnel shall be able to communicate effectively in English.

4.9.2.3. The consumption of alcoholic beverages by Contractor personnel while on duty is strictly forbidden. The use of illegal drugs by Contractor Personnel is strictly forbidden. The Contractor shall immediately remove any personnel who is under the influence of alcohol or drugs.

4.10. **Records.** The contractor shall be responsible for creating, maintaining, and disposing of only those government required records that are specifically cited in this PWS or required by the provisions of a mandatory directive listed in the 90 CS TIC Handbook, Applicable Publications and Forms. If requested by the Government, the contractor shall provide the original record, or a reproducible copy of any such record within five working days of receipt of the request to 90 FSS/PM.

5. Appendices

A. CAT 6 Wiring, Termination, & Connections

B. Sample Floor Plan W/Cable Numbering

C. Floor Plans

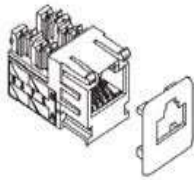
D. References

E. Product Examples

APPENDIX A

CAT 6 WIRING, TERMINATION & CONNECTIONS

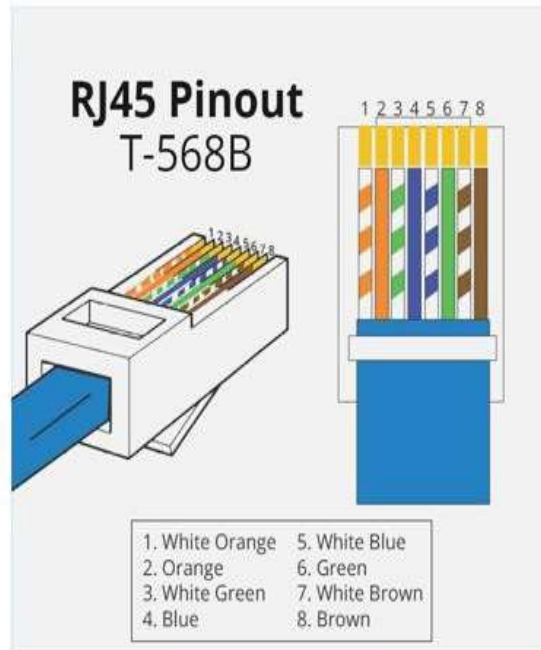
1



Jack Assembly Detail

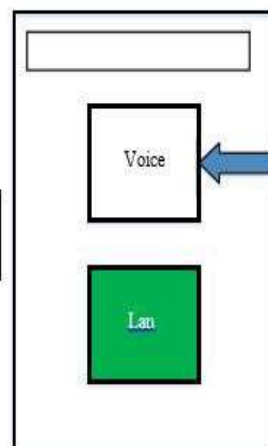


CAT 6 Modular Jack



568 B Wiring Pattern

BEZEL COLOR CODING
VOICE = WHITE
LAN = GREEN



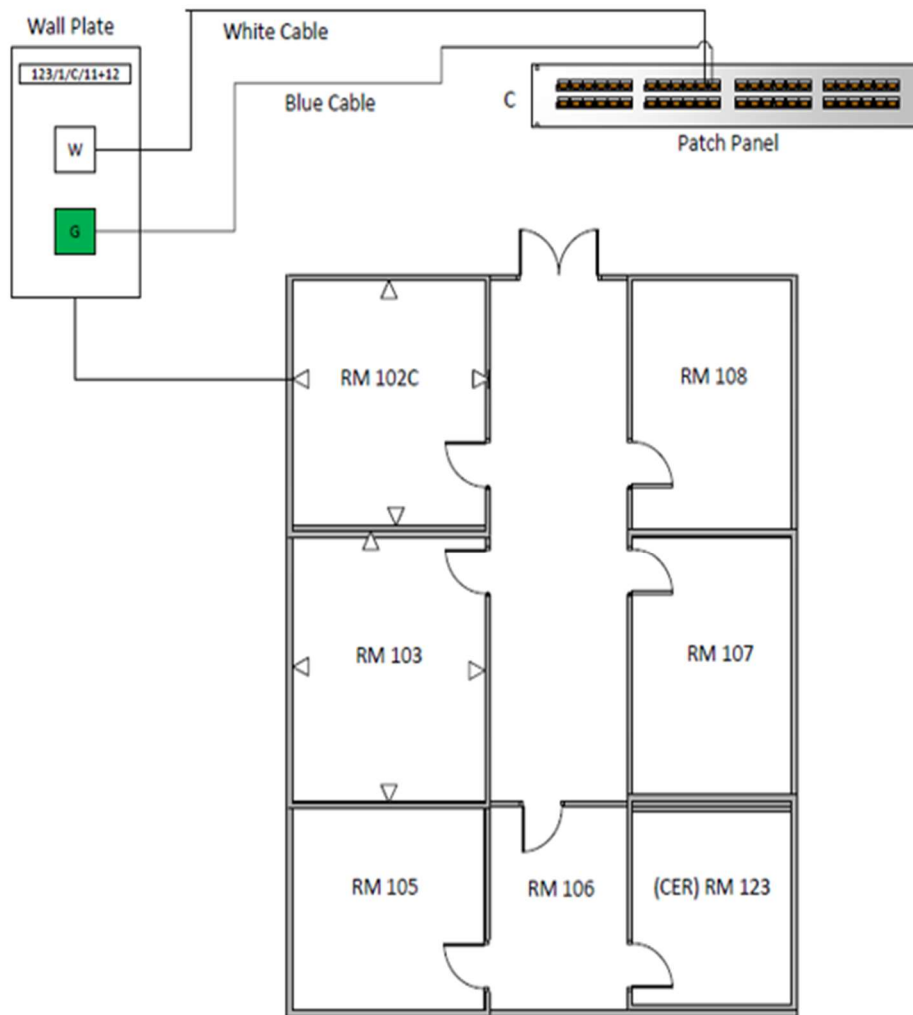
Duplex Single Gang Outlet
RJ45 Telecommunications Outlet

INFORMATION OUTLET WALL PLATE DETAIL

CAT 6 Modular Jack

APPENDIX B

SAMPLE FLOOR PLAN W/CABLE NUMBERING



Sample Floor Plan

Mark each cable at each end for cable identification. Label each faceplate with the CER Number, Rack Number, Patch Panel Letter, and Port Number(s): (123/1/C/11+12). Jacks installed on the same faceplate will be punched down and numbered consecutively on the patch panel (11+12). White cable will terminate on a faceplate using a modular jack with a removable white bezel; blue cable on a modular jack with a removable green bezel. Post the drawing with the identification of outlets and room numbers in the CER upon completion.

Sample Cable Numbering Plan

APPENDIX C

The following documents are referenced within this document or are hereby recognized as a standard of good practice to be followed during the performance of all work.

National Fire Protection Association
Underwriter's Laboratories
Rural Utility Service

NFPA 70 *National Electrical Code*
UL Standards for CAT 6 UTP Wire
Uniform Building Code (UBC)

NEMA
Air Force Documents

Manufacturer's Association
AF TB 95-03 *Cabling and Distribution Systems*
UFC 3-580-01 *Telecommunications Interior Infrastructure Planning and Design*
MIL-HDBK-419A (Vol. 1 & 2) *Grounding, Bonding, and Shielding for Electronic Equipment and Facilities*
MIL-STD-188-124B --- Grounding, Bonding and Shielding for Common Long Haul/Tactical Communications Systems Including Ground Based Communications-Electronics Facilities and Equipment
FAA-STD-019 REV E --- Lighting and Surge Protection, Grounding, Bonding, and Shielding Requirements for Facilities and Electronic Equipment
UL467 --- Grounding & Bonding Equipment

ANSI/TIA Standards

ANSI/TIA-568-B *Commercial Building Telecommunications Cabling Standard*
ANSI/TIA-568-C.O *Generic Telecommunications Cabling for Customer Premises*
ANSI/TIA-568-C.O-1 *Generic Telecommunications Cabling for Customer Premises – Addendum 1, Updated References for Balanced Twisted Pair*
ANSI/TIA-568 *Generic Telecommunications Cabling for Customers Premises – Addendum 2, General Updates*
ANSI/TIA-568 *Commercial Building Telecommunications Cabling Standard*
ANSI/TIA-568 *Commercial Building Telecommunications Cabling Standard (Addendum 1 – Pathways and Spaces)*
ANSI/TIA -568 *Commercial Building Telecommunications Cable Standard-Addendum 2, General Updates*
ANSI/TIA-568 *Balanced Twisted Telecommunications Cabling and Components*

Standards

ANSI/TIA-568-Errata Sheet

ANSI/TIA-568 *Broadband Coaxial Cabling and Components Standards*

ANSI/TIA-569 *Telecommunications Pathways and Spaces*

ANSI/TIA-569 *Telecommunications pathways and Spaces Addendum 1 – Revised temperature and Humidity Requirements for telecommunications Spaces*

ANSI/TIA-569-Errata Sheet

ANSI/TIA-606 *Administration Standard for Telecommunications Infrastructure*

ANSI/TIA-607 *Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises*

ANSI/TIA-758 *Customer-owned Outside Plant Telecommunications Infrastructure Standard*

ANSI/TIA-942

TSB 36 *Cable Requirements for Digital Systems*

TSB 40 *Termination Components*

TSB 67 *Cable Testing*

SP2840 *CAT 6 Component Specifications*

International Electrical and
Electronics Engineers Association

IEEE 802.6 *MAN System requirements*

IEEE 802.9 *Integration of Voice and Data Systems*

IEEE 802.10 *LAN Security Measures*

IEEE 802.3U *100BaseT and 100BaseX Standards*

IBC *International Building Code*

90th Communications Squadron Telecommunications Installation Criteria

APPENDIX D

Attachment 1a – TIC Handbook

Attachment 1b - Floorplan