Communications Design Requirements (Voice and Data Processing)
Current Revision Update - 2/14/2014

1. All voice/data communication raceways installed must meet or exceed the minimum specifications and standards set by the State Division Facilities Construction Management (DFCM) and State Department of Technology Services (DTS).

2. DTS requires access to inspect and approve any and all work completed for communications purposes, for compliance to state standards and/or specifications relating to the specific project for communications purposes.

3. Communications cable raceway systems shall be installed to meet the following criteria:

   A. Communications outlets (telephone/data) shall be provided in the walls of separate offices. Common areas, modular furniture and open work areas shall be equipped for communications (telephone/data) outlets. A minimum of one communications outlet (telephone/data) shall be required per each work station location.

   B. Provide a 1" **emt** (metal) conduit with a double (4" square) box and single-gang mud ring at **each** outlet location. **No Daisy chain of conduit is allowed.** Conduit from workstation locations **shall route to a cable tray or home run to telecommunications rooms**. Conduit **stubs from the outlet location must route to a cable tray** in accessible ceiling spaces. Conduit from workstation locations in facilities with solid ceilings must home run from the workstation location to the telecommunications rooms. **The use of FLEX Conduit (Plastic or Metal) is prohibited**. All bends of emt conduit (i. e.: offsets, 45, sweep 90's, etc) should be radiuses to allow for future fiber Optic cable installation. **ALL conduits shall have pull strings.**

   C. Access to install Communications cables to modular furniture communications outlets must be provided. No more than 2 communications outlets may be routed through one 1" access conduit. All proposed raceways, conduit access routes, communications outlet locations and communications equipment location(s) for voice and data applications must be state approved prior to work beginning.

   D. Provide readily accessible space for the installation and moving of communications cables and outlets.

   E. Two 120 volt, 20 amp, dedicated separate circuits, each in a fourplex (double duplex) outlet are required in all communication(s) rooms and/or equipment locations. **A #6 ground wire and bus will be required in all communications rooms**. The ground should be located at the bottom of the communications backboards.

   F. 3/4" fire treated plywood backboard(s) shall be mounted in the communications room(s) for voice and data equipment terminals. Plywood **shall be painted with fire retardant paint** to match the walls, and sized appropriately for equipment in the room as approved by DTS. All work shall comply with the local building

and/or inspector having jurisdiction.

G. **Provide 2 each 4" Entrance conduits to allow connectivity to the local exchange carriers. (i. e. Century Link)**. The 4" communications entrance Conduits should route from the main communications room to a 24"X36"X24" (WxLxD, minimum) access vault just **inside** the property line. Coordination of activities, as well as all associated cost of the new Entrance facilities, are the responsibility of the owner/developer. Coordination should include the local exchange carrier (i.e. Century Link), DFCM project coordinator and State DTS.

H. Should a proposed Lease space be adjacent to an existing state occupied space or building, 4" communications conduit(s) between facilities will be required to allow connectivity.

I. Any proposed space which has or may have multiple building(s) or a campus environment, will require 4" communications conduit(s) between facilities to allow communications connectivity.

J. **Communications equipment rooms for voice and data electronic equipment must have separate environmental control equipment from the main building systems. Operating temperatures must be in the 72 to 84 degree range 24 hours per day 365 days per year. The relative humidity should be 30% to 50%.** Control of that equipment is required in the communications rooms, and is to be tied in to the building control systems to allow remote access and/or monitoring.

4. These communications design requirements may require additional design considerations. Proposers should coordinate specific design criteria or options with State Division of Facilities Construction Management (DFCM) and State Department of Technology Services, Network wiring group prior to submission of proposals.

5. Compliance to the latest **NEC code regarding Communications Cable support systems** must be installed as a part of building construction and/or Renovation. Proposed solutions for code compliance must be coordinated with DFCM & DTS project personnel.

6. Telecommunications Room Size's and Location's in the facility must be coordinated with DTS to ensure compliance to NEC Code and TIA/EIA standards. Telecommunications design standard recommend **separation of communications from Electrical, Plumbing and** Mechanical systems, while NEC Code specifies minimum clearances which must be met.