Note to the Designer/Architect/Engineer: These Specifications are basic minimum criteria to be met in preparing the final project specifications for this section, which is the responsibility of the Designer

York University Building Standards

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1.0 GENERAL

.1 Planning, placement and design of all communication rooms and main entrance rooms.

.2 The purpose of the Communication Rooms are to safely and securely house all of the horizontal cables, network switches, telecommunications equipment and backbone cabling.

.3 Each building will contain one Main Communications Room (MCR) where the building entrance fibre is fed into and terminated.

1.1 Communication Room Locations

.1 Locations of the Communication Rooms will be based on the use of the 90-meter runs from faceplate to communication room and must accommodate network service to all spaces in the building. This should be reviewed during the conceptual design phase with approval from the UIT-IPA Planning Manager.

.2 Buildings with requirements for multiple Communication Rooms shall be placed within the same location for each floor provided there are not structural obstructions. They shall be vertically aligned.

.3 All Communication Rooms will be accessible through a public thoroughfare and not a secured area.

1.2 Communication Room Restrictions

.1 All Communication Rooms will be a secured non-shared space with other facilities.

.2 No other materials or services will be installed or stored in the Communication Rooms.

.3 Installation of services such as P.A. System, A.V. equipment or Security Systems will require the approval of the UIT-IPA Planning Manager or UIT- Network Operations Manager.

.4 Access hatches within the Communication Rooms cannot be placed above equipment. This will need to be reviewed during the conceptual design phase and approved by the UIT-IPA Planning Manager.

1.3 Communication Room Layout

.1 Each Communication Room will be a minimum of 3W x 4.8D x 2.4H meters. Changes to be reviewed during the conceptual design phase and approval required by UIT-IPA Planning Manager.

.2 4-10.16 centimeter sleeves are to be provided between vertically stacking rooms connecting one another above and below floors.

.3 Three of the walls within the Communication Rooms will be sheeted in 2.4H meter x 1.5W meters of 20mm thick plywood. The fourth wall will be furred out at least 140mm to accommodate the cable to be run behind the plywood to GIGA BIX.

.4 The plywood will be painted in fire retardant paint.

.5 The ceiling in each Communication Room will be sealed in a dust retardant finish.

.6 Each room will have a building ground buss.

1.4 Flooring

.1 All Communication Rooms flooring will be covered with anti-static retardant tiles. Vinyl tiles are NOT acceptable. Sealed concrete is NOT acceptable.

.2 Floor loading to be rated in excess of 68 kilograms per 30.50 centimeters.

1.5 Keying

.1 All rooms will be keyed with a number 3 lock and no duplicates to be made or circulated.

.2 Distribution of keys for access during construction will be signed out with the Network Operations Manager located in Steacie Science and Engineering Building.

1.7 Painting and Finishing Schedule

.1 All walls will be treated with fire retardant paint if not applying fires resistant treated plywood.

.2 All walls and ceilings will be painted the colour of white.

1.8 Signage

.1 All Communication Rooms will have signage informing outside service technicians to contact Network Operations Manager if using services from the rooms such as Bell feeds.

.2 The project will provide room signage for all new or renovated Communication Rooms per CSBO permanent York University room numbers and NOT temporary/Architectural number assignments.

1.9 Smoke Detector, Heat Detector and Sprinkle System

.1 All sprinkler heads placement should NOT be directly above the network switches. Placement will need to be reviewed during the conceptual design phase and approved by the UIT-IPA Planning Manager.

.2 CSBO will need to make arrangements for the installation of a drip tray for sprinkler heads that are located above equipment racks.

1.10 Back-Up Power and Power Outlets

.1 Each wall will have a minimum of two 208V AC 20 amp receptacles mounted at a minimum height of 15.24 centimeters from the finished floor.

.2 A main feed off of the main building breaker will be dedicated as an independent 100 amp three-phase electrical panel within each Communications Room.

.3 Dedicated conduit to be installed for any electrical and will not be shared with any communications cabling.

1.11 Communication Rooms Ventilation

.1 Each Communication Room will have its own independent air conditioning unit and will operate independently of seasonal and of normal shut downs.

.2 Each unit will operate independently of the building HVAC system and will maintain a minimum temperature of 15C not to increase above 22C degrees. Communications room cooling must be designed for equipment cooling (not comfort air) and provide an efficiently designed airflow plan for rack mounted equipment.

.3 The temperature will be maintained 24 hours a day by 365 days per year.

.4 Each Communication Room will have its own temperature control thermostat.

.5 48 hour notifications of any scheduled shut downs for air quality control need to be communicated to UIT-Network Operations.

.6 The Network design will dictate the air conditioning capacity requirements for each Communication Room.

.7 In case of A/C failure, an exhaust fan controlled by a thermostat and powered by UPS within the room will be included in every Communication Room Design.

1.12 Fire Stopping

.1 All fire stopping will be completed by the contractor once all horizontal and vertical cables have been installed.

.2 All open space between adjoining rooms will be sealed.

1.13 Equipment Cabinets

.1 There should be a minimum of 1 meter clearance in the front and back of each cabinet to provide access.

.2 There will be a minimum of 15cm of clearance between the wall and one side of the equipment cabinets.

.3 The Colour preference for the equipment cabinet is BLACK

.4 The minimum distance between the equipment cabinet and any other equipment within the Communication Room is 1 metre (except as noted in 1.13.2 on one side)

.5 The minimum distance between the top of the cabinet and the lighting fixture is 15cm Lighting fixtures should not be placed above planned equipment rack locations. Lighting fixtures should not be placed within 30cm of cable trays.

.6 Each room will house one fibre patch panel that contains three pair single mode and three pair multi-mode fibre.

.7 All equipment cabinets will have cable management trays.

1.14 Equipment Racks

.1 Each rack must be a minimum of 76.2 wide and 1.78 meters high, and be capable of housing 40U of IEA-310 standard 19 inch rack mount equipment.

.2 Rack design will be created for each Communication Room during the planning phase which will reflect the network requirements for each Communication Room.

.3 There should be a minimum of 1 meter clearance in the front and back of each rack to provide access.

.4 There will be a minimum of 15cm of clearance between the wall and one side of the equipment rack.

1.15 Cable Trays

.1 All pathways for horizontal cable trays within the Communication Rooms will be routed to avoid utilities and electrical interference.

.2 Each tray width will be a minimum of 45.72 centimeters.

.3 There must be a minimum of 30 centimeters of vertical space above each cable tray.

.4 Cable trays will be used to service all areas where cables are required such as the Communication Rooms, racks, BIX fields, entrance areas and planned spaces.

.5 The minimum distance between trays are 60cm.

.6 The minimum distance between a tray and the wall is zero.

.7 The minimum vertical distance below a tray and to the top of other equipment is 15cm.

.8 The minimum distance between a tray and the floor is 3 meters.

.9 The maximum space between the floor level and a trays is 4 meters.

1.16 Horizontal Cables

.1 All horizontal cables will be bundled separately from entrance cables.

.2 A minimum of 5 meters slack will be left on unterminated cables within the Communication Rooms.

.3 All horizontal cables in the Communications Rooms must run in bundles attached to the walls, in the cable trays, or in the furred out space behind the MDF.

1.17 Labeling

.1 Each Communication Room will have its own unique room number following the UIT Network Operations Standards.

.2 The colour codes of the labels for the cross connect fields will follow the BICSI Industry Standards. And GIGA BIX Labeling Standards

1.19 Lighting

.1 Lighting to be suspended from the ceiling and will not interfere with cable trays within the Communication Rooms.

.2 Each Communication Room will have provisioning for Emergency Lighting in the event of a power interruption.

.3 Illumination levels are to be according to WSBC industry standards for safety and comfort.

.4 On/Off switch to be located inside the door and be dedicated solely for the Communication Rooms.

2.0 PRODUCTS

2.1 Flooring

2.2 Fire stopping

.1 Only Hilti Products will be used for all fire stopping.

3.0 EXECUTION

3.1 Equipment Cabinets

3.2 Equipment Racks

3.3 Cable Trays

.1 Manufacturers, BISCI and TIA installation codes will be strictly adhered to upon installation of trays.

3.4 Labels

End of Section