

**DEPARTMENT OF VETERANS AFFAIRS MEDICAL CENTER
PHILADELPHIA, PENNSYLVANIA 19104**

MEDICAL CENTER MEMORANDUM NO. FITS-02

MAY 2014

**GUIDELINES FOR THE INSTALLATION OF DATA/VOICE CABLING FOR
CONSTRUCTION AND/OR STATION LEVEL PROJECTS**

1. **PURPOSE:** To establish and define a policy and procedures for the installation of data and voice cabling of construction and/or station level projects at the Philadelphia VA Medical Center (PVMAC) and its remote sites.

2. **POLICY:** It is the policy of Facilities Information Technology Service (FITS) to outline the process for the installation of data and voice cabling of construction and/or station level projects at the PVAMC and its remote sites.

3. **RESPONSIBILITIES:**
 - A. Facility Service Project Lead will notify the Telecommunications Specialist at 70% completion of the design phase. This will be the first review with the end user to determine voice and data requirements.

 - B. Facility Service Project Lead will furnish design drawings with furniture and electrical layout of the proposed space to the Telecommunications Specialist. Drawing must be furnished prior to the 100% completion phase of the project. This will afford FITS the lead time to properly plan and execute in a timely manner the cabling project on line. At the 100% review the Telecommunication Specialist, along with the department ADPAC, Project Engineer and Interior Designer will make the final determination for data and cabling installation.

 - C. Facility Service Project Lead will contact the Telecommunications Specialist when the contractor is within three weeks of completion of construction. The cabling contractors working under the FMS contract will be responsible for the termination of the station end of the cabling in accordance with, and specification of, the attachments; Cabling Requirements PVAMC. The Telecommunications Specialist will be responsible for arranging termination of cabling at the data and voice closet(s) utilizing the PBX contract.

 - D. Telecommunications Specialist will do a walk through with the Facility Service Project Lead, Service Line Chief or designee along with the ADPAC, Interior Designer, Chief Network Operations, and the V.A. Contracted Senior Telecommunications Technician to inspect the voice and data installation work. Some minor changes, additions or deletions can be made at that time. It is the responsibility of the using department and the Telecommunication to notify the Project Engineer of any changes at the earliest possible time.

4. **PROCEDURES:**

A. Facilities Project Lead will coordinate with the Telecommunications Specialist, Interior Designer, Service Line Chief or designee and ADPAC to determine the cabling plan. At this time the drawing for the project must be available for review.

B. The Telecommunications Specialist will identify IT equipment placement and will finalize the location of the cable installations based on the agreed upon cabling requirements. Service Line Chief or designee will sign-off on the approval of the cable plans.

C. Finalized cable drawings will be turned over to Facilities Project Lead for the vendor to install the cabling based on the cabling guidelines supplied to the Chief, Facilities Service, Attachment A.

D. The Telecommunications Specialist will review the cable installation for compliance with request.

5. **REFERENCES:** None.

6. **RECISSION:** Medical Center Memorandum FITS-02, dated March 2014.

7. **REVIEW DATE:** May 2017.

/s/

DANIEL D. HENDEE, FACHE
Director

Attachment

Attachment

CABLING REQUIREMENTS PVAMC

Cable Specifications

Installation of any new cable shall be in accordance with accepted EIA/TIA/BICSI and NCS standards. Cable to be installed shall conform to meet the requirements of ICEA Publications S-80-576-1988 (Ref.B1.6) as to size, color and installation.

Conductors shall be cabled so as to insure against induction in voice/data circuits. Crosstalk attenuation within the cable system shall be in excess of 80 db throughout the frequency range.

Outlet Jacks and Station Cable

All new voice and data jacks shall be Category 5e-compliant eight position RJ-45 non-keyed (EIA/TIA 568A). Four unshielded twisted pair 24 AWG station wiring shall be installed from each jack (in accordance with EIA/TIA 568 A Standard "T568A" and 606) to the telecommunication or data closet and shall be of a type designed to support Level Five data communication (not less than 100 MHz/Mpbs)

All new outlets shall be quadplex jacks with a quadplex flush mounted faceplate. The two left jacks are designed for data and are a different color to distinguish them from the two right jacks for voice.

At the telecommunication/Data closet 20 feet of cable should be available for termination purposes. The telephone wiring is a different color to distinguish it from the data wiring.

All new voice and data cable/wiring must be installed in conduit, unless otherwise directed. When there is no existing conduit available, the Contractor shall notify the appropriate VA Telephone Manager or Chief Engineer of the need for additional conduit.

Cable Specifications

Installation of any new cable shall be in accordance with accepted EIA/TIA/BICSI and NCS standards. Cable to be installed shall conform to meet the requirements of ICEA Publications S-80-576-1992 (Ref.B1.6) as to size, color and installation.

Conductors shall be cabled so as to insure against induction in voice/data circuits. Crosstalk attenuation within the cable system shall be in excess of 80 db throughout the frequency range.

Outlet Jacks and Station Cable

Unless initially specified differently for the entire project or identified for individual locations within the project, all new voice and data jacks shall be Category 5e-compliant eight position RJ-45 non-keyed (EIA/TIA 568A). For the two jacks designated for DATA, one 4 pair unshielded twisted pair 24 AWG station cable, BLUE in color, shall be installed from each jack (in accordance with EIA/TIA 568 A Standard "T568A" and 606) to the telecommunication or data closet and shall be of a type designed to support Level Five data communication (not less than 100 MHz/Mpbs). For the two jacks designated for voice, ONE Category 5E cable, WHITE in color, shall be split between the 2 voice jacks with the White/Blue and White/Orange pair terminating on Jack one and the White/Green and White/Brown pair terminating on jack two. Specifically, on jack one (Top), the White/Blue pair of the station cable will terminate on the pins normally reserved for the White/Blue pair and the White/Orange pair will terminate on the pins normally reserved for the White/Green pair. On jack two (Bottom), the White/Green pair of the station cable will terminate on the pins normally reserved for the White/Blue pair and the White/Brown pair will terminate on the pins normally reserved for the White/Green pair. The previously stated technical specifications for cable and jacks apply here as well.

Unless otherwise specified, all new outlets shall be quadplex jacks with a quadplex flush mounted faceplate. The two left jacks are designated for data and will be ORANGE in color to distinguish them from the two right jacks designated for voice which will be WHITE in color.

At the telecommunication/Data closet 20 feet of cable should be available for termination purposes. The designated voice cable will be WHITE in color to distinguish it from the data cable which will be required to be BLUE in color. In addition, all cables will be marked with corresponding designation numbers on each end.

All new voice and data cable/wiring must be installed in conduit, unless otherwise directed. When there is no existing conduit available, the Contractor shall notify the appropriate VA Telephone Manager or Chief Engineer of the need for additional conduit.