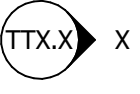
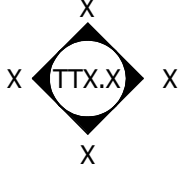

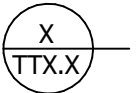
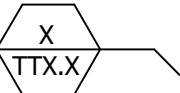

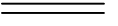






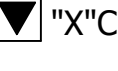

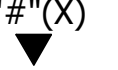




| ABBREVIATIONS | | ABBREVIATIONS | | TELECOMMUNICATIONS SYMBOLS | GENERAL NOTES | INDUSTRY STANDARDS | DRAWING LIST | | |
|---|---|---|--|--|---|---|--|---------------------------------------|--------------------------------|
| A/E AAP ADA AFC AFF AFG AHJ ARCH AV AVC AWG BAS BCT BFF BICSI C CAT CATV CCTV CD CL CLG CONTR CT DEMO DIA EC EQ ELEC EMER ENCL FT FP GND GC HT HVAC IDS IN I/O J-BOX LAN LV KP M MAX MECH MIN NEC NTS PB PS PST PT PTZ PWR QTY RCDD RCP RECPT REQD RM RS RU S SB TB TBB TE TC TGB TMGB | ARCHITECT/ENGINEER ALARM ANNUNCIATOR PANEL AMERICANS WITH DISABILITIES ACT ABOVE FINISHED CEILING ABOVE FINISHED FLOOR ABOVE FINISHED GRADE AUTHORITY HAVING JURISDICTION ARCHITECT AUDIOVISUAL AUDIOVISUAL CONTRACTOR AMERICAN WIRE GAUGE BUILDING AUTOMATION SYSTEM BONDING CONDUCTOR FOR TELECOMMUNICATIONS BELOW FINISH FLOOR BUILDING INDUSTRY CONSULTING SERVICE INTERNATIONAL CAMERA CATEGORY CABLE TELEVISION CLOSED CIRCUIT TELEVISION CONSTRUCTION DOCUMENTS CENTERLINE CEILING CONTRACTOR CABLE TRAY DEMOLITION DIAGRAM ELECTRICAL CONTRACTOR EQUAL DIMENSION ELECTRICAL EMERGENCY ENCLOSURE FEET FIRE PROTECTION GROUND GENERAL CONTRACTOR HEIGHT HEATING, VENTILATION, AND AIR CONDITIONING INTRUSION DETECTION SYSTEM INCHES AUDIOVISUAL I/O PANEL JUNCTION BOX LOCAL AREA NETWORK LOW VOLTAGE KEYPAD MICROPHONE MAXIMUM MECHANICAL MINIMUM NATIONAL ELECTRICAL CODE NOT TO SCALE PULL BOX PROJECTION SCREEN SWITCH PROJECTION SCREEN TYPE POKE THRU PAN / TILT / ZOOM POWER QUANTITY REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER REFLECTED CEILING PLAN RECEPTACLE REQUIRED ROOM ROOM SCHEDULER RACK UNIT SPEAKER SPECIALTY BACK BOX TELECOMMUNICATIONS BACKBOARD TELECOMMUNICATIONS BONDING BACKBONE TELECOMMUNICATIONS ENCLOSURE TELECOMMUNICATIONS CONTRACTOR TELECOMMUNICATIONS GROUNDING BUSBAR TELECOMMUNICATIONS MAIN GROUNDING BUSBAR | TV TP UL UON UPS UTIL WP WAP | TELEVISION TOUCH PANEL UNDERWRITERS LABORATORY UNLESS OTHERWISE NOTED UNINTERRUPTIBLE POWER SUPPLY UTILITY WEATHERPROOF WIRELESS ACCESS POINT | <u>VIEW REFERENCE CALLOUTS</u>  SINGLE WALL ELEVATION CALLOUT  MULTI-WALL ELEVATION CALLOUT  ROOM SECTION CALLOUT  ENLARGED PLAN CALLOUT  RISER DETAIL CALLOUT | <ol style="list-style-type: none">ALL WALL MOUNTED OUTLETS ARE TO BE MOUNTED 18" AFF UNLESS OTHERWISE NOTED.REFER TO DIVISIONS 26, 27, 28 AND 33 SPECIFICATIONS FOR TELECOMMUNICATION SYSTEM ITEMS.MOUNT DEVICES AND EQUIPMENT PER SPECIFICATIONS UNLESS OTHERWISE NOTED.MOUNTING HEIGHTS, UNLESS OTHERWISE NOTED, ARE TO CENTER LINE OF DEVICE.THE CONTRACTOR SHALL DETERMINE THE EXACT ROUTING OF RACEWAYS.THE CONTRACTOR SHALL COORDINATE ALL RACEWAY PENETRATIONS AND PROVIDE FIREPROOFING AS APPLICABLE.THE MAXIMUM PERMANENT HORIZONTAL LINK DISTANCE SHALL NOT EXCEED 295' AND THE MAXIMUM HORIZONTAL CHANNEL (LINK PLUS WORKSTATION CABLES AND PATCH CORDS) SHALL BE 328'.ALL HORIZONTAL AND BACKBONE CABLING SHALL BE PLENUM RATED WITH THE EXCEPTION OF CABLING INSTALLED IN UNDERGROUND CONDUITS. SEE NOTE 20 FOR CABLES INSTALLED IN UNDERGROUND CONDUITS.PROVIDE CABLE INSTALLED IN UNDERGROUND CONDUITS LISTED FOR USE IN WET LOCATIONS. PLENUM RATED CABLE SHALL NOT BE INSTALLED IN ANY UNDERGROUND CONDUIT.CATEGORY CABLING SHALL BE TERMINATED ON 8-PIN, 8-CONDUCTOR (RJ-45) CONNECTORS USING PIN/PAIR ASSIGNMENTS IN ACCORDANCE WITH T568B PIN-OUT SEQUENCE.PROVIDE CATEGORY CABLING, 8-PIN, 8-CONDUCTOR MODULAR TO 8-PIN, 8-CONDUCTOR MODULAR, PATCH CABLES IN QUANTITIES AND LENGTHS SUCH THAT ALL WORKSTATION CABLES ARE CONNECTED.THE USE OF J-HOOKS SHALL BE LIMITED. WHEN USED, J-HOOKS SHALL BE CATEGORY 6 RATED AND SPACES AT INTERVALS NOT TO EXCEED 5'. J-HOOKS SHALL NOT EXCEED 24 CABLES OR 50% FILL, WHICHEVER IS LESS.ALL TELECOMMUNICATIONS RACKS AND SUPPORTING STRUCTURES (CABLE TRAYS, LADDER RACKS, CONDUITS, AND BASKETS) WITHIN A TELECOMMUNICATIONS ROOM MUST BE BONDED TO THE TELECOMMUNICATIONS ROOM SIGNAL GROUND RING OR BUS BAR (TGB OR TMGB) AS DEFINED IN ANSI/TIA-569-E AND IN ANSI/TIA-607-D.CABLE TRAY SHALL BE WALL MOUNTED (PREFERABLE) OR TRAPEZE MOUNTED. CENTER HUNG CABLE TRAY IS NOT ALLOWED. CABLE TRAY SHALL NOT BE USED TO SUPPORT OTHER ITEMS, CONDUIT, CABLE TRAY, PIPING OF UTILITIES. CABLE TRAY SUPPORTS SHALL BE PER NEMA STANDARDS PUBLICATION VE 2 - METAL CABLE TRAY INSTALLATION GUIDELINES.PROVIDE TAMPER RESISTANT ACCESS PANELS IN NON LAY-IN CEILINGS SUCH THAT NO POINT IN THE CABLE TRAY SYSTEM IS MORE THAN 20' FROM AN ACCESS POINT.PROVIDE A MINIMUM OF 12" OF CLEARANCE ABOVE THE TOP OF CABLE TRAYS AND A MINIMUM OF 3" CLEARANCE BELOW CABLE TRAYS.COMPLY WITH ANSI/TIA-569-D TELECOMMUNICATION PATHWAYS AND SPACES.USE ONLY COPPER CONDUCTORS FOR GROUND CONNECTIONS. THE USE OF ALUMINUM CONDUCTORS IS NOT ALLOWED.LABEL ALL CABLE TERMINATIONS AND BOTH ENDS OF ALL CABLES IN ACCORDANCE WITH ANSI/TIA-606-B.ANY MOTOR, TRANSFORMER, OR OTHER ELECTRICAL DEVICE GREATER THAN 5 KVA SHALL HAVE A MINIMUM OF A 4' BUFFER FROM ANY WALL OF A TELECOMMUNICATIONS ROOM.ALL DEVICE PLATES, JUNCTION BOX COVERS AND OTHER SECURING SCREWS MUST BE TAMPER RESISTANT TYPE. | AUDIOVISUAL INSTALLATION SHALL COMPLY WITH THE MOST CURRENT VERSION OF THE FOLLOWING STANDARDS: AMERICANS WITH DISABILITIES ACT, 2010 ANSI/ASA S12.60; ACOUSTICAL PERFORMANCE CRITERIA, DESIGN REQUIREMENTS, AND GUIDELINES FOR SCHOOLS ANSI/INFOCOMM 2M-2010, STANDARD GUIDE FOR AUDIOVISUAL SYSTEMS DESIGN AND COORDINATION PROCESS (PROJECT MANAGEMENT PROCESS) ANSI/INFOCOMM 3M-2011 PROJECTED IMAGE SYSTEM CONTRAST RATIO ANSI/INFOCOMM 4: 2012 AUDIOVISUAL SYSTEMS ENERGY MANAGEMENT ANSI/INFOCOMM V202.01:2016, DISPLAY IMAGE SIZE FOR 2D CONTENT IN AUDIOVISUAL SYSTEMS AV DESIGN REFERENCE MANUAL, FROM INFOCOMM INTERNATIONAL AV 9000:2012 QUALITY MANAGEMENT SYSTEM CONDUIT, PATHWAY, AND DEDICATED EQUIPMENT ROOM CONSIDERATIONS AUDIOVISUAL SYSTEM DESIGN AND COORDINATION COMPONENTS, FROM INFOCOMM INTERNATIONAL ANSI/TIA-568.0-E - GENERIC TELECOMMUNICATIONS CABLING FOR CUSTOMER PREMISES, 2015 ANSI/TIA-568.1-E - COMMERCIAL BUILDING TELECOMMUNICATIONS CABLING STANDARD, 2015 ANSI/TIA-568.2-D - BALANCED TWISTED-PAIR TELECOMMUNICATIONS CABLING AND COMPONENTS STANDARD, 2009 ANSI/TIA-568.3-D - OPTICAL FIBER CABLING COMPONENTS STANDARD, 2016 ANSI/TIA-568.4-D - BROADBAND COAXIAL CABLING AND COMPONENTS STANDARD, 2017 ANSI/TIA-569-E - TELECOMMUNICATIONS PATHWAYS AND SPACES, 2015 ANSI/TIA/EIA-598-D - OPTICAL FIBER CABLE COLOR CODING, 2014 ANSI/TIA-606-D - ADMINISTRATION STANDARD FOR COMMERCIAL TELECOMMUNICATIONS INFRASTRUCTURE, 2012 ANSI/TIA-607-D - COMMERCIAL BUILDING GROUNDING (EARTHING) AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS, 2015 DAVIS AND DAVIS, 1987 "SOUND SYSTEM ENGINEERING" GIDDINGS, 1990, " AUDIO SYSTEMS DESIGN AND INSTALLATION INFOCOMM, AV/IT INFRASTRUCTURE GUIDELINES FOR HIGHER EDUCATION NFPA 70 - NATIONAL ELECTRICAL CODE (NEC) NFPA 72 - NATIONAL FIRE ALARM AND SIGNALING CODE NFPA 75 - STANDARD FOR THE PROTECTION OF INFORMATION TECHNOLOGY EQUIPMENT NFPA 76 - STANDARD FOR THE FIRE PROTECTION OF TELECOMMUNICATIONS FACILITIES | SHEET NO. TT-001 | SHEET NAME TELECOM SYMBOLS & NOTES | REV 2 |
| | <u>TELECOMMUNICATIONS SYMBOLS</u> <u>CEILING MOUNTED DEVICES</u>  CEILING CONDUIT PENETRATION  HORIZONTAL CONDUIT  CEILING MOUNTED JUNCTION BOX MOUNTED 18" AFC  CEILING MOUNTED TELECOMMUNICATIONS DATA OUTLET. "X" INDICATES NUMBER OF CAT6 CABLES  CEILING MOUNTED TELECOMMUNICATIONS DATA OUTLET FOR SECURITY DEVICE. PROVIDE ONE (1) CAT6 CABLE. COORDINATE EXACT LOCATION WITH SECURITY CONTRACTOR <u>FLOOR MOUNTED DEVICES</u>  FLOOR CONDUIT PENETRATION  TELECOMMUNICATION EQUIPMENT RACK  FLOOR BOX/POKE-THRU TELECOMMUNICATIONS DATA OUTLET. "X" INDICATES NUMBER OF CAT6 CABLES  FLOOR MOUNTED TELECOMMUNICATIONS DATA OUTLET FOR SECURITY DEVICE. PROVIDE ONE (1) CAT6 CABLE. COORDINATE EXACT LOCATION WITH SECURITY CONTRACTOR  CONDUIT STUB/FURNITURE FEED FOR DATA. COORDINATE EXACT LOCATION WITH CASEWORK AND/OR FURNITURE SHOP DRAWINGS. "X" INDICATES NUMBER OF CAT6 CABLES <u>WALL MOUNTED DEVICES</u>  TELECOMMUNICATIONS GROUNDING BAR  WALL MOUNTED TELECOMMUNICATIONS DATA OUTLET. "#" INDICATES NUMBER OF CAT6 CABLES. (X) REFERS TO DATA TYPE.  WALL MOUNTED TELECOMMUNICATIONS VOICE OUTLET. "X" INDICATES NUMBER OF CAT6 CABLES  WALL MOUNTED CABLE TELEVISION OUTLET. "X"D/"X"C "X" INDICATES NUMBER OF CAT6 CABLES, "C" INDICATES NUMBER OF RG6 COAXIAL CABLES.  WALL MOUNTED TELECOMMUNICATIONS DATA OUTLET FOR SECURITY DEVICE. PROVIDE ONE (1) CA6 CABLE. COORDINATE EXACT LOCATION WITH SECURITY CONTRACTOR | | | | | | | | |
| | | | | | | | RECORD REVISIONS | | |
| | | | | | | |  | | |
| | | | | | | | PROFESSIONAL'S SIGNATURE DATE | | |
| | | | | | | |  BrightTree STUDIOS 301 BRUSH CREEK RD WARRENDALE, PA 15086 412-212-7515 | | |
| | | | | | | | VERIFY SCALE BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING: 0 1 IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL. | | |
| | | | | | | | DRAWN BY CF | DATE 27 JUNE 2023 | SHEET No. TT-001 |
| | | | | | | | CHECKED BY DV | SCALE NTS | |