

TELECOM GENERAL NOTES

- CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL BLANK INSERTS IN UNUSED FACEPLATE PORTS AND DUAL-CHANNEL RACEWAY CUTOUTS.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING 19" RACK MOUNTING BRACKETS FOR ALL CONTRACTOR FURNISHED EQUIPMENT.
- IP ADDRESSES AND OTHER NETWORK CONFIGURATION INFORMATION TO BE PROVIDED BY OWNER'S IT DEPARTMENT. REQUEST FOR NETWORK ADDRESSES SHALL INCLUDE THE NUMBER OF ADDRESSES NEEDED FOR EACH SYSTEM, AND A DESCRIPTION OF WHAT EACH ADDRESS WILL BE USED FOR. REQUESTS SHALL BE SUBMITTED AT LEAST THREE WEEKS PRIOR TO DATE WHEN ADDRESSES ARE NEEDED FOR CONFIGURATION AND TESTING. A FINAL LIST OF ALLOCATED IP ADDRESSES, ALONG WITH CORRESPONDING DEVICE, SHALL BE PROVIDED TO OWNER'S IT DEPARTMENT AT THE CONCLUSION OF THE PROJECT.
- PROVIDE KEYSTONE STYLE JACKS IN RACEWAYS, FLOOR BOXES, AND OTHER LOCATIONS AS REQUIRED. ALL BEZELS, FACEPLATES, ETC FOR FLOOR BOXES / POKE-THRU'S ARE TO BE PROVIDED BY TEL/DATA CONTRACTOR.
- ALL WIRELESS ACCESS POINTS TO RECEIVE TWO CATEGORY-6A SHIELDED CABLES, TERMINATED TO CAT-6A SHIELDED PANELS IN THE TR'S, AND CAT-6A SHIELDED JACKS AT EACH DEVICE LOCATION.
- ALL EQUIPMENT CABINETS AND LADDER RACK TO BE PROPERLY GROUNDED TO TGB IN RACK ROOM. TGB TO BE BONDED TO BUILDING STEEL AND TO NEAREST ELECTRICAL PANEL.
- ANY CABLES INSTALLED IN CONDUIT EITHER IN OR BELOW CONCRETE SLAB MUST UTILIZE OSP OR INDOOR/OUTDOOR RATED CABLE WITH PROPER ENTRANCE PROTECTORS, AND TRANSITION TO INDOOR CABLE.

PATHWAY NOTES

- LADDER RACK IN IDF SHALL BE PROPERLY SUPPORTED PER MANUFACTURERS INSTRUCTIONS. LADDER RACK SHALL BE PROPERLY GROUNDED TO TGB USING #6 AWG GROUND WIRE. PAINT SHALL BE REMOVED FROM LADDER RACK TO PROVIDE ADEQUATE BOND.
- ALL CABLE BUNDLES PLACED ON LADDER RACK SHALL BE BOUND USING VELCRO. TIE-WRAPS SHALL BE PERMITTED. CABLE BUNDLES SHALL BE SNUG, BUT SHALL NOT DEFORM THE CABLE JACKET.
- IN AREAS ABOVE SUSPENDED CEILINGS, CABLE SUPPORTS SHALL BE LOCATED AT EVER 3'-5". USE ERICO CABLECAT 425 SERIES OR EQUIVALENT.
- CABLE INFEEDS (POKE-THRU'S AND IN-WALL) SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE ALL LOCATIONS AND SIZES WITH TEL/DATA CONTRACTOR, GENERAL CONTRACTOR AND ARCHITECT PRIOR TO INSTALLATION.
- ALL WIRING (CAT-6, SECURITY, ETC) NOT SUPPORTED BY J-HOOKS OR SLINGS ABOVE SUSPENDED CEILING SHALL BE IN CONDUIT.
- ELECTRICAL CONTRACTOR TO CONFIRM ALL CONDUIT SIZES, PATHWAYS, PULL-POINTS, ETC WITH TEL/DATA CONTRACTOR PRIOR TO INSTALLATION. COORDINATE WITH OTHER DISCIPLINES AS REQUIRED.
- CONDUIT LAYOUT IS DIAGRAMMATIC AND DOES NOT INDICATE ALL REQUIRED BOXES, OFFSETS, BENDS, ETC. PROVIDE ALL MATERIALS AS NEEDED.
- 90-DEGREE BENDS SHALL BE SWEEPS AND NOT UTILIZE "LBS". NO MORE THAN TWO 90-DEGREE BENDS ARE ALLOWED BETWEEN PULL POINTS.
- LONG CONDUIT RUNS SHALL HAVE JUNCTION BOXES INSTALLED AS PULL POINTS, AND SHALL BE LOCATED NO MORE THAN 50' APART.
- PLASTIC BUSHINGS ARE TO BE PROVIDED ON ALL CONDUIT ENDS.
- ALL CONDUITS TO RECEIVE PULL-STRINGS. ANY PULL STRINGS THAT ARE USED SHALL BE REPLACED AS CABLES ARE BEING PULLED.
- ALL BACKBOXES, SLEEVES, OR ANY OTHER WALL PENETRATION IN TV STUDIO AND CONTROL ROOM TO BE SEALED USING ACOUSTICAL CAULKING PER MANUFACTURER INSTRUCTIONS.

CATV CABLING NOTES

- FOR EACH CATV OUTLET INDICATED, PROVIDE ONE (1) QUAD SHIELD RG-6 CABLE OR ONE QUAD SHIELD RG-11 CABLE (AS REQUIRED) FROM THE OUTLET LOCATION TO THE IDF CLOSET. FOR CABLE RUNS LESS THAN 150', USE QUAD SHIELD RG-6 (COMMSCOPE PIN 2227K) OR EQUIVALENT. FOR CABLE RUNS MORE THAN 150', USE QUAD SHIELD RG-11 (COMMSCOPE PIN 2287K).
- EACH CABLE SHALL BE TERMINATED ON EACH END WITH A MALE COMPRESSION TYPE 'F' CONNECTOR. ONLY COMPRESSION TYPE CONNECTORS ARE ACCEPTABLE. CRIMP-TYPE OR TWIST-ON STYLE CONNECTORS SHALL NOT BE USED.
- AT EACH CATV OUTLET LOCATION, PROVIDE A SINGLE GANG FACEPLATE WITH F-COUPLER INSET. PROVIDE SURFACE MOUNT BOX AS REQUIRED AT LOCATIONS REQUIRING A SURFACE MOUNT BOX.
- ALL CATV CABLES SHALL BE TESTED FOR OPENS AND SHORTS, AND SHALL BE SWEEP TESTED ACROSS THE CABLES ENTIRE SPECIFIED FREQUENCY RANGE. ANY CABLES THAT DO NOT PASS TESTS FOR IMPEDANCE, ATTENUATION AND/OR FREQUENCY RESPONSE SHALL BE DETERMINED AND RETESTED. CABLE RUNS SHALL BE REINSTALLED AND DETERMINED AS NEEDED TO ENSURE ACCEPTABLE PERFORMANCE PER MANUFACTURERS SPECIFICATIONS.

TELECOM DEMOLITION NOTES

- CABLES SHALL BE REMOVED IN THEIR ENTIRETY FROM EACH WORK AREA LOCATION TO THE DATA CLOSET. ALL CABLES BEING REMOVED SHALL BE COMPLETELY REMOVED FROM THE BACK OF THE PATCH PANEL.
- FOR EACH CABLE REMOVED FROM THE BACK OF THE PATCH PANEL, CONTRACTOR IS TO REMOVE THE PATCH CORD BETWEEN THE PATCH PANEL AND NETWORK SWITCH. ALL PATCH CORDS SHALL BE RETURNED TO OWNER. GROUP PATCH CORDS OF EQUAL LENGTH INTO BUNDLES OF 25 CABLES AND SECURE WITH VELCRO.
- CONTRACTOR TO MAINTAIN A LIST OF CABLE ID'S REMOVED AND THEIR ASSOCIATED PATCH PANEL AND PORT, AND NETWORK SWITCH PORT THAT THE PATCH CORDS WAS REMOVED FROM. THE CABLE ID NUMBERS WILL BE RE-USED FOR NEW CABLES TO BE INSTALLED.
- THE EXISTING DATA CLOSETS SERVICE WORK AREAS BOTH WITHIN THE DEMOLITION SCOPE OF WORK, AND AREAS NOT WITHIN THE PROJECT WORK AREA. CARE MUST BE TAKEN NOT TO DISCONNECT ANY ACTIVE CAT-6 CABLES FROM THE PATCH PANELS.
- ALL CABLE BUNDLES DISTURBED AS PART OF DEMOLITION ARE TO BE RE-SECURED WITH VELCRO IN A NEAT FASHION.
- EVERY EFFORT HAS BEEN MADE TO IDENTIFY LOCATIONS OF CABLES AND DEVICES TO BE REMOVED, HOWEVER SOME CABLES AND DEVICES MAY NOT HAVE BEEN VISIBLE. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF CABLES IN DEMOLITION AREA THAT TERMINATE IN EXISTING TELECOM ROOMS.

TELECOM LEGEND

	SIMPLEX DROP LOCATION - (1) CAT-6A SHIELDED (BLACK JACKET) - 18" ADD U.O.N. CABLING TO BE ROUTED TO RACK ROOM (NOT IDF). COORDINATE TERMINATION LOCATION IN RACK ROOM WITH OWNER.
	DUPLEX DROP LOCATION - (2) CAT-6 UTP - 18" AFF U.O.N.
	DUPLEX DROP LOCATION - (2) CAT-6 UTP - MOUNTED IN CEILING
	DUPLEX FLOOR DROP - (2) CAT-6 UTP
	4" SQUARE BACKBOX ONLY WITH 1.25" C TO RACK ROOM FOR OWNER-FURNISHED WIRING.
	WALL PHONE - (1) CAT-6 UTP - 44" AFF PROVIDE 8" CLEARANCE ON EITHER SIDE OF WALL PHONE BACKBOX.
	TV DROP - (2) CAT-6 UTP DATA AND (1) RG-11 COAX. HEIGHT COORDINATED WITH OWNER.
	DIGITAL SIGNAGE DROP - (2) CAT-6 UTP - HEIGHT AS NOTED ON DRAWINGS. LCD SCREENS BY OTHERS.
	POE DOOR LOCK - (1) CAT-6 SHIELDED (PURPLE JACKET). COORDINATE WITH POE LOCK. SEE SECURITY NOTES FOR EQUIPMENT TO BE FURNISHED AND INSTALLED.
	BMS BUILDING MGMT SYSTEM - 1 DATA - COORDINATE WITH MECHANICAL EQUIPMENT
	FACP FIRE ALARM CONTROL PANEL - 1 DATA - COORDINATE WITH FACP
	VOICE DROP TO MDF 110-BLOCK. COORDINATE MOUNTING LOCATION WITH EQUIPMENT
	DUPLEX WAP DROP LOCATION - 2 CAT-6A STP (YELLOW JACKET) - COORDINATE WITH WAP LOCATION
	DUPLEX WAP DROP LOCATION - 2 CAT-6A STP (YELLOW JACKET) - COORDINATE WITH WAP LOCATION
	SIMPLEX CCTV CAMERA DROP LOCATION - (1) CAT-6 UTP (PINK JACKET) - COORDINATE WITH CAMERA LOCATION. SEE SECURITY NOTES FOR EQUIPMENT TO BE FURNISHED AND INSTALLED.
	AV CONTROL PANEL DROP - (1) CAT-6 UTP - COORDINATE WITH AV INTEGRATOR
	AV RACK DROP - (6) CAT-6 UTP - COORDINATE WITH AV INTEGRATOR
	JUNCTION BOX FOR MODULAR FURNITURE IN-FEED
	TELECOMMUNICATIONS GROUNDING BUSBAR
	COMBINATION POWER / DATA / AV INPUT PLATE

GENERAL IT LEGEND

	VERTICAL SLEEVE (SIZE AS INDICATED)
	HORIZONTAL SLEEVE (SIZE AS INDICATED)
	CONDUIT (SIZE AS INDICATED)
	LADDER RACK (SIZE AS INDICATED)
	7" EQUIPMENT RACK (FRONT VIEW) WITH MANAGERS
	7" EQUIPMENT RACK (TOP VIEW) WITH MANAGERS
	CABLE MANAGER
	PATCH PANEL (SIZE AS INDICATED)
	FIBER DISTRIBUTION CABINET (SIZE AS INDICATED)
	FIBER SPLICE CABINET
	POWER STRIP
	110 VOICE BLOCK

SECURITY NOTES

- AT EACH 'DL' LOCATION, FURNISH AND INSTALL PASSPORT 1000 P1 PoE LOCK PER CCSU STANDARDS (NO SUBSTITUTIONS). REFER TO SPECIFICATIONS ON THIS SHEET. COORDINATE INSTALLATION, PROGRAMMING, AND INTEGRATION WITH EXISTING ACCESS CONTROL SYSTEM WITH OWNER'S SECURITY DEPARTMENT. COORDINATE INSTALLATION WITH ALL DOOR HARDWARE EQUIPMENT AND DOOR HARDWARE SPECIFICATIONS.
- AT EACH 'CAM' LOCATION, FURNISH AND INSTALL VERINT #V4320FDW-DN PER CCSU STANDARDS (NO SUBSTITUTIONS). FURNISH AND INSTALL ALL HARDWARE REQUIRED FOR MOUNTING AT LOCATIONS INDICATED. COORDINATE INSTALLATION, PROGRAMMING, AND INTEGRATION WITH EXISTING VIDEO MANAGEMENT SYSTEM WITH OWNER'S SECURITY DEPARTMENT. NO ADDITIONAL VIDEO STORAGE IS TO BE PROVIDED. CAMERA FIELD OF VIEW SHALL BE REVIEWED AND APPROVED BY CCSU SECURITY REPRESENTATIVE.

FIBER RE-TERMINATION NOTES

- IN THE FIRST FLOOR TELECOM ROOM, RE-TERMINATE TWO OF THE EXISTING 48-STRAND SINGLEMODE FIBERS FROM THE POWERHOUSE BUILDING USING SCAPCO CONNECTORS. ADD CORNING FIBER ADAPTER MODULE #CH-CP-12-9 TO SLOTS 5 OF THE EXISTING FIBER ENCLOSURE. RE-TERMINATE THE CORRESPONDING STRANDS AT THE FAR END IN THE POWERHOUSE AND INSTALL NEW FIBER ADAPTER MODULE.

SPECIFICATIONS

OVERVIEW

THE PURPOSE OF THE DESIGN IS TO PROVIDE A STRUCTURED WIRING SYSTEM TO SUPPORT VOICE, DATA AND VIDEO COMMUNICATIONS. THIS DESIGN MEETS ENHANCED STANDARDS, EXCEPT WHERE NECESSARY TO MEET SPECIFIC REQUIREMENTS OR CONDITIONS. IT ALSO FOLLOWS THE DESIGN PROCEDURES SPECIFIED IN THE BUILDING INDUSTRY CONSULTANT SERVICES INTERNATIONAL (BICSI) TELECOMMUNICATIONS DISTRIBUTIONS METHODS MANUAL AND BY THE NATIONAL ELECTRICAL CODE.

ANY ERRORS OR OMISSIONS DISCOVERED DURING THE BIDDING PROCESS SHOULD BE BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER.

DRAWING PACKAGE DEPENDENCIES

THIS DRAWING PACKAGE IS BASED UPON INFORMATION RECEIVED FROM CCSU, ITS REPRESENTATIVES, AND SUB-CONTRACTORS. THE ACCURACY OF THIS DRAWING PACKAGE IS DEPENDENT UPON THE ACCURACY OF THE DOCUMENTATION RECEIVED. IT IS THE RESPONSIBILITY OF THE BIDDING CONTRACTOR TO VERIFY CABLE REQUIREMENTS AND ASSOCIATED MATERIAL LIST FOR ACCURACY DURING THE BID RESPONSE.

DESIGN HIGHLIGHTS

THE DESIGN CONSISTS OF A "STRUCTURED CABLING SYSTEM" FOR VOICE/DATA/VIDEO COMMUNICATIONS. THE DATA CABLES WILL UTILIZE A CATEGORY-4 UTP COMPLIANT CABLE FOR ALL HORIZONTAL CABLE RUNS TO WORKSTATION OUTLETS (7 CABLES PER OUTLET AS STANDARD UNLESS OTHERWISE NOTED). ACCEPTABLE CABLE MANUFACTURERS INCLUDE BELDEN #2413 (CAT-6 ENHANCED DATAMIST) OR APPROVED EQUIVALENT. ALL CABLES SHALL BE PLENUM RATED (CMP).

WORKSTATION CABLES WILL BE COLOR CODED WITH CORRESPONDING COLORED JACKS AND/OR ICONS AND TERMINATED IN THE PATCH PANEL AS A GROUP WITH COLOR CODED JACKS AND/OR ICONS. BLANK INSERTS WILL FILL OUT OUTLETS NOT USED AT WORKSTATION LOCATIONS TO MATCH THE COLOR OF THE FACEPLATE. REFER TO CCSU STANDARDS FOR COLOR CODING AND LABELING REQUIREMENTS. WORKSTATION JACKS AND PATCH PANELS TO BE CATEGORY-6. ACCEPTABLE MANUFACTURERS SHALL BE PAIDOUT WITH NO SUBSTITUTIONS.

THE DROPS ON THE DRAWINGS ARE APPROXIMATE. THE INSTALLATION CONTRACTOR IS RESPONSIBLE FOR ROUTING ALL CABLES PROPERLY IN CEILINGS, WALLS, AND FLOORS, AND TO ENSURE THAT ALL NATIONAL AND LOCAL STANDARDS, CODES, REGULATIONS, AND LAWS ARE FOLLOWED. CABLE ROUTING TO BE CLOSELY COORDINATED WITH GENERAL CONTRACTOR AND OTHER TRADES.

ROUTING OF HORIZONTAL CABLE

HORIZONTAL CABLES TO DATA DROPS ARE ROUTED IN THE SPACE BETWEEN THE CEILING AND THE NEXT FLOORROOF. CABLES ARE TO BE PROPERLY SECURED WITH 1" HOOKS OR SLINGS EVERY 4-5 FEET, OR ROUTED THROUGH THE JOISTS AS REQUIRED AND AS DIRECTED BY THE GENERAL CONTRACTOR. HORIZONTAL PATHWAYS SHALL MEET APPLICABLE LOCAL AND NATIONAL BUILDING AND ELECTRICAL CODES. THE MINIMUM BEND RADIUS OF HORIZONTAL CABLES MUST BE KEPT WITHIN MANUFACTURER SPECIFICATIONS BOTH DURING AND AFTER INSTALLATION. CABLES ARE TO BE ROUTED IN AS STRAIGHT A LINE AS POSSIBLE WITHOUT ROUTING AROUND EXISTING CABLES, DIAGONAL, REGLINE, OR NON-SUPPORTED CABLING IS UNACCEPTABLE. ONCE THE CABLES ARE AT THEIR LOCATION ABOVE/BELOW THE DROP LOCATION, THE CABLE WILL DROP DOWN INTO THE WALL AND TERMINATE IN A CATEGORY-6 RJ-45 DATA JACKS WITH 66-B CONFIGURATION. FLUSH MOUNT FACEPLATE WITH BOX EXULATOR WILL BE UTILIZED IN HOLLOW CORE WALLS, MODULAR FURNITURE PANEL ADAPTERS IN THE MODULAR FURNITURE, AND IN SURFACE MOUNT BOXES WITH RACEWAY ONLY WHEN NECESSARY. HORIZONTAL CABLES ARE ALWAYS 4-PAIR, PLENUM RATED, CATEGORY-6 UTP. CABLES FOR MODULAR PANELS MUST BE ROUTED IN MODULAR FURNITURE AND TERMINATED AS PREVIOUSLY SPECIFIED.

LABELING AND MARKING

EACH PATCH PANEL AND FACEPLATE LABEL SHALL BE MECHANICALLY LABELED. THE LABEL SHALL BE BLACK LETTERS ON A WHITE BACKGROUND. THE LABELS SHALL BE SIZED FOR EACH APPLICATION AND PROVIDE A LEGIBLE AND UNOBSTRUCTED MEANS OF IDENTIFICATION. CCSU PROJECT MANAGER SHALL APPROVE THE LABELING METHOD AND FONT SIZE TO BE USED PRIOR TO INSTALLATION.

ALL CABLES WILL BE MECHANICALLY LABELED AT EACH END WITH THE UNIQUE CABLE NUMBER. EACH CABLE WITHIN THE CABLE GROUP WILL BE DESIGNATED PER STEVENS INSTITUTE STANDARDS.

GENERAL INSTALLATION REQUIREMENTS

THE INSTALLATION REQUIREMENTS PROVIDED IN THIS GUIDE ARE MINIMUM REQUIREMENTS. CUSTOMER SPECIFIC REQUIREMENTS THAT ARE NOT IN VIOLATION OF NATIONAL OR LOCAL CODES TAKE PRECEDENCE OVER REQUIREMENTS IN THIS GUIDE IF THERE IS A CONFLICT.

THE CABLING SYSTEM SHALL BE INSTALLED IN A PROFESSIONAL MANNER BY PERSONS SKILLED IN THE TRADES REPRESENTED BY THE WORK, AND IN ACCORDANCE WITH NATIONAL AND LOCAL BUILDING CODES, STANDARDS, REGULATIONS AND LAWS.

ALL ELECTRICAL MATERIALS AND EQUIPMENT INSTALLED SHALL BE OF NEW MANUFACTURE, AND APPROVED BY UNDERWRITERS LABORATORIES, INC. (UL) AND SHALL BEAR THE UL LABEL.

THE LOCATION OF OUTLET BOXES AND EQUIPMENT ON ALL DRAWINGS IS APPROXIMATE, UNLESS DIMENSIONS ARE SHOWN. DRAWINGS SHALL NOT BE SCALED TO DETERMINE POSITION AND ROUTING OF PATHWAYS, DROPS, AND OUTLET BOXES. THE LOCATION OF OUTLET BOXES AND EQUIPMENT SHALL CONFORM TO ARCHITECTURAL FEATURES OF THE BUILDINGS AND OTHER WORK ALREADY IN PLACE, AND MUST BE ASCERTAINED BY THE CONTRACTOR IN THE FIELD PRIOR TO THE START OF WORK. ACTUAL DROP LOCATIONS SHOULD BE VERIFIED BY STEVENS INSTITUTE PROJECT MANAGER PRIOR TO ACTUAL INSTALLATION.

DRAWINGS GENERALLY INDICATE WORK TO BE DONE, BUT DO NOT SHOW ALL BENDS, TRANSITIONS, OR SPECIAL FITTINGS REQUIRED TO CLEAR BEAMS, GIRDERS, OR OTHER EXISTING WORK. INSTALLATION OBSTACLES SUCH AS EXISTING POWER WIRING, WATER PIPES, AND HEATING DUCTS WILL NOT ALWAYS BE IDENTIFIED ON THESE DRAWINGS. CONTRACTORS SHALL CAREFULLY INVESTIGATE CONDITIONS WHERE PATHWAYS ARE TO BE INSTALLED, AND FURNISH AND INSTALL REQUIRED FITTINGS.

A SITE SURVEY OF THE PROPOSED INSTALLATION AREA IS USUALLY REQUIRED. THIS SURVEY SHOULD ALLEVATE QUESTIONS THAT ARE UNANSWERED FROM THE DRAWINGS AND SHOULD ALLOW THE INSTALLER TO LOCATE OBSTACLES THAT MIGHT AFFECT THE INSTALLATION AND PERFORMANCE OF THE COPPER AND/OR THE FIBER OPTIC CABLES TO BE INSTALLED.

THE CONTRACTOR SHALL RETURN ALL DRAWINGS AND SPECIFICATIONS TO CCSU AT THE COMPLETION OF THE WORK. THE DRAWINGS SHALL BE MARKED BY THE CONTRACTOR TO SHOW ALL ADDITIONS, DELETIONS, OR CHANGES, INCLUDING CHANGES TO THE CABLE SCHEDULE. IT IS INTENDED THAT THESE MARKED-UP DRAWINGS CONSTITUTE THE "AS BUILT" CONFIGURATION OF THE WORK, WHERE NO CHANGES HAVE OCCURRED. THE CONTRACTOR SHALL MARK SUCH DRAWINGS "NO CHANGE."

CODES AND STANDARDS

THE INSTALLATION SHALL SATISFY ALL APPLICABLE CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO THE:

- > ELECTRICAL CODES AND STANDARDS SPECIFIED BY LOCAL CODES AND STANDARDS
- > ALL APPLICABLE CODES AND STANDARDS RELATING TO INSTALLATION OF ELECTRICAL WIRE FOR DATA AND VOICE APPLICATIONS

CABLE TERMINATION

ALL CABLES SHOULD BE NEATLY LACED IN THE RACK/CABINET. CABLES SHOULD BE STRIPPED BACK TO A UNIFORM POINT (NO MORE THAN 1/2" FOR HORIZONTAL CABLES). A SERVICE LOOP SHOULD BE LEFT AT EACH END OF THE CABLE ABOVE THE CEILING APPROXIMATELY 10 FEET IN LENGTH. CABLES IN CONDUIT SHOULD HAVE A SMALL LOOP IN THE LAST FULL BOX AS A SERVICE LOOP.

ALL WORK AREA OUTLETS ARE TO BE TERMINATED IN TWO PORT FACEPLATES, OR OTHER SIZE AS INDICATED OR REQUIRED. ANY UNUSED FACEPLATE OUTLETS ARE TO BE COVERED USING BLANK INSERTS OF THE SAME COLOR.

ALL CABLES FROM OVERHEAD PATHWAYS SHOULD BE NEATLY DRESSED BEHIND DISTRIBUTION PANELS TO PROVIDE ADEQUATE WORKING SPACE IN THE BACK OF THE PANELS.

CABLES SHOULD BE INSTALLED IN THE DISTRIBUTION PANEL SEQUENTIALLY FROM TOP OF PANEL TO THE BOTTOM, AND LEFT TO RIGHT AS VIEWED FROM THE FRONT OF THE PANEL.

GENERAL INSTALLATION PRACTICES FOR CEILING INSTALLATION MUST BE FOLLOWED. ALL CABLES INSTALLED IN OPEN CEILING AREAS SHOULD BE PROPERLY SUPPORTED AND ROUTED ABOVE THE BOTTOM SECTION OF THE ROOF TRUSSES. OPEN TOP CABLES SUPPORTS (J-HOOKS) OR WIRE TIES FASTENED TO UPPER CEILING DECK ARE TO BE LOCATED ON 48" OR 60" SPACERS. ALL CABLE RUNS EXTENDING INTO THE TELECOMMUNICATIONS ROOM SHOULD FOLLOW MAIN BUILDING CORRIDORS TO THE DROP AREA AND BE RUN AT RIGHT ANGLES AND ALONG ONE SIDE OF THE CORRIDOR. CEILING TILES ARE TO BE REINSTALLED AT THE END OF EACH WORKDAY IN OCCUPIED AND COMMON AREA SPACES.

UNDER NO CONDITION ARE CABLES TO BE TIED TO CEILING SUPPORT WIRE OR LAD DIRECTLY ON CEILING TILES OR RAILS. CABLE ROLLERS SHOULD BE USED WHEN PULLING CABLE. CABLE PULLERS MUST BE USED WHEN PULLING CABLE AROUND BENDS AND CORNERS OF WIREWAYS. PULLERS SHOULD HAVE A MINIMUM DIAMETER 10 TIMES LARGER THAN THE DIAMETER OF THE LARGEST CABLE BEING INSTALLED BUT NEVER SMALLER THAN 6" SO AS NOT TO EXCEED THE ALLOWABLE BEND RADIUS.

FIRESTOPPING

ALL FLOOR PENETRATIONS (CORE BORES, CONDUITS, SLEEVES, SLOTS AND FIREWALL PENETRATIONS MUST BE SEALED WITH A UL-APPROVED FIRESTOPPING MATERIAL. ALL EMPTY CONDUIT STUBS AND SLEEVES ARE TO BE FIRESTOPPED. FIRESTOP PUTTY MUST BE USED TO PLUG UP HOLES AT THE END OF EACH WORKDAY.

COPPER CABLES TESTING

THE CONTRACTOR WILL MAKE A FINAL (PERMANENT LINK) TEST OF ALL DATA CABLE RUNS FROM THE TELECOMMUNICATIONS OUTLET TO THE DISTRIBUTION PANELS UTILIZING A TESTING INSTRUMENT CAPABLE OF TESTING TO CATEGORY 6 SPECIFICATIONS. THE CABLE MUST PASS ALL TEST PARAMETERS AS DEFINED IN ANSI/TIA/EIA 568-C. THE FIELD TESTER SHALL HAVE THE LATEST VERSION OF SOFTWARE INSTALLED IN ORDER TO PROVIDE THE MOST ACCURATE AND CURRENT TESTING PARAMETERS AND VALUES. ALL FIELD TESTERS SHALL BE FACTORY CALIBRATED BY THE FIELD TESTER MANUFACTURER PER THE REQUIREMENTS IN THE TEST EQUIPMENT MANUFACTURERS MANUAL THAT IS PROVIDED WITH THE FIELD TESTER. CALIBRATION CERTIFICATES FOR FIELD TESTERS SHALL BE PROVIDED TO PROJECT MANAGER UPON REQUEST. REQUIREMENTS AND RECOMMENDATIONS FOR CONNECTIONS, TEST CONFIGURATION, MEASUREMENT PROCEDURES, AND PRECAUTIONS THAT ARE SPECIFIED IN THE MANUALS PROVIDED WITH THE FIELD TESTER SHALL BE FOLLOWED. AUTOTEST SETTINGS THAT HAVE BEEN MODIFIED TO CHANGE TESTING PARAMETERS MAY DISQUALIFY THE TEST RESULTS. TEST SETTINGS SELECTED FROM THE OPTIONS PROVIDED IN THE FIELD TESTERS SHALL BE COMPATIBLE WITH THE INSTALLED CABLING UNDER TEST. ALL TEST RESULTS MUST BE SAVED AND PROVIDED TO CCSU PROJECT MANAGER IN BOTH ELECTRONIC AND HARD COPY FORMAT.

COMPLETION CRITERIA

THE CONTRACTOR'S WORK SHALL BE CONSIDERED COMPLETE AFTER THE FOLLOWING HAS BEEN ACCOMPLISHED:

- > ALL SYSTEM TESTING HAS BEEN COMPLETED, THE CONTRACTOR CERTIFIES THAT THE ENTIRE SYSTEM IS IN WORKING ORDER, (PER SPECIFICATIONS IN THE DOCUMENTATION), AND CABLE TEST FORMS, EQUIPMENT DOCUMENTATION, AND WARRANTY FORMS (IF APPLICABLE) HAVE BEEN SUBMITTED TO THE CUSTOMER.
- > ALL CEILING PANELS PREVIOUSLY REMOVED HAVE BEEN PUT BACK IN PLACE.
- > ALL SYSTEM LABELS HAVE BEEN PUT IN PLACE AND CABLE IDENTIFICATION LABELS MATCH BETWEEN THE FACEPLATE AND CORRESPONDING DISTRIBUTION PANEL JACKS.
- > ALL CONSTRUCTION DEBRIS AND SCRAP MATERIALS HAVE BEEN REMOVED FROM OWNER PREMISES.
- > ALL MARKED-UP AS-BUILT DRAWINGS HAVE BEEN RETURNED TO THE PROJECT MANAGER.
- > ALL UNUSED MATERIAL HAS BEEN RETURNED TO THE OWNER, OR CREDIT HAS BEEN ISSUED FOR UNUSED MATERIAL.
- > THE PROJECT MANAGER AND CABLE MANUFACTURERS REPRESENTATIVE HAVE INSPECTED AND ACCEPTED THE INSTALLATION.
- > ANY AND ALL DAMAGE CAUSED BY THE CONTRACTOR HAVE BEEN RESOLVED TO THE OWNER'S SATISFACTION (I.E. CEILING TILES, CARPET DAMAGE, ETC.)

INTELLIGENT POWER-OVER-ETHERNET (POE) ACCESS CONTROL MORTISE LOCKS

- POWER-OVER-ETHERNET (POE) ACCESS CONTROL MORTISE LOCKS TO BE 8200 SERIES AS MANUFACTURED BY SARGENT MANUFACTURING OF NEW HAVEN, CT.
 - BHMA CERTIFIED EXTRA HEAVY DUTY LEVER TYPE MORTISE LOCK CONFORMING TO ANSI 156.13 SERIES 1000, GRADE 1 STANDARD AND ANSI A118.1 ACCESSIBILITY GUIDELINES. ELECTRONIC MOTORIZED LOCKING CONTROL, OF LEVER HANDLE TRIM (ISOLINOS NOT ACCEPTABLE) WITH 3/4" ANTI-FRICTION DEADLOCKING LATCH AND 1" CASE-HARDENED STEEL DEADBOLT. UL LISTED AND LABELED FOR UP TO 3 HOUR FIRE RATED OPENINGS.
 - BACKSET: 2-3/4 INCHES
 - POWER-OVER-ETHERNET INTELLIGENT ACCESS CONTROL LOCKING DEVICES INTERFACE USING STANDARD IEEE 802.3AF ETHERNET FOR DATA AND POWER COMMUNICATION DIRECTLY FROM THE LOCKING UNIT BACK TO A HOST SERVER OVER AN EXISTING OR NEWLY INSTALLED TOPUP NETWORK FACILITYING CENTRALIZED CONTROL VIA A SOFTWARE DEVELOPMENT KIT (SDK) TO AN ONLINE ELECTRONIC ACCESS CONTROL SYSTEM WITHOUT THE NEED FOR ADDITIONAL INTERFACES OR COMPONENTS EXCLUDING POE ENDS/PAN AND MIDSPAN DEVICES).
 - PROVIDE ACCESS CONTROL PRODUCTS WITH NON-VOLATILE MEMORY.
 - FULLY-ENCRYPTED AES-128 (IEEE 802.3AF) COMMUNICATION BETWEEN IP ENABLED LOCK AND ELECTRONIC ACCESS CONTROL SYSTEM PLATFORM VIA SDX. PROGRAMMABLE TIME ZONE PERIODS, BLOCKED HOLIDAYS, AUTOMATIC UNLOCK WITH OR WITHOUT FIRST ENTRY, MINIMUM OF 2,400 USER CODES AND THE ABILITY TO ADJUST THE LAST 10,000 TRANSACTIONS EVENT TYPE, DATE, TIME, USER ID AND NAME). DISTRIBUTED INTELLIGENCE ALLOWS STAND ALONE FUNCTIONAL OPERATION OF LOCK IN ABSENCE OF NETWORK COMMUNICATION OR SLOWDOWN ALLOWING FOR SYSTEM OPERATIONAL REDUNDANCY.
 - INTEGRATED READER SUPPORTS HIGH COERCIVITY (HCO) MAGNETIC SWIPE CREDENTIALS, HID 125 KHZ PROXIMITY CREDENTIALS OR ISO 14443A/B AND ISO 15693 13.56 MHZ CONTACTLESS CREDENTIALS; HID CLASS 1/CLASS SE FULL AUTHENTICATION, ALL FORMATS, MFARE CLASSIC AND DESIRE E11 FULL AUTHENTICATION, ALL FORMATS, NFC NEAR-FIELD COMMUNICATIONS AND HID 300-ENABLE™.
 - VALID/INVALID CREDENTIAL PRESENTATION (VISIBLE BY MEANS OF LED INDICATORS ON OUTSIDE ESCUTCHEON).
 - DUAL-FACTOR KEYPAD AUTHENTICATION FUNCTION OPTIONAL.
 - ENVIRONMENTAL CONDITIONS, CONFORMALLY COATED WEATHER RESISTANT ELECTRONIC CONTROLLER SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
 - OPERATING TEMPERATURE: -31°F (-35°C) TO 151°F (66°C)
 - OPERATING HUMIDITY: < 85% NON-CONDENSING
 - WEATHERIZED DESIGN SUITABLE TO WITHSTAND HARSH ENVIRONMENTS WITH A CERTIFIED RATING OF IP55
 - CONFIGURATION: PROGRAMMING OF TIME ZONE PERIODS, BLOCKED HOLIDAYS, AUTOMATIC UNLOCK WITH OR WITHOUT FIRST ENTRY, AND LISTING 10,000 EVENT TRANSACTION HISTORY CONSISTING OF EVENT TYPE, DATE, TIME, USER ID AND NAME IS REQUIRED.
 - PROVIDE NETWORK AND LOCK CONFIGURATION CD TOOL KIT FOR INITIAL LOCK SET-UP AND PROGRAMMING VIA USB CONNECTION.
 - MONITORING: SOFTWARE ACCESSIBLE MONITORING (VIA SDK) OF INSIDE LEVER HANDLE (REQUEST-TO-EXIT), INTEGRAL DOOR POSITION SWITCH (DPS) INTEGRAL TO THE LOCK (DOOR OPEN/CLOSED STATUS), FORCED DOOR, UNKNOWN CARD, DOOR HELD OPEN, BATTERY AND TAMPER.
 - STANDARD PRIVACY FUNCTION INITIATED FROM PUSH BUTTON ON INSIDE ESCUTCHEON AND CANCELLED UPON ACTIVATION OF VALID REQUEST-TO-EXIT (REX) OR USER DEFINED CREDENTIALS.
 - ACTIVATION OF PRIVACY FUNCTION IS INDICATED BY LED NOTIFICATION ON INSIDE ESCUTCHEON.
 - REDUNDANT ACTUATION OF PRIVACY BUTTON DOES NOT DEACTIVATE PRIVACY MODE.
 - EMERGENCY OVERRIDE ACCESS CAPABILITY BY MECHANICAL KEY CYLINDER RETRACTION OF LOCK LATCH BOLT WITHOUT ELECTRONIC ACTIVATION NECESSARY.
 - INSIDE LEVER RETRACTS LATCH BOLT.
 - POWER SOURCE: POE CLASS 2, MAX 1 WT.

TELECOM DRAWING LIST

DRAWING NUMBER	DRAWING DESCRIPTION
T-001	COVER SHEET - TELECOM
TD-102	SECOND FLOOR DEMO PLAN - TELECOM
T-101	FIRST FLOOR PLAN - TELECOM
T-102	SECOND FLOOR PLAN - TELECOM
T-400	DETAILS - TELECOM

Central
Connecticut
State
University



1615 Stanley Street
New Britain, CT 06050

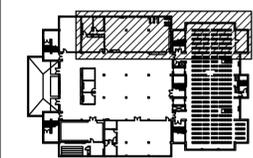
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NUMBER	DATE	DESCRIPTION

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171 Madison Avenue,
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212.695.2422 F 212.695.2423
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E-mail: krce@kohleronan.com

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KEY PLAN
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CCSU PROJECT No.: 22-87

DPW PROJECT No.: BI-RC-397

DRAWN BY: BL

DATE: 6/14/2016

CAD FILE:

COVER SHEET -
TELECOM

BUILDING No.:

DRAWING No.:

22 T-001

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State
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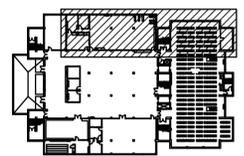
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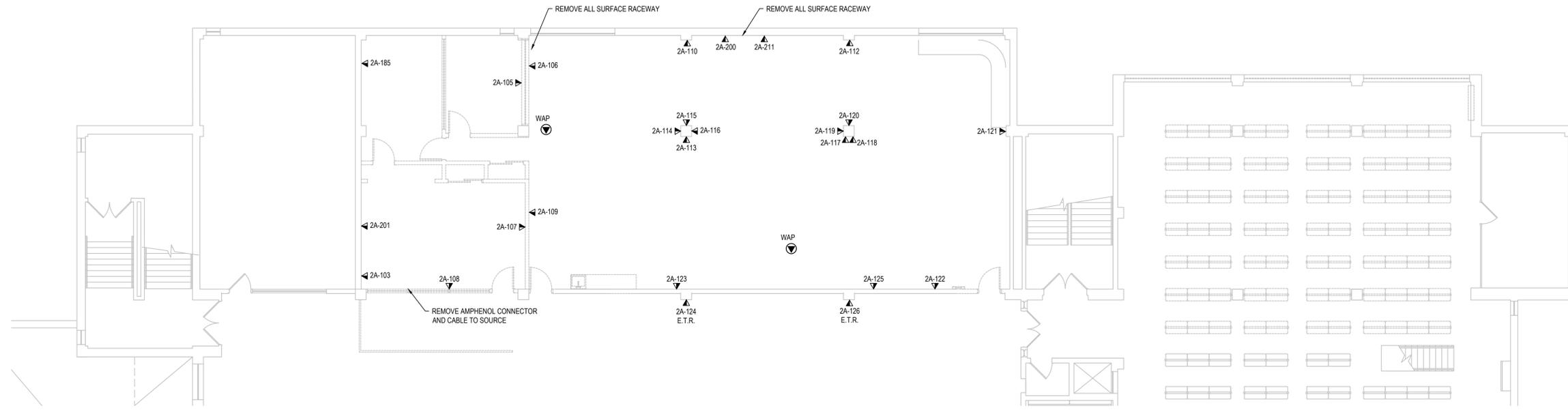


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PARTIAL SECOND
FLOOR DEMO
PLAN-TELECOM

BUILDING No.:	DRAWING No.:
22	TD-102



1 PARTIAL SECOND FLOOR DEMOLITION PLAN
TD-102 SCALE: 1/8" = 1'-0"



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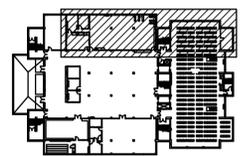
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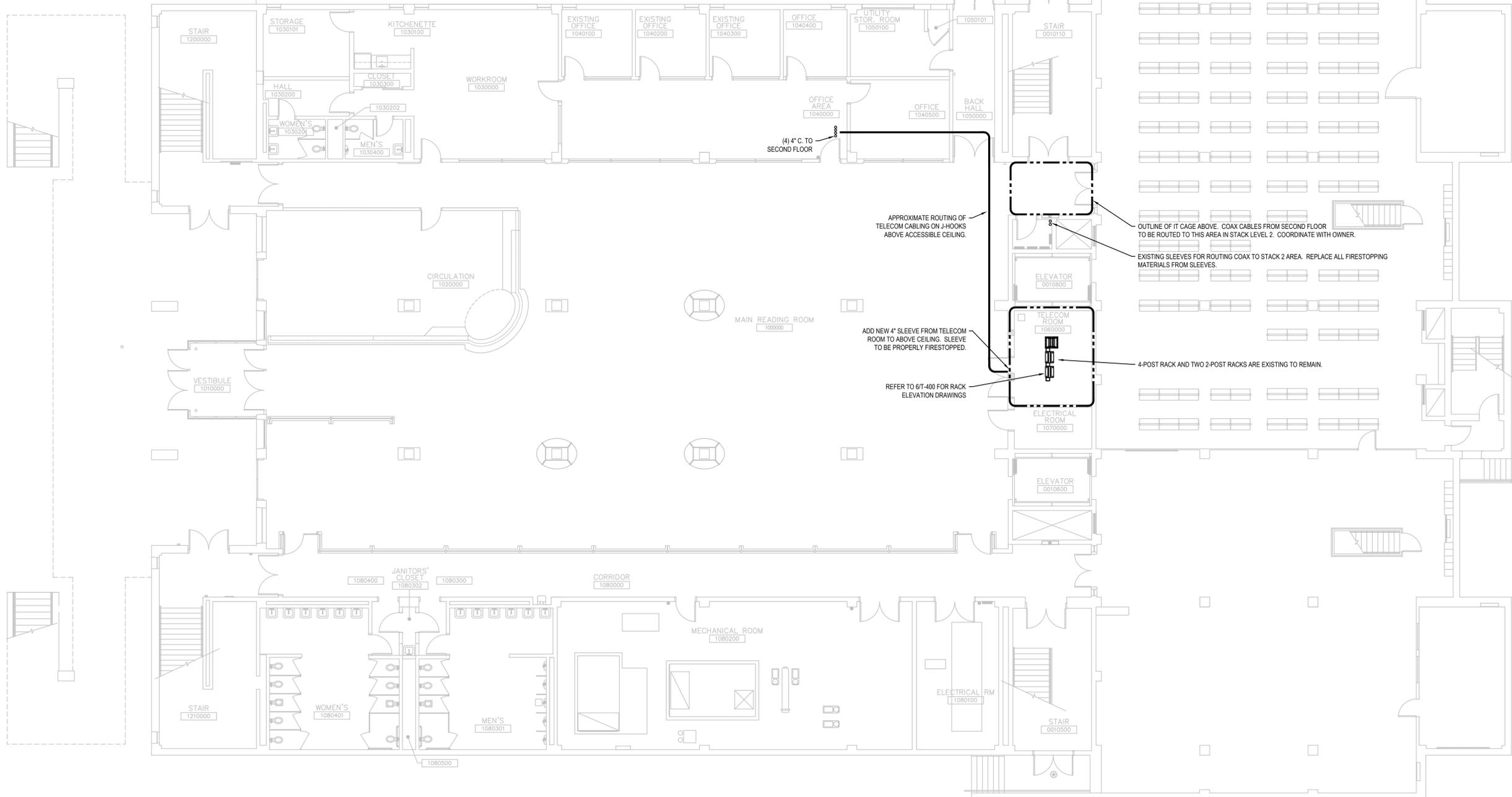


KEY PLAN
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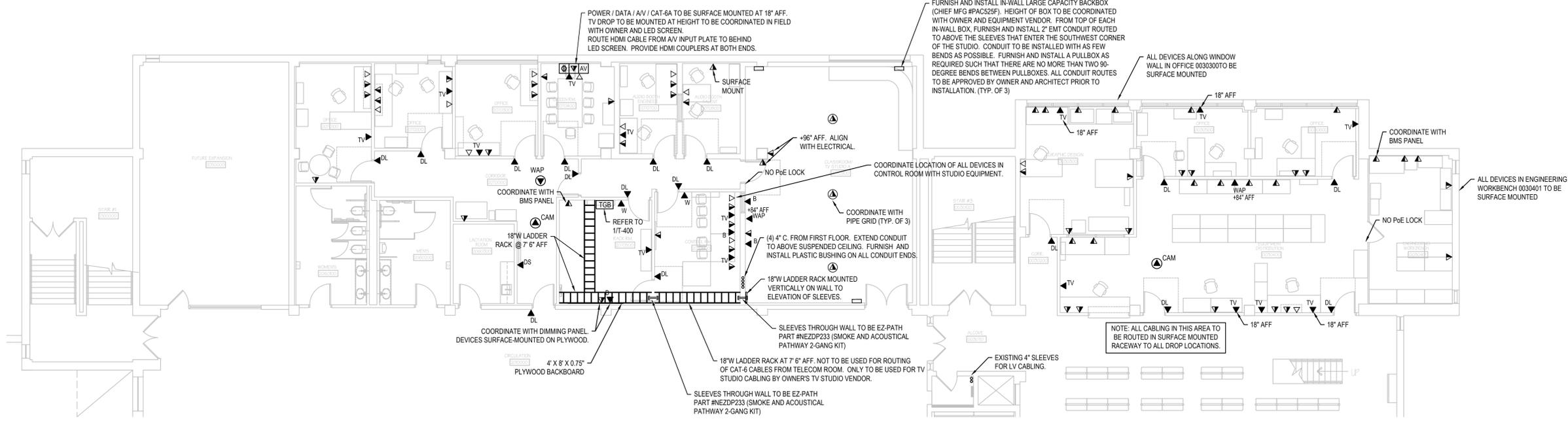
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DATE:	6/14/2016
CAD FILE:	

FIRST FLOOR PLAN - TELECOM

BUILDING No.:	DRAWING No.:
22	T-101



1 FIRST FLOOR PLAN
T-101 SCALE: 1/8" = 1'-0"



1 PARTIAL SECOND FLOOR PLAN
T-102 SCALE: 1/8" = 1'-0"

Central Connecticut State University



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New Britain, CT 06050

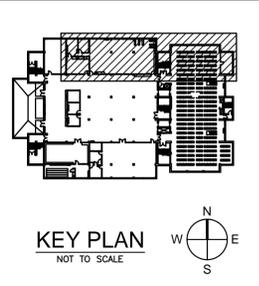
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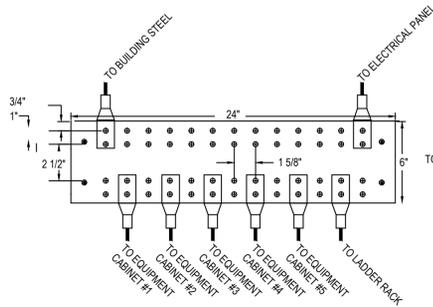
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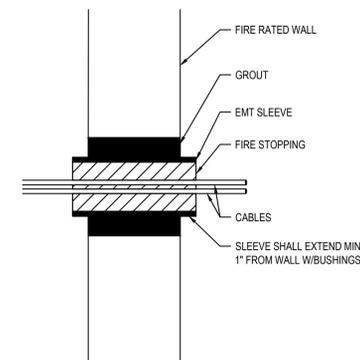
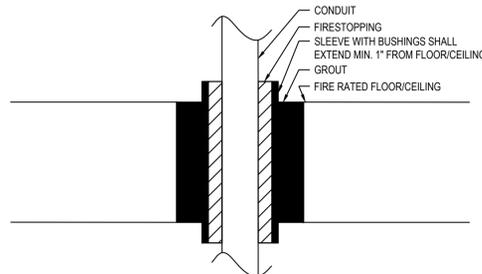
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PARTIAL SECOND FLOOR PLAN - TELECOM

BUILDING No.:	DRAWING No.:
22	T-102



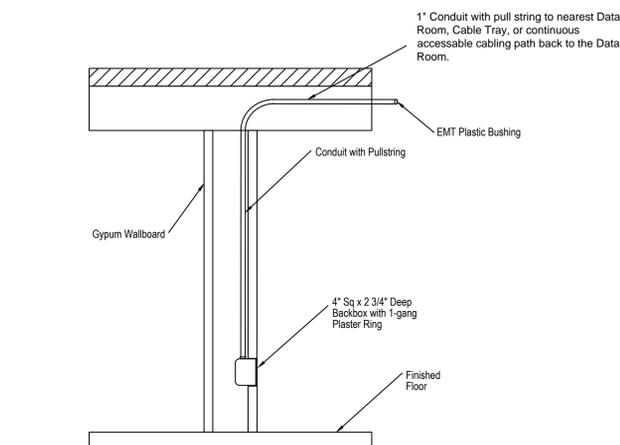
GROUNDING CONDUCTOR SIZING	
LINEAR LENGTH m (ft)	CONDUCTOR SIZE (AWG)
LESS THAN 4 (13)	6
4-6 (14-20)	4
6-8 (21-26)	3
8-10 (27-33)	2
10-13 (34-41)	1
13-16 (42-52)	1/0
16-20 (53-66)	2/0
GREATER THAN 20 (66)	3/0



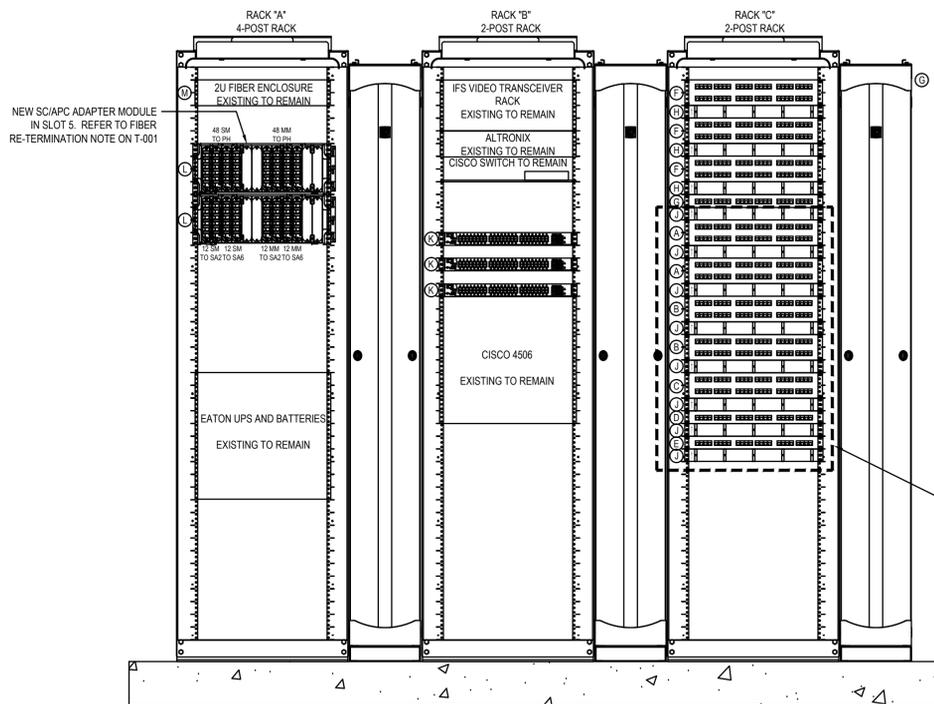
1 TELECOM GROUNDING BUSBAR (TGB) DETAIL
T-400 NOT TO SCALE

2 VERTICAL FIRESTOPPER DETAIL
T-400 NOT TO SCALE

3 HORIZONTAL FIRESTOPPER DETAIL
T-400 NOT TO SCALE



4 BACKBOX DETAIL
T-400 NOT TO SCALE



RACK EQUIPMENT KEYNOTES
 A - 48-PORT CAT-6 UTP PATCH PANEL - DATA DROPS (BLUE) - NEW
 B - 48-PORT CAT-6 UTP PATCH PANEL - DATA DROPS (GREEN) - NEW
 C - 48-PORT CAT-6 UTP PATCH PANEL - POE LOCK DROPS (PURPLE) - NEW
 D - 24-PORT CAT-6 UTP PATCH PANEL - CCTV DROPS (PINK) - NEW
 E - 24-PORT CAT-6 UTP PATCH PANEL - WAP DROPS (YELLOW) - NEW
 F - 48-PORT CAT-6 UTP PATCH PANEL (DATA) - EXISTING TO REMAIN
 G - 24-PORT CAT-6 UTP PATCH PANEL (WIRELESS) - EXISTING TO REMAIN
 H - 1U HORIZONTAL WIRE MANAGER - EXISTING TO REMAIN
 J - 1U HORIZONTAL WIRE MANAGER - NEW
 K - DISCO 48-PORT SWITCH - EXISTING TO REMAIN
 L - FIBER ENCLOSURE - COPING COU-MU - EXISTING TO REMAIN
 M - FIBER ENCLOSURE - 2U (96 STRAND SM TO VANCE BLDG MDF) - EXISTING TO REMAIN

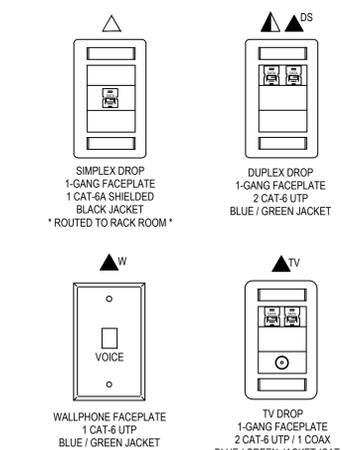
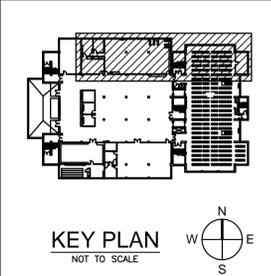
NOTE: 4-POST RACK, 2-POST RACKS, AND VERTICAL WIRE MANAGERS ARE EXISTING TO REMAIN.

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NOTES
 1. PROVIDE DOUBLE-GANG BACKBOX WITH REDUCING RING FOR SINGLE-GANG FACEPLATES.
 2. PROVIDE BLANK INSERTS IN ALL UNUSED PORTS. JACKS IN WIREWOLD POKE-THRU'S (NOT SHOWN) MAY REQUIRE KEYSTONE-STYLE CAT-6 JACKS AND ADAPTER PLATE.
 3. COORDINATE FACEPLATE COLOR SELECTION WITH ARCHITECT.
 4. WAP AND CCTV CABLES ARE TO BE TERMINATED WITH RJ-45 MALE CONNECTOR AND CONNECTED DIRECTLY TO WAP OR CAMERA. COORDINATE WITH OWNER AND SECURITY CONTRACTOR FOR EQUIPMENT LOCATIONS.

CABLE JACKET AND JACK COLORS:
 SIMPLEX BLACK (STP)
 DATA BLUE / GREEN (UTP)
 POE LOCK PURPLE (STP)
 WAP YELLOW (CAT-6A STP)
 CCTV PINK (UTP)

5 FACEPLATE DETAILS
T-400 NOT TO SCALE

6 TELECOM ROOM 1060000 RACK ELEVATION
T-400 NOT TO SCALE

CCSU PROJECT No.: 22-87
 DPW PROJECT No.: BI-RC-397
 DRAWN BY: BL
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 CAD FILE:

DETAILS - TELECOM

BUILDING No.: 22
 DRAWING No.: T-400