WAYPOINT

Toanche Stage 3 & 4

GENERAL NOTES

1. ALL CABLES ARE TO BE PULLED IN A CONTINUOUS RUN. NO CABLE SPLICES WILL BE PERMITTED.
2. ALL CABLING MUST BE ROUTED TO MINIMIZE CROSS-OVERS AND CONGESTION.
3. ALL HORIZONTAL CABLES SHALL BE NEATLY BUNDLED WITH VELCRO STRAPS AND ROUTED ALONG PATHWAYS IN THE ACCESSIBLE CEILING SPACE.
4. ROUTE ALL CABLES TO MAINTAIN MINIMUM SEPARATIONS FROM SOURCES OF LIGHTING, POWER CABLES, HVAC AND OTHER ELECTRICAL EQUIPMENT AS INDICATED BY HE MINIMUM SEPARATION SCHEDULE. WHERE REQUIRED THE CONTRACTOR WILL BE REQUIRED TO INSTALL ADDITIONAL MATERIALS IN ORDER TO MEET THE SEPARATION SCHEDULE.
5. ALL CABLES THAT ARE RUN "FREE AIR" FOR ANY DISTANCE IN A PLENUM SPACE MUST BE CSA FT6/CMP RATED.
6. EXERCISE CAUTION WHEN PULLING CABLES TO ENSURE THAT THE MANUFACTURERS' MAXIMUM PULL-FORCE
7. ENSURE THAT MINIMUM BEND RADII ARE NOT EXCEEDED WHEN CONNECTORIZING OR ROUTING CABLES.
8. COORDINATE THE INSTALLATION OF ALL COMMUNICATION OUTLETS WITH ELECTRICAL AND INTERIOR DESIGN DRAWINGS.
9. WHEN TERMINATING THE MODULAR JACKS AND TERMINATION PANELS, THE CABLE SHEATH SHALL BE LEFT INTACT AS CLOSE AS POSSIBLE TO WITHIN A MINIMUM OF ONE INCH (25mm) TO THE TERMINATING HARDWARE. THE LENGTH OF UNJACKETED CONDUCTORS SHALL NOT EXCEED ONE INCH (25mm). THE AMOUNT OF UNTWISTING OF CABLE CONDUCTORS MUST NOT BE GREATER THAN 0.5 INCHES (13mm) AFTER TERMINATION.
10. EACH CABLE AND TERMINATION JACK TO BE AFFIXED WITH MECHANICALLY PRINTED IDENTIFICATION LABELS. LABELS TO BE OF SELF-LAMINATING VINYL CONSTRUCTION WITH WHITE MARK-ON COLOUR AND CLEAR OVERLAPS. CABLE LABEL SHALL BE A MINIMUM OF TWO (2) INCHES WIDE AND OF SUFFICIENT LENGTH TO PERMIT CLEAR OVERLAP TO BE WRAPPED COMPLETELY AROUND CABLE AT LEAST ONE AND A HALF TIMES. EACH CABLE SHALL BE LABELLED AT BOTH ENDS. AT STATION END OUTLET LOCATIONS, EACH MODULAR JACK TO ALSO BE AFFIXED WITH A SYMBOLIC ICON TAB IDENTIFYING THE JACK AS FOR VOICE OR DATA APPLICATION.
11. ROUTE HORIZONTAL COMMUNICATIONS CABLES FROM WORKSTATION TO THE LAN ROOM VIA CATEGORY 6 RATED CEILING SUPPORT HARNESSES OR HANGERS IN THE ACCESSIBLE CEILING SPACE.
12. THE CONTRACTOR SHALL INDICATE THE EXACT ROUTING OF ALL COMMUNICATIONS CABLES ON A RECORD DRAWING SET. THIS DRAWING MUST SHOW THE EXACT ROUTING THROUGH THE EXACT CONDUIT OR PATHWAY STRUCTURE.
13. IF FLOOR IMMEDIATELY BELOW IS OCCUPIED, MAKE ALL NECESSARY ARRANGEMENTS FOR AFTER HOURS ACCESS FOR ALL CABLE INSTALLATION THROUGH CEILING SPACE OF FLOOR BELOW. EXERCISE EXTREME CAUTION SO NO DISRUPTION OCCURS TO THE OCCUPIED AREA.
14. ALL CABLING SHALL BE NEATLY DRESSED AND COMBED ALONG BACK OF BACKBOARD AND AT ALL TERMINATION RACK AND PATCH PANEL LOCATIONS.
15. ALL UTP CABLING MUST BE INSTALLED IN ACCORDANCE TO EIA/TIA INSTALLATION REQUIREMENTS FOR THE CATEGORY RATING OF THE CABLING.
16. PROVIDE CABLE SUPPORTS, HARNESSES AND SLEEVES AS REQUIRED. ALL FREE RUNNING CABLES SHALL BE SECURELY FASTENED TO APPROPRIATE CABLE SUPPORTS AND HARNESSES WITH A MAXIMAL INTERSUPPORT CABLE SAG OF 6". ALL CABLES SHALL BE COMPLETELY SUPPORTED BY THE HARNESSES SO THAT NO WEIGHT IS TRANSFERRED TO ANY OTHER EXISTING FIXTURE OR CEILING SPACE STRUCTURE. CABLE SUPPORTS SHALL BE CADDY CABLECAT OR EQUIVALENT, INSTALLED SUCH THAT THE INTERSUPPORT SAG OF 6" IS NOT EXCEEDED.
17. ALL WORK SHALL BE PHASED IN ACCORDANCE TO SCHEDULING DICTATED BY THE OWNER/DESIGNER/GENERAL CONTRACTOR AND/OR PROJECT MANAGER.
18. MAKE ALL NECESSARY ARRANGEMENTS TO COORDINATE CABLE INSTALLATION THROUGH SYSTEMS FURNITURE INCLUDING ALL NECESSARY AFTER HOURS OF WEEKEND WORK NECESSITATED BY THE FURNITURE INSTALLATION SCHEDULE. ON MOVE WEEKENDS, PROVIDE SUPPORT TO RESOLVE ANY CABLING RELATED ISSUES.
19. REFER TO COMMUNICATIONS SPECIFICATION FOR FURTHER COMPONENT AND INSTALLATION DETAILS.

MINIMUM SEPARATION SCHEDULE OF TELECOM CABLES FROM SOURCES OF EMI

EMI SOURCE	MIN. SEP.
Power lines < 2 kVA.	127 mm (5 in)
Power lines 2 - 5 kVA.	305 mm (12 in)
Power lines > 5 kVA.	610 mm (24 in)
Power lines < 2 kVA in proximity to a grounded metal conduit pathway.	64 mm (2.5 in)
Power lines 2 - 5 kVA in proximity to a grounded metal conduit pathway.	152 mm (6 in)
Power lines > 5 kVA in proximity to a grounded metal conduit pathway.	305 mm (12 in)
Power lines 2 - 5 kVA in grounded metal conduit in a metal conduit pathway.	76 mm (3 in)
Power lines > 5 kVA in grounded metal conduit in a metal conduit pathway.	152 mm (6 in)
Fluorescent lighting.	305 mm (12 in)
Transformers and electrical motors.	1016 mm (40 in)

COMMUNICATION DRAWING LIST

PAGE NO.	TITLE
IT-001	IT/COMMUNICATIONS GENERAL NOTES, LEGEND, DRAWING LIST AND SPECIFICATIONS
IT-103	IT/COMMUNICATIONS LEVEL 3 EXISTING PLAN
IT-303	IT/COMMUNICATIONS LEVEL 3 NEW PLAN
IT-601	IT/COMMUNICATIONS LAN ROOM LAYOUT AND DETAILS
IT-602	IT/COMMUNICATIONS DETAILS

IT/COMMUNICATIONS LEGEND

EACH OUTLET TO CONSIST OF THE INDICATED QUANTITY OF FT6/CMP RATED, EIA/TIA CATEGORY 6A 100 OHM, FOUR (4) UNSHIELDED TWISTED PAIR DATA AND VOICE CABLES. CABLES TO BE TERMINATED ON EIA/TIA CATEGORY 6A TERMINATION HARDWARE AT BOTH ENDS. AT THE STATION END, TERMINATION HARDWARE TO CONSIST OF CATEGORY 6A RJ45 TYPE JACK IN T568A PIN-OUT CONFIGURATION. AT THE COMPUTER ROOM END, CABLING TO BE TERMINATED ONTO CATEGORY 6A MODULAR JACK PATCH PANELS AS SHOWN AND SPECIFIED. QUANTITY OF CABLES AND OUTLETS PER EACH SPECIFIED GROUP TO BE AS DETAILED IN COMMUNICATIONS LEGEND BELOW.

SYMBOL	DESCRIPTION
1 DFFNNN	SINGLE DATA, WALL OUTLET c/w WALL MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, ONE HORIZONTAL DATA CABLE AND LABELLING.
2 DFFNNN DFFNNN	DUAL DATA, WALL OUTLET c/w WALL MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, TWO HORIZONTAL DATA CABLES AND LABELLING.
3 DFFNNN DFFNNN DFFNNN	TRIPLE DATA, WALL OUTLET c/w WALL MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, THREE HORIZONTAL DATA CABLES AND LABELLING.
1 DFFNNN	SINGLE DATA, FURNITURE OUTLET c/w FURNITURE HOUSING, TERMINATION HARDWARE, ONE HORIZONTAL DATA CABLE AND LABELLING.
2 DFFNNN DFFNNN	DUAL DATA, FURNITURE OUTLET c/w FURNITURE HOUSING, TERMINATION HARDWARE, TWO HORIZONTAL DATA CABLES AND LABELLING.
3 DFFNNN DFFNNN DFFNNN	TRIPLE DATA, FURNITURE OUTLET c/w FURNITURE HOUSING, TERMINATION HARDWARE, THREE HORIZONTAL DATA CABLES AND LABELLING.
1 DFFNNN	SINGLE DATA, FLOOR OUTLET c/w FLOOR MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, ONE HORIZONTAL DATA CABLE AND LABELLING.
2 DFFNNN DFFNNN	DUAL DATA, FLOOR OUTLET c/w FLOOR MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, TWO HORIZONTAL DATA CABLES AND LABELLING.
3 DFFNNN DFFNNN DFFNNN	TRIPLE DATA, FLOOR OUTLET c/w FLOOR MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, THREE HORIZONTAL DATA CABLES AND LABELLING.
1 DFFNNN	SINGLE DATA, CEILING OUTLET c/w CEILING MOUNTED SURFACE OUTLET, TERMINATION HARDWARE, ONE HORIZONTAL DATA CABLE AND LABELLING.
2 DFFNNN DFFNNN	DUAL DATA, CEILING OUTLET c/w CEILING MOUNTED SURFACE OUTLET, TERMINATION HARDWARE, TWO HORIZONTAL DATA CABLES AND LABELLING.
WAP DFFNNN DFFNNN	WIRELESS ACCESS POINT c/w, FR TRANSPARENT COVER (SEE IT-303 FLOOR PLAN NOTES), CEILING MOUNTED SURFACE OUTLET, TERMINATION HARDWARE, TWO HORIZONTAL DATA CABLES, AND LABELLING. PROVIDE MINIMUM 20' CABLE SLACK COILED IN CEILING AT OUTLET END.
WAP DFFNNN	WIRELESS ACCESS POINT c/w, WALL MOUNTED SURFACE OUTLET, TERMINATION HARDWARE, ONE HORIZONTAL DATA CABLES, AND LABELLING. PROVIDE MINIMUM 20' CABLE SLACK COILED IN CEILING AT OUTLET END.
COAX-NN	CATV OUTLET c/w WALL MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, LABELLING AND RG-6 75Ω COAXIAL CABLING ROUTED TO THE BASEBUILDING CATV DEMARCATION POINT.
W	WALL MOUNTED DIRECT CONNECTION TO SYSTEMS FURNITURE AND/OR WIREMOLD RACEWAY
F	FLOOR MOUNTED DIRECT CONNECTION TO SYSTEMS FURNITURE AND/OR WIREMOLD RACEWAY
	ADDITIONAL NOMENCLATURE
COIL	SINGLE DATA, FURNITURE OUTLET C/W FURNITURE HOUSING, TERMINATION HARDWARE, ONE HORIZONTAL DATA CABLE AND LABELING TERMINATED INSIDE RAISED FLOOR FOR FUTURE USE;
WM	WALL MOUNT TELEPHONE OUTLET MOUNTED AT 42" A.F.F. c/w STAINLESS STEEL FACEPLATE
TV	COMMUNICATIONS OUTLET TERMINATED AT TELEVISION DISPLAY HEIGHT.
AV	COMMUNICATIONS OUTLET DEDICATED FOR AV. COORDINATE INSTALLATION WITH THE AV CONTRACTOR.
RS	COMMUNICATIONS OUTLET DEDICATED FOR ROOM SCHEDULING COORDINATE INSTALLATION WITH THE AV CONTRACTOR.
PRJ	COMMUNICATIONS OUTLET DEDICATED FOR PROJECTOR.
WP	COMMUNICATIONS WEATHERPROOF OUTLET. ANY PATCH CORD EXPOSED TO WEATHER SHALL BE WEATHERPROOF AND OUTDOOR RATED.
RD	COMMUNICATIONS OUTLET DEDICATED FOR SECURITY CARD READER. COORDINATE INSTALLATION WITH SECURITY CONTRACTOR OR WITH CLIENT SECURITY DESIGN REPRESENTATIVE.
E	EXISTING DATA/VOICE TO REMAIN.
R	EXISTING TO BE REMOVED AND/OR RELOCATED
ER	EXISTING IN RELOCATED POSITION
F-NNN	COMMUNICATIONS OUTLET IDENTIFIER WHERE: F = "W" OR "N" LAN ROOM IDENTIFIER (NORTH or WEST) NNN = WORKSTATION NUMBER IDENTIFIER (001, 002, ...)

IT/COMMUNICATIONS SPECIFICATIONS

GENERAL COMMUNICATIONS REQUIREMENTS

1. COMPLETE THE INSTALLATION OF THE WORK IN ACCORDANCE WITH LATEST EDITIONS OF THE ONTARIO BUILDING CODE, PROVINCIAL ELECTRICAL SAFETY CODE, CSA, ANSI/TIA/EIA, ULC, NFPA, O.S.H.A. AND OTHER CODES, AS REQUIRED. COMPLY WITH ELECTRICAL AND BUILDING CODE BULLETINS IN FACE OF TIME OF BID SUBMISSION. ALSO, ALL COMMUNICATION WORK SHALL COMPLY WITH LANDLORD'S REQUIREMENTS AND BASE BUILDING STANDARDS.
2. VISIT THE SITE AND EXAMINE THE EXISTING CONDITIONS AFFECTING THE WORK OF THIS DIVISION. NO CLAIM FOR EXTRA PAYMENT SHALL BE MADE FOR EXTRA WORK MADE NECESSARY BY CIRCUMSTANCES ENCOUNTERED DUE TO CONDITIONS WHICH WERE VISIBLE UPON, OR REASONABLY INFERABLE FROM AN EXAMINATION OF THE SITE PRIOR TO SUBMISSION OF THE BID. THIS INCLUDES THE EXISTING SERVICES ABOVE CEILING.
3. WHEREVER THE WORDS "PROVIDE" OR "SUPPLY AND INSTALL", ARE USED, IT SHALL BE UNDERSTOOD TO MEAN "PROVIDE AND INSTALL, INCLUSIVE OF ALL LABOUR, MATERIALS, INSTALLATION, TESTING, AND CONNECTIONS FOR THE ITEM TO WHICH REFERRED.
4. ALL MATERIALS AND EQUIPMENT SHALL BE NEW, AND UNUSED PRODUCTS OF ONLY THE MOST RECENT MANUFACTURER MODEL OR VERSION NUMBER, CSA CERTIFIED, AND MANUFACTURED TO THE STANDARDS SPECIFIED. WHERE THERE IS NO ALTERNATIVE TO SUPPLYING EQUIPMENT WHICH IS NOT CSA CERTIFIED, OBTAIN SPECIAL APPROVAL FROM THE LOCAL INSPECTION DEPARTMENT.
5. SUBMIT TO THE LOCAL ELECTRICAL INSPECTION DEPARTMENT, THE NECESSARY NUMBER OF DOCUMENTS FOR EXAMINATION, SPECIAL INSPECTION AND APPROVAL, PRIOR TO THE COMMENCEMENT OF THE WORK, AND PAY ALL COSTS AND ASSOCIATED FEES. PROVIDE CERTIFICATE(S) OF ACCEPTANCE FROM THE AUTHORITIES INSPECTION DEPARTMENT, UPON COMPLETION OF WORK.
6. PROVIDE TOOLS AND CLEAN UP EQUIPMENT. OBTAIN THE LANDLORD'S PERMISSION FOR THE USE OF ELECTRICAL, ELEVATOR, PLUMBING OR DRAINAGE OUTLETS. PROVIDE DAILY CLEAN-UP AND PROPER DISPOSAL OF DEBRIS GENERATED BY DAILY OPERATIONS. ON COMPLETION OF THE WORK, ALL TOOLS, SURPLUS MATERIALS AND WASTE MATERIALS SHALL BE REMOVED AND THE PREMISES LEFT IN A CLEAN, PERFECT CONDITION.
7. PROVIDE AND MAINTAIN INSURANCE TO PROTECT THE LANDLORD, TENANT AND TRADES FROM ALL POSSIBLE CLAIMS. SUBMIT WITH BID FOR AN AMOUNT ACCEPTABLE TO LANDLORD AND TENANT.
8. WHEREVER ANY BASE BUILDING REQUIRES ACCESSIBILITY, MAINTENANCE OR ADJUSTMENT, PROVIDE ACCESS DOORS APPROVED BY DESIGN CONSULTANT/ARCHITECT AND LANDLORD. ARRANGE FOR ITS INSTALLATION BY THE TRADE IN WHOSE WORK IT OCCURS.
9. ANY DISCREPANCIES BETWEEN DRAWINGS AND/OR SPECIFICATIONS AND EXISTING CONDITIONS, MUST BE REFERRED TO THE DESIGN CONSULTANT/ARCHITECT BEFORE ANY WORK AFFECTED IS BEGUN.
10. THE DRAWINGS FOR THE COMMUNICATIONS WORK ARE DIAGRAMMATIC PERFORMANCE DRAWINGS ONLY, INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE THE GENERAL ARRANGEMENT AND APPROXIMATE LOCATION OF ELECTRICAL EQUIPMENT. THE DRAWINGS DO NOT INTEND TO SHOW ARCHITECTURAL, INTERIOR DESIGN, MECHANICAL, STRUCTURAL OR BASE BUILDING DETAILS. BE RESPONSIBLE FOR A THOROUGH KNOWLEDGE OF SAME BEFORE PROCEEDING WITH THE WORK.
11. PROVIDE CABLE SUPPORTS, HARNESSES AND SLEEVES AS REQUIRED. ALL FREE RUNNING CABLES SHALL BE SECURELY FASTENED TO APPROPRIATE CABLE SUPPORTS AND HARNESS WITH A MAXIMAL INTERSUPPORT CABLE SAG OF 6". ALL CABLES SHALL BE COMPLETELY SUPPORTED BY THE HARNESSES SO THAT NO WEIGHT IS TRANSFERRED TO ANY OTHER EXISTING NON-STRUCTURAL FIXTURE OR CEILING CABLE STRUCTURE. CABLE SUPPORTS SHALL BE CADDY CABLECAT INSTALLED SUCH THAT THE INTERSUPPORT SAG OF 6" IS NOT EXCEEDED AND SPACED A MAXIMUM OF 6' APART. CABLECATS NOT TO BE SUPPORTED FROM T-BAR PENCIL RODS.
12. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS THAT THE CONTRACTOR PROVIDE COMPLETE AND OPERATIONAL SYSTEMS AS REQUIRED. WHERE DIFFERENCES OCCUR, THE MAXIMUM CONDITION SHALL GOVERN. ANY MISCELLANEOUS ITEMS, HARDWARE, DEVICES, WIRING, ETC., NOT SPECIFICALLY DESCRIBED, BUT REQUIRED FOR THE OPERATION OF THE SYSTEM, MUST BE PROVIDED AND INCLUDED AS PART OF THE BID.
13. REFER TO DESIGN CONSULTANT'S/ARCHITECT'S DRAWINGS FOR EXACT LOCATIONS OF ALL COMMUNICATIONS OUTLETS. CHANGE LOCATION OF WALL OUTLETS AT NO COST OR CREDIT, PROVIDING CABLE LENGTH DOES NOT INCREASE MORE THAN 3M (10'-0") AND INFORMATION IS GIVEN BEFORE INSTALLATION. CHANGE LOCATION OF ALL SYSTEMS FURNITURE OUTLETS TO ANYWHERE WITHIN SYSTEMS FURNITURE MODULE. PROVIDE 3M (10'-0") OF CABLE SLACK AT EACH LOCATION.
14. PROVIDE, INSTALL AND TERMINATE THE INDICATED QUANTITIES OF HORIZONTAL DISTRIBUTION CABLES FROM THE TERMINATION PANELS IN THE HUB/COMPUTER ROOM TO THE INDICATED COMMUNICATIONS OUTLET LOCATIONS ON THE FLOOR PLANS. LEAVE TEN FEET (3 METRES) OF SLACK IN NEAT CABLE COILS SECURED WITH VELCRO TIE WRAPS IN EACH CABLE AT THE TOP OF EACH WORKSTATION STUB CONDUIT LOCATION OR IN THE CEILING SPACE OF THE FLOOR BELOW. ADDITIONALLY, LEAVE THREE FEET OF SLACK IN EACH CABLE IN A "DUMMY LOOP" AT THE COMMUNICATIONS HUB ROOM END.
15. ALL CUTTING AND PATCHING REQUIRED TO THE EXISTING BUILDING STRUCTURE FOR THE WORK SHALL BE INCLUDED UNDER THE CONTRACT AND BE ACCEPTABLE TO THE LANDLORD BEFORE COMMENCEMENT OF WORK AND AFTER THE WORK IS COMPLETE. OBTAIN WRITTEN APPROVAL FROM LANDLORD BEFORE ANY CUTTING IS CARRIED OUT.
16. BEFORE CORE DRILLING FLOOR SLAB OR STRUCTURAL WALLS, X-RAY SLAB OR WALLS AND HAVE THE LOCATIONS ACCEPTED BY LANDLORD IN WRITING. ANY EXISTING BUILDING SERVICE DAMAGED BY CORE DRILLING MUST BE REPAIRED IMMEDIATELY AT NO COST TO LANDLORD OR TENANT. FLOOR DRILLING TO BE CARRIED OUT AFTER NORMAL WORKING HOURS AND AT A TIME ACCEPTABLE TO LANDLORD AND ALLOWANCES FOR THIS WORK SHALL BE INCLUDED IN PRICE SUBMITTED.
17. PROVIDE NON-PERMANENT CSA APPROVED INTUMESCENT FIRE-STOPPING STUFFED AROUND ALL CABLING TO SEAL ALL CONDUIT, CABLE TRAY, RACEWAY, DUCT, SLEEVE AND SLOT OPENINGS.
18. PROVIDE ALL IDENTIFICATION LABELS FOR ALL CABLES, OUTLETS, PANELS AND OTHER RELEVANT CABLING SYSTEM ACCESSORIES. CABLE LABELS SHALL BE OF SELF-LAMINATING VINYL CONSTRUCTION. EACH IDENTIFICATION LABEL SHALL BE MECHANICALLY PRINTED WITH IDENTIFYING INFORMATION TO BE CONFIRMED BY THE CONSULTANT PRIOR TO INSTALLATION. ALL CABLES SHALL BE LABELLED AT BOTH ENDS AND ALL TERMINATION PANELS SHALL BE LABELLED IN THE FRONT AND BACK.
19. WHERE SPECIFIED, INSTALL ALL EQUIPMENT PROVIDED BY THE TENANT. RECEIVE, STORE AND INSTALL EQUIPMENT AND ACCEPT FULL RESPONSIBILITY FOR ITS CORRECT OPERATION. CONFIRM POWER REQUIREMENTS OF ALL EQUIPMENT SUPPLIED AND ALSO ENSURE THAT ALL ELECTRICAL EQUIPMENT SUPPLIED BY OTHER TRADES IS SUITABLE FOR THE RESPECTIVE VOLTAGE.
20. PLYWOOD BACKBOARDS SHALL BE 19MM (3/4") THICK, OF HIGHEST QUALITY FIRE RETARDANT FIR. REFER TO DRAWINGS FOR SIZE. PRIME AND PAINT BACKBOARDS WITH FIRE RETARDANT PAINT EQUAL TO CGSB SPEC. #1-GP-151M, OF A COLOUR AS SELECTED BY THE DESIGNER/ARCHITECT. PROVIDE ALL PLYWOOD BACKBOARDS IDENTIFIED IN THE COMMUNICATIONS DRAWINGS.
21. SUBMIT FOUR (4) COPIES OF SHOP DRAWINGS OF ALL EQUIPMENT, WHICH IS OTHER THAN THAT SPECIFIED HEREIN AND WHICH IS BEING SUBMITTED BY THE CONTRACTOR FOR CONSIDERATION AS "APPROVED EQUAL", FOR REVIEW AND RECORDS BEFORE COMMENCEMENT OF WORK.
22. ALL EQUIPMENT MUST BE CLEANED AND TESTED, BEFORE FINAL ACCEPTANCE BY THE CONSULTANT. FROM THE DATE OF ISSUANCE OF A "CERTIFICATE OF SUBSTANTIAL PERFORMANCE", ALL EQUIPMENT, MATERIALS AND WORKMANSHIP, MUST BE UNCONDITIONALLY WARRANTED FOR NOT LESS THAN 1 (ONE) YEAR. DEFECTS AND DEFICIENCIES WHICH ORIGINATE OR BECOME EVIDENT DURING THE WARRANTY PERIOD MUST BE REPAIRED OR REPLACED, AT NO COST. ALL WORK RELATING TO THE REPLACEMENT OF DEFECTIVE ITEMS MUST BE CARRIED OUT AFTER NORMAL WORKING HOURS AND AT A TIME WHICH IS ACCEPTABLE TO THE TENANT.
23. ALL DATA/VOICE CABLES SHALL BE TESTED AFTER COMPLETE INSTALLATION FROM TERMINATION END TO TERMINATION END. ALL FOUR (4) PAIRS OF EACH HORIZONTAL CABLE SHALL BE TESTED. PROVIDE TABULATED RESULTS OF THE TESTS FOR EVERY CABLE WITH THE FOLLOWING INFORMATION: CABLE IDENTIFICATION, STATION IDENTIFICATION, CABLE LENGTH, PAIR ATTENUATION (DB) FOR ALL 4-PAIRS, WORST PAIR NEXT, END-TO-END WIRE MAP FOR ALL 8 CONDUCTORS, INDUCED NOISE (DB) AND INDICATE WHETHER THE CABLE HAS PASSED TESTING FOR CATEGORY 6A PERMANENT LINK COMPLIANCE IN ACCORDANCE TO ANSI/TIA/EIA 568.B.10 AND C.2 STANDARDS.
24. THE CONTRACTOR MUST UTILIZE A LEVEL IV TESTER IN ACCORDANCE WITH TIA SP-2840A STANDARDS THAT SCANS AND TESTS THE CABLING SYSTEM UP TO AND INCLUDING 500MHZ. FOR EACH CABLE, TWO WAY NEXT MUST BE PERFORMED WITH NEXT MEASURED AT BOTH ENDS OF THE CABLE.
25. AFTER THE WORK IS COMPLETED, GIVE A WRITTEN GUARANTEE FOR ONE YEAR COVERING WORKMANSHIP AND MATERIALS. REPAIR OR REPLACE, WITHOUT EXPENSE TO THE TENANT, ANY DEFECTS IN WORKMANSHIP OR MATERIALS WHICH ARE NOT DUE TO MISUSE OR NEGLECT.
26. PROVIDE A END TO END CATEGORY 6A/6 CABLING CERTIFICATION FROM THE SYSTEM MANUFACTURER WITH PART LABOUR AND APPLICATION WARRANTY.
27. SUBMIT WRITTEN VERIFICATION OF MANUFACTURER'S CERTIFICATION OF INSTALLER. ALL COSTS INVOLVED IN OBTAINING CERTIFICATION, INCLUDING TRAINING, SHALL BE INCURRED BY THE CONTRACTOR.
28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE REMOVAL OF ANY EXISTING UNUSED COMMUNICATIONS CABLING LEFT IN ALL COMMUNICATIONS PATHWAYS, ROOMS, ETC., ON THE FLOOR OR COMMUNICATIONS ROOMS. EXERCISE EXTREME CAUTION WHEN REMOVING EXISTING CABLES TO AVOID DISRUPTING THE OPERATION OF ANY EXISTING STATIONS OR TERMINALS. TEST ALL CABLES TO BE REMOVED. AVOID DAMAGING ANY EXISTING CABLING THAT MAY BE ROUTED THROUGH THE SAME CONDUIT OR PATHWAY WHEN REMOVING THE OLD OR UNUSED COMMUNICATIONS CABLES.
29. THE CONTRACTOR SHALL PROVIDE NEW PULL STRINGS IN ALL COMMUNICATIONS CONDUITS IN WHICH CABLES HAVE BEEN ADDED OR REMOVED TO ALLOW FOR FUTURE CABLE PULLING.
30. THIS JOB SITE IS CURRENTLY UNDER CONSTRUCTION, HOWEVER AT TIME OF CABLE INSTALLATION THE SITE MAY HAVE INSTALLED CEILING TILES, ACCESS FLOOR TILES, FINISHED WALLS, FLOORS AND CARPETING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR:

- THE REMOVAL AND REPLACEMENT OF ANY CARPETING, ACCESS FLOOR AND/OR CEILING TILES REQUIRED TO INSTALL THE COMMUNICATIONS CABLING.
- THE MOVEMENT AND REPLACEMENT OF ANY OBSTRUCTING FURNITURE.
- DAILY "END-OF-DAY" CLEANUP OF ALL MATERIALS, DUST AND DEBRIS CREATED BY THE CURRENT DAYS INSTALLATION ACTIVITIES.
- ANY DAMAGES TO BASE BULDING AND FINISHED STRUCTURES, FURNITURE, WALLS, ACCES FLOOR OR CEILING TILES, CARPETS, FLOORS, ETC. THAT ARE CAUSED BY THE CONTRACTORS' PERSONELL AND/OR EQUIPMENT.
- GENERAL CONTRACTOR WILL PROVIDE CONSTRUCTION PHASING AND SCHEDULING OF ALL MOVES. WORK SHALL BE DONE IN ACCORDANCE WITH THE GENERAL CONTRACTOR'S SCHEDULE.

31. AT THE COMPLETION OF WORK AND BEFORE FINAL ACCEPTANCE, PREPARE FROM CAD DRAWINGS PROVIDED BY THE CONSULTANT, AS-BUILT DRAWINGS OF THE INSTALLATION (IN AUTOCAD 2004 FORMAT). INCORPORATE CABLE ROUTING (INCLUDING CONDUIT SIZE AND ZONE CONDUIT NUMBERING), ALL CHANGES AND DEVIATIONS FROM TENDER DRAWINGS, UTILIZING NORMAL RECOGNIZED DRAFTING PROCEDURES THAT MATCH THE ORIGINAL DRAFTING METHODOLOGY IN ELECTRONIC FORMAT IN THE CAD DRAWINGS. UTILIZE THE SAME CAD BLOCKS, OBJECTS, LAYERS AND ORIGINAL CAD METHODOLOGY PRESENT IN THE CAD DRAWINGS. SUBMIT THE UPDATED CAD DRAWINGS ON DISK (OR EMAIL) TO THE CONSULTANT FOR REVIEW. UPON ACCEPTANCE BY THE CONSULTANT, PREPARE A DISK SET OF DRAWINGS TOGETHER WITH 3 (THREE) SETS OF PRINTS FOR PRESENTATION TO THE LANDLORD AND TENANT ALSO SEND ONE DISK SET AND ONE HALF-SIZE PRINT SET TO THE COMMUNICATIONS CONSULTANT.
32. PROVIDE 2 (TWO) SETS OF OPERATION AND MAINTENANCE MANUALS. INCLUDE THE FOLLOWING INFORMATION IN THE OPERATIONS AND MAINTENANCE MANUALS:

- MANUFACTURER'S CABLING SYSTEM CERTIFICATION AND APPLICATION WARRANTY.
- CONTRACTORS 1 YEAR GUARANTEE.
- PRODUCT CUT-SHEETS FOR ALL MATERIAL INSTALLED INCLUDING CABLING, JACKS, PATCH PANELS, RACKS AND CABINETS, ETC.
- NAMES AND ADDRESS OF LOCAL SUPPLIERS FOR THE ITEMS INCLUDED.
- THE CONSULTANTS REVIEWED SHOP DRAWINGS.
- HARDCOPY PRINTOUTS OF CABLE TEST RESULT SUMMARY.
- SOFTCOPY OF CABLE TEST RESULT SUMMARY AND DETAILED TEST RESULTS FOR EVERY CABLE IN PDF FORMAT.

33. FORWARD ONE MAINTENANCE MANUAL TO THE COMMUNICATIONS CONSULTANT FOR REVIEW. PRESENT THE OTHER MAINTENANCE MANUAL TO THE CLIENT. REVIEW INFORMATION PROVIDED IN THE MAINTENANCE MANUAL WITH THE CLIENT. DISCUSS MAINTENANCE INSTRUCTIONS AS WELL AS THE COMMUNICATIONS EQUIPMENT AND SYSTEMS AND THEIR OPERATION.

33.1.

MATERIALS AND INSTALLATION

1. HORIZONTAL CABLING

1.1 PROVIDE AND INSTALL ALL HORIZONTAL DATA COMMUNICATIONS CABLING AS INDICATED. HORIZONTAL DATA COMMUNICATIONS CABLES SHALL BE 4-PAIR UNSHIELDED TWISTED PAIR, CSA FT6/CMP FIRE RATED, CERTIFIED TO EIA/TIA CATEGORY 6A SPECIFICATIONS. DATA CABLES SHALL BE BLUE. THE CABLES SHALL BE AS FOLLOWS:

- PANDUIT TX6A SERIES CAT. 6A CABLE, CSA FT6/CMP.

1.2 THE OUTSIDE DIAMETER (O.D.) OF ANY CAT. 6A CABLING SHALL NOT EXCEED 0.275 IN.

1.3 PROVIDE AND INSTALL FLEX FOR PROTECTION OF HORIZONTAL CABLES FROM WALL OR FLOOR FEED OR FLOOR-BOX TO LOW HEIGHT PARTITIONS/TABLE LEG. FLEX TO BE BLACK SPLIT LOOM TUBING SIZED TO FIT CABLE BUNDLE.

1.4 ANY CABLING THAT IS ROUTED IN NON-PLENUM SPACE FOR THE FULL LENGTH OF THE CABLE RUN CAN BE FT4/CMR RATED.

1.5 ALL CAT. 6 AND 6A RATED DATA CABLES SHALL BE FROM THE SAME MANUFACTURER.

1.6 CONTRACTOR TO ENSURE ALL DATA CABLE LENGTHS ARE UNDER 90 M (295 FT). EXACT ROUTING OF DATA CABLES SHALL BE CONFIRMED ON SITE AND CABLE LENGTHS SHALL BE CALCULATED PRIOR TO INSTALLATION. THE COMMUNICATIONS CONSULTANT SHALL BE INFORMED OF ANY CABLE LENGTHS THAT WILL BE LONGER THAN 90 M.

2. MODULAR JACKS AND ADAPTORS

2.1 PROVIDE AND INSTALL ALL MODULAR JACKS AS INDICATED. THE MODULAR JACKS FOR HORIZONTAL DATA CABLES SHALL BE 8-POSITION IN EIA/TIA-A T568A CONFIGURATION. THE DATA JACKS TERMINATING IN THE LAN ROOM SHALL MATCH COLOR OF HORIZONTAL DATA CABLES. THE CAT. 6A RATED MODULES SHALL BE AS FOLLOWS:

- PANDUIT TX6A, CAT. 6A 8-POSITION MINI-COM MODULAR JACKS;

2.2 PROVIDE AND INSTALL ALL FLOOR AND WALL PLATES AS INDICATED. (FLOOR AND WALL PLATES TO MATCH ELECTRICAL.)

- PANDUIT 4-PORT DECORA STRAPS C/W MODULAR JACK INSERTS AS INDICATED;

2.3 PROVIDE AND INSTALL ALL SYSTEMS FURNITURE MOUNTING PLATES AND HOUSING C/W MODULAR JACK INSERTS AS INDICATED. FURNITURE PLATES AND HOUSING TO BE MINIMUM 3-PORT, FLUSH SYSTEMS FURNITURE ADAPTER PLATES OF THE CABLE SYSTEM MANUFACTURER. COLOR TO BE BLACK. IF THE 3-PORT FURNITURE ADAPTER CANNOT BE ACCOMMODATED, THE CONTRACTOR TO SUPPLY THE FOLLOWING AT NO COST: A SURFACE MOUNT HOUSING WITH TWO (2) OR FOUR (4) PORTS FOR THE SHOWN NUMBER OF GROUPED RJ45 EIGHT (8) POSITION JACKS IN THE LOCATION. CONTRACTOR TO PROVIDE DOUBLE-SIDED TAPE AND/OR ALL NECESSARY MOUNTING HARDWARE IF REQUIRED. THE COLOR OF SURFACE MOUNT HOUSING TO BE WHITE. BLANK FILLERS TO BE PROVIDED AND INSTALLED IN ANY UNUSED PORTS.

3. TERMINATION FIELDS FOR VOICE AND DATA

3.1. PROVIDE AND INSTALL NEW DATA AND VOICE TERMINATION PANELS AS SHOWN. DATA AND VOICE HORIZONTAL TERMINATION FIELD TO BE 2U HIGH, 48-PORT MODULAR JACK PATCH PANELS FULLY LOADED WITH MODULES IDENTIFIED IN ITEM 2.1 OF THE SELECTED CABLE SYSTEM MANUFACTURER. DATA AND VOICE MODULAR JACKS SHALL BE TERMINATED ONTO SEPARATE PATCH PANELS.

3.2. VOICE RISER AND TIE CABLE TERMINATION PANELS MOUNTED ON PLYWOOD BACKBOARD SHALL BE BELDEN BIX PRODUCTS.

3.3. VOICE TIE CABLE TERMINATION PANELS MOUNTED ON RELAY RACKS SHALL BE 2U HIGH, 48-PORT IDC PATCH PANELS OF THE SAME CABLE SYSTEM MANUFACTURER, 1 PAIR/JACK LOADED.

4. CONNECTIVITY COMPONENTS

4.1. THE UTP PATCH CORD FOR CONNECTING A DATA OR VOICE PATCH PANEL JACK TO ITS CORRESPONDING EQUIPMENT JACK SHALL BE OF UNSHIELDED TWISTED PAIR CORDAGE WITH EIGHT 24 AWG THERMOPLASTIC PLATED, STRANDED COPPER CONDUCTORS FORMED INTO FOUR INDIVIDUALLY TWISTED PAIRS WITH TIGHT TWISTING FOR HIGH SPEED OPERATIONS. THE UTP LINE CORD FOR CONNECTING THE STATION OUTLET JACK TO THE STATION EQUIPMENT (TYPICALLY A PERSONAL COMPUTER) IS TO BE OF EQUIVALENT CONSTRUCTION.

4.2. THE UTP PATCH/LINE CORD SHALL BE WIRED EIA-A TO EIA-A WITH A ONE-TO-ONE CORRESPONDENCE STRAIGHT-THROUGH AND TERMINATED ON BOTH ENDS ON 8-POSITION MODULAR LONG PLUGS WITH MINIMUM OF 50 MICRO-INCH GOLD PLATING. THE UTP PATCH CORDS SHALL BE C/W REMOVABLE TAGS WITH PRINTED LABELS AT BOTH ENDS.

4.3. PATCH CORDS AND LINE CORDS SHALL BE OF THE SAME MANUFACTURER AS THE HORIZONTAL CABLE AND SHALL MEET OR EXCEED THE PERFORMANCE CHARACTERISTICS OF THE HORIZONTAL DATA CABLES LISTED IN SECTION 1.1

4.4. PROVIDE ONE (1) SMALL DIAMETER PATCH CORD FOR EACH DATA INSTALLED + 10% EXTRA FOR SPARE FOR BOTH TYPES OF PATCH CORDS. PATCH CORDS ARE TO BE 7 FEET IN LENGTH, AND 3' IN LENGTH FOR ALL PATCH CORDS WITHIN WALL MOUNT CABINET. COLOURS SHALL MATCH COLOR OF HORIZONTAL DATA CABLES. O.D. OF CAT6A PATCH CORDS SHALL NOT EXCEED 0.186 IN; O.D. OF CAT6 PATCH CORDS SHALL NOT EXCEED 0.15 IN.;

4.5. PROVIDE ONE (1) LINE CORD FOR EACH DATA OUTLET LOCATION + 10% SPARE. LINE CORDS ARE TO BE 10 FEET IN LENGTH. COLOURS SHALL MATCH COLOR OF HORIZONTAL DATA CABLES.

4.6. ALL PATCH/LINE CORDS IN PLENUM SPACE MUST BE CMP/FT6 RATED.

4.7. ALL PATCH/LINE CORDS CATEGORY RATING SHALL MATCH THE CATEGORY RATING OF THE HORIZONTAL CABLE.

4.8. CONTRACTOR SHALL INCLUDE FOR INSTALLATION OF BOTH DATA AND VOICE PATCH CORDS WITH PATCHING INSTRUCTIONS TO BE PROVIDED BY THE CLIENT.

5. GROUNDING

5.1. GROUND WIRE SHALL BE STRANDED #6AWG, GREEN INSULATED JACKET, COPPER WIRE.

5.2. ALL RACKS, CABINETS AND CABLE TRAY MUST BE GROUNDED. ALL RACKS AND CABINETS MUST BE GROUNDED WITH ITS OWN GROUND WIRE; NO DAISY CHAINING ALLOWED. EACH SECTION OF TRAY NOT ELECTRICALLY BONDED MUST BE GROUNDED WITH ITS OWN GROUND WIRE.

6. OVERHEAD CABLE TRAY

6.1. ALL OVERHEAD CABLE TRAY SHALL BE OF HOT DIP PRE-GALZANIZED (BS-EN10346) OR APPROVED EQUIVALENT. HOT DIP POST GALVANIZED TRAYS WILL NOT BE ACCEPTED.

6.2. PROVIDE ALL NECESSARY MOUNTING CLIPS, SIDE SUPPORTS AND WASHERS, HARNESSES, 90 AND 'T' KITS AND SECTION SPLICE COMPONENTS TO INSTALL COMPLETE CABLE TRAY SYSTEM IN ACCORDANCE TO MANUFACTURER'S RECOMMENDED INSTALLATION. PROVIDE RADIUSED 90DEGREE PLATES OR PROTECTORS AT ALL BENDS FOR CABLE PROTECTION.

6.3. CABLE TRAY MANUFACTURER SHALL BE:

- WBT
- FLEXTRAY
- PANDUIT

7. IDENTIFICATION

7.1. EACH HORIZONTAL CABLE AND PATCH CORD SHALL BE AFFIXED WITH MECHANICALLY PRINTED LABELLING TABS OR TYPED LETTER SELF-ADHESIVE MYLAR TAPE AT BOTH ENDS. (THE LETTERING SHALL NOT BE EXPOSED.)

7.2. PATCH PANELS, RACKS, CABINETS AND CONSOLIDATION POINTS SHALL BE LABELED WITH ONE INCH (1") LETTER HEIGHT LAMACOID LABELS SECURED ON WITH TAP SCREWS.

7.3. PATCH PANEL MODULE BLOCKS SHALL BE LABELLED WITH STANDARD BLOCK LABELS/STRIPS. (GREEN LABELS FOR THE INCOMING SIDE AND BLUE LABELS FOR THE DISTRIBUTION SIDE).

7.4. AT THE WORKSTATION END, OUTLETS SHALL BE LABELLED WITH 1/4 INCH LETTER HEIGHT LAMACOID LABELS FOR FLOOR MONUMENTS AND SELF-ADHESIVE MYLAR TAPE ON THE COVERPLATE FOR WALL OUTLETS.

7.5. FOR ZONE OR HORIZONTAL DISTRIBUTION CONDUITS, USE SELF-ADHESIVE LABELS ALONG THE LENGTH OF CONDUIT ON TEN INCH (10") CENTRES. LETTER HEIGHT SHALL BE MINIMUM ONE INCH (1") AND READ "COMMUNICATIONS CABLES".

7.6. RISER CABLES SHALL BE LABELLED WITH RIGID PLASTIC YELLOW LABELS. LABELS SHALL BE SECURED WITH PLASTIC TIE WRAPS.

7.7. ALL FIBRE OPTIC CABLES AND UTP RISERS SHALL BE LABELLED IN EACH FLOOR OF ANY RISER ROOM, AND AT BOTH ENDS OF THE CABLE, WITH THE SOURCE, AND DESTINATION LOCATION.

8. COMMUNICATIONS CONTRACTOR QUALIFICATIONS

8.1. THE COMMUNICATIONS CABLING CONTRACTOR/INSTALLER MUST BE A CERTIFIED INSTALLER OF ONE OF THE IDENTIFIED MANUFACTURER'S CABLING SYSTEMS. CERTIFICATION BY THIRD PARTY OR ANY OTHER MEANS IS NOT ACCEPTABLE. PROVIDE HARDCOPY EVIDENCE OF MANUFACTURER'S CERTIFICATION WITH TENDER SUBMISSION.

9. CABLE TV REQUIREMENTS

9.1. THE COMMUNICATIONS CONTRACTOR IS TO SUPPLY AND INSTALL ALL IDENTIFIED CABLE TV OUTLETS AS IDENTIFIED ON THE DRAWINGS. ALL CABLING SHALL BE CMP/FT6 RG-6 COAXIAL CABLE COMPLETELY CONNECTORIZED AT THE WORKSTATION END WITH A WALL PLATE AND SNAP-AND-SEAL TYPE F-CONNECTOR. ALL CABLING MUST ROUTE BACK TO THE BASE BUILDING SERVICE PROVIDER HEADEND AND MUST BE COILED IN THIS ROOM WITH 20FT. LOOP SLACK FOR TERMINATION BY OTHERS.

10. RISER CABLES

10.1. THE VOICE UTP RISER CABLE AND TIE CABLES SHALL CONSIST OF MULTIPAIR COPPER UTP CABLING WHICH SHALL BE CSA FT6/CMP RATED AND CERTIFIED TO EIA/TIA CATEGORY 5E SPECIFICATIONS.

10.2. THE MULTIMODE FIBRE OPTIC CABLE SHALL CONSIST OF 10GB ETHERNET MULTIMODE FIBRE OPTIC STRANDS WHICH SHALL BE TIGHT-BUFFERED, MULTIMODE, DUAL-WINDOW, GRADED-INDEX OPTICAL FIBRE WITH A NOMINAL 50/125UM CORE/CLADDING DIAMETER.

10.3. THE MULTIMODE FIBRE CABLE SHALL COMPLY WITH EIA/TIA-568-B.3, BE COMPATIBLE WITH 10GB ETHERNET REQUIREMENTS FOR SINGLE WAVELENGTH MULTIMODE OPERATION OVER DISTANCES UP TO 300 METRES, AND MEET THE FOLLOWING MINIMUM PERFORMANCE PARAMETERS AS DETAILED IN THE FOLLOWING TABLE:

PARAMETER	850NM	1300NM
MAXIMUM INDIVIDUAL ATTENUATION (DB/KM)	3.5	1.5
MINIMUM BANDWIDTH - 3DB OPTICAL (MHZ-KM)	2000	500

10.4. ALL FIBRE CABLE SHALL BE ENCLOSED IN FIBRE DUCT OR CONDUIT TO THE POINT OF TERMINATION FOR MAXIMUM MECHANICAL AND ENVIRONMENTAL PROTECTION. ALL SUCH FIBRE PATHWAYS SHALL BE SIZED LARGE ENOUGH SO THAT ALL INTERNAL CABLING IS ROUTED FREELY INSIDE WITH NO CONTINUOUS CONTACT WITH THE ENVELOPING PATHWAY. (ALL FIBRE PATHWAYS SHALL MEET ALL RELEVANT BUILDING CODES.)

10.5. FIBRE STRANDS SHALL BE TERMINATED ON LC FIBRE OPTIC CONNECTORS AT BOTH ENDS. TERMINATION OF FIBER STRANDS SHALL BE FUSION SPLICING WITH LC TO PIGTAIL JUMPERS. FIBRE OPTIC JUMPERS SHALL BE OF THE SAME MANUFACTURER AS THE FIBRE STRANDS AND SHALL MEET OR EXCEED THE PERFORMANCE CHARACTERISTICS OF THE FIBRE STRANDS. PROVIDE FIBRE OPTIC PATCH PANELS FOR THE TERMINATIONS OF FIBRE OPTIC CABLING AT BOTH ENDS.

10.6. LEAVE A MINIMUM OF 10 FEET OF SLACK FIBRE RISER CABLING AT THE TERMINATION CABINET ENDS.

10.7. FOR EACH PAIR OF FIBRE STRANDS INSTALLED, PROVIDE TWO (2) DUPLEX LC, FACTORY TERMINATED, 10 FOOT FIBRE PATCH CORDS. FIBRE PATCH CORDS SHALL BE OF THE SAME MANUFACTURER AS THE FIBRE STRANDS AND SHALL MEET OR EXCEED THE PERFORMANCE CHARACTERISTICS OF THE FIBRE STRANDS.

11. RACKS

11.1. PROVIDE RACKS, CABINETS AND ACCESSORIES AS SHOWN IN THE DRAWINGS.

12. FIRESTOPPING

12.1. PROVIDE NON-PERMANENT, ULC APPROVED INTUMESCENT FIRE-STOPPING TO CAP ALL EMPTY CONDUIT ENDS, DUCTS, SLEEVES AND SLOTS. ALL FIRESTOP SYSTEM INSTALLATION MUST MEET REQUIREMENTS OF CAN4-S115-M OR ULC S-115-M. ALL FIRESTOP MUST BE HILTI OR APPROVED EQUIVALENT.

12.2. PROVIDE NON-PERMANENT, ULC APPROVED INTUMESCENT FIRE-STOPPING STUFFED ALL AROUND CABLING TO SEAL ALL CONDUIT, CABLE TRAY, RACEWAY, DUCT, SLEEVE AND SLOT OPENINGS. ALL FIRESTOP SYSTEM INSTALLATION MUST MEET REQUIREMENTS OF CAN4-S115-M OR ULC S-115-M

12.3. PROVIDE NON-PERMANENT, ULC APPROVED INTUMESCENT FIRE-STOPPING STUFFED AROUND ALL CONDUIT, CABLE TRAY, RACEWAY, DUCT, SLEEVE AND SLOT PENETRATIONS OF FIRE-SEAL AND FIRE-RATED WALL, FLOORS AND CEILING.

12.4. THE NON-PERMANENT FIRE-STOPPING FOR ALL SLAB SLOT OPENINGS AND CABLE TRAY FIRE BARRIER PENETRATIONS TO CONSIST OF ULC APPROVED FIRE PREVENTION PILLOW/SEALBAG SYSTEM CONSISTING OF INTUMESCENT MATERIAL ENCLOSED IN A MOISTURE AND HUMIDITY RESISTIVE BAG.

13. SHOP DRAWINGS

13.1. CONTRACTOR MUST PROVIDE SHOP DRAWINGS FOR CONSULTANT APPROVAL PRIOR TO CONSTRUCTION.

14. UNIT PRICING

14.1. COMPLETE THE UNIT PRICING SCHEDULE BELOW:

ITEM #	DESCRIPTION	UNIT PRICE ADD ($)	UNIT PRICE DELETE ($)
1	PROVIDE CAT 6A SINGLE WALL DATA OUTLET c/w MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, ONE HORIZONTAL DATA CABLE, TESTING, LABELING, AND ALL NECESSARY LABOR.		
2	PROVIDE CAT 6A DUAL WALL DATA OUTLET c/w MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, TWO HORIZONTAL DATA CABLES, TESTING, LABELING, AND ALL NECESSARY LABOR.		
3	PROVIDE CAT 6A SINGLE FLOOR DATA OUTLET c/w MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, ONE HORIZONTAL DATA CABLE, TESTING, LABELING, AND ALL NECESSARY LABOR.		
4	PROVIDE CAT 6A DUAL FLOOR DATA OUTLET c/w MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, TWO HORIZONTAL DATA CABLES, TESTING, LABELING, AND ALL NECESSARY LABOR.		
5	PROVIDE CAT 6A SINGLE CEILING DATA OUTLET c/w MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, ONE HORIZONTAL DATA CABLE, TESTING, LABELING, AND ALL NECESSARY LABOR.		
6	PROVIDE CAT 6A DUAL CEILING DATA OUTLET c/w MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, TWO HORIZONTAL DATA CABLES, TESTING, LABELING, AND ALL NECESSARY LABOR.		
7	PROVIDE CAT 6A SINGLE SYSTEM FURNITURE DATA OUTLET c/w MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, ONE HORIZONTAL DATA CABLE, TESTING, LABELING, AND ALL NECESSARY LABOR.		
8	PROVIDE CAT 6A DUAL SYSTEM FURNITURE DATA OUTLET c/w MODULAR JACK INSERT PLATES, TERMINATION HARDWARE, TWO HORIZONTAL DATA CABLES, TESTING, LABELING, AND ALL NECESSARY LABOR.		
9	SUPPLY AND INSTALL CAT 6A SMALL DIAMETER PATCH CABLE 3-FOOT		
10	SUPPLY AND INSTALL CAT 6A SMALL DIAMETER PATCH CABLE 10-FOOT		
11	SUPPLY AND INSTALL OBERON (OR EQUAL) RF TRANSPARENT COVER FOR MECHANICAL PROTECTION OF Wi-Fi ACCESS POINT. COVER TO BE COMPATIBLE TO CISCO 9120AXE ACCESS POINT (HEIGHT OF AP WITH ANTENNA'S IS 6" REFER TO THE AP SPEC FOR MORE DETAILS.		

Waypoint Centre for Mental Health Care

Additional Acute Mental Health Inpatient Beds Project

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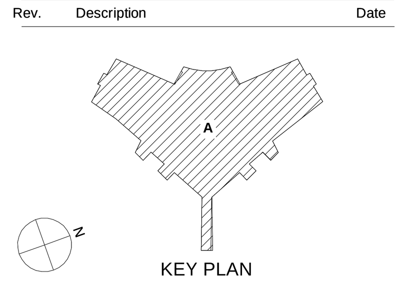
ISSUED FOR TENDER

18 DEC 2023

Ministry of Health Project Number# 205004

Rev.	Description	Date
6	ISSUED FOR TENDER	12/18/2023
5	ISSUED FOR STAGE 4 SUBMISSION	11/23/2022
4	ISSUED FOR QA/QC 95% CDs	11/01/2022
3	ISSUED FOR REVIEW	10/20/2022
2	LEVEL 03 RENOVATIONS - STAGE 3 SUBMISSION	06/30/2021
1	ISSUED FOR REVIEW	06/15/2021



KEY PLAN

Drawing Title:

IT/COMMUNICATIONS LEGEND, GENERAL NOTES, DRAWING LIST AND SPECIFICATION

Project No.: 210029 Checked by: AS

IT-001

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