

DOCUMENT 009113 – ADDENDUM #3

1.1 PROJECT INFORMATION

- A. Project Name: Downtown Greenville Technology Upgrades
- B. Owner: City of Greenville
- C. Designer: AE Tech Design
- D. Designer Project Number: GREN2202-0200
- E. Date of Addendum: 2023-01-31

1.2 NOTICE TO BIDDERS

- A. This Addendum is issued to all registered plan holders pursuant to the Instructions to Bidders and Conditions of the Contract. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.
- B. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.
- C. The date for receipt of bids is unchanged by this Addendum, at the same time and location.

1.3 ATTACHMENTS

- A. This Addendum includes the following attached Sheets:
 - 1. All previously released technology sheets have been reissued for ease of viewing.

1.4 QUESTIONS AND ANSWERS

- A. Q: What licensing length should be provided for the Verkada cameras?
 - 1. Include 1-year licenses for the base bid price, but voluntary alternates for the additional costs needed to reach the 3, 5, and 10-year licenses are highly encouraged.

1.5 REVISIONS TO DRAWING SHEETS

- A. Sheet T302 – Structured Cabling Enlarged Tech Closet Plan
 - 1. In detail 3 “TR-A Rack Elevation,” a dimension was added for the minimum space between the rack and the wall. The rack type was also corrected in the list of equipment for detail 3.
- B. Sheet T303 – Structured Cabling Pole Details

1. In detail 1 "Electronics Enclosure (TYP.) Detail Riser," the DC power supply model was changed, and the DC power converter was moved from the base of the light pole to the electronics enclosure.
2. In detail 3 "Electronics Enclosure Details," the DC power converter was added to the electronics enclosure.

END OF DOCUMENT 009113

Downtown Greenville Technology Upgrades

City of Greenville
411 S. Lafayette St, Greenville, MI 48838

Project Number: GREN2202-0200



City of Greenville
Downtown Greenville Technology Upgrades
411 S. Lafayette St, Greenville, MI 48838

Title Sheet

ISSUE / DATE
2023-01-11 BIDS
2023-01-12 ADDENDUM 1
2023-01-18 ADDENDUM 2
2023-01-31 ADDENDUM 3

DRAWN BY
CDB
PROJECT NO.
GREN2202-0200
SHEET NO.
TG01
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CABLING AND JACK LEGEND								
PURPOSE	PREMISE CABLING				JACKS			
	COLOR	RATING	MANUFACTURER	MODEL	TR COLOR	WA COLOR	MANUFACTURER	MODEL
COPPER BACKBONE	BLUE	PLENUM	GENERAL CABLE	GENSPEED 6000	RED	RED	PANDUIT	CJ688TGRD
WIRELESS ACCESS POINTS					YELLOW	YELLOW		CJ688TGYL
PAGING					GREEN	GREEN		CJ688TGGR
SURVEILLANCE CAMERAS					VIOLET	VIOLET		CJ688TGVL
RESERVED					BLACK	BLACK		CJ688TGBL
POTS LINES					GRAY	GRAY		CJ688TGIG
GENERAL PURPOSE					WHITE	WHITE		CJ688TOWH

FIBER LEGEND				
PURPOSE	TYPE	RATING	MANUFACTURER	MODEL
INDOOR/OUTDOOR	12 STRAND SINGLE-MODE (O2) 1 STRAND SINGLE-MODE (O2)	N/A	CORNING	ALTOS LITE LOOSE TUBE, GEL FREE, SINGLE-JACKET CABLE
PATCH CORD		N/A	UBIQUITI	UF-SM-PATCH-UPC-APC, UF-SM-PATCH-APC-APC

COPPER PATCH CORD LEGEND	
PURPOSE	COLOR
GENERAL DATA	WHITE
WIRELESS ACCESS POINTS	YELLOW
SURVEILLANCE CAMERAS	VIOLET
PAGING	GREEN

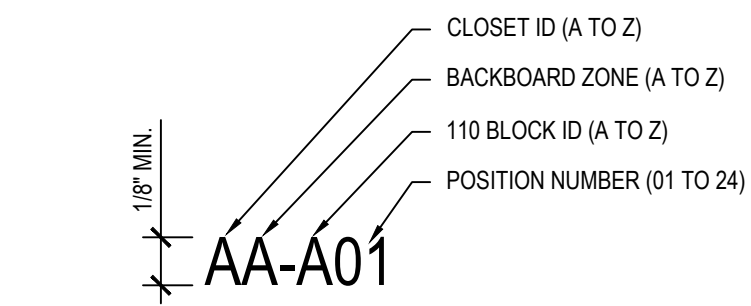
SYMBOL	DESCRIPTION
---	ZONE OR AREA
	BY OTHERS OR EXISTING
	NEW
	OPTIONAL
	PLUG INTO 120V RECEPTACLE
	CONNECT TO GROUND
	WIFI CONNECTION
	GENERIC RF CONNECTION
	BLUETOOTH CONNECTION
	CELLULAR CONNECTION
	8P8C (RJ45) NETWORK
	KEYED 8P8C (RJ45)
	SHIELDED 8P8C (RJ45)
	COMPONENT VIDEO
	COMPOSITE VIDEO
	SVIDEO
	HD15 (VGA) VIDEO
	DVI VIDEO
	HDMI VIDEO
	RED & WHITE RCA AUDIO
	3.5MM STEREO AUDIO
	1/4" STEREO AUDIO
	XLR MICROPHONE
	COAX TYPE "F"
	NEUTRIK NL4MP
	USB

ABBREVIATION	TERMINOLOGY
AC	ACCESS CONTROL
AFF	ABOVE FINISH FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
AV OR A/V	AUDIO / VIDEO
BAS	BUILDING AUTOMATION SYSTEM
BB	BACKERBOARD
CIP	CAST IN PLACE
CLG	CEILING
CP	CONSOLIDATION POINT
EC	ELECTRICAL CONTRACTOR
EF	ENTRANCE FACILITY
EMT	ELECTRICAL METALLIC TUBING
EQ	EQUAL
EQUIV	EQUIVALENT
ER	EQUIPMENT ROOM
EXIST	EXISTING
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRD	GROUND
HC	HORIZONTAL CROSS-CONNECT
IC	INTERMEDIATE CROSS-CONNECT
MC	MAIN CROSS-CONNECT
NIC	NOT IN CONTRACT
OC	ON CENTER
OSP	OUTSIDE PLANT
PBB	PRIMARY BONDING BUSBAR
PT	POKE-THROUGH
RBC	RACK BONDING CONDUCTOR
SBB	SECONDARY BONDING BUSBAR
SC	STRUCTURED CABLING
SCC	STRUCTURED CABLING CONTRACTOR
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TE	TELECOMMUNICATIONS ENCLOSURE
TEBC	TELECOMMUNICATIONS EQUIPMENT BONDING CONDUCTOR
TO	TELECOMMUNICATIONS OUTLET
TR	TELECOMMUNICATIONS ROOM
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
WA	WORK AREA

LIST OF DRAWINGS	
NUMBER	TITLE
TG01	Title Sheet
TG02	Technology General Information
TS01	Technology Site Plan - Composite
TS02	Technology Site Plan - Surveillance
TS03	Technology Site Plan - Paging
TS04	Technology Site Plan - Network
TS05	Technology Site Plan Details
T301	Structured Cabling General Information
T302	Structured Cabling Enlarged Tech Closet Plan
T303	Structured Cabling Light Pole Details
T304	Structured Cabling Support Information
T305	Structured Cabling Network Diagram
T401	Security Systems General Information
TS01	Distributed Systems General Information

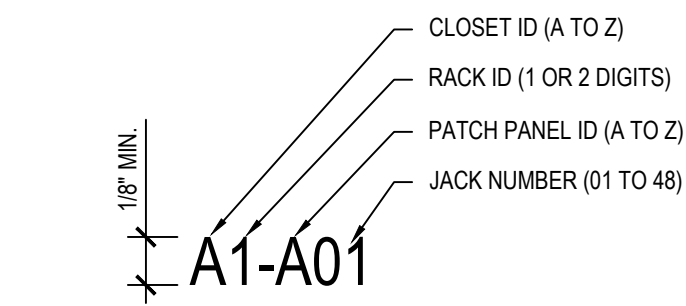
GENERAL NOTES

- FOR DROPS INSTALLED ABOVE ACCESSIBLE CEILING, PROVIDE MAINTENANCE LOOP AS INDICATED ON TECHNOLOGY SYMBOL LEGEND. CABLE SHALL BE NEATLY COILED IN AN "S" LOOP AND SECURED TO BUILDING STRUCTURE AT DROP LOCATION FOR EASY RELOCATION.
- LOAD THE LATEST AVAILABLE STABLE FIRMWARE FOR ALL DEVICES WHEN THEY ARE SUPPLIED FOR THIS PROJECT.



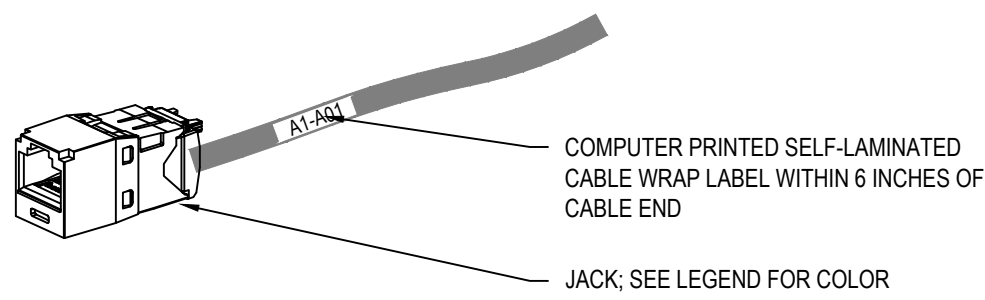
Numbering for 110-Block Term. Drops

NTS



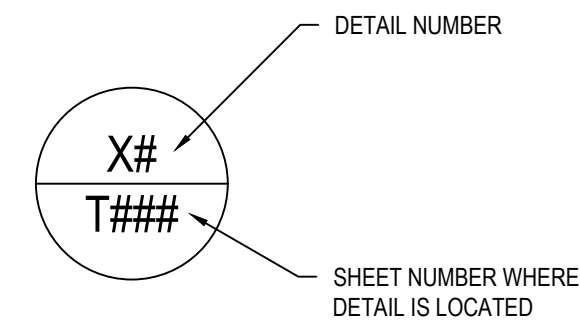
Numbering for Typical Data Drops

NTS



Cabling Label

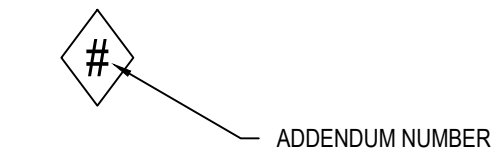
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DETAIL CALLOUT

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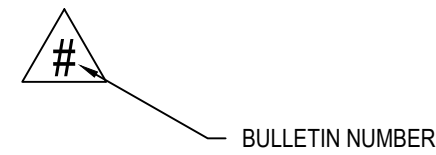
- NOTES:
- USED ON TECHNOLOGY FLOOR PLANS TO REFERENCE A DETAIL, ELEVATION, OR SYSTEM OF COMPONENTS ELEVATION ON ANOTHER SHEET.



ADDENDUM TAG

NTS

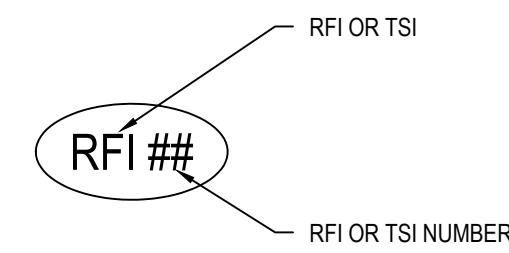
- NOTES:
- LOCATED NEXT TO A REVISION CLOUD FOR ANY REVISIONS AFTER BIDS HAVE BEEN RELEASED, BEFORE CONTRACT HAS BEEN AWARDED.



BULLETIN TAG

NTS

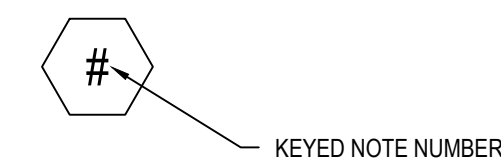
- NOTES:
- LOCATED NEXT TO A REVISION CLOUD FOR ANY REVISIONS AFTER CONTRACT HAS BEEN AWARDED.



RFI OR TSI TAG

NTS

- NOTES:
- RFI (REQUEST FOR INFORMATION) INDICATES A REVISION AND CORRESPONDING NOTE THAT DOES NOT AFFECT BUDGET THAT WAS NOT INITIATED BY TECHNOLOGY CONTRACTOR.
 - TSI (TECHNOLOGY INFORMATION) TAG INDICATES A REVISION AND CORRESPONDING NOTE THAT DOES NOT AFFECT BUDGET.



KEYED NOTE TAG

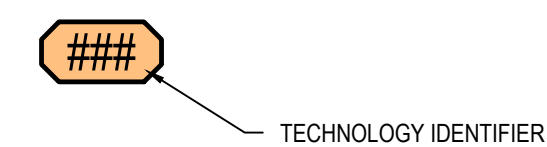
NTS

- NOTES:
- REFERENCE TO CORRESPONDING NOTES ON SAME SHEET THAT HAVE MORE INFORMATION RELATED TO SYMBOL.

REVISION CLOUD

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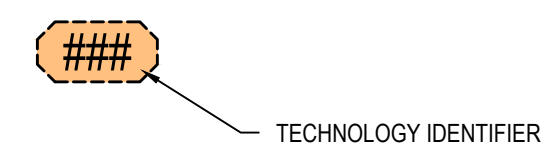
- NOTES:
- DRAWN AROUND REVISION AREA RELATED TO ANY ADDENDUM OR BULLETIN.



NEW TECHNOLOGY

NTS

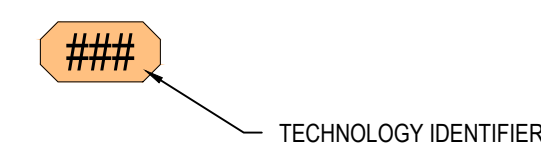
- NOTES:
- HEAVY SOLID LINE REPRESENTS NEW TECHNOLOGY. COMPLETE INSTALLATION OFTEN REQUIRES ROUGH-IN, CABLING, FACEPLATE AND/OR DEVICE. SEE DRAWINGS FOR MORE DETAIL.



DEMO TECHNOLOGY

NTS

- NOTES:
- HEAVY DASHED LINE REPRESENTS EXISTING TECHNOLOGY TO BE REMOVED. COULD REQUIRE DEMOLITION OF ROUGH-IN, CABLING, FACEPLATE AND/OR DEVICE. DEVICE MAY NEED TO BE SALVAGED FOR REINSTALLATION OR TURNED OVER TO OWNER. SEE DRAWINGS FOR MORE DETAIL.



EXISTING TECHNOLOGY

NTS

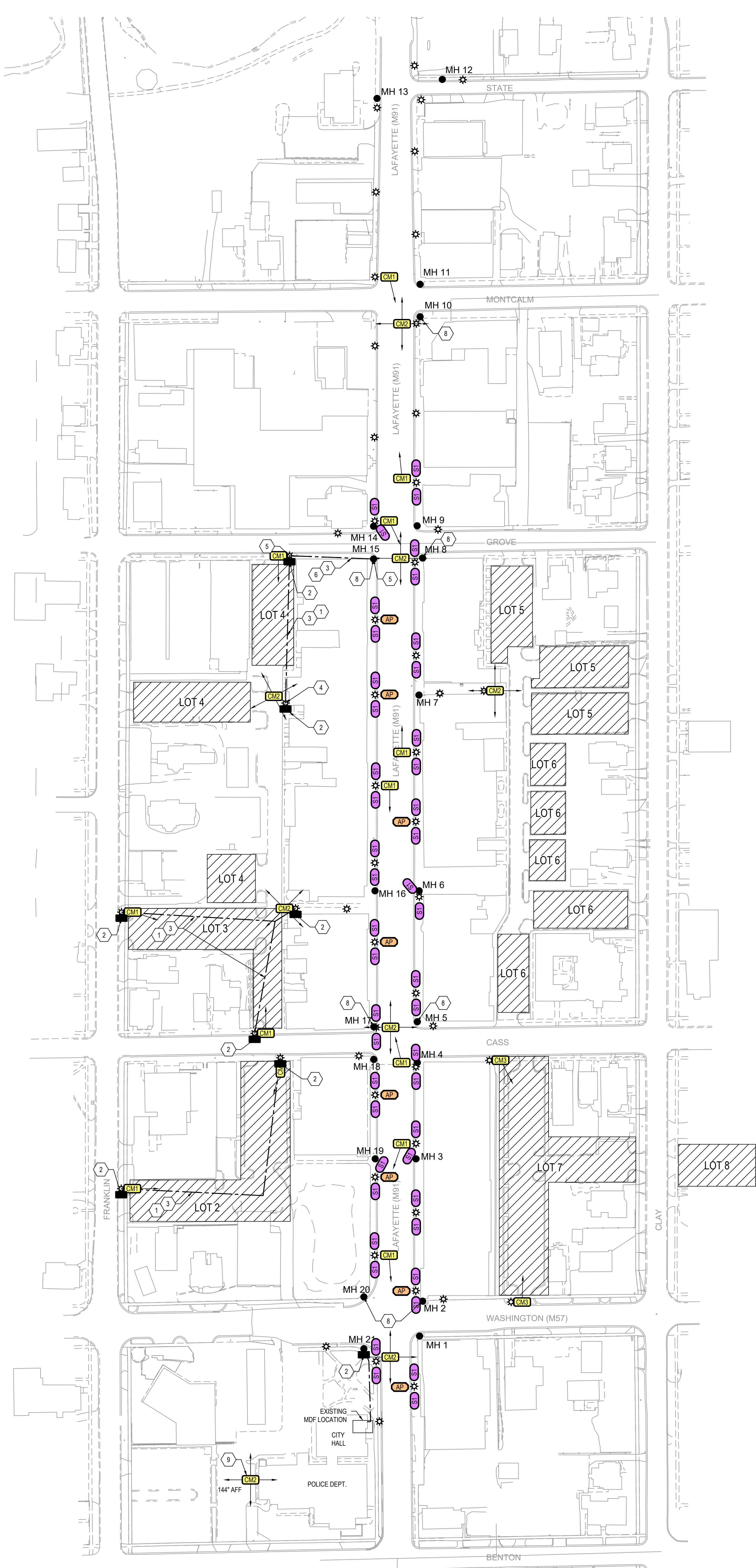
- NOTES:
- THIN SOLID LINE REPRESENTS EXISTING TECHNOLOGY TO REMAIN. NO WORK REQUIRED AT SPECIFIC LOCATION, BUT COULD REQUIRE EXISTING CABLING AND/OR DEVICES TO BE MAINTAINED DURING CONSTRUCTION TO SUPPORT SPECIFIC DEVICE. SEE DRAWINGS FOR MORE DETAIL.

WORK SCOPE LEGEND						
DEFINITION OF WORK	OSP FIBER	STRUCT. CABLING	CAMERA	PAGING	NETWORK	OWNER
DEMO EXISTING STRUCTURED CABLING EQUIPMENT (RETURN TO OWNER)		X				
DEMO EXISTING STRUCTURED CABLING BACKBONE AND PREMISE CABLING		X				
PROVIDE STRUCTURED CABLING ROUGH-INS (BOXES, CONDUITS, RACEWAY, PATHWAY)	X	X				
PROVIDE ADAPTERS FOR RACEWAY, FLOORBOXES, ETC., TO ACCOMMODATE STANDARD FACEPLATES AND JACKS		X				
PROVIDE BACKBONE PATHWAY (LARGE CABLE TRAY AND CONDUITS)	X	X				
PROVIDE INCIDENTAL STRUCTURED CABLING PATHWAY		X				
PROVIDE STRUCTURED CABLING BACKBONE CABLING (AND TERMINATION)		X				
PROVIDE STRUCTURED CABLING PREMISE CABLING (AND TERMINATION)	X					
PROVIDE STRUCTURED CABLING FACEPLATES		X				
PROVIDE STRUCTURED CABLING COPPER PATCH CORDS		X				
PROVIDE STRUCTURED CABLING FIBER PATCH CORDS	X					
PROVIDE STRUCTURED CABLING RACKS		X				
SUPPLY NETWORK ELECTRONICS					X	
CONFIGURE NETWORK ELECTRONICS					X	
INSTALL NETWORK ELECTRONICS					X	
PROVIDE GROUNDING BUSBARS IN TELECOMMUNICATION ROOMS		X				
CONNECT TECH EQUIPMENT TO GROUNDING BUSBARS		X				
PROVIDE BACKERBOARD IN TELECOMMUNICATION ROOMS		X				
PROVIDE ELECTRICAL IN TELECOMMUNICATION ROOMS						X
SUPPLY UPSes					X	
INSTALL UPSes		X				
CONNECT HARD-WIRED UPSes TO POWER						X
SUPPLY ACCESS POINTS					X	
PROVIDE IP ADDRESS RANGE FOR ACCESS POINTS					X	
CONFIGURE ACCESS POINTS					X	
INSTALL ACCESS POINTS					X	
PERFORM DIRECTIONAL BORING FOR CABLE PATHWAY	X					
PERFORM CORING IN TO EXISTING MANHOLES	X					
PERFORM MILLING OF EXISTING PARKING LOT SURFACES						X
PERFORM SAW CUTTING OF EXISTING SURFACES	X					

WORK SCOPE LEGEND						
DEFINITION OF WORK	OSP FIBER	STRUCT. CABLING	CAMERA	PAGING	NETWORK	OWNER
DEMO EXISTING CAMERAS (RETURN TO OWNER)			X			
PROVIDE CAMERA PATHWAY (STRUCTURED CABLING BACKBONE PATHWAY)		X				
PROVIDE PREMISE CABLING & TERMINATION FOR CAMERA EQUIPMENT	X	X				
SUPPLY CAMERA SERVER (SOFTWARE, AND HARDWARE IF NOT VIRTUAL)			X			
PROVIDE IP ADDRESS FOR CAMERA SERVER					X	
CONFIGURE CAMERA SERVER			X			
INSTALL CAMERA SERVER (IF NOT VIRTUAL)			X			
SUPPLY CAMERA PATCH CORDS		X				
INSTALL CAMERA PATCH CORDS			X			
SUPPLY EXISTING CAMERAS						X
SUPPLY NEW CAMERAS			X			
PROVIDE IP ADDRESS RANGE FOR CAMERAS					X	
CONFIGURE CAMERAS			X			
VERIFY FINAL PLACEMENT OF CAMERAS PRIOR TO INSTALLATION			X			X
INSTALL CAMERAS			X			
CORE EXTERIOR WALLS FOR EXTERIOR CAMERAS (COORDINATE FINAL LOCATION)			X			
DEMO EXISTING PUBLIC ADDRESS EQUIPMENT				X		
DEMO EXISTING PUBLIC ADDRESS CABLING				X		
SUPPLY PAGING HEADEND EQUIPMENT (ANALOG AND/OR IP)				X		
PROVIDE IP ADDRESS RANGE FOR HEADEND (IF IP)					X	
PROVIDE PAGING CABLING				X		
PROVIDE PREMISE CABLING & TERMINATION FOR PAGING EQUIPMENT		X				
PROVIDE PAGING DEVICES (ANALOG AND IP)					X	
PROVIDE IP ADDRESS RANGE FOR IP PAGING DEVICES					X	
SUPPLY PAGING SPECIALTY ROUGH-INS				X		
SUPPLY PAGING GENERAL ROUGH-INS				X		
INSTALL PAGING ROUGH-INS				X		
SUPPLY PAGING PATCH CORDS FOR NETWORK CONNECTED DEVICES		X				
INSTALL PAGING PATCH CORDS FOR NETWORK CONNECTED DEVICES				X		

WORK SCOPE LEGEND NOTES

- OSP FIBER CONTRACTOR IS RESPONSIBLE FOR ALL FIBER UNTIL THE POINT OF DEMARCATION. FOR THIS PROJECT THE DEMARCATION POINT IS THE FIBER ENTERING THE BUILDING FROM LIGHT POLES AND BEING TERMINATED INTO THE OSP FIBER CONTRACTOR PROVIDED FIBER PATCH PANEL. EVERYTHING PAST THAT IS THE RESPONSIBILITY OF THE STRUCTURED CABLING CONTRACTOR.

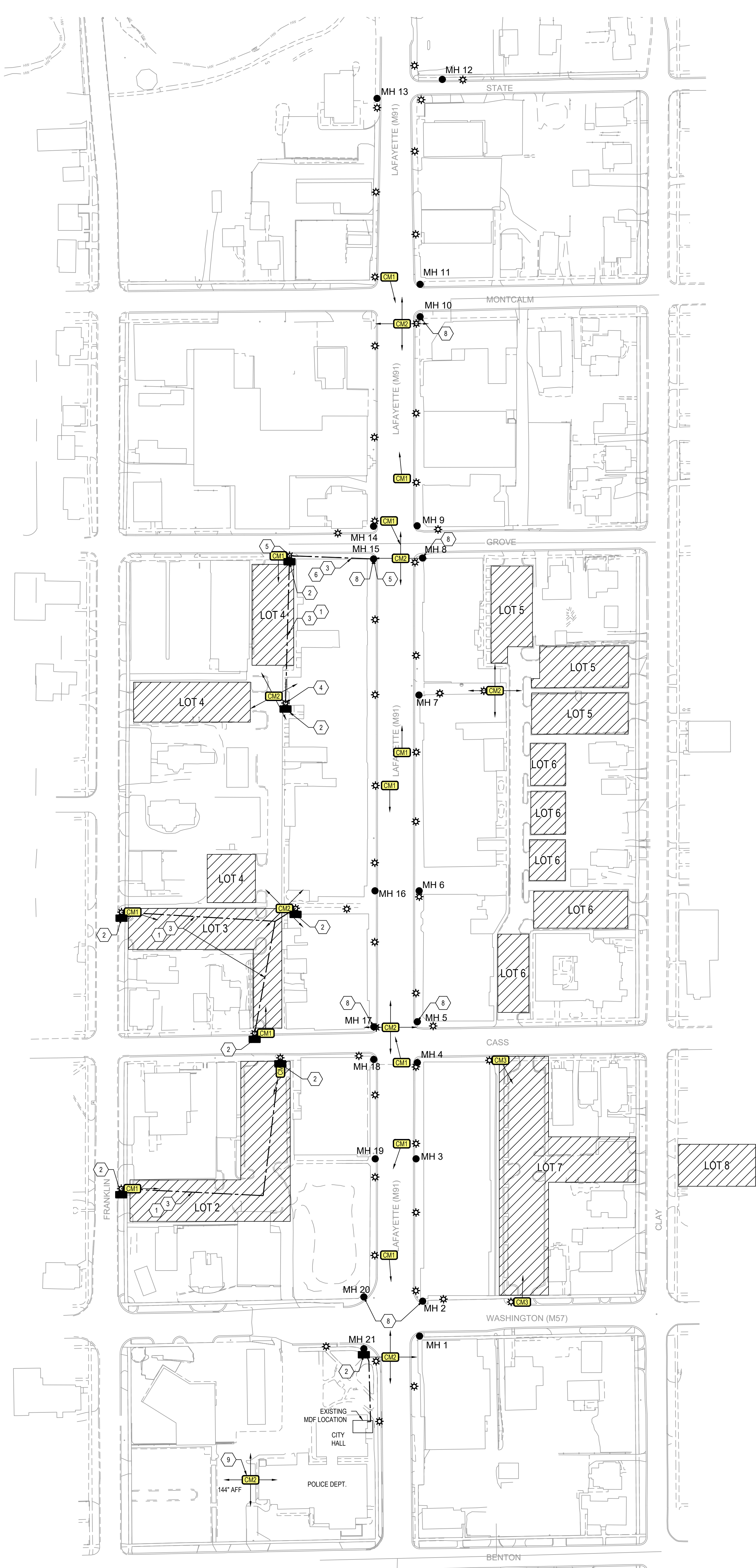


- ### SITE GENERAL NOTES

 1. DEMO ANY EXISTING LOW VOLTAGE EQUIPMENT, CABLING, ACCESSORIES, AND MOUNTING HARDWARE ON STREET LIGHT POLES.
 2. EQUIPMENT BELONGING TO, OR ASSOCIATED WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) SHALL NOT BE TOUCHED OR MANIPULATED WITHOUT EXPRESS CONSENT FROM MDOT.
 3. LIGHT POLES THAT DO NOT HAVE PATHWAY SHOWN HAVE EXISTING USABLE PATHWAY. ONLY NEW PATHWAY SHOWN. FINAL FIBER ROUTE TO BE DETERMINED IN FIELD.
- ### SITE KEYED NOTES

1	PATHWAY FOR LOW VOLTAGE CABLING TO BE PLOWED.
2	24"x36" HANDHOLE.
3	(1) 1" INNERDUCT.
4	MOUNT LOW VOLTAGE EQUIPMENT TO EXISTING POLE IN PARKING LOT.
5	CORE IN TO EXISTING MANHOLE OR LIGHT POLE BASE FOR NEW CONDUIT ENTRY.
6	PATHWAY FOR LOW VOLTAGE CABLING TO BE DIRECTIONALLY BORED.
7	FIBER DISTRIBUTION AND SPLICE POINT. SEE T303 FOR DETAILS.
8	FIBER CONSOLIDATION POINT. SEE T303 FOR DETAILS.
9	COORDINATE FINAL MOUNTING HEIGHT AND LOCATION WITH OWNER.

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	NEW PATHWAY
	EXISTING MANHOLE
	NEW HANDHOLE
	LIGHT POLE
	WIRELESS ACCESS POINT - SEE T301 FOR DETAILS
	CAMERA - SEE T401 FOR DETAILS
	SPEAKER - SEE T501 FOR DETAILS



- ### SITE GENERAL NOTES

 1. DEMO ANY EXISTING LOW VOLTAGE EQUIPMENT, CABLING, ACCESSORIES, AND MOUNTING HARDWARE ON STREET LIGHT POLES.
 2. EQUIPMENT BELONGING TO, OR ASSOCIATED WITH MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) SHALL NOT BE TOUCHED OR MANIPULATED WITHOUT EXPRESS CONSENT FROM MDOT.
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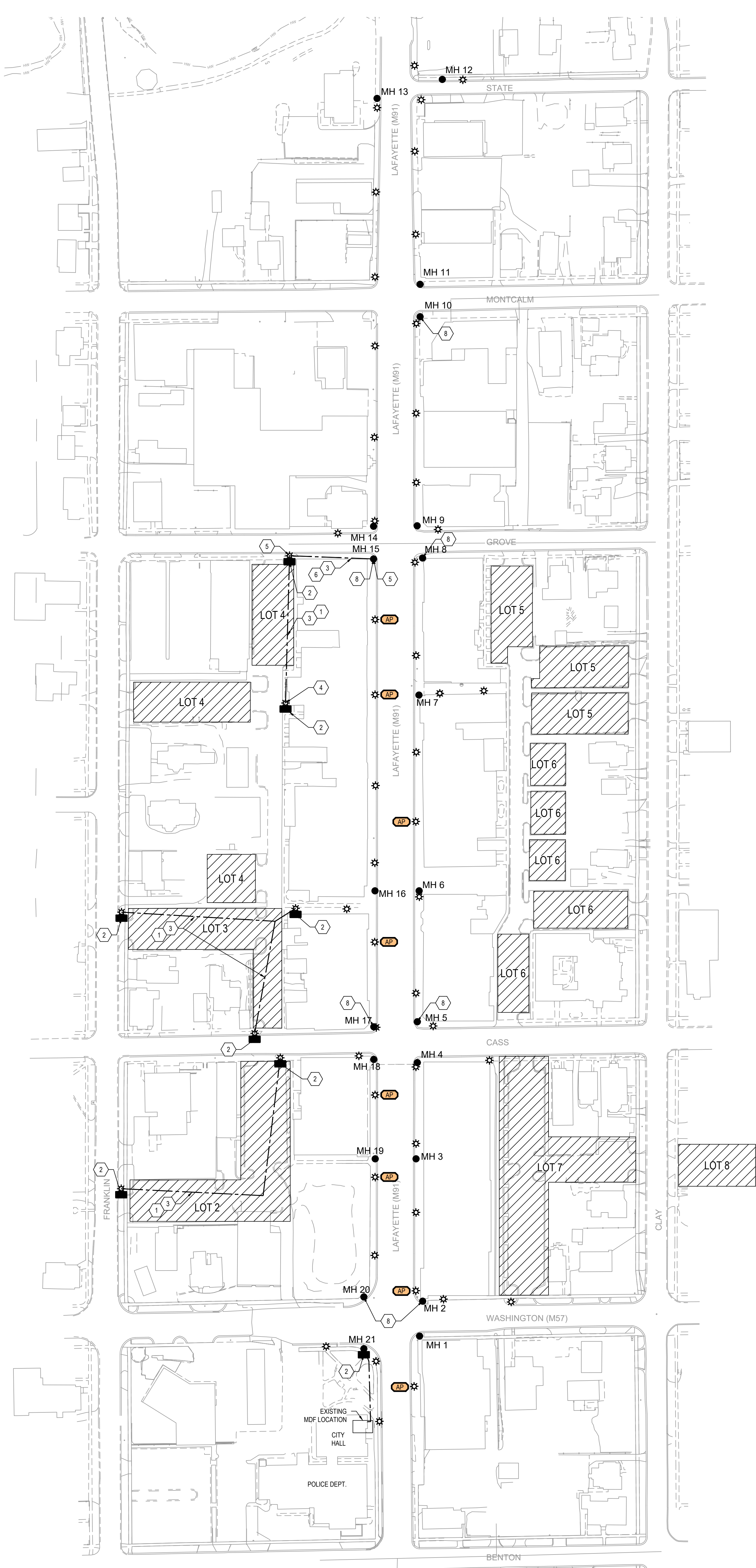
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	NEW HANDHOLE
	LIGHT POLE
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	CAMERA - SEE T401 FOR DETAILS
	SPEAKER - SEE T501 FOR DETAILS

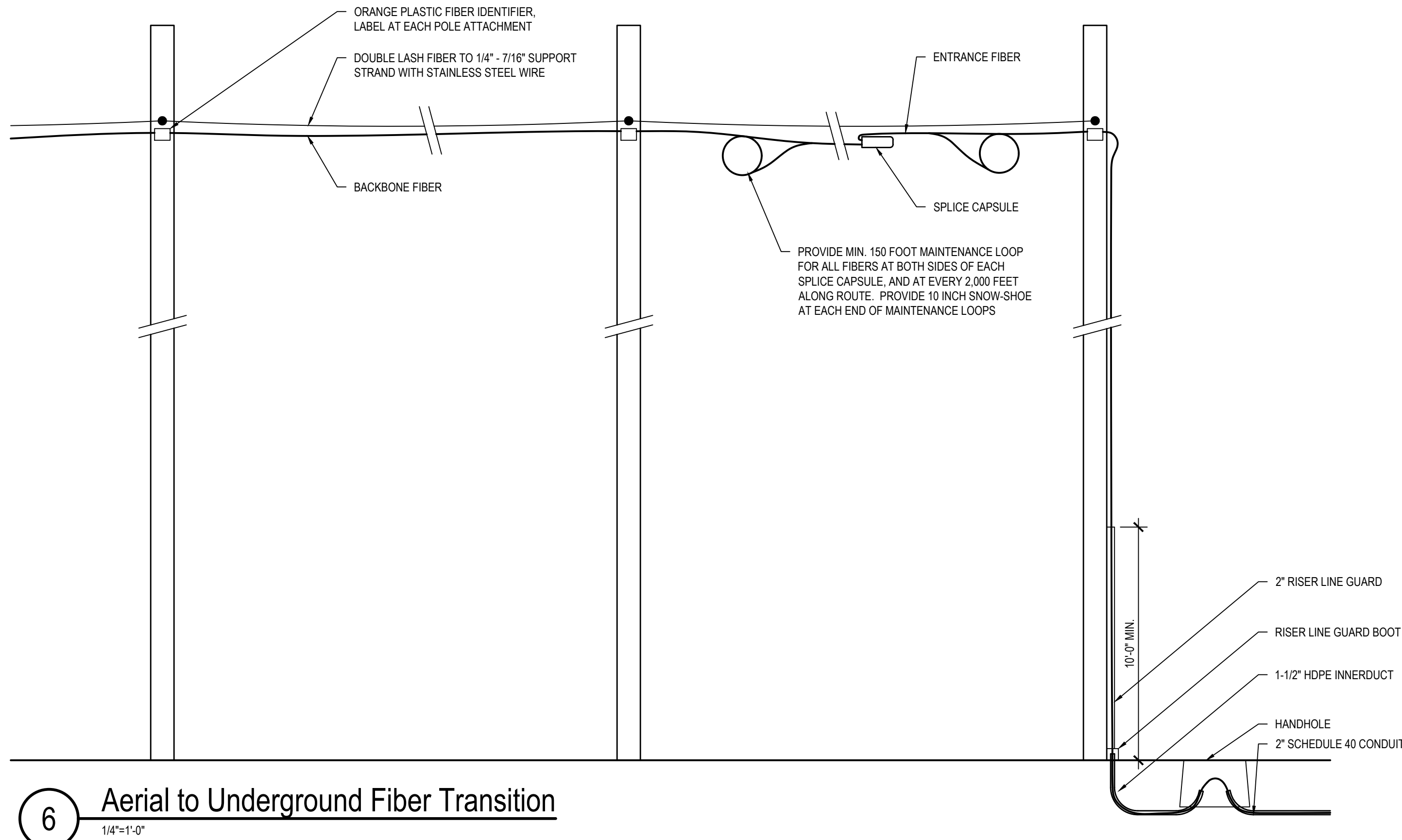


- ### SITE GENERAL NOTES

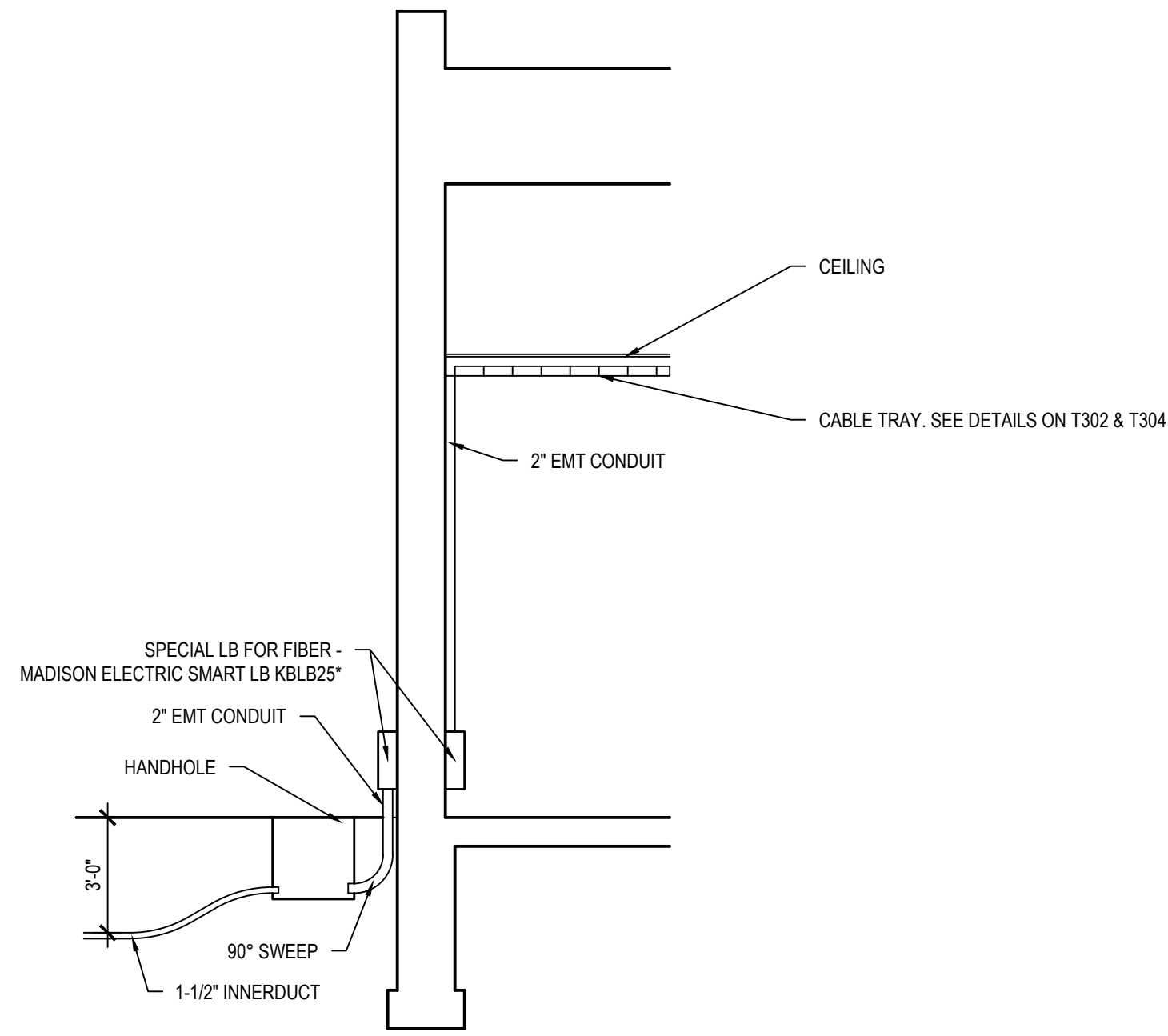
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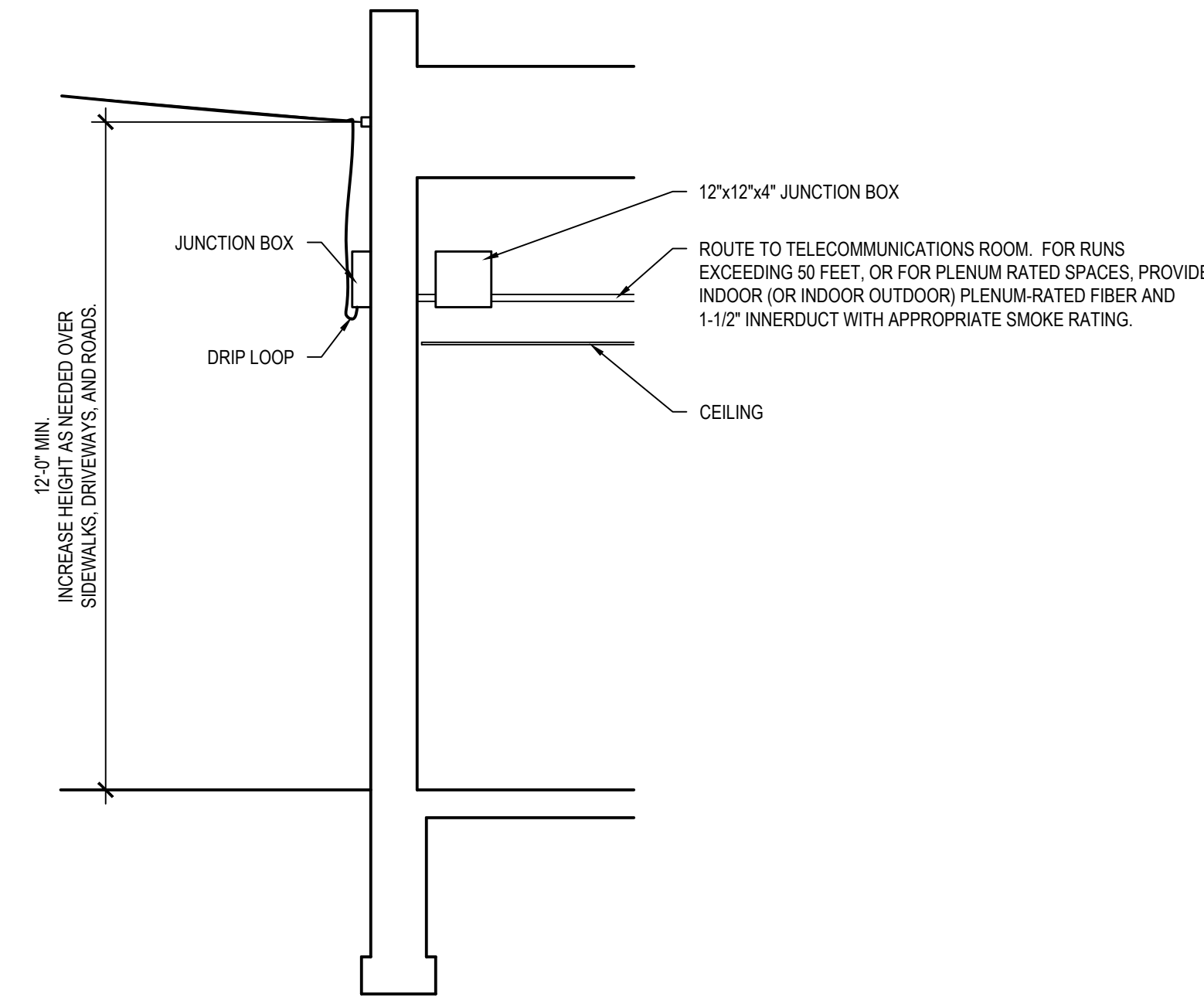
SYMBOL LEGEND	
SYMBOL	DESCRIPTION
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	NEW HANDHOLE
	LIGHT POLE
	WIRELESS ACCESS POINT - SEE T301 FOR DETAILS
	CAMERA - SEE T401 FOR DETAILS
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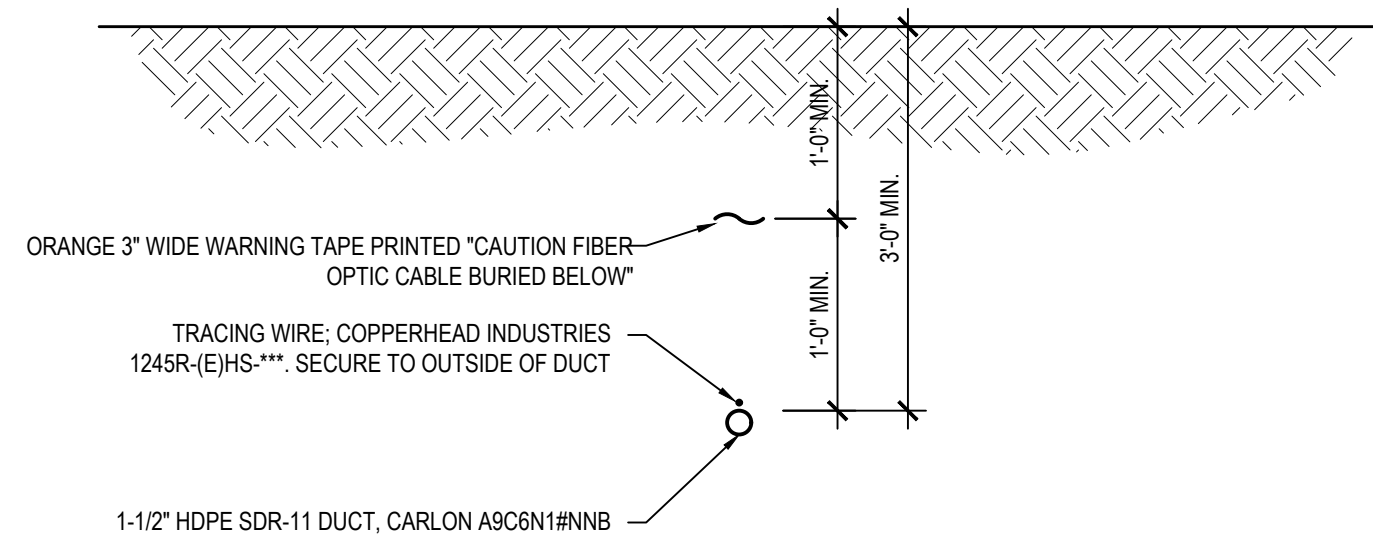
6 Aerial to Underground Fiber Transition
1/4"=1'-0"



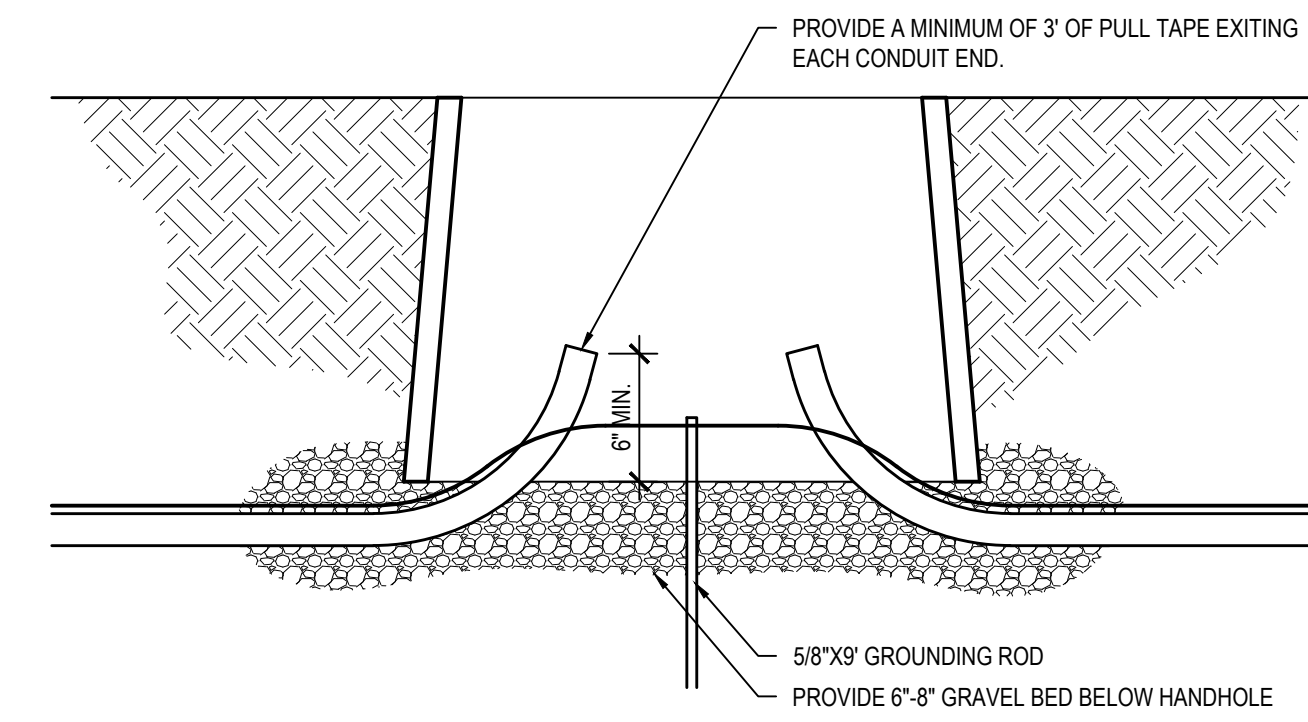
5 Typical Underground Fiber Entrance
NTS



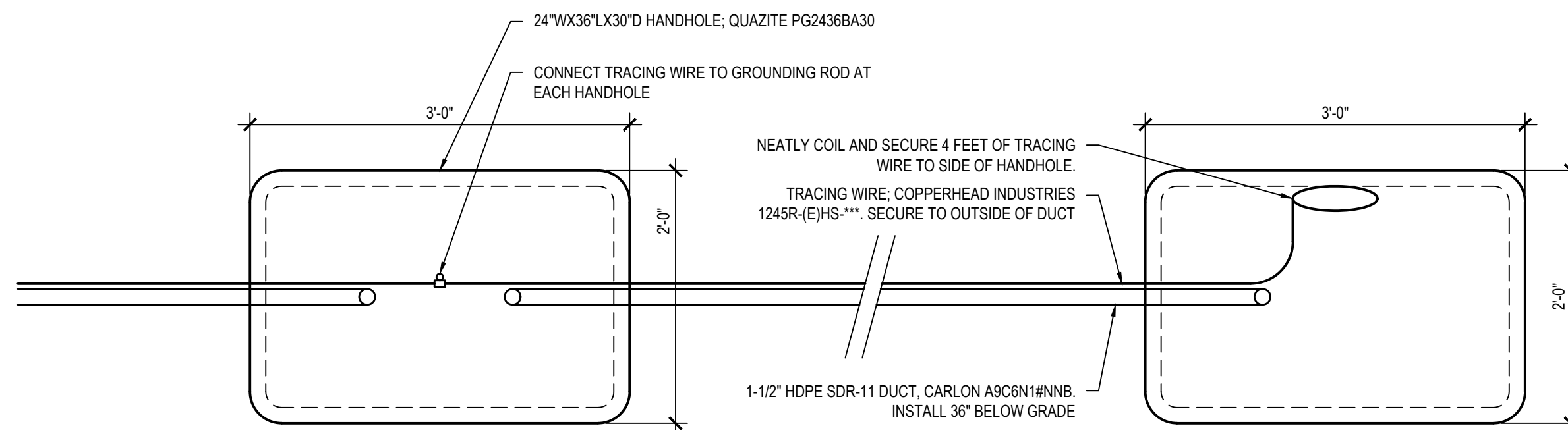
4 Typical Aerial Fiber Entrance
NTS



3 Typical Fiber Installation Detail
1"=1'-0"



2 Typical Handhole Section
1"=1'-0"






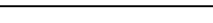
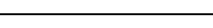



1 Typical Underground Fiber Details
1"=1'-0"

FIBER GENERAL NOTES

1. INSTALL ALL HANDHOLES AND DUCTS WITHIN PUBLIC ROAD RIGHT-OF-WAY OR ON OWNER'S PRIVATE PROPERTY.
2. ALL DUCTS RUNNING BETWEEN HANDHOLES ARE TO BE CONTINUOUS WITHOUT SPLICES OR COUPLERS.
3. ALL HANDHOLES TO HAVE POLYMER CONCRETE LIDS INSCRIBED WITH THE WORD "COMMUNICATIONS"

DATA LEGEND NOTES	
1.	PROVIDE 20 FEET OF MAINTENANCE LOOP FOR CABLE.
2.	POLE MOUNTED ON STREET LIGHT POLE. SEE 2/T303 FOR DETAILS.

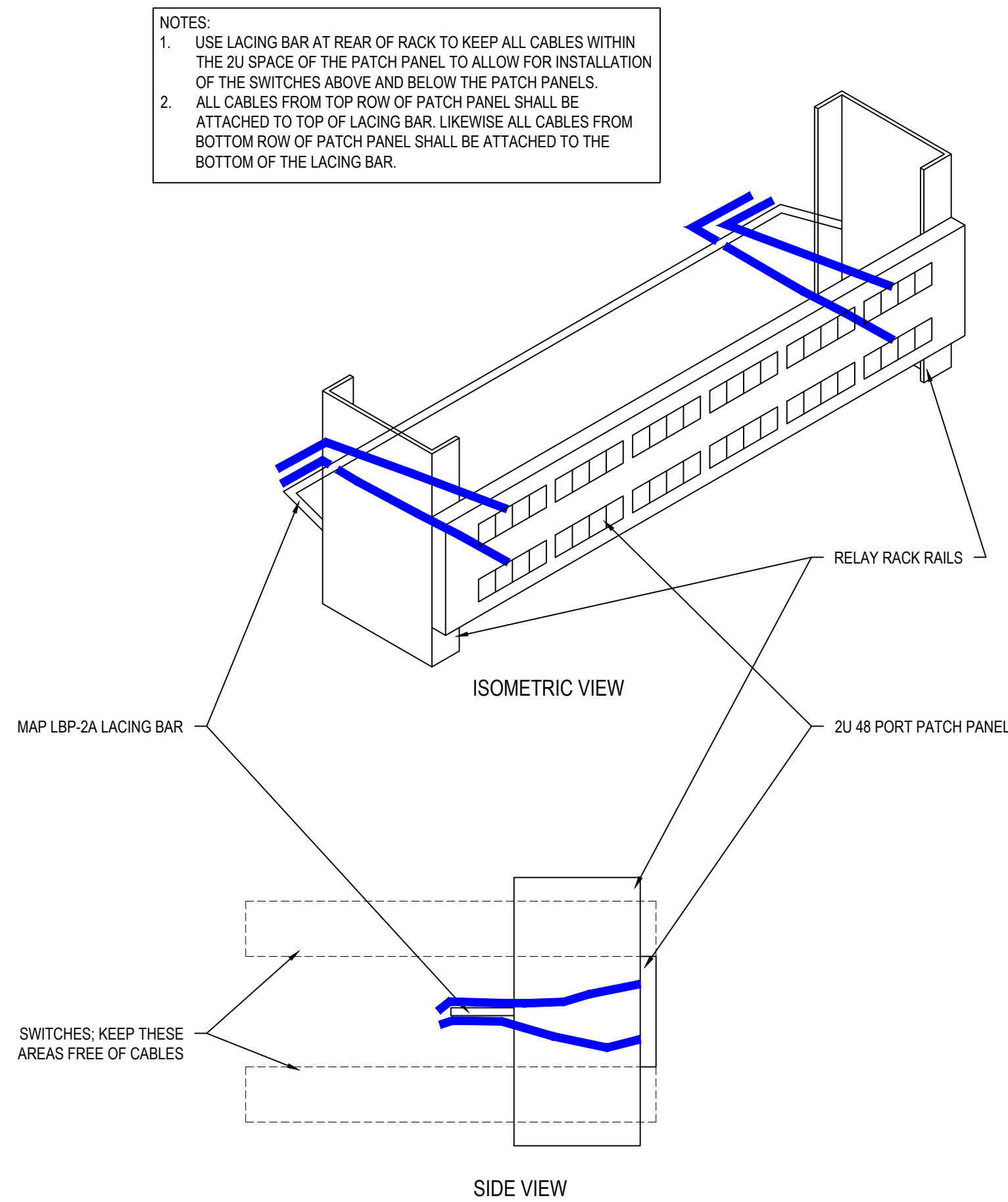
CABLING SUPPORT LEGEND			
SYMBOL	DESCRIPTION	NOTES	
		ELECTRICAL	LOW VOLTAGE
	1-1/2" EMT SLEEVE W/ BUSHINGS		
	1-1/2" EMT SLEEVE W/ BUSHINGS; SEAL ENDS W/ FIRE-PROOF PUTTY		
	1-1/2" EMT SLEEVE W/ BUSHINGS (UP)		
	1-1/2" EMT SLEEVE W/ BUSHINGS (DOWN)		
	4" EMT SLEEVE W/ BUSHINGS		
	STI EZ-PATH SERIES 44 OR APPROVED EQUIVALENT		
	4" EMT SLEEVE W/ BUSHINGS (UP)		
	4" EMT SLEEVE W/ BUSHINGS (DOWN)		

INFORMATION TAG

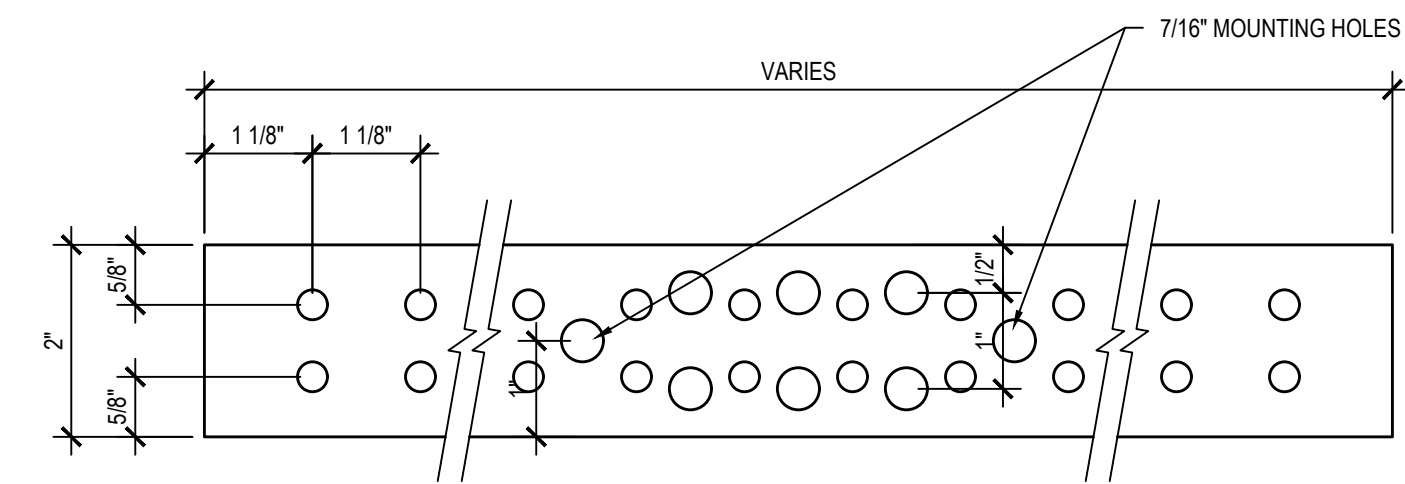
DROP TYPE OR QUANTITY

X

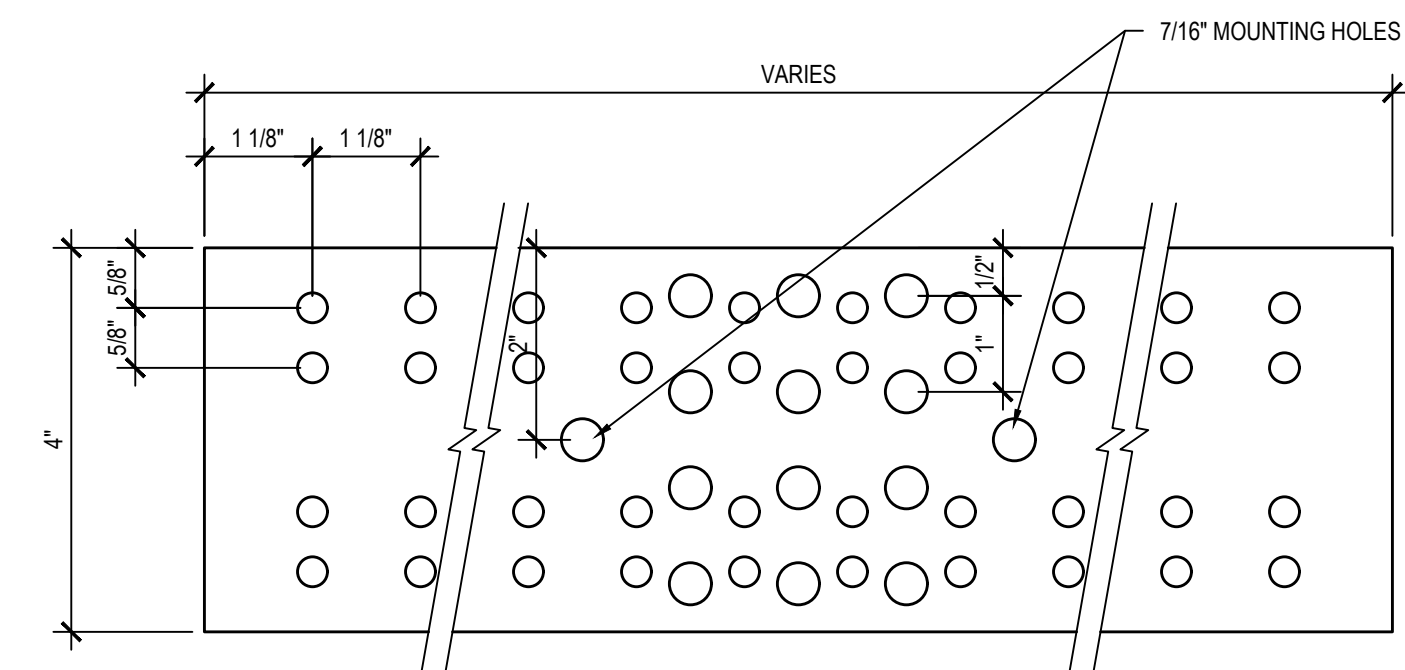
DATA DROP SYMBOL



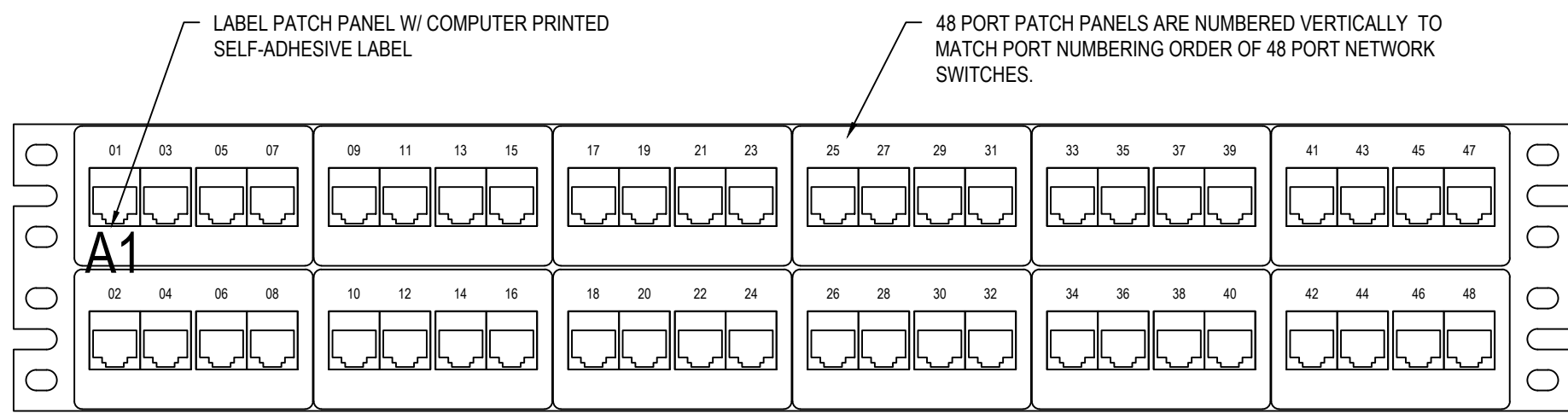
Lacing Bar Detail



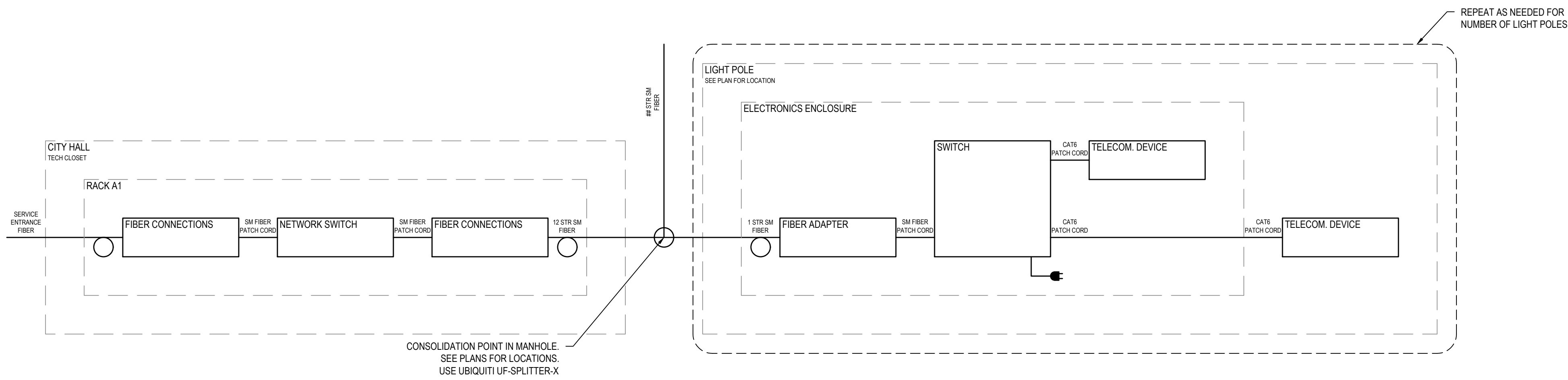
Secondary Bonding Busbar (SBB)
6"=1'-0"



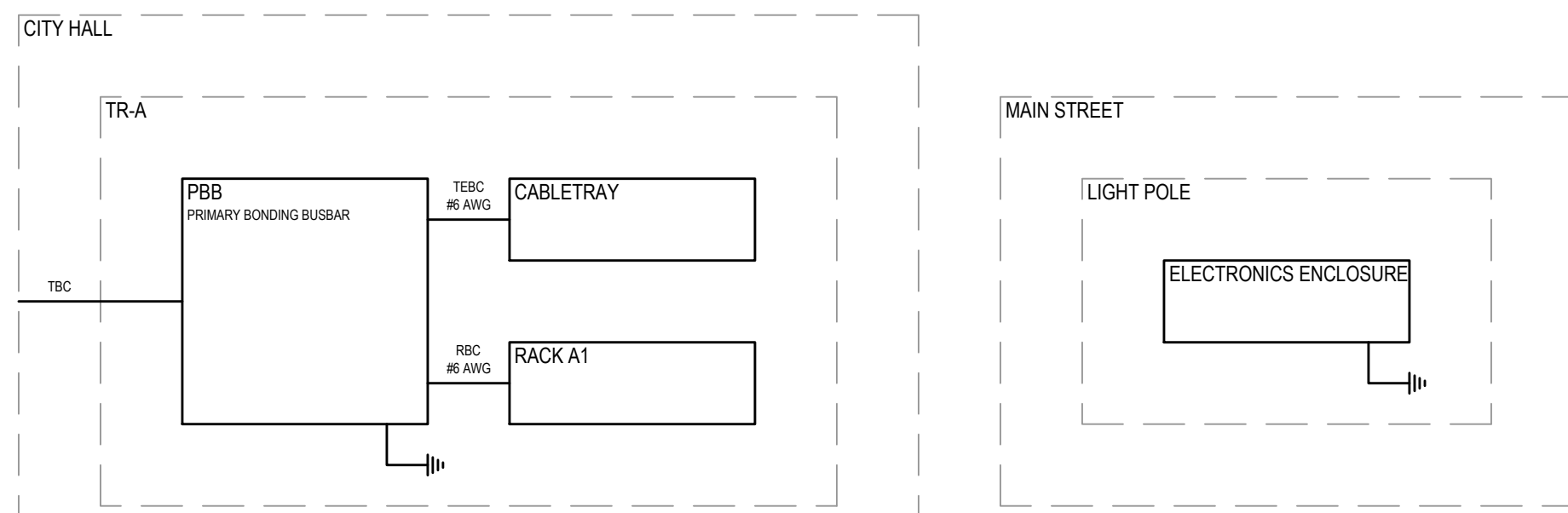
Primary Bonding Busbar (PBB)



Typical Numbering for 48-Port Patch Panel



Cabling Distribution Riser (TYP.)

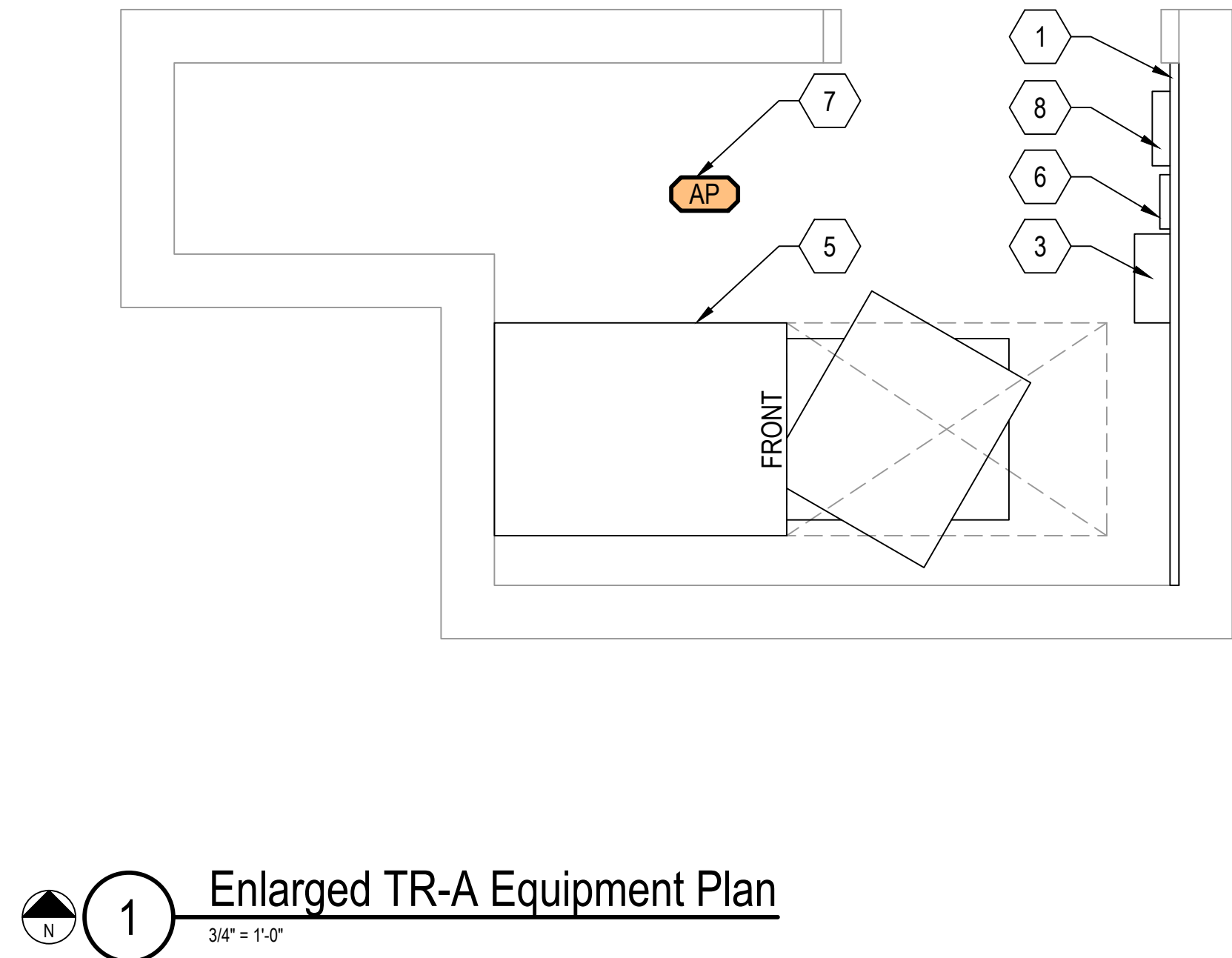
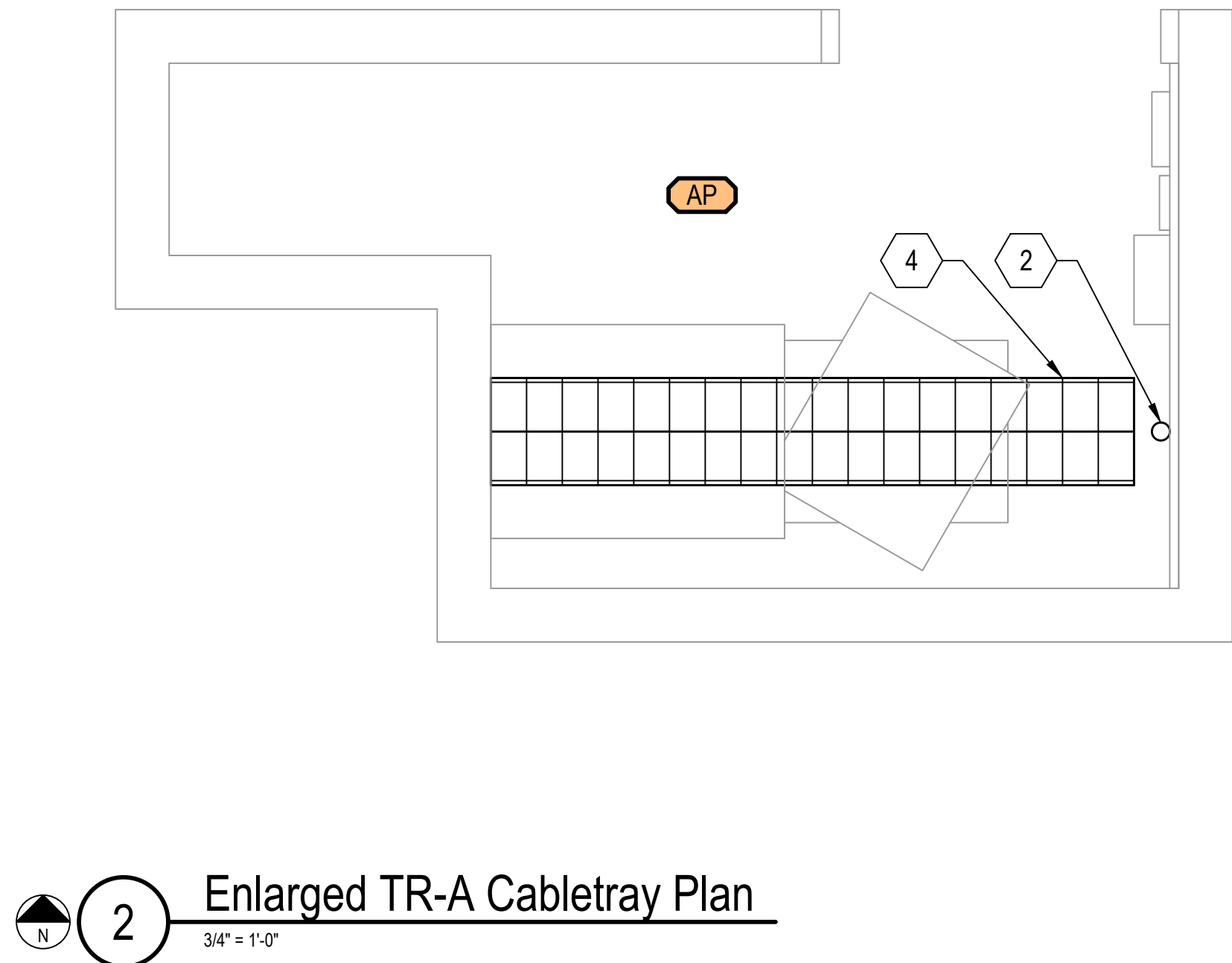
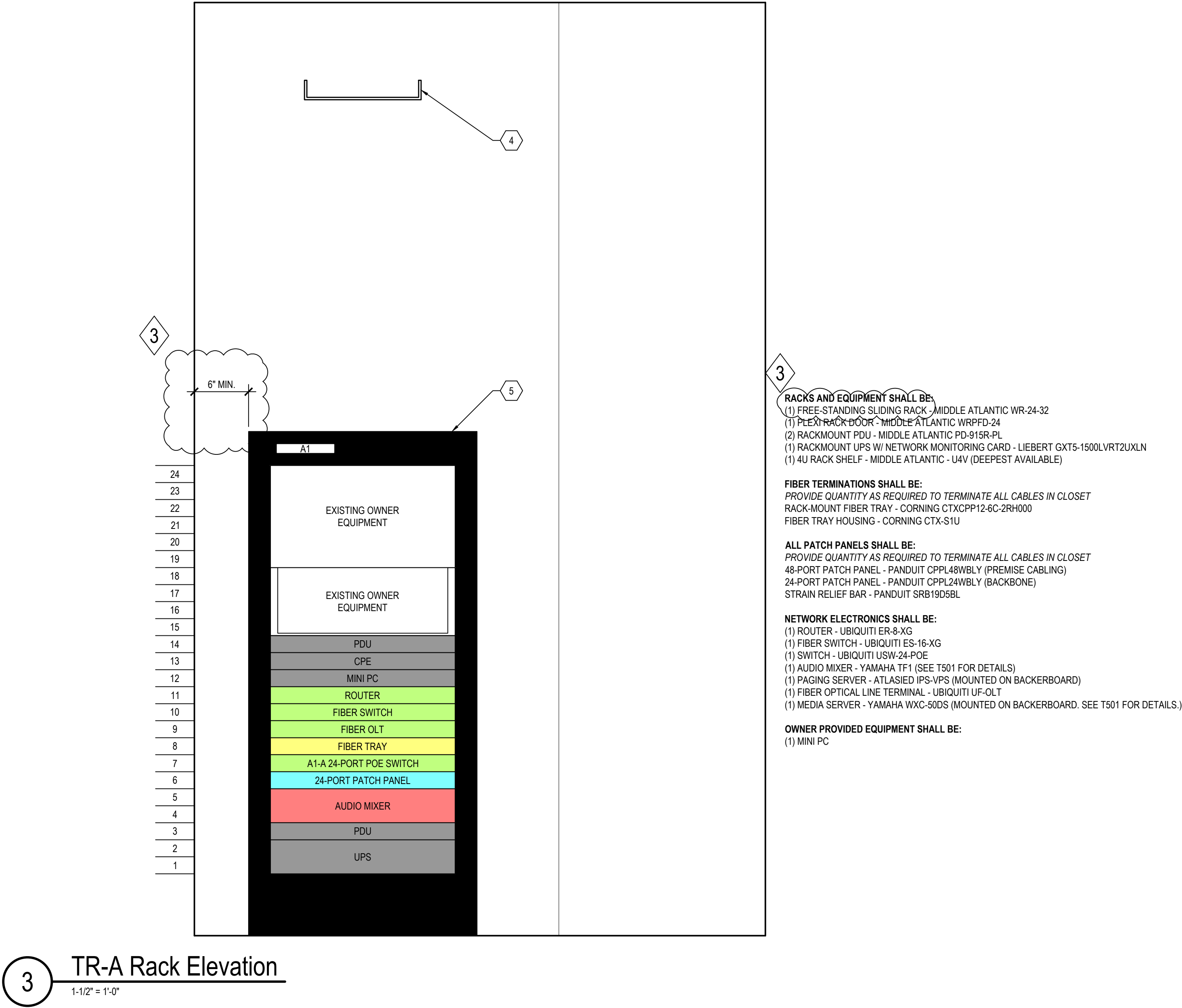


Telecommunications Grounding Riser

1. FOR ALL ALPHABETIC IDENTIFIERS THE LETTERS "O" AND "I" ARE NOT USED, TO PREVENT POSSIBLE CONFUSION WITH THE NUMBERS ZERO AND ONE.
2. ALL ANALOG PHONE DROPS ARE TO BE TERMINATED IN TECH CLOSETS ON 110 PUNCH-DOWN BLOCKS MOUNTED ON BACKBOARD.

1. PROVIDE 10 FEET OF MAINTENANCE LOOP AT TECHNOLOGY ROOM AND 1 FOOT OF MAINTENANCE LOOP AT WORK AREA FOR ALL CABLING UNLESS NOTED OTHERWISE.
2. FOR EACH RUN OF BACKBONE FIBER BETWEEN TECHNOLOGY ROOMS, TERMINATE 2 STRANDS. TEST ALL STRANDS.
3. SEE PATCH CORD LEGEND AND CABLING AND JACK LEGEND ON TG02 FOR MORE INFORMATION REGARDING APPROPRIATE COLORS REQUIRED.
4. CABLING THAT ENTERS AND EXITS THE POLE-MOUNTED ENCLOSURE SHALL BE ENCLOSED IN ULTRALIGHT ELECTRIC TUBING AND SEALED PROPERLY AT EACH END.

1. ELECTRONICS ENCLOSURE, AND ELECTRONICS LOCATED IN ENCLOSURE ON LIGHT POLES, SHALL BE GROUNDED ACCORDING TO CURRENT CODES AND STANDARDS. REFER TO SPECIFICATION SECTION 270526 FOR GROUNDING AND BONDING REQUIREMENTS.
2. GROUNDING BUSBARS IN EVERY TECH CLOSET SHALL BE CONNECTED TO AVAILABLE BUILDING STEEL AND ELECTRICAL PANELS (TYP.).



- ### TECH CLOSET GENERAL NOTES
1. TECHNOLOGY CLOSETS SHALL BE NON-SPRINKLER SPACES.
 2. GENERAL BUILDING HVAC SHALL NOT BE INSTALLED IN ANY TECHNOLOGY CLOSET. IF ACTIVE COOLING IS REQUIRED, DEDICATED LOCAL SYSTEMS SHOULD BE INSTALLED IN EACH TECH CLOSET.
 3. ALL NEW OUTLETS IN THE TECHNOLOGY CLOSETS SHOULD BE ON GENERATOR POWERED CIRCUITS.
 4. EQUIPMENT MOUNTED ON BACKERBOARDS SHALL MAINTAIN PROPER CLEARANCES FOR OPERATION AND BE COORDINATED WITH OTHER DISCIPLINES IF THERE IS A CONFLICT OF PLACEMENT.
 5. PROVIDE A POWER STRIP FOR EQUIPMENT MOUNTED ON BACKERBOARD.
- ### TECH CLOSET KEYED NOTES
1. 48"x36" A/C GRADE PLYWOOD BACKERBOARD; PAINT W/ GRAY FIRE-RETARDANT PAINT, MOUNT @ 36" AFF. CUT TO FIT DESIGNATED WALL IF NEEDED.
 2. (1) 2" EMT CONDUIT. SEE 5/T505 FOR FIBER PATHWAY DETAILS.
 3. 4"x10" PRIMARY BONDING BUS BAR (PBB).
 4. 2"x12" CABLE TRAY @86" AFF. SUPPORT ALL TRAY W/ 3/8" THREADED ROD AND CENTER HANGERS @ 5'-0"OC. OR WALL BRACKETS WHEN ADJACENT TO WALLS. TIE ALL TRAY ENDS TO WALLS W/ WALL BRACKETS (TYP.).
 5. ENCLOSED SERVER RACK.
 6. PAGING SERVER. SEE 1/T501.
 7. WIRELESS ACCESS POINT (UBIQUITI U6-LR-US).
 8. MEDIA SERVER.

MOUNT EQUIPMENT AS TO ALLOW PROPER EQUIPMENT CLEARANCES AND AVOID EXISTING LIGHT POLE FEATURES.

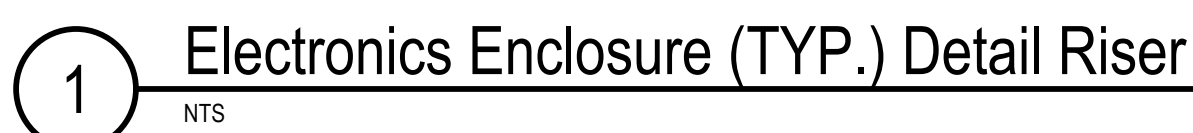
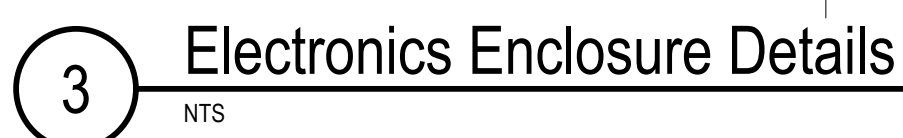
CABLING THAT ENTERS AND EXITS THE POLE-MOUNTED ENCLOSURE SHALL BE ENCLOSED IN LIQUIDTIGHT ELECTRIC TUBING AND SEALED PROPERLY AT EACH END.

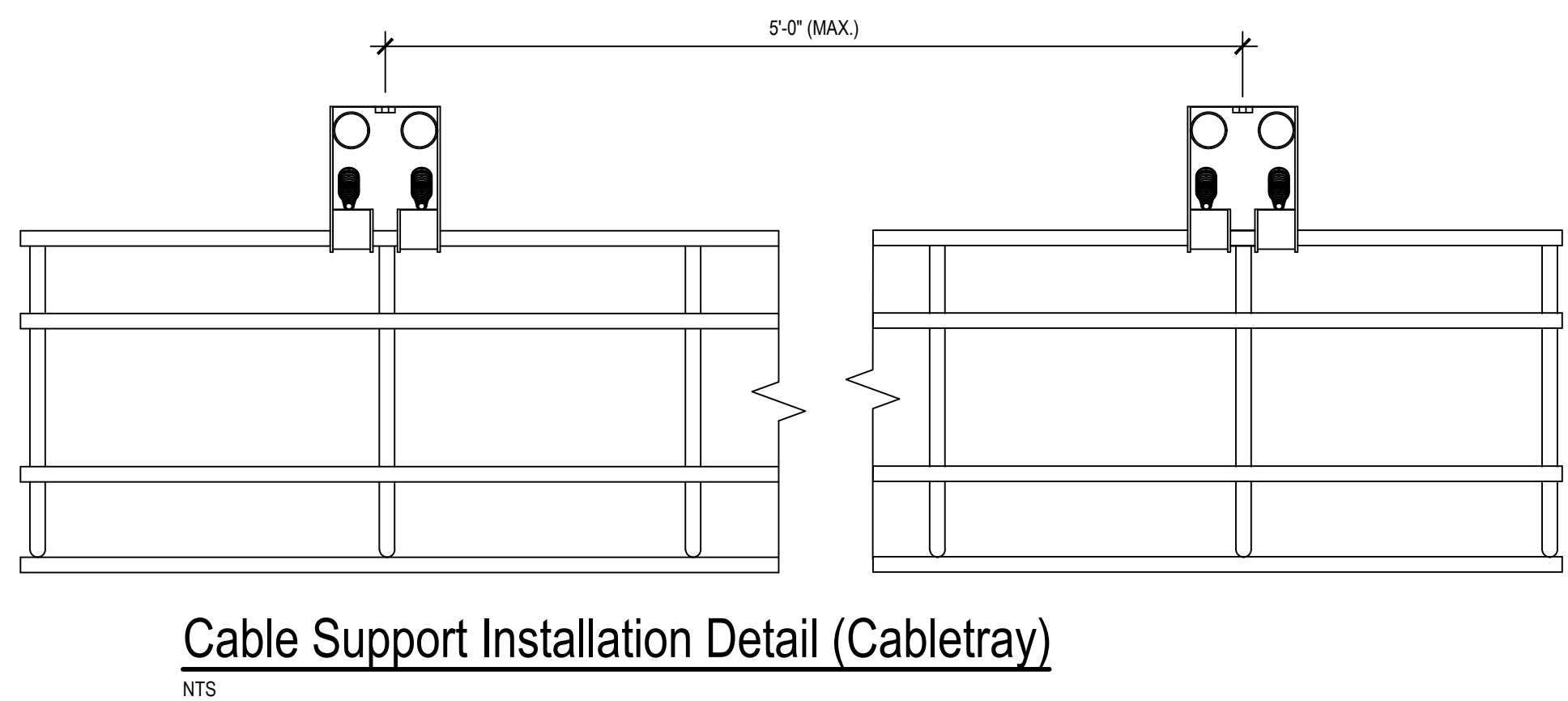
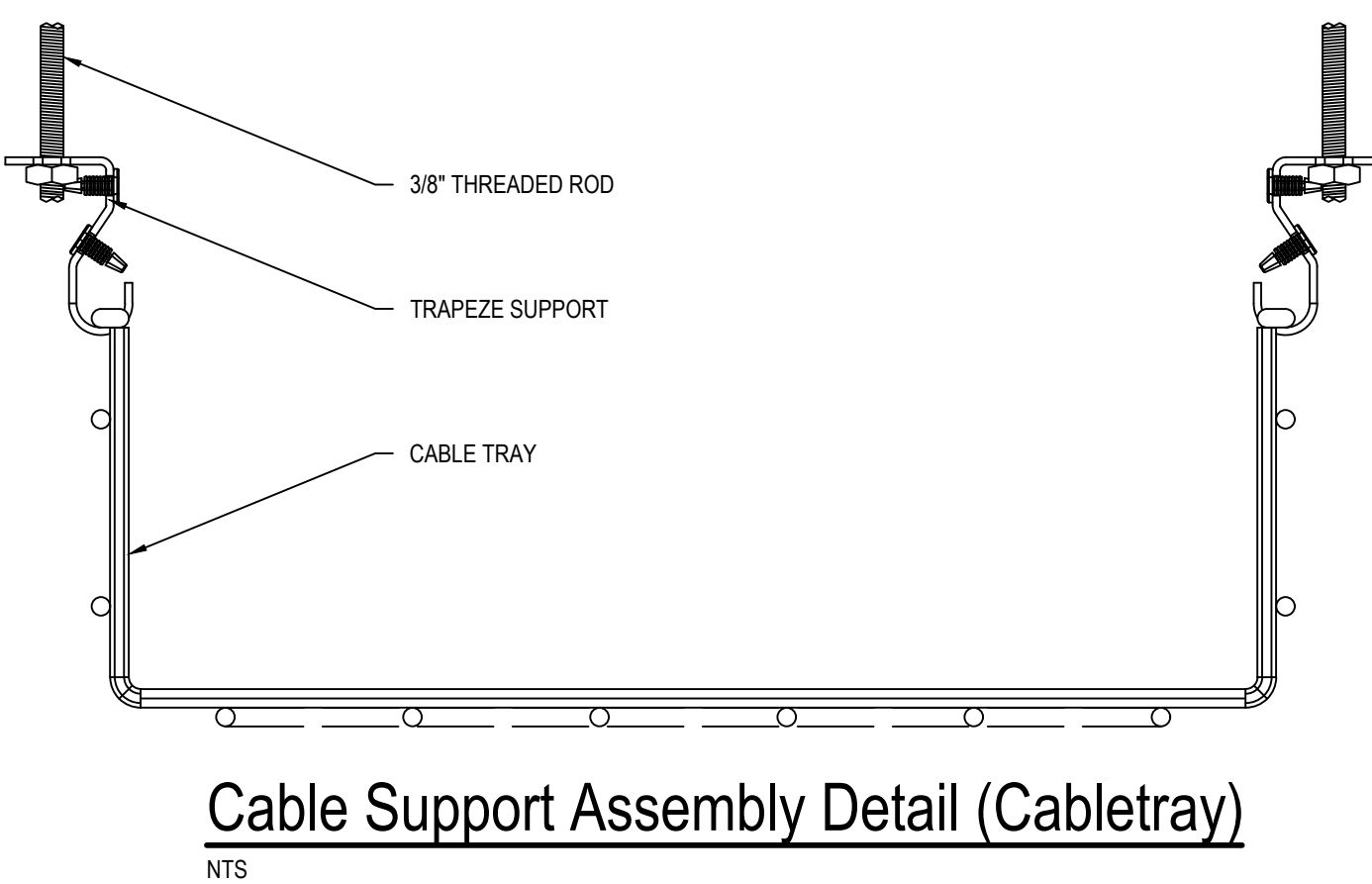
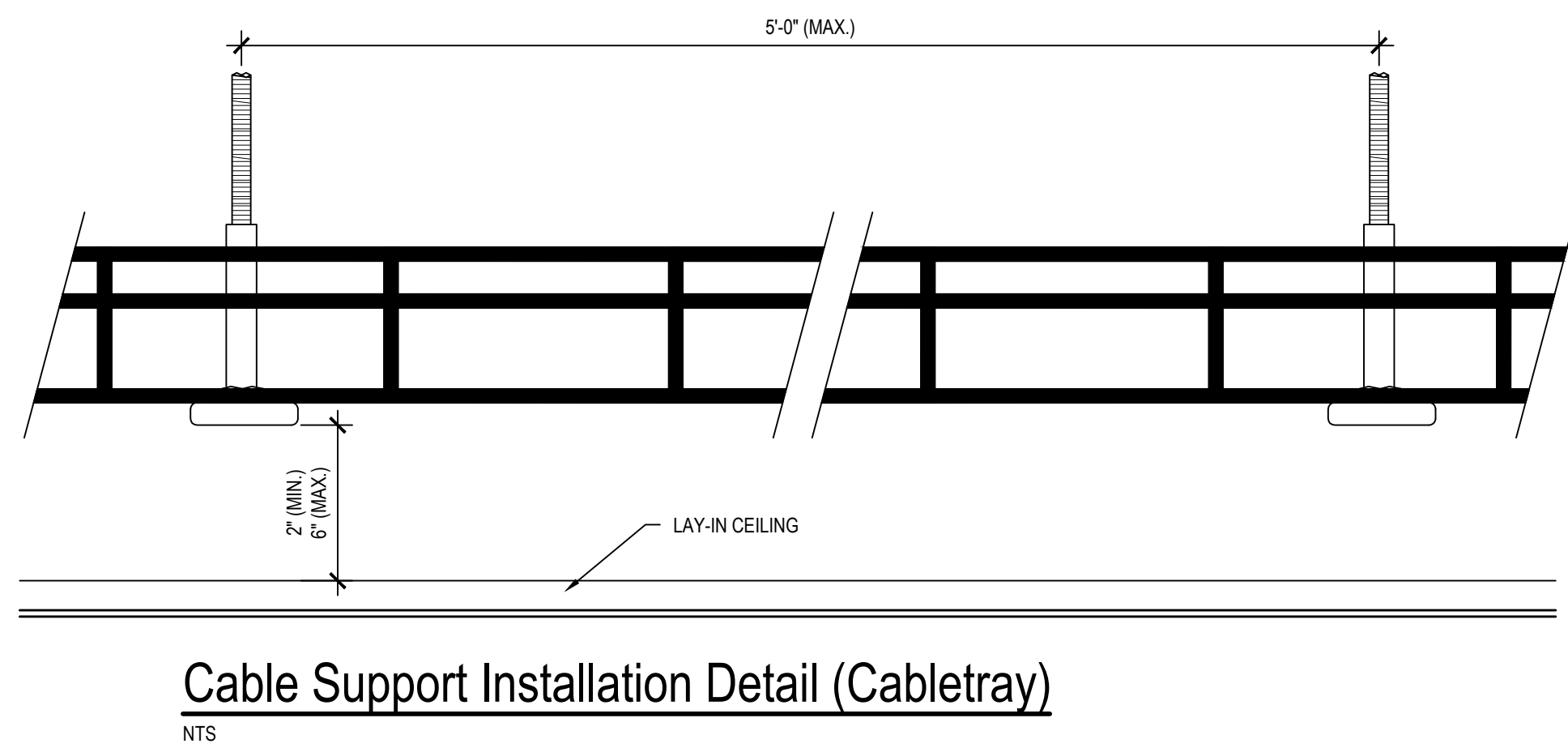
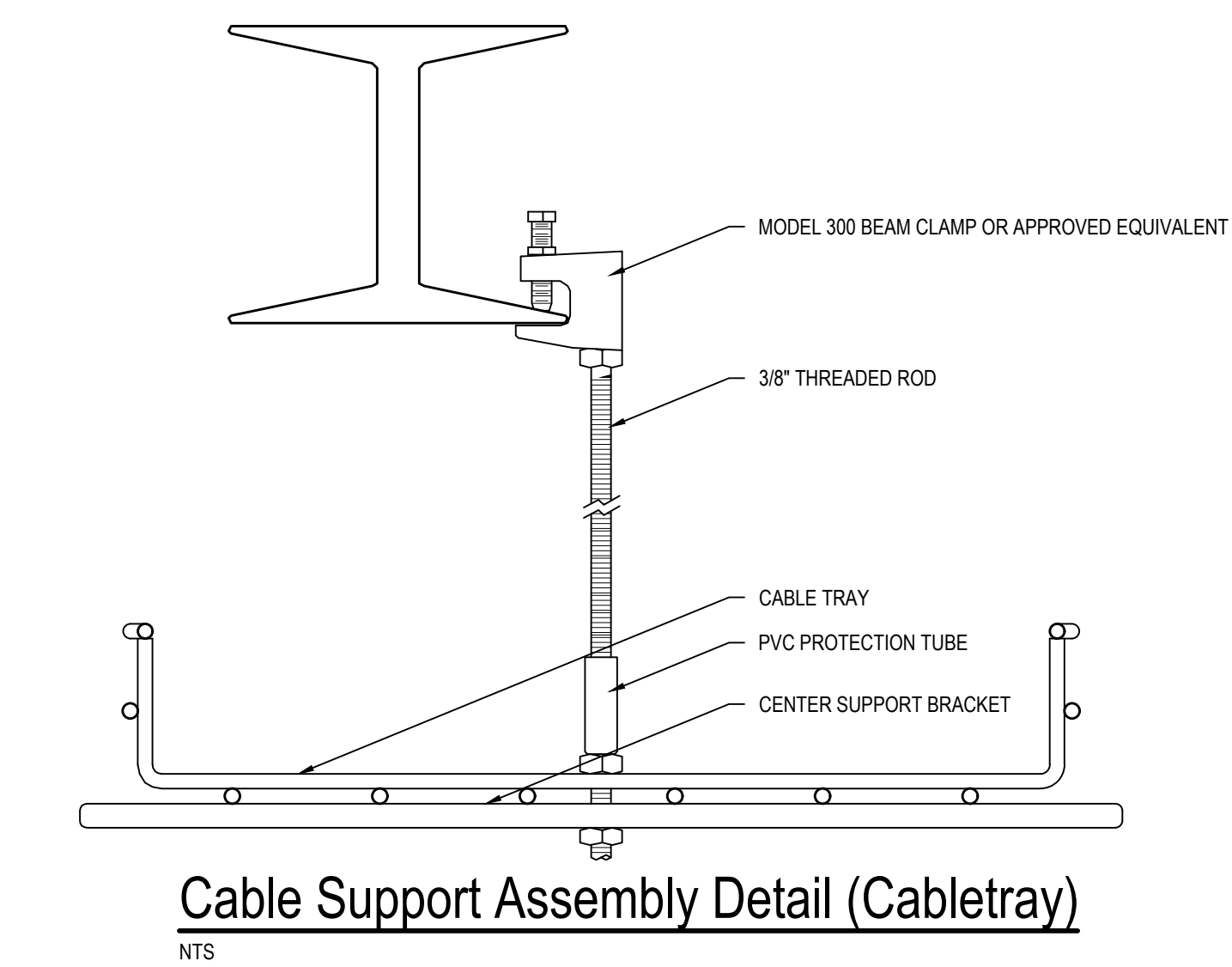
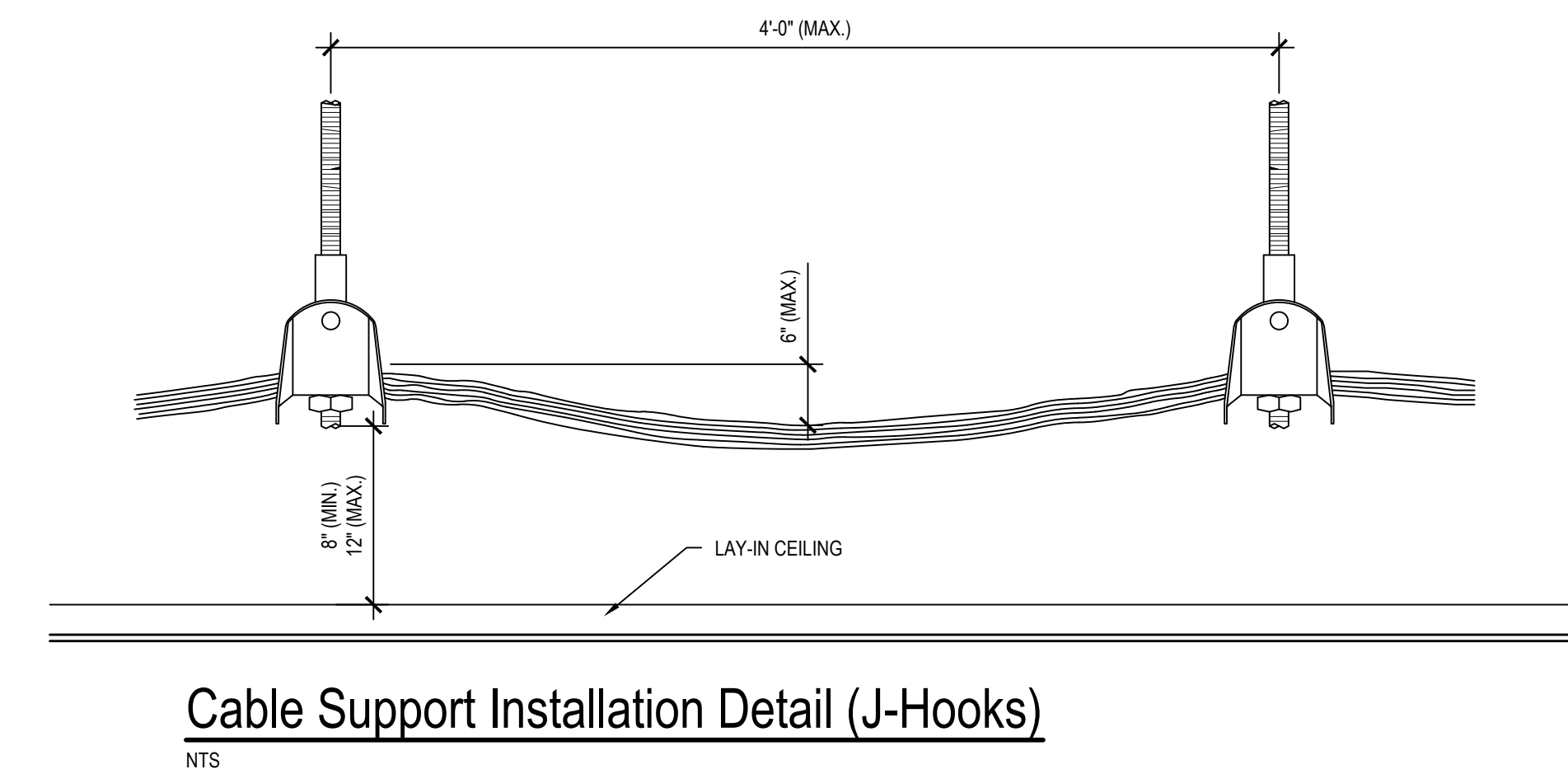
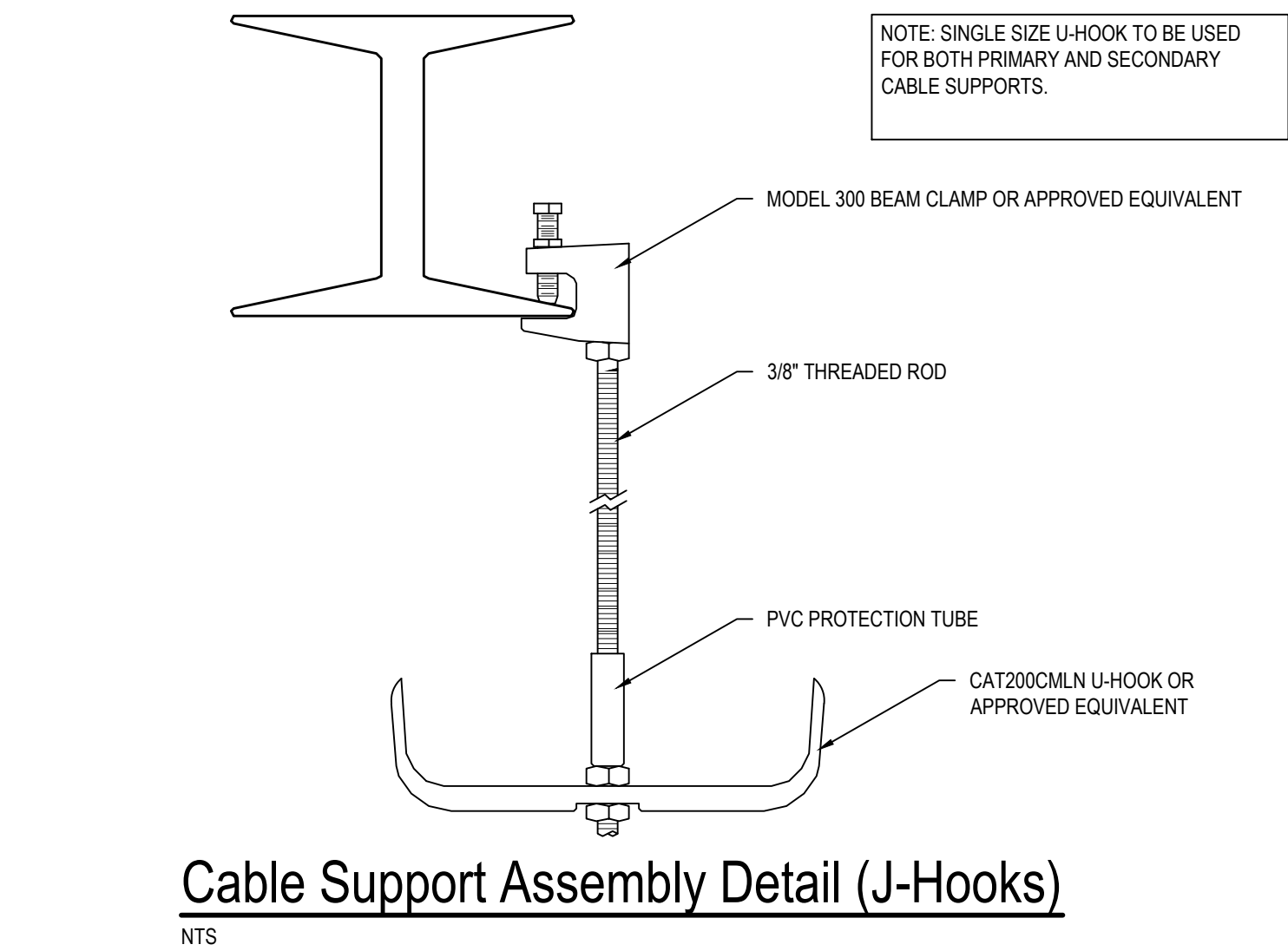
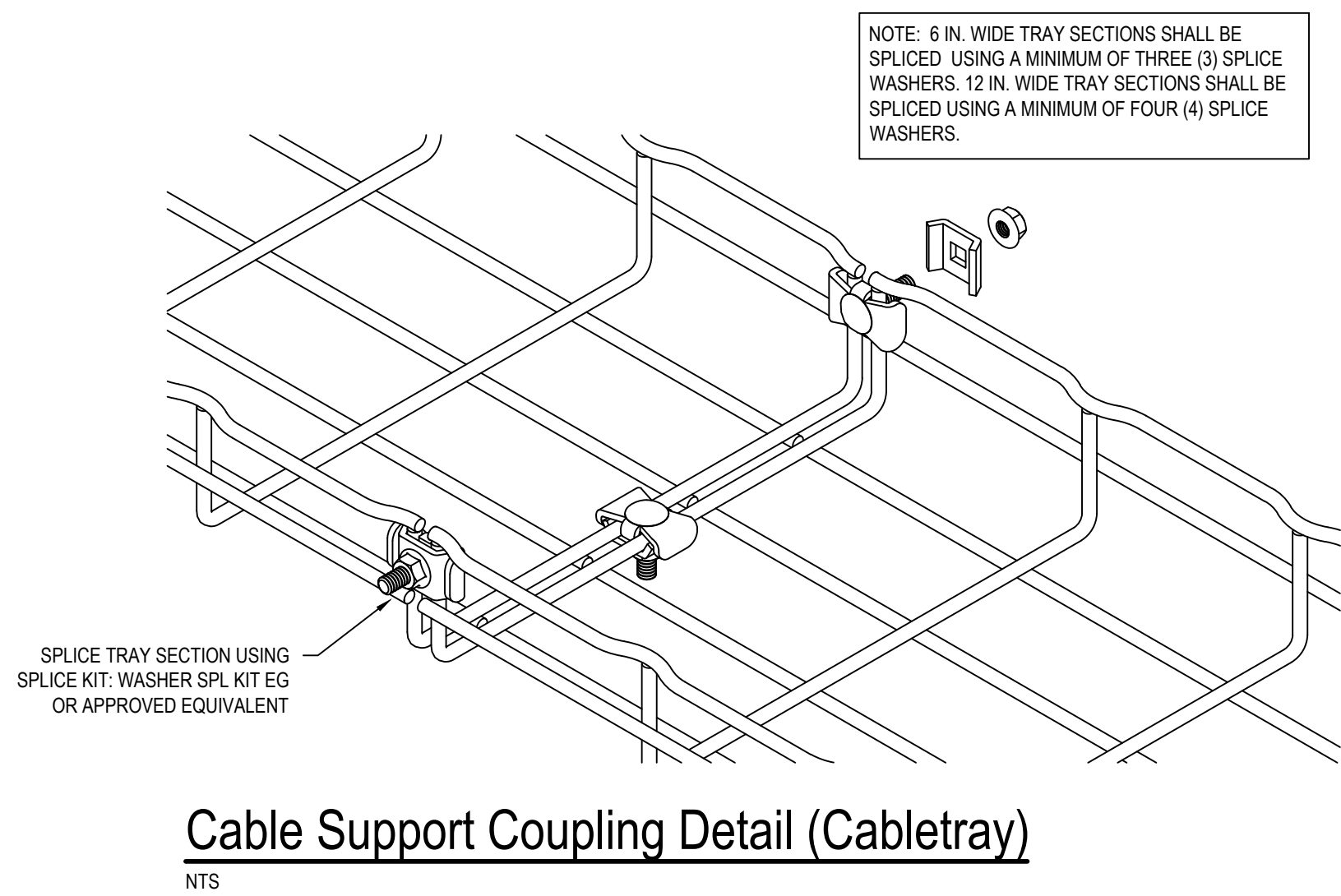
ELECTRONICS RESIDING IN ENCLOSURE SHALL BE MOUNTED ON A BACK-PLATE AND PROPERLY SPACED FOR HEAT DISSIPATION AND CABLING PRIOR TO FINAL INSTALLATION IN ENCLOSURE.

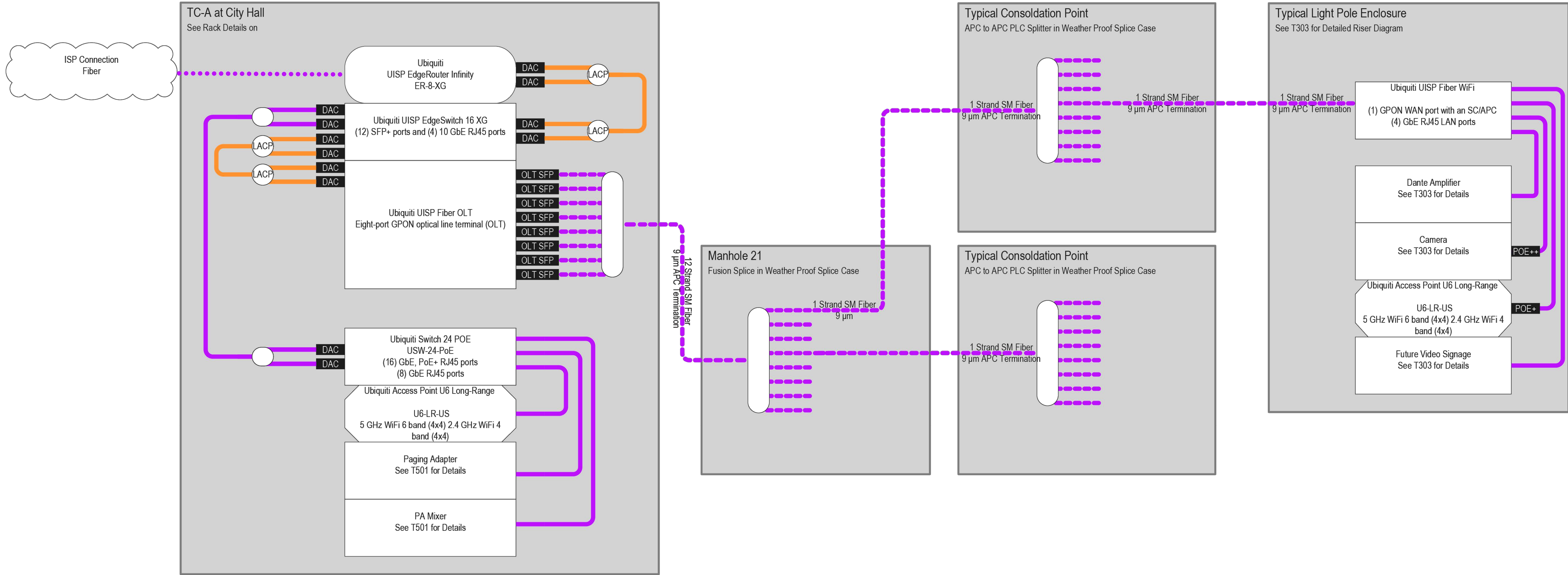
ACTUAL EQUIPMENT INSTALLED IN EACH ENCLOSURE WILL VARY BY POLE. REFER TO PLANS FOR POLE SPECIFIC EQUIPMENT.

MANUFACTURERS LISTED ON DRAWINGS ARE USED AS THE BASIS OF DESIGN FOR THE VARIOUS TECHNOLOGY SYSTEMS. MANUFACTURERS OF SIMILAR QUALITY AND FEATURE SET MAY BE SUBMITTED AT TIME OF BID.

1	EXTERIOR ELECTRONICS ENCLOSURE. SEE DETAILS 3/7303. COORDINATE FINAL LOCATION WITH OWNER.
2	SURVEILLANCE CAMERA (TYP.). REFER TO PLANS FOR SPECIFIC MODEL LOCATION AND VIEWS. MOUNTING HEIGHT AND STYLE MAY VARY. SEE DETAILS ON T401.
3	LOUDSPEAKER. SEE DETAILS ON T501.
4	WIRELESS ACCESS POINT.
5	EXISTING POLE BANNER ARM. INSTALL ALL EQUIPMENT ABOVE THIS ARM ON APPLICABLE POLES.
6	DC POWER SUPPLY LOCATED IN BASE OF LIGHT POLE.







Legend

Remote Connection (Not on Page)
White: Intra-building Connection
Black: Inter-Building Connection

Cloud
External Services
(Internet, Phone, etc.)

Router/Firewall

Switch or Generic Device

Wireless Access Point

Server

Building or Room

IP Phone

G0/0/0

G0/0/0

G0/0/0

G0/0/0

Grouped Interfaces
LACP, EtherChannel, Multilink, etc.

#

T

= Untagged VLAN ID
T = Tagged Interface

Template

AA

Pluggable Module - (SFP, GBIC, etc.)
AA = based on IEEE 802.3 standards
[10/100/10G]BASE-AA

Examples

LRM

SX

See <http://ieee802.org/3/>

STP

STP Failover/Redundant Link
Typically Disabled

Media Speed

Generic

100 Mb/s

<10 Mb/s

1 Gb/s

10 Mb/s

10 Gb/s

Media Type

Generic

Fiber

Circuit

Wireless

UTP

City of Greenville
Downtown Greenville Technology Upgrades
411 S. Lafayette St, Greenville, MI 48838

Structured Cabling Network Diagram

ISSUE / DATE
2023-01-11 BIDS
2023-01-12 ADDENDUM 1
2023-01-18 ADDENDUM 2
2023-01-31 ADDENDUM 3

DRAWN BY
CDB

PROJECT NO.
GREN2202-0200

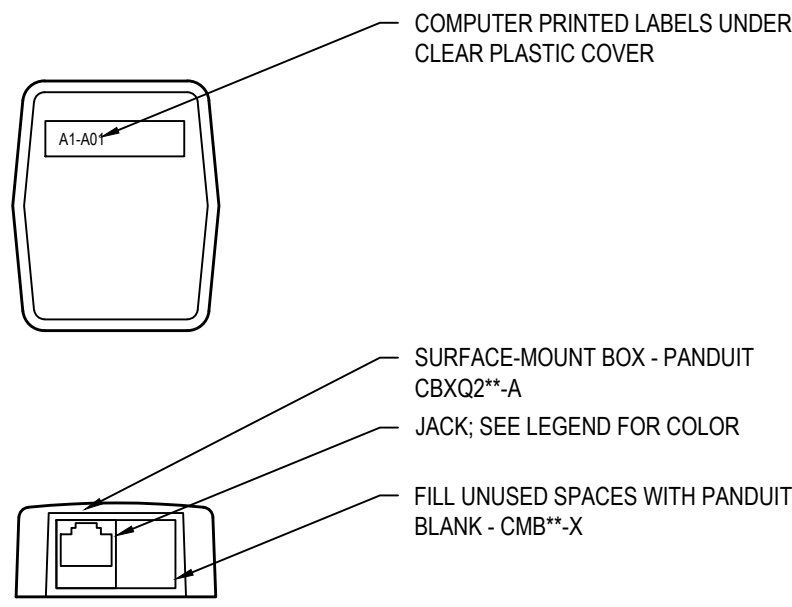
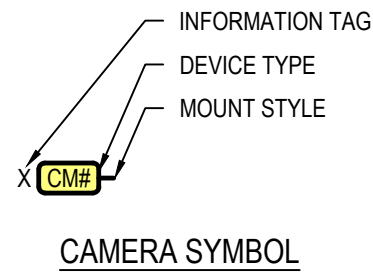
SHEET NO.
T305

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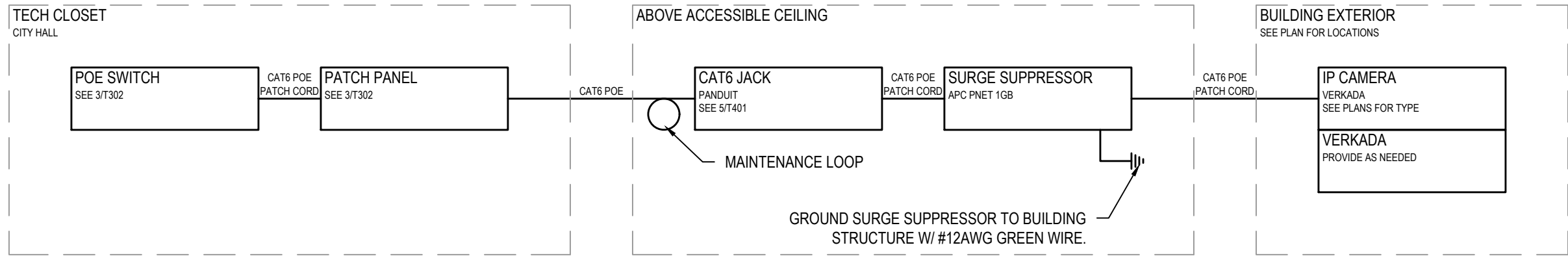
TECH
DESIGN

251 N. ROSE STREET, SUITE 200, KALAMAZOO, MI 49007 269-203-2444 AETECH-DESIGN

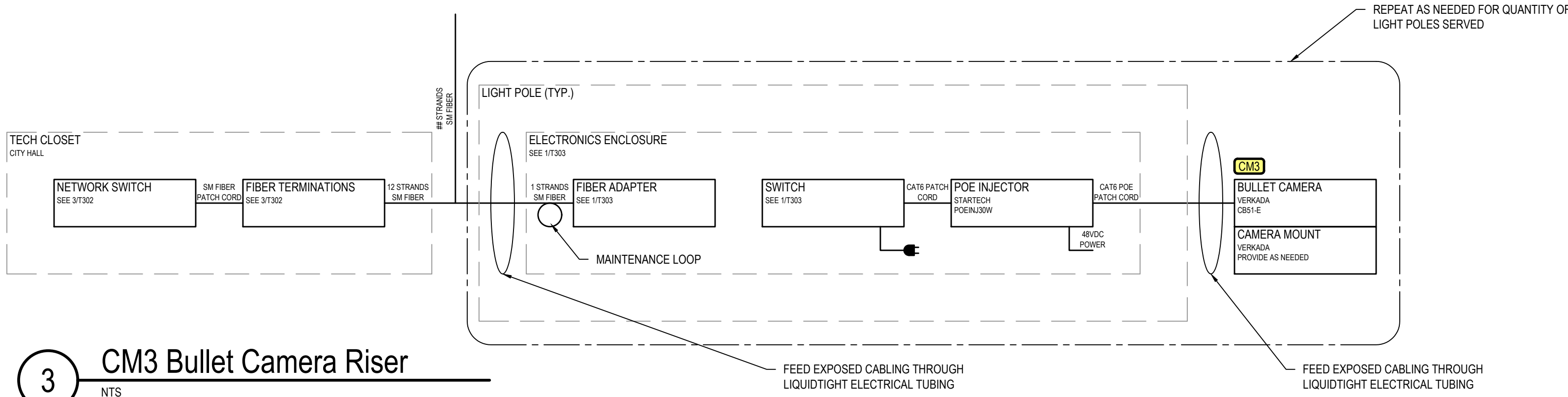
CAMERA LEGEND									
SYMBOL	DESCRIPTION	HEIGHT	DATA DROPS	NEW WORK		SURFACE MOUNT		NOTES	
				ROUGH-IN	FACEPLATE	ROUGH-IN	FACEPLATE	ELECTRICAL	LOW VOLTAGE
CM1	DOME CAMERA	SEE NOTES	SEE T301	N/A	5/7401	N/A	5/7401		1,2
CM2	MULTIVIEW CAMERA	SEE NOTES	SEE T301	N/A	5/7401	N/A	5/7401		1,2
CM3	BULLET CAMERA	SEE NOTES	SEE T301	N/A	5/7401	N/A	5/7401		1,2



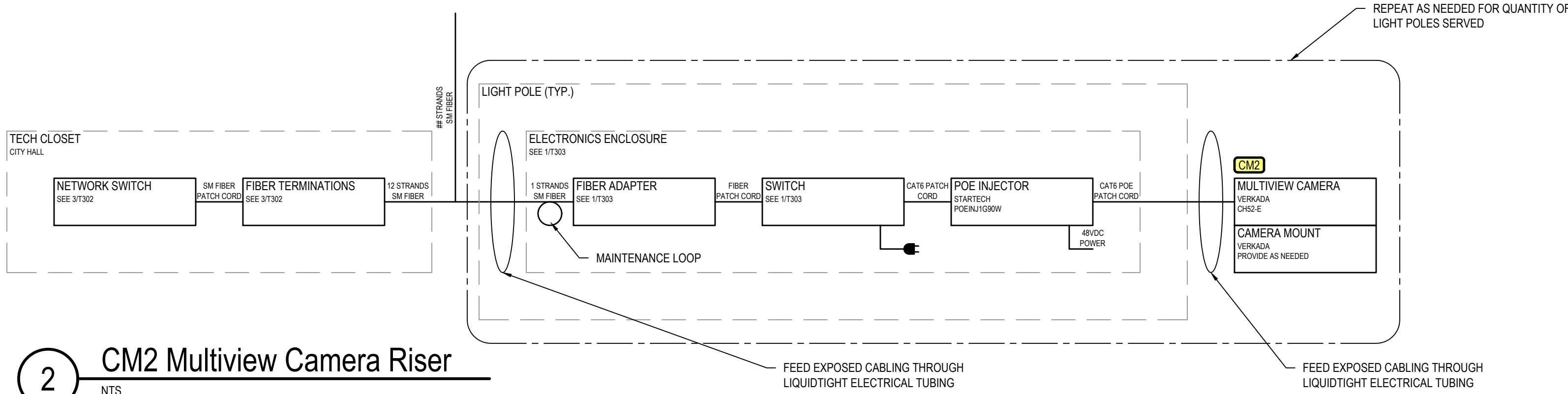
5 Data Drop (1) Surface



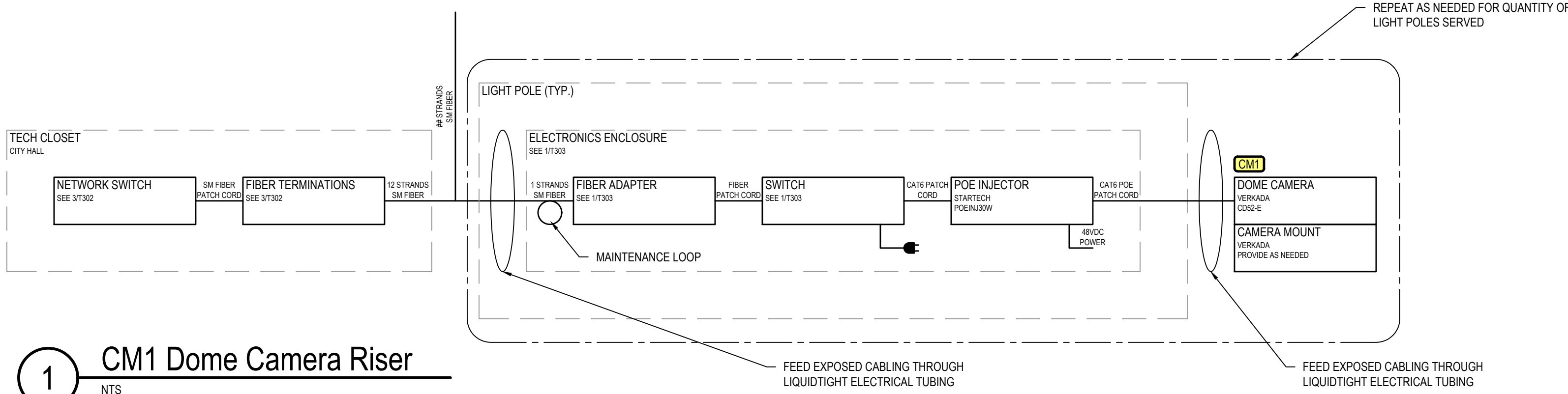
4 Exterior Building Mounted Camera Riser (TYP.)



3 CM3 Bullet Camera Riser



2 CM2 Multiview Camera Riser



1 CM1 Dome Camera Riser

CAMERA LEGEND NOTES	
1.	CAMERA MOUNTED ON LIGHT POLE UNLESS SHOWN OTHERWISE ON PLANS. REFER TO 2/7303 FOR POLE MOUNT APPLICATIONS.
2.	REFER TO CORRECT RISER BASED ON CAMERA INSTALL LOCATION. USE 4/7401 FOR BUILDING MOUNTED CAMERAS.

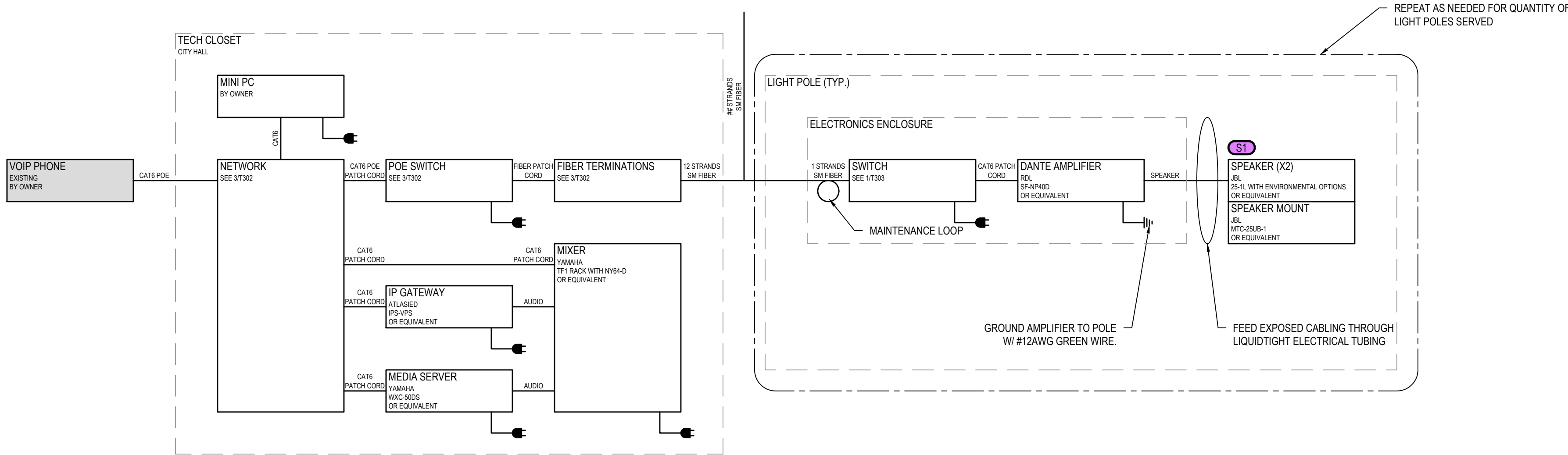
CAMERA NOTES	
1.	INSTALL AND CONFIGURE SERVER LICENSING AS NEEDED. PROVIDE ONE CAMERA LICENSE AND ONE SUPPORT LICENSE FOR EACH CAMERA INSTALLED. CONFIGURE SOFTWARE PER SPECIFICATION TO SUPPORT ALL CAMERAS.
2.	RELOCATE CAMERA DATA DROP AS REQUIRED FOR OPTIMAL CAMERA POSITION. NEATLY COIL AND SECURE ANY REMAINING MAINTENANCE LOOP TO BUILDING STRUCTURE.
3.	SECURE EXTERIOR CAMERAS TO BUILDING AT MINIMUM OF 144" AFF, UNLESS NOTED OTHERWISE.
4.	CAMERA CONTRACTOR IS RESPONSIBLE FOR DRILLING ANY HOLES THAT ARE REQUIRED TO PROVIDE PATHWAY FOR CAMERA PATCH CORDS. SEAL ALL PENETRATIONS APPROPRIATELY (REMOVABLE WATERPROOF CAULK FOR EXTERIOR WALLS, AND FIRE-PROOF PUTTY FOR FIRE-RATED WALLS).
5.	SECURE EXTERIOR CAMERAS TO BUILDING AT MINIMUM OF 144" AFF, UNLESS NOTED OTHERWISE.
6.	IMPORT BUILDING FLOOR PLANS AND PLACE CAMERA ICONS TO ALLOW VIEWING SELECTION OF A GIVEN CAMERA FROM THE SOFTWARE INTERFACE.
7.	ASSIST THE OWNER IN LOADING AND USAGE OF VIEWING SOFTWARE ON UP TO FIVE (5) COMPUTERS AND PROVIDE ABILITY TO VIEW CAMERAS FROM A MOBILE DEVICE TO THE EXTENT POSSIBLE WITH THE SYSTEM.
8.	CABLING THAT ENTERS AND EXITS THE POLE-MOUNTED ENCLOSURE SHALL BE ENCLOSED IN LIQUIDTIGHT ELECTRIC TUBING AND SEALED PROPERLY AT EACH END.
9.	MANUFACTURERS LISTED ON DRAWINGS ARE USED AS THE BASIS OF DESIGN FOR THE VARIOUS TECHNOLOGY SYSTEMS. MANUFACTURERS OF SIMILAR QUALITY AND FEATURE SET MAY BE SUBMITTED AT TIME OF BID.

PAGING LEGEND									
SYMBOL	DESCRIPTION	HEIGHT	DATA DROPS	NEW WORK		SURFACE MOUNT		NOTES	
				ROUGH-IN	FACEPLATE	ROUGH-IN	FACEPLATE	ELECTRICAL	LOW VOLTAGE
	SPEAKER	SEE NOTES	SEE T301	SEE ELEC. NOTES	N/A	N/A	N/A		1

INFORMATION TAG
DEVICE TYPE
PAGING SYMBOL

PAGING LEGEND NOTES
1. POLE MOUNTED. SEE DETAILS ON 2/T303.

DISTRIBUTED SYSTEMS NOTES
1. CABLING THAT ENTERS AND EXITS THE POLE-MOUNTED ENCLOSURE SHALL BE ENCLOSED IN LIQUIDTIGHT ELECTRIC TUBING AND SEALED PROPERLY AT EACH END.
2. AUDINATE DANTE CONTROLLER SOFTWARE SHALL BE DOWNLOADED AND INSTALLED ON THE MINI PC IN THE TECH CLOSET.
3. MANUFACTURERS LISTED ON DRAWINGS ARE USED AS THE BASIS OF DESIGN FOR THE VARIOUS TECHNOLOGY SYSTEMS. MANUFACTURERS OF SIMILAR QUALITY AND FEATURE SET MAY BE SUBMITTED AT TIME OF BID.



1 Public Address System Riser
NTS