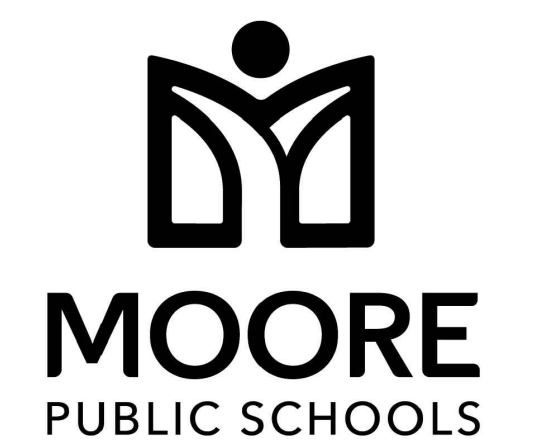






NY	drawn by
NY	checked by
OCTOBER 2024	date
	revisions



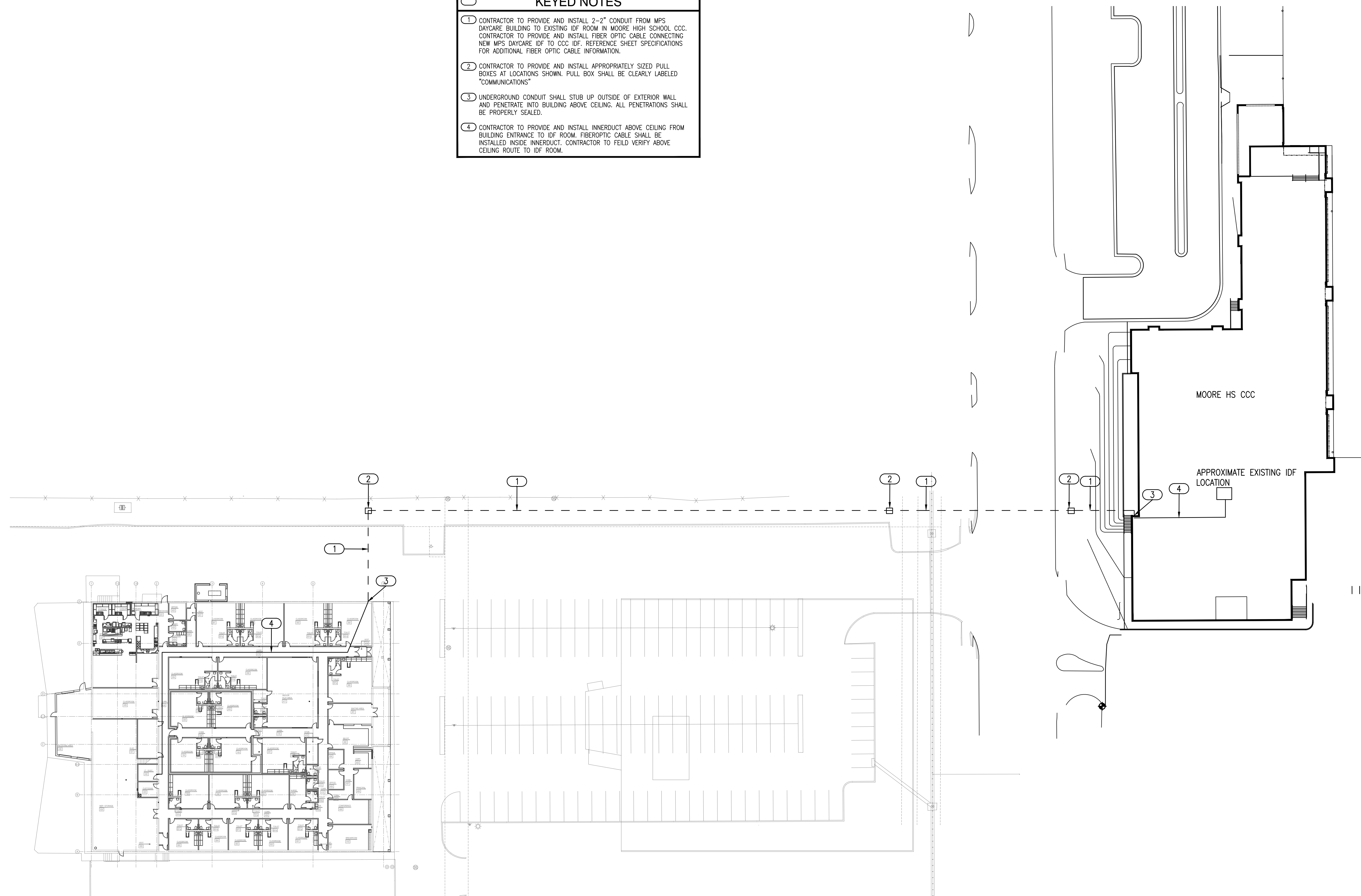
CHILD CARE FACILITY  
201 N. EASTERN AVE.

sheet no:

## T101

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KEYED NOTES	
1	CONTRACTOR TO PROVIDE AND INSTALL 2-2" CONDUIT FROM MPS DAYCARE BUILDING TO EXISTING IDF ROOM IN MOORE HIGH SCHOOL CCC. CONTRACTOR TO PROVIDE AND INSTALL FIBER OPTIC CABLE CONNECTING NEW MPS DAYCARE IDF TO CCC IDF. REFERENCE SHEET SPECIFICATIONS FOR ADDITIONAL FIBER OPTIC CABLE INFORMATION.
2	CONTRACTOR TO PROVIDE AND INSTALL APPROPRIATELY SIZED PULL BOXES AT LOCATIONS SHOWN. PULL BOX SHALL BE CLEARLY LABELED "COMMUNICATIONS"
3	UNDERGROUND CONDUIT SHALL STUB UP OUTSIDE OF EXTERIOR WALL AND PENETRATE INTO BUILDING ABOVE CEILING. ALL PENETRATIONS SHALL BE PROPERLY SEALED.
4	CONTRACTOR TO PROVIDE AND INSTALL INNERDUCT ABOVE CEILING FROM BUILDING ENTRANCE TO IDF ROOM. FIBEROPTIC CABLE SHALL BE INSTALLED INSIDE INNERDUCT. CONTRACTOR TO FIELD VERIFY ABOVE CEILING ROUTE TO IDF ROOM.



### 1 TECHNOLOGY DEMOLITION FLOOR PLAN

SCALE: 1/32" = 1'-0"



**Salas O'Brien**  
2900 S. Telephone Road, Suite 120  
Moore, OK 73160  
Salas O'Brien Registration: CA# 7058  
Expiration Date: 6/30/2025  
Salas O'Brien Project Number: 2450-70304-00



**GENERAL NOTES**

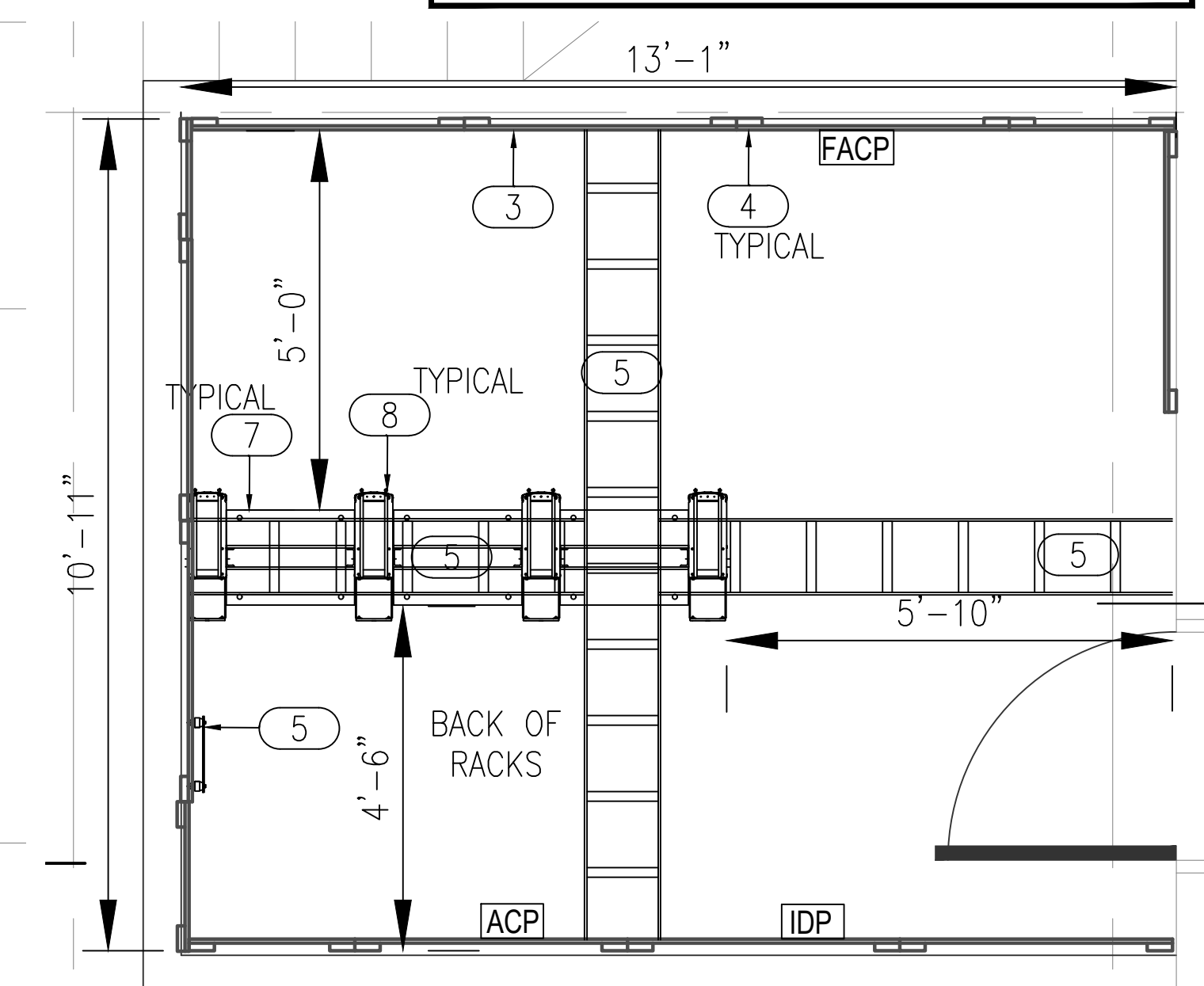
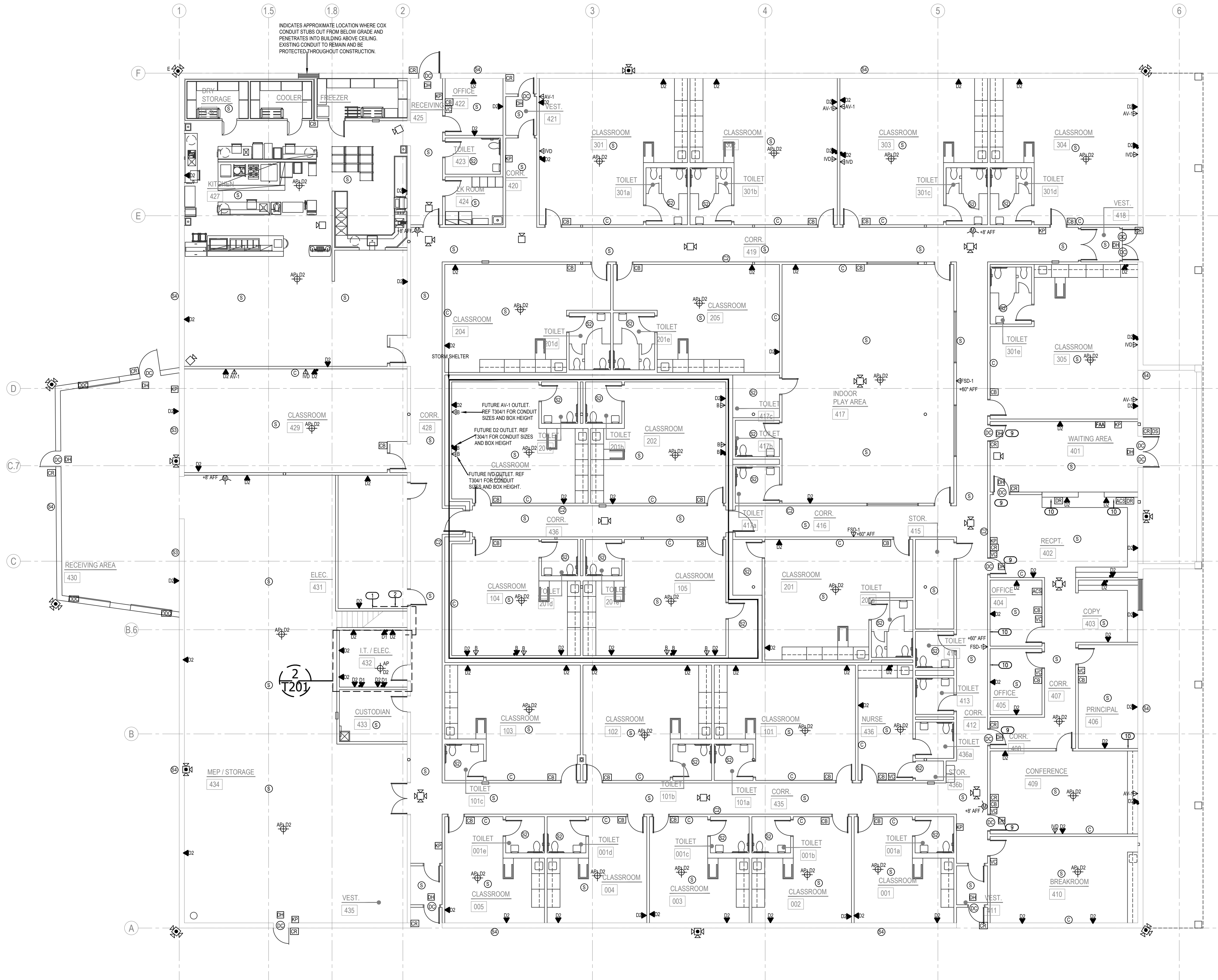
- A. FIRE ALARM: CONNECT NEW FIRE ALARM DEVICES TO NEW SILENT KNIGHT 6820XL SUPPLY 6820XL PANEL AND ALL NAC PANELS, POWER SUPPLIES, ETC. NEEDED TO MAKE A COMPLETE AN CODE COMPLIANT SYSTEM. SYSTEM SHALL USE SK PROTOCOL DEVICES ONLY. SEE SPECIFICATIONS FOR APPROVED PART NUMBERS.
- B. SECURITY ALARM: CONNECT ALL NEW SECURITY ALARM DEVICES TO NEW DMP SECURITY ALARM PANEL. SUPPLY DMP PANEL AND ALL ZONE EXPANDERS, POWER SUPPLIES, ETC. NEEDED TO MAKE A COMPLETE SYSTEM. SEE SPECIFICATIONS FOR APPROVED PART NUMBERS.
- C. INTERCOM: CONNECT ALL NEW INTERCOM DEVICES TO EXISTING RAULAND TELECENTER U.I.P. SUPPLY ALL MASTER CONSOLES, AMPLIFIERS, POWER SUPPLIES, MODULES, CALL BUTTONS, ETC. NEEDED TO MAKE A COMPLETE SYSTEM. SEE SPECIFICATIONS FOR APPROVED PART NUMBERS.
- D. CLOCKS: CLOCKS SHALL BE RAULAND. SEE SHEET SPECIFICATIONS FOR APPROVED PART NUMBERS.
- E. ACCESS CONTROL: CONNECT ALL NEW ACCESS CONTROL DEVICES TO NEW KEYSKAN CONTROLLERS. SUPPLY KEYSKAN CONTROLLERS AND ALL POWER SUPPLIES, READERS, STRIKES, ETC. NEEDED TO FURNISH A COMPLETE SYSTEM. SEE SPECIFICATIONS FOR APPROVED PART NUMBERS.
- F. CAMERA: CONNECT ALL NEW CAMERAS TO NEW MDF. CAMERA SYSTEM IS AVIGILON. CONTACT JACK PHILLIPS WITH MOORE PUBLIC SCHOOLS @ 405-473-5225 FOR EXACT CAMERA MOUNTING LOCATIONS. SEE SPECIFICATIONS FOR APPROVED PART NUMBERS.
- G. DATA: CONNECT NEW DATA, WIFI AND CAMERA NETWORK DROPS TO NEW MDF. SEE SPECIFICATIONS FOR APPROVED PART NUMBERS.

**KEYED NOTES**

- 1 CONTRACTOR TO EXTEND ENTRANCE CONDUIT ABOVE CEILING. CONTRACTOR TO MATCH NEW CONDUIT SIZE WITH EXISTING CONDUIT SIZE.
- 2 CONTRACTOR TO PROVIDE AND INSTALL INNERDUCT ABOVE CEILING AT THE INDICATED ROUTE TO THE NEW IT ROOM. PENETRATE AND SEAL WALLS AS NEEDED.
- 3 INDICATES NEW DEMARC LOCATION. PLYWOOD IS RESERVED FOR SERVICE PROVIDER EQUIPMENT.
- 4 INDICATES THE LOCATION OF A 8" TALL, 3/4" FIRE-RATED PLYWOOD CONTRACTOR TO PROVIDE AND INSTALL PLYWOOD AND ALL REQUIRED MOUNTING HARDWARE. PLYWOOD SHALL BE PAINTED WHITE WITH FIRE RATED PAINT. TYPICAL FOR ALL SHOWN ON DRAWING.
- 5 INDICATES THE LOCATION OF A NEW WALL MOUNTED TELECOMMUNICATION GROUND BUS BAR (TGBB). CABLING CONTRACTOR TO PROVIDE BUS BAR AND ALL REQUIRED MATERIAL TO MOUNT AT THE LOCATION SHOWN. TGBB TO BE MOUNTED AT +93" A.F.F.
- 6 PROVIDE AND INSTALL A 12" WIDE, UNIVERSAL LADDER TRAY AND ALL REQUIRED MOUNTING HARDWARE. LADDER TRAY SHALL BE BLACK IN COLOR. TYPICAL FOR ALL SHOWN ON ENTIRE PROJECT.
- 7 PROVIDE AND INSTALL ONE (1) 2-POST, FLOOR MOUNTED, 7' RELAY RACK (BLACK IN COLOR). PROVIDE BONDING WASHERS, BOLTS, AND NUTS AT ALL MECHANICALLY CONNECTED LOCATIONS OF THE RACK TO ENSURE THAT ALL PIECES OF THE RACK ARE COMPLETELY BONDED. SCRAPING PAINT FROM RACKS TO MAKE A BOND WILL NOT BE ACCEPTED. ALL RACK MOUNTED COMPONENTS SHALL BE MOUNTED WITH BONDING SCREWS AND THE CONTRACTOR SHALL PROVIDE THE OWNER WITH (50) ADDITIONAL BONDING SCREWS FOR THE INSTALLATION OF OWNER EQUIPMENT. NO DAISY CHAINING GROUNDS FROM RACK TO CABLE TRAY OR TO OTHER RACKS WILL BE ACCEPTED. ALL GROUNDS SHALL BE HOME RUN TO THE TELECOMMUNICATIONS GROUND BUS BAR (TGBB). TYPICAL FOR ALL SHOWN ON THE ENTIRE PROJECT.
- 8 PROVIDE AND INSTALL ONE (1) 7'x6", FRONT AND REAR MANAGED, VERTICAL CABLE MANAGER (BLACK IN COLOR). CABLE MANAGERS SHALL BE INSTALLED ON EACH END OF THE RACK SYSTEMS AND BETWEEN EACH RACK. CABLE MANAGERS SHALL HAVE A SINGLE, SOLID, FULL HEIGHT HINGED DOOR IN THE FRONT AND WIDE SPACED CABLE RINGS WITH SPIN-OPEN LATCHES IN THE REAR. TYPICAL FOR ALL SHOWN IN THE ENTIRE PROJECT.
- 9 DOOR HARDWARE SPECIFIED FOR INDICATED DOORS SHOULD HAVE KEY ACCESS FROM BOTH SIDES ALLOWING EACH SIDE TO BE LOCKED AND UNLOCKED INDEPENDENTLY.
- 10 CONTRACTOR TO PROVIDE AND INSTALL A DMP WIRELESS HOLD UP BUTTON AT EACH LOCATION INDICATED.

**SAFEROOM NOTE**

PER ICC 500-2014, 309.1:  
PENETRATIONS THROUGH THE STORM SHELTER ENVELOPE THAT ARE LARGER THAN:  
1. 3.5" SQUARE INCHES IN AREA FOR RECTANGULAR OPENINGS, OR  
2. 2 1/16" IN DIAMETER  
SHALL BE CONSIDERED AN OPENING AND SHALL BE PROVIDED WITH AN OPENING PROTECTIVE DEVICE (SHROUD). REFERENCE STRUCTURAL DRAWINGS FOR A SAMPLE SHROUD DETAIL. THIS INCLUDES PENETRATIONS FOR BUNDLES OF CONDUIT.

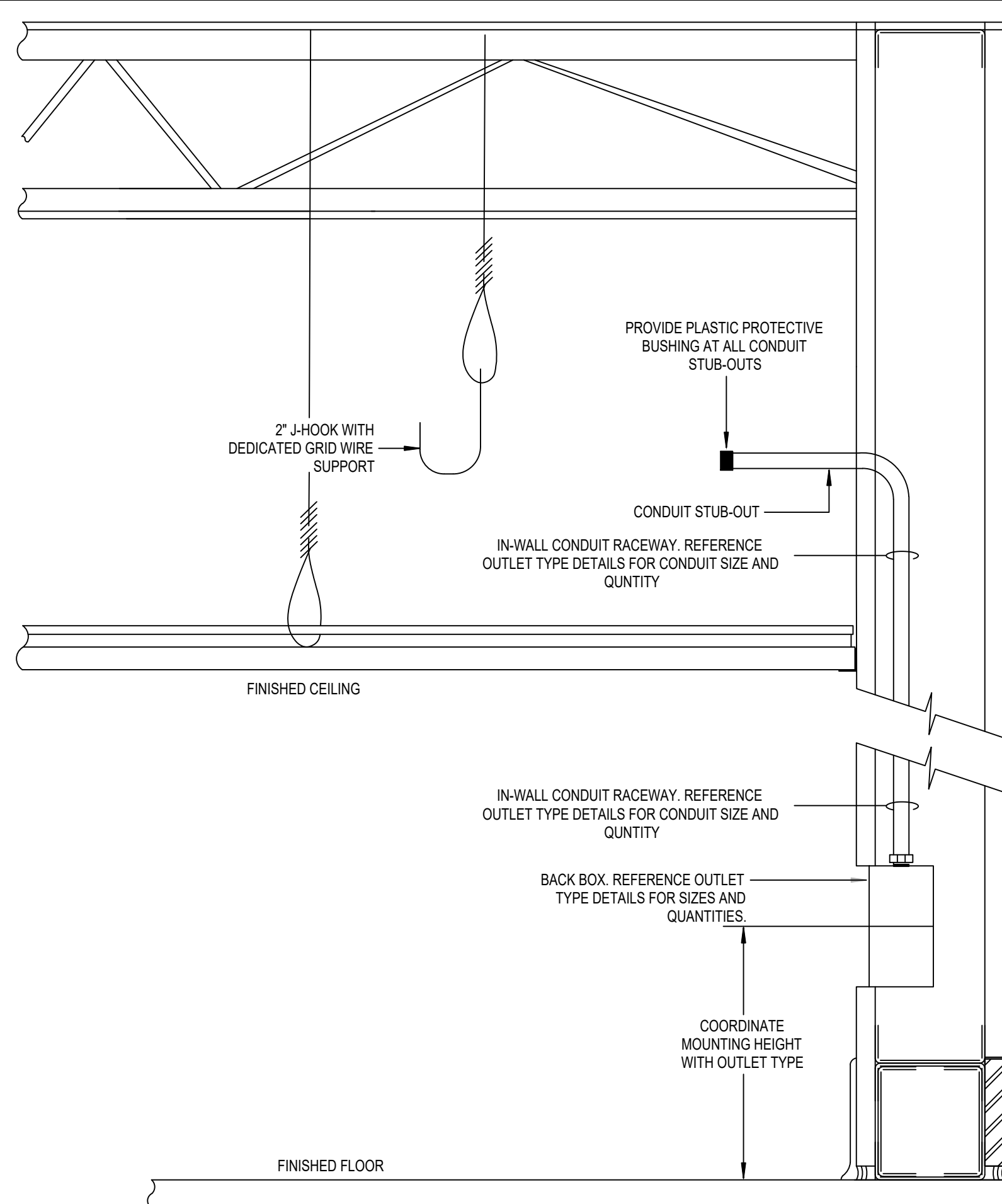


**1 TECHNOLOGY FLOOR PLANS**  
SCALE: 3/32" = 1'-0"

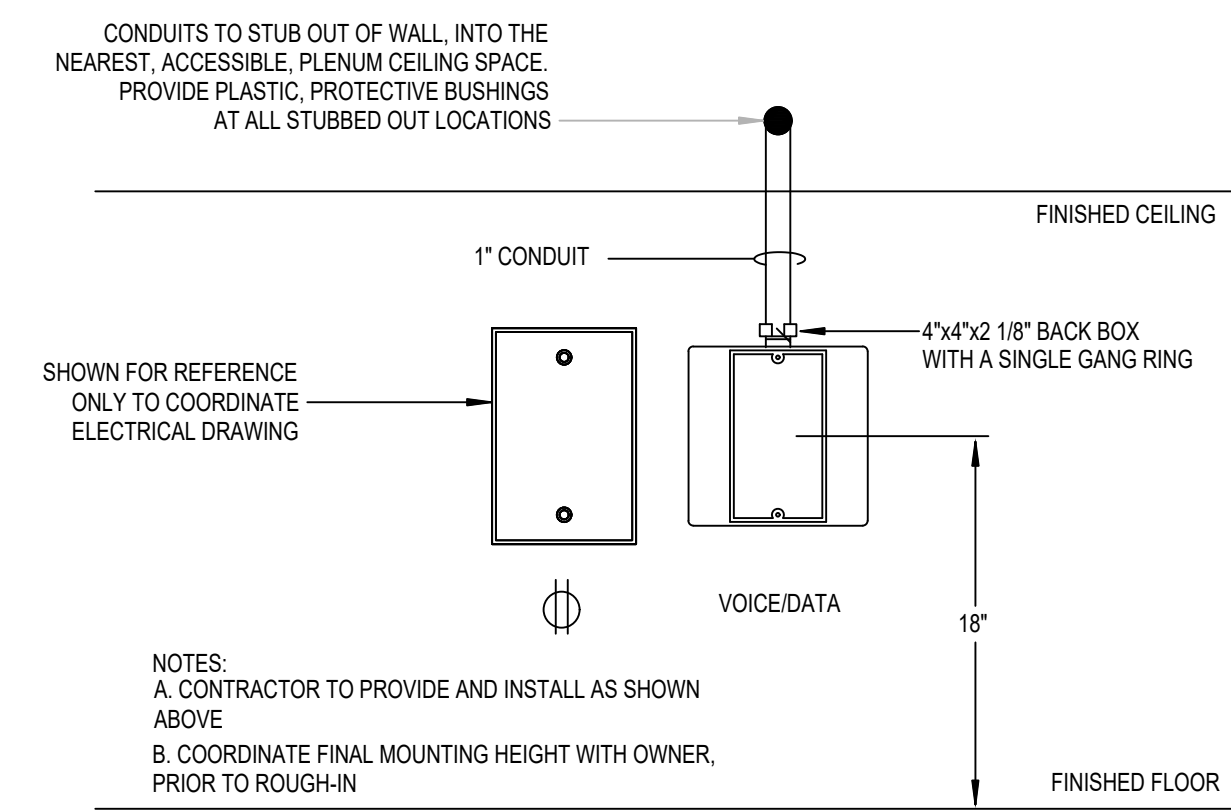
**2 TECHNOLOGY ENLARGED PLAN - I.T./ELEC. 432**  
SCALE: 1/2" = 1'-0"

**Salas O'Brien**  
2900 S. Telephone Road, Suite 120  
Moore, OK 73160  
Salas O'Brien Registration: CA# 7058  
Expiration Date: 6/30/2025  
Salas O'Brien Project Number: 2450-70304-00

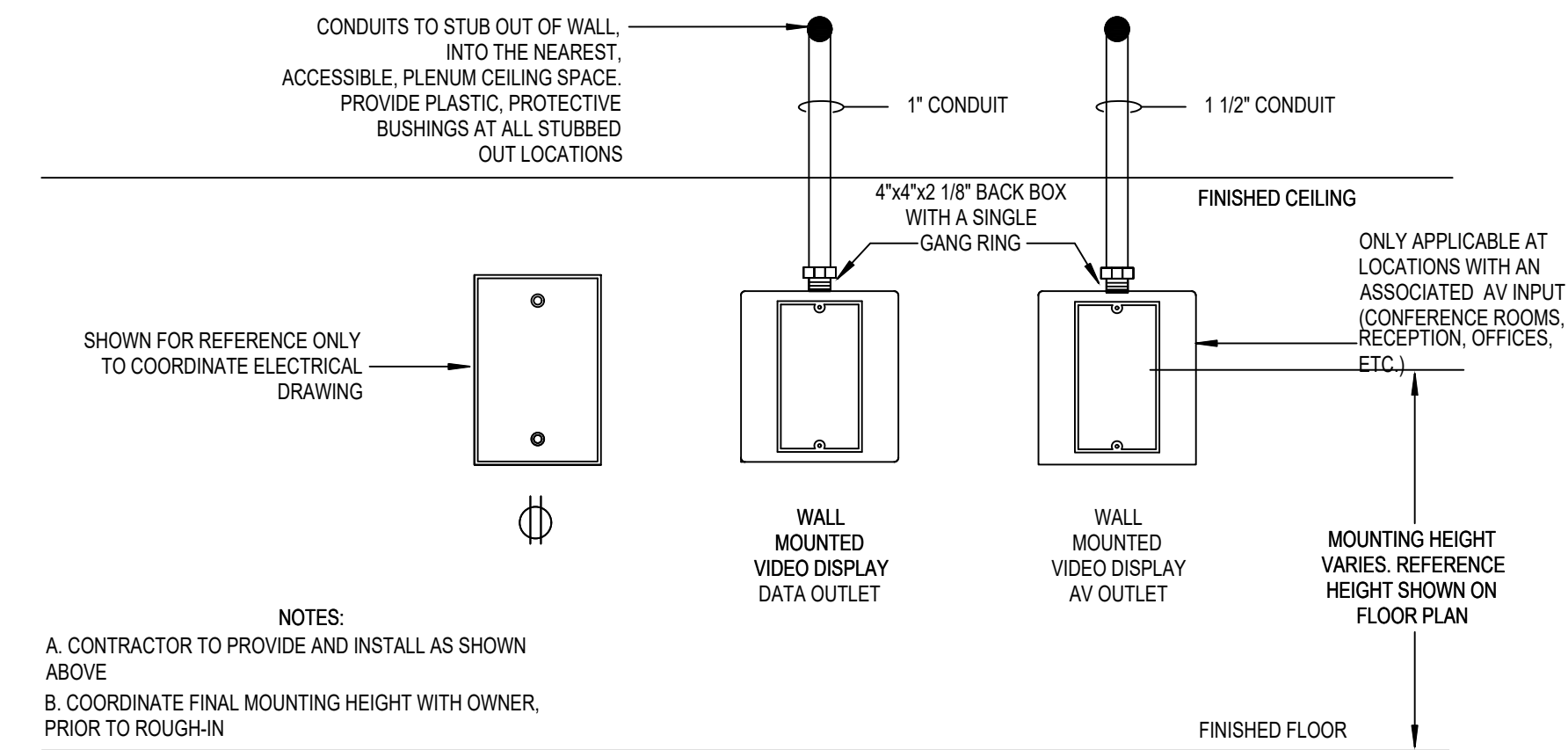




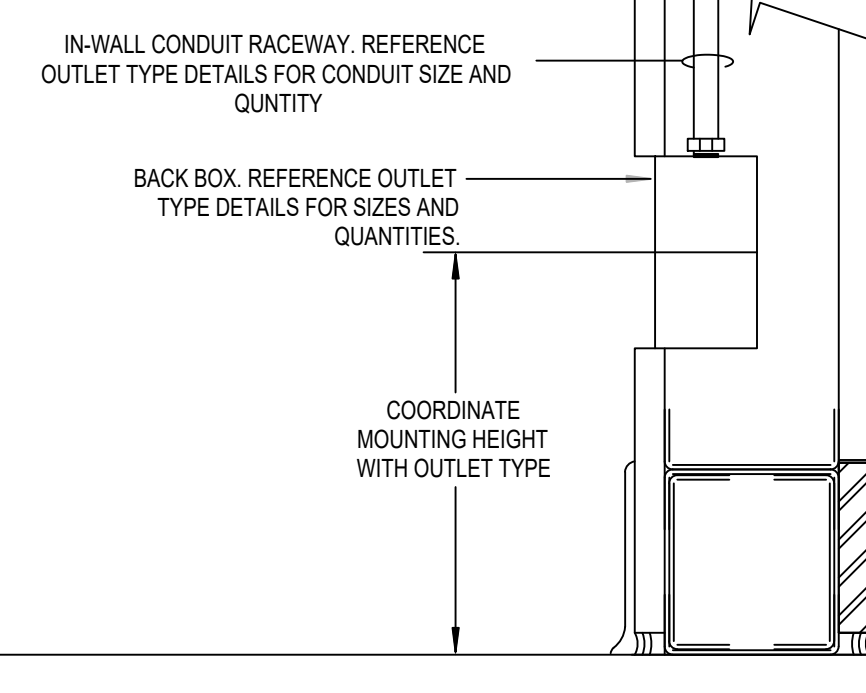
01 LOW VOLTAGE ELEVATION - IN-WALL RACEWAY NOT TO SCALE



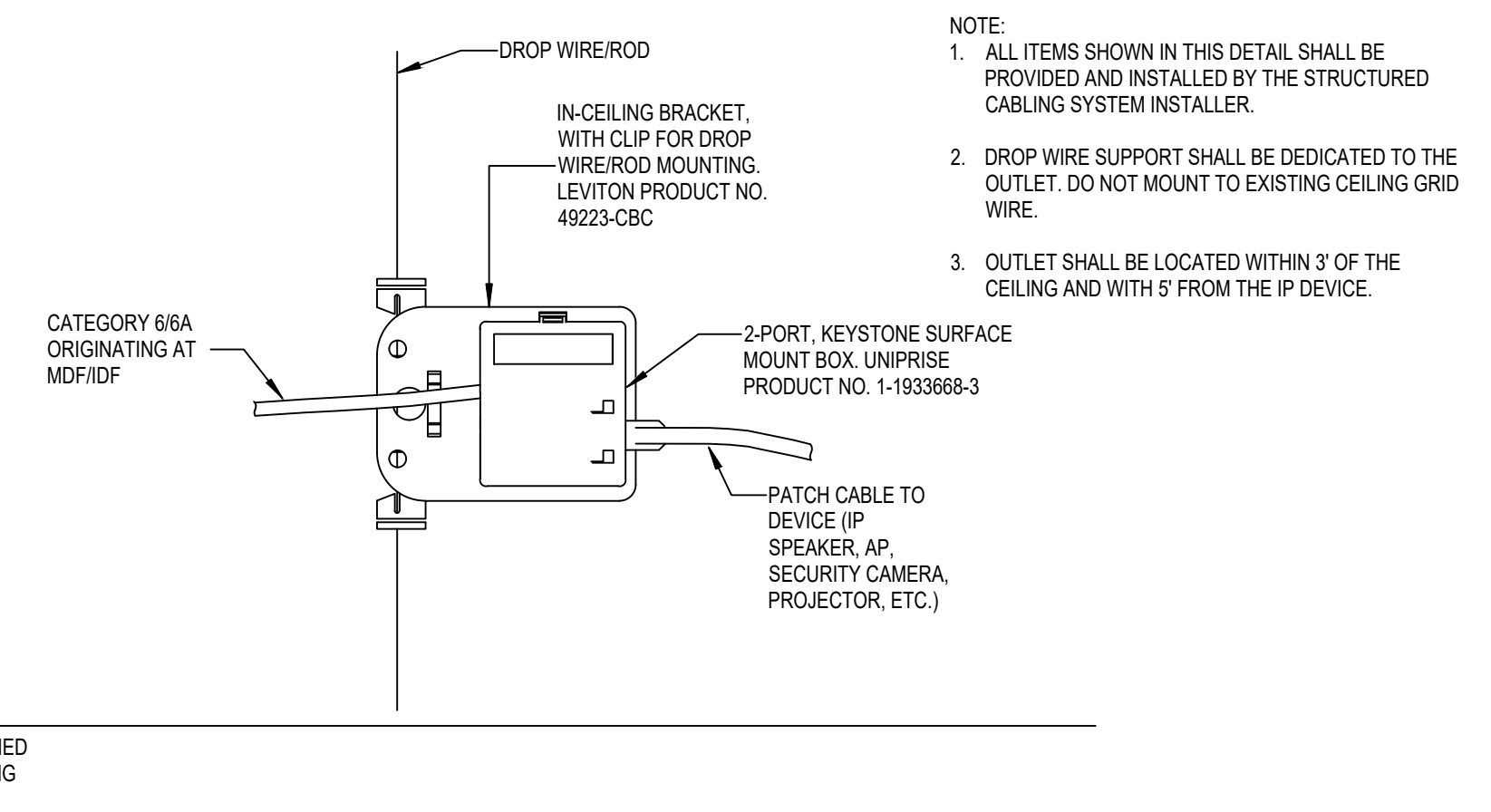
02 RACEWAY DETAIL - TYPICAL VOICE/DATA OUTLET NOT TO SCALE



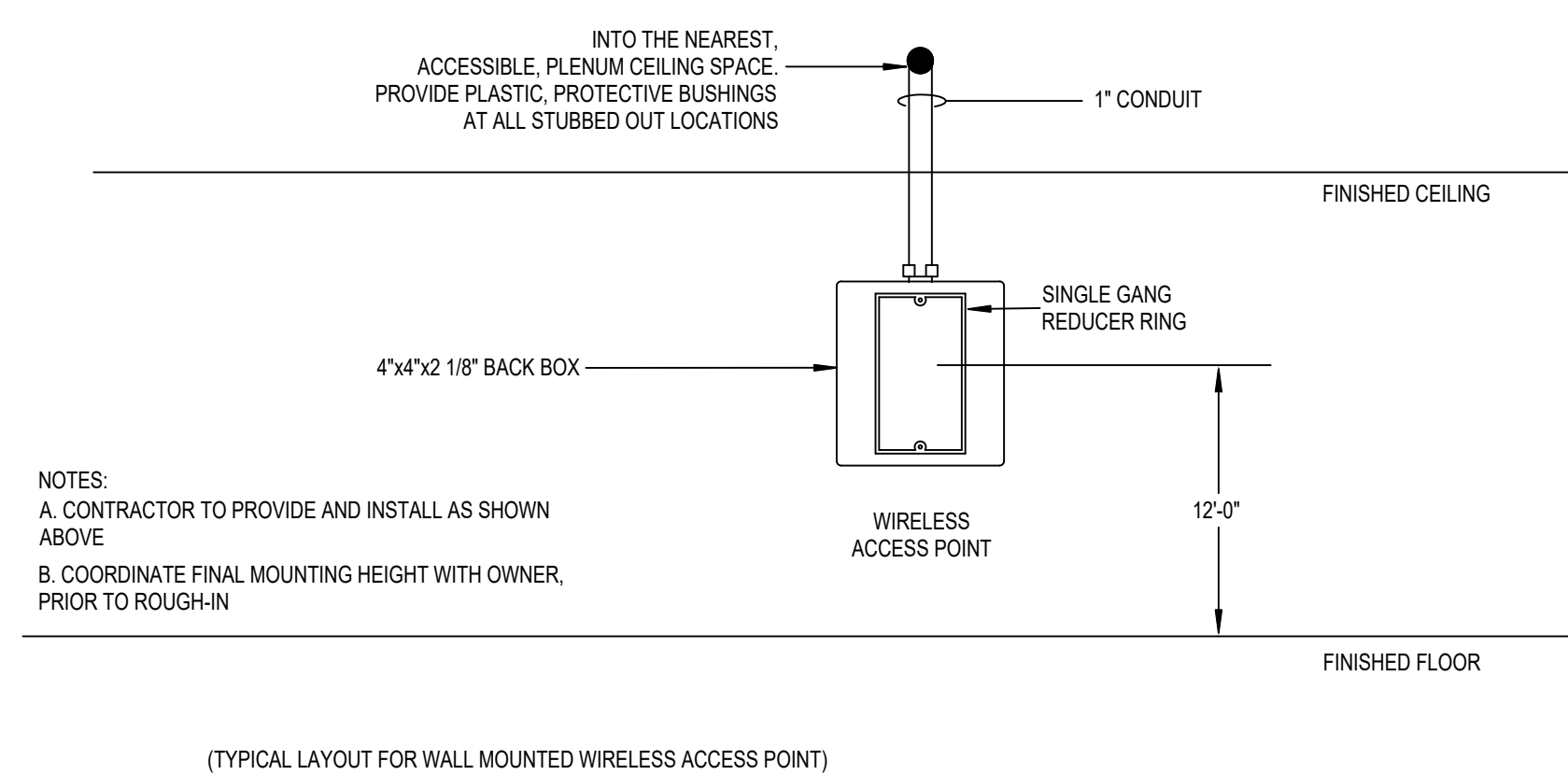
03 RACEWAY DETAIL - WALL MOUNTED DISPLAY NOT TO SCALE



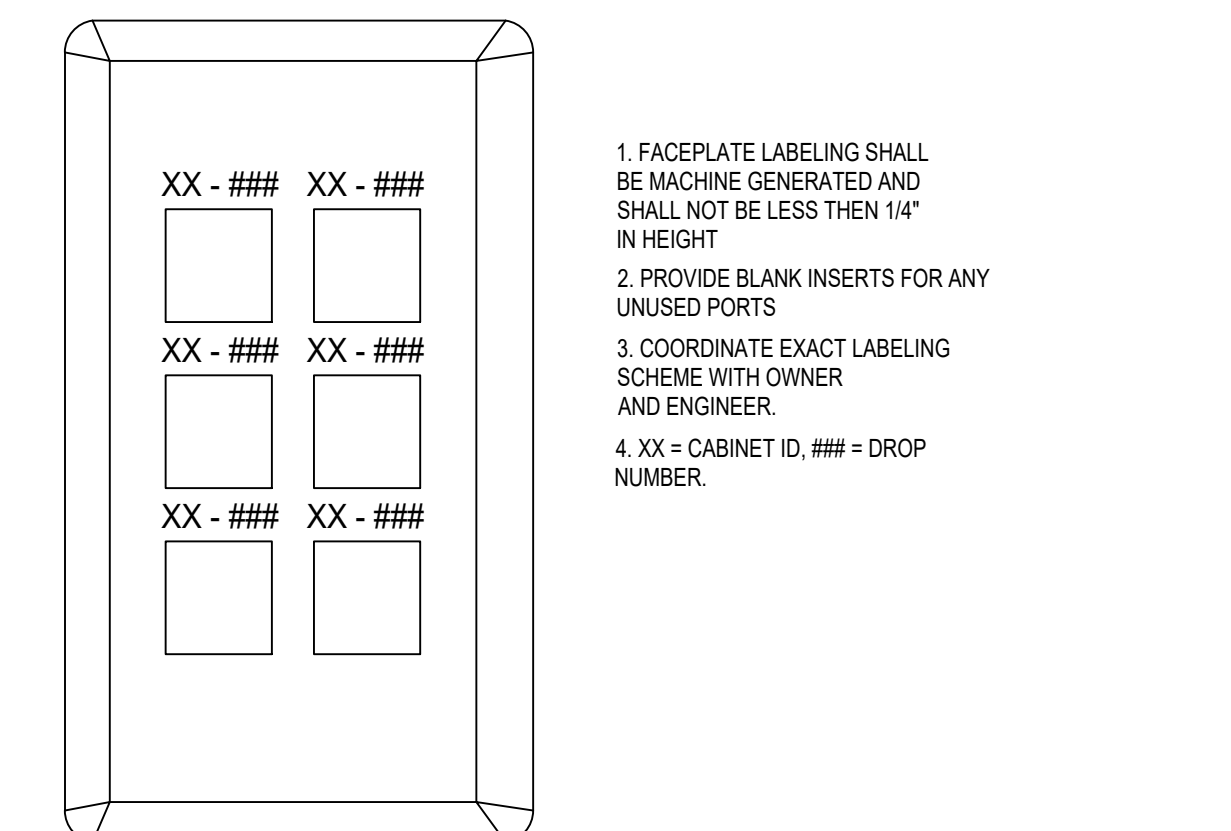
04 SECURITY CONDUIT DOOR JAMB HEADER NOT TO SCALE



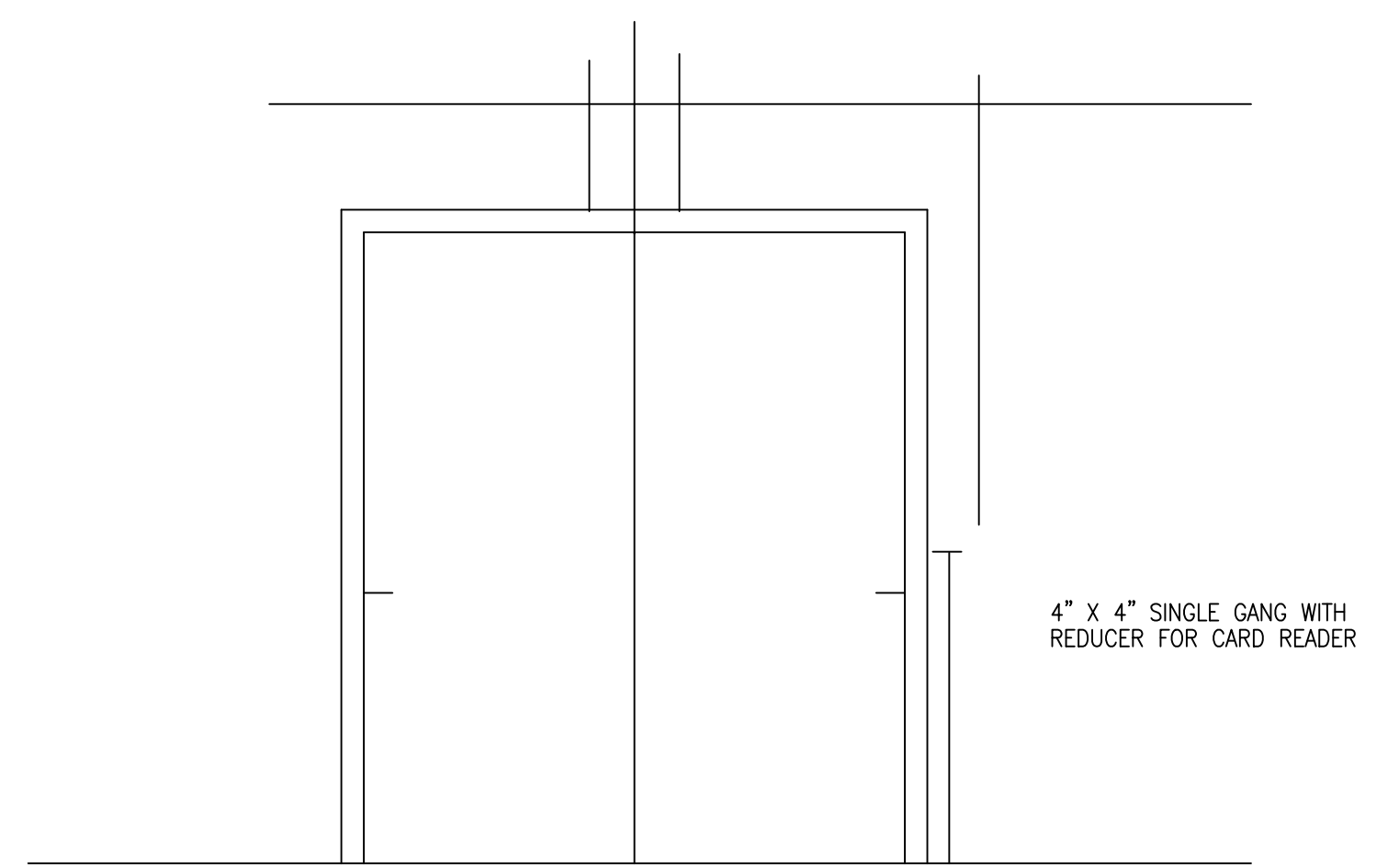
05 ABOVE CEILING STAND ALONE OUTLET NOT TO SCALE



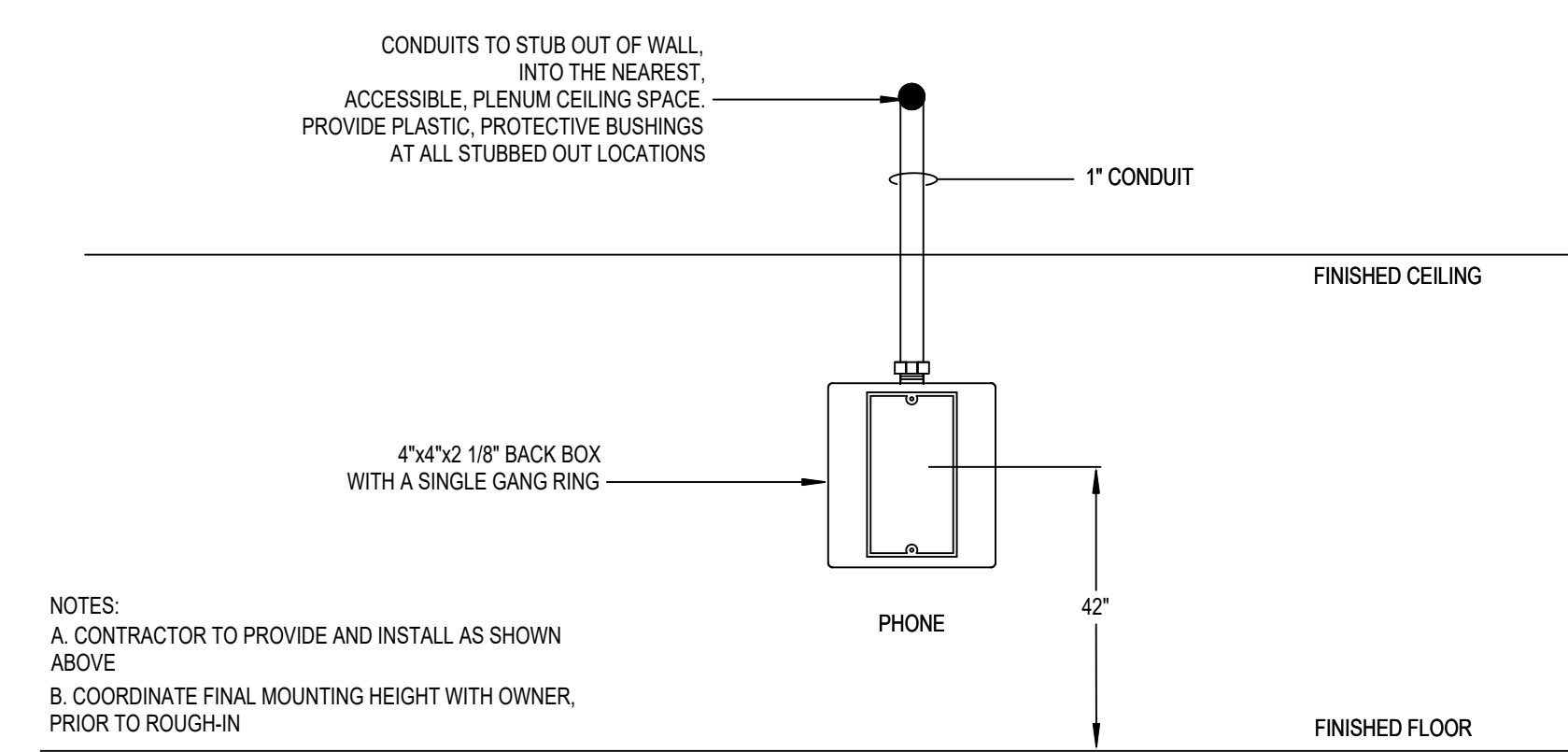
07 RACEWAY DETAIL - WALL MOUNTED WIRELESS AP NOT TO SCALE



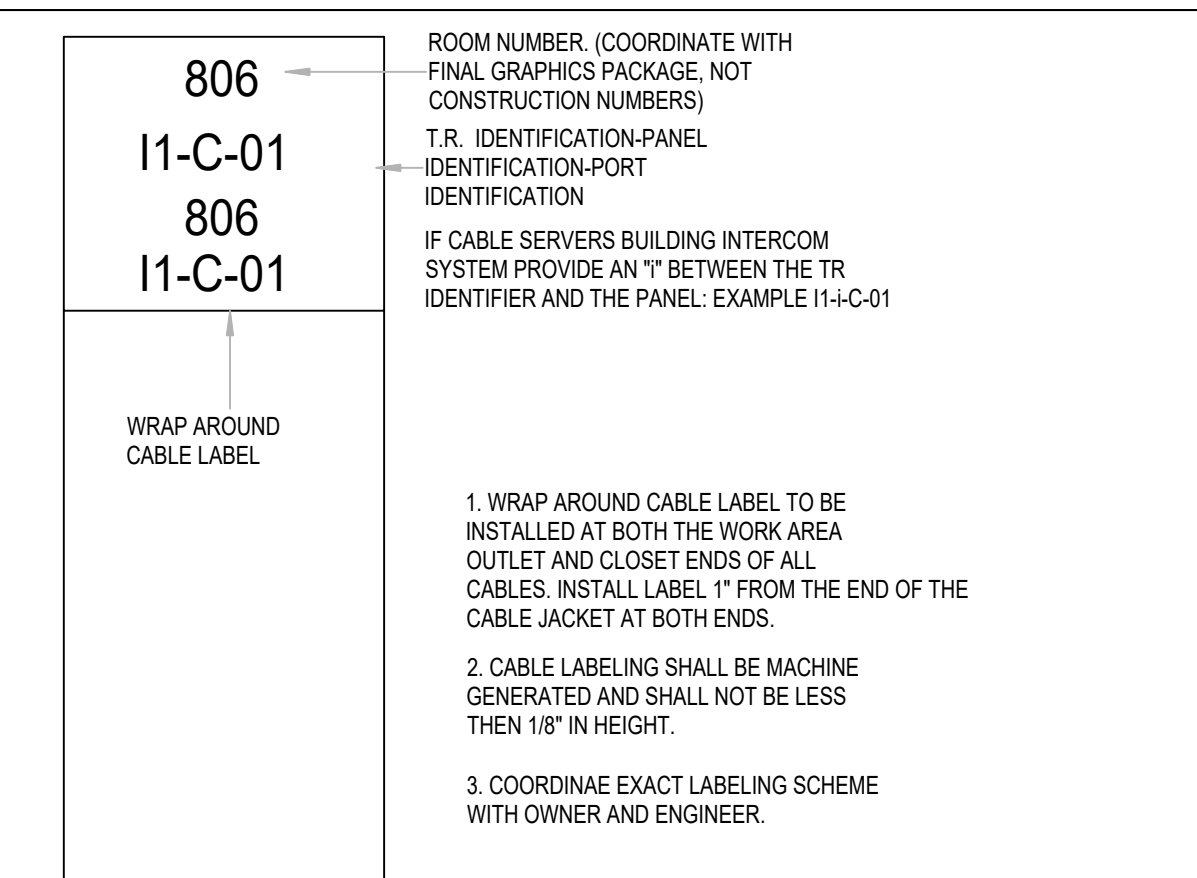
08 FACEPLATE LABEL DETAIL NOT TO SCALE



06 DOUBLE DOOR SECURITY & ACCESS CONTROL

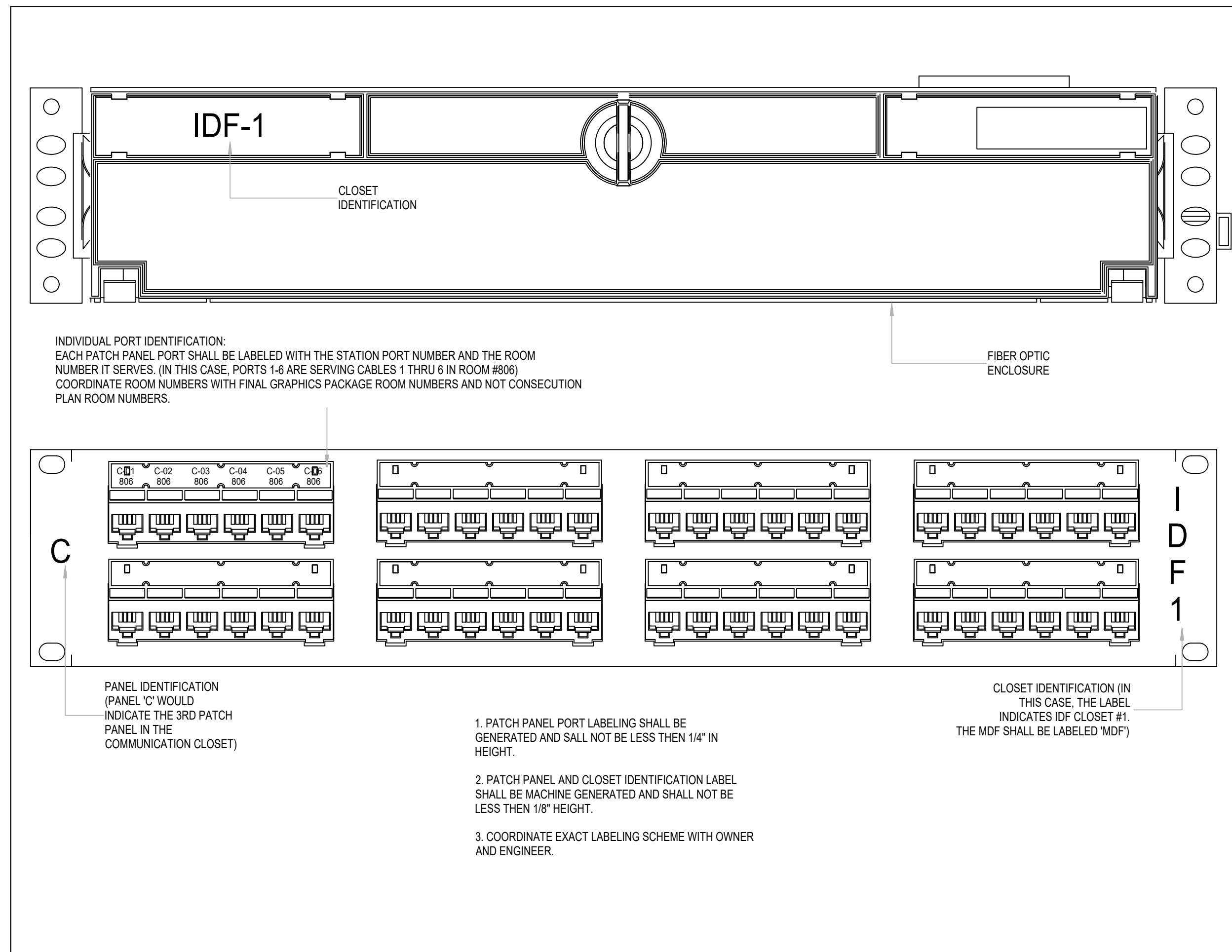


09 RACEWAY DETAIL - WALL MOUNTED TELEPHONE NOT TO SCALE

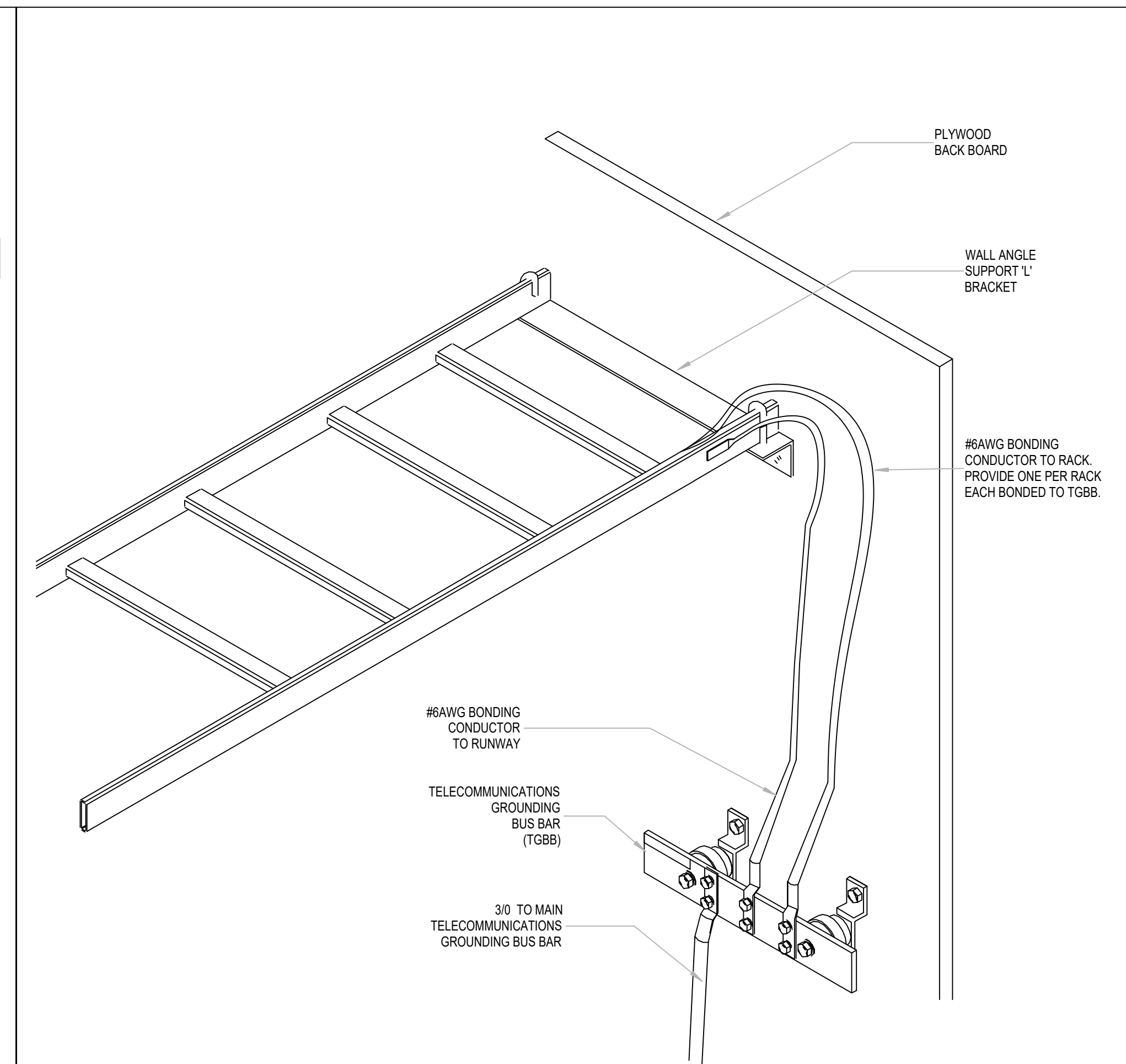


10 CABLE LABEL DETAIL NOT TO SCALE

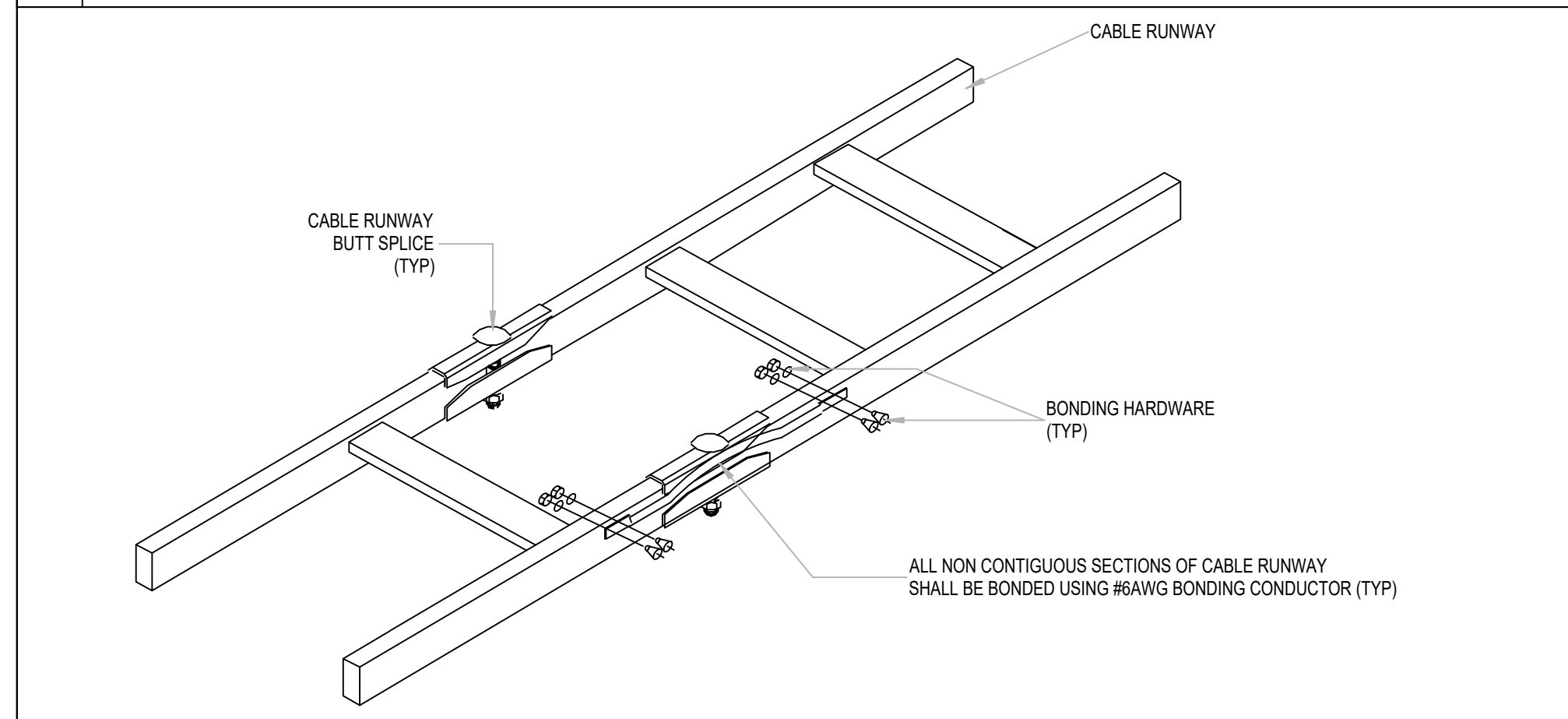




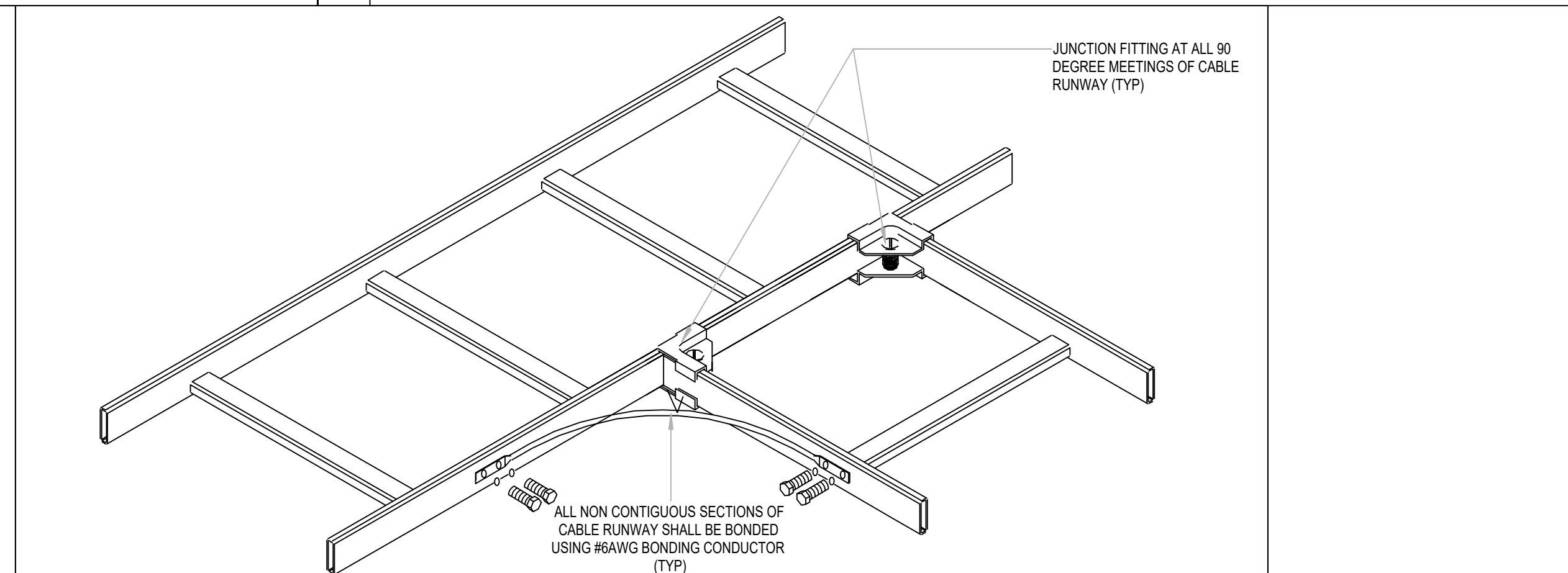
**01 FIBER ENCLOSURE/ COPPER PATCH PANEL LABELING DETAIL** NOT TO SCALE



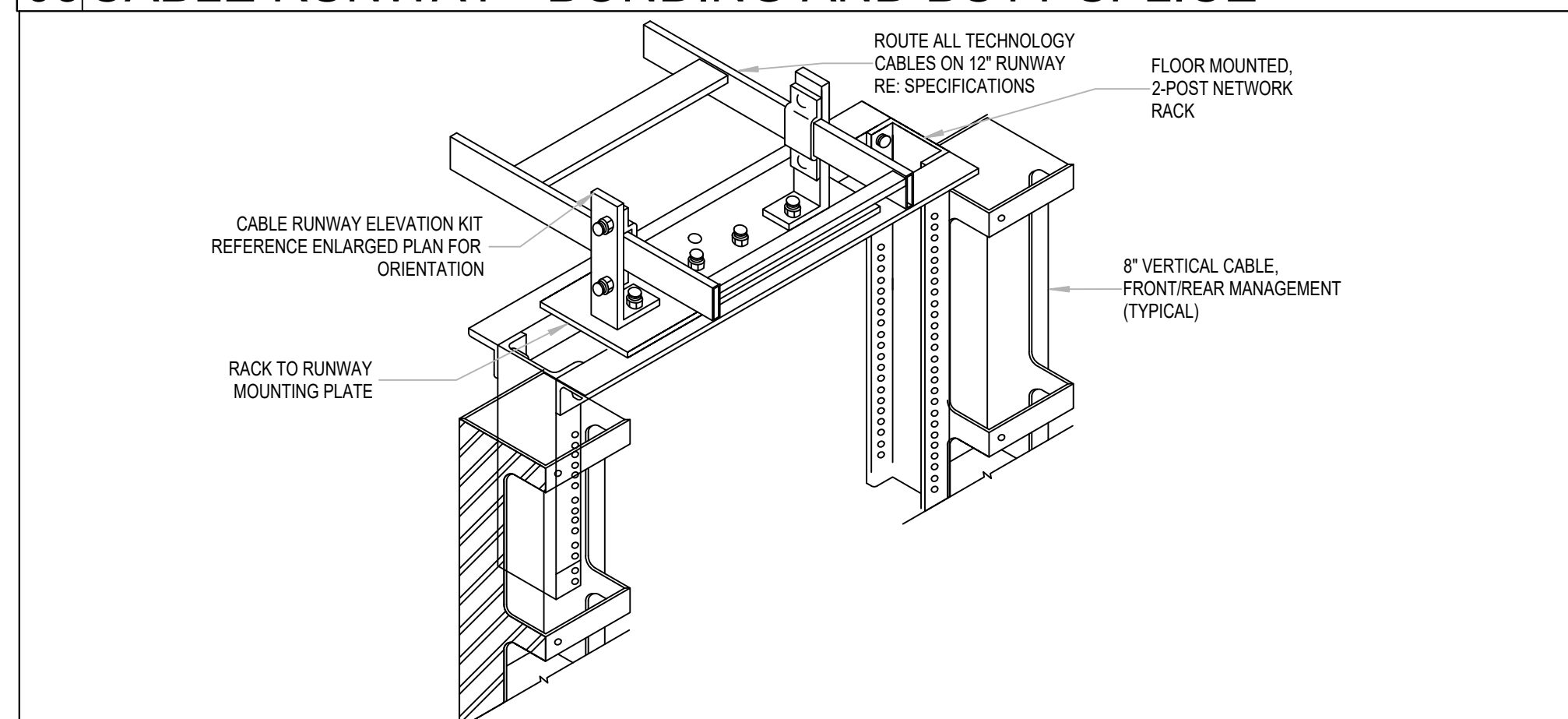
**02 CABLE RUNWAY - GROUNDING AND BONDING** NOT TO SCALE



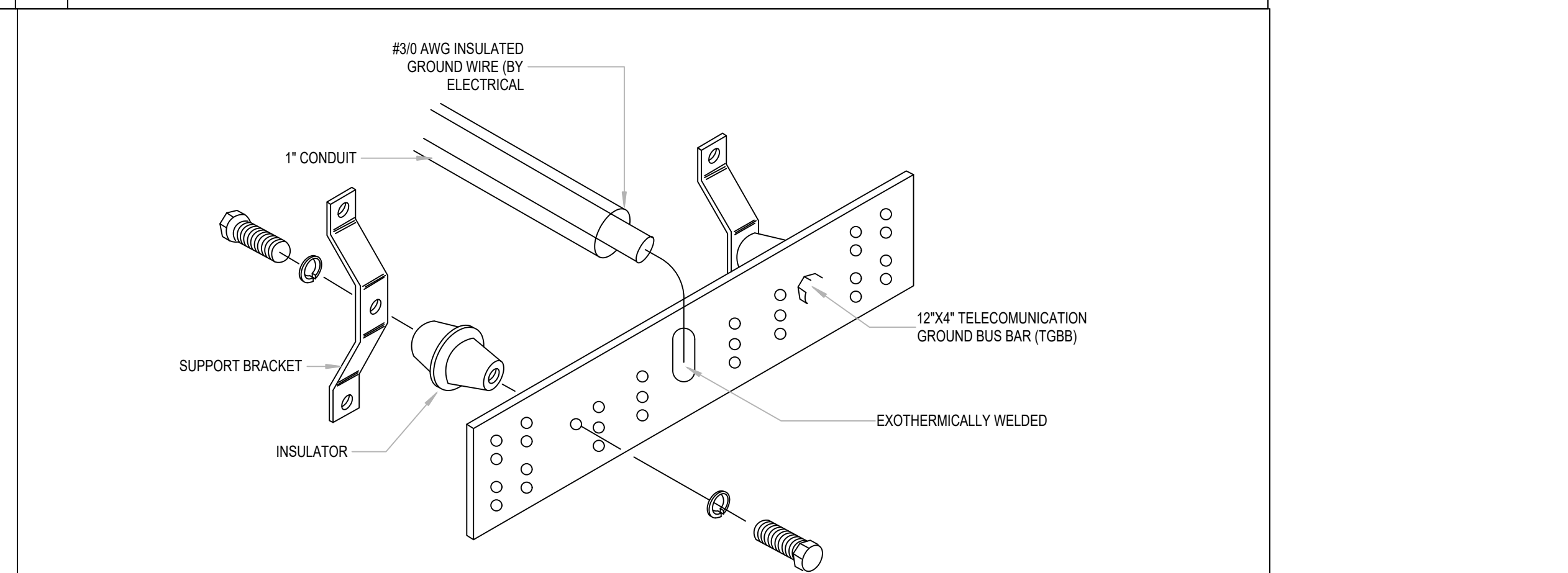
**03 CABLE RUNWAY - BONDING AND BUTT SPLICE** NOT TO SCALE



**04 CABLE RUNWAY - JUNCTION AND BONDING** NOT TO SCALE

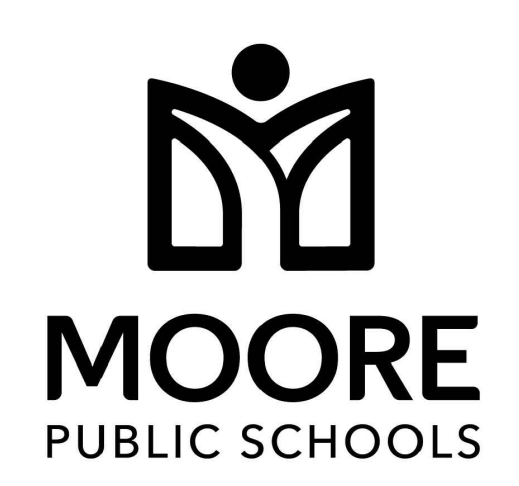


**05 RACK TO RUNWAY DETAIL** NOT TO SCALE



**06 TELECOMMUNICATION GROUNDING BUS DETAIL** NOT TO SCALE

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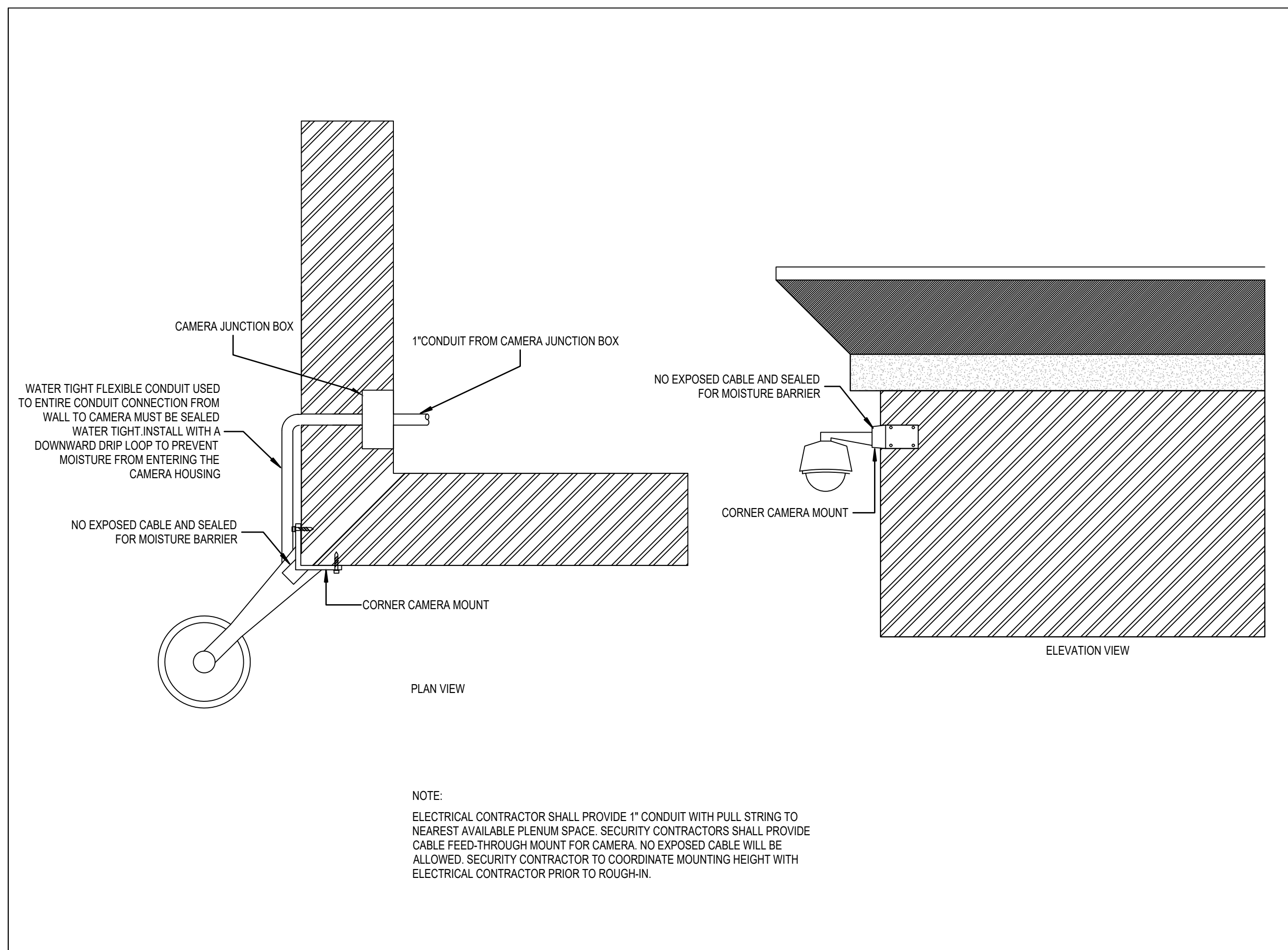
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sheet no:  
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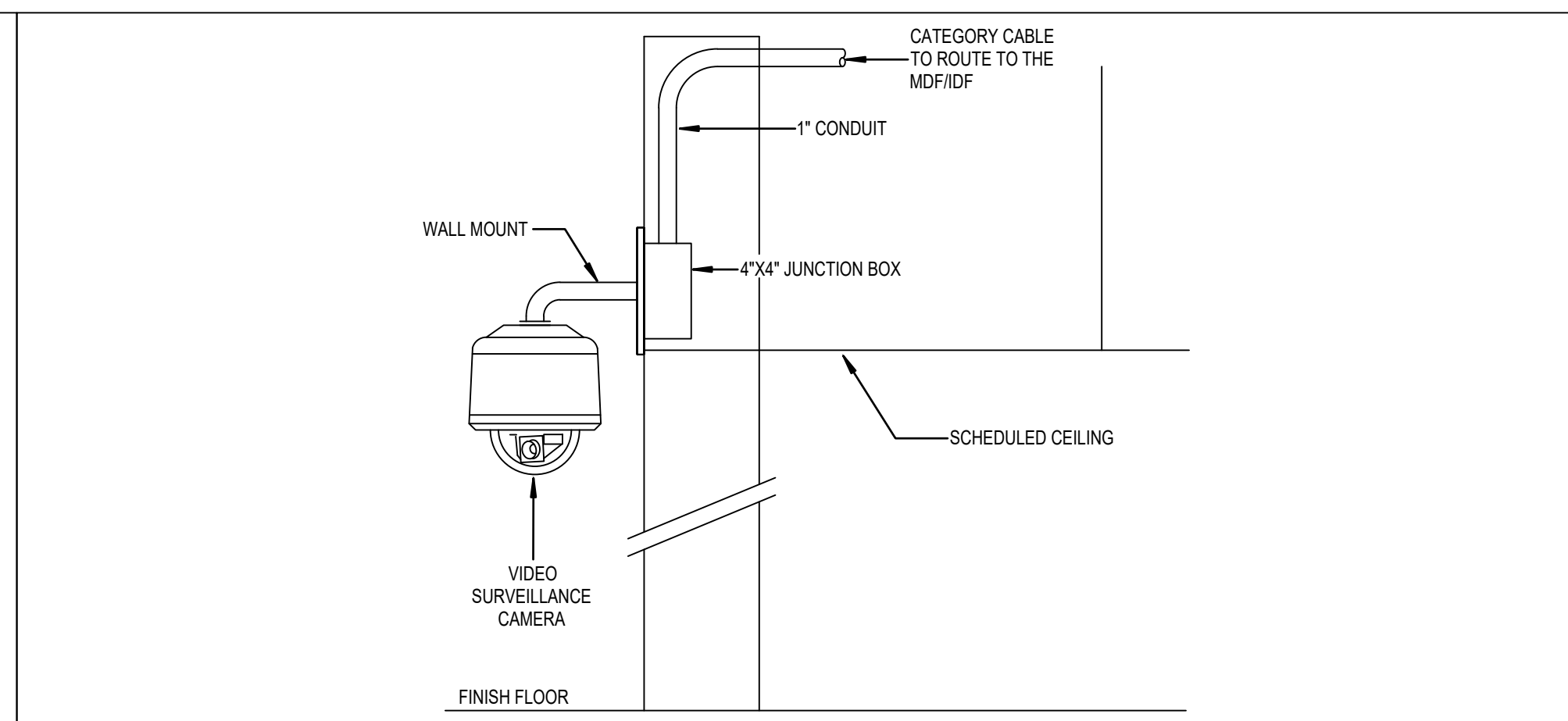
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Moore, OK 73160  
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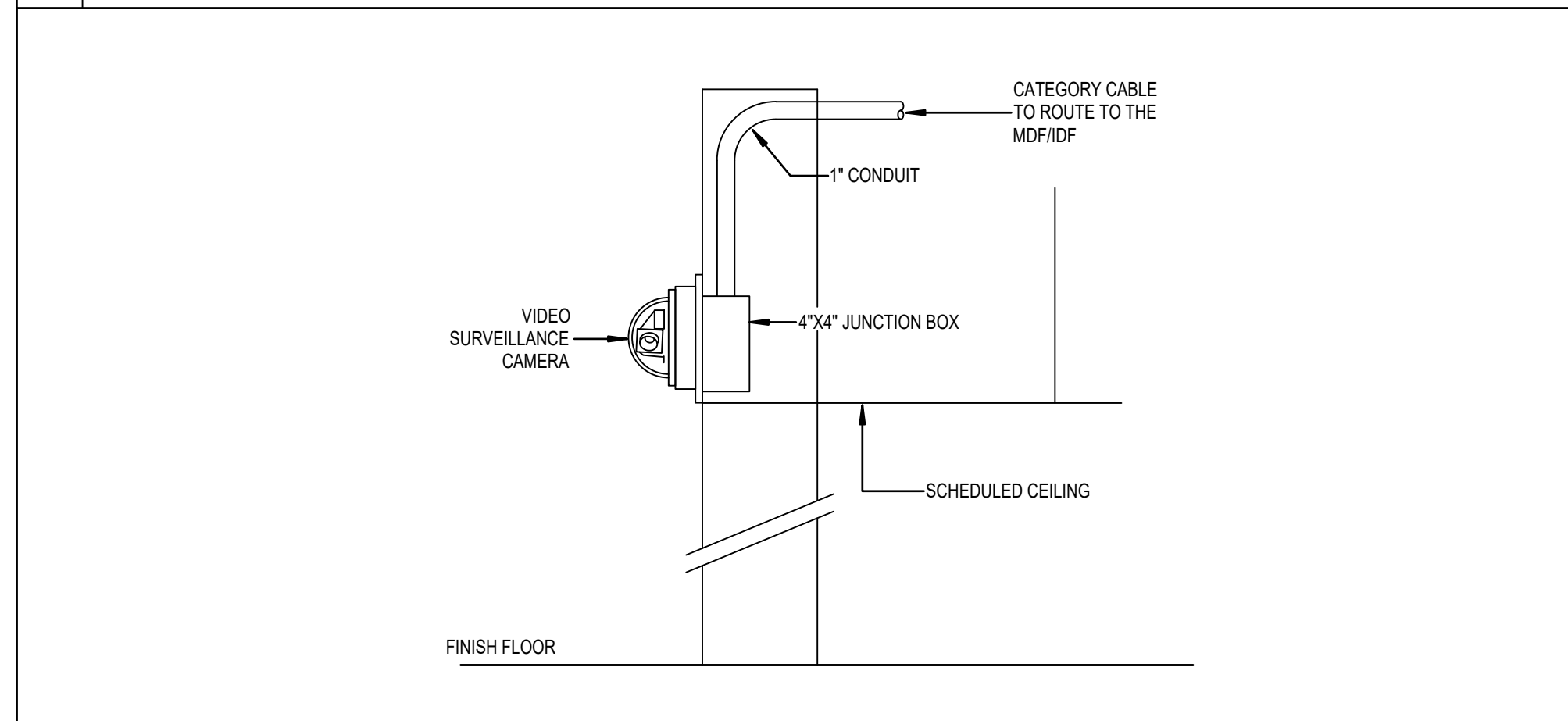




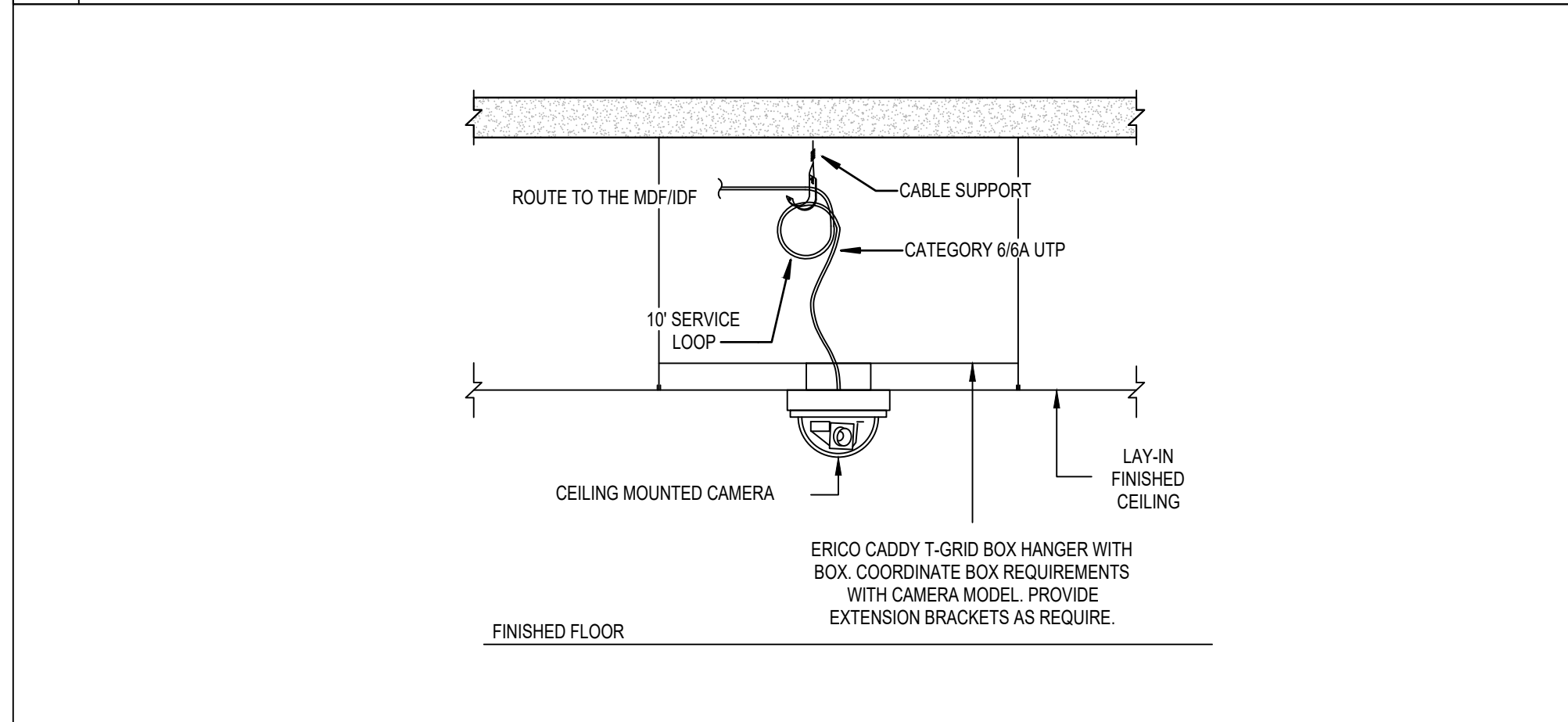
01 CORNER MOUNTING DETAIL NOT TO SCALE



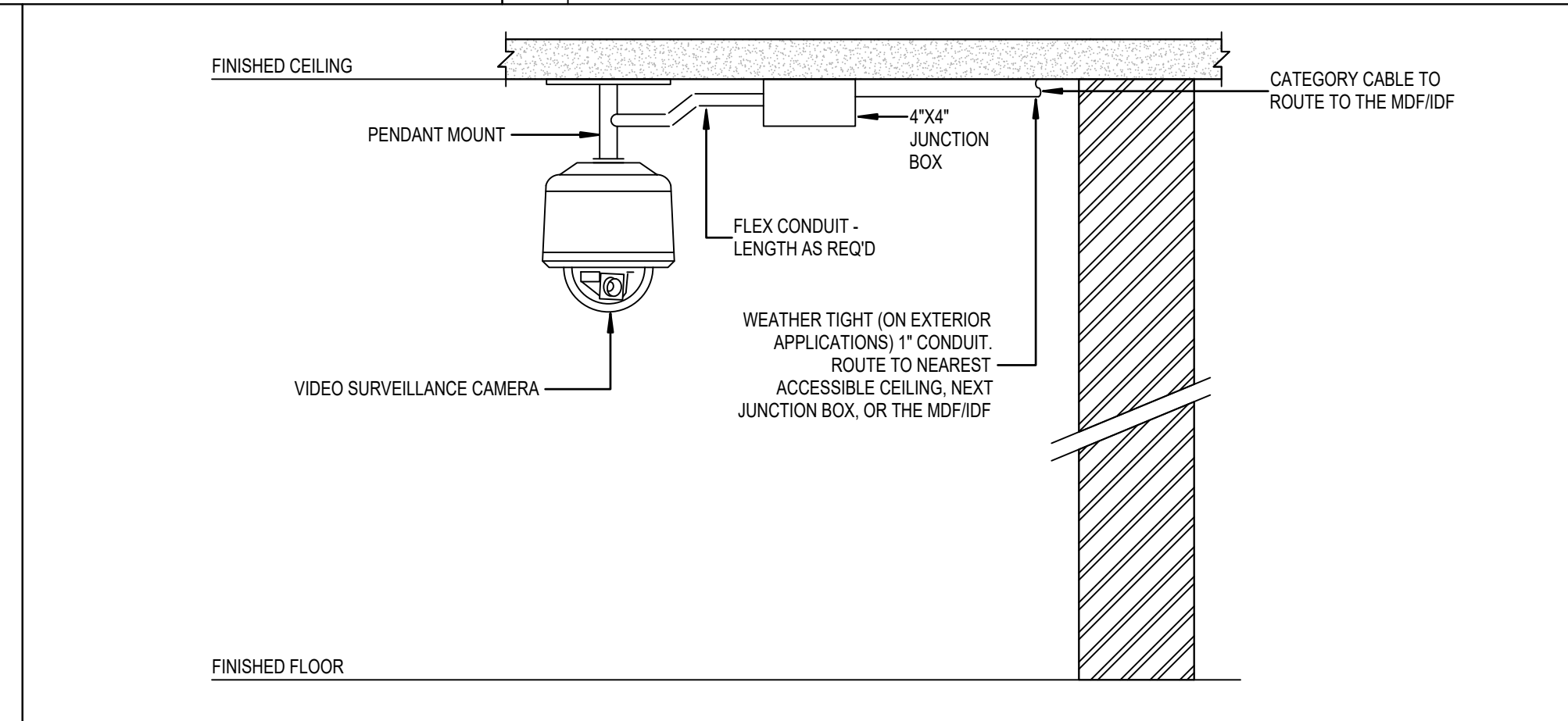
03 INTERIOR WALL MOUNTED DOME CAMERA NOT TO SCALE



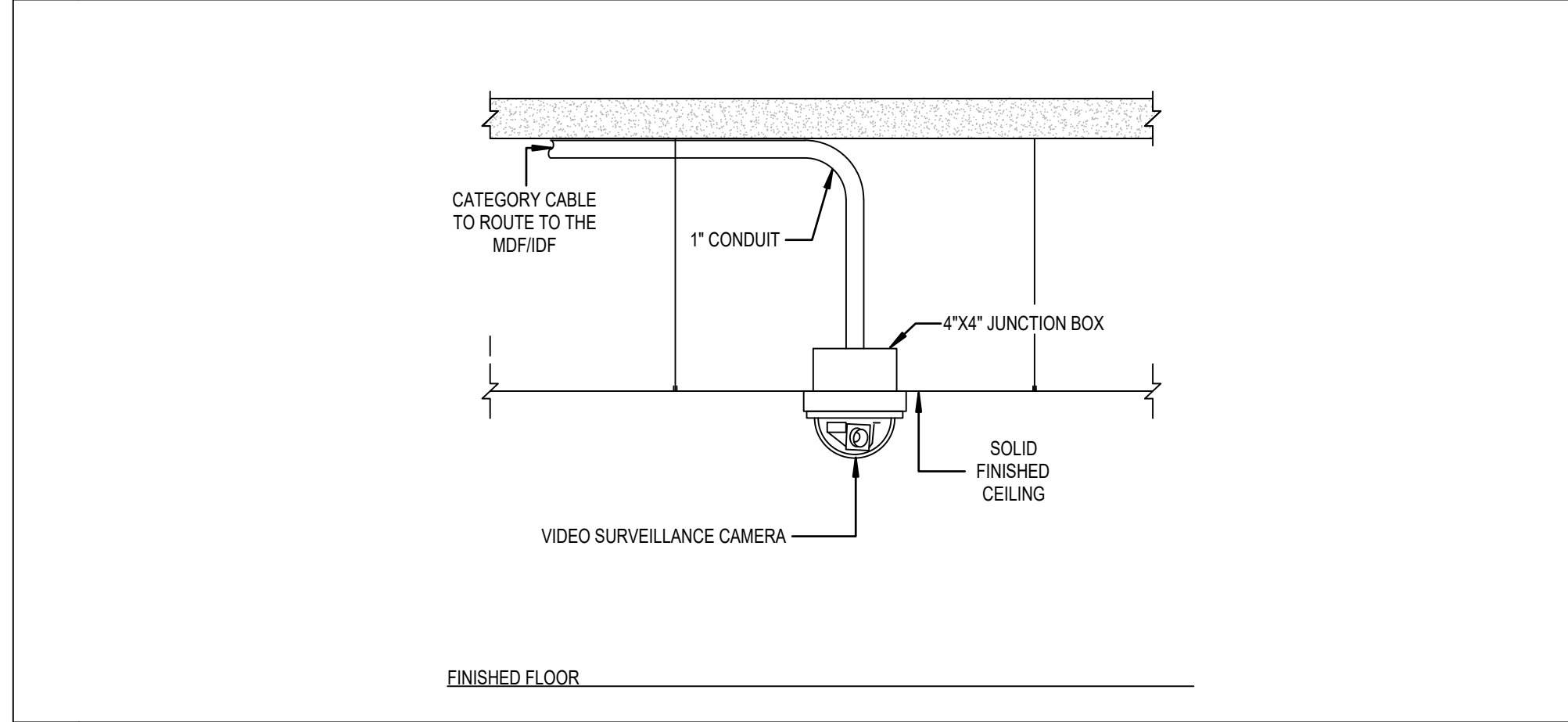
02 INTERIOR WALL MOUNT CAMERA-VERTICAL NOT TO SCALE



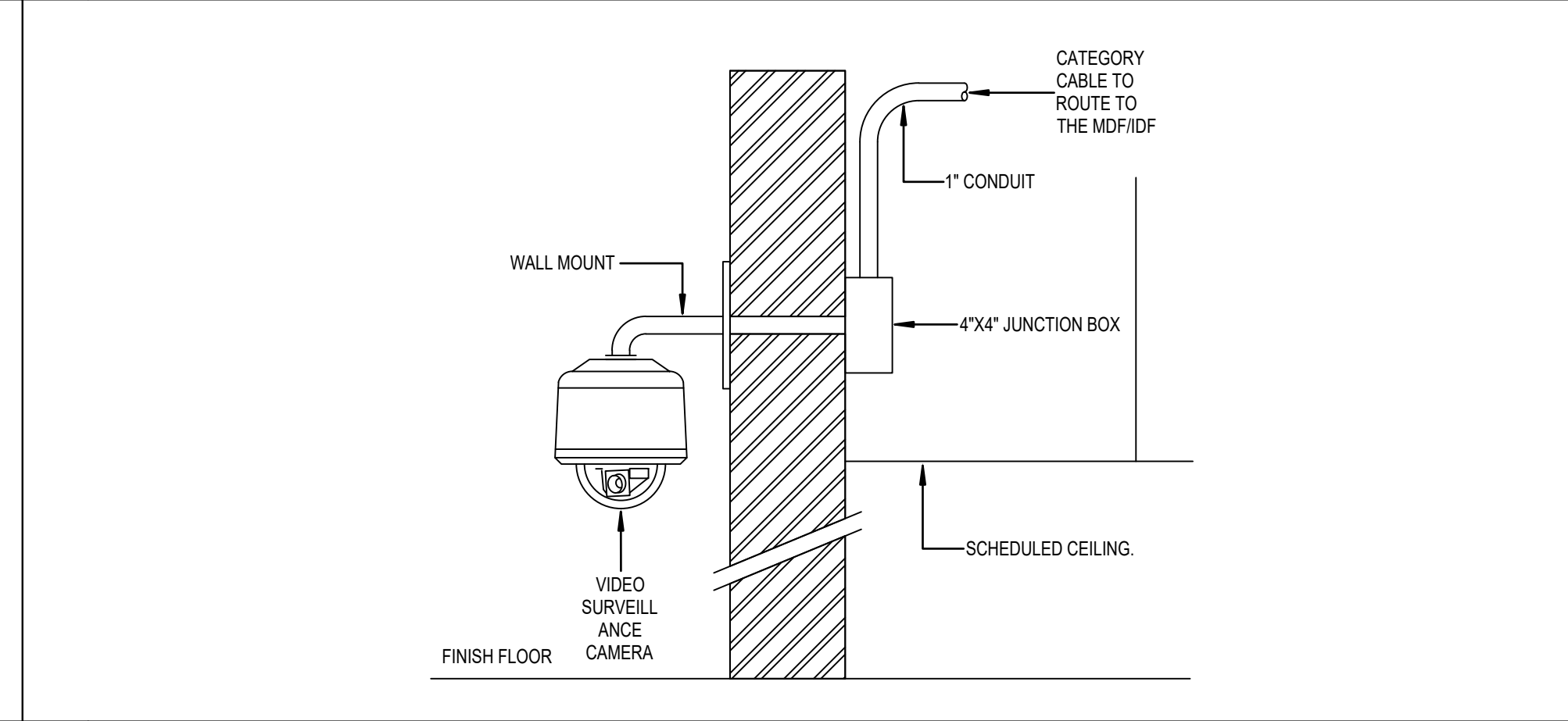
04 INTERIOR LAY-IN CEILING MOUNTED CAMERA NOT TO SCALE



05 EXT./INT. PENDANT MOUNTED DOME CAMERA NOT TO SCALE



06 EXTERIOR/INTERIOR SOLID CEILING MOUNT CAMERA NOT TO SCALE

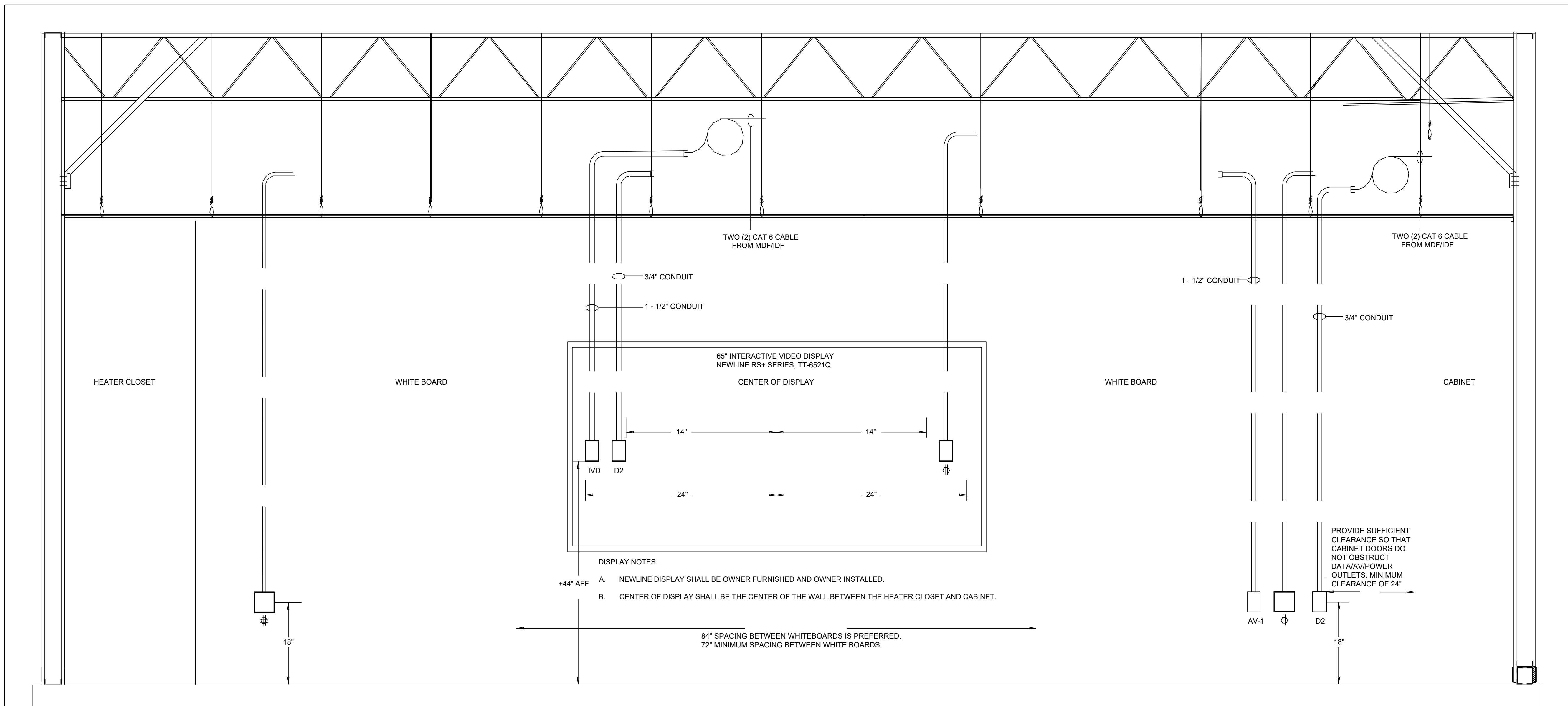


07 EXTERIOR WALL MOUNTED DOME CAMERA NOT TO SCALE

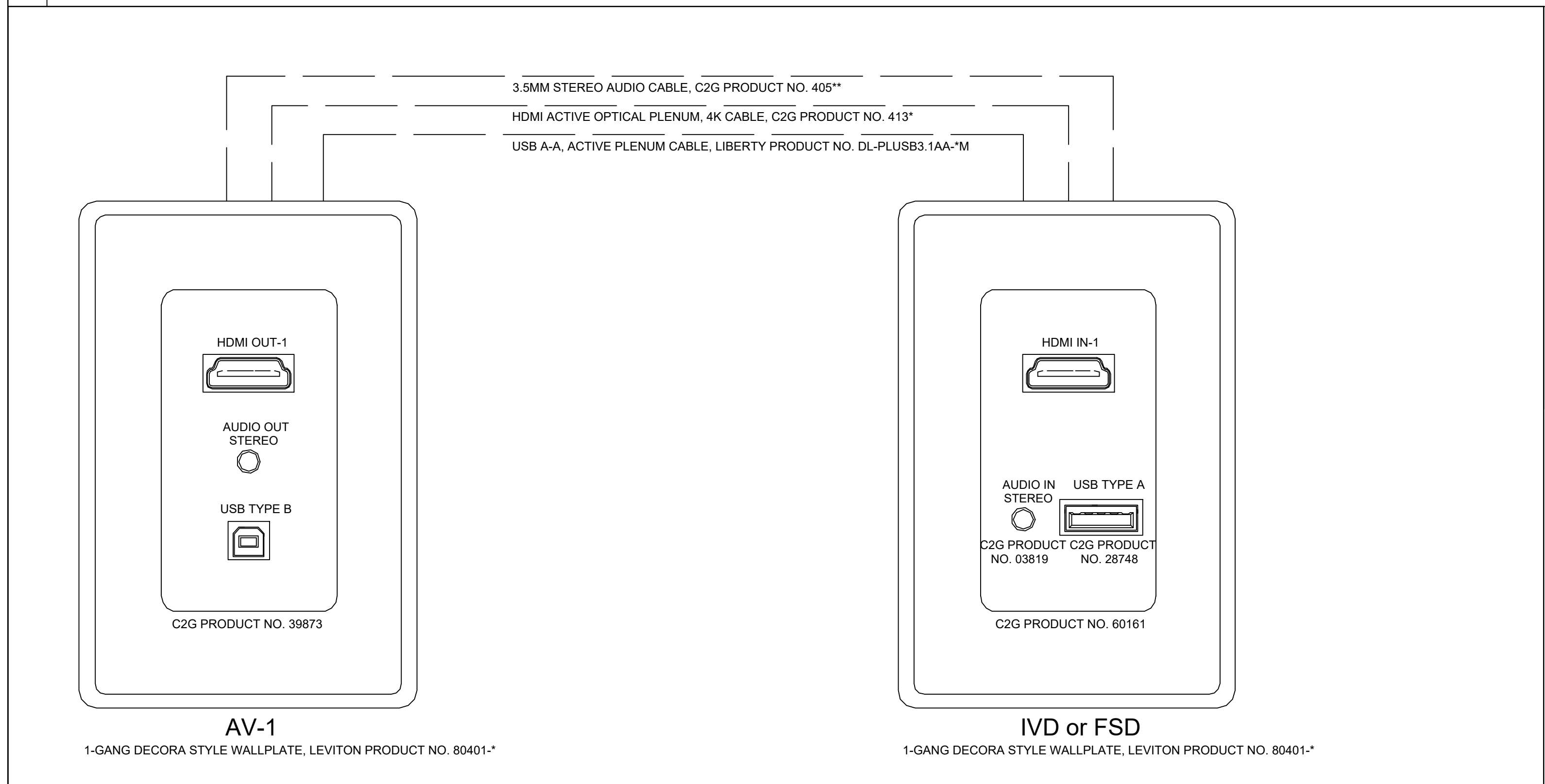
GENERAL NOTES:  
 A. ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUITS AND BACK BOXES. CONDUITS SHALL ROUTE TO THE NEAREST, ACCESSIBLE PLENUM SPACE.  
 B. ALL WALL, CORNER, PENDANT, AND UNDER CANOPY MOUNTING HEIGHTS SHALL BE COORDINATED WITH THE OWNER AND SECURITY CONSULTANT PRIOR TO ROUGH-IN.  
 C. SECURITY CONTRACTOR SHALL PROVIDE CAMERAS, MOUNTING HARDWARE, AND ANY OTHER COMPONENTS AND/OR HARDWARE REQUIRED FOR A COMPLETE INSTALLATION.  
 D. REFERENCE FLOOR PLANS, AND SPECIFICATIONS FOR ADDITIONAL INSTRUCTIONS.  
 E. CABLE FEED-THROUGH MOUNT FOR CAMERA. NO EXPOSED CABLE WILL BE ALLOWED. SECURITY CONTRACTOR TO COORDINATE MOUNTING HEIGHT WITH ELECTRICAL CONTRACTOR PRIOR TO ROUGH-IN.

08 NOTES NOT TO SCALE

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NY	checked by
OCTOBER 2024	date
	revisions



01 TYPICAL TECHNOLOGY WALL PRESENTATION - ELEMENTARY SCHOOL



02 TYPICAL 'IVD' 'AV-1' OUTLET DETAIL

NOT TO SCALE



SYSTEMS SPECIFICATIONS

STRUCTURED CABLING									
Horizontal Cabling									
<b>Requirements</b>	<ul style="list-style-type: none"> <li>Copper cable shall be Category 6 plenum rated cable (blue in Color) for all work station drops.</li> <li>Copper cable shall be Category 6 plenum rated cable (White in Color) for all Security camera drops.</li> <li>Copper cable shall be Category 6 plenum rated cable (Yellow in Color) for all Wifi drops.</li> <li>Approved Category 6 cables are as follows.                             <table border="1"> <tr> <td>Superior Essex Cat6 Plenum Part #'s</td> <td>77-240-2B blue 77-240-4B white 77-240-6B yellow 77-240-5B green</td> </tr> <tr> <td>Mohawk Cat6 Plenum Part #'s</td> <td>M58281B Blue M58280B white M58283B yellow M58286B green</td> </tr> <tr> <td>Berk-Tech Cat6 Plenum Part #'s</td> <td>10136226 blue 10136230 white 10136749 yellow 10136748 green</td> </tr> <tr> <td>General Cat6 Plenum Part #'s</td> <td>7131800 blue 7131841 white 7131802 yellow 7131806 green</td> </tr> </table> </li> </ul>	Superior Essex Cat6 Plenum Part #'s	77-240-2B blue 77-240-4B white 77-240-6B yellow 77-240-5B green	Mohawk Cat6 Plenum Part #'s	M58281B Blue M58280B white M58283B yellow M58286B green	Berk-Tech Cat6 Plenum Part #'s	10136226 blue 10136230 white 10136749 yellow 10136748 green	General Cat6 Plenum Part #'s	7131800 blue 7131841 white 7131802 yellow 7131806 green
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General Cat6 Plenum Part #'s	7131800 blue 7131841 white 7131802 yellow 7131806 green								
<ul style="list-style-type: none"> <li>Connector shall be Leviton part # 61110-RO6 eXtreme 6 connector for all workstation drops.</li> <li>Connector shall be Leviton part # 61110-RW6 eXtreme 6 connector for all Security camera drops.</li> <li>Connector shall be Leviton part # 61110-RV6 eXtreme 6 connector for all Wifi drops.</li> <li>Contractor shall provide Moore Public Schools, Technology Department, one 5' category 6 patch cord, (blue in color) for each category 6 work station cable installed. To be installed by contractor at the network cabinet.</li> <li>Contractor shall provide Moore Public Schools, Technology Department, one 10' category 6 patch cord, (blue in color) for each category 6 work station cable installed. Leave in box at network cabinet. To be installed by MPS Technology Dept.</li> <li>Contractor shall provide Moore Public Schools, Technology Department, one 5' category 6 patch cord, (White in color) for each category 6 Security Camera cable installed. To be installed by contractor at the network cabinet.</li> <li>Contractor shall provide Moore Public Schools, Technology Department, one 10' category 6 patch cord, (White in color) for each category 6 Security Camera cable installed. Leave in box at network cabinet. To be installed by MPS Technology Dept.</li> <li>Contractor shall provide Moore Public Schools, Technology Department, one 5' category 6 patch cord, (Yellow in color) for each category 6 Wifi cable installed. To be installed by contractor at the network cabinet.</li> <li>Contractor shall provide Moore Public Schools, Technology Department, one 10' category 6 patch cord, (Yellow in color) for each category 6 Wifi cable installed. Leave in box at network cabinet. To be installed by MPS Technology Dept.</li> <li>Each cable shall be terminated on the patch panel in data closets.</li> <li>All Category 6 connectors shall be placed into QuickPort faceplates at the workstation end.</li> <li>Faceplate shall be Leviton part # 41080-5wp</li> <li>No substitutions.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure pulling tensions of cables are not exceeded.</li> <li>Maintain proper cable bend radius of 4 times the cable's outer diameter during placement.</li> <li>No splices are permitted.</li> <li>No link shall exceed 90 meters. Contractor is responsible for verifying proper footages.</li> <li>Pull one additional "Mule Tape" or ¼" Nylon rope when pulling cables through any conduit utilizing existing pull string.</li> <li>Mule Tape or Nylon rope is to be pulled into conduit separately and after all other cables have been installed.</li> <li>Install sleeves when puncturing walls.</li> <li>Cable shall not be installed between cinder block walls and roof decking.</li> <li>Cable shall not be installed between red iron and roof decking.</li> <li>Firestop all sleeves and conduit openings after cable installation.</li> <li>Terminate all pairs and conductors at all ends according to manufacturer's instructions following color code sequence.</li> <li>No splices are permitted in any fiber optic cable except when terminating connectors</li> <li>Terminate all Fiber pairs.</li> <li>All optical fiber cable shall be installed in the fiber panels in accordance with the manufacturer's instructions.</li> <li>Optical fiber Back bone cable length shall not exceed 300 meters.</li> <li>Copper backbone cable length shall not exceed 90 meters.</li> <li>All back bone cables (Fiber and Copper) shall have 20' of slack at both ends.</li> <li>Coming rack mount fiber patch panels are to be used where applicable.</li> <li>Outdoor rated fiber will be used for all outdoor fiber runs.</li> <li>Stress relief cable and the appropriate building fastener will be used on all aerial runs.</li> <li>All aerial cables will be fastened to the stress relief cables.</li> <li>3" conduit is to be used for all buried runs, accessible at each end, with a pull string inside.</li> <li>A trace wire and warning tape will be buried with all buried runs</li> <li>All bends in conduit will be made with sweeps.</li> <li>Back bone cabling shall utilize a star topology with no more than 2 levels of backbone.</li> <li>Utilize Velcro ONLY in all closets.</li> <li>Install all components in a neat and workmanlike manner.</li> <li>Install all horizontal cables and termination frames in accordance with manufacturer's recommendations.</li> </ul>								

<ul style="list-style-type: none"> <li>Connector shall be Leviton part # 61110-RO6 eXtreme 6 connector for all workstation drops.</li> <li>Connector shall be Leviton part # 61110-RW6 eXtreme 6 connector for all Security camera drops.</li> <li>Connector shall be Leviton part # 61110-RV6 eXtreme 6 connector for all Wifi drops.</li> <li>Contractor shall provide Moore Public Schools, Technology Department, one 5' category 6 patch cord, (blue in color) for each category 6 work station cable installed. To be installed by contractor at the network cabinet.</li> <li>Contractor shall provide Moore Public Schools, Technology Department, one 10' category 6 patch cord, (blue in color) for each category 6 work station cable installed. Leave in box at network cabinet. To be installed by MPS Technology Dept.</li> <li>Contractor shall provide Moore Public Schools, Technology Department, one 5' category 6 patch cord, (White in color) for each category 6 Security Camera cable installed. To be installed by contractor at the network cabinet.</li> <li>Contractor shall provide Moore Public Schools, Technology Department, one 10' category 6 patch cord, (White in color) for each category 6 Security Camera cable installed. Leave in box at network cabinet. To be installed by MPS Technology Dept.</li> <li>Contractor shall provide Moore Public Schools, Technology Department, one 5' category 6 patch cord, (Yellow in color) for each category 6 Wifi cable installed. To be installed by contractor at the network cabinet.</li> <li>Contractor shall provide Moore Public Schools, Technology Department, one 10' category 6 patch cord, (Yellow in color) for each category 6 Wifi cable installed. Leave in box at network cabinet. To be installed by MPS Technology Dept.</li> <li>Each cable shall be terminated on the patch panel in data closets.</li> <li>All Category 6 connectors shall be placed into QuickPort faceplates at the workstation end.</li> <li>Faceplate shall be Leviton part # 41080-5wp</li> <li>No substitutions.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure pulling tensions of cables are not exceeded.</li> <li>Maintain proper cable bend radius of 4 times the cable's outer diameter during placement.</li> <li>No splices are permitted.</li> <li>No link shall exceed 90 meters. Contractor is responsible for verifying proper footages.</li> <li>Pull one additional "Mule Tape" or ¼" Nylon rope when pulling cables through any conduit utilizing existing pull string.</li> <li>Mule Tape or Nylon rope is to be pulled into conduit separately and after all other cables have been installed.</li> <li>Install sleeves when puncturing walls.</li> <li>Cable shall not be installed between cinder block walls and roof decking.</li> <li>Cable shall not be installed between red iron and roof decking.</li> <li>Firestop all sleeves and conduit openings after cable installation.</li> <li>Terminate all pairs and conductors at all ends according to manufacturer's instructions following color code sequence.</li> <li>No splices are permitted in any fiber optic cable except when terminating connectors</li> <li>Terminate all Fiber pairs.</li> <li>All optical fiber cable shall be installed in the fiber panels in accordance with the manufacturer's instructions.</li> <li>Optical fiber Back bone cable length shall not exceed 300 meters.</li> <li>Copper backbone cable length shall not exceed 90 meters.</li> <li>All back bone cables (Fiber and Copper) shall have 20' of slack at both ends.</li> <li>Coming rack mount fiber patch panels are to be used where applicable.</li> <li>Outdoor rated fiber will be used for all outdoor fiber runs.</li> <li>Stress relief cable and the appropriate building fastener will be used on all aerial runs.</li> <li>All aerial cables will be fastened to the stress relief cables.</li> <li>3" conduit is to be used for all buried runs, accessible at each end, with a pull string inside.</li> <li>A trace wire and warning tape will be buried with all buried runs</li> <li>All bends in conduit will be made with sweeps.</li> <li>Back bone cabling shall utilize a star topology with no more than 2 levels of backbone.</li> <li>Utilize Velcro ONLY in all closets.</li> <li>Install all components in a neat and workmanlike manner.</li> <li>Install all horizontal cables and termination frames in accordance with manufacturer's recommendations.</li> </ul>
<p><b>Labeling</b></p> <ul style="list-style-type: none"> <li>Label shall be a rap type with number printed multiple times enabling print to be legible from any angle.</li> <li>Machine label all termination panels and face plates with cabinet and cable number.</li> <li>Termination panels shall be labeled in numerical order.</li> <li>A single drop will be labeled a total of four times. The labels will be located on the patch panel in the rack, on both ends of the cable, and on the face plate at the work station end. The labels are to read exactly the same in all four locations.</li> <li>All 5' patch cables will be labeled at both ends. 5' cables will be installed at the cabinet.</li> <li>Numbering scheme will be 00-000 where the first two digits are the cabinet number and the last three are the drop number. Example, drop number 75 in cabinet 2 will read, 02-075.</li> <li>Camera drop labels numerically start at 500 in each cabinet. If camera drops already exist in said cabinet the next available consecutive number will be used.</li> <li>WiFi drop labels numerically start at 800 in each cabinet. If WiFi drops already exist in said cabinet the next available consecutive number will be used.</li> </ul> <p>Example for cabinet 1: Data (blue cable orange jacks) 01-001 to 01-499 Camera (white cable white jacks) 01-500 to 01-799 WiFi (yellow cable yellow jacks) 01-800 to 01-999</p>	<p><b>Labeling</b></p> <ul style="list-style-type: none"> <li>Label shall be a rap type with number printed multiple times enabling print to be legible from any angle.</li> <li>Machine label all termination panels and face plates with cabinet and cable number.</li> <li>Termination panels shall be labeled in numerical order.</li> <li>A single drop will be labeled a total of four times. The labels will be located on the patch panel in the rack, on both ends of the cable, and on the face plate at the work station end. The labels are to read exactly the same in all four locations.</li> <li>All 5' patch cables will be labeled at both ends. 5' cables will be installed at the cabinet.</li> <li>Numbering scheme will be 00-000 where the first two digits are the cabinet number and the last three are the drop number. Example, drop number 75 in cabinet 2 will read, 02-075.</li> <li>Camera drop labels numerically start at 500 in each cabinet. If camera drops already exist in said cabinet the next available consecutive number will be used.</li> <li>WiFi drop labels numerically start at 800 in each cabinet. If WiFi drops already exist in said cabinet the next available consecutive number will be used.</li> </ul> <p>Example for cabinet 1: Data (blue cable orange jacks) 01-001 to 01-499 Camera (white cable white jacks) 01-500 to 01-799 WiFi (yellow cable yellow jacks) 01-800 to 01-999</p>
<p><b>Test</b></p> <ul style="list-style-type: none"> <li>Test results for all Category 6 copper and fiber optic cables shall be provided to Moore Public Schools, Technology department.</li> </ul>	<p><b>Test</b></p> <ul style="list-style-type: none"> <li>Test results for all Category 6 copper and fiber optic cables shall be provided to Moore Public Schools, Technology department.</li> </ul>

Communications Backbone Cabling	
<b>Requirements - Optical fiber</b>	<ul style="list-style-type: none"> <li>1 Optical fiber cable shall be run from the MDF to each IDF.</li> <li>Fiber shall be terminated with LC connectors.</li> <li>Optical fiber cable shall be plenum rated Laser Optimized 50 micron Multi Mode distribution fiber.</li> <li>Optical fiber cable shall be an OM3 rated cable guaranteed to support 10 Gigabit Ethernet for 300 meters using 850 nm wavelength.</li> <li>Optical fiber cable shall have 24 strands using industry standard color coding.</li> <li>Optical fiber cable shall have a flame retardant and low smoke FEP jacket.</li> <li>Optical fiber cable shall support 10GBase-SX applications for the life of the system.</li> <li>Optical fiber cable shall be armor jacketed or protected inside plenum rated plastic inner duct orange or aqua in color.</li> </ul>
<b>Requirements - Copper backbone</b>	<ul style="list-style-type: none"> <li>6 Cat 6 cables shall be run from the MDF to each IDF.</li> <li>3 Cat 6 cables shall be run from the phone Dmark to the MDF.</li> <li>Copper cable shall be Category 6 cable. Green in color</li> <li>Connector shall be Leviton part # 61110-RV6 eXtreme 6 connector.</li> <li>Each cable shall be terminated on the patch panel in data closets.</li> <li>Each cable end shall be terminated using the T568B pin/pair assignment.</li> <li>No substitutions.</li> </ul>
<b>Cable Installation</b>	<ul style="list-style-type: none"> <li>Properly support horizontal cables in ceiling every 4'-5' using J-Hooks or cable tray only. (no slings, pouches, or D rings.)</li> <li>Place horizontal cables in pathways and spaces dedicated for communications cables. No pathways shall be in or above the red iron. Data cable will be run in separate pathways from all other cables.</li> <li>Provide 30' of slack at station end in ceiling and not inside wall.</li> <li>Slack shall be rolled neatly in a 2' loop and hanging from a J-hook in ceiling above drop location.</li> <li>Cat 6 data cables are to be terminated using the T568B standard.</li> <li>Leviton face plates that support 6 snap in jacks will be used with Leviton snap in blanks in unused slots.</li> <li>Ensure terminations are at 180 degrees to the jack with no more than ¼" un-twisting and no more than ½" un-jacketing and are in accordance with manufacturer's recommendations.</li> <li>Ensure terminations have no un-twisting and that tower separators are utilized to separate pairs.</li> </ul>

Communications Equipment Room Fittings	
<b>Equipment rack</b>	<ul style="list-style-type: none"> <li>Free standing equipment rack shall be Chatsworth #55053-703.</li> <li>Free standing racks shall be sized to accept 19" spaced equipment and handle a total weight load of 1, 000 pounds.</li> <li>Free standing racks shall have 3" side rails tapped on both sides with universal hole patterns for threaded 12-24 screws.</li> <li>No substitutions.</li> </ul>
<b>Copper Patch panels</b>	<ul style="list-style-type: none"> <li>Patch panel shall be a Leviton #49255-H24 Quick Port 110 panel with cable management bar.</li> <li>Patch panel shall have 24 ports taking up 1 rack mount unit.</li> <li>No substitutions.</li> </ul>
<b>Horizontal cable management</b>	<ul style="list-style-type: none"> <li>Horizontal cable manager shall be a 2 RU Chatsworth part #30130-719.</li> <li>No substitutions.</li> </ul>
<b>Vertical cable management</b>	<ul style="list-style-type: none"> <li>Vertical cable manager shall be Chatsworth part #30095-703.</li> <li>No substitutions.</li> </ul>
<b>Optical fiber patch panel / enclosure</b>	<ul style="list-style-type: none"> <li>Optical fiber enclosure shall be Coming LC loaded rack mount panel.</li> </ul>

<ul style="list-style-type: none"> <li>No substitutions.</li> </ul> <p><b>Ladder racking</b></p> <ul style="list-style-type: none"> <li>Ladder racking shall be Chatsworth #10250-718.</li> <li>The appropriate Chatsworth mounting hardware shall be used.</li> <li>No substitutions.</li> </ul> <p><b>Power protection power strips</b></p> <ul style="list-style-type: none"> <li>PDU's are to be placed in all data racks.</li> <li>PDU shall have overload protection and easy to reset circuit breaker.</li> <li>PDU shall be rack mountable.</li> <li>PDU shall be constructed from 18 AWG steel.</li> <li>PDU shall have light emitting diodes to indicate "Power On" and "Ground/Polarity OK" feature.</li> <li>PDU shall be rated for 20 Amps and have a 12' L5-20P plug and ten 5-20R receptacles.</li> <li>No substitutions.</li> </ul> <p style="text-align: center;"><b>Installation</b></p> <p><b>Free standing racks</b></p> <ul style="list-style-type: none"> <li>Assemble free standing racks according to manufacturer's instructions. Verify that equipment mounting rails are sized properly for rack-mount equipment before attaching the rack to the floor.</li> <li>All racks must be attached to the floor in four places using appropriate floor mounting anchors. When placed over a raised floor, threaded rods should pass through the raised floor tile and be secured in the structural floor below.</li> <li>All rack must be secured to the adjacent wall using ladder rack to stabilize the top of the rack and provide a cable pathway from the ceiling to the racks.</li> <li>Racks shall be grounded to the telecommunications bus bar using #6 AWG green insulated solid copper wire and any necessary attachment hardware provided by the Communications Contractor.</li> <li>Mount rack mount power strips on rack where active equipment will be placed.</li> </ul> <p><b>Ladder rack</b></p> <ul style="list-style-type: none"> <li>Ladder rack shall be attached to the top of the rack to deliver cables to the rack. The rack should not be drilled to attach ladder rack. Use appropriate hardware from the ladder rack manufacturer.</li> <li>Ladder racking shall be supported every 5' with 3/8" threaded rod anchored and secured to permanent ceiling structure.</li> <li>Loading of cable rack shall not exceed 6" depth and should have retainers every 12" to prevent cables from spilling over the sides.</li> <li>Where ladder racking butts up against wall the appropriately sized wall mount bracket shall be utilized.</li> <li>Ladder rack shall extend vertically up wall and through drop ceiling to gain access to cavity above drop ceiling.</li> <li>Ladder racking shall utilize all appropriate radius drop stringers, corner bends and other devices to maintain cable bend radius when entering and exiting racks, cabinets and drop ceilings</li> <li>Mating pieces of ladder racking together shall utilize appropriate butt splice and junction splice kits.</li> <li>All cut and exposed sharp ends shall utilize a plastic end cap to prevent injury.</li> </ul> <p><b>Cable management</b></p> <ul style="list-style-type: none"> <li>Vertical cable manager shall be installed on every rack vertical rail. Where two rack rails will be butted together there shall be two vertical wire managers between the racks.</li> <li>Horizontal wire managers shall be utilized above and below every copper and fiber patch panel.</li> <li>All cables shall sweep in and out of any cable management product without a deformation of cable jacket.</li> <li>Ensure cables are properly supported when using cable management to ensure cables do not sag.</li> <li>Utilize Velcro ONLY for securing of cables on cable management.</li> </ul> <p><b>Copper and Fiber patching panels</b></p> <ul style="list-style-type: none"> <li>Route all cables to backside of termination panels in an asymmetrical orientation to ensure cable bundles are split evenly.</li> <li>Utilize rear wire management bars for supporting cables into point of termination.</li> <li>Secure all cables on all panels using Velcro ONLY to prevent cables from pulling away.</li> </ul>	<p style="text-align: center;">End of Section</p>
<p><b>Quality Assurance</b></p> <ul style="list-style-type: none"> <li>Install all components as directed by Manufacturer's installation guidelines.</li> <li>All products shall bear the mark of UL or ETL for performance level.</li> <li>System installation shall meet all applicable Local/State codes and safety requirements where project is located.</li> <li>All products shall be new and un-used in original packaging.</li> <li>Follow and adhere to installation practices specified by the applicable Telecommunications Industry Association standards.</li> <li>Follow and adhere to installation practices specified by BICSI Information Transport System Installation.</li> <li>Follow and adhere to installation practices specified by BICSI Telecommunications Distribution Methods.</li> <li>Follow and adhere to installation practices specified by NFPA-70 National Electric Code.</li> <li>Follow and adhere to installation practices specified by the Manufacturers.</li> <li>Contractor shall make available all ceiling and termination work for inspection by Manufacturer's representative or owner's representative.</li> <li>Contractor shall replace all defective components.</li> </ul> <p><b>Bidder/Installer Qualifications</b></p> <ul style="list-style-type: none"> <li>Bidding Contractor shall be a licensed to install telecommunications systems in the state where work will be performed.</li> <li>Bidding Contractor shall be Leviton certified for at least one year</li> <li>Bidding Contractor shall have a minimum of 5 years experience installing structured cabling for telecommunications.</li> <li>Bidding Contractor shall have the capability to bond project in its entirety.</li> <li>Bidding Contractor shall be able to provide insurance at the request of the owner.</li> <li>Installer shall have an onsite supervisor and one technician who are certified by the Manufacturer to install the Manufacturer's telecommunications products.</li> <li>Communications Contractor shall have an RCDD on staff for at least one year, to certify that the Communications System can support the required applications on the various cabling media.</li> </ul>	<p style="text-align: center;">End of Section</p>

<ul style="list-style-type: none"> <li>Installer shall have obtained Leviton certification from the Manufacturer within 1 year prior to performing the Work.</li> </ul> <p><b>Delivery, Storage, and Protection</b></p> <ul style="list-style-type: none"> <li>Communications Contractor shall ensure that materials delivery to work area shall be coordinated with construction site manager responsible for materials distribution to all trades.</li> <li>Communications Contractor is responsible for all materials, tools and vehicles left on the job site.</li> <li>Communications Contractor shall coordinate a disposal bin for the removal of all trash produced by the Communications Contractor personnel during the project.</li> <li>Communications Contractor shall ensure materials are stored in an environmental area where:                             <ul style="list-style-type: none"> <li>Temperature does not exceed 120 degrees Fahrenheit nor below 32 degrees Fahrenheit.</li> <li>Humidity does not exceed 80 %.</li> <li>No direct exposure to sunlight.</li> </ul> </li> <li>Follow Manufacturer's recommendations for handling of materials.</li> </ul> <p><b>Warranty</b></p> <ul style="list-style-type: none"> <li>Communications Contractor shall provide a 1 year parts and labor warranty against defective workmanship and/or system component failure.</li> <li>Communications Contractor shall execute a Lifetime Applications Assurance Warranty for parts and labor to support stated applications from the connectivity Manufacturer.</li> </ul> <p style="text-align: center;">End of Section</p>	<p style="text-align: center;">End of Section</p>
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Moore Public Schools Intercom System Specifications	
Part 1 - Equipment	
<p><b>1.01 System Manufacture</b></p> <ul style="list-style-type: none"> <li>Intercom System Manufacturer shall be Telecor or Rauland Telecenter U IP. (Match existing system)</li> <li>Cable Manufacturer shall be Belden or Equivalent</li> </ul> <p>Locations where Telecor equipment is required. It may be purchased from the following authorized Telecor dealers Advanced Cabling, Inc - 405-418-4322 High-Tech Tronics, Inc - 405-495-0215</p> <p>Locations where TelecenterU equipment is required. It may be purchased from the following authorized TelecenterU dealer Endex of Oklahoma Inc - 405-602-0001</p> <p><b>1.02 Intercom Systems Equipment</b></p> <p><b>1.02.a Telecor Intercom Equipment</b></p> <ul style="list-style-type: none"> <li>Intercom call in button shall be momentary close and compatible with existing intercom system.</li> <li>Intercom ceiling speakers shall be Manufacture Clarity Model # S-522. (Or equivalent approved by MPS must have volume control accessible from the floor)</li> <li>Intercom outside paging horn shall be Manufacture Rauland Borg 3601. (Or equivalent approved by MPS)</li> <li>Locations where Telecor equipment is required. It may be purchased from the following authorized Telecor dealers Advanced Cabling, Inc - 405-418-4322 High-Tech Tronics, Inc - 405-495-0215</li> </ul> <p><b>1.02.b Rauland Telecenter U IP Intercom Systems Equipment</b></p> <ul style="list-style-type: none"> <li>Classroom Intercom Equipment</li> <li>Call button shall be Part # 603302 Dual Level call switch.</li> <li>Ceiling speakers shall be Part # BAFKIT2X2L8RJ - 8 Ohm ceiling tile replacement speaker with RJ45 connector.</li> <li>IP Classroom Module shall be TCC2011 IP Module (*Module required for each classroom, *Requires POE network drop)</li> <li>Hallway/Commons/Outside Intercom Equipment</li> <li>TCC2022-IP Zone page module (*Requires POE network drop)</li> <li>Appropriate size amp for quantity of speakers.</li> <li>BAFKIT2X2L- 25 volt ceiling tile replacement paging speaker (For all classroom &amp; hallway locations)</li> <li>Rauland Borg 3601 - Loud paging horn (For all outside &amp; large area locations such as gymnasiums, etc.)</li> <li>Rauland status light shall be part # TCC2088</li> <li>Rauland status light trim ring shall be part # TCC2986</li> </ul> <p>Locations where TelecenterU equipment is required. It may be purchased from the following authorized TelecenterU dealer Endex of Oklahoma Inc - 405-602-0001</p>	<p style="text-align: center;">End of Section</p>
<p><b>Part 2 - Installation</b></p> <p><b>2.01 Systems Installation</b></p> <ul style="list-style-type: none"> <li>All non-IP cabling shall be shielded and have a minimum of 5 conductors.</li> <li>All network IP cabling shall be Cat6 &amp; Purple in color (See Structured Cabling System Specifications for cabling information)</li> <li>Each room with a call button shall have a status light mounted above the room door on the hallway side. (Rauland Telecenter U IP sites only)</li> <li>All circuits and cabling shall be labeled at all terminating ends.</li> <li>All Ceiling mounted devices shall be mounted on non-stainable ceiling tiles</li> <li>All devices shall be mounted according to the manufacturer's specifications.</li> <li>All devices shall be properly adjusted and tested prior to job completion.</li> <li>All non-IP room circuits shall run from the intercom system to the call button then to the room speaker.</li> <li>All extra speaker wire taps shall be insulated.</li> <li>All rooms shall be individually wired and terminated at the intercom system on individual points. (No Doubling)</li> <li>All rooms shall be tested to verify proper room number programming and operation.</li> <li>All call buttons shall be labeled with their corresponding system point number.</li> <li>Protective grommets shall be installed on all conduits to protect wire.</li> <li>All wire shall be run in J hooks above ceiling with a minimum space of 4" from ceiling deck. All wire shall be in separate pathways 6" from other system wiring. No wire ties allowed. No wire shall be run between the red iron and roof deck.</li> <li>All wire run between building shall be in conduit and shall be direct burial cable. It shall be a minimum of 5 conductor 18 AWG copper. Lighting suppression shall be installed at entry points.</li> <li>Installer shall supply the electrical and or masonry contractors with specialty back boxes and coordinate with them to ensure that all necessary conduits, back boxes, etc. are installed in the proper locations.</li> <li>Follow and adhere to installation practices specified by NFPA-70 National Electric Code, Edition 2008.</li> <li>Follow and adhere to installation practices specified by the Manufacturers.</li> </ul> <p><b>2.02 Quality Assurance</b></p> <ul style="list-style-type: none"> <li>Install all components as directed by Manufacturer's installation guidelines.</li> <li>All products shall bear the mark of UL or ETL for performance level.</li> <li>System installation shall meet all applicable Local/State codes and safety requirements where project is located.</li> <li>All products shall be new and un-used in original packaging.</li> </ul> <p><b>2.03 Bidder/Installer Qualifications</b></p> <ul style="list-style-type: none"> <li>Bidding contractor shall have a minimum of 5 years experience installing school intercom</li> <li>Bidding contractor shall be able to provide insurance at the request of the owner.</li> </ul> <p><b>2.04 Delivery, Storage, and Protection</b></p>	<p style="text-align: center;">End of Section</p>

<ul style="list-style-type: none"> <li>Contractor shall ensure that materials delivery to work area shall be coordinated with construction site manager responsible for materials distribution to all trades.</li> <li>Contractor is responsible for all materials, tools and vehicles left on the job site.</li> <li>Follow Manufacturer's recommendations for handling of materials.</li> </ul> <p><b>2.05 Scheduling</b></p> <ul style="list-style-type: none"> <li>Contractor shall provide a detailed construction schedule with hard dates for completion of roughing in cables, terminations and testing once scheduling sequence has been determined to the Owner's Project Manager.</li> </ul> <p><b>2.06 Warranty</b></p> <ul style="list-style-type: none"> <li>Contractor shall provide a 1 year parts and labor warranty against defective workmanship and/or system component failure.</li> </ul> <p style="text-align: center;"><b>End of Section</b></p> <p><b>Part 3 - Execution</b></p> <p><b>3.01 Field Quality Control</b></p> <ul style="list-style-type: none"> <li>Contractor shall make available all ceiling and termination work for inspection by Manufacturer's representative or owner's representative.</li> <li>Contractor shall replace all defective components.</li> </ul> <p><b>3.02 Adjusting</b></p> <ul style="list-style-type: none"> <li>No additional work outside of the contract scope of work shall be completed without the approval of the Owner or Owner's representative.</li> </ul> <p><b>3.03 Protection</b></p> <ul style="list-style-type: none"> <li>It is the responsibility of the Contractor to ensure equipment is protected from dust and water during the project with appropriate materials.</li> <li>Remove all protective covers and protective materials from equipment prior to turnover to Owner.</li> </ul> <p><b>3.04 Schedules</b></p> <ul style="list-style-type: none"> <li>Coordinate work with Owner's project manager and follow scheduling sequence as established by Owner's project manager.</li> <li>It is recommended that the Contractor schedule closely with any other systems contractor to ensure turnover date is met.</li> <li>Contractor bidding will supply the electrical and or masonry contractors with any specialty back boxes such as clock recessed back boxes etc. and coordinate with them to ensure that all necessary conduits, back boxes, etc. are installed in the proper locations.</li> </ul> <p><b>3.05 Submittals</b></p> <p><b>1.03.01 Prior to installation</b></p> <ul style="list-style-type: none"> <li>Show compete map of system design for approval by Owner.</li> </ul> <p><b>3.06 System Requirements</b></p> <p>Intercom system shall be capable of communicating to all rooms and shall have adequate number of room points as to not double up on any given point.</p> <p style="text-align: center;"><b>End of Section</b></p> <p><b>Intercom System Installation Completion Check List</b></p> <p><b>Part 4 - Check List</b></p> <p><b>4.01 Section Includes</b></p> <ul style="list-style-type: none"> <li>Intercom System Completion Check List</li> </ul> <p><b>4.02 Completion Check List</b></p> <ul style="list-style-type: none"> <li>Main control panel has a map of the entire system inside and a copy has been given to Jack Phillips with MPS.</li> <li>All intercom programming such as bell times, tornado drill alert, etc has been checked and is correct.</li> <li>Intercom has been tested for proper operation.</li> <li>All rooms have been tested to verify proper description at console.</li> <li>All speakers have been tested to verify proper operation and volume.</li> <li>All extra speaker wires have been tapped or insulated</li> <li>All call buttons are labeled and have been tested for proper operation.</li> </ul> <p style="text-align: center;"><b>End of Section</b></p> <p><b>Moore Public Schools Clock System Specifications</b></p> <p><b>Part 1 - General</b></p> <p><b>1.01 System Manufacture</b></p> <ul style="list-style-type: none"> <li>Clock Equipment shall be Telecor, Rauland, Sapling or Primex. See plans for the specific manufacturer required. (No Substitutions)</li> </ul> <p>Locations where Telecor equipment is required. It may be purchased from the following authorized Telecor dealers Advanced Cabling, Inc - 405-418-4322 High-Tech Tronics, Inc - 405-495-0215</p> <p><b>1.03 Intercom Clock Systems Equipment Description</b></p> <ul style="list-style-type: none"> <li>If building has existing clock system, clocks shall be compatible with existing system.</li> <li>Telecor Digital Clocks shall be hard wired 24v and may not use battery power for its primary power source. Clocks shall be 4 inch.</li> <li>Telecor Analog Clocks shall be hard wired 24v and may not use battery power for its primary power source. Clocks shall be 12 inch.</li> <li>Rauland Clock/Msg Board shall be part # TCC3011S</li> <li>Rauland hallway dual face clock/msg board bracket shall be part # TCC TCC300DFM</li> </ul> <p>Sapling clock part number shall be as follows: SMA-3R0-1004-1 Transmitter SBL-31S-25R-4R Digital Clocks SAB-1BD-00S-0 Metal Pole for Double Clocks SAL-4BS-12R-14 12" Analog Clock 24v 3S-MO15 Power Transformer</p> <ul style="list-style-type: none"> <li>If a clock system is not specified and the site does not have an existing working clock system, stand-alone battery powered clocks shall be used.</li> <li>Stand-alone wall clock shall be American Time E56BAQD304BP</li> <li>Stand-alone dual face hallway clock shall be American Time E93BAQD204BP</li> <li>An 110v electric clock receptacle shall be installed at each clock location for future devices.</li> </ul>	<p>NY drawn by</p> <p>NY checked by</p> <p>OCTOBER 2024 date</p> <p>revisions</p>
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CHILD CARE FACILITY  
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**T401**

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Moore, OK 73160  
Salas O'Brien Registration: CA# 7058  
Expiration Date : 6/30/2025  
Salas O'Brien Project Number: 2450-70304-00



**Moore Public Schools Clock System Specifications cont.**

**1.02 Systems Installation**

- All devices shall be mounted according to the manufacture's specifications.
- All Ceiling mounted devices shall be mounted on non-stainable ceiling tiles
- All devices shall be properly adjusted and tested prior to job completion.
- All extra wire taps shall be insulated.
- Protective grommets shall be installed on all conduits to protect wire.
- All wire shall be run in J hooks above ceiling with a minimum space of 4" from ceiling deck. All wire shall be in separate pathways 6" from other system wiring. No wire ties allowed.
- All wire ran between building shall be in conduit and shall be direct burial cable. It shall be a minimum of 5 conductor 18 AWG copper and shall have lightning suppression installed at building entry.
- Installer shall supply the electrical and/or masonry contractors with specialty back boxes such as clock recessed back boxes etc. and coordinate with them to ensure that all necessary conduits, back boxes, etc. are installed in the proper locations.
- Follow and adhere to installation practices specified by NFPA-70 National Electric Code, Edition 2008.
- Follow and adhere to installation practices specified by the Manufacturers.

**1.03 Quality Assurance**

**1.03.01 Qualifications**

- Install all components as directed by Manufacturer's installation guidelines.
- All products shall bear the mark of UL or ETL for performance level.
- System installation shall meet all applicable Local/State codes and safety requirements where project is located.
- All products shall be new and un-used in original packaging.

**1.03.02 Bidder/Installer Qualifications**

- Bidding contractor shall have a minimum of 5 years experience installing school intercom systems.
- Bidding contractor shall be able to provide insurance at the request of the owner.

**1.04 Delivery, Storage, and Protection**

- Contractor shall ensure that materials delivery to work area shall be coordinated with construction site manager responsible for materials distribution to all trades.
- Contractor is responsible for all materials, tools and vehicles left on the job site.
- Follow Manufacturer's recommendations for handling of materials.

**1.05 Scheduling**

- Contractor shall provide a detailed construction schedule with hard dates for completion of roughing in cables, terminations and testing once scheduling sequence has been determined to the Owner's Project Manager.

**1.06 Warranty**

- Contractor shall provide a 1 year parts and labor warranty against defective workmanship and/or system component failure.

**Part 3 - Execution**

**3.01 Field Quality Control**

- Contractor shall make available all ceiling and termination work for inspection by Manufacturer's representative or owner's representative.
- Contractor shall replace all defective components.

**3.02 Adjusting**

- No additional work outside of the contract scope of work shall be completed without the approval of the Owner or Owner's representative.

**3.03 Protection**

- It is the responsibility of the Contractor to ensure equipment is protected from dust and water during the project with appropriate materials.
- Remove all protective covers and protective materials from equipment prior to turnover to Owner.

**3.04 Schedules**

- Coordinate work with Owner's project manager and follow scheduling sequence as established by Owner's project manager.
- It is recommended that the Contractor schedule closely with any other systems contractor to ensure turnover date is met.
- Contractor bidding will supply the electrical and/or masonry contractors with any specialty back boxes such as clock recessed back boxes etc. and coordinate with them to ensure that all necessary conduits, back boxes, etc. are installed in the proper locations.

**End of Section**

**1.04 Submittals**

**1.04.01 Prior to installation**

- Show complete map of system design for approval by Owner.

**End of Section**

**Clock System Installation Completion Check List**

**Part 1 - General**

**1.01 Section Includes**

- Clock System Completion Check List

**1.02 Completion Check List**

- All Clocks have been tested for proper operation and synchronization.

**End of Section**

**Moore Public Schools Security System Specifications**

**Part 1 - General**

**2.01 Manufacturers**

- Security System Manufacturer shall be DSC or DMP. See plans for the specific manufacturer required. (No Substitutions)
- Installer shall be certified by manufacturer to install & program the specified systems. (No Substitutions)
- Peripheral device Manufacturers shall be according to equipment list. (No Substitutions)
- Cable Manufacturer shall be Genesis. (Or Equivalent)

**Security Systems Equipment**

- Security alarm control shall be DSC Model # PC4020 or DMP Model # XR550NL-G. (No Substitutions)
- Security alarm control communicator shall be DSC Model # T-LinkTL250. DPM N/A. (No Substitutions)
- Security alarm keypad shall be DSC Model # LCD4501 or DMP Model # 7873. (No Substitutions)
- Security alarm keypad for all kitchen locations shall be DSC Model # LCD4501 or DMP Model # 7073. (No Substitutions)
- Security alarm 8 zone hardware expander shall be DSC Model # PC4108 or DMP Model # 714-8. (No Substitutions)
- Security alarm 16 zone hardware expander shall be DSC Model # PC4116 or DMP Model # 714-16. (No Substitutions)
- Security alarm power supply shall be DSC Model # PC4204 or DMP systems = Altronix Model # SMP3PMCTX. (No Substitutions)
- Security alarm power supply cabinet shall be DSC Model # PC4051C. DMP N/A. (No Substitutions)
- Security alarm cabinet locks shall be DSC Model # L1 or DMP Model # 301. (No Substitutions)
- Security alarm wireless receiver shall be DMP Model # 1100XH, DSC N/A
- Security alarm wireless transmitter shall be DMP Model # 1103, DSC N/A
- Security alarm 35x35 motion detector shall be Honeywell Model # DT-8035. (No Substitutions)
- Security alarm 50x60 motion detector shall be Honeywell Model # DT-8050. (No Substitutions)
- Security alarm window glass break sensor shall be Honeywell Model # FG-730. (No Substitutions)
- Security alarm hold-up button shall be Potter HUSK-20
- Security alarm door contact shall be GE Model # 1076D-M. Double Pole Double Throw for all doors (No Substitutions)
- Each single door or double door shall be wired with 4 conductor wire.
- DMP systems shall be wired with 2 zones per single door or double door. One zone for Security alarm and one zone for "Door Held Open Alert"
- Security alarm C channel door magnets shall be GRI Model # MC180
- Security alarm surface window contact shall be Aleph Model # PS-1541. (Or equivalent approved by MPS)
- Security alarm overhead door & roof hatch contact shall be Amseco Model # ODC-59A or for rail mount applications Interlogix GE2315AL. (No Substitutions)
- Security alarm indoor siren shall be Ademco Model # WaveZEX. (No Substitutions)
- Security alarm outdoor siren shall be ATW Model # DS301SET. (No Substitutions)
- Security alarm outdoor strobe shall be Amseco Model # SL401C. (No Substitutions)

**1.01 Systems Installation**

- Keypad zones shall not be used. All zones shall wire to the main control or zone expanders.
- Installer shall be certified by manufacturer to install & program the specified systems.

- Installer shall perform all programming required to complete the installation. Moore Public Schools shall not be required to assist in any part of the installation or programming.

- All alarm junctions and or splices shall be soldered and insulated.
- All circuits and wiring shall be labeled at all terminating ends.

- All devices shall be mounted according to the manufacture's specifications.
- All devices shall be properly adjusted and tested prior to job completion.

- All DSC 4108 & 4116 zone expanders shall be installed with a DSC PC4204 power supply and DSC PC4051C with L1 lock

- All DMP 714-8 & 714-16 zone expanders shall be installed with a power supply Altronix Model # SMP3PMCTX keyed with DMP Model # 301.

- All cabinets shall be labeled outside with their corresponding module and zone numbers and installed with lock.

- All cabinets shall be labeled inside with module number by the corresponding module and zone list definitions.

- If a new DSC main control panel is required, it shall have a T-LinkTL250 installed

- All new DSC or DMP main control panels shall have a Cat 6 cable ran back to the nearest IDF for network connectivity.

- Each expansion cabinets shall have two non-shielded 16 gauge 4 conductor cables ran from the main control to the expansion cabinet.

- All keypads shall be wired individually back to new power supply.

- All sirens shall be wired individually and connected to new power supply.

- All devices such as door contact (double doors wire as one), motion detectors, glass break detectors, etc. shall be hardwired individually on separate zones with end of line resistors at the devices.

- All devices such as motion detectors, glass break detectors, door contacts, keypads, sirens, etc. shall be labeled with their corresponding module and or zone number. Label shall be visible from the floor.

- All motion detectors shall be sealed to prevent air and insects from entering.

- All steel doors shall have wide gap contacts installed.

- All door contacts shall be recessed, and door magnets shall be glued in place.

- All holdup buttons shall be connected via wireless.

- Protective grommets shall be installed on all conduits and enclosures to protect wire.

- All devices shall be wired with **NON-shielded** cable.

- All panels, power supplies and modules shall be grounded.

- All roof hatches shall have an alarm contact installed and connected to the alarm system.

- All wire shall be run in J hooks above ceiling with a minimum space of 4" from ceiling deck. All wire shall be in separate pathways 6" from other system wiring. No wire ties allowed. No wire shall be run between the red iron and roof deck.

- All wire visible from the finished floor shall be covered in decorative wire molding.

- All wire ran between building shall be in conduit and shall be **non-shielded** direct burial cable. It shall be a minimum of 4 conductor 16 AWG copper and shall have lightning suppression installed at building entry.

- Installer shall have a commercial burglar technician on the job site at all times during installation.
- Installer will work closely with the electrical and/or masonry contractors to ensure conduit, back boxes, door frame access conduit, etc. are in the proper locations and accessible.

- Follow and adhere to installation practices specified by NFPA-70 National Electric Code, Edition 2008.

- Follow and adhere to installation practices specified by the Manufacturers.

**1.02 Products Installed but not Supplied Under This Section**

- All conduit and EMT required for Fire cabling pathway in/out of closets and in/out of wall cavities at the work area. EMT or Conduit for pathways shall have no more than two 90 degree sweeps and no continuous section over 100'.

- All core holes and poke through devices in the floor for the installation of Fire cabling.

- All core holes and EMT sleeves between floors for the routing of Fire cabling.

- Back boxes for the mounting of Fire Devices.

- Drag line or pull string at the back boxes fished through EMT or conduit to the other end for installing Fire Cabling.

**1.03 Quality Assurance**

**1.03.01 Qualifications**

- Install all components as directed by Manufacturer's installation guidelines.
- All products shall bear the mark of UL or ETL for performance level.
- System installation shall meet all applicable Local/State codes and safety requirements where project is located.
- All products shall be new and un-used in original packaging.

**1.03.02 Bidder/Installer Qualifications**

- Bidding contractor shall be a local licensed Commercial Burglar Alarm Company with licensed Commercial Burglar Alarm technician(s) on staff.

- Bidding contractor shall be certified by manufacturer to install & program the specified systems.

- Bidding contractor shall perform all programming required to complete the installation. Moore Public Schools shall not be required to assist in any part of the installation or programming.

- Bidding contractor shall have at least one year experience installing DSC/DMP equipment.

- Bidding contractor shall have a minimum of 5 years experience installing commercial burglar alarms.

- Bidding contractor shall be able to provide insurance at the request of the owner.

- Bidding contractor shall have a commercial burglar technician on the job site at all times during installation.

**1.04 Delivery, Storage, and Protection**

- Contractor shall ensure that materials delivery to work area shall be coordinated with construction site manager responsible for materials distribution to all trades.

- Contractor is responsible for all materials, tools and vehicles left on the job site.

- Follow Manufacturer's recommendations for handling of materials.

**1.05 Project Conditions**

**1.05.01 Environmental Requirements**

- Contractor shall ensure that any pollutants produced during the Work are disposed of according to local, state or national regulations. Follow the most stringent guidelines.

- It is preferred that the Contractor recycle any used or un-used components during the course of the construction project.

**1.06 Sequencing**

- Contractor shall coordinate with Owner's project manager on sequencing of various trades and construction teams for the lifecycle of the project.

**1.07 Scheduling**

- Contractor shall provide a detailed construction schedule with hard dates for completion of roughing in cables, terminations and testing once scheduling sequence has been determined to the Owner's Project Manager.

**1.08 Warranty**

- Contractor shall provide a 1 year parts and labor warranty against defective workmanship and/or system component failure. (1 year warranty shall begin at job completion)

**Part 2 - Products**

**2.02 Source Quality Control**

- Materials shall be purchased from Distributors authorized by system Manufacturers to sell new and unused components.

**Part 3 -**

**3.01 Field Quality Control**

- Contractor shall make available all ceiling and termination work for inspection by Manufacturer's representative or owner's representative.

- Contractor shall replace all defective components.

**3.02 Adjusting**

- No additional work outside of the contract scope of work shall be completed without the approval of the Owner or Owner's representative.

**3.03 Cleaning**

- Contractor shall sweep and mop the floors of all equipment rooms or connection point closets prior to turnover to the Owner.

**3.04 Protection**

- It is the responsibility of the Contractor to ensure equipment is protected from dust and water during the project with appropriate materials.

- Remove all protective covers and protective materials from equipment prior to turnover to Owner.

**3.05 Schedules**

- Coordinate work with Owner's project manager and follow scheduling sequence as established by Owner's project manager.

- It is recommended that the Contractor schedule closely with any other systems contractor to ensure turnover date is met.

- Contractor bidding will work closely with the electrical and/or masonry contractors to ensure conduit, back boxes, door frame access conduit, etc. are in the proper locations and accessible.

**End of Section**

**1.02 Submittals**

**1.03.01 Prior to installation**

- Show complete map of system design for approval by Owner.

**Security System Installation Completion Check List**

**Part 1 - General**

**1.01 Section Includes**

- Security System Completion Check List

**1.02 Completion Check List**

- A map of the entire system showing device numbers and wire routes has been left inside the main control panel and a copy has been given to Jack Phillips with MPS.

- All panel programming has been checked and is correct.

- Panel(s) has been tested for proper operation.

- All zones have been tested to verify proper description at keypad.

- All zones have been tested to verify proper reporting to the monitoring station.

- All zones have been tested to verify they are in their proper partition(s).
- All sirens and strobes have been tested for proper operation.
- All motion detectors have been adjusted for proper sensitivity and have been walk tested.
- All motion detectors have been sealed to prevent air and insects from entering.
- All glass break detectors have been adjusted for proper sensitivity and tested.
- All cabinets are labeled on the outside with module numbers and zone numbers.
- All cabinets are labeled on the inside with module numbers by the corresponding module and zone descriptions.
- All user codes have been programmed and tested for proper partition access.
- The monitoring station has the correct account information such as call list, zone descriptions etc.

**End of Section**

**1.09 References**

- NFPA-70 National Electrical Code 2008 edition
- NFPA-72 National Fire Alarm Code
- UL 1666 - Standard for Safety of Flame Propagation Height
- NFPA 262 - Flame Travel and Smoke of Wires and Cables
- Local Authority Having Jurisdiction

**1.10 Definitions**

- AWG - American Wire Gauge
- BICSI - Building Industry Consulting Service International
- EIA - Electronics Industry Alliance
- FCC - Federal Communications Commission
- NECA - National Electrical Contractors Association
- NFPA - National Fire Protection Agency
- UL - Underwriters Laboratory

**Access Control System Specifications**

**Part 1 - Manufacture**

- Access Control Manufacturer shall be Keyscan. (No Substitutions)
- Peripheral device Manufacturers shall be according to equipment list. (No Substitutions)
- Cable Manufacturer shall be Genesis. (Or Equivalent)

**1.01 Access Control Equipment Description**

- Access Control System Manufacture shall be Keyscan (No Substitutions)
- Access Control Management Software = Aurora (This software is already installed and in use. It is listed for information purposes only)
- Reader Control Panels shall be (No Substitutions) Keyscan CA 4500 = 4 Door Keyscan CA 8500 = 8 Door

- Each Reader Control Panel shall be equipped with (2) 16VAC 40VA Transformer
- Each Reader Control Panel shall be equipped with (1) 12V 7AH Battery
- One 2,4 or 8 Door Reader Control Panel per site shall be equipped with (1) Keyscan Netcom2p module. If the site has an existing 2,4 or 8 Door Control Panel with a Netcom2P already installed, then a Netcom 2P is not needed and CIM or CIM-Link modules shall be used to connect the new Control Panel to the existing Control Panel.
- All Reader Control Panels shall be linked together with either CIM or CIM-Link modules.

- Each new Reader Control Panel shall be capable of 4 doors minimum

**Card Readers shall be (No Substitutions)**

- HID 40NKS00000000 Signo Wall Mount reader (for use in all locations except where mullion mount reader size is required to fit)
- HID 20NKS00000000 Signo 20 Mullion Reader (For use on mullion mount locations where single gang reader is too large.

- ALL READERS REQUIRE 22/6 STR OAS WIRE.
- Access Control Strikes and locks shall be (No Substitutions unless approved by Moore Public Schools) RCI 0163X32D ½ inch Rim(ONLY USE IF ½ INCH RIM WILL NOT FIT) RCI 0162X32D ½ inch Rim RCI F0162X32D ¾ inch Rim Fire Rated RCI F2164 RECESSED ALL-IN-ONE STRIKE

- Where storm doors are installed, install compatible power motor and power supply to activate door hardware unless installed by door contractor.

- Egress Motions shall be (No Substitutions) BOSCH DS160 OR HONEYWELL IS310

- Door Contacts shall be GE Model # 1076D-M Double Pole Double Throw (To be utilized for Access Control and Security Alarm) (See security alarm specs)

- DOOR LOCK RELEASE BUTTON SHALL BE (NO SUBSTITUTIONS) RCI PART # 909S ROCKER SWITCH

- Power Supply for locking hardware \*\*Power supply in Keyscan Controller is for the Control and Readers only.

- Power Supplies shall be sized to meet requirements of Strikes and locks with a maximum of 80% amp load.
- Power Supply shall have form "C" contacts for supervision that is connected to Keyscan Control Aux Input.
- 24 VDC Securitron- AccuPower- AQM20-8C/16C, AQD5-8C or equal.

**2.01 Systems Installation**

- All junctions and or splices shall be soldered and insulated.

- All circuits and wiring shall be labeled at all terminating ends.

- All devices shall be mounted in accordance to the manufactures specifications.

- All devices shall be properly adjusted and tested prior to job completion.

- All controllers shall be labeled outside with their corresponding modules and installed with lock.

- All controllers shall have a Cat 6 network cable Blue in color ran from the nearest network cabinet and labeled with drop number.

- All card readers shall be labeled with their corresponding reader number.

- All doors with access control shall have contacts installed for door status indication. Steel doors shall have wide gap door contacts installed.

- All doors with access control shall have egress motions installed to allow system to detect proper egress. (including doors with panic exit hardware.)

- Protective grommets shall be installed on all conduits to protect wire.

- All panels, power supplies and modules shall be grounded.

- All wire shall be run in J hooks above ceiling with a minimum space of 6" from ceiling deck. All wire shall be in separate pathways 6" from other system wiring. No wire ties allowed. No wire shall be run between the red iron and roof deck.
- All wire visible from the finished floor shall be covered in decorative wire molding.
- All wire ran between building shall be in conduit and shall be direct burial cable.
- Installer shall have a licensed Access Control technician on the job site at



**4.03 Products Installed but not Supplied Under This Section**

- All conduit and EMT required for Fire cabling pathway in/out of closets and in/out of wall cavities at the work EMT or Conduit for pathways shall have no more than two 90 degree sweeps and no continuous section over 100'.
- All core holes and poke through devices in the floor for the installation of cabling.
- All core holes and EMT sleeves between floors for the routing of cabling.
- Back boxes for the mounting of Devices.
- Drag line or pull string at the back boxes fished through EMT or conduit to the other end for installing Cabling.

**4.04 References**

- NFPA-70 National Electrical Code 2008 edition
- NFPA-72 National Fire Alarm Code
- UL 1666 - Standard for Safety of Flame Propagation Height
- NFPA 262 - Flame Travel and Smoke of Wires and Cables
- Local Authority Having Jurisdiction

**4.05 Definitions**

AWG - American Wire Gauge  
 BICSI - Building Industry Consulting Service International  
 EIA - Electronics Industry Alliance  
 FCC - Federal Communications Commission  
 NECA - National Electrical Contractors Association  
 NFPA - National Fire Protection Agency  
 UL - Underwriters Laboratory

**4.06 Delivery, Storage, and Protection**

- Contractor shall ensure that materials delivery to work area shall be coordinated with construction site manager responsible for materials distribution to all trades.
- Contractor is responsible for all materials, tools and vehicles left on the job site.
- Follow Manufacturer's recommendations for handling of materials.

**4.07 Project Conditions**

**4.07.1 Environmental Requirements**

- Contractor shall ensure that any pollutants produced during the Work are disposed off according to local, state or national regulations. Follow the most stringent guidelines.
- It is preferred that the Contractor recycle any used or un-used components during the course of the construction project.

**4.07.2 Field Measurements**

- Contractor shall coordinate with electrical engineer on project that the main electrical service ground has a resistance to earth of less than 5 ohms.
- Contractor shall ensure that all field testers have been calibrated from the Manufacturer within 1 year.
- All field test results will be documented and submitted to Moore Public Schools, Technology Department.

**4.08 Sequencing**

- Contractor shall coordinate with Owner's project manager on sequencing of various trades and construction teams for the lifecycle of the project.

**4.09 Scheduling**

- Contractor shall provide a detailed construction schedule with hard dates for completion of roughing in cables, terminations and testing once scheduling sequence has been determined to the Owner's Project Manager.

**4.10 Warranty**

- Contractor shall provide a 1 year parts and labor warranty against defective workmanship and/or system component failure. ( 1 year warranty shall begin at job completion)

**4.11 Source Quality Control**

- Materials shall be purchased from Distributors authorized by system Manufacturers to sell new and unused components.

**Part 5 -**

**5.01 Field Quality Control**

- Contractor shall make available all ceiling and termination work for inspection by Manufacturer's representative or owner's representative.
- Contractor shall replace all defective components.

**5.02 Adjusting**

- No additional work outside of the contract scope of work shall be completed without the approval of the Owner or Owner's representative.

**5.03 Cleaning**

- Contractor shall sweep and mop the floors of all equipment rooms or connection point closets prior to turnover to the Owner.

**5.04 Protection**

- It is the responsibility of the Contractor to ensure equipment is protected from dust and water during the project with appropriate materials.
- Remove all protective covers and protective materials from equipment prior to turnover to Owner.

**5.05 Schedules**

- Coordinate work with Owner's project manager and follow scheduling sequence as established by Owner's project manager.
- It is recommended that the Contractor schedule closely with any other systems contractor to ensure turnover date is met.
- Contractor bidding will work closely with the electrical and or masonry contractors to ensure conduit, back boxes, door frame access conduit, etc. are in the proper locations and accessible.

End of Section

**Moore Public Schools Fire System Specifications SK & SD Protocol**

**Part 1 - General**  
**2.01 Manufacturers**

- Fire System Manufacturer shall be Silent Knight. (No Substitutions)
- Notification appliance Manufacturer shall be System Sensor. (No Substitutions)
- Device Manufacture shall be as specified in equipment description. (No Substitutions)
- Cable Manufacturer shall be Genesis. (Or Equivalent)

**1.03 Fire Systems Equipment Description**

- NOTE:** Contractor shall use SK Protocol devices on all new installations except when the existing system has SD protocol devices connected. In these instances, SD protocol devices shall be used. Contractor shall not combine SD & SK protocol devices to one system.
- Fire alarm control shall be Silent Knight Model # 5820 or 6820. (No Substitutions)
- Fire alarm distributed power module NAC Expansion shall be Silent Knight SK-PS6 / SK-PS10 or Fire-Lite Model #'s FL-PS6 / FL-PS10. (No Substitutions)
- Fire alarm intelligent power supply shall be Silent Knight Model # 5895XL. (No Substitutions)  
 NOTE: The 5895XL NAC circuits will not sync with the main control panels NAC circuits. If new NAC circuit synchronization is required with existing NAC circuits, use the SK-PS6/FL-PS6 or SK-PS10/FL-PS10
- Fire alarm remote Annunciator shall be Silent Knight Model # 5860 (Grey) and surface mount trim ring 5860TG (Grey) shall be used if surface mounted. (No Substitutions)
- Fire Alarm signaling line circuit expander shall be Silent Knight Model # 5815XL for SD protocol devices & 6815 for SK protocol devices. (No Substitutions)

**SK Protocol Devices Shall Be**

- Fire alarm addressable manual pull station shall be Silent Knight Model # SK-PULL-DA. (No Substitutions)
- Fire alarm addressable photoelectric smoke detector shall be Silent Knight Model # SK-PHOTO-W. (No Substitutions)
- Fire alarm addressable heat detector shall be Silent Knight Model # SK-HEAT-W. (No Substitutions)
- Fire alarm base shall be Silent Knight Model # B300-6. (No Substitutions)
- Smoke Detectors in areas that require a CO Detector shall be SK-FIRE-CO-W. (No Substitutions)
- Fire alarm addressable input module shall be Silent Knight Model # SK-MONITOR or SK-MONITOR-2. (No Substitutions)
- Fire alarm addressable relay module shall be a Silent Knight Model # SK-RELAY. (No Substitutions)
- Fire alarm SLC line isolator shall be Silent Knight Model # SK-ISO. (No Substitutions)
- Fire alarm Duct detectors and Duct Detector Remote Test Stations shall be Silent Knight Model #'s SK-DUCT and RTS151KEY. If a Form-C relay is required, please add an SK-RELAY. (No Substitutions)

**SD Protocol Devices Shall Be**

- Fire alarm addressable manual pull station shall be Silent Knight Model # SD500-PSDA. (No Substitutions)
- Fire alarm addressable photoelectric smoke detector shall be Silent Knight Model # SD505-PHOTO. (No Substitutions)
- Fire alarm addressable heat detector shall be Silent Knight Model # SD505-HEAT. (No Substitutions)
- Fire alarm base for Silent Knight Model #'s SD505-PHOTO and SD505-HEAT shall be Silent Knight Model # SD505-6AB. (No Substitutions)
- CO Detector shall be System Sensor Model # CO1224T. (No Substitutions) An SD500-AIM shall be installed on each CO1224T and shall be accessible and visible from the finished floor.
- Fire alarm addressable input module shall be Silent Knight Model # SD500-AIM. (No Substitutions)
- Fire alarm addressable relay module shall be a Silent Knight Model # SD500-ARM. (No Substitutions)
- Fire alarm SLC line isolator shall be Silent Knight Model # SD500-LIM. (No Substitutions)
- Fire alarm Duct detectors and Duct Detector Remote Test Stations shall be Silent Knight Model #'s SD505-DUCTR and SD505-DTS-K. (No Substitutions) Remote test station shall be accessible and visible from the finished floor.
- Fire alarm Horn / Strobe signaling device shall be System Sensor Model # P2WL. (Model PC2WL can be substituted if mounted on non-stainable ceiling tile. No other Substitutions)
- Fire alarm Strobe signaling device shall be System Sensor Model # SWL. (Model SCWL can be substituted if mounted on non-stainable ceiling tile. No other Substitutions)
- Fire alarm strobe synch module shall be System Sensor Model # MDL3. (Not needed on version 9 panels or newer) (No Substitutions)
- Fire alarm Outdoor strobe signaling device shall be System Sensor Model # P2RK. (No Substitutions)
- Fire alarm Speaker / Strobe signaling device shall be System Sensor Model # SPSWL. (Model SPSCWL can be substituted if mounted on non-stainable ceiling tile. No other Substitutions)
- Fire alarm Speaker signaling device shall be System Sensor Model # SPWL. (No Substitutions)
- Fire alarm 50-watt Voice Evac system shall be as needed Silent Knight SKE-450 (Single Zone), SKE-450-ZN4 (4 Zone) or SKE-450-ZN6 (6 Zone). (No Substitutions)

**1.01 Systems Installation**

- All fire alarm junctions and or splices shall be soldered and insulated.
- All Ceiling mounted devices shall be mounted on non-stainable ceiling tiles.
- All circuits and wiring shall be labeled at all terminating ends.
- All fire system wiring shall be RED in color and non-shielded.
- All devices shall be mounted according to the manufacture's specifications.
- All devices shall be properly adjusted and tested prior to job completion.
- All fire pulls shall be dual action.
- All Initiating Devices shall be labeled with their corresponding module and point number. Smoke detector label shall be on smoke detector and smoke detector base and be clearly visible from the finished floor.
- Each Initiating Device Circuits (IDC) shall have Line Isolator Modules installed at the SLC Head End.
- All Initiating Device Circuits (IDC) shall be wired Class B (NFPA Style B).
- All Initiating Device Circuits (IDC) shall be wired with minimum 18 AWG gauge red **NON-Shielded cable.**

- All duct detectors shall be connected to fire system and shall have remote test stations installed accessible and visible from the finished floor. They shall be labeled with their corresponding module and point number.
- All duct detector ARM / AIM shall be installed adjacent to the remote test stations and shall be accessible and visible from the finished floor. They shall be labeled with their corresponding module and point number. (ARM/AIM should not be needed when using SD505-DUCTR duct det.)
- Each CO 1224T detectors shall have an SD500 AIM installed (No doubling). All CO1224T & SD500 AIM shall be labeled with their corresponding module and point number and shall be accessible and visible from the finished floor.
- All modules shall have their corresponding module number.
- All notification devices shall be wall mounted where possible. Where wire is exposed decorative wire molding shall be installed from the ceiling to the device. If ceiling mount devices are used, they shall be mounted on a non-stainable ceiling tile.
- All notification devices shall be labeled with their corresponding module, circuit number and device number. Label shall be on the base and be clearly visible from the finished floor. EOL Device shall be labeled as such.
- All horn / strobes and strobes shall be synchronized.
- All Notification Appliance Circuits (NAC) shall be wired Class B (NFPA Style Y).
- All Initiating Appliance Circuits (NAC) shall be wired with minimum 16 AWG gauge red **NON-Shielded cable.**
- Protective grommets shall be installed on all conduits to protect wire.
- All SBUS and SLC circuits shall be wired with red **NON-shielded cable.**
- All wire shall be run in J hooks above ceiling with a minimum space of 6" from ceiling deck. All wire shall be in separate pathways 6" from other system wiring. No wire ties allowed. No wire shall be run between the red iron and roof deck.
- Main control panel shall have a CAT 6 cable ran between the main control and the phone company DMARC for monitoring purposes.
- All wire ran between building shall be in conduit and shall be **Non-shielded** direct burial cable. It shall be a minimum of 4 conductor 16 AWG copper.
- Installer shall have a commercial fire technician on the job site at all times during the installation.
- Installer shall supply the electrical and or masonry contractors with specialty back boxes such as remote annunciator recessed back boxes etc. and coordinate with them to ensure that all necessary conduits, back boxes, etc. are installed in the proper locations.
- Follow and adhere to installation practices specified by the applicable NFPA 72 standards.
- Follow and adhere to installation practices specified by NFPA-70 National Electric Code, Edition 2008.
- Follow and adhere to installation practices specified by the Manufacturers.

**1.02 Products Installed but not Supplied Under This Section**

- All conduit and EMT required for Fire cabling pathway in/out of closets and in/out of wall cavities at the work area. EMT or Conduit for pathways shall have no more than two 90-degree sweeps and no continuous section over 100'.
- All core holes and poke through devices in the floor for the installation of Fire cabling.
- All core holes and EMT sleeves between floors for the routing of Fire cabling.
- Back boxes for the mounting of Fire Devices.
- Drag line or pull string at the back boxes fished through EMT or conduit to the other end for installing Fire Cabling.

**1.03 Quality Assurance**

- 1.03.01 Qualifications**
- Install all components as directed by Manufacturer's installation guidelines.
- All products shall bear the mark of UL or ETL for performance level.
- System installation shall meet all applicable Local/State codes and safety requirements where project is located.
- All products shall be new and un-used in original packaging.
- 1.03.02 Bidder/Installer Qualifications**
- Bidding contractor shall be a local licensed Commercial Fire Alarm Company with licensed Commercial Fire Alarm technician(s) on staff.
- Bidding contractor shall have a minimum of one year experience installing Silent Knight Addressable fire panels.
- Bidding contractor shall have a minimum of 5 years experience installing commercial fire alarms.
- Bidding contractor shall be able to provide insurance at the request of the owner.
- Bidding contractor shall have a commercial fire technician on the job site at all times during the installation.

**1.04 Sequencing**

- Contractor shall coordinate with Owner's project manager on sequencing of various trades and construction teams for the lifecycle of the project.

**1.05 Scheduling**

- Contractor shall provide a detailed construction schedule with hard dates for completion of roughing in cables, terminations and testing once scheduling sequence has been determined to the Owner's Project Manager.

**1.06 Warranty**

- Contractor shall provide a 1-year parts and labor warranty against defective workmanship and/or system component failure. (1-year warranty shall begin at job completion)

**Part 2 - Products**

**2.02 Source Quality Control**

- Materials shall be purchased from Distributors authorized by system Manufacturers to sell new and unused components.

**Part 3 -**

**3.01 Field Quality Control**

- Contractor shall make available all ceiling and termination work for inspection by Manufacturer's representative or owner's representative.
- Contractor shall replace all defective components.

**3.02 Adjusting**

- No additional work outside of the contract scope of work shall be completed without the approval of the Owner or Owner's representative.

**3.03 Protection**

- It is the responsibility of the Contractor to ensure equipment is protected from dust and water during the project with appropriate materials.
- Remove all protective covers and protective materials from equipment prior to turnover to Owner.

**End of Section**

**1.04 Submittals**

- 1.04.01 Prior to installation**
- Show compete map of system design for approval by Owner.
- 1.04.02 Prior to final acceptance**
- Provide a soft CAD copy As-Built showing layout of panel, initiating devices, notification devices and all mounted equipment upon Substantial Completion.
- Ensure all warranties specify that the Owner is entitled to all rights guaranteed by the warranty for various components.

**Fire System Installation Completion Check List**

**Part 1 - General**

**1.01 Section Includes**

- Fire System Completion Check List

**1.02 Completion Check List**

- A map of the entire system showing device numbers and wire routes has been left inside the main control panel and a copy has been given to Jack Phillips with MPS.
- All panel programming has been checked and is correct.
- Panel(s) has been tested for proper operation.
- All zones have been tested to verify proper description at keypad.
- All zones have been tested to verify proper reporting to the monitoring station.
- All points have been tested to verify proper description at the keypad.
- All horns/strobes and strobes have been tested for proper operation.
- All smoke detectors have been tested and dust covers removed.
- All devices have been tested for proper operation.
- All cabinets are labeled on the outside with module numbers and point numbers.
- All cabinets are labeled on the inside with module numbers by the corresponding module and point descriptions.
- The monitoring station has the correct account information such as call list, zone descriptions, etc.

**End of Section**

IP camera Specifications

**Moore Public Schools IP camera Specifications**

**IP CAMERA MANUFACTURE IS AVIGILON (NO SUBSTITUTIONS).**

**AVIGILON EQUIPMENT**

**INDOOR DOME SINGLE HEAD CAMERA REQUIRED EQUIPMENT LIST**

- 4.0C-H5A-D1-IR
- ACC7-ENT LICENSE - 1 per camera

**INDOOR MULTI-HEAD 3 HEAD CAMERA REQUIRED EQUIPMENT LIST**

- 9C-H4A-3MH-180 (3x3MP)
- POE-INI2-60W-NA Power Injector
- ACC7-ENT LICENSE - 1 per camera
- H4AMH-AD-CEIL1
- H4AMH-DC-COVR1

**INDOOR MULTI-HEAD 4 HEAD CAMERA REQUIRED EQUIPMENT LIST**

- 12C-H4A-3MH-360 (4x3MP)
- POE-INI2-60W-NA Power Injector
- ACC7-ENT LICENSE - 1 per camera
- H4AMH-AD-CEIL1
- H4AMH-DC-COVR1

**OUTDOOR DOME SINGLE HEAD CAMERA REQUIRED EQUIPMENT LIST**

- 6.0C-H5A-D01-IR
- ACC7-ENT LICENSE - 1 per camera

**OUTDOOR MULTI-HEAD 3 HEAD CAMERA CORNER MOUNT REQUIRED EQUIPMENT LIST**

- 15C-H4A-3MH-270 (3x5MP)
- POE-INI2-60W-NA Power Injector
- ACC7-ENT LICENSE - 1 per camera
- H4AMH-AD-PEND1
- H4AMH-DO-COVR1
- H4AMH-AD-IRI11
- H4-MT-CRNR1

**OUTDOOR MULTI-HEAD 3 HEAD CAMERA WALL MOUNT REQUIRED EQUIPMENT LIST**

- 15C-H4A-3MH-180 (3x5MP)
- POE-INI2-60W-NA Power Injector
- ACC7-ENT LICENSE - 1 per camera
- H4AMH-AD-PEND1
- H4AMH-DO-COVR1
- H4AMH-AD-IRI11
- IRPTZ-MNT-WALL1

**INSTALLATION**

- Install cameras on adjacent walls were possible. If it must be mounted on ceiling, it shall be on a water-resistant non-stainable ceiling tile. **MPS to have final determination of camera location and field of view) (Call Jack Phillips for final location and view phone 473-5225)**
- Any cameras installed on ceiling shall be mounted on a water-resistant non-stainable ceiling tile. (BIDDING CONTRACTOR SHALL PROVIDE NON-STAINABLE TILE)
- Each installed camera needs a camera license.
- All network drops shall be connected with patch cords to a switch at each rack location.
- No Substitutions.

**Horizontal Cabling**

**Requirements**

- See MPS Structured Cabling Specifications for camera network cabling installation, labelling and testing requirements.

**Warranty**

- Communications Contractor shall provide a 1 year parts and labor warranty against defective workmanship and/or system component failure.
- Communications Contractor shall execute a Lifetime Applications Assurance Warranty for parts and labor to support stated applications from the connectivity Manufacturer.

End of Section

**Audio Visual Systems for Instructional Spaces Specifications**

**Part 1 - General**

**1.01 Instructional Spaces**

- Reference technology drawings and detail sheet T504 for classroom configuration and part numbers.

**1.02 Special Spaces**

- Reference technology drawings and one line diagrams.

**1.03 Flat Panel Displays**

- All non interactive Flat Panel displays shall be 43" Samsung BE Series.
- Bio Lab 37 displays shall be ceiling mounted.
- Career Tech 12 and Career Tech 15 displays shall be wall mounted 55" AFF to center of display.

End of Section



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**KFC ENGINEERING**

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**SALAS O'BRIEN**

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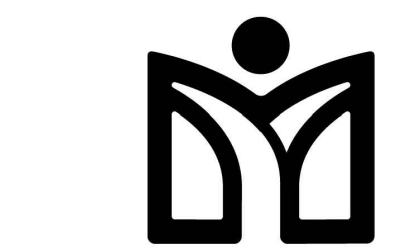
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revisions



**MOORE PUBLIC SCHOOLS**

CHILD CARE FACILITY  
 201 N. EASTERN AVE.

sheet no:

**T403**

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