Telecommunications Room (TR) standards: All TR's are to be installed and configured by a certified data communications engineering firm.

- 10 x 10 TR secured space a minimum of 100 sq. ft., ceiling shall be a minimum of 9 ft above finished floor.
- TR space shall be restricted for use by only VA OI&T equipment and shall not be used for any other purposes.
- TR space shall be controlled by dual factor keypad entry interconnected to the VA Police Monitoring system.
- All perimeter walls shall extend from floor slab to structural system (deck) to prevent up and over access.
- Any penetrations must be sleeved and the appropriate fire rated protection used.
- Provide AC grade ¾" plywood backboard with two coats of fire-resistant paint on three (3) perimeter walls of the Telecommunications Room for mounting service provider/security/video and similar equipment.
- No windows or other openings.
- Sufficient overhead lighting in front of and behind the network racks.
- Solid core wood door with the veneer to match the other suite doors.
- Lockset shall meet the specification of VA locksmith. Core should be locked to the VA OIT TR key. If hinged on the exterior hinges shall be welded of pinned.
- HVAC single zoned controllable thermostat in the room able to maintain constant 69 degrees on a 24x7 basis. The relative humidity shall not exceed 50 percent.
- The contractor shall provide and install two (2) 45U 4 post racks Vertical and Horizontal cable management (metal not plastic) with hinged cover door/s. Cable management at top and then between every patch panel (metal not plastic) with hinged cover door/s, vertical cable manager shall be and on the ends of the 2 racks. See Appendix B, sheet 37 of the Infrastructure Standard for Telecommunications Spaces for equipment specifications and suggested equipment (or equivalent).
- Horizontal cable managers are not necessary if angled patch panels are used (see Appendix B, sheet 29, plate 2 of the Infrastructure Standard for Telecommunications Spaces).
- The rack should be bolted to the floor and seismically braced to the building (as required). Provide a minimum of 3 foot of clearance on all four sides of the installed rack.
- The performance category of all installed untwisted shielded pair (UTP) copper distribution elements (permanent link and patch cabling, patch panels, and work area outlet (WAO) jacks) used for network/data transmission shall be Category 6A. ALL LABELING SHALL BE APPROVED BY OIT PRIOR TO FIRST CABLE INSTALL.
- A minimum of 2 quad drops on opposite walls shall be installed in all areas of the facility. Coordination of drop installation with OIT is requested.
- Install patch panels in the front top 1/3 of the network rack (RUs 31-45). Install rack-mounted uninterruptible power supply (UPS) and power distribution unit (PDU) equipment at the bottom of the network rack, beginning at RU1.
- Provide a minimum of two (2) duplex 120V 20A convenience power outlet with NEMA 5-15/20 receptacles per wall.

- Power supporting the network rack shall not be wall-mounted to eliminate tripping and power disconnection risks. Provide two (2) each L5-20 locking receptacles on separate circuits for redundancy.
- Provide and install one (1) each single-phase, 120V/120V L5-20 input/L5-20 output rack-mounted UPS supporting up to 1920VA of equipment load and providing ten (10) minutes of battery backup at the 1920VA loading level.
- Provide and install two (2) each zero-U vertical rack PDUs with L5-20 inputs and a minimum of six (6) each NEMA 5-15 receptacles to support IT equipment. One rack PDU shall be powered via the UPS. Example vertical rack PDU meeting these requirements is the AP9551; equivalent units are acceptable. IF generator power is available one UPS and PDU will be connected via the emergency power.
- The contractor shall provide and install a bonding system compliant with the requirements of ANSI/TIA-607-D, to include a Primary Bonding Busbar (PBB), Rack Bonding Busbar (RBB), Telecommunications Equipment Bonding Conductor (6 AWG), and Rack Bonding Conductor (6 AWG). Install RBB in the top rear RU position in the network rack. Network rack and cable tray sections shall be bonded. Unit Bonding Conductors (UBCs) and their connection to the RBB and network equipment by others. See Appendix B, sheet 24 of the Infrastructure Standard for Telecommunications Spaces for additional guidance.
- The contractor will provide and install conduit pathways from the Telecommunications Room point of demarcation to connect the building with AT&T or the local telephone company vaults.
- The contractor will work with AT&T or the local exchange carrier (LEC) to bring in both fiber and copper infrastructure into the Telecommunications Room. If carrier equipment requires power to ensure the facility has internet during a power outage, install the carrier equipment in the network rack and power via the UPS.
- Questions about telecommunications infrastructure guidance can be directed to OIT.
- Cable tray at the top of each rack bolted to the back wall to support WAO cable weight.
- Cable tray on any wall under the penetrations where cabling enters the TR run to rack tray
- All racks shall be centered 36” off the back & a side wall allowing for additional racks expansion
- All drop locations within the facility shall be quad receptacles (except ceiling mounts dual)
- The longest run cannot exceed 80m (260 ft), allows for patch cables
- Must include cable test results for every run, excel or PDF document
- Must include VISIO diagram of all cables installed
- Must provide as-built documentation prior to first inspection for occupancy.