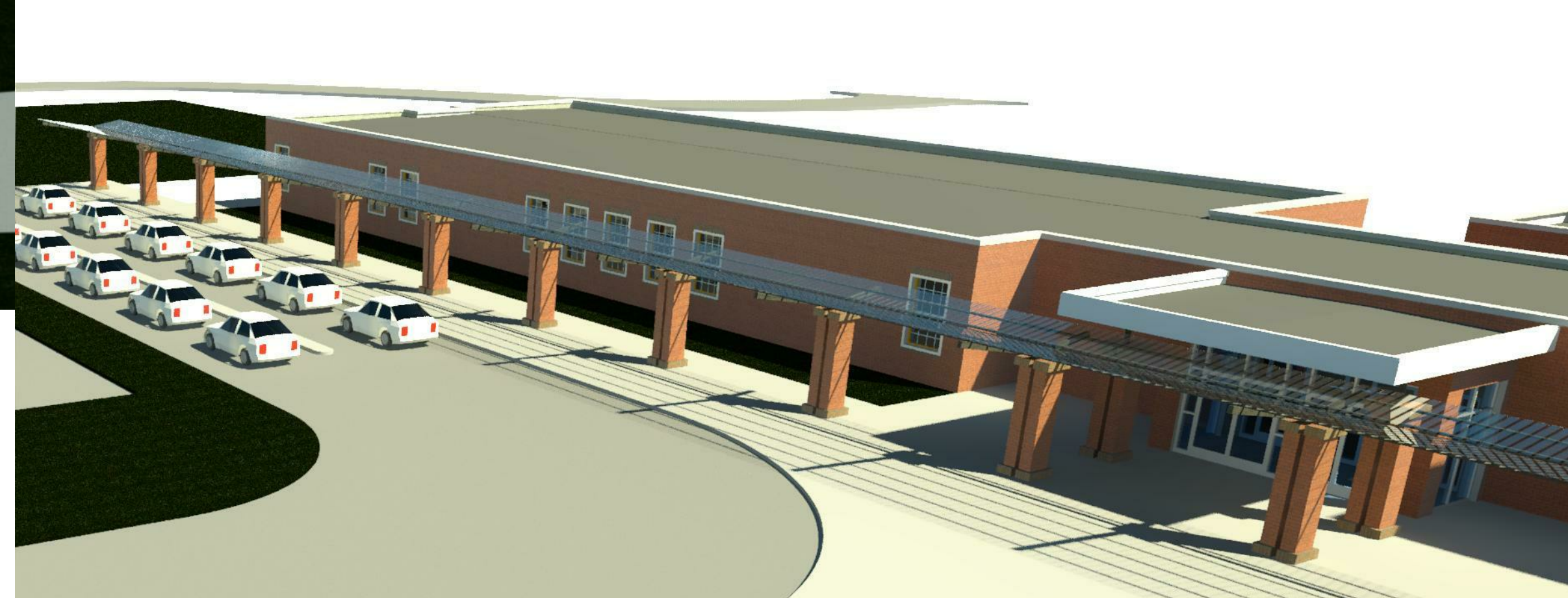


AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

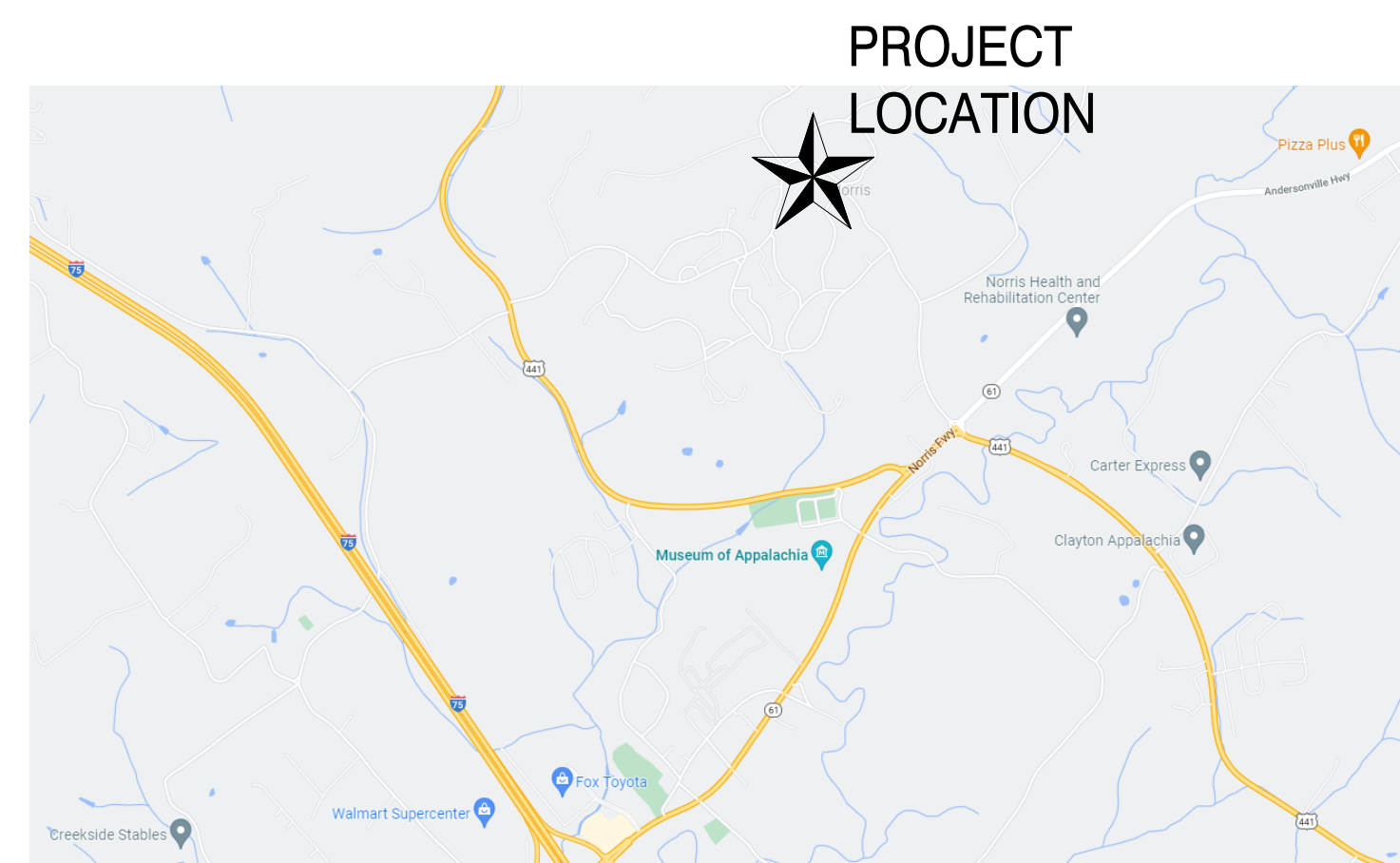


5 NORRIS SQUARE,
NORRIS, TN 37828

ABBREVIATIONS:

AFB	ABOVE FINISH FLOOR	MTL	- METAL
ALT	- ALTERNATE	MG	- MANUFACTURING
ALUM	- ALUMINUM	MFR	- MANUFACTURER
ARCH	- ARCHITECTURAL	MIN	- MINIMUM
ACT	- ACOUSTICAL TILE CEILING	MISC	- MISCELLANEOUS
ASPH	- ASPHALT	NIC	- NOT IN CONTRACT
BF	- BOTTOM FACE	NTS	- NOT TO SCALE
BSMT	- BASEMENT	NO. #	- NUMBER
BM	- BENCH MARK	OC	- ON CENTER
BLOG	- BUILDING	OD	- OUTSIDE DIAMETER
BULK	- BLOCK	P	- PLATE
BRG	- BEARING	PLAS	- PLASTIC
CB	- CATCH BASIN	PLAM	- PLASTIC LAMINATE
CJ	- CONTROL JOINT	PLYWD	- PLYWOOD
CHB	- CHALK BOARD	PTD	- PAINTED
CLG	- CEILING	RAD,R	- RADIUS
CLOS.	- CLOSET	RD	- ROOF DRAIN
CLR	- CLEAR	REINF	- REINFORCING
COL	- COLUMN	REQD	- REQUIRED
COMP	- COMPOSITION	RS	- RISER
CONC	- CONCRETE	RM	- ROOM
CONST	- CONSTRUCTION	RO	- ROUGH OPENING
CMU	- CONCRETE MASONRY UNIT	SCHED	- SCHEDULE
CT	- CERAMIC TILE	SCWD	- SOLID CORE WOOD
DTL	- DETAIL	SECT	- SECTION
D, DIA	- DIAMETER	SHT	- SHEET
DN	- DOWN	SIM	- SIMILAR
DWG	- DRAWING	SPECS	- SPECIFICATIONS
DF	- DRINK FOUNTAIN	SOFT / SF	- SQUARE FEET
DS	- DOWNSPOUT	STD	- STANDARD
EA	- EACH	STL	- STEEL
EF	- EACH FACE	STOR	- STORAGE
ELEC	- ELECTRIC	SD	- STORM DRAIN
EWC	- ELECTRIC WATER COOLER	SUSP	- SUSPENDED
ELEV	- ELEVATION	SQ	- SQUARE
EXIST	- EXISTING	TB	- TACK BOARD
EXT	- EXTERIOR	THOLD	- THRESHOLD
EJ	- EXPANSION JOINT	TLT	- TOILET
FE	- FIRE EXTINGUISHER	TD, TDS	- THREAD (S)
FL	- FLOOR	TF	- TOP FACE
FD	- FLOOR DRAIN	TYP	- TYPICAL
FT	- FOOT	U	- URINAL
FTNG	- FOOTING	V	- VERIFY IN FIELD
GALV	- GALVANIZED IRON	VS	- VENT STACK
GA	- GAUGE	VOL	- VOLUME
GYP	- GYPSUM	VT	- VINYL TILE
HB	- HOSE BIB	VERT	- VERTICAL
HCWD	- HOLLOW CORE WOOD	WSCOT	- WAINSCOT
HDW	- HARDWARE	WC	- WATER CLOSET
HGT	- HEIGHT	WH	- WATER HEATER
HM	- HOLLOW METAL	WPF	- WATERPROOFING
ID	- INSIDE DIAMETER	WFL	- WIDE FLANGE
IN	- INCH	WINDW	- WINDOW
INV	- INVERT	WD	- WOOD
JAN	- JANITOR	WI	- WITH
JUST	- JOIST	WWF	- WELDED WIRE FABRIC
LAV	- LAVATORY	WWM	- WELDED WIRE MESH
IB	- POUND	L	- ANGLE
MH	- MANHOLE	@	- AT
MAX	- MAXIMUM	C	- CHANNEL
MECH	- MECHANICAL	Ø	- DIAMETER

VICINITY MAP:



MATERIALS LEGEND:

	CONCRETE BLOCK		CONCRETE IN SECTION		RIGID INSULATION, EIFS AS NOTED
	BRICK		SOIL IN SECTION		PLYWOOD
	METAL IN SECTION		CRUSHED STONE		FINISH WOOD
	GYP. BOARD, PLASTER, OR CONCRETE IN PLAN AS NOTED		BATT INSULATION		WOOD FRAMING

PROJECT INFORMATION:

PROJECT DESCRIPTION
A NEW 9,347 S.F. CLASSROOM ADDITION FOR NORRIS MIDDLE SCHOOL.

JURISDICTION
CITY OF NORRIS, TN
DEPARTMENT OF ZONING, BUILDING PERMITS
20 CHESTNUT DRIVE
P.O. BOX 1090
NORRIS, TN 37828
PHONE NUMBER: (865) 494-7645

DESIGN CODES
2018 INTERNATIONAL BUILDING CODE
2017 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL FIRE CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL ENERGY CONSERVATION CODE
2009 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES CODE (ICC A117.12009)

TYPE OF CONSTRUCTION: II-B, SPRINKLERED.
OCCUPANCY: EDUCATIONAL
NUMBER OF STORIES: 2 STORY EXISTING, 1 STORY ADDITION

STATE DESIGN CODES
2012 INTERNATIONAL EXISTING BUILDING CODE
2012 INTERNATIONAL BUILDING CODE (EXCLUDING CHAPTER 11 AND SECTION 3411)
2017 NATIONAL ELECTRICAL CODE, NFPA 70
2012 INTERNATIONAL FIRE CODE
2012 INTERNATIONAL MECHANICAL CODE
2012 INTERNATIONAL PLUMBING CODE
2012 INTERNATIONAL FUEL GAS CODE
2012 INTERNATIONAL ENERGY CONSERVATION CODE
2010 ADA STANDARDS FOR ACCESSIBLE DESIGN
2012 NFPA - 101 LIFE SAFETY

NOTE:
WHERE THERE IS A DISCREPANCY BETWEEN THE STATE AND LOCAL BUILDING CODES, THE MORE STRINGENT REQUIREMENT SHALL APPLY

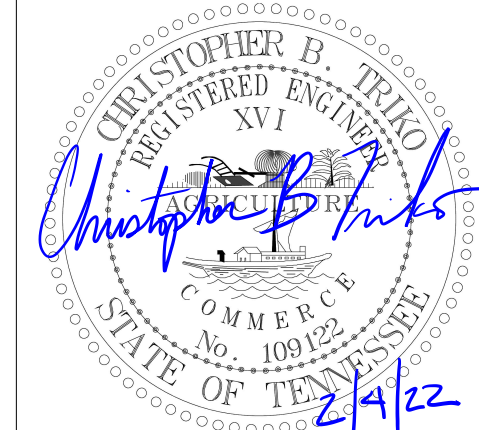
PROJECT DIRECTORY:

OWNER: ANDERSON COUNTY SCHOOLS CONTACT: CLAY MCKAMEY 101 S. MAIN STREET CLINTON, TN 37716 865-457-2519	STRUCTURAL ENGINEER: MBI COMPANIES INC. NICK DEAL 299 N. WEISGARBER ROAD KNOXVILLE, TN 37919 865-584-0999	MECHANICAL ENGINEER: MBI COMPANIES INC. JOHN BUCHANAN 299 N. WEISGARBER ROAD KNOXVILLE, TN 37919 865-584-0999
ARCHITECT: MBI COMPANIES INC. CHARLES M. GRANT 299 N. WEISGARBER ROAD KNOXVILLE, TN 37919 865-584-0999	ELECTRICAL ENGINEER: MBI COMPANIES INC. MARK NEWLIN 299 N. WEISGARBER ROAD KNOXVILLE, TN 37919 865-584-0999	CIVIL ENGINEER: MBI COMPANIES INC. CHRIS TRIKO 299 N. WEISGARBER ROAD KNOXVILLE, TN 37919 865-584-0999

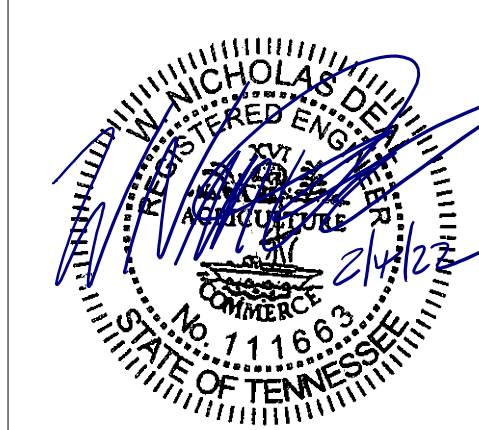
LIST OF DRAWINGS:

SHEET #	DRAWING TITLE	REV #
CIVIL AND SITE ENGINEERING		
C001	CIVIL NOTES & LEGEND	
C100	PHASE 1 EROSION PREVENTION & SEDIMENT CONTROL PLAN	
C101	PHASE 2 EROSION PREVENTION & SEDIMENT CONTROL PLAN	
C200	SITE DEMOLITION PLAN	
C300	SITE LAYOUT PLAN	
C400	SITE GRADING AND DRAINAGE PLAN	
C500	SITE UTILITIES PLAN	
C800	CIVIL DETAILS	
C801	CIVIL DETAILS	
C802	CIVIL DETAILS	
C803	CIVIL DETAILS	
ARCHITECTURAL		
A000	GENERAL NOTES AND ACCESSIBILITY DETAILS	
A001	DEMOLITION PLAN	
A002	LIFE SAFETY INFORMATION	
A101	DIMENSIONED FLOOR PLAN	
A201	DOOR SCHEDULE, WINDOW TYPES, AND DETAILS	
A301	ROOF PLAN	
A302	ROOF DETAILS	
A401	EXTERIOR ELEVATIONS	
A501	BUILDING SECTIONS	
A502	EXTERIOR WALL SECTIONS	
A503	CANOPY DETAILS	
A601	ENLARGED PLANS AND ELEVATIONS	
A701	REFLECTED CEILING PLAN AND DETAILS	
INTERIOR DESIGN		
F101	FLOOR FINISH PLANS	
F301	MILLWORK ELEVATIONS	
F302	MILLWORK DETAILS	
F303	MILLWORK - ADD ALT	
F401	INTERIOR ELEVATIONS	
STRUCTURAL ENGINEERING		
S001	STRUCTURAL NOTES	
S002	SPECIAL INSPECTIONS	
S003	TYPICAL FOUNDATION AND SLAB ON GRADE DETAILS	
S004	TYPICAL CMU DETAILS W/ HORIZONTAL JOINT REINFORCING	
S005	TYPICAL STEEL DETAILS	
S101	FOUNDATION PLAN	
S301	ROOF FRAMING PLAN	
S501	FOUNDATION DETAILS	
S502	ROOF FRAMING DETAILS	
MECHANICAL		
MP001	FIRE PROTECTION LEGENDS, SPECIFICATIONS, AND NOTES	
FP101	FLOOR PLAN - FIRE PROTECTION	
FP201	FIRE PROTECTION DETAILS	
M001	HVAC LEGENDS, SPECIFICATIONS, AND NOTES	
M101	FLOOR PLAN - HVAC	
M102	ROOF PLAN - HVAC	
M201	HVAC DETAILS	
P001	PLUMBING LEGEND AND NOTES	
P101	FLOOR PLAN - PLUMBING	
P102	ROOF PLAN - PLUMBING	
P201	PLUMBING SCHEDULES	
P301	PLUMBING DETAILS	
ELECTRICAL ENGINEERING		
E001	ELECTRICAL LEGEND AND GENERAL NOTES	
E101	EXISTING BUILDING EQUIPMENT INTERCONNECTION PLAN	
E111	CLASSROOM ADDITION POWER PLAN	
E112	HVAC ROOF POWER PLAN	
E201	LIGHTING PLANS	
E311	CLASSROOM ADDITION FIRE ALARM AND COMMUNICATIONS PLAN	
E401	RISER DIAGRAM AND PANELBOARD SCHEDULES	
E501	ELECTRICAL DETAILS	
ES101	ELECTRICAL SITE PLAN	
Grand total: 59		

CIVIL:



STRUCTURAL:



MECHANICAL:



ELECTRICAL:



MBI

MBI COMPANIES INC.
299 N. WEISGARBER ROAD
KNOXVILLE, TN 37919
PHONE: (865) 584-0999
FAX: (865) 584-5213
WEB: mbicompanies.com

CONSULTANT

SEAL



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PROJECT INFORMATION

PROJECT:

AN ADDITION & RENOVATION TO:
NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

<input type="checkbox"/>	FOR REVIEW ONLY
<input type="checkbox"/>	FOR PERMITTING ONLY
<input type="checkbox"/>	SCHEMATIC DESIGN
<input type="checkbox"/>	DESIGN DEVELOPMENT
<input type="checkbox"/>	CONSTRUCTION BIDDING
<input checked="" type="checkbox"/>	CONSTRUCTION DOCUMENTS
<input type="checkbox"/>	AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: CMG
DRAWN BY: KEF
REVIEWED BY: CMG
SHEET TITLE:

COVER SHEET

SHEET NO.:

G000

GENERAL NOTES

- 1. COMPLY WITH ALL PERTINENT PROVISIONS OF THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" ISSUED BY A.G.C. OF AMERICA, INC. AND THE SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION ISSUED BY THE U.S. DEPARTMENT OF LABOR, 29 CFR 1926 OSHA.

DEMOLITION NOTES

- 1. DO ALL DEMOLITION WORK REQUIRED TO REMOVE EXISTING MASONRY WALLS, PAVING, FOUNDATIONS, CONCRETE SLABS, EXISTING UNDERGROUND PIPING, CONDUIT, BUILDING FINISHES, DOORS, WINDOWS AS SHOWN ON THE DRAWINGS AND ANY OTHER NECESSARY ITEMS TO INSTALL THE PROPOSED WORK.

SITE NOTES

- 1. WHERE PROPOSED PAVEMENT ABUTS EXISTING PAVEMENT, THE EXISTING PAVEMENT SHALL BE CUT IN A NEAT STRAIGHT LINE THROUGH PAVEMENT AND BASE. PROVIDE A SMOOTH TRANSITION.

SURVEY NOTES

- 1. BOUNDARY AND TOPOGRAPHIC INFORMATION WAS PREPARED BY MBI COMPANIES INC., 299 N. WEISGARBER ROAD, KNOXVILLE TN 37919. SURVEY PERFORMED 01/06/2022.

GRADING NOTES

- 1. FIELD VERIFY CRITICAL GRADES AT CONNECTION POINTS SUCH AS ENTRANCES PRIOR TO CONSTRUCTION AND NOTIFY PROJECT MANAGER OR ENGINEER OF ANY DISCREPANCIES.

DRAINAGE NOTES

- 1. FIELD VERIFY CRITICAL GRADES AT CONNECTION POINTS PRIOR TO CONSTRUCTION OR FABRICATION OF PRECAST STRUCTURES.

EROSION CONTROL NOTES

- 1. UNLESS SHOWN OTHERWISE, ALL DISTURBED AREAS NOT ULTIMATELY RECEIVING A HARD SURFACE SHALL HAVE A MINIMUM DEPTH OF 5" OF TOPSOIL AND BE STABILIZED WITH GRASS.

UTILITY NOTES

- 1. COORDINATE WITH EXISTING UTILITIES AND STORM SEWER INSTALLATION TO AVOID CONFLICTS. UTILITY INSTALLATION AND MATERIAL SHALL MEET THE REQUIREMENTS OF NORRIS WATER COMMISSION, CLINTON UTILITIES BOARD, AND POWELL-CLINCH UTILITY DISTRICT.

ABBREVIATIONS

Table with 2 columns: Abbreviation and Description. Includes terms like AT, AND, AASHTO, ADA, APPROX, etc.

EXISTING LEGEND PROPOSED

Legend table showing symbols for existing and proposed features like EASEMENT, RIGHT-OF-WAY, PROPERTY LINE, etc.

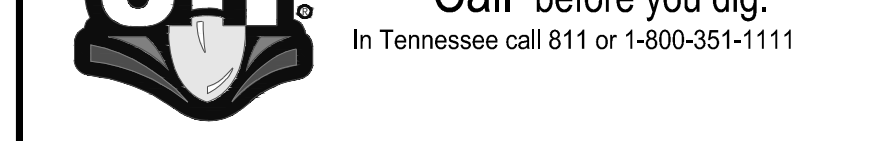
AREAS & CALCULATIONS

Table showing IMPERVIOUS AREA, DISTURBED AREA, and PARKING CALCULATION with columns for EXISTING, PROPOSED, and TOTAL INCREASE.

PROPERTY INFORMATION

OWNER: ANDERSON COUNTY SCHOOLS
ADDRESS: 101 S. MAIN ST. CLINTON, TN 37716
PHONE: (865) 463-2800

MBI logo, professional seal, project information, revision table, and contact details for MBI Companies Inc.



CIVIL NOTES & LEGEND SHEET NO.: C001



PHASE 1 EROSION PREVENTION & SEDIMENT CONTROL PLAN

1

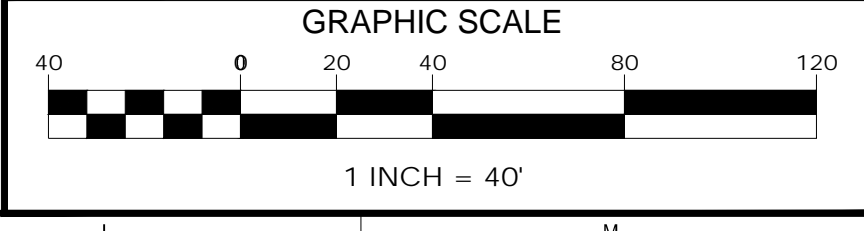
GENERAL SHEET NOTES

1. SEE SHEET C001 FOR CIVIL NOTES AND LEGENDS

EROSION CONTROL LEGEND

- SF SILT FENCE; SEE DETAIL 3/C800
- CONSTRUCTION EXIT; SEE DETAIL 1/C800
- INLET PROTECTION; SEE DETAIL 4/C800

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MBI

ENGINEER:

MBI COMPANIES INC.
299 N. WEISGARBER ROAD
KNOXVILLE, TN 37919

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PROJECT INFORMATION

PROJECT:

AN ADDITION
& RENOVATION TO:
NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE
NORRIS, TN 37858

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

- FOR REVIEW ONLY
- FOR PERMITTING ONLY
- SCHEMATIC DESIGN
- DESIGN DEVELOPMENT
- CONSTRUCTION BIDDING
- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

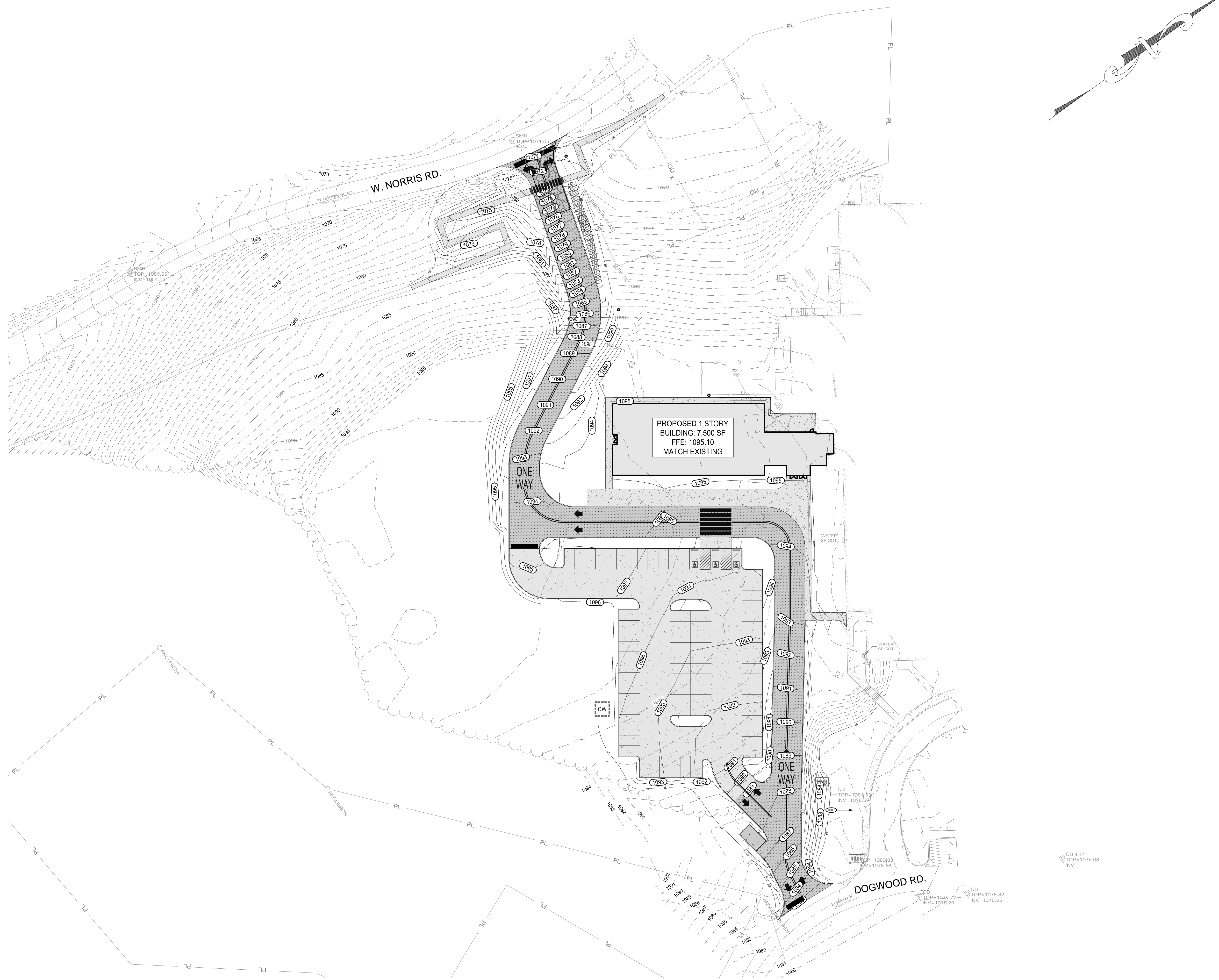
KEY PLAN

SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: I.A.J.
DRAWN BY: I.A.J.
REVIEWED BY: C.B.T.
SHEET TITLE:

PHASE 1 EROSION PREVENTION & SEDIMENT CONTROL PLAN

SHEET NO.: C100



PHASE 2 EROSION PREVENTION & SEDIMENT CONTROL PLAN

GENERAL SHEET NOTES:

1. SEE SHEET C001 FOR CIVIL NOTES AND LEGENDS

EROSION CONTROL LEGEND

- SF SILT FENCE; SEE DETAIL 3/C800
- CONSTRUCTION ENTRANCE; SEE DETAIL 1/C800
- INLET PROTECTION; SEE DETAIL 4/C800
- OUTFALL
- CW CONCRETE WASHOUT; SEE DETAIL 5/C800
- PS PERMANENT STABILIZATION; SEE SEED MIXTURE TABLES BELOW
- SLOPE MATTING; SEE DETAIL 2/C800

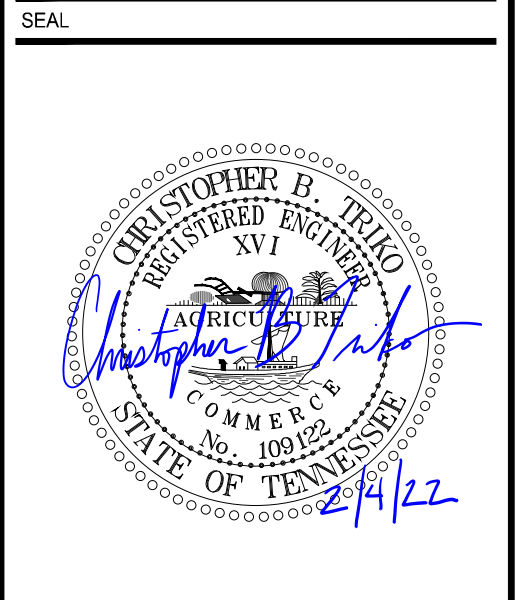
PERMANENT SEED MIXTURES (TDOT)

GROUPS	SEEDING DATES	GRASS SEEDS	PERCENT
A	FEBRUARY 1 TO JULY 1	KENTUCKY 31 FESCUE	80%
		KOREAN LESPEDEZA	15%
		ENGLISH RYE	5%
B	JUNE 1 TO AUGUST 15	KENTUCKY 31 FESCUE	55%
		ENGLISH RYE	20%
		KOREAN LESPEDEZA	15%
B1	APRIL 15 TO AUGUST 15	BERMUDAGRASS (HULLED)	70%
		ANNUAL LESPEDEZA	30%
		KENTUCKY 31 FESCUE	70%
C	AUGUST 1 TO DECEMBER 1	ENGLISH RYE	20%
		WHITE CLOVER	10%
		KENTUCKY 31 FESCUE	70%
C1	FEBRUARY 1 TO DECEMBER 1	CROWN VETCH	25%
		ENGLISH RYE	5%



ENGINEER:
 MBI COMPANIES INC.
 299 N. WEISGARBER ROAD
 KNOXVILLE, TN 37919
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PROJECT INFORMATION

PROJECT:

**AN ADDITION & RENOVATION TO:
 NORRIS MIDDLE SCHOOL**

PROJECT ADDRESS:
 5 NORRIS SQUARE
 NORRIS, TN 37858

PROJECT NO.: 21004-04

ACTIVE DESIGN PHASE

- FOR REVIEW ONLY
- FOR PERMITTING ONLY
- SCHEMATIC DESIGN
- DESIGN DEVELOPMENT
- CONSTRUCTION BIDDING
- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN



SHEET INFORMATION

SHEET ISSUED: 02/04/2022
 DESIGNED BY: I.A.J.
 DRAWN BY: I.A.J.
 REVIEWED BY: C.B.T.
 SHEET TITLE:

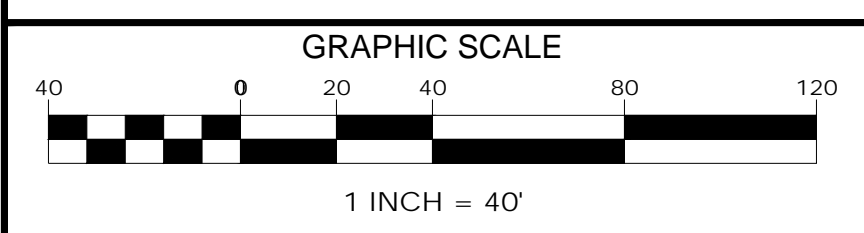
PHASE 2 EROSION PREVENTION & SEDIMENT CONTROL PLAN

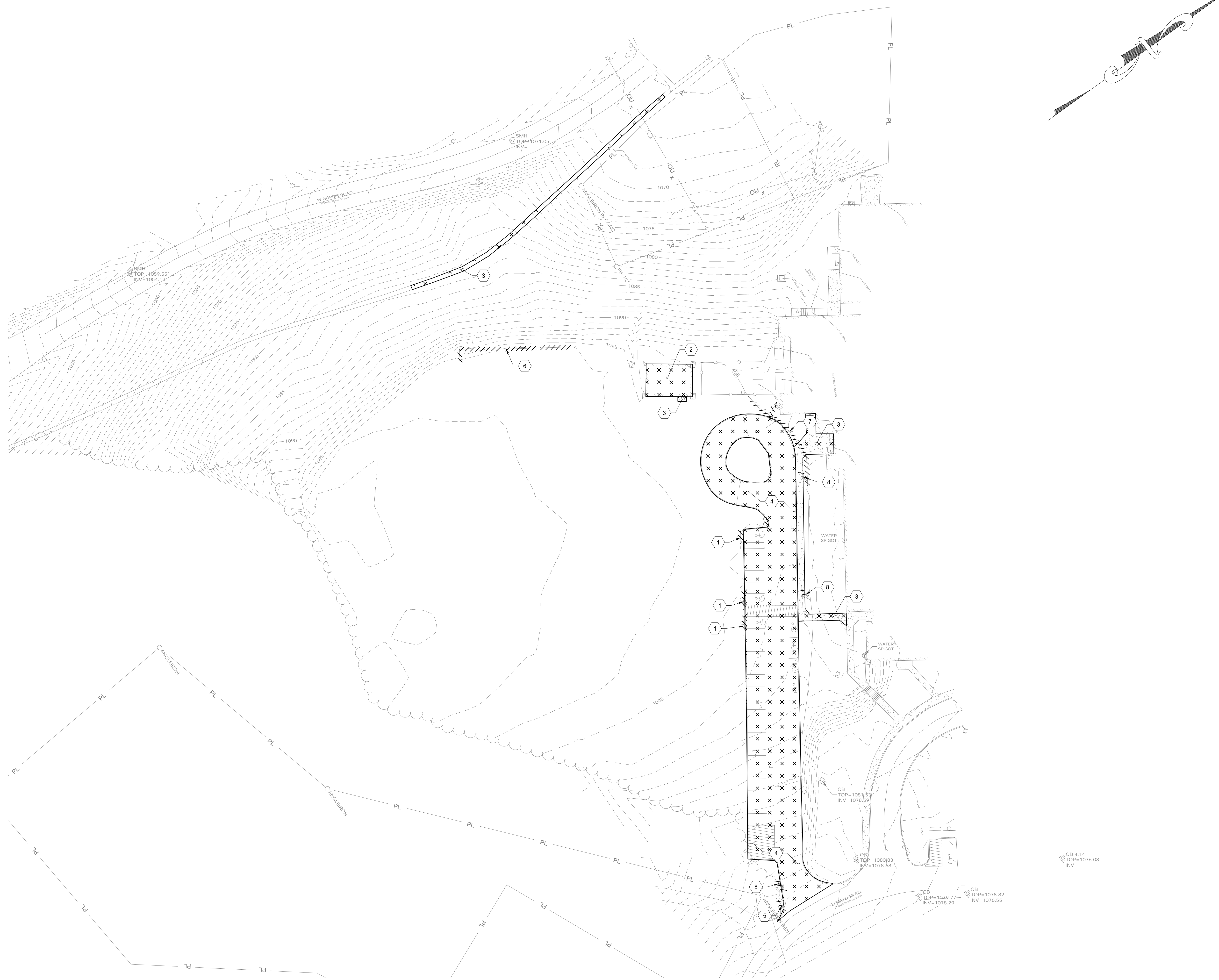
SHEET NO.:

C101



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SITE DEMO PLAN

1

GENERAL SHEET NOTES:

1. SEE SHEET C001 FOR CIVIL NOTES AND LEGENDS

DEMOLITION LEGEND

- //// //// //// TO BE REMOVED
- | | | | | | |
|---|---|---|---|---|---|
| x | x | x | x | x | x |
| x | x | x | x | x | x |

 TO BE DEMOLISHED

DEMOLITION KEYED NOTES

- 1 REMOVE EXISTING "ADA PARKING SPACE" SIGN
- 2 DEMOLISH EXISTING SHED
- 3 DEMOLISH EXISTING SIDEWALK
- 4 DEMOLISH EXISTING ASPHALT AND CURB
- 5 REMOVE EXISTING "STOP" SIGN
- 6 REMOVE EXISTING FENCE
- 7 REMOVE EXISTING GAS LINE, BY LOCAL UTILITY
- 8 REMOVE EXISTING "NO PARKING" SIGN

MBI

ENGINEER:

MBI COMPANIES INC.
 299 N. WEISGARBER ROAD
 KNOXVILLE, TN 37919
 PHONE: (865) 584-0999
 FAX: (865) 584-5213
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PROJECT INFORMATION

PROJECT:

AN ADDITION & RENOVATION TO:
NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE
NORRIS, TN 37858

PROJECT NO.: 21004-04

ACTIVE DESIGN PHASE

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<input type="checkbox"/>	FOR PERMITTING ONLY
<input type="checkbox"/>	SCHEMATIC DESIGN
<input type="checkbox"/>	DESIGN DEVELOPMENT
<input type="checkbox"/>	CONSTRUCTION BIDDING
<input type="checkbox"/>	CONSTRUCTION DOCUMENTS
<input type="checkbox"/>	AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION

SHEET ISSUED: 02/04/2022

DESIGNED BY: I.A.J.

DRAWN BY: I.A.J.

REVIEWED BY: C.B.T.

SHEET TITLE:

SITE DEMOLITION PLAN

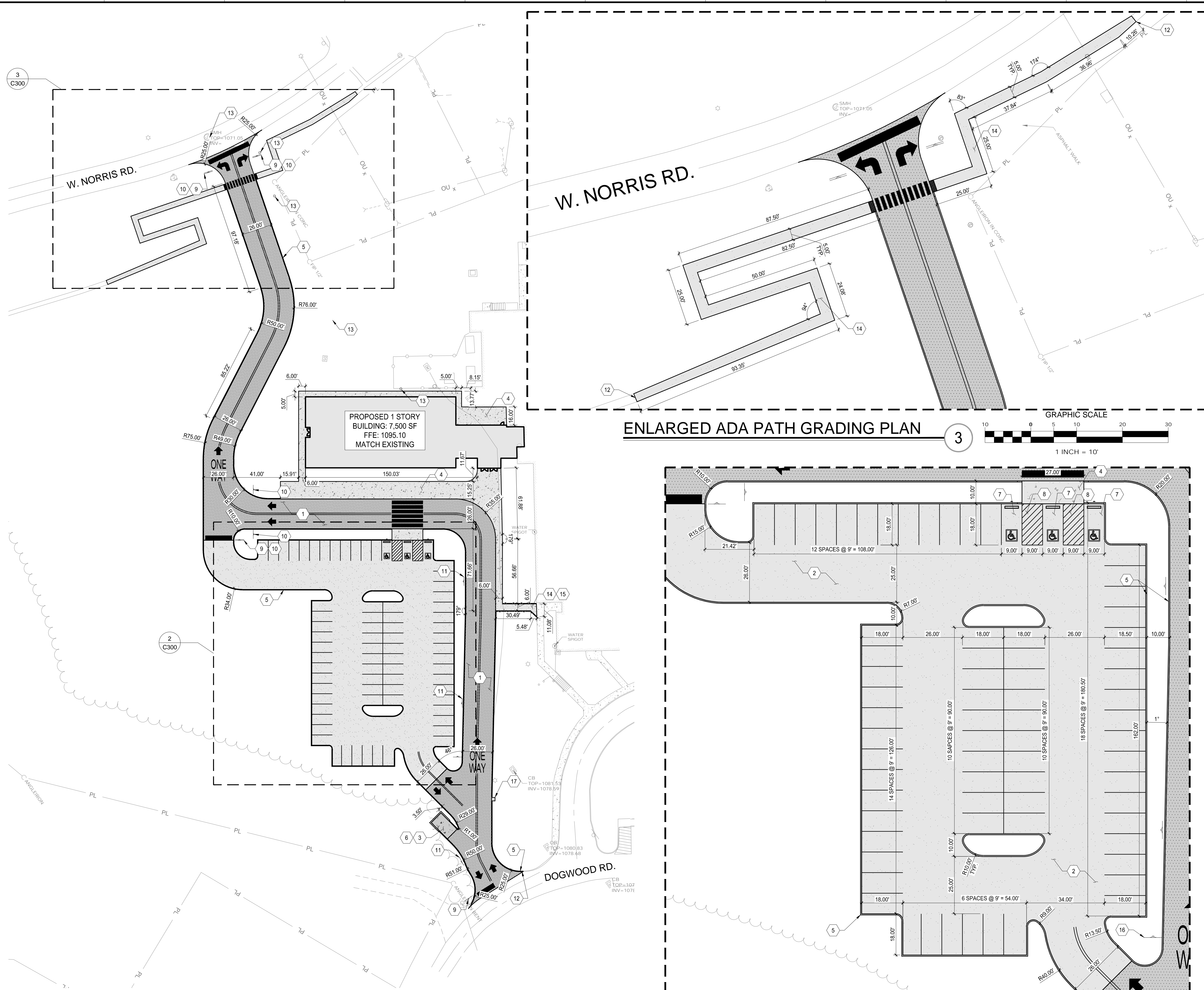
SHEET NO.: C200

811

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GRAPHIC SCALE

1 INCH = 40'



SITE LAYOUT PLAN

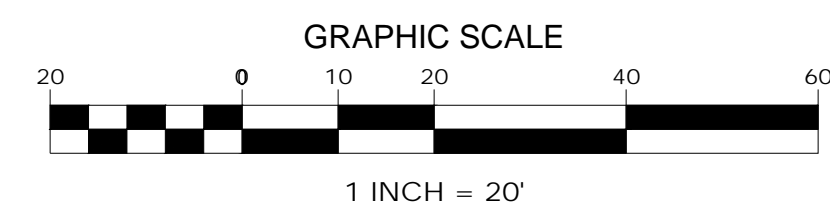
1

ENLARGED ADA PATH GRADING PLAN

3

ENLARGED PARKING GRADING PLAN

2



GENERAL SHEET NOTES:

- SEE SHEET C001 FOR CIVIL NOTES AND LEGENDS
- FOR TYPICAL PARKING SPACE LAYOUT, SEE 1/C802
- ALL RADII NOT LABELED ARE TO BE R3.00'

AREAS & CALCULATIONS

IMPERVIOUS AREA		PROPOSED		TOTAL INCREASE	
EXISTING	Acres	Acres	sqft	Acres	sqft
0.54	23,390	1.59	69,468	1.05	46,078

DISTURBED AREA		TOTAL SITE AREA		DISTURBED AREA	
EXISTING	Acres	Acres	sqft	Acres	sqft
12.3	535,788	2.37	103,237		

PARKING CALCULATION	
PROVIDED	REGULAR ACCESSIBLE TOTAL
70	73

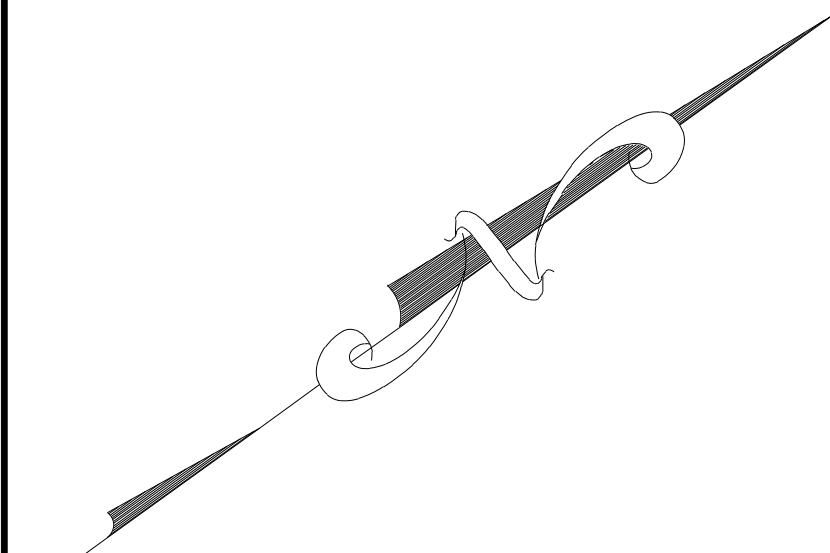
SITE LEGEND

- PAINTED DOUBLE STRIP, COLOR TO BE YELLOW
- PAINTED 'ONE WAY' LETTERS, COLOR TO BE WHITE; SEE DETAIL 8/C802
- PAINTED DIRECTIONAL ARROWS, COLOR TO BE WHITE; SEE DETAIL 8/C802
- PAINTED PEDESTRIAN CROSSWALK, COLOR TO BE WHITE; SEE DETAIL 9/C802
- PAINTED STOP BAR, COLOR TO BE WHITE; SEE DETAIL 8/C802

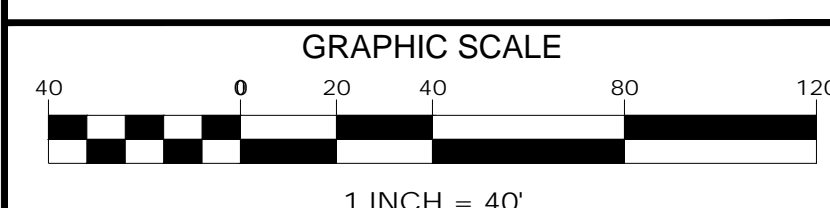
SITE KEYED NOTES

- HEAVY DUTY ASPHALT PAVING; SEE DETAIL 2/C801
- LIGHT DUTY ASPHALT PAVING; SEE DETAIL 2/C801
- CONCRETE PAVING; SEE DETAIL 2/C801
- CONCRETE SIDEWALK; SEE DETAIL 1/C801
- CONCRETE CURB; SEE DETAIL 3/C801
- WASTE ENCLOSURE; SEE ARCHITECTURAL SHEETS FOR DETAILS
- ADA COMPLIANT PARKING SPACE; SEE DETAIL 2/C802
- PAINTED 'NO PARKING' AREA, COLOR TO BE WHITE; SEE DETAIL 3/C802
- POLE MOUNTED 'STOP' SIGN; SEE DETAIL 7/C802
- POLE MOUNTED 'DO NOT ENTER' SIGN; SEE DETAIL 7/C802
- POLE MOUNTED 'NO PARKING' SIGN; SEE DETAIL 7/C802
- PROVIDE SMOOTH TRANSITION TO EXISTING SURFACE
- SANITARY SEWER STRUCTURE; SEE SHEET C800 FOR DETAILS
- ADA COMPLIANT RAMP; MAX SLOPE 5%; SEE DETAIL 2/C801
- POLE MOUNTED 'ONE WAY' SIGN; SEE DETAIL 7/C802
- TACTILE WARNING PAD; SEE DETAIL 6/C801
- CURB CUT WITH CONCRETE APRON; SEE DETAIL 5/C801

CONTRACTOR TO PROVIDE SIGNAGE TO WARN AND PROTECT THE PUBLIC FROM CONSTRUCTION ACTIVITIES



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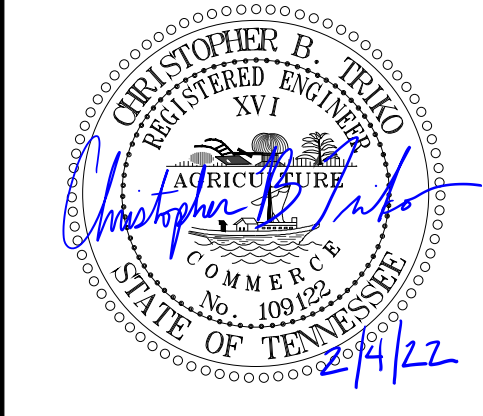


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PROJECT INFORMATION

PROJECT:

AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE
NORRIS, TN 37858

PROJECT NO.: 21004-04

ACTIVE DESIGN PHASE

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- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN



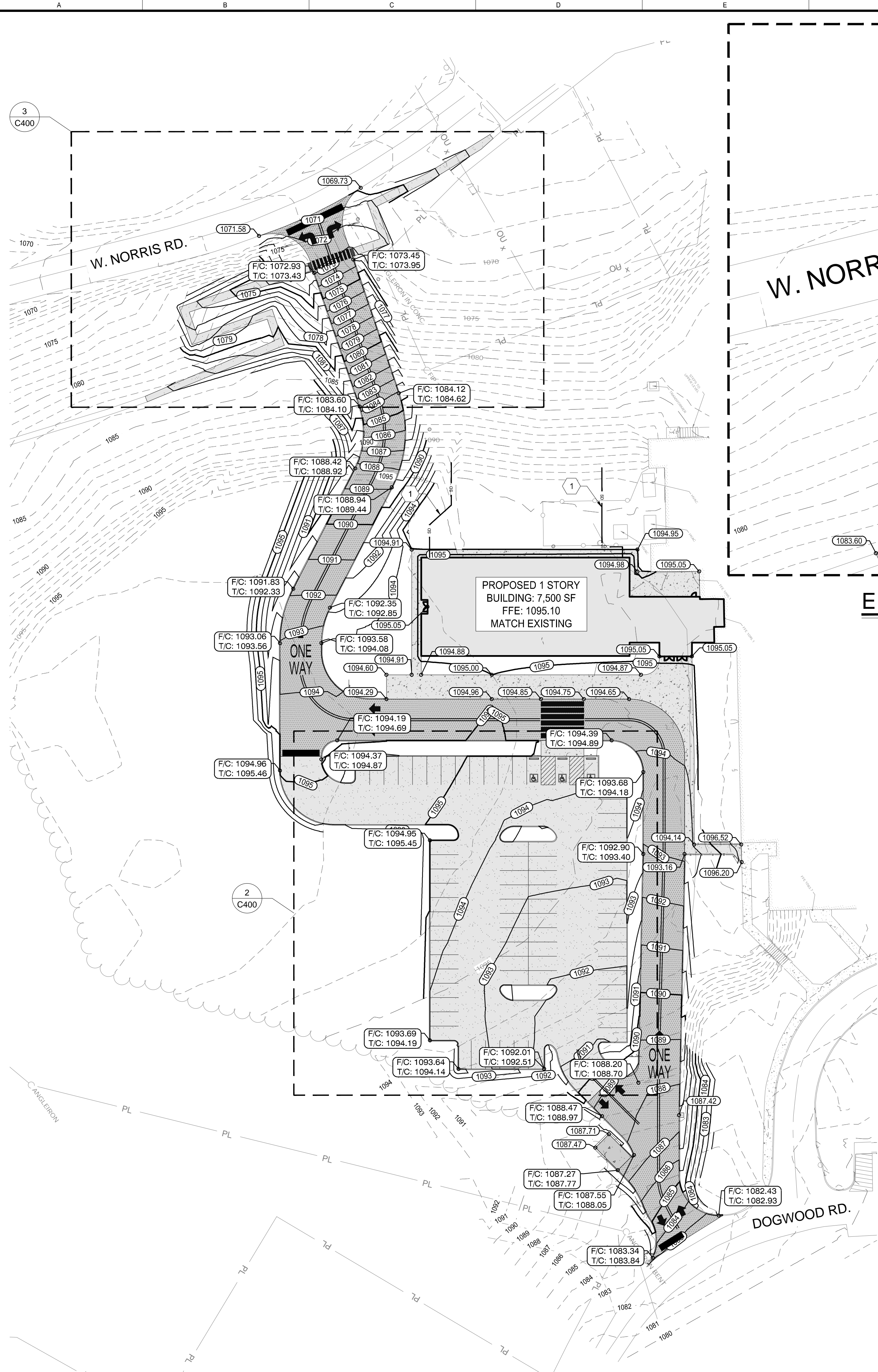
SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: I.A.J.
DRAWN BY: I.A.J.
REVIEWED BY: C.B.T.
SHEET TITLE:

SITE LAYOUT PLAN

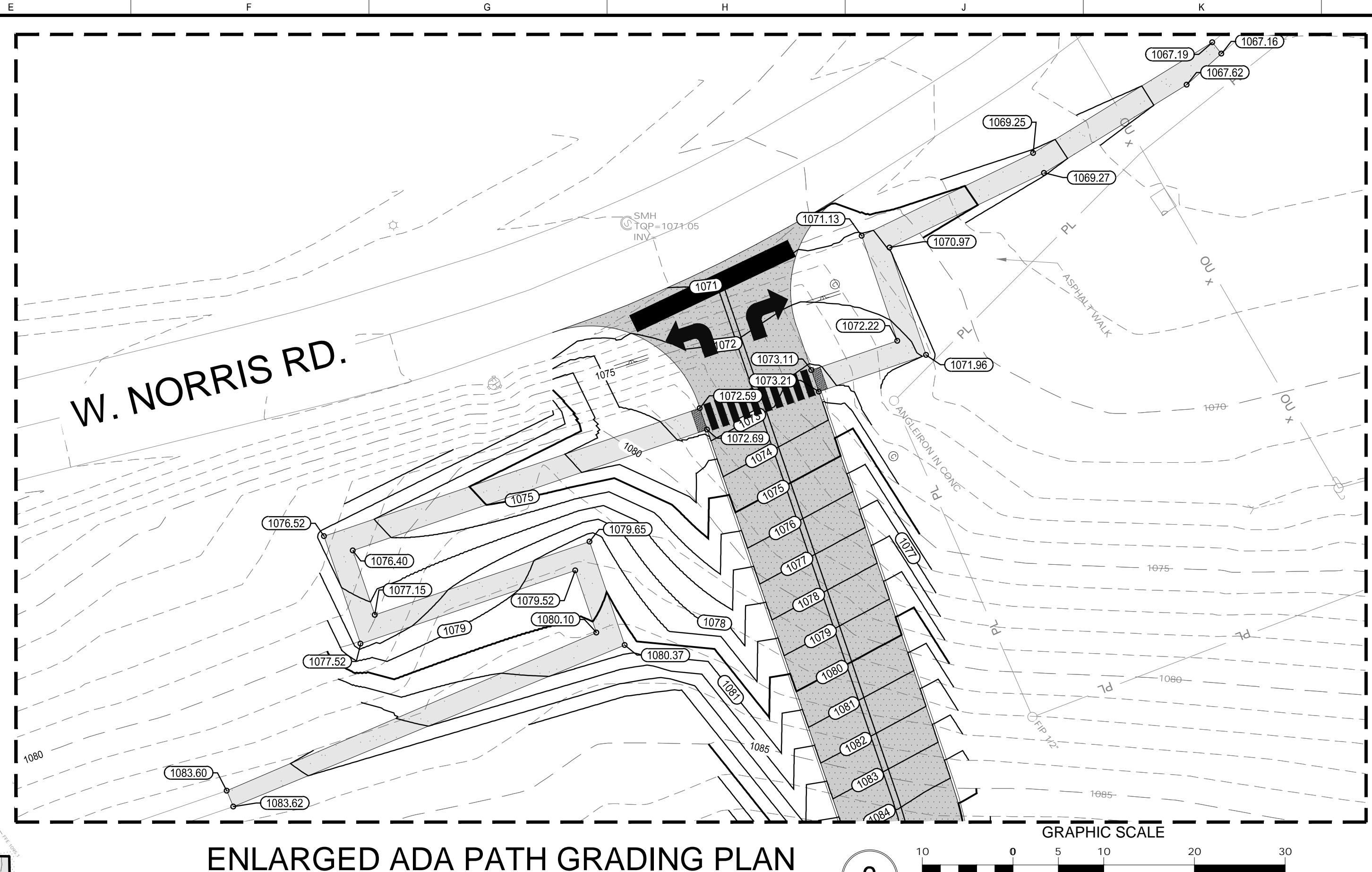
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C300



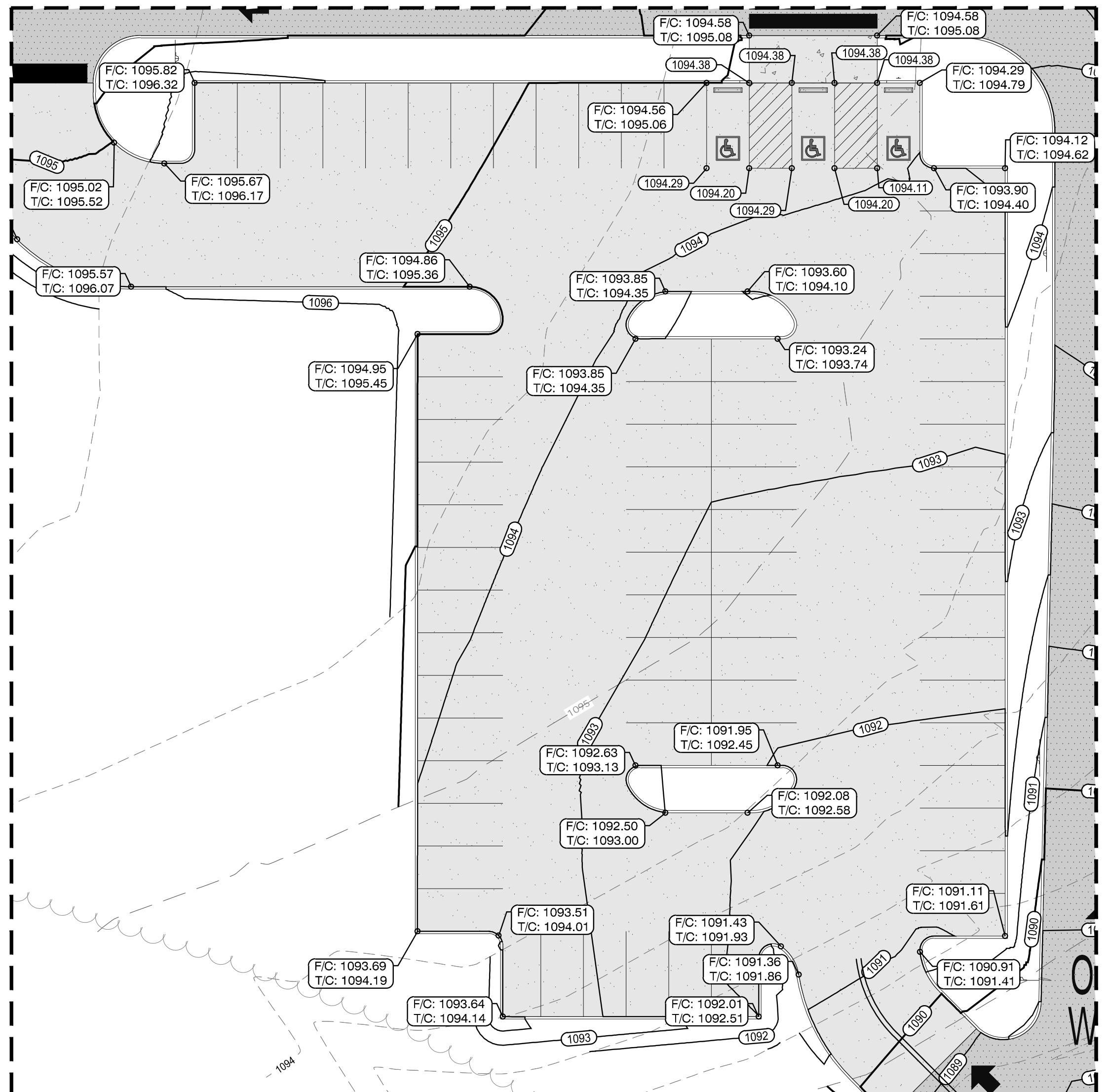
SITE GRADING AND DRAINAGE PLAN

1



ENLARGED ADA PATH GRADING PLAN

3



ENLARGED PARKING GRADING PLAN

2

GENERAL SHEET NOTES

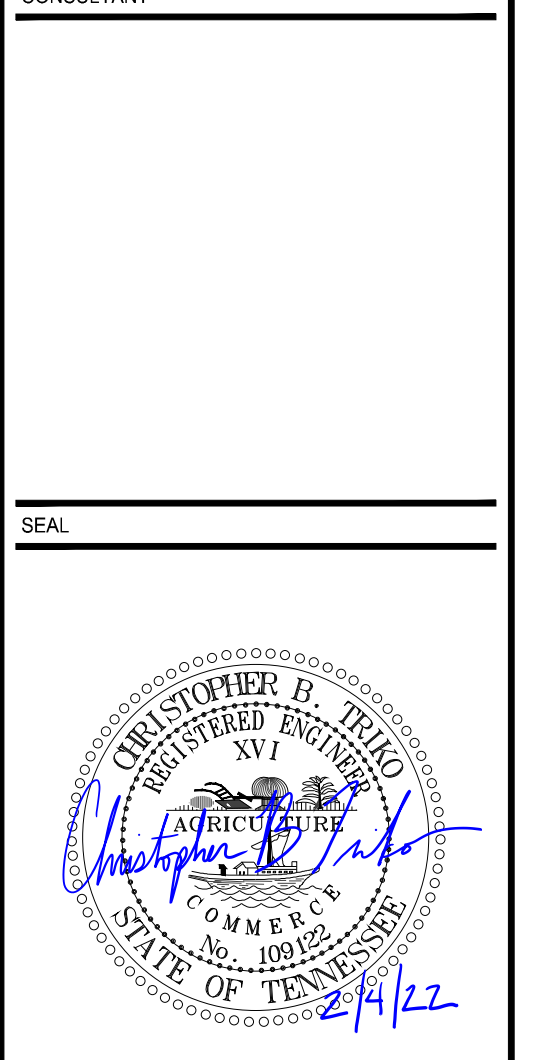
1. SEE SHEET C001 FOR CIVIL NOTES AND LEGENDS

GRADING KEYED NOTES

1 8" PVC ROOF DRAIN PIPE; MIN. SLOPE 1% UNTIL DAYLIGHT; SEE DETAIL 4/C803



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**AN ADDITION & RENOVATION TO:
 NORRIS MIDDLE SCHOOL**

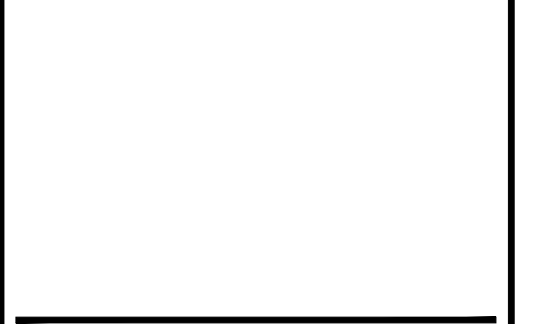
PROJECT ADDRESS:
 5 NORRIS SQUARE
 NORRIS, TN 37858

- PROJECT NO.: 21004-04
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REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN



SHEET INFORMATION

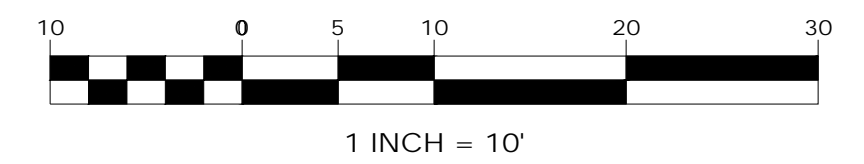
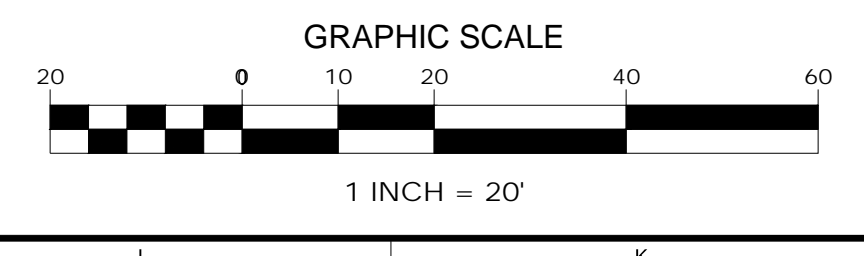
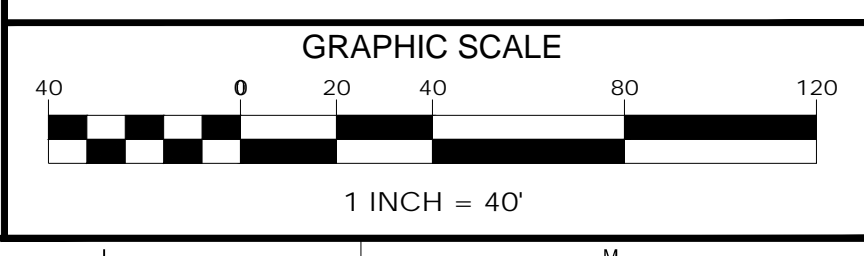
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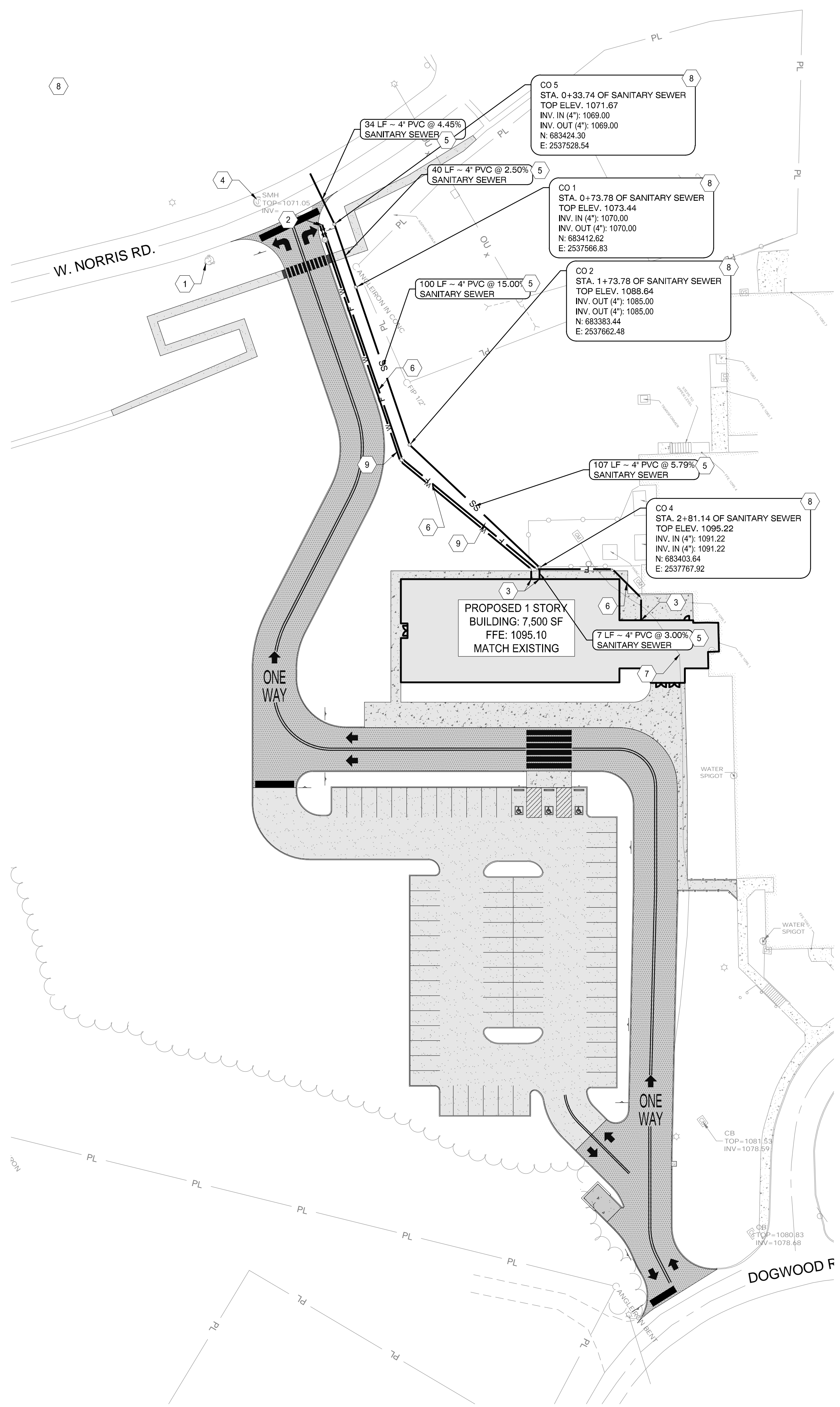
SITE GRADING AND DRAINAGE PLAN

SHEET NO.: **C400**



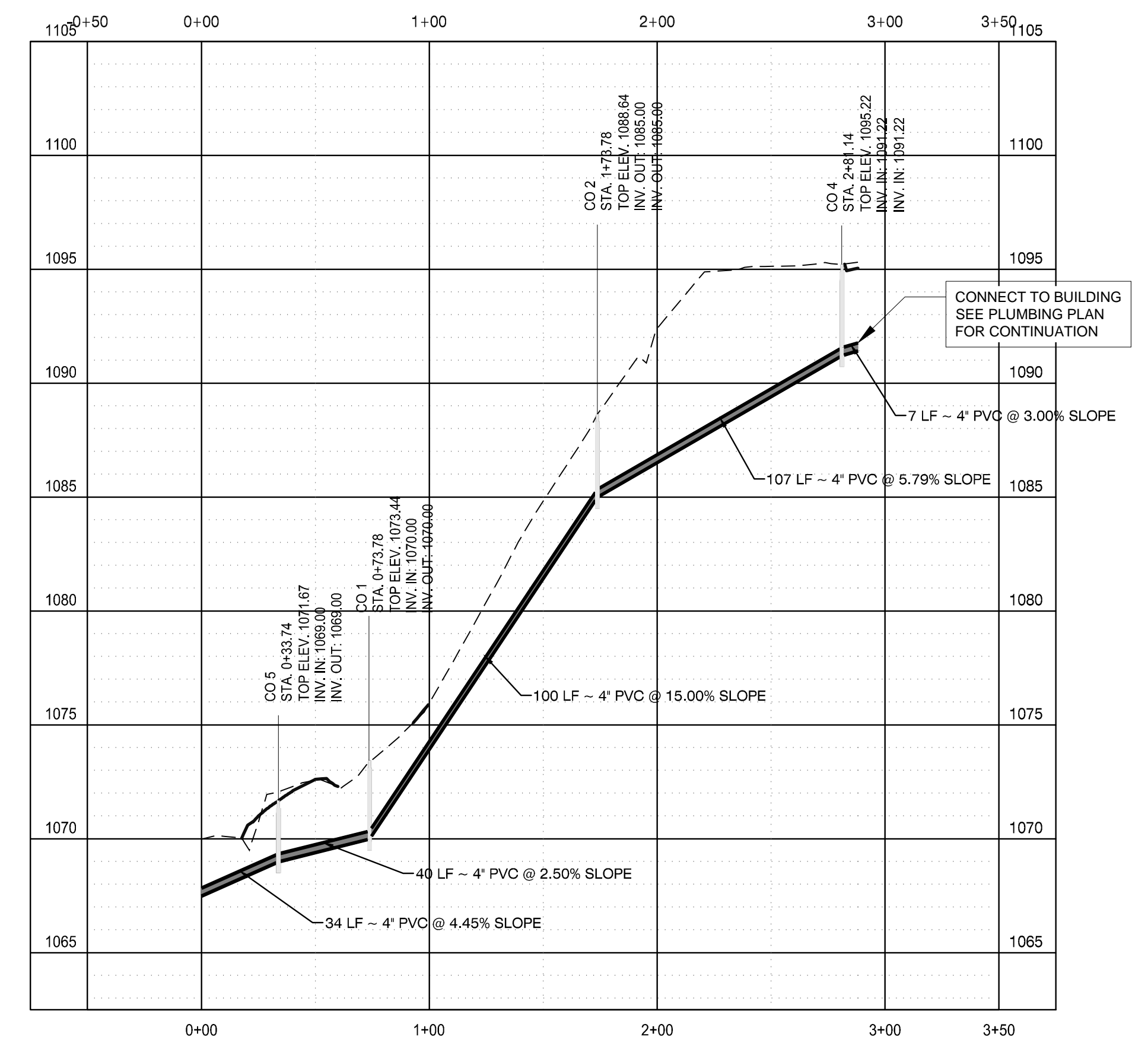
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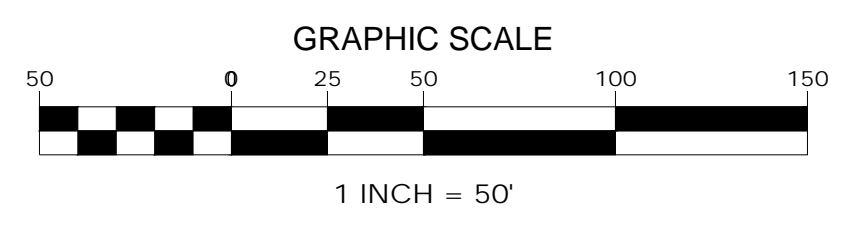
SITE UTILITY PLAN

1



SANITARY SEWER 1

SCALE: H: 1" = 50'-0" V: 1" = 5'-0"



1 INCH = 50'

GENERAL SHEET NOTES

- SEE SHEET C001 FOR CIVIL NOTES AND LEGENDS
- COORDINATE ALL UTILITY CROSSINGS; SEE DETAIL 2/C803
- FIELD LOCATE ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION. DETERMINE LOCATED, SIZE, MATERIAL & INVERTS. REPORT ANY DISCREPANCIES TO OWNER & ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION & INSTALLATION.

UTILITY CONTACTS

WATER NORRIS WATER COMMISSION 20 CHESTNUT ST NORRIS, TN 37828 (865) 494-7645	SEWER NORRIS WATER COMMISSION 20 CHESTNUT ST NORRIS, TN 37828 (865) 494-7645
GAS POWELL-CLING UTILITY DISTRICT 203 E 1ST ST ROCKY TOP, TN 37769 (865) 426-2822	ELECTRIC CLINTON UTILITIES BOARD 1001 CHARLES G. SEEVERS BLVD CLINTON, TN 37717 (865) 457-9232

PROFILE LEGEND



UTILITY LEGEND

- PIPE FITTING; SEE DETAIL 5/C803
- PIPE TEE; SEE DETAIL 5/C803
- GATE VALVE; SEE DETAIL 7/C803
- WATER METER BY LOCAL UTILITY
- CO-CLEANOUT; SEE DETAIL 6/C803

UTILITY KEYED NOTES

- EXISTING FIRE HYDRANT
- WATER LINE CONNECTION BY LOCAL UTILITY COMPANY. COORDINATE TAP & WATER METER LOCATIONS.
- FOR CONTINUATION SEE PLUMBING PLAN
- CONNECTION TO EXISTING MANHOLE; BY LOCAL UTILITY
- 4" ASTM D3034 SDR35 PVC BUILDING SANITARY SEWER SERVICE LINE @ 2.0% MIN. SLOPE; SEE DETAIL 1/C803
- 6" C-900 PVC FIRE PROTECTION SERVICE LINE; SEE DETAIL 1/C803
- GAS SERVICE LINE; TO BE RELOCATED BY LOCAL UTILITY
- SANITARY SEWER CLEANOUT; SEE DETAIL 6/C803
- 2" POTABLE WATER (PVC CLASS 200); SEE DETAIL 1/C803



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 NORRIS, TN 37828

PROJECT NO.: 21004-04

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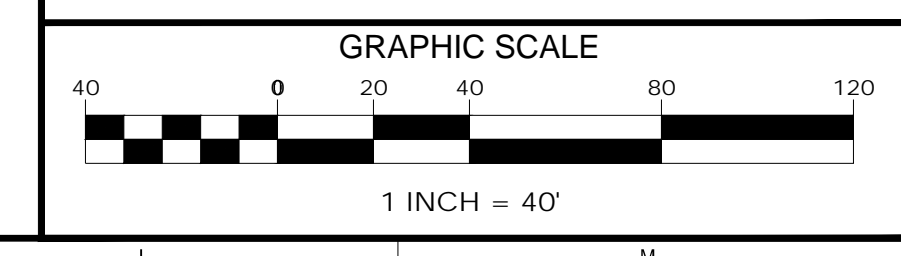
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KEY PLAN



SHEET INFORMATION

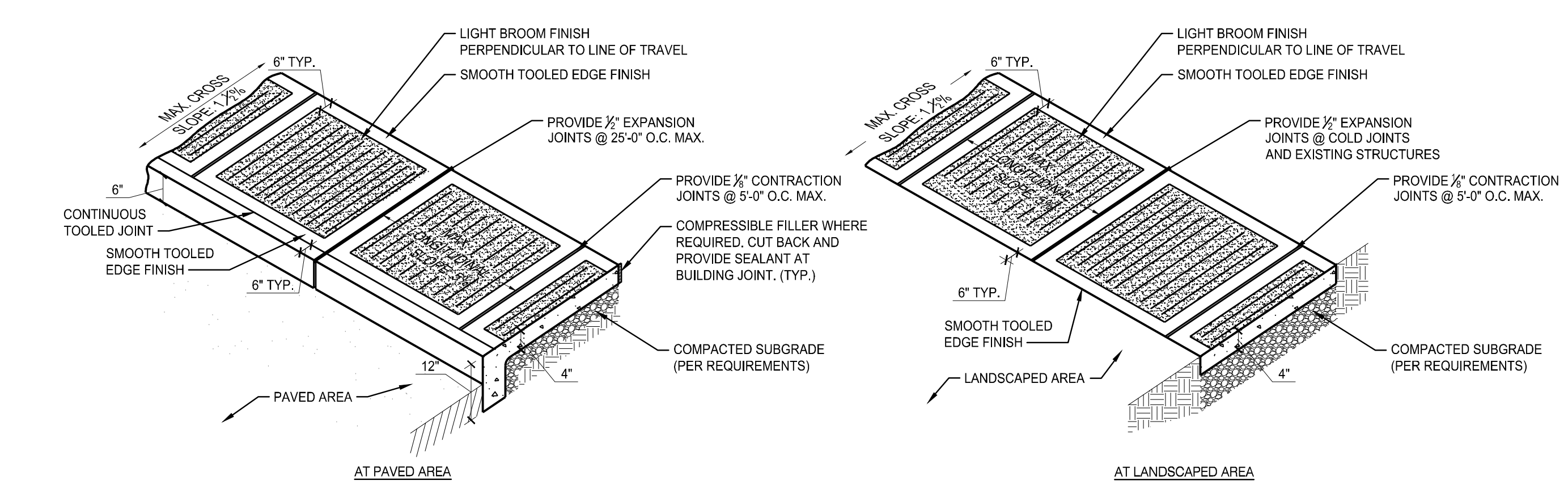
SHEET ISSUED: 02/04/2022
 DESIGNED BY: I.A.J.
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 REVIEWED BY: C.B.T.
 SHEET TITLE:



1 INCH = 40'

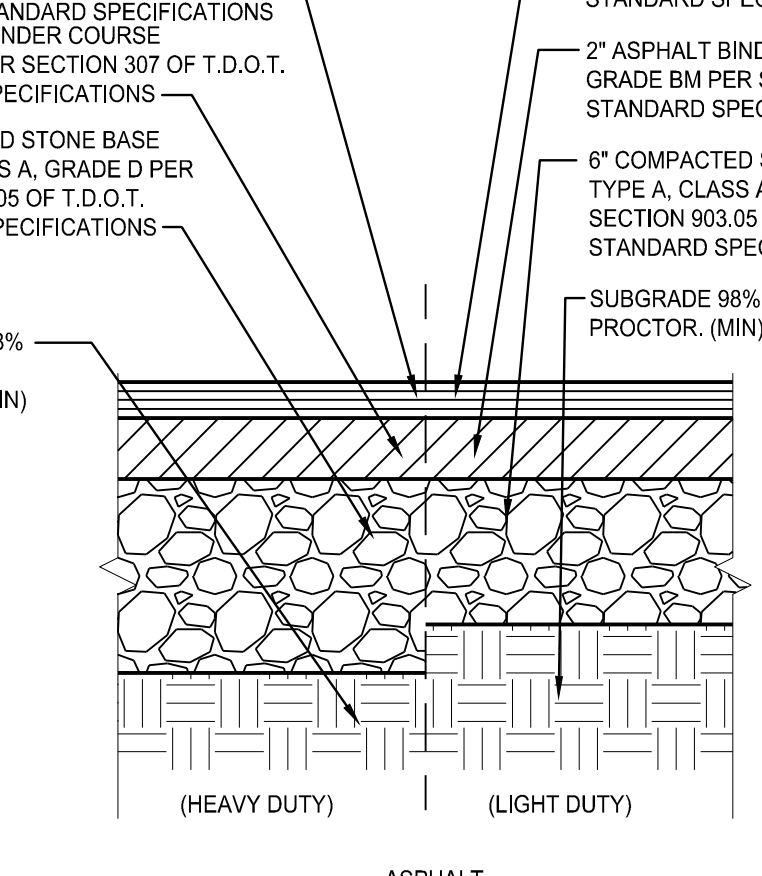
SITE UTILITY PLAN

SHEET NO.: C500



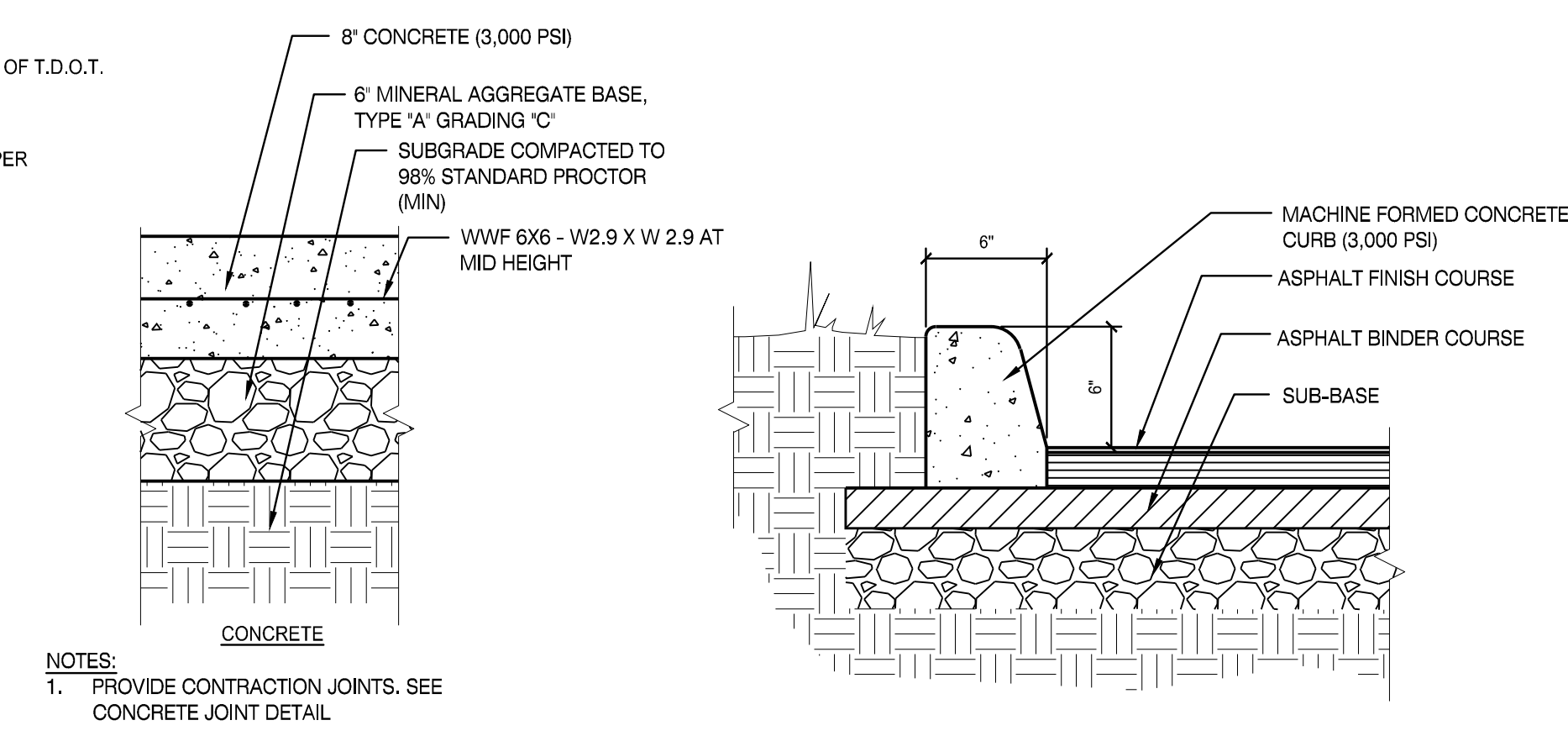
CONCRETE SIDEWALK

1



PAVING SECTIONS

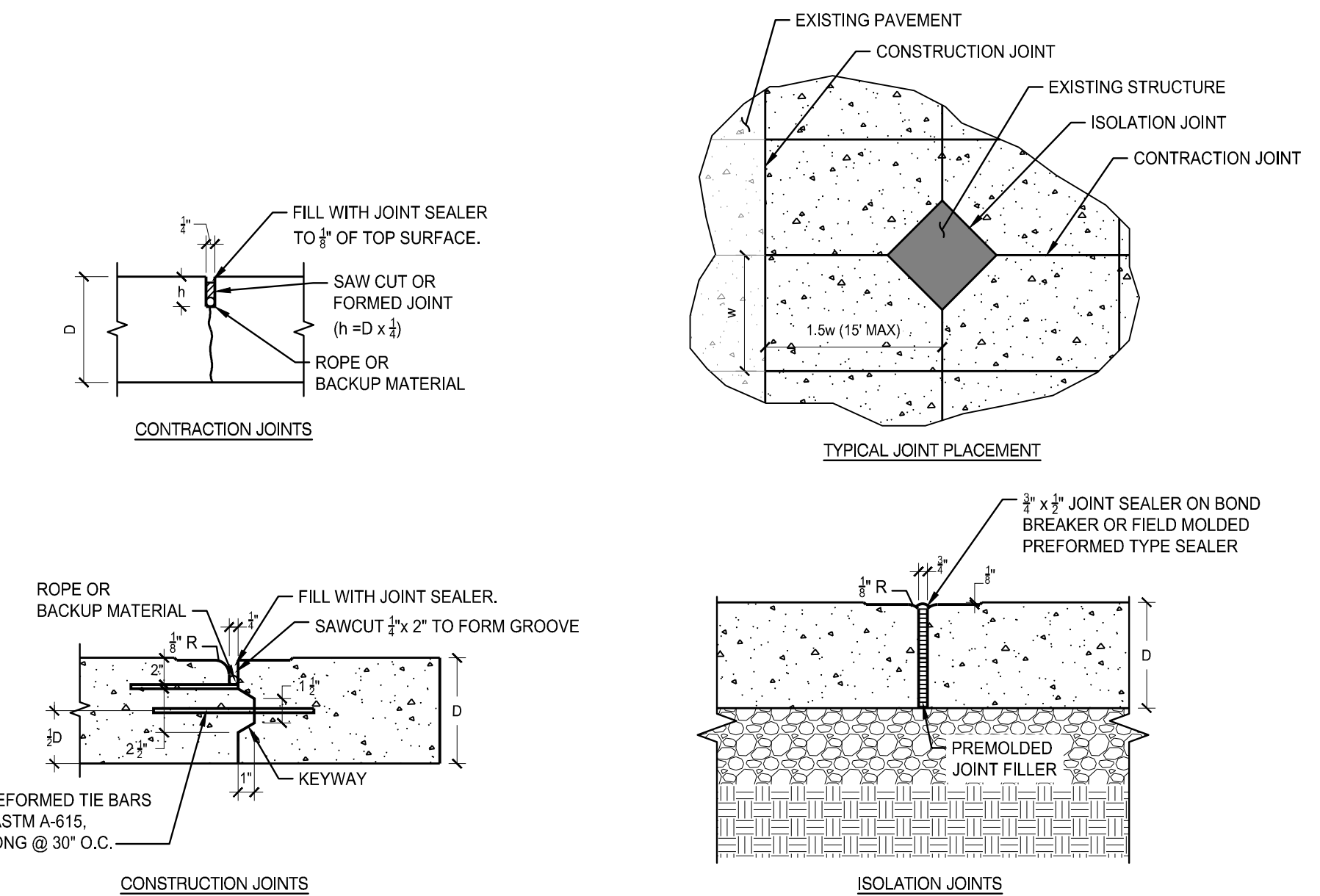
2



CONCRETE CURB

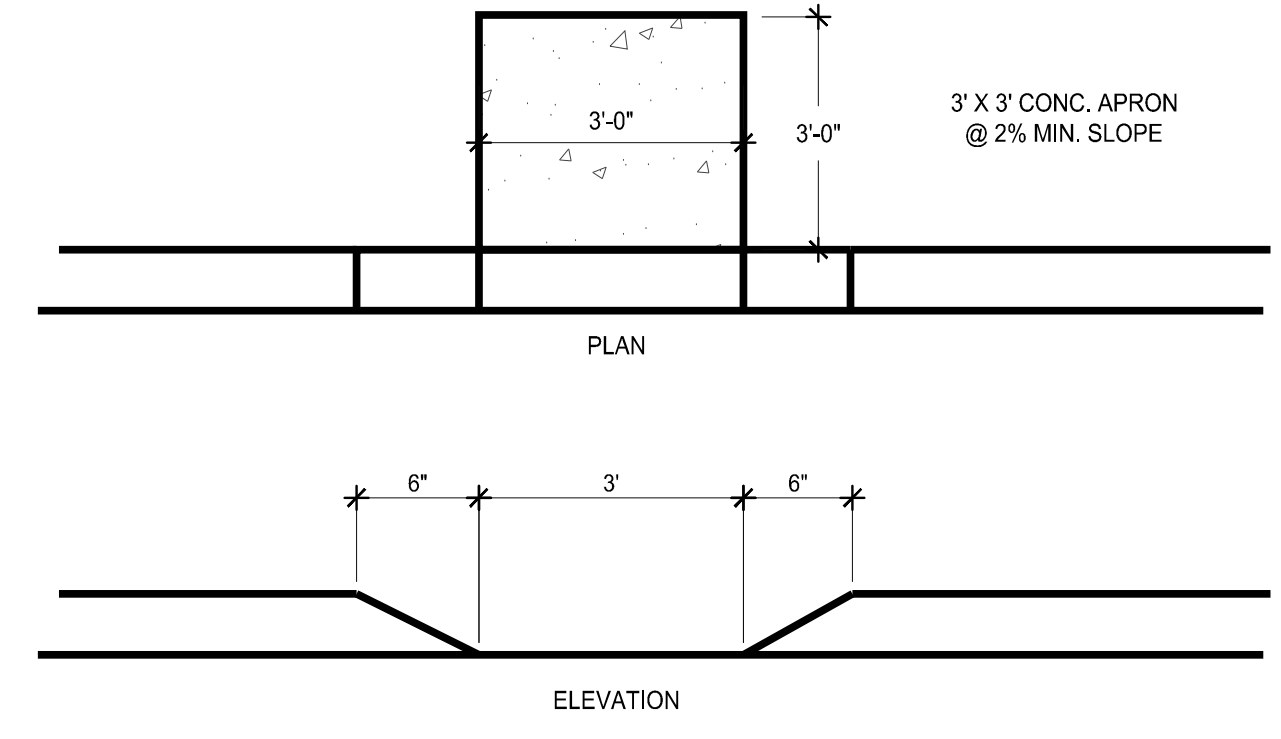
3

- NOTES:
- JOINT SPACING SHALL BE UNIFORM AND TYPICALLY LESS THAN 30xSLAB THICKNESS. IN NO CASES SHALL JOINT SPACING EXCEED 15'
 - THE LENGTH OF JOINT SPACING SHALL NOT EXCEED 1.5w
 - SAWING OF THE JOINTS SHALL BEGIN AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT SAWING WITHOUT EXCESSIVE RAVELING BUT IN NO CASE LONGER THAN 18 HOURS AFTER POURING. ALL JOINTS SHALL BE SAWS BEFORE UNCONTROLLED SHRINKAGE CRACKING OCCURS. IF NECESSARY, THE SAWING OPERATIONS SHALL BE CARRIED ON BOTH DAY AND NIGHT REGARDLESS OF WEATHER CONDITIONS. A STANDBY SAW SHALL BE AVAILABLE IN THE EVENT OF BREAKDOWN.
 - THE JOINTS SHALL BE THOROUGHLY CONSOLIDATED AGAINST AND ALONG THE FACES OF ALL FORMS AND ALONG THE FULL LENGTH AND ON BOTH SIDES OF ALL JOINTS.
 - THE JOINTS CAN BE COMPLETELY FILLED WITH SEALANT MATERIAL OR PREMOLDED JOINT FILLER CAN BE INSERTED IN THE JOINT FIRST TO REDUCE THE AMOUNT OF SEALANT REQUIRED.
 - SEALER TO BE POURED TO WITHIN 1/2" OF TOP OF PAVEMENT.
 - PRIOR TO SEALING, JOINT SURFACES MUST BE CLEANED AND FREE OF CURING COMPOUND, RESIDUE, LAITANCE AND ANY OTHER FOREIGN MATERIAL.
 - THE SURFACE SHOULD BE DRY WHEN THE SEALANT IS POURED.
 - THE CONCRETE SHALL BE DEPOSITED ON A MOIST GRADE IN SUCH MANNER AS TO REQUIRED AS LITTLE REHANDLING AS POSSIBLE. PLACING SHALL BE CONTINUOUS BETWEEN TRANSVERSE JOINTS WITHOUT THE USE OF INTERMEDIATE BULKHEADS. NECESSARY HAND SPREADING SHALL BE DONE WITH SHOVELS, NOT RAKES. WORKMEN SHALL NOT BE ALLOWED TO WALK ON THE FRESHLY MIXED CONCRETE WITH BOOTS OR SHOES COATED WITH EARTH OR FOREIGN SUBSTANCES.
 - ALL JOINT DOWELS MUST BE LEVEL, TRUE AND ADEQUATELY SUPPORTED SO THERE IS NO MOVEMENT DURING THE PLACEMENT OF CONCRETE.
 - TRANSVERSE CONSTRUCTION JOINTS ARE NECESSARY FOR PLANNED INTERRUPTIONS, AND WHERE EMERGENCY INTERRUPTIONS SUSPEND OPERATIONS FOR 30 MINUTES OR MORE.
 - ALL JOINTS & JOINT SEALANTS SHALL MEET T.D.O.T.'S STANDARDS AND SPECIFICATIONS.



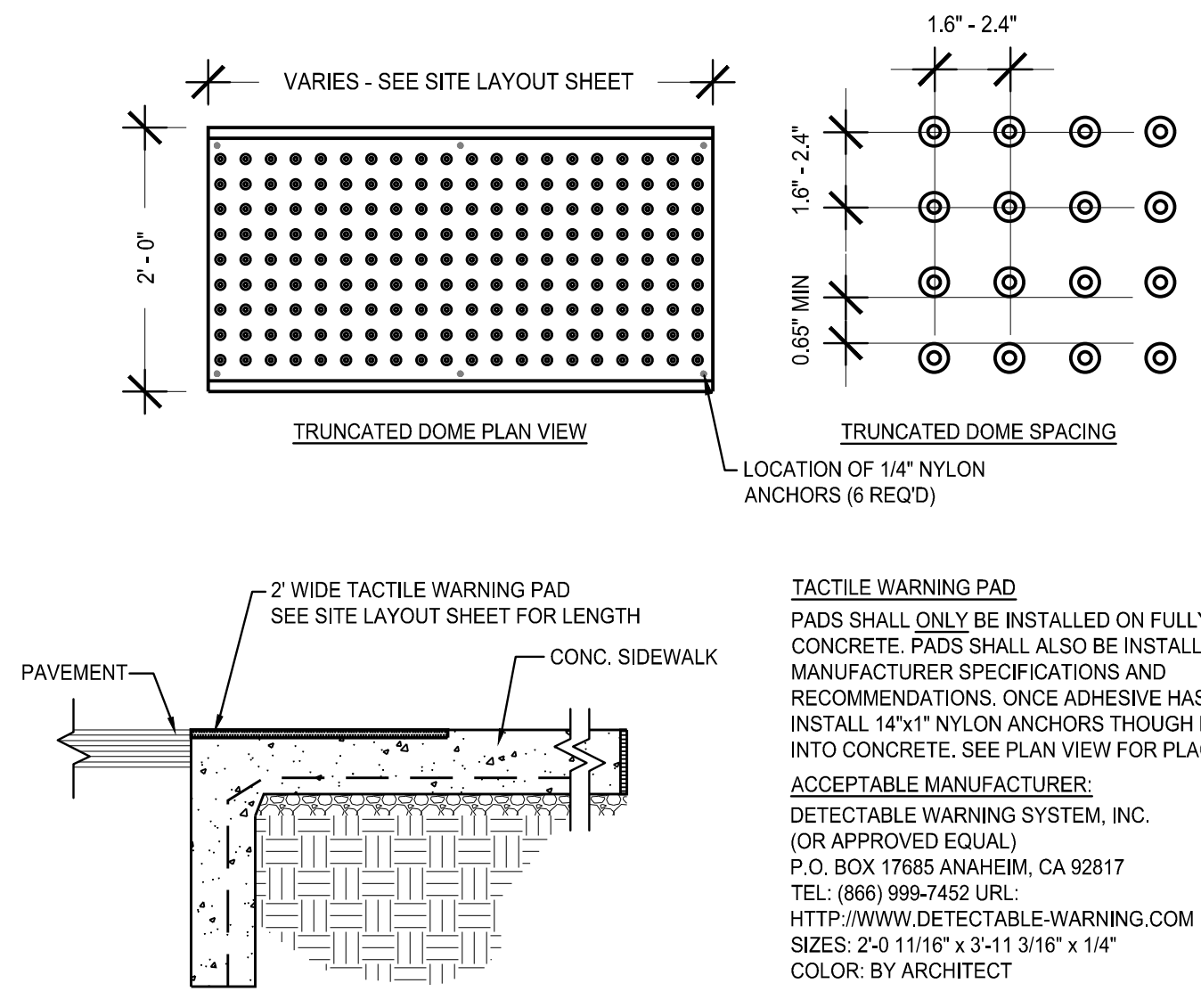
CONCRETE JOINTS

4



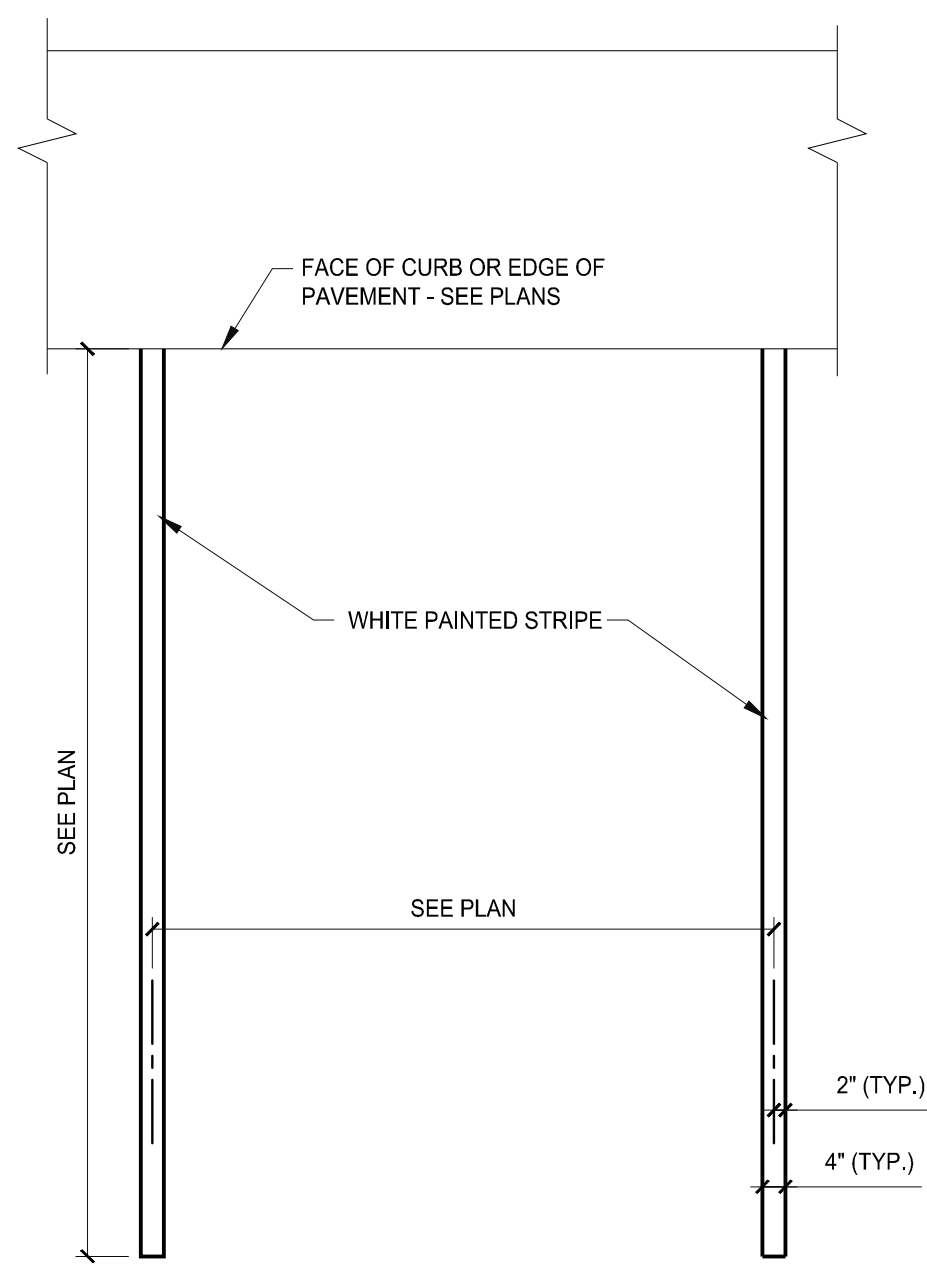
CONCRETE APRON

5



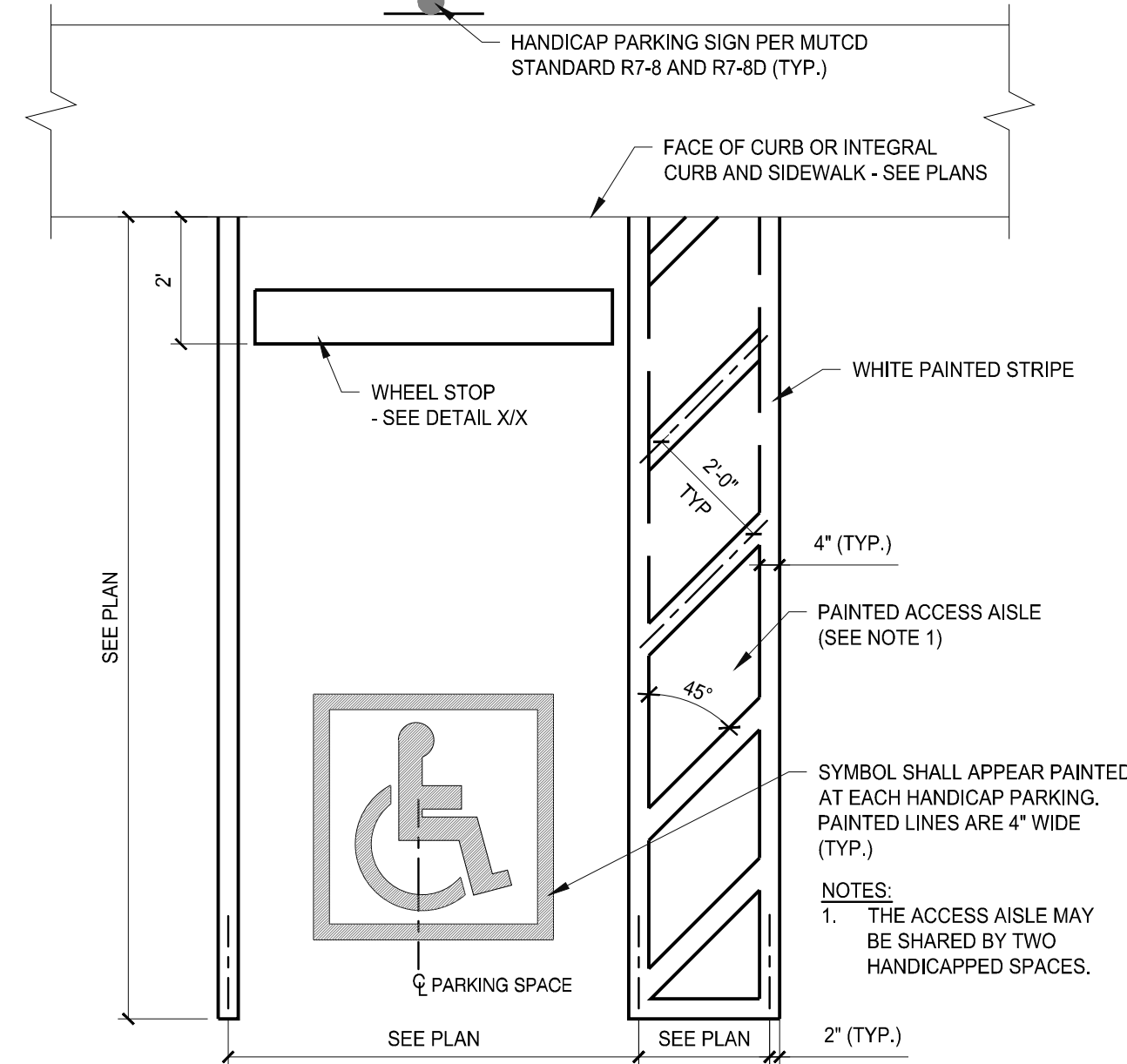
TACTILE WARNING PAD

6



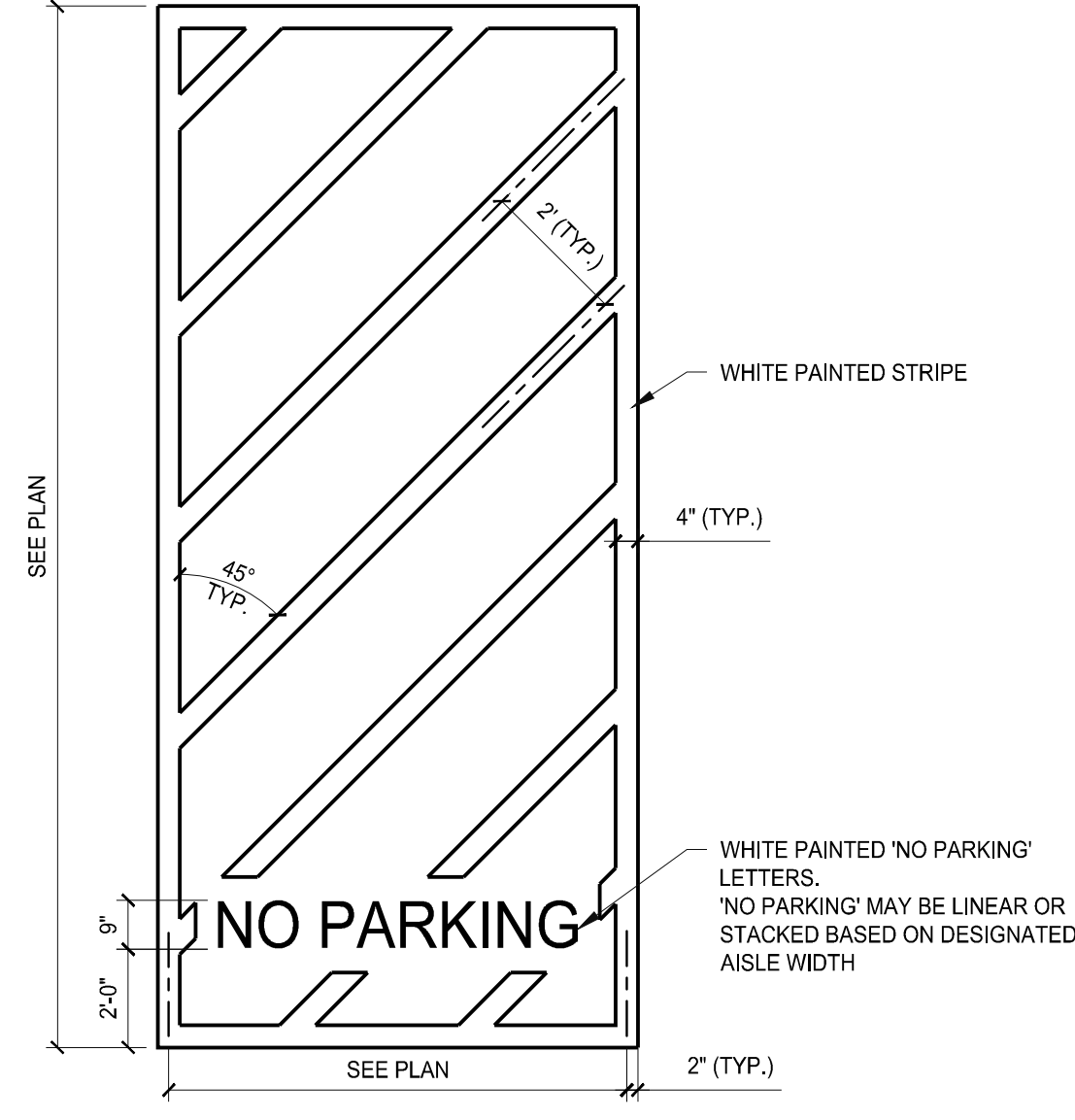
PARKING SPACE

1



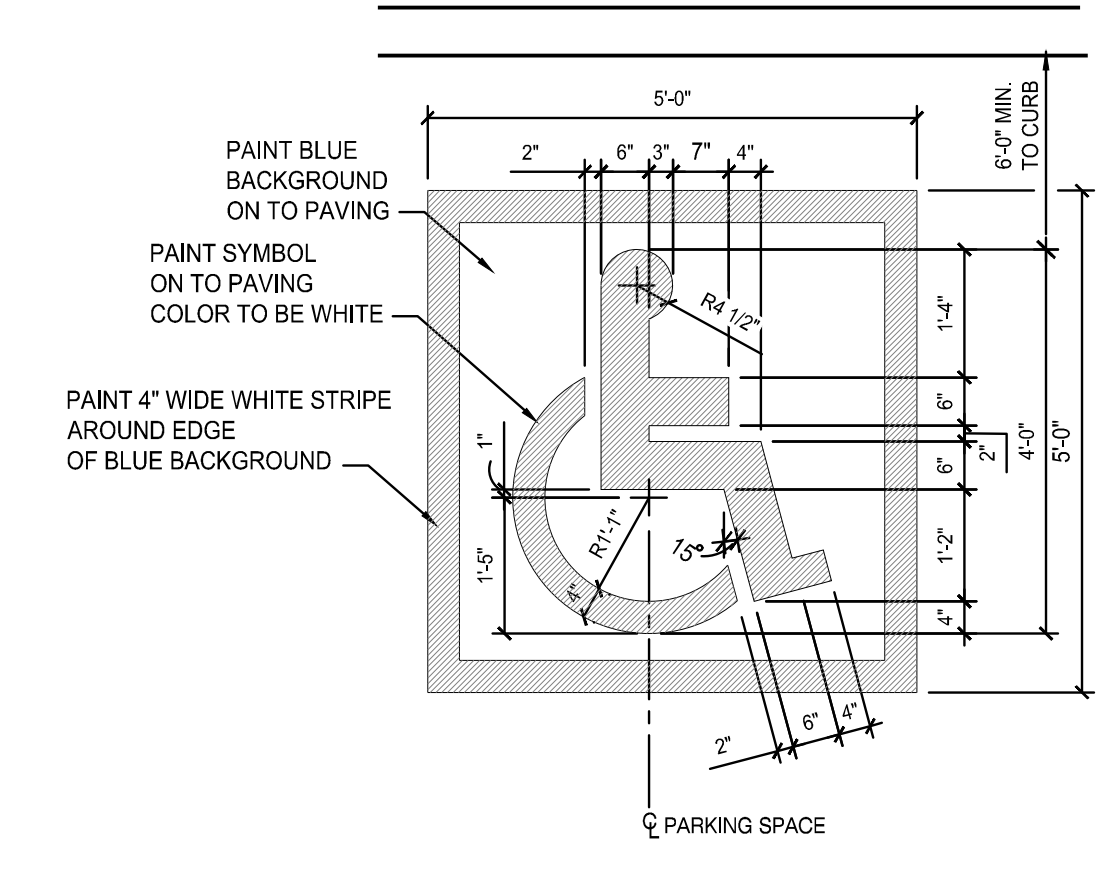
HANDICAP PARKING SPACE

2



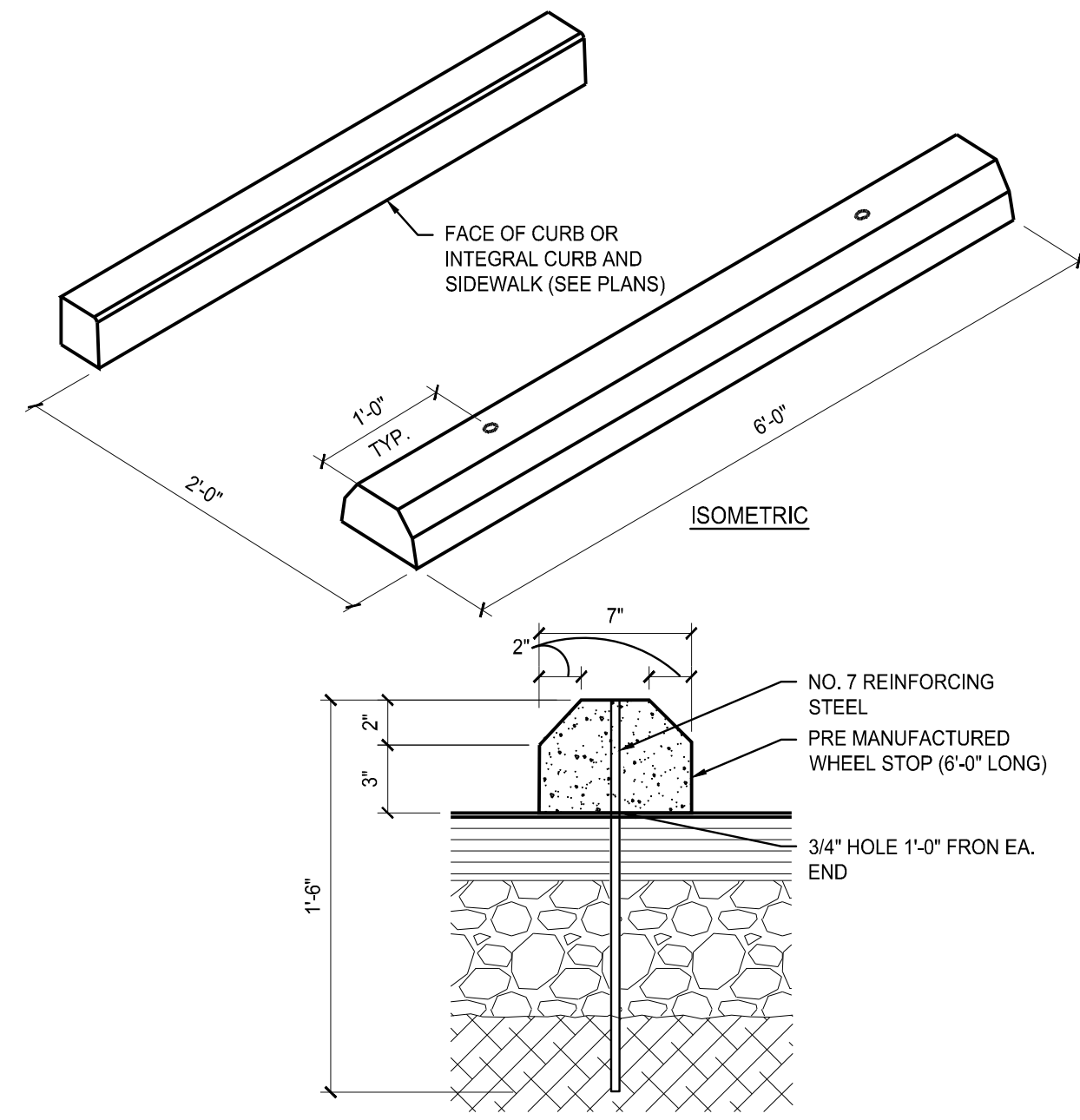
'NO PARKING' AREA

3



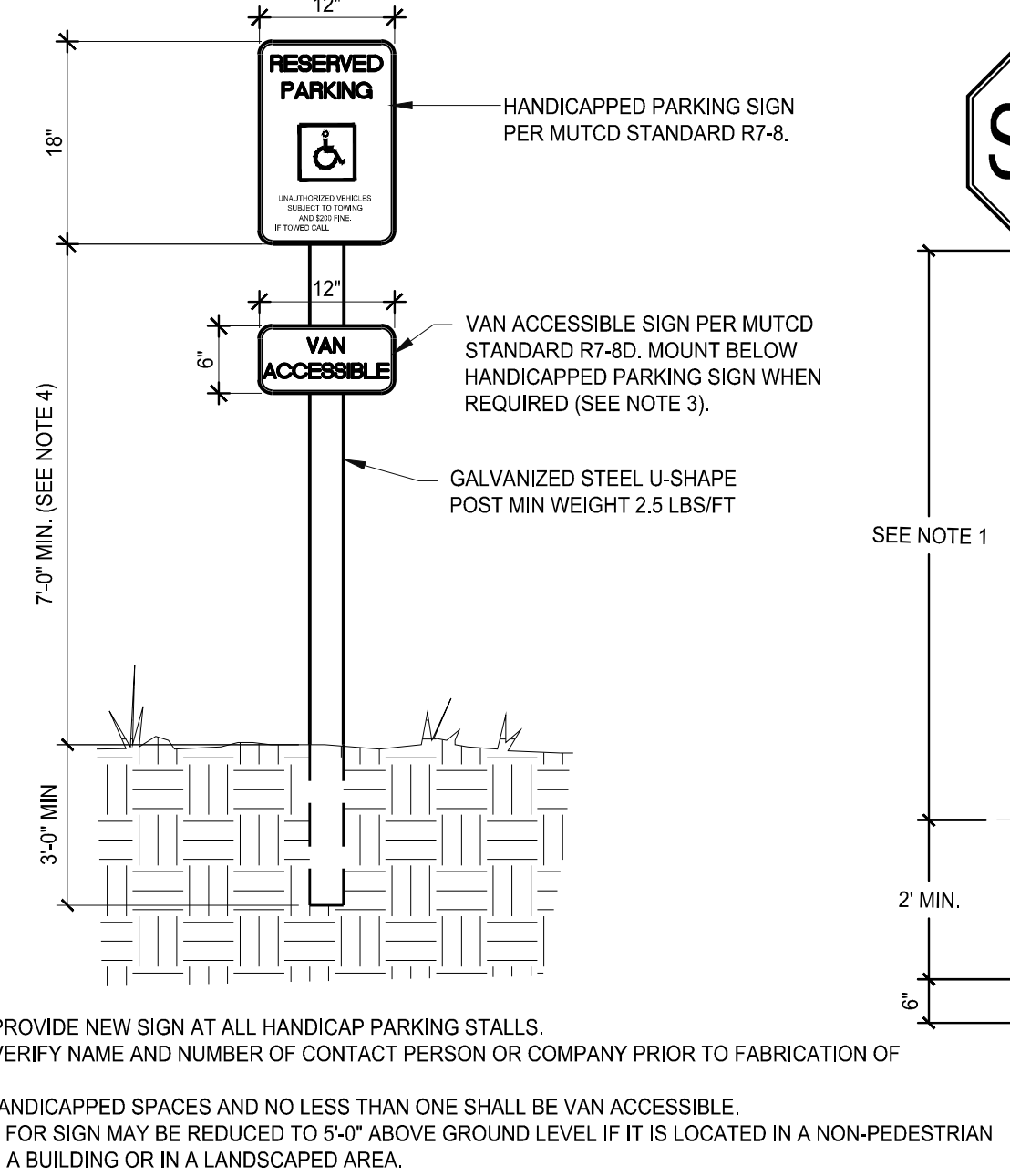
PAINTED HANDICAP SYMBOL

4



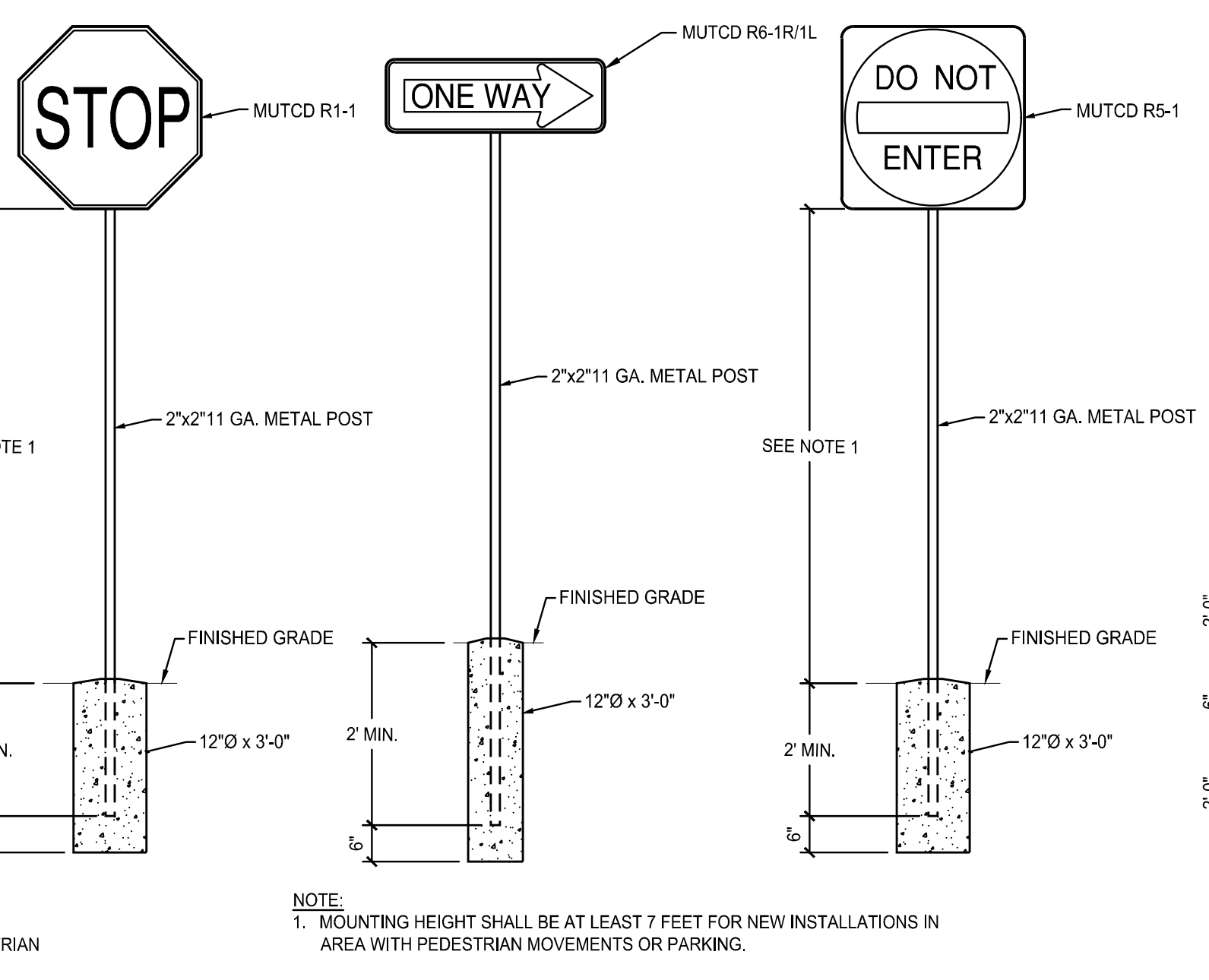
WHEEL STOP

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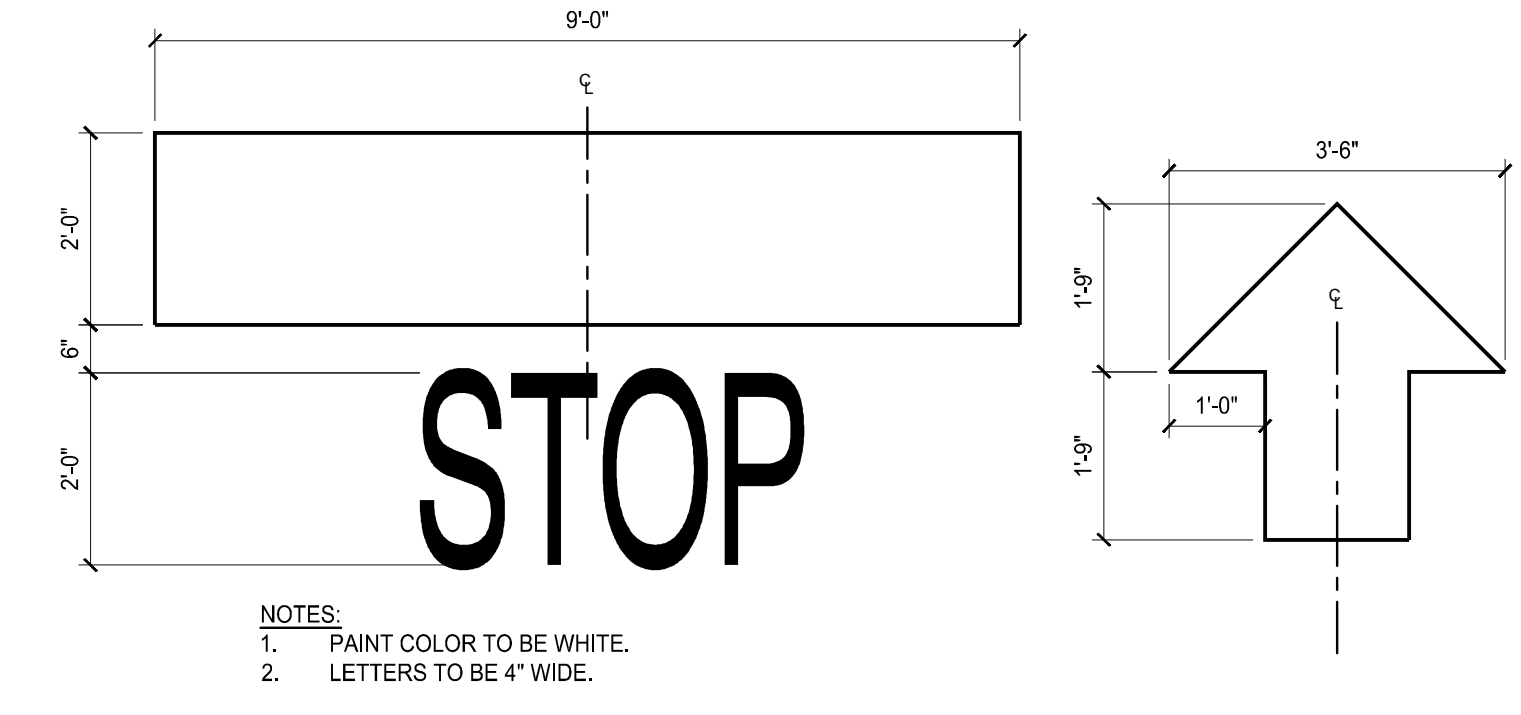
STANDARD HANDICAP SIGN

6



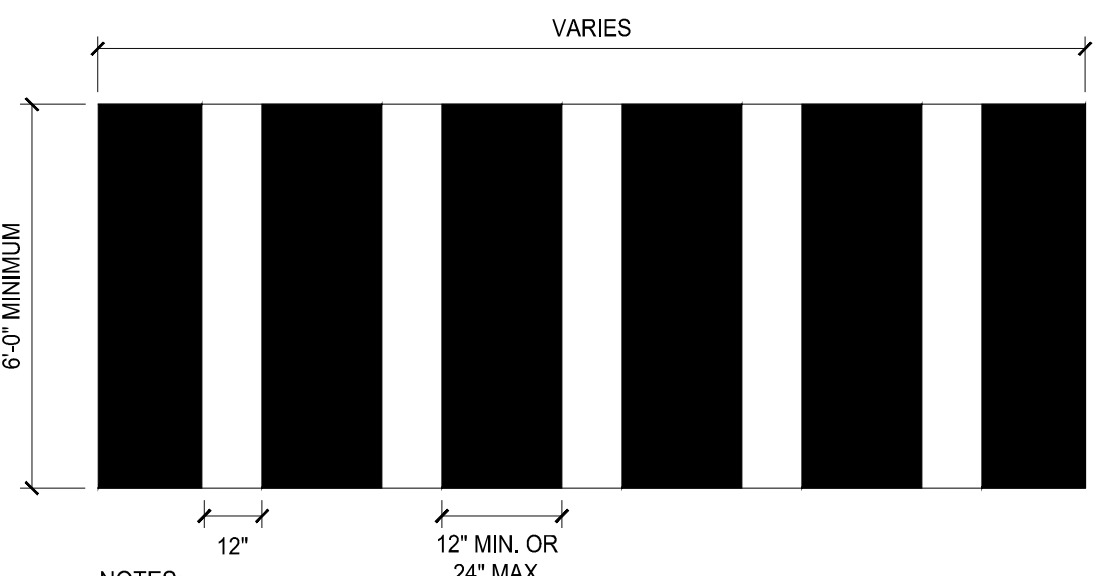
TRAFFIC SIGNAGE

7



PAINTED MARKINGS

8



CROSSWALK

9

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AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE
NORRIS, TN 37858

PROJECT NO.: 210042-04

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CONSTRUCTION DOCUMENTS

AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION

SHEET ISSUED: 02/03/2022
DESIGNED BY: I.A.J.
DRAWN BY: I.A.J.
REVIEWED BY: C.B.T.
SHEET TITLE:

CIVIL DETAILS

SHEET NO.: **C802**

LIFE SAFETY PLAN LEGEND

AREA OCCUPANCY TAG

- AREA NAME
- AREA NUMBER
- AREA OCCUPANT TYPE
- AREA OCCUPANT LOAD
- AREA SQUARE FOOTAGE

DOOR / STAIR EGRESS TAG

- REQ WIDTH
- ACTUAL LOAD
- MAX LOAD
- ACTUAL WIDTH

LIFE SAFETY CODE SPACE FUNCTIONS PER IBC TABLE 1004.1.2

ABBREV	SPACE FUNCTION	SF PER PERSON	GROSS / NET SF
B	BUSINESS AREAS	150	GSF
E	EDUCATIONAL - CLASSROOM	20	NSF
N/A	CORE	0	
SME	ACCESSORY STORAGE AREA / MECHANICAL ROOM	300	GSF

LIFE SAFETY PLAN LEGEND

- FIRE ALARM PULL STATION
- CEILING MOUNTED FIRE ALARM COMBINATION AUDIO/VISUAL SPEAKER STROBE DEVICE
- CEILING MOUNTED FIRE ALARM VISUAL STROBE DEVICE
- EXIT SIGN
- CEILING MOUNTED SMOKE DETECTOR DEVICE
- FIRE ALARM CONTROL PANEL
- FIRE EXTINGUISHER CABINET MTD W/ HIGHEST OPERABLE PART @ 48" AFF MAX

INDICATES DISTANCE TO EXIT
DIST: ###

PATH OF TRAVEL

0 HR RATED WALL

BUILDING OCCUPANCY CONSTRUCTION TYPE AND ALLOWABLE BUILDING AREA FIRE RESISTANCE RATING REQUIREMENTS

BUILDING OCCUPANCY CLASSIFICATIONS PER IBC CHAPTERS 3, 4, 5

BUILDING OCCUPANCY GROUP: IBC CHAPTER 3

- GROUP A-1
- GROUP A-2
- GROUP A-3
- GROUP A-4
- GROUP A-5
- GROUP B
- GROUP E
- GROUP F-1
- GROUP F-2
- GROUP H-1
- GROUP H-2
- GROUP H-3
- GROUP H-4
- GROUP H-5
- GROUP I-1
- GROUP I-2
- GROUP I-3
- GROUP I-4
- GROUP M
- GROUP R-1
- GROUP R-2
- GROUP R-3
- GROUP R-4
- GROUP S-1
- GROUP S-2
- GROUP U

MIXED USE / OCCUPANCY: IBC SECTIONS 508 / 509

- ACCESSORY OCCUPANCIES IBC SECTION 508.2
- NONSEPARATED OCCUPANCIES IBC SECTION 508.3
- SEPARATED OCCUPANCIES IBC SECTION 508.4
- INCIDENTAL USES IBC SECTION 509

SPECIAL REQUIREMENTS: IBC CHAPTERS 4, 5

- HIGH-RISE BUILDING IBC SECTION 403
- ATRIUM IBC SECTION 404
- HAZARDOUS MATERIALS IBC SECTION 414
- MEZZANINE IBC SECTION 505.2
- EQUIPMENT PLATFORM IBC SECTION 505.3

MEANS OF EGRESS PER IBC 1010

- THE CLEAR WIDTH OF AN EGRESS DOOR OPENING SHALL NOT BE LESS THAN 32" AND NOT MORE THAN 48". THE CLEAR HEIGHT OF AN EGRESS DOOR OPENING SHALL NOT BE LESS THAN 80".
- DOORS SHALL SWING IN THE DIRECTION OF EGRESS TRAVEL WHERE SERVING A ROOM OR AREA CONTAINING AN OCCUPANT LOAD OF 50 OR MORE PERSONS OR A GROUP H OCCUPANCY.

STAIRWAYS: PER IBC 1011

- THE CLEAR WIDTH OF A STAIRWAY SHALL NOT BE LESS THAN 44".
- THE MINIMUM HEADROOM SHALL NOT BE LESS THAN 80" AS MEASURED FROM THE NOSING.

LIFE SAFETY SYSTEMS: IBC CHAPTER 9

- AUTOMATIC SPRINKLER SYSTEM PER NFPA 13
- FIRE ALARM SYSTEM PER NFPA 72
- PORTABLE FIRE EXTINGUISHERS PER NFPA 10
- STANDPIPE SYSTEM PER NFPA 14

EGRESS CAPACITY FACTORS IBC 1005

- AUTOMATIC SPRINKLER SYSTEM
- EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM

MINIMUM REQUIRED EGRESS WIDTH:

STAIRWAYS: 0.3
OTHER EGRESS COMPONENTS: 0.2

CONSTRUCTION TYPE AND ALLOWABLE BUILDING AREA IBC CHAPTER 5

BUILDING TYPE: IBC CHAPTER 5

TYPE	TYPE				
	I	II	III	IV	V
CLAS					
HT					

BUILDING AREA MODIFICATIONS: IBC CHAPTER 5

- AUTOMATIC SPRINKLER SYSTEM
- HEIGHT INCREASE IBC SECTION 504.3
- AREA INCREASE IBC SECTION 506.2
- FRONTAGE INCREASE IBC SECTION 506.3
- UNLIMITED AREA IBC SECTION 507

BUILDING AREA AND HEIGHT: IBC TABLE 506.2 / 504.3

MAXIMUM AREA ALLOWED: 68,875 PER STORY
ACTUAL BUILDING AREA: 44,554 PER STORY
MAXIMUM HEIGHT ALLOWED: 2 STORIES, 55 FEET 50'-4"

ADDITIONAL FIRE RESISTANCE RATING INFORMATION

DESCRIPTION	FIRE RATING	CODE
SHAFT / HOISTWAY ENCLOSURES	2 HR	PER IBC 713.4.1 / 3002.1
4 STORIES OR GREATER	1 HR	
LESS THAN 4 STORES		
EXIT ENCLOSURES	2 HR	PER IBC 1022.2
4 STORIES OR GREATER	1 HR	
LESS THAN 4 STORES		
EXIT PASSAGEWAYS	1 HR	PER IBC 1023.3

MINIMUM NUMBER OF EXITS PER IBC TABLE 1006.3.2

OCCUPANT LOAD	MIN NUMBER OF EXITS PER STORY
1-500	2
501-1000	3
> 1000	4

SPACES WITH ONE EXIT PER IBC TABLE 1006.2.1

OCCUPANCY	MAXIMUM OCCUPANT LOAD
A, B, E, F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I, R-1	10
R-2, R-3, R-4	20
S	29

FIRE RESISTANCE RATING REQUIREMENTS PER IBC TABLE 801

TYPE OF CONSTRUCTION: IIB

PRIMARY STRUCT FRAME: 0 HOURS

BEARING WALLS (EXT): 0 HOURS

BEARING WALLS (INT): 0 HOURS

NONBEARING WALLS AND PARTITIONS (EXT): PER IBC TABLE 602

NONBEARING WALLS AND PARTITIONS (INT): 0 HOURS

FLOOR CONSTRUCTION: 0 HOURS

ROOF CONSTRUCTION: 0 HOURS

IBC TABLE 602: EXTERIOR WALL FIRE RATING

SEPARATION DISTANCE	CONS TYPE	OCCUPANCY GROUP				
		F-1, M, S-1	A, B, E, F-2, I, R, S-2, U			
X < 5	ALL	3	2	1		
5 ≤ X ≤ 10	IA	3	2	1		
	OTHERS	2	1	1		
10 ≤ X ≤ 30	IIB, VB	1	0	0		
	OTHERS	1	1	1		
X ≥ 30	ALL	0	0	0		

COMMON PATH OF TRAVEL PER IBC 1006.2.1

OCCUPANCY	SPRINKLERED
A, E, M	75
B	100

MAXIMUM TRAVEL DISTANCE PER IBC 1017.2

OCCUPANCY	SPRINKLERED
A, E, F-1, M, R, S-1	250
B	300

DEAD END CORRIDOR PER IBC 1020.4

OCCUPANCY	SPRINKLERED
B	50
E	50

CORRIDOR FIRE RATING PER IBC TABLE 1020.1

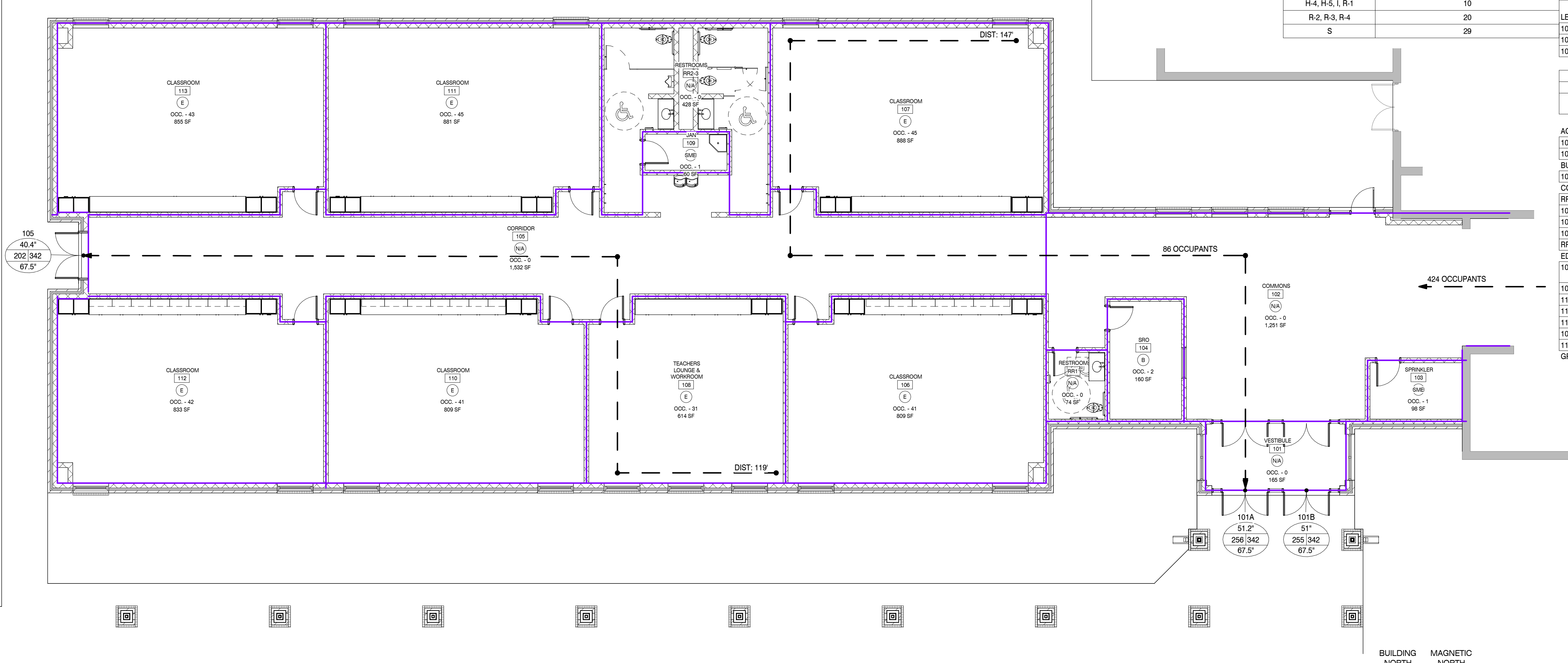
OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQD FIRE RATING	W/ SPRINKLER SYSTEM
H-1, H-2, H-3	ALL	1	1
H-4, H-5	> 30	1	1
A, B, E, F, M, S, U	> 30	0	0
R	> 10	5 / 1	
I-2	ALL	SECTION 407.2 & 3	
I-1, I-3	ALL	1	
I-4	ALL	0	

EGRESS DOOR SCHEDULE

MARK	DOOR		EGRESS	
	REQUIRED	WIDTH PROVIDED	OCCUPANT LOAD	MAXIMUM LOAD
LEVEL 2				
101A	51.2"	67.5"	256	337
101B	51"	67.5"	255	337
105	40.4"	67.5"	202	337

LIFE SAFETY LOAD CALCULATIONS

NO.	AREA	SQ.FT.	OCCUPANT LOAD	LOAD FACTOR	CALCULATED LOAD
ACCESSORY STORAGE AREA / MECHANICAL ROOM					
109	JAN	60 SF	300	1	
103	SPRINKLER	98 SF	300	1	
BUSINESS AREAS					
104	SRO	160 SF	150	2	
CORE					
RR2-3	RESTROOMS	428 SF	0		
101	VESTIBULE	165 SF	0		
102	COMMONS	1251 SF	0		
105	CORRIDOR	1532 SF	0		
RR1	RESTROOM	74 SF	0		
EDUCATIONAL - CLASSROOM					
108	TEACHERS LOUNGE & WORKROOM	614 SF	20	31	
106	CLASSROOM	809 SF	20	41	
110	CLASSROOM	809 SF	20	41	
112	CLASSROOM	833 SF	20	42	
113	CLASSROOM	855 SF	20	43	
107	CLASSROOM	888 SF	20	45	
111	CLASSROOM	881 SF	20	45	
GRAND TOTALS		9457 SF		292	

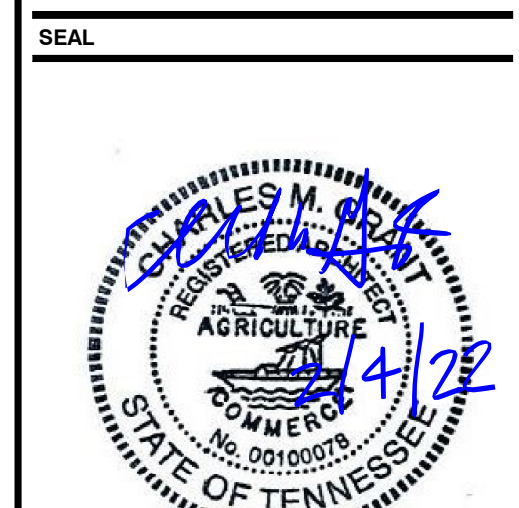


LIFE SAFETY PLAN - CLASSROOM ADDITION
SCALE: 1/8" = 1'-0"



MBI COMPANIES INC.
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CONSULTANT



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PROJECT INFORMATION

PROJECT: AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS: 5 NORRIS SQUARE, NORRIS, TN 37828
PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

- FOR REVIEW ONLY
- FOR PERMITTING ONLY
- SCHEMATIC DESIGN
- DESIGN DEVELOPMENT
- CONSTRUCTION BIDDING
- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: CMG
DRAWN BY: KEF
REVIEWED BY: CMG
SHEET TITLE:

LIFE SAFETY INFORMATION

SHEET NO.: A002



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KEY PLAN

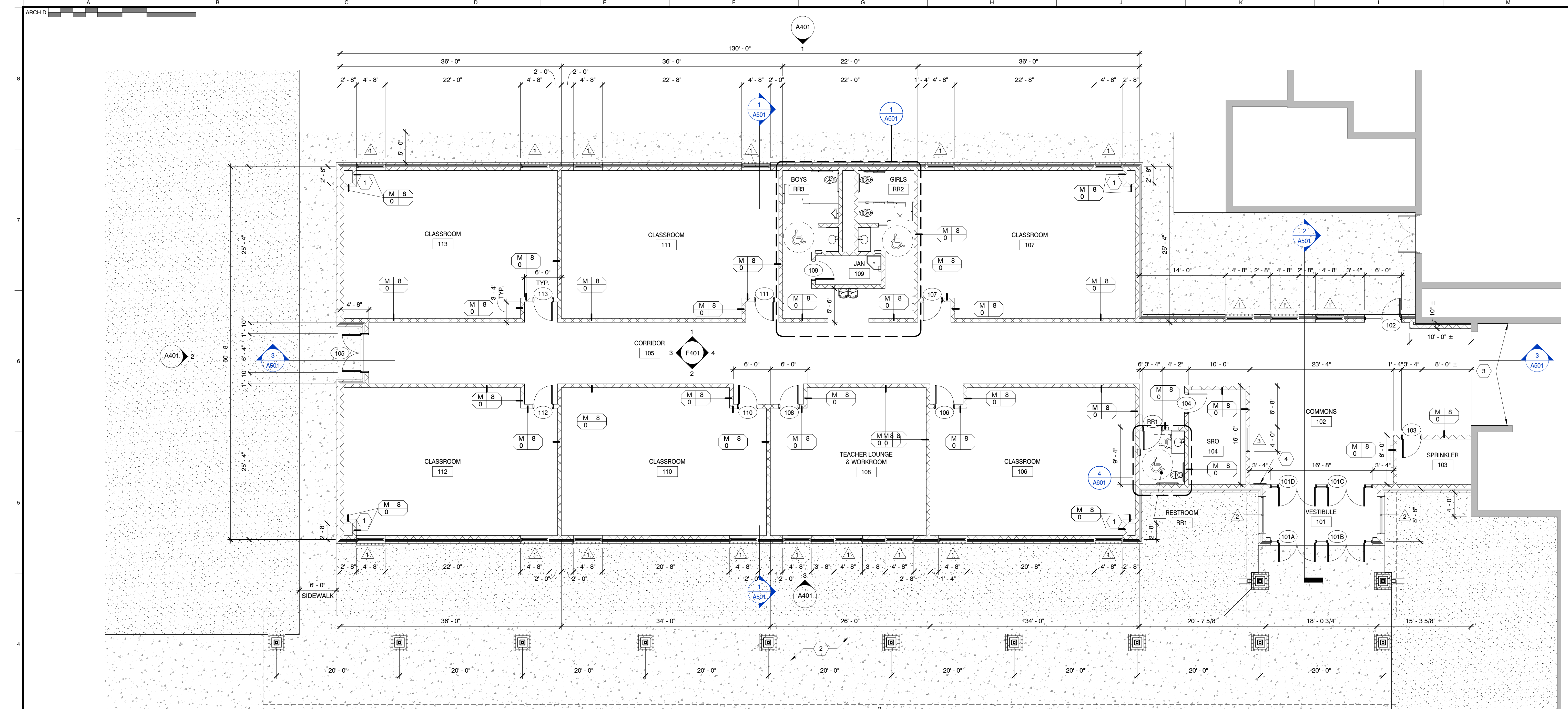


SHEET INFORMATION
SHEET ISSUED: 02/04/2022
DESIGNED BY: CMG
DRAWN BY: KEF
REVIEWED BY: CMG
SHEET TITLE:

DIMENSIONED FLOOR PLAN

SHEET NO.:

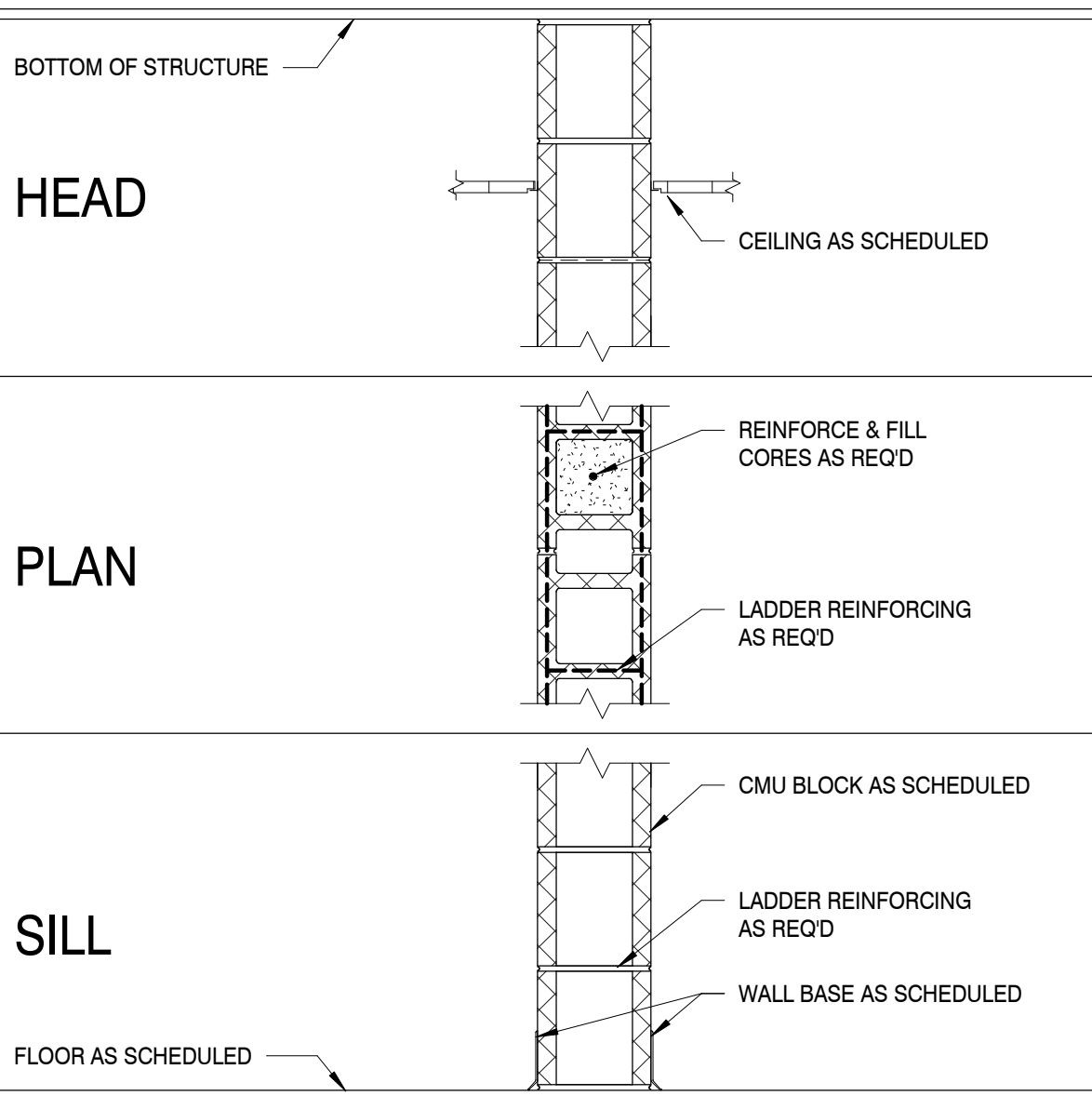
A101



DIMENSIONED FLOOR PLAN

SCALE: 1/8" = 1'-0"

INTERIOR WALL TYPE



WALL TYPE NOTES:

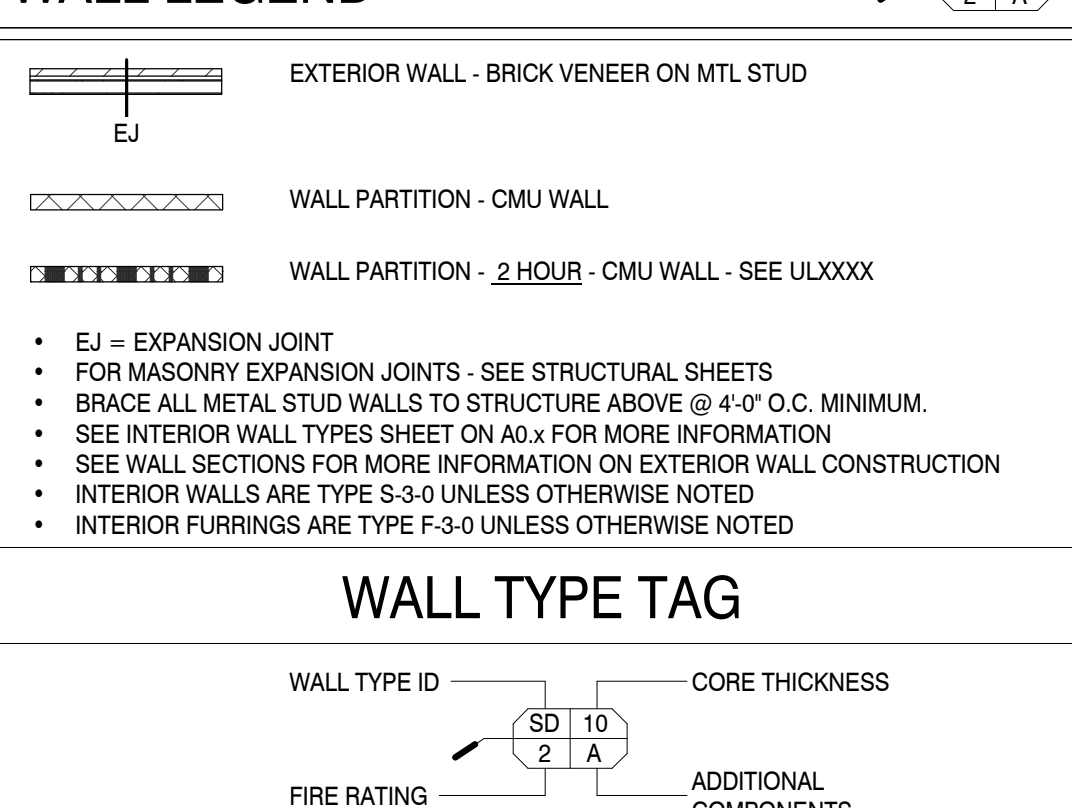
WALL TYPE ADDITIONAL COMPONENTS								
ADDITIONAL COMPONENTS GROUP CODE	A	B	C	D	E	F	G	NOTES
ADD SOUND ATTENUATION BATTS	•							
STC RATING	45							
ADD RIGID INSULATION								
ADD SPRAYFOAM INSULATION								
PROVIDE LEAD LINED GYPSUM BOARD								
PROVIDE FOIL LINED GYPSUM BOARD								
PROVIDE SECURITY MESH ABOVE CEILING TO STRUCTURE ABOVE								
ADD SMOKE SEAL	•							

NOTES:
1. ALL FIRE RATED WALL ASSEMBLIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH UL 263
2. PROVIDE TYPE-X GWB WHERE WALLS ARE FIRE RATED
3. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE FIRE STOPPED AND SEALED IN ACCORDANCE WITH UL 263
4. PARTITION WALLS ARE UNINSULATED EXCEPT WHERE FIRE RATED OR WHERE NOTED IN THE ADDITIONAL COMPONENTS SCHEDULE.
5. SILL PLATES, TOP PLATES, AND DEFLECTION TRACKS SHALL BE OF SAME SIZE AND GAGE AS STUD
6. WHERE FURRING WALLS ARE UNINSULATED, GWB MAY STOP A MIN. OF 8" ABOVE CEILING
7. COORDINATE LOCATIONS OF EXPANSION JOINTS IN MASONRY WALLS WITH STRUCT DWGS
8. PROVIDE WATER RESISTANT BACKING BOARD ON BOTH SIDES OF WET WALLS WHERE BOTH SIDES ARE WET
9. PROVIDE WATER RESISTANT BACKING BOARD IN LIEU OF GWB AT THE FOLLOWING LOCATIONS.
A. WHERE INDICATED BY WALL TYPE
B. WET LOCATIONS SUCH AS WATER FOUNTAINS, SHOWER STALLS, TUB SURROUNDS.
C. WHERE CERAMIC TILE FINISHES ARE INDICATED. REFER TO FINISH PLANS FOR ADDITIONAL INFORMATION.
D. WITHIN 2 FEET HORIZONTALLY AND 4 FEET VERTICALLY OF JANITOR/ MOP SINKS
10. WALL TYPES INDICATED ARE INDEPENDENT OF APPLIED FINISHES. SEE FINISH PLANS FOR ADDITIONAL INFORMATION.
11. WATER RESISTANT BACKING BOARD SHALL BE TYPE-X AND ON OUTSIDE LAYER WHERE WET WALLS ARE FIRE RATED.

FLOOR PLAN KEYNOTES

- CHASE FOR ROOF DRAIN PIPE.
- CANOPY DETAILS ON SHEET A503.
- FINISH OPENING WHERE EXTERIOR DOOR AND LITE SYSTEM WAS REMOVED.
- INSTALL CAST BRONZE DEDICATION PLAQUE PER SECTION 10 14 16.

WALL LEGEND



OPAQUE THERMAL ENVELOPE REQ'S

ROOFS
INSULATION ENTIRELY ABOVE DECK R-30CI

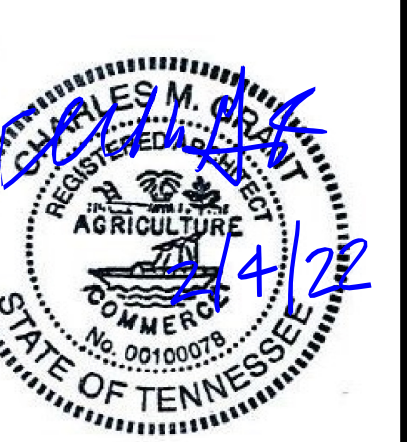
WALLS, ABOVE GRADE
MASS R-9.5CI

SLAB-ON-GRADE FLOORS
UNHEATED SLAB R-10 FOR 24 BELOW

OPAQUE DOORS
SWINGING U-0.61

FOR SI: 1 INCH = 25.4 MM. CI = CONTINUOUS INSULATION. NR = NO REQUIREMENT.
(a) ASSEMBLY DESCRIPTIONS CAN BE FOUND IN ANSI/ASHRAE/IESNA APPENDIX A
(b) WHERE USING R-VALUE COMPLIANCE METHOD, A THERMAL SPACER BLOCK SHALL BE PROVIDED, OTHERWISE USE THE U-FACTOR COMPLIANCE METHOD IN TABLE C402.1.2
(c) R-5.7CI IS ALLOWED TO BE SUBSTITUTED WITH CONCRETE BLOCK WALLS COMPLYING WITH ASTM C 90, UNGROUTED OR PARTIALLY GROUTED AT 32 INCHES OR LESS ON CENTER VERTICALLY AND 48 INCHES OR LESS ON CENTER HORIZONTALLY, WITH UNGROUTED CORES FILLED WITH MATERIALS HAVING A MAXIMUM THERMAL CONDUCTIVITY OF 0.44 BTU-IN/H-F2 °F.

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PROJECT ADDRESS:
5 NORRIS SQUARE,
NORRIS, TN 37828
PROJECT NO.: **210042-04**

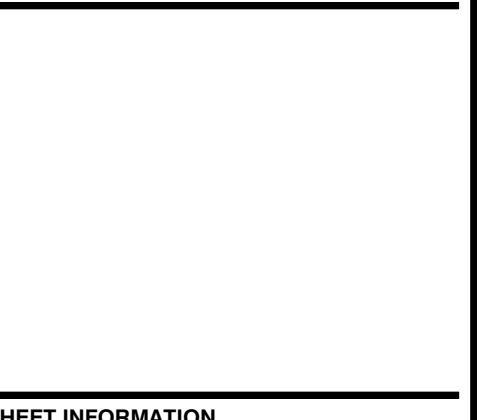
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<input type="checkbox"/>	AS-BUILT RECORD SET

REVISION INFORMATION

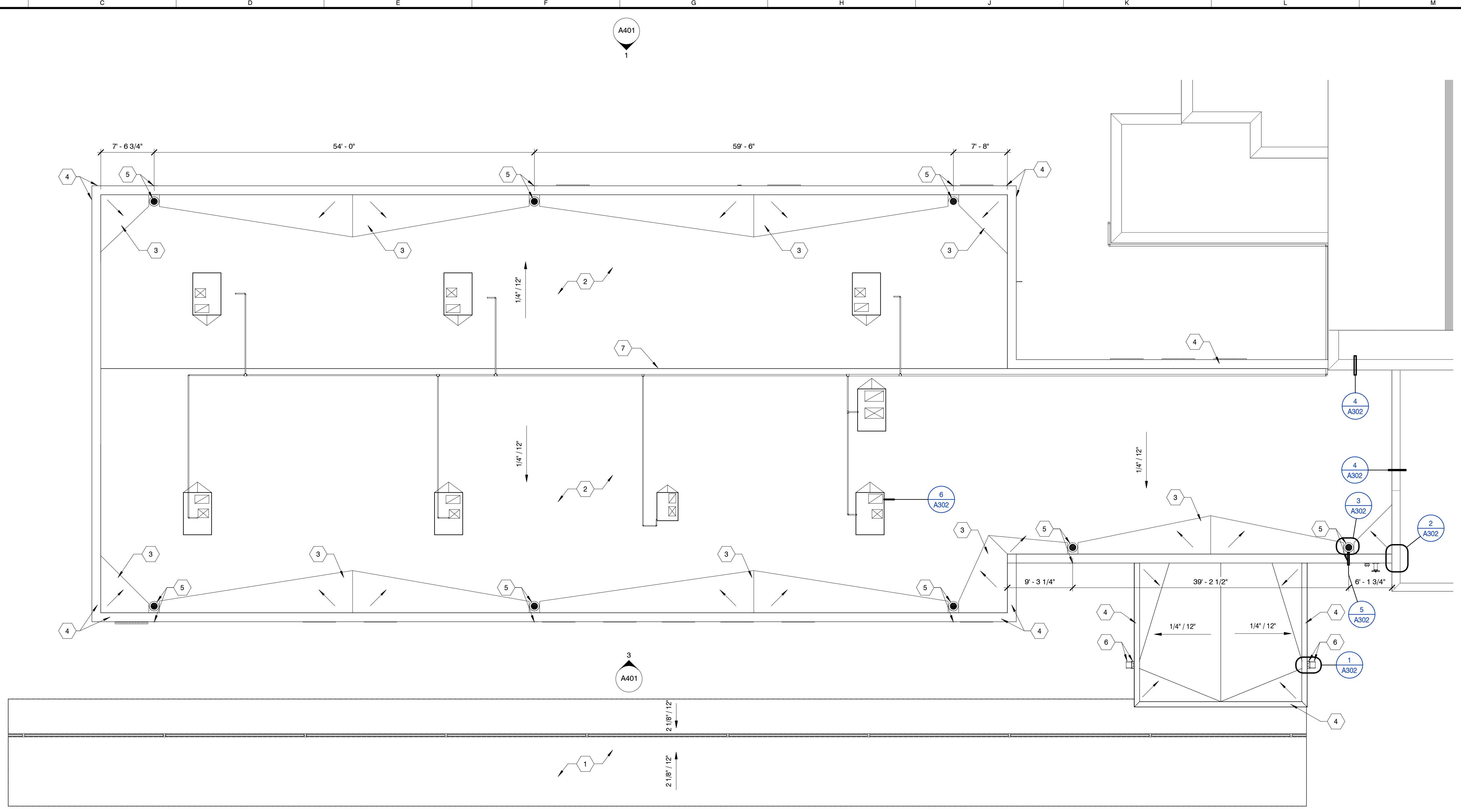
NO.	DATE	DESCRIPTION

KEY PLAN



SHEET INFORMATION

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REVIEWED BY: CMG
SHEET TITLE:

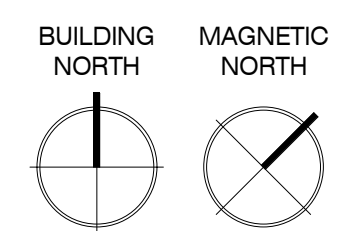


ROOF PLAN

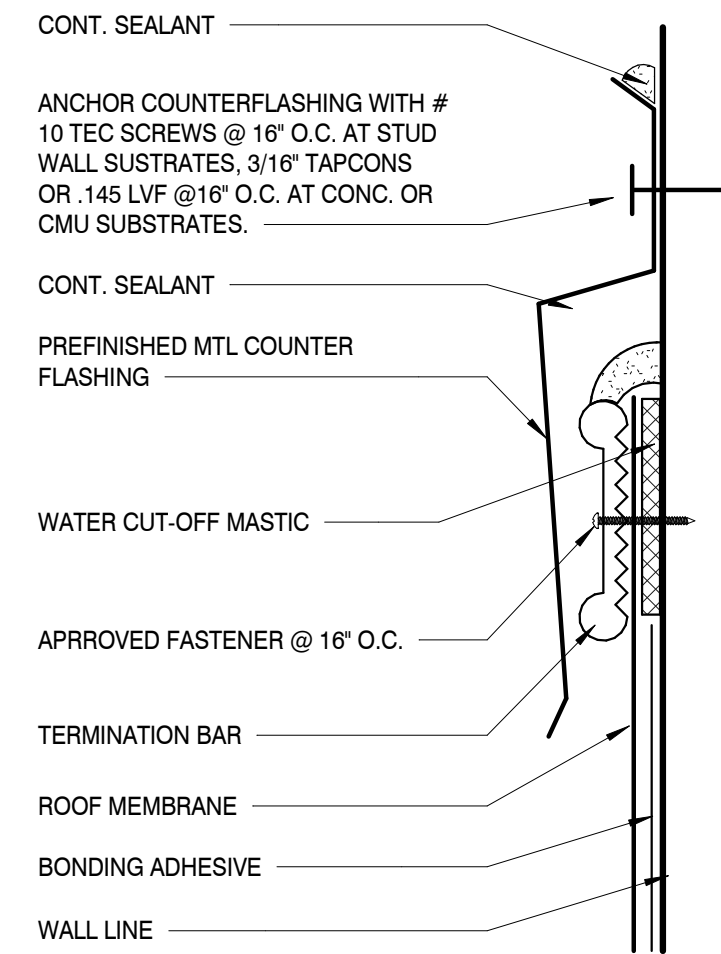
SCALE: 1/8" = 1'-0"

ROOF PLAN KEYNOTES

1. FREESTANDING CANOPY WITH CORRUGATED POLYCARBONATE PANELS.
2. EPDM ROOFING.
3. TAPERED INSULATION, SLOPE TO DRAIN.
4. METAL COPING CAP.
5. ROOF DRAIN AND OVERFLOW SCUPPER.
6. SCUPPER, CONDUCTOR HEAD, DOWNSPOUT, AND CONCRETE SPLASHBLOCK.
7. ROOF RIDGE LINE.



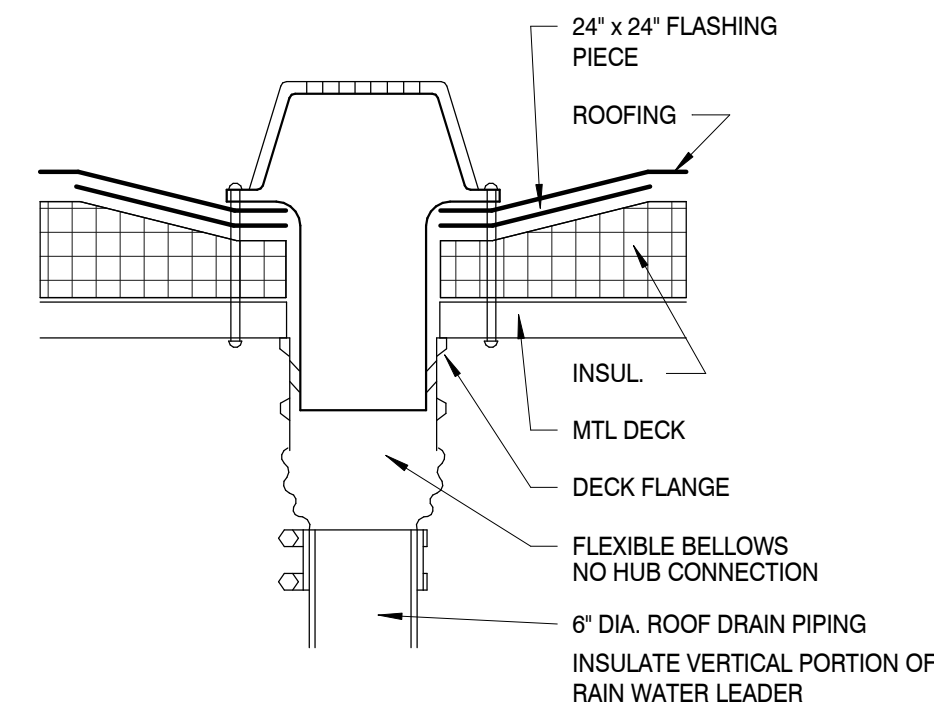
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TERM BAR DETAIL

SCALE: 3" = 1'-0"

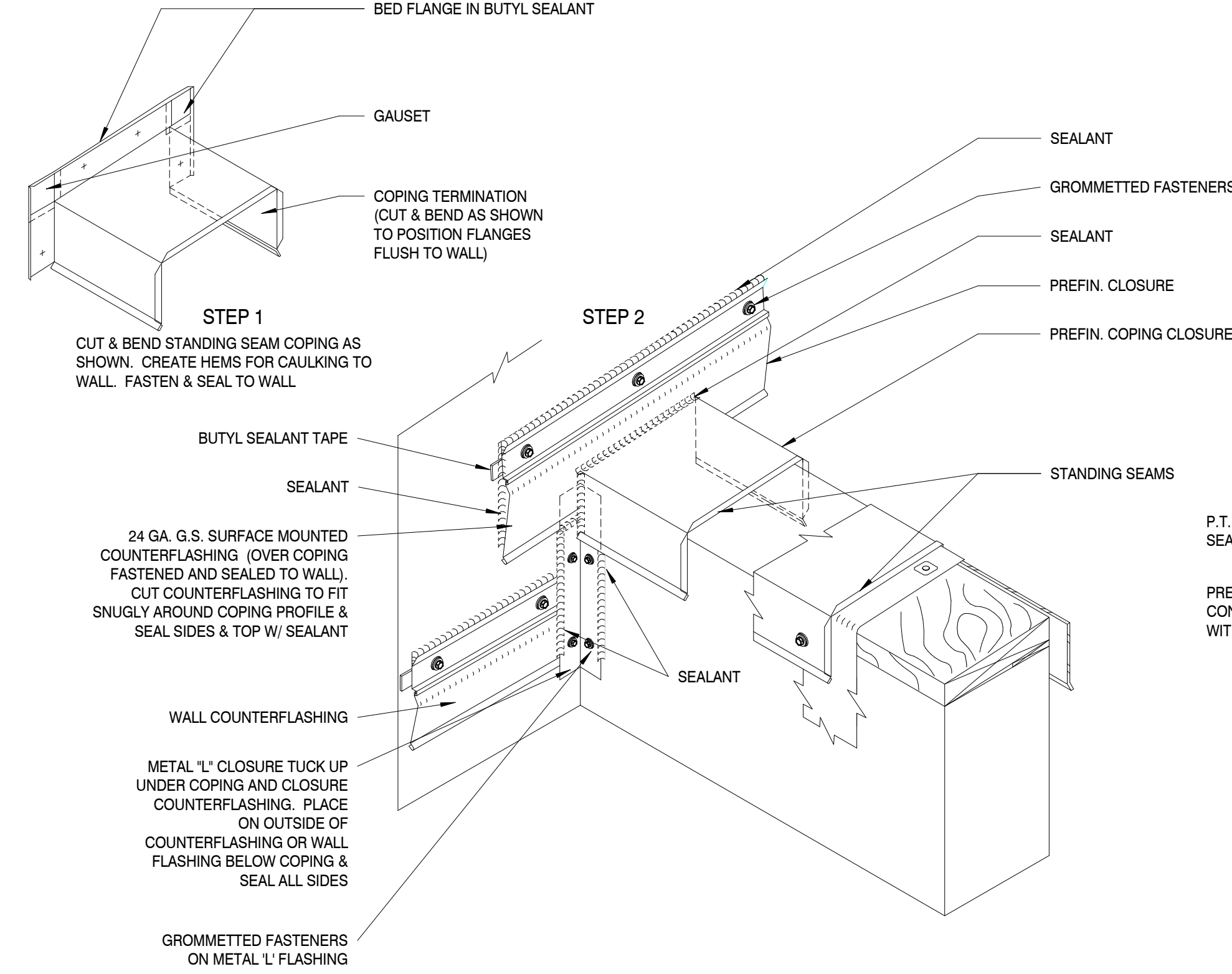
4



ROOF DRAIN

SCALE: 1 1/2" = 1'-0"

3

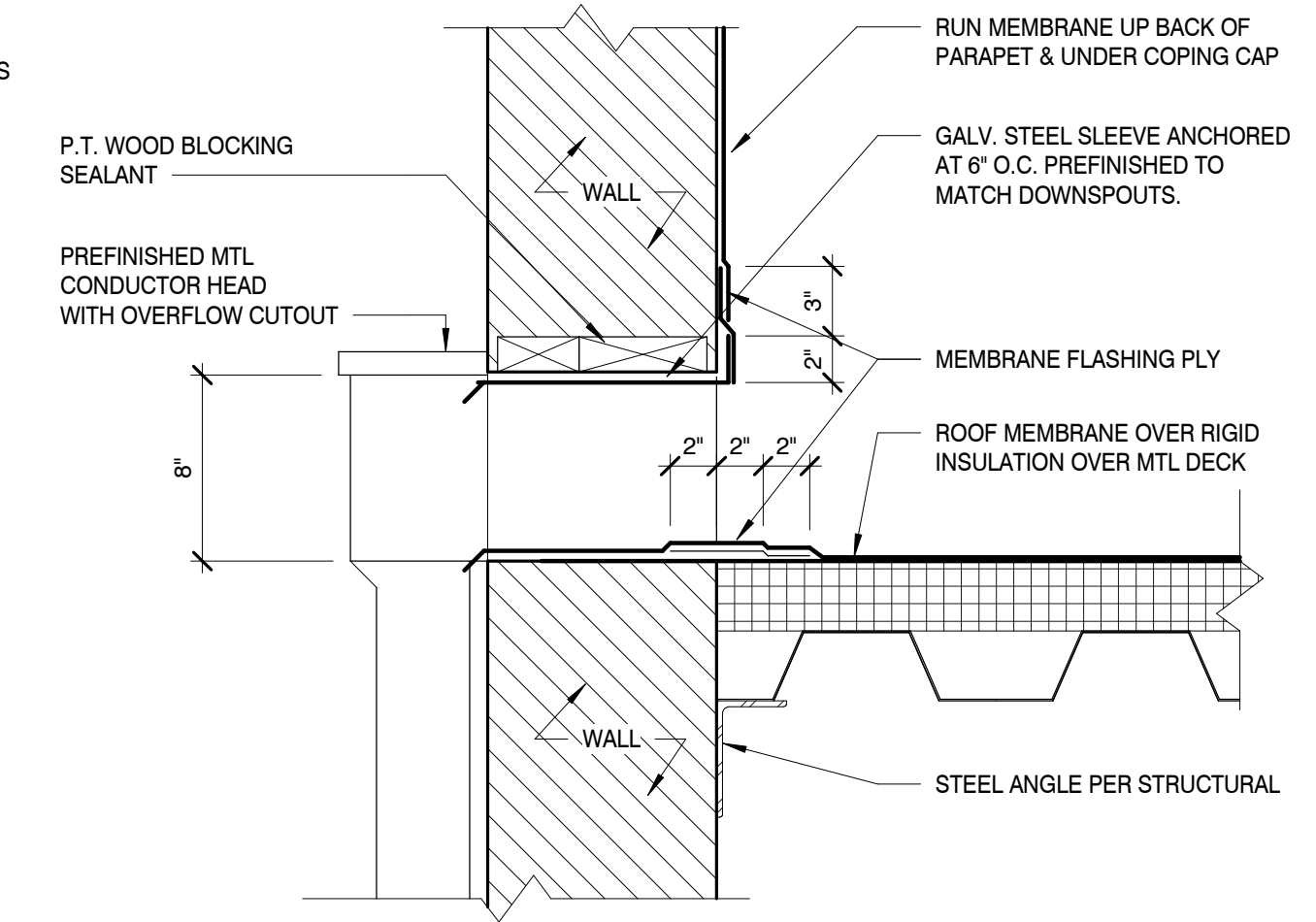


NOTE: FABRICATE METAL CLOSURE WITH COPING MATING TO COUNTERFLASHING, SEALED WATERTIGHT. IF WALL COUNTERFLASHING IS LOWER THAN THE CLOSURE, PROVIDE A METAL "L" FLASHING (AS SHOWN)

COPING TERMINATION DETAIL

SCALE: 1 1/2" = 1'-0"

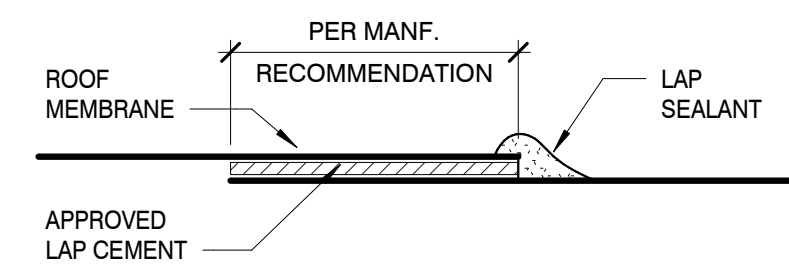
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SCUPPER AND DOWNSPOUT

SCALE: 1 1/2" = 1'-0"

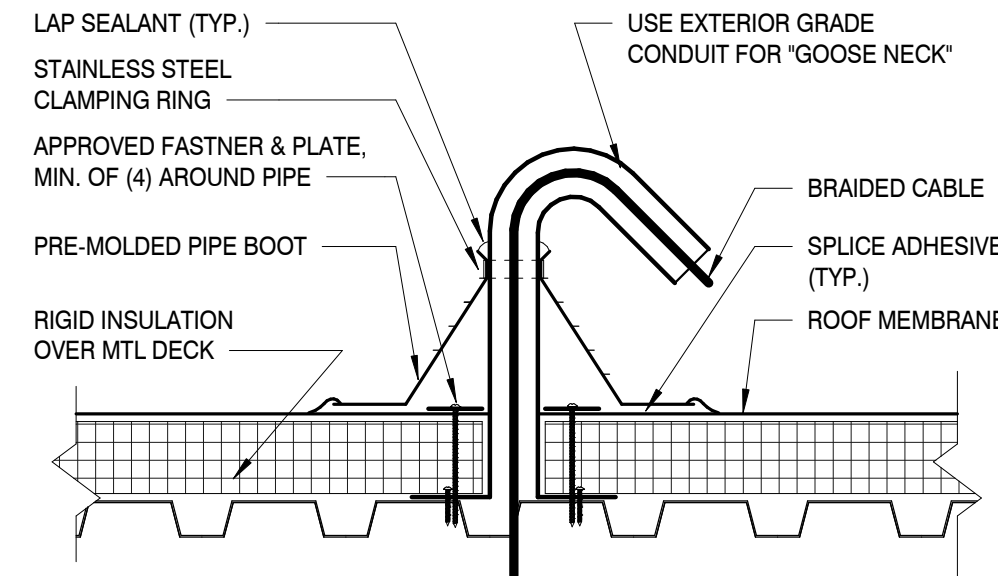
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LAP SPLICE DETAIL

SCALE: 6" = 1'-0"

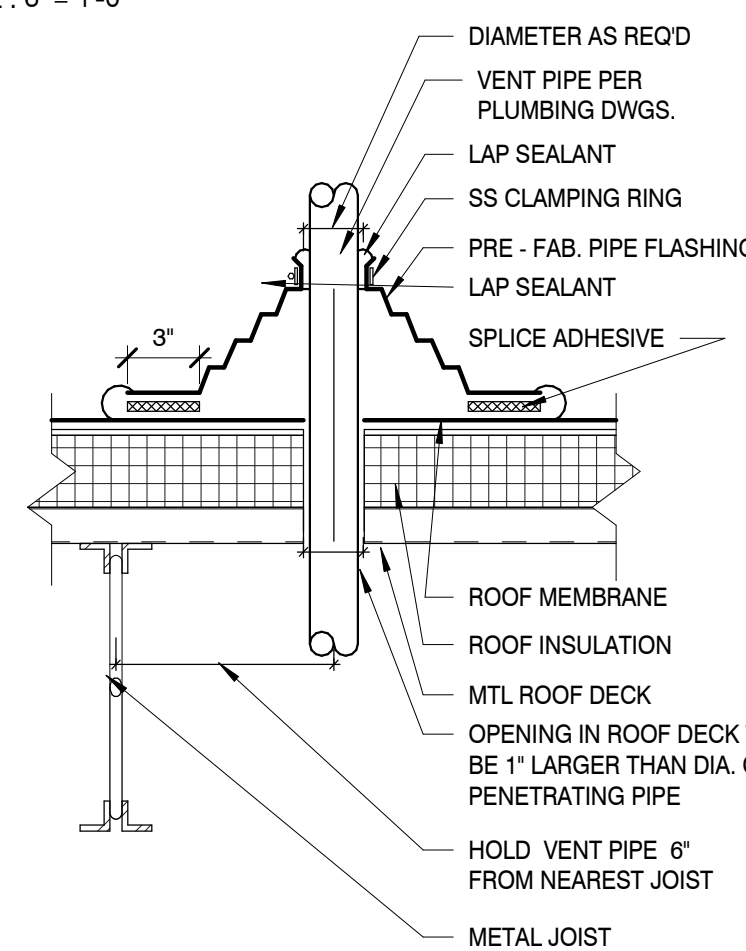
7



CABLE PENETRATION DETAIL

SCALE: 1 1/2" = 1'-0"

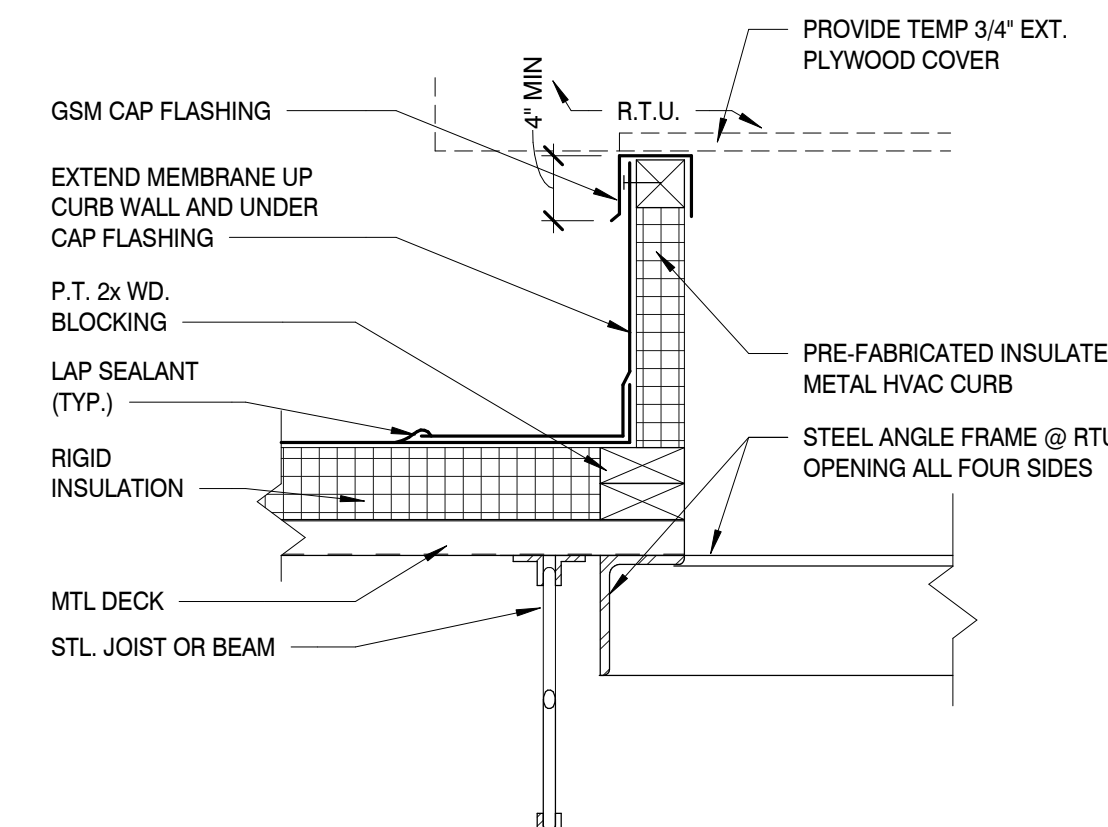
9



VENT PIPE DETAIL

SCALE: 1 1/2" = 1'-0"

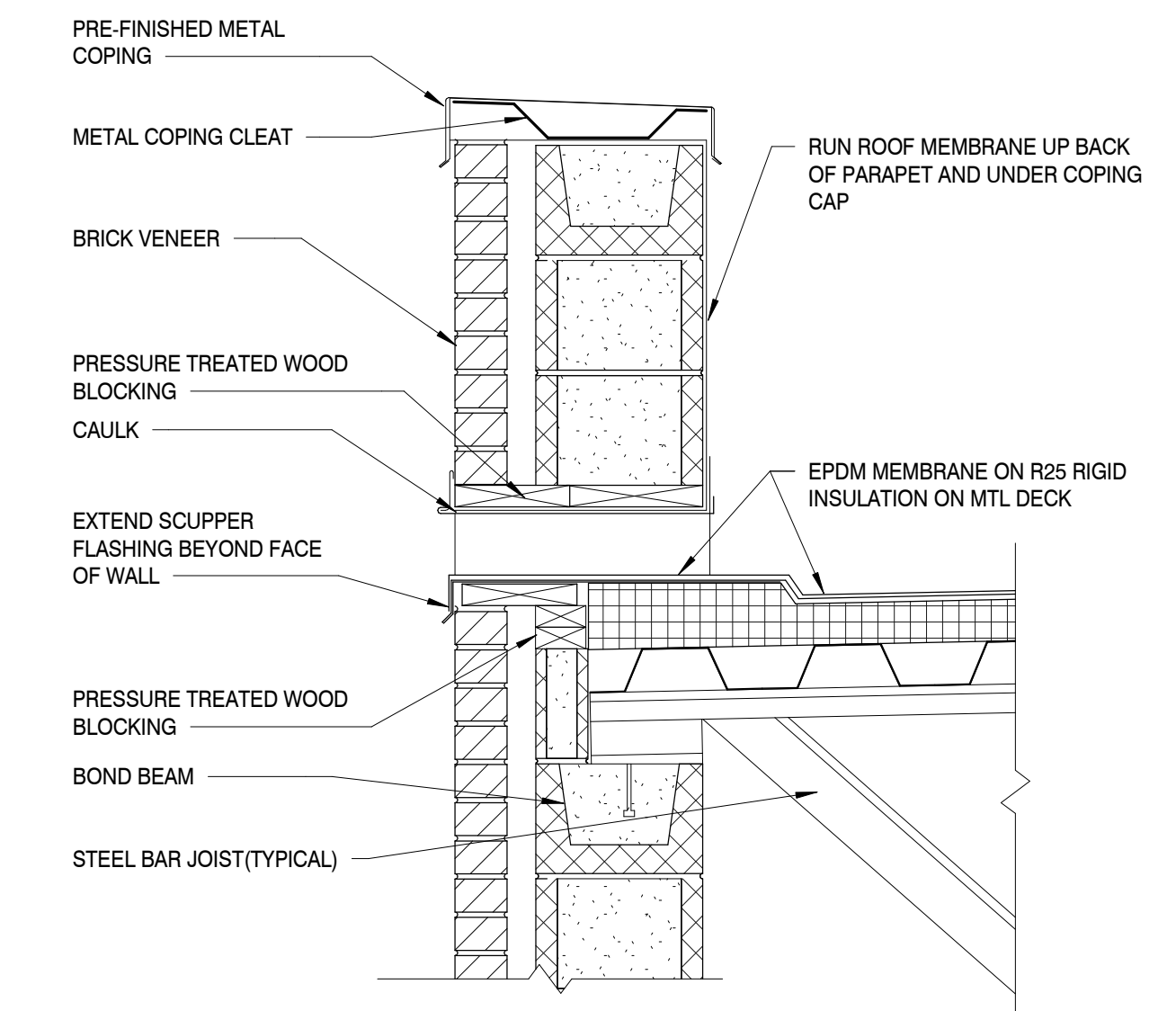
8



ROOF CURB DETAIL

SCALE: 1 1/2" = 1'-0"

6



PARAPET W/ OVERFLOW SCUPPER

SCALE: 1" = 1'-0"

5



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AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

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- CONSTRUCTION BIDDING
- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: CMG
DRAWN BY: KEF
REVIEWED BY: CMG
SHEET TITLE:



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NORRIS MIDDLE SCHOOL**

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5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: **210042-04**

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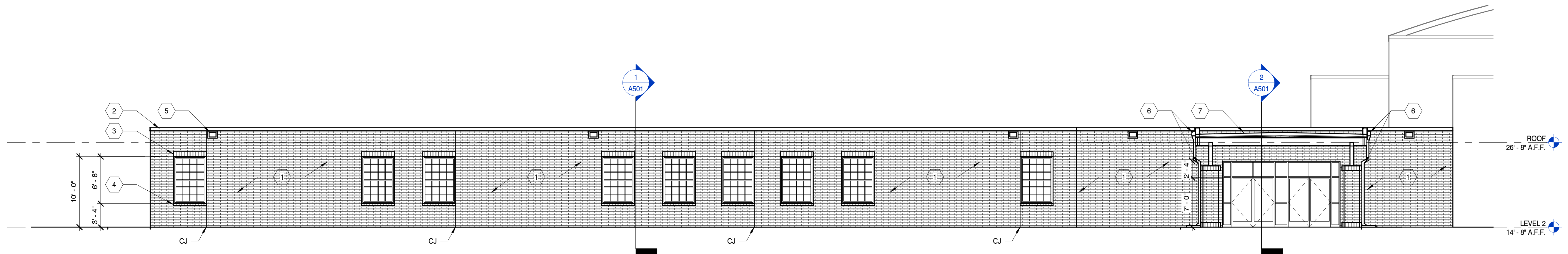
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DESIGNED BY: CMG
DRAWN BY: KEF
REVIEWED BY: CMG
SHEET TITLE:

EXTERIOR ELEVATIONS

SHEET NO.:

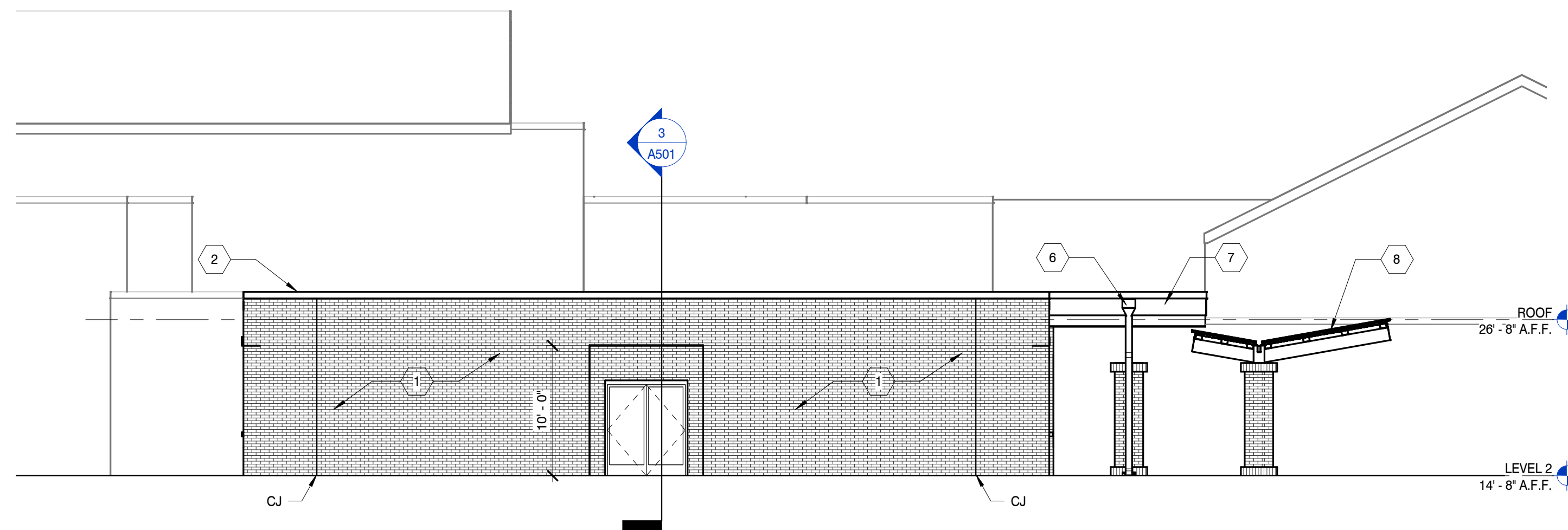
A401



SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

3



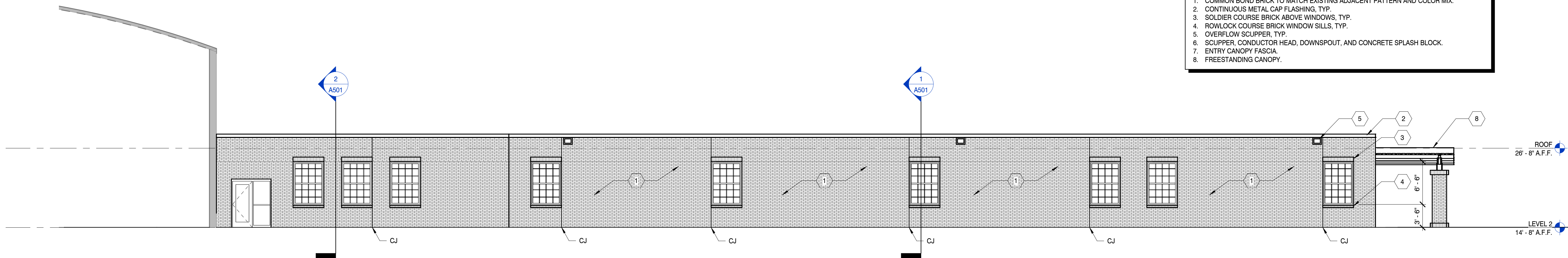
WEST ELEVATION

SCALE: 1/8" = 1'-0"

2

ELEVATION KEYNOTES

1. COMMON BOND BRICK TO MATCH EXISTING ADJACENT PATTERN AND COLOR MIX.
2. CONTINUOUS METAL CAP FLASHING, TYP.
3. SOLDIER COURSE BRICK ABOVE WINDOWS, TYP.
4. ROWLOCK COURSE BRICK WINDOW SILLS, TYP.
5. OVERFLOW SCUPPER, TYP.
6. SCUPPER, CONDUCTOR HEAD, DOWNSPOUT, AND CONCRETE SPLASH BLOCK.
7. ENTRY CANOPY FASCIA.
8. FREESTANDING CANOPY.

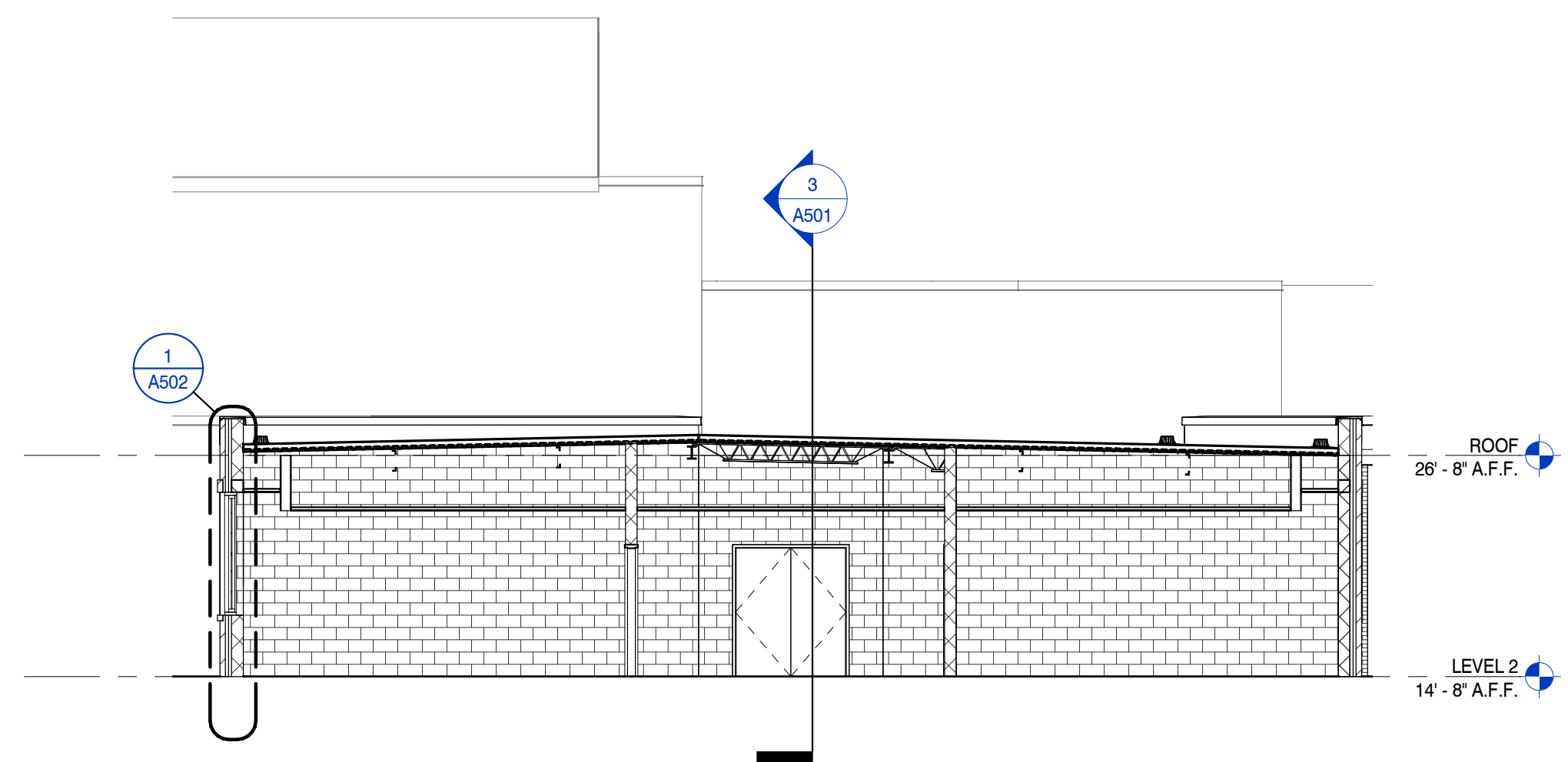


NORTH ELEVATION

SCALE: 1/8" = 1'-0"

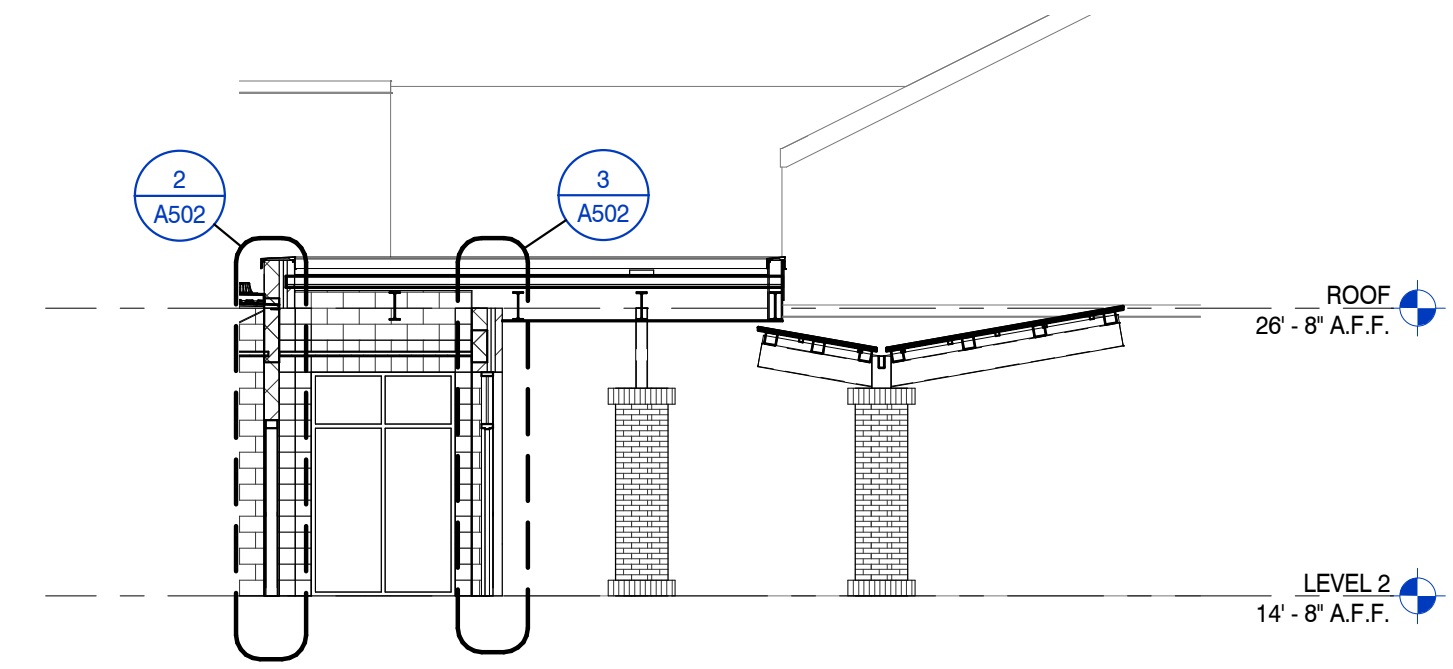
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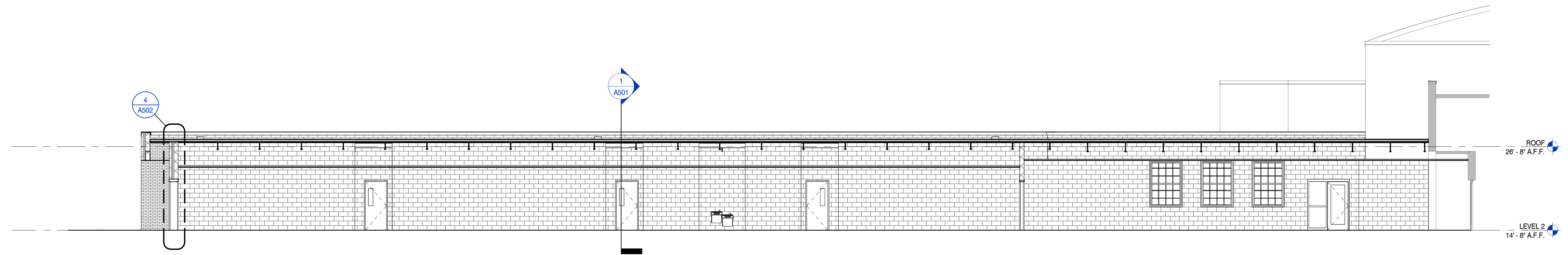
NORTH-SOUTH SECTION @ CLASSROOMS 1

SCALE : 1/8" = 1'-0"



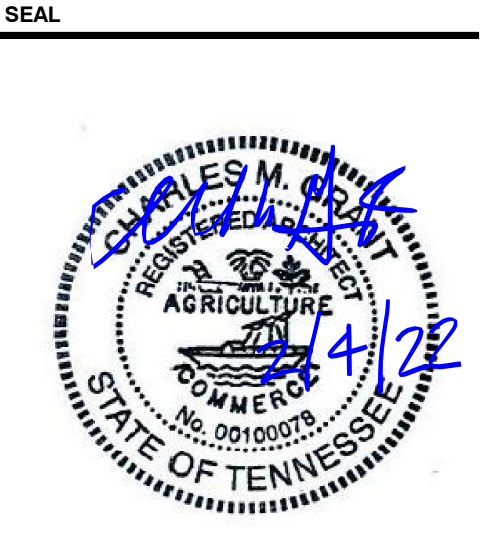
NORTH-SOUTH SECTION @ ENTRY 2

SCALE : 1/8" = 1'-0"



EAST-WEST SECTION @ HALLWAY 3

SCALE : 1/8" = 1'-0"



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5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: **210042-04**

ACTIVE DESIGN PHASE

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<input type="checkbox"/>	SCHEMATIC DESIGN
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REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN



SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: CMG
DRAWN BY: KEF
REVIEWED BY: CMG
SHEET TITLE:

BUILDING SECTIONS

SHEET NO.: **A501**



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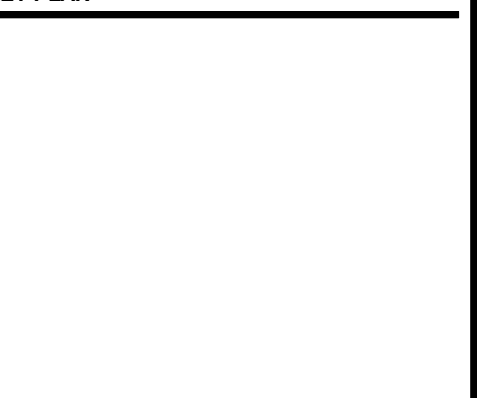
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KEY PLAN



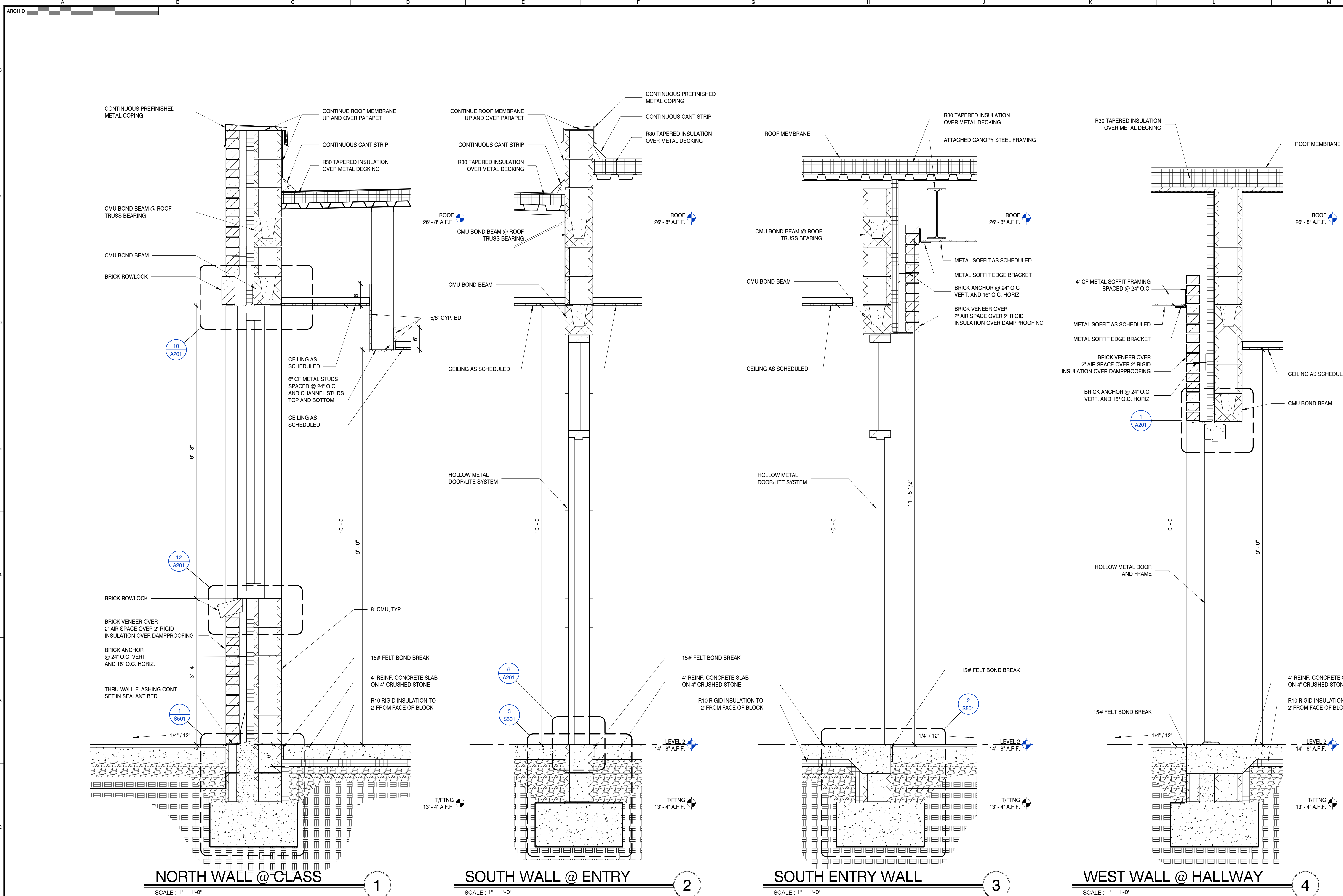
SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: CMG
DRAWN BY: KEF
REVIEWED BY: CMG
SHEET TITLE:

EXTERIOR WALL SECTIONS

SHEET NO.:

A502



NORTH WALL @ CLASS

SCALE: 1" = 1'-0"

1

SOUTH WALL @ ENTRY

SCALE: 1" = 1'-0"

2

SOUTH ENTRY WALL

SCALE: 1" = 1'-0"

3

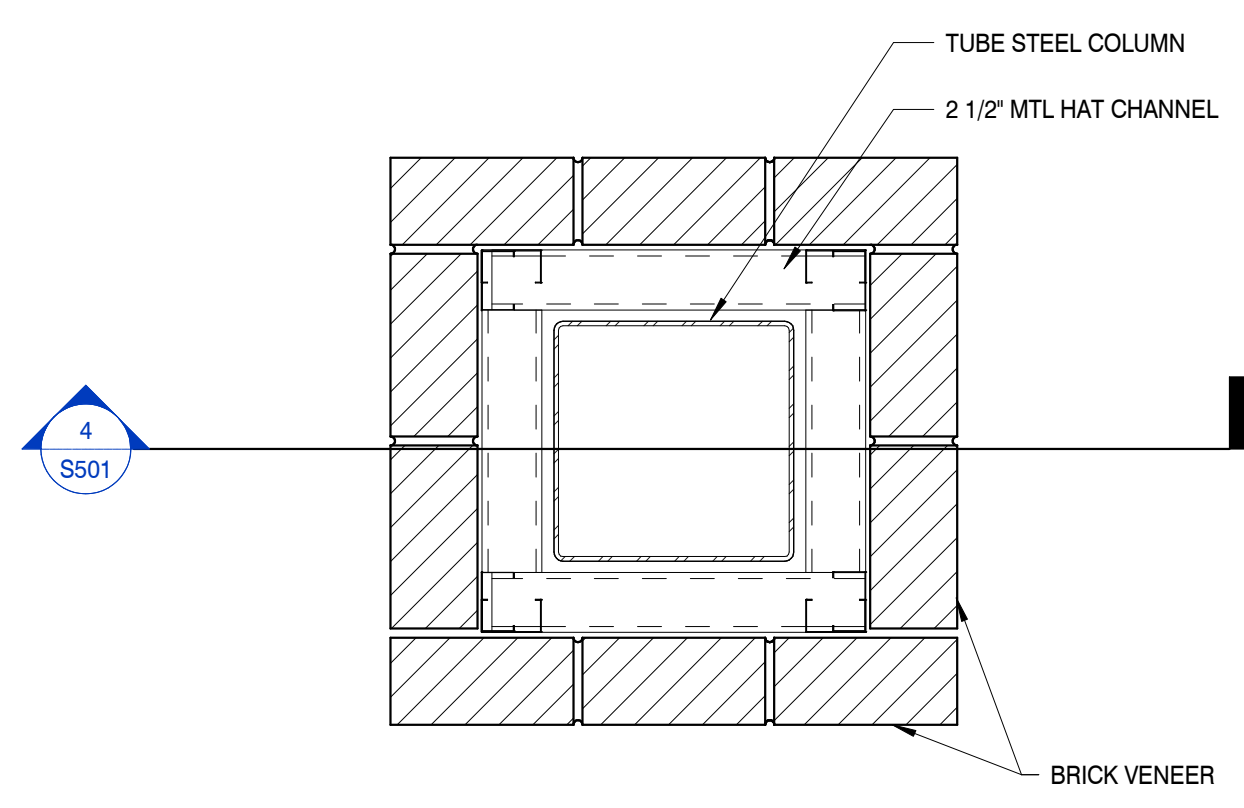
WEST WALL @ HALLWAY

SCALE: 1" = 1'-0"

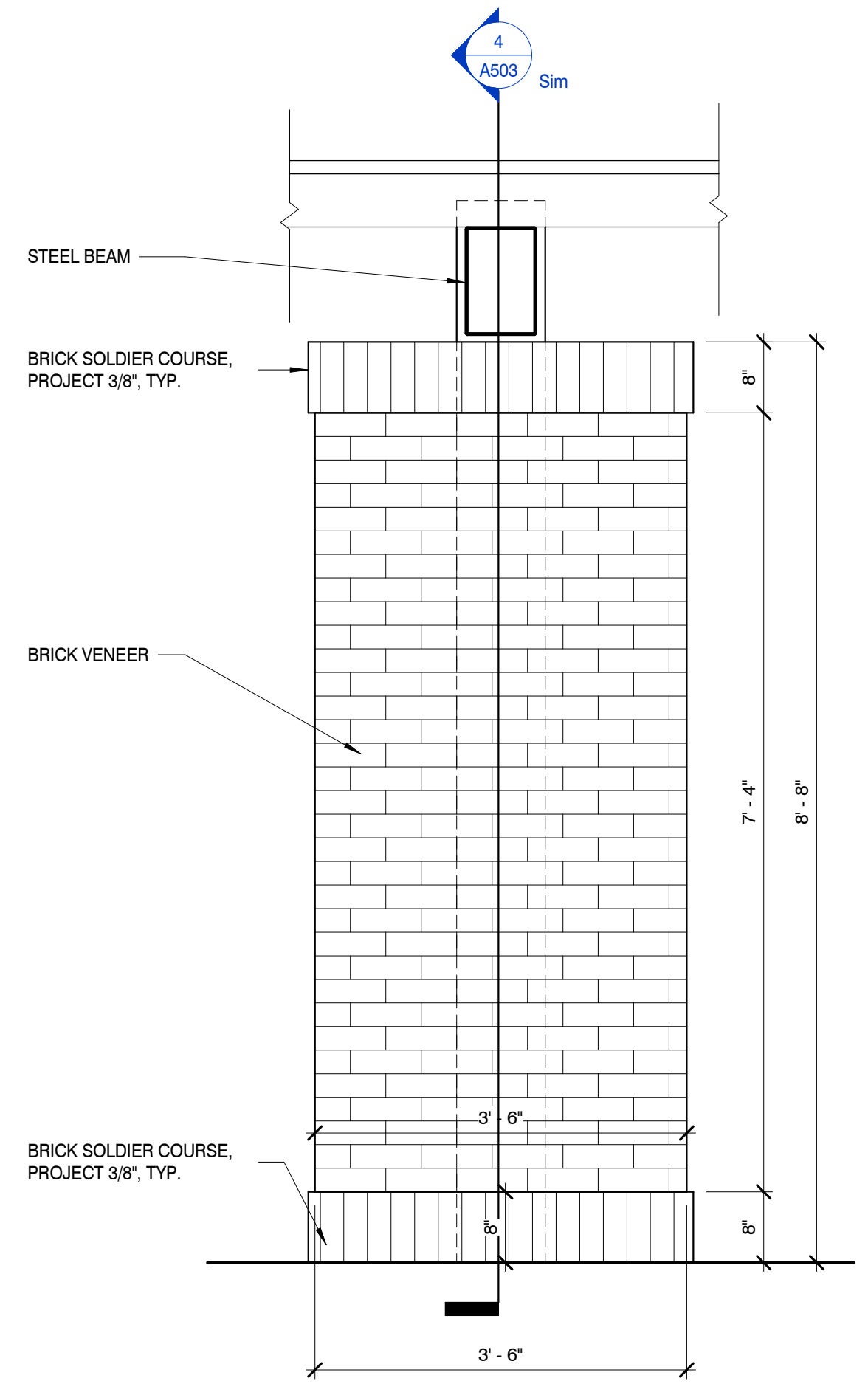
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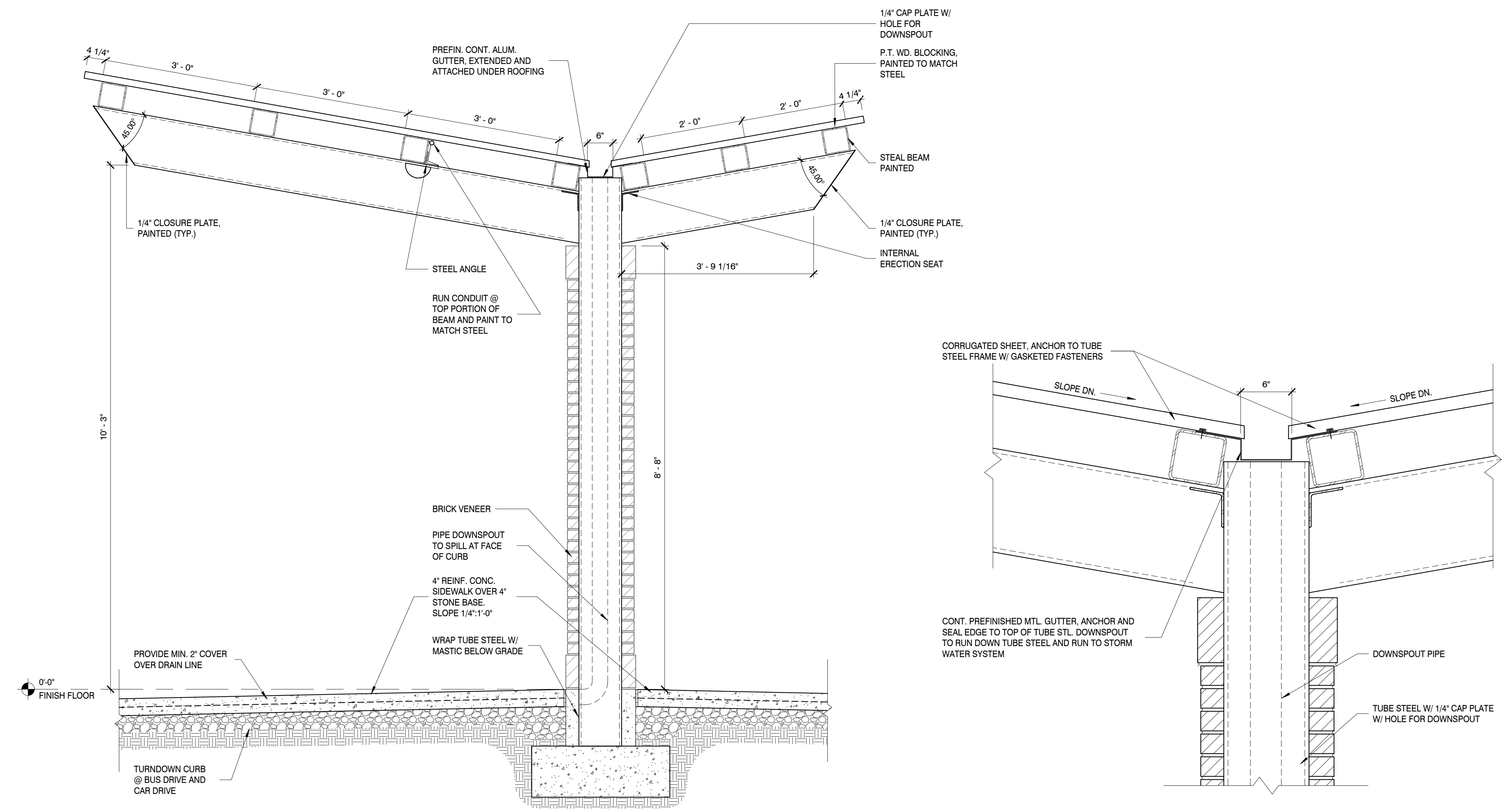
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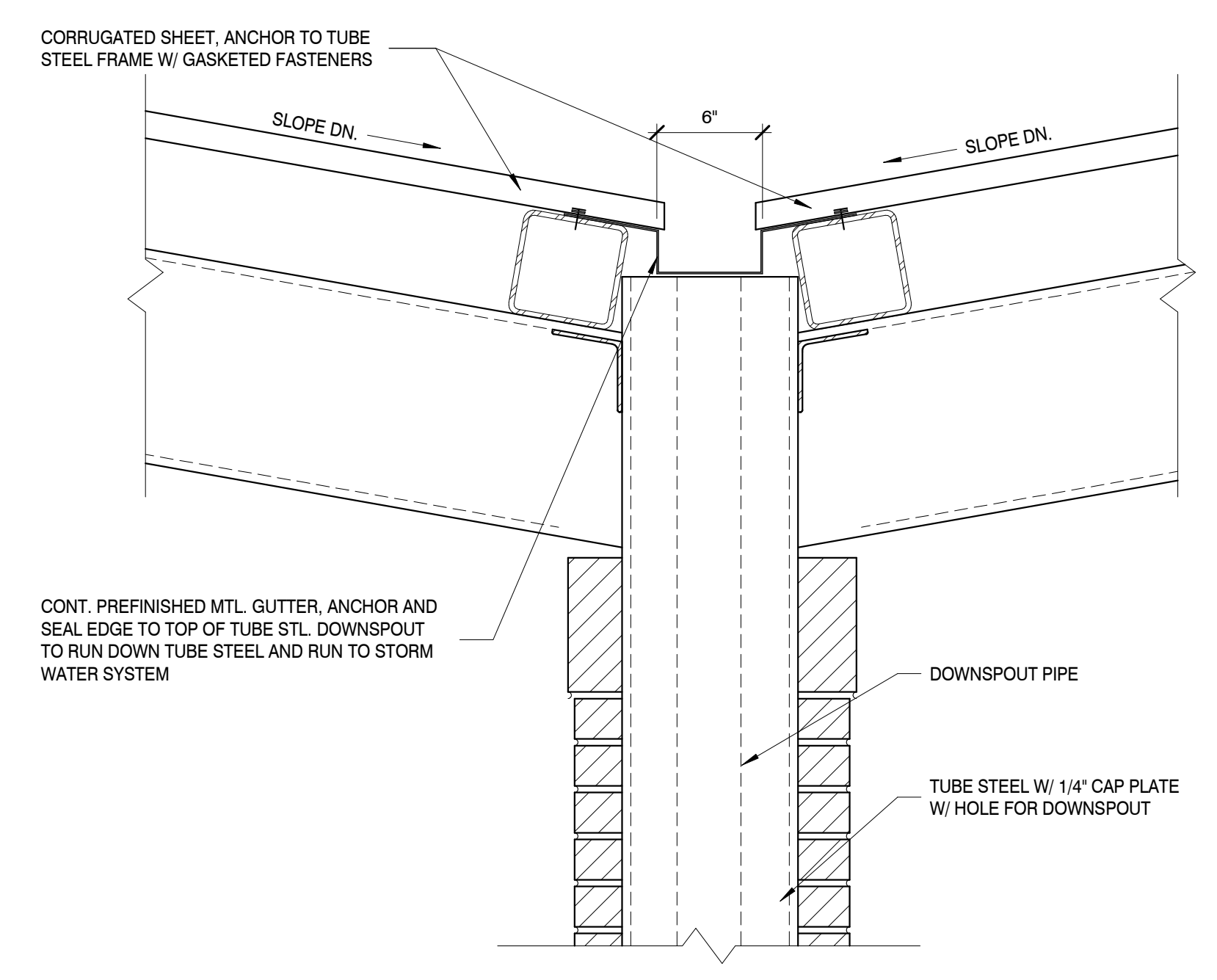
CANOPY COLUMN PLAN
SCALE: 1 1/2" = 1'-0"
1



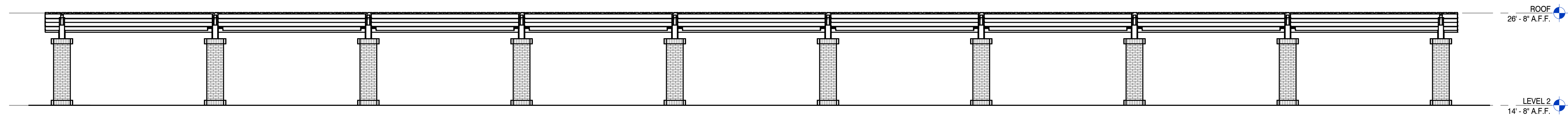
CANOPY COLUMN ELEVATION
SCALE: 3/4" = 1'-0"
3



CANOPY SECTION @ STEEL COLUMN 1
SCALE: 3/4" = 1'-0"
4



CANOPY DETAIL
SCALE: 1 1/2" = 1'-0"
5



CANOPY ELEVATION
SCALE: 1/8" = 1'-0"
2



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PROJECT INFORMATION

PROJECT:
AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:
5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: **210042-04**

ACTIVE DESIGN PHASE

- FOR REVIEW ONLY
- FOR PERMITTING ONLY
- SCHEMATIC DESIGN
- DESIGN DEVELOPMENT
- CONSTRUCTION BIDDING
- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

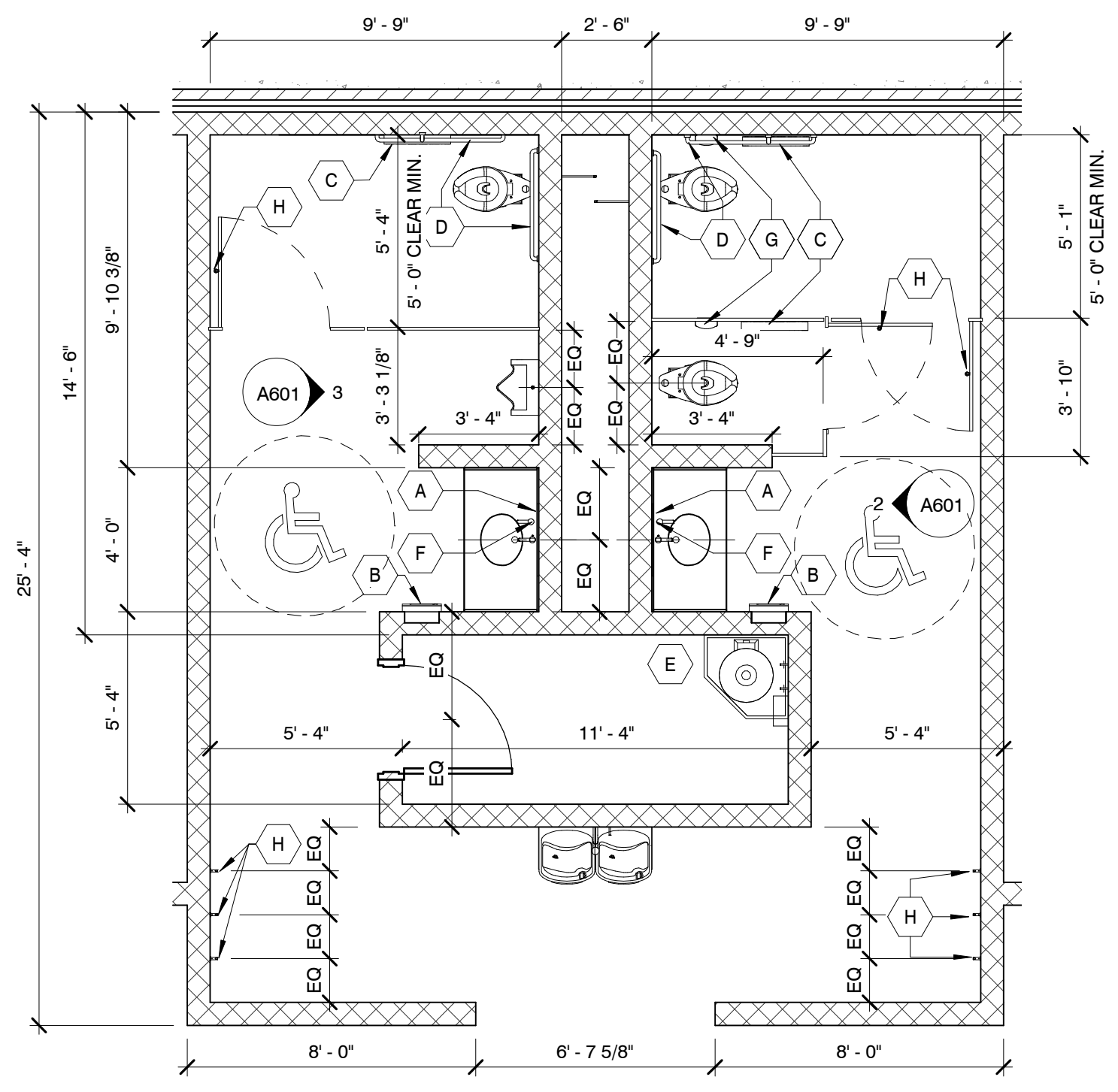
SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: CMG
DRAWN BY: LAP
REVIEWED BY: CMG
SHEET TITLE:

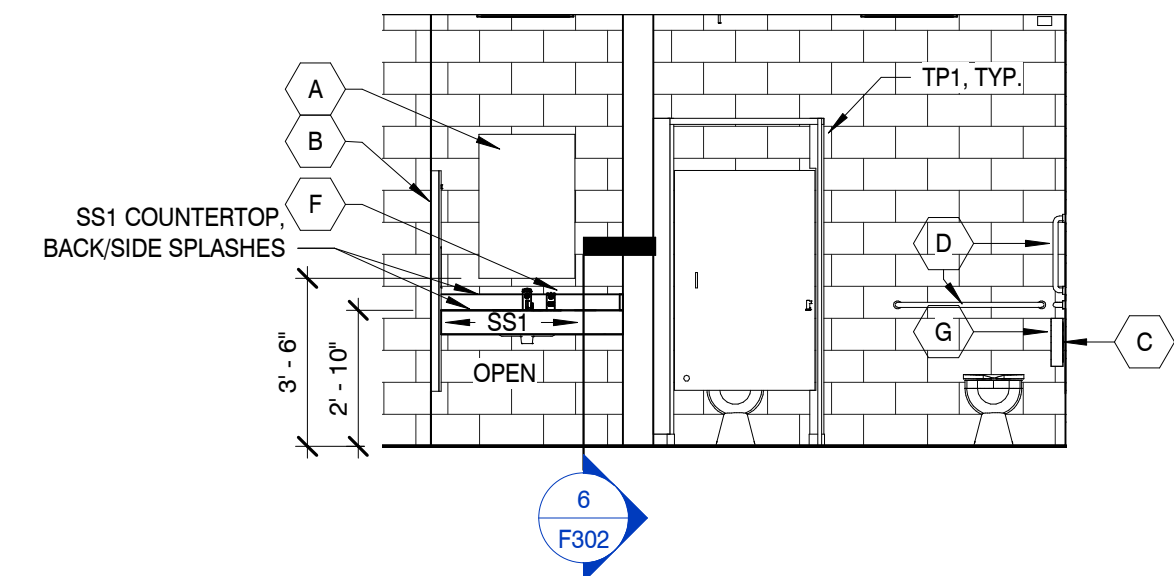
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SHEET NO.:

A503

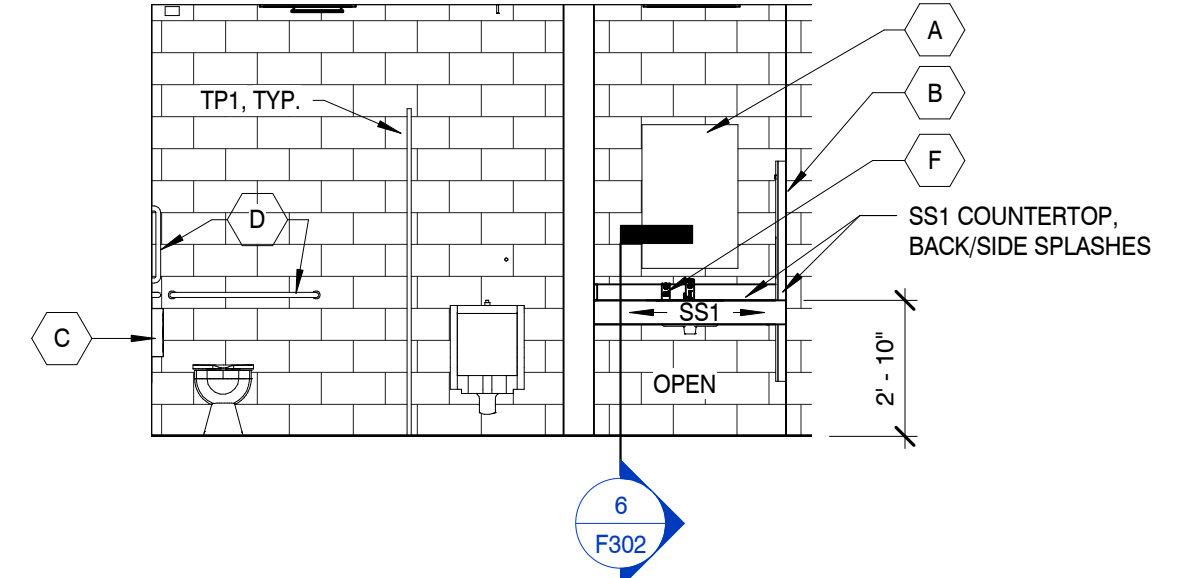
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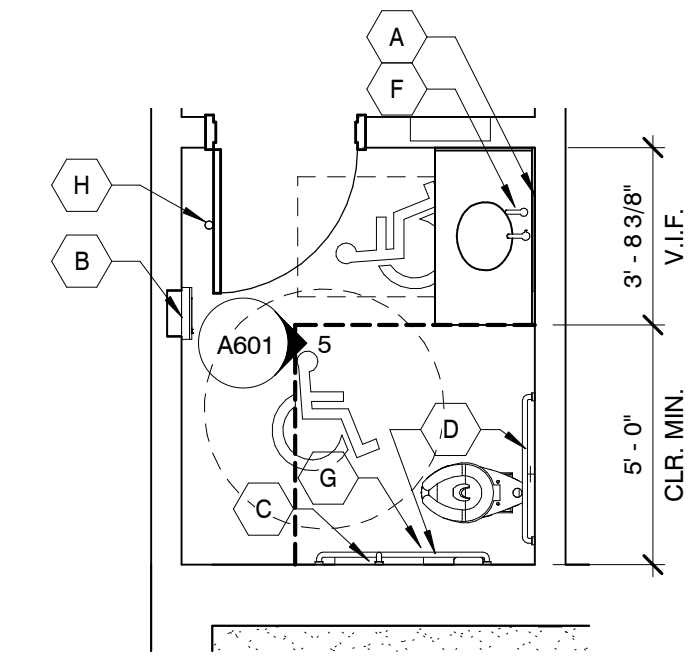
RESTROOM ENLARGED PLAN
SCALE: 1/4" = 1'-0"



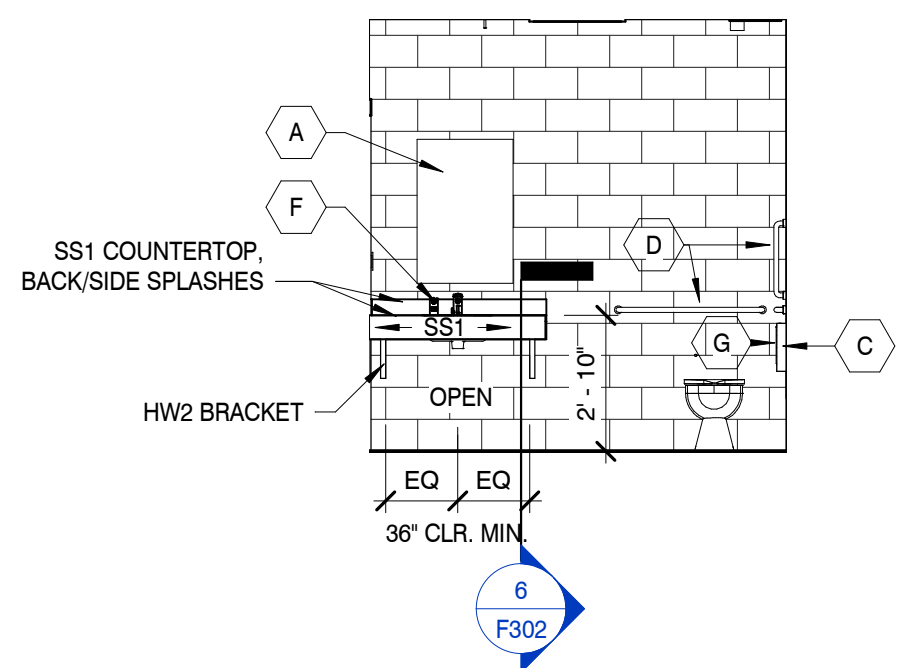
ELEVATION @ GIRLS RESTROOM
SCALE: 1/4" = 1'-0"



ELEVATION @ BOYS RESTROOM
SCALE: 1/4" = 1'-0"



STAFF RR ENLARGED PLAN
SCALE: 1/4" = 1'-0"



ELEVATION @ STAFF RESTROOM
SCALE: 1/4" = 1'-0"

GENERAL PLUMBING NOTES

1. ALL PLUMBING MATERIAL AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES.
2. SEE PLUMBING DRAWINGS FOR LOCATIONS AND SIZES OF ACCESS PANELS.
3. ALL FIXTURES AND ACCESSORIES SHALL COMPLY WITH THE CURRENT A.D.A., STATE OR LOCAL REGULATIONS FOR MOUNTING HEIGHTS AND CLEARANCES.
4. ALL HOT WATER AND DRAIN PIPES SHALL BE INSULATED PER A.D.A. REQUIREMENTS. MINIMUM HOT WATER SUPPLY INSULATION SHALL BE PRE-MOLDED FIBERGLASS PIPE INSULATION WITH WHITE ALL SERVICE JACKET. INSULATION THICKNESS SHALL BE MIN. 1". SEE PLUMBING DRAWINGS.
5. ALL GRAB BARS IN NEW CONSTRUCTION SHALL BE INSTALLED WITH CONCEALED ANCHOR PLATES.
6. THE FLUSH ACTIVATOR SHALL BE LOCATED ON THE WIDE CLEARANCE SIDE OF HANDICAPPED UNITS AND SHALL BE LEVER TYPE. THE FORCE TO ACTIVATE SHALL NOT EXCEED 5 POUNDS. ACTIVATION SHALL BE WITHIN 40" OF FIN. FLOOR.
7. LAVATORY FAUCET CONTROLS SHALL BE LEVER TYPE AND THE FORCE TO ACTIVATE SHALL NOT EXCEED 5 POUNDS.
8. PROVIDE BLOCKING IN WALLS AS REQ'D FOR ALL FIXTURES AND EQUIPMENT.
9. ALL DIMENSIONS ARE TO FACE OF STUD OR FACE OF FURRING UNLESS OTHERWISE NOTED. 'CLEAR' DENOTES FINISH TO FINISH.
10. TOILET ROOM WALLS TO HAVE SOUND BATT INSULATION FROM FLOOR TO DECK ABOVE.
11. GYP. BD. IN ALL WET AREAS TO BE WATER RESISTANT GYP. BD.
12. CONCRETE BACKER BOARD SHALL BE PROVIDED BEHIND TILE AT WALLS.
13. ADJUST SUPPLY LINE WALL PENETRATION HEIGHTS AS NEEDED TO AVOID CONFLICTS BETWEEN FLUSH VALVES AND GRAB BAR MOUNTING HEIGHTS. GRAB BAR MOUNTING HEIGHTS ARE TO TAKE PRIORITY.
14. CONTRACTOR TO CORRIDATE WITH SPECIFIED FIXTURES AND FINISHES TO ENSURE RIM OF LAVATORIES TO BE 34" A.F.F. MAX.

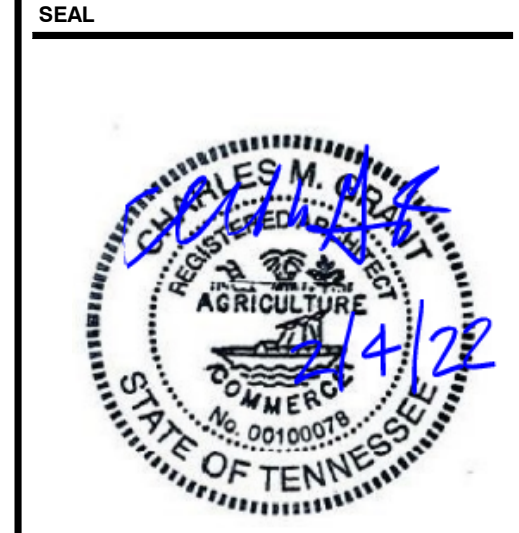
RESTROOM ACCESSORIES

- A. 24" x 36" FRAMELESS MIRROR W/ 1/4" FLOAT PLATE SET IN SILICONE. (40" A.F.F. TO BOTTOM OF REFLECTIVE SURFACE).
- B. PAPER TOWEL DISPENSER AND WASTE RECEPTACLE
- C. TOILET TISSUE DISPENSER (WALL MOUNTED). DISPENSER SHALL BE LOCATED ITHIN 12" OF THE FRONT EDGE OF THE TOILET SEAT. (1 PER STALL)
- D. 42" & 36" HORIZ. AND 18" VERT. STAINLESS STEEL GRAB BAR. (SURFACE MOUNTED). 1 1/4" - 1 1/2" O MOUNTED 1 1/2" FROM WALL.
- E. 36" MOP RACK
- F. SOAP DISPENSER
- G. FEMININE NAPKIN RECEPTACLE
- H. COAT HOOK



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PROJECT:
**AN ADDITION & RENOVATION TO:
NORRIS MIDDLE SCHOOL**

PROJECT ADDRESS:
5 NORRIS SQUARE,
NORRIS, TN 37828
PROJECT NO.: **210042-04**

ACTIVE DESIGN PHASE

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<input type="checkbox"/>	FOR PERMITTING ONLY
<input type="checkbox"/>	SCHEMATIC DESIGN
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REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION

SHEET ISSUED:	02/04/2022
DESIGNED BY:	CMG
DRAWN BY:	AJA
REVIEWED BY:	CMG
SHEET TITLE:	

ENLARGED PLANS AND ELEVATIONS

SHEET NO.: **A601**



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AN ADDITION &
RENOVATION TO:
NORRIS MIDDLE
SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

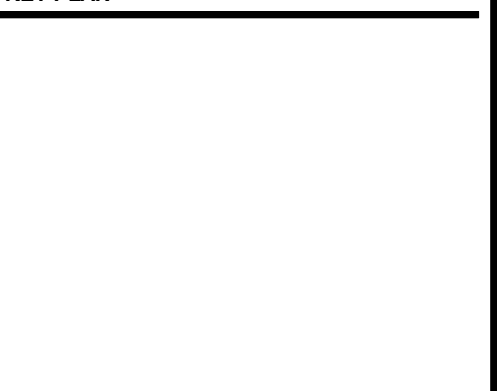
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NO.	DATE	DESCRIPTION

KEY PLAN

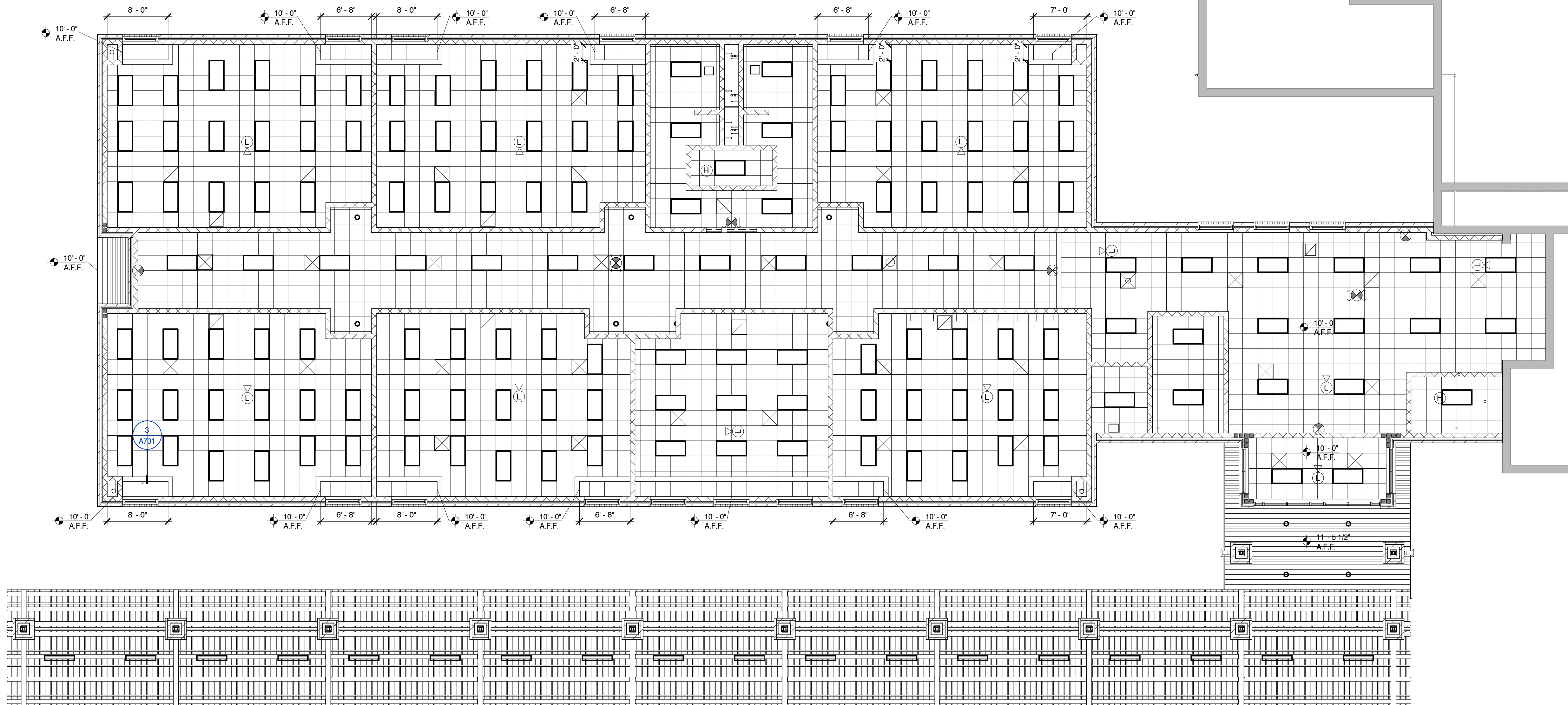


SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: CMG
DRAWN BY: KEF
REVIEWED BY: CMG
SHEET TITLE:

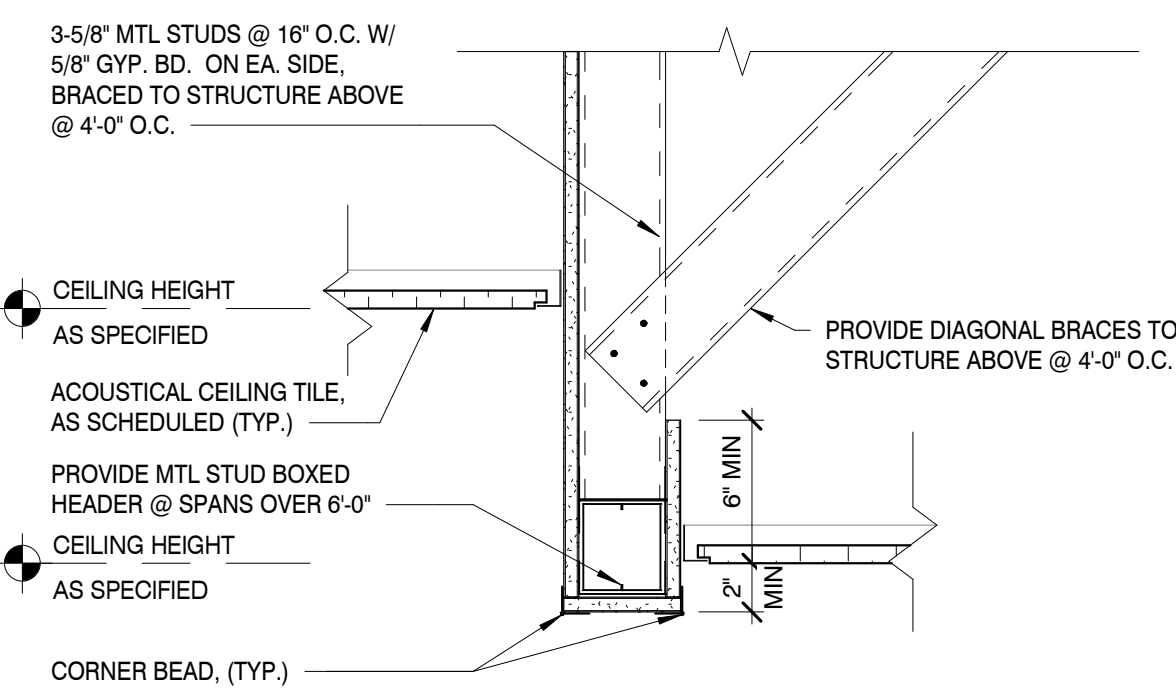
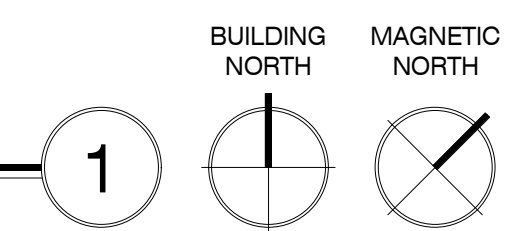
REFLECTED CEILING
PLAN AND DETAILS

A701



REFLECTED CEILING PLAN

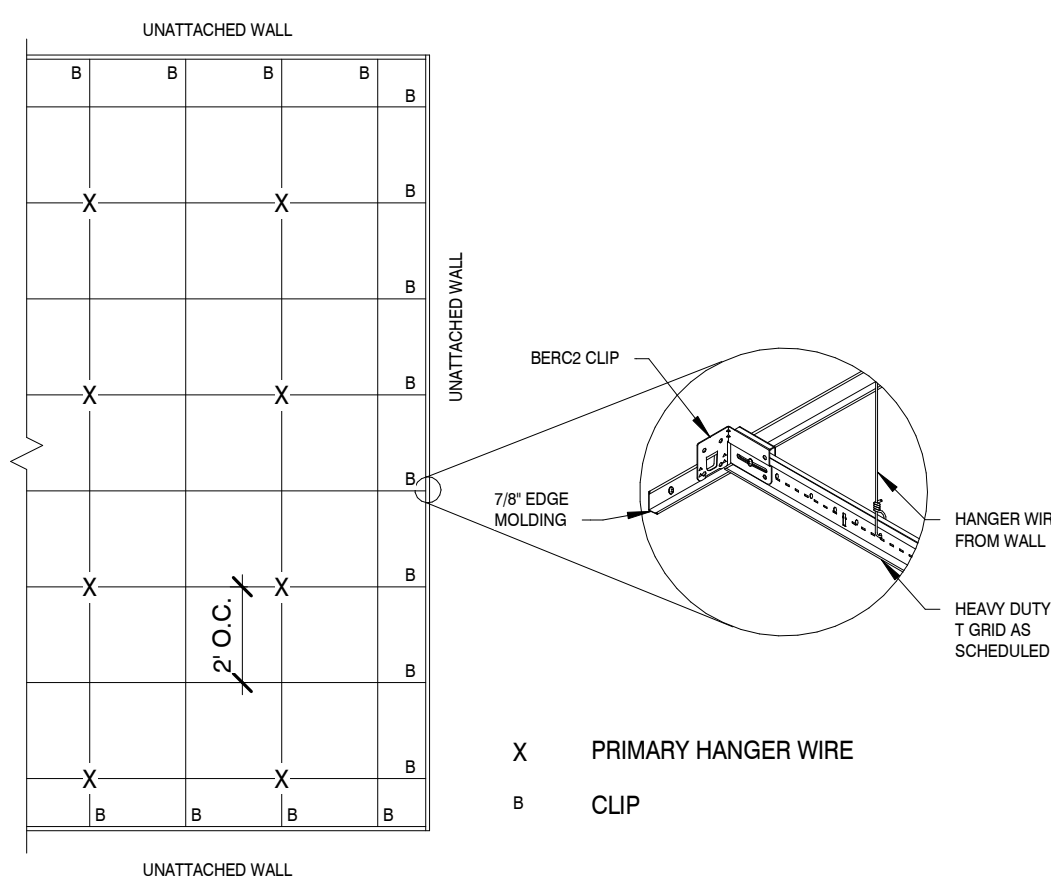
SCALE: 1/8" = 1'-0"



GYP. BD. CEILING DETAIL

SCALE: 1 1/2" = 1'-0"

SEISMIC DESIGN CATEGORY D INSTALLATION - ICC-ES APPROACH



SEISMIC BRACING DETAIL

SCALE: 1/4" = 1'-0"

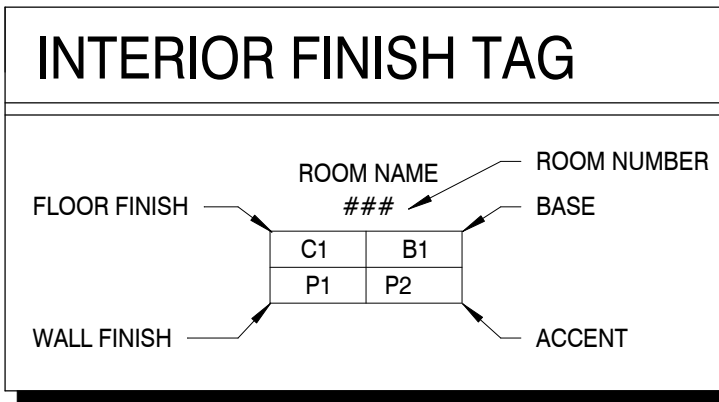
REFLECTED CEILING LEGEND

	2X4 LED FIXTURE		COMBINATION EMERGENCY LIGHT AND EXIT LIGHT		24"x24" ACOUSTICAL CEILING TILE (ACT2 UNLESS OTHERWISE NOTED)
	2X4 LED VOLUMETRIC LAY-IN FIXTURE		EXIT LIGHT		5/8" GYP. BD. CEILING (TO BE PAINTED P1 UNLESS NOTED OTHERWISE)
	8" RECESSED CAN LIGHT		EMERGENCY LIGHT		PREFINISHED FLUSH SEAM ALUMINUM SOFFIT
	4'-0" SURFACE LINEAR LIGHTING		HVAC SUPPLY DIFFUSER		9'-0" A.F.F. CEILING HEIGHT UNLESS OTHERWISE NOTED
	EXHAUST FAN		HVAC R/A GRILL		

ADD ALTERNATE:

ROOMS 216 & 217 OF EXISTING BUILDING:

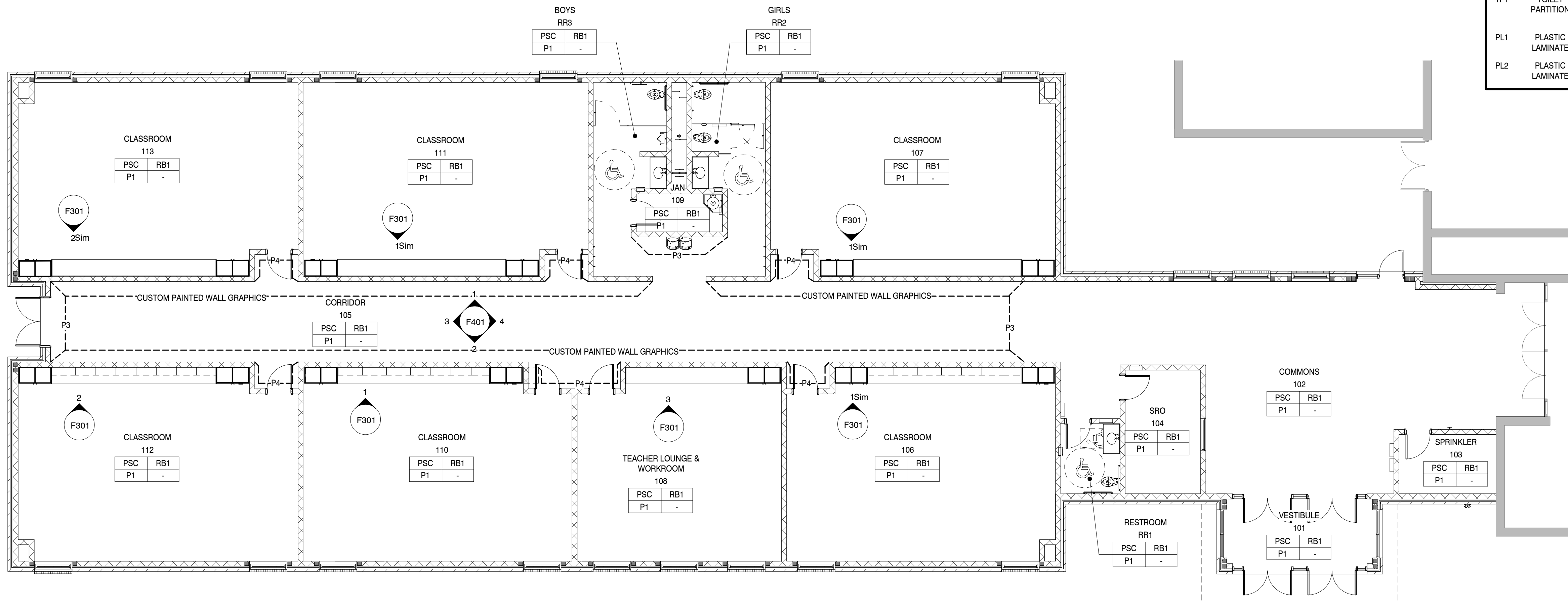
- REPAIR ALL WALLS (P2)
- REMOVE EXISTING MILLWORK AND REPLACE WITH NEW PER SHEET F303



- GENERAL INTERIOR NOTES**
- ALL FURR DOWNS TO BE PAINTED P1 UNLESS OTHERWISE NOTED
 - ALL HOLLOW METAL PAINT SHALL HAVE SEMI-GLOSS FINISH
 - CONTRACTOR TO PROVIDE APPROPRIATE TRANSITIONS AS REQUIRED
 - PRIOR TO CONSTRUCTION, CONTRACTOR TO SUBMIT ALL SAMPLES TO ARCHITECT FOR REVIEW AND APPROVAL
 - ALL GYPSUM WALL BOARD TO BE PAINTED
 - CONTRACTOR SHALL PROVIDE APPROPRIATE SEAM SEALANT FOR ALL CARPET TRANSITIONS
 - CONTRACTOR SHALL PROVIDE APPROPRIATE GROUT & SEALANT FOR ALL FLOOR & WALL TILE APPLICATIONS

FINISH SCHEDULE

CODE	ITEM	MANUFACTURER	DESCRIPTION
	FLOORING		NOTE: LOCATE THE FLOOR FINISH CHANGE AT DOOR OPENINGS AT THE CENTERLINE OF THE DOOR LEAF
PSC	POLISHED SEALED CONCRETE		GRAY STAIN
RB1	RUBBER BASE	TARKETT	TG4 BLACK MAGIC B
	WALLS		
P1	PAINT	SHERWIN WILLIAMS	SW 7646 FIRST STAR (GENERAL WALL PAINT U.N.O.)
P2	PAINT	SHERWIN WILLIAMS	SW 7069 IRON ORE HOLLOW METAL PAINT (FRAMES & DOORS ONLY AT BUILDING INTERIOR)
P3	PAINT	SHERWIN WILLIAMS	SW 7595 SOMMELIER (ACCENT)
P4	PAINT	SHERWIN WILLIAMS	SW 9049 SKYFALL (ACCENT)
P5	PAINT	SHERWIN WILLIAMS	SW 6254 LAZY GRAY (ACCENT)
P6	PAINT	SHERWIN WILLIAMS	SW 2849 WESTCHESTER GRAY (ACCENT)
P7	PAINT	SHERWIN WILLIAMS	WHITE TO MATCH EXISTING EXTERIOR TRIM, SEMI-GLOSS (EXTERIOR METAL DOORS/FRAMES AND CANOPY POST)
	CEILING		
ACT1	ACOUSTICAL CEILING TILE	ARMSTRONG	CALLA, 2824, 24 X 24 X 1, WHITE GRID 9/16", SUPERFINE
GB1	GYP. BD. BULKHEAD	SHERWIN WILLIAMS	PAINT (P1) UNLESS NOTED OTHERWISE
	MISC.		
ST1	DOOR STAIN	VT INDUSTRIES	SELECT WHITE BIRCH, COLOR: SERENGETI SE18
SS1	SOLID SURFACE COUNTERTOP	LIVINGSTONE	AVALANCHE L721, 3CM, EASED EDGE
HW1	MILLWORK HARDWARE	ELEMENTS NAPLES	CYLINDRICAL BAR PULL, 156DBB DARK BRUSHED BRONZE (CABINET DOOR/ DRAWER PULLS)
HW2	COUNTER BRACKET	RAKKS	SURFACE MOUNTED EH COUNTER SUPPORT W/ ROUNDED EDGES, EHR-1818
TP1	TOILET PARTITION	SCRANTON	HINY HIDERS, FLOOR MOUNTED-OVERHEAD BRACE ORANGE PEEL CHARCOAL GRAY, CONTINUOUS 71" H STAINLESS STEEL HELIX, OCCUPANCY INDICATOR, STAINLESS STEEL 71" CONTINUOUS STRIKE
PL1	PLASTIC LAMINATE	WILSONART	NATURAL COTTON 4946-38 (COUNTERTOPS)
PL2	PLASTIC LAMINATE	WILSONART	FRENCH PEAR 8220-38 (CABINET FRONTS/SIDES)



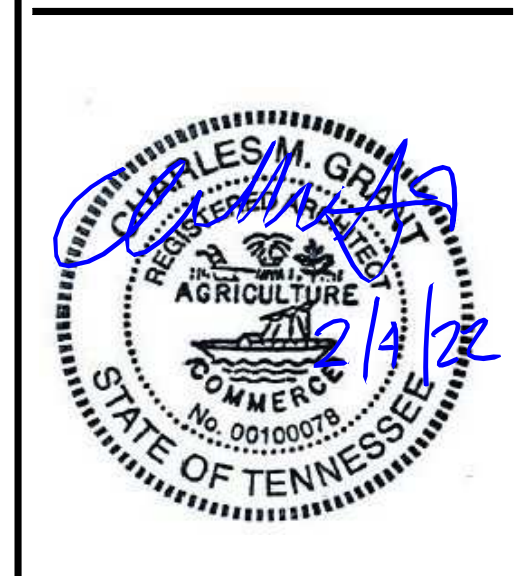
FLOOR FINISH PLAN
SCALE: 1/8" = 1'-0"



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PROJECT INFORMATION

PROJECT: AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS: 5 NORRIS SQUARE, NORRIS, TN 37828

PROJECT NO.: 210042-04

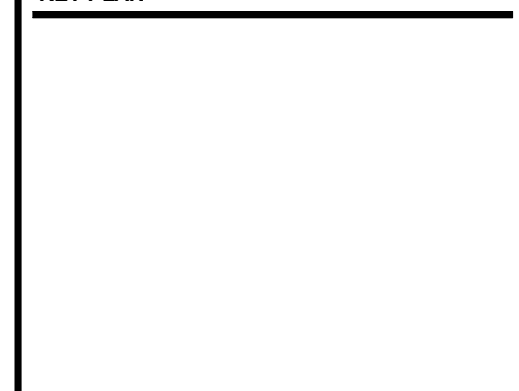
ACTIVE DESIGN PHASE

- FOR REVIEW ONLY
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- SCHEMATIC DESIGN
- DESIGN DEVELOPMENT
- CONSTRUCTION BIDDING
- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

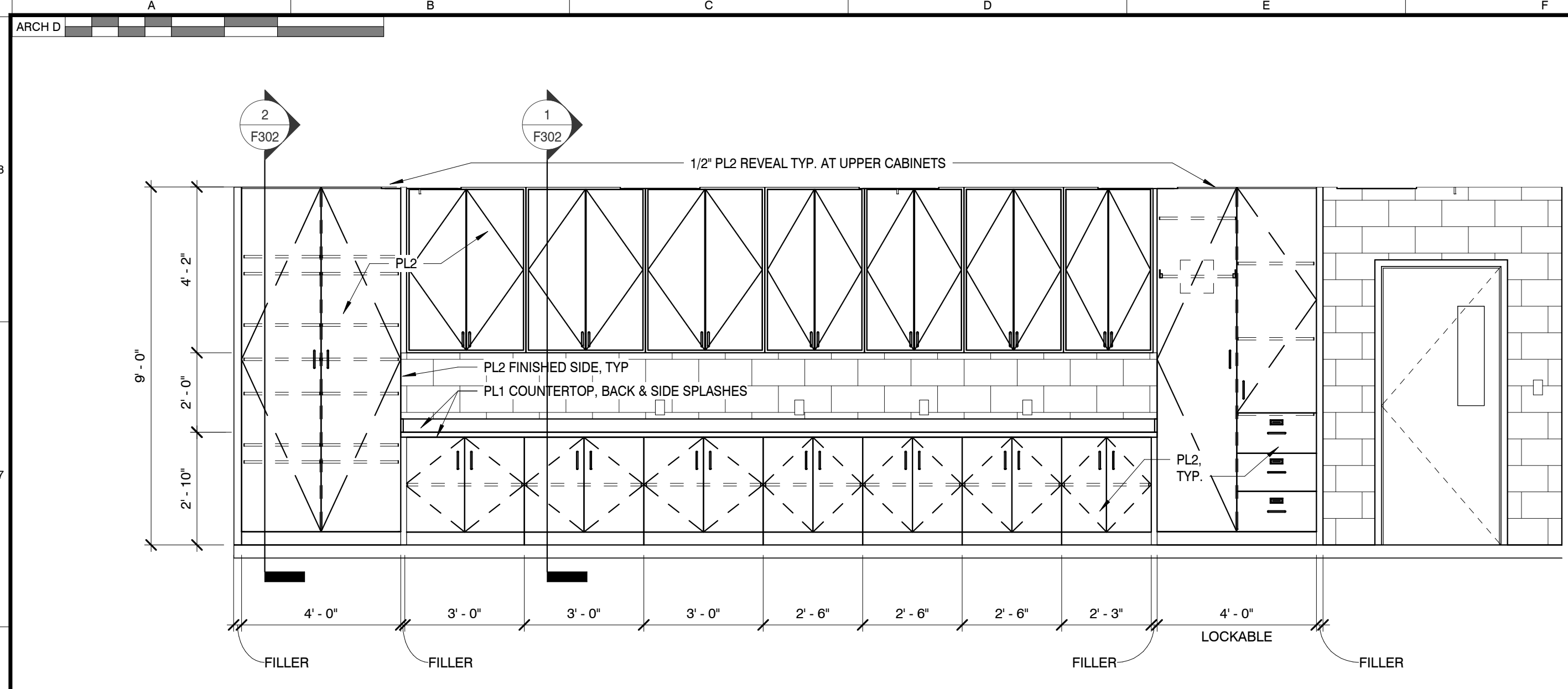


SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: KEF
DRAWN BY: MMW/AJA
REVIEWED BY: CMG
SHEET TITLE:

FLOOR FINISH PLANS
SHEET NO.:

F101

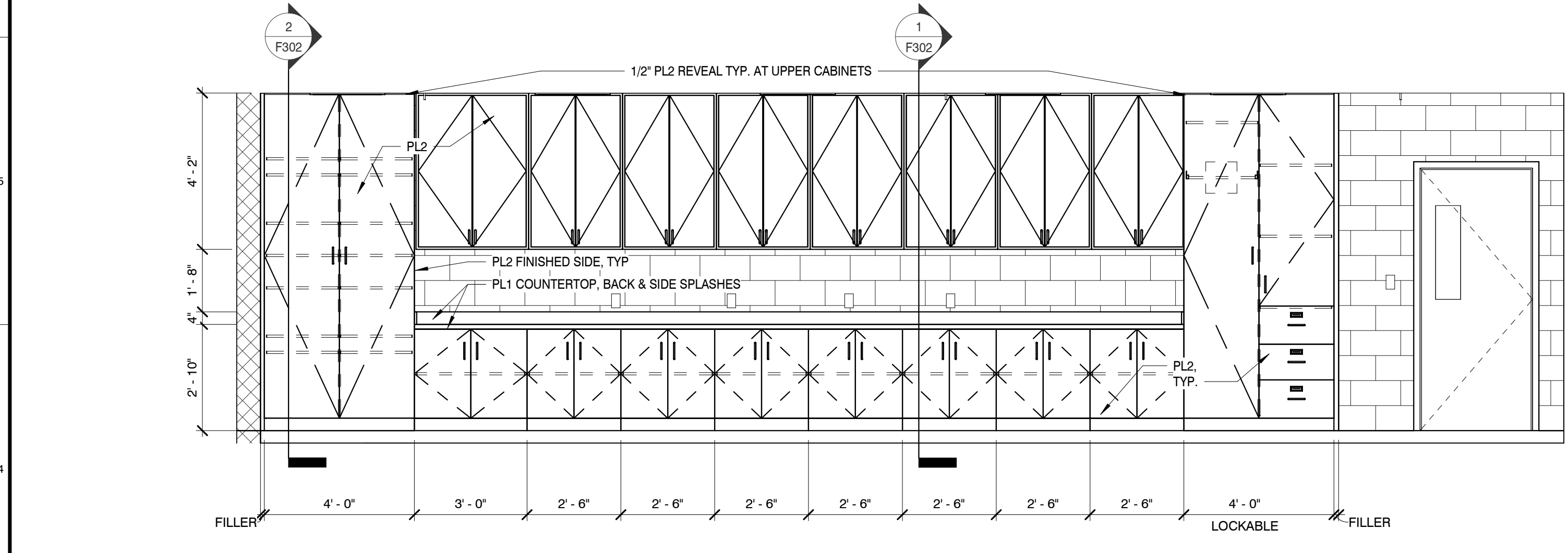


MILLWORK ELEVATION

SCALE : 3/8" = 1'-0"

1

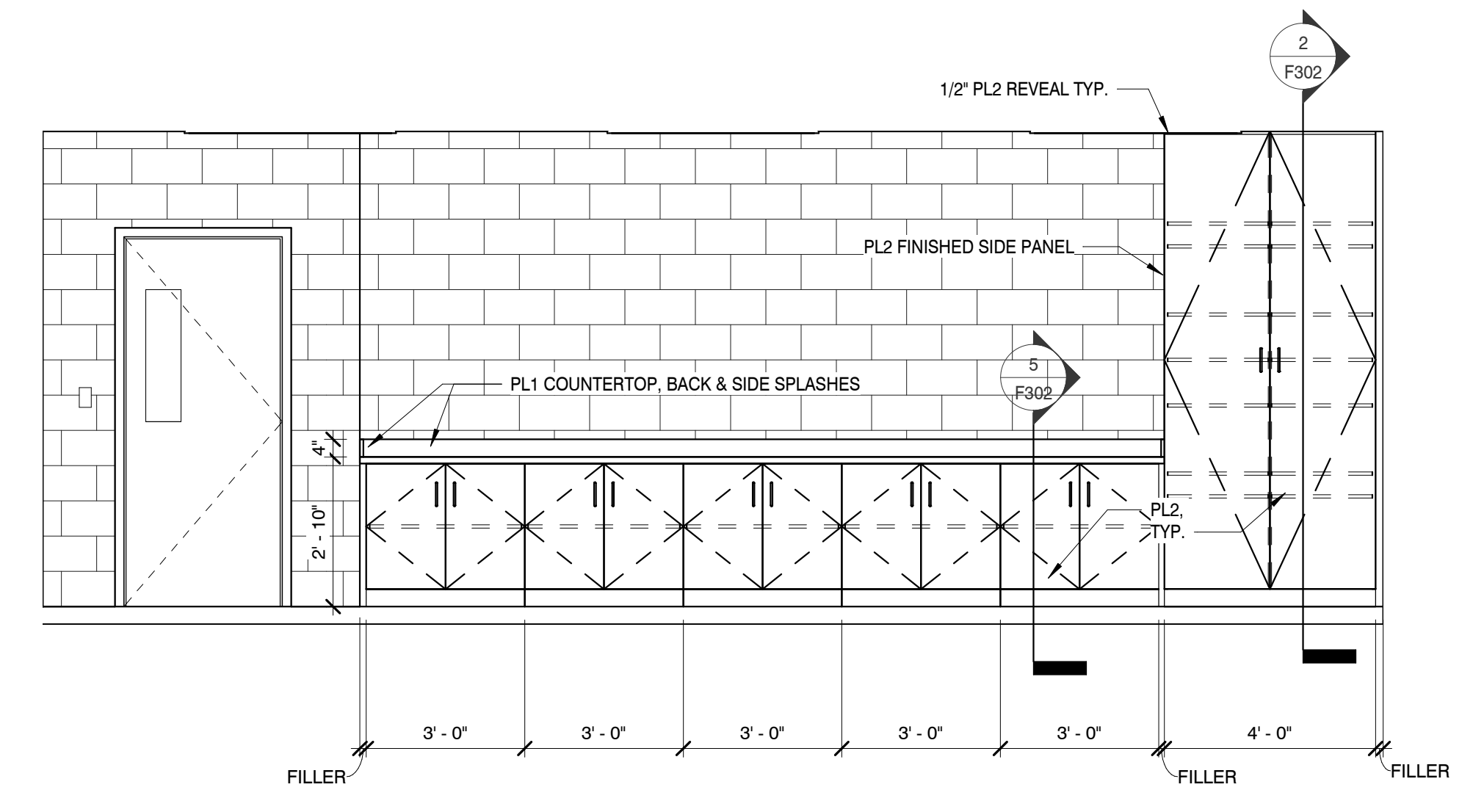
- GENERAL MILLWORK NOTES**
- FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND SUPERVISION NECESSARY TO FABRICATE MILLWORK.
 - SEE DRAWINGS, SCHEDULES AND DETAILS FOR LOCATION, QUANTITY AND DESIGN OF MILLWORK REQUIRED.
 - MILLWORK IS DEFINED AS ALL SHOP FABRICATED CABINETS AND COUNTERTOPS, INCLUDING THE INSTALLATION OF THEM AS NECESSARY TO COMPLETE THE WORK.
 - ALL WORK SHALL CONFORM TO THE QUALITY STANDARDS OF THE ARCHITECTURAL WOODWORK INDUSTRY (AWI) FOR CUSTOM GRADE.
 - FURNISH ALL ITEMS OF ROUGH HARDWARE AND WOOD BLOCKING OR OTHER ACCESSORIES SHOWN OR REQUIRED TO PROPERLY SECURE THE WORK IN PLACE.
 - CABINET MANF. SHALL HAVE A PROVEN HISTORY OF PRODUCING FINE QUALITY MILLWORK.
 - CONTRACTOR SHALL NOT DELIVER OR INSTALL MILLWORK UNTIL BUILDING IS ENCLOSED, WET WORK IS COMPLETE AND HVAC SYSTEM IS OPERATING AND MAINTAINING TEMPERATURE AND RELATIVE HUMIDITY AT OCCUPANCY LEVELS DURING THE REMAINDER OF CONSTRUCTION PERIOD.
 - CONTRACTOR TO FIELD VERIFY WHERE MILLWORK IS INDICATED TO FIT TO OTHER CONSTRUCTION. VERIFY DIMENSIONS AND INDICATE MEASUREMENTS ON SHOP DRAWINGS.
 - CONTRACTOR TO COORDINATE FABRICATION SCHEDULE WITH CONSTRUCTION PROGRESS TO AVOID DELAYING THE WORK.
 - CONTRACTOR TO LOCATE CONCEALED FRAMING, BLOCKING AND REINFORCEMENTS THAT SUPPORT WOODWORK BY FIELD MEASURING BEFORE BEING ENCLOSED AND INDICATE MEASUREMENTS ON SHOP DRAWINGS.
 - CONTRACTOR TO COORDINATE SIZES AND LOCATIONS OF FRAMING, BLOCKING, FURRING, REINFORCEMENTS AND OTHER RELATED UNITS OF WORK AS INDICATED TO ENSURE THAT ARCHITECTURAL WOODWORK CAN BE SUPPORTED AND INSTALLED AS INDICATED.



MILLWORK ELEVATION

SCALE : 3/8" = 1'-0"

2



MILLWORK ELEVATION

SCALE : 3/8" = 1'-0"

3



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**AN ADDITION & RENOVATION TO:
NORRIS MIDDLE SCHOOL**

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: **210042-04**

ACTIVE DESIGN PHASE

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REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN



SHEET INFORMATION

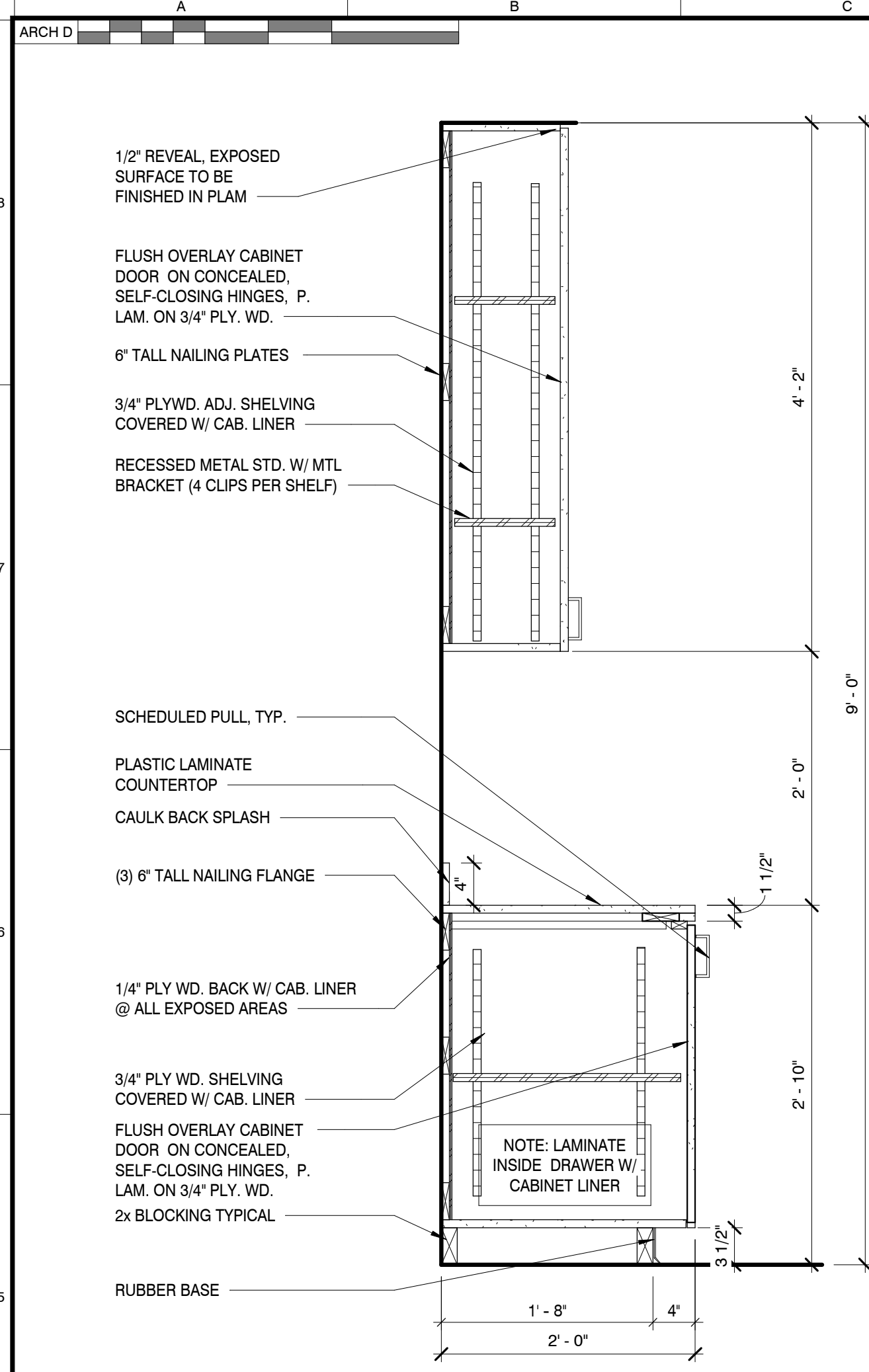
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DESIGNED BY: KEF
DRAWN BY: MMW/AJA
REVIEWED BY: CMG
SHEET TITLE:

MILLWORK ELEVATIONS

SHEET NO.:

F301

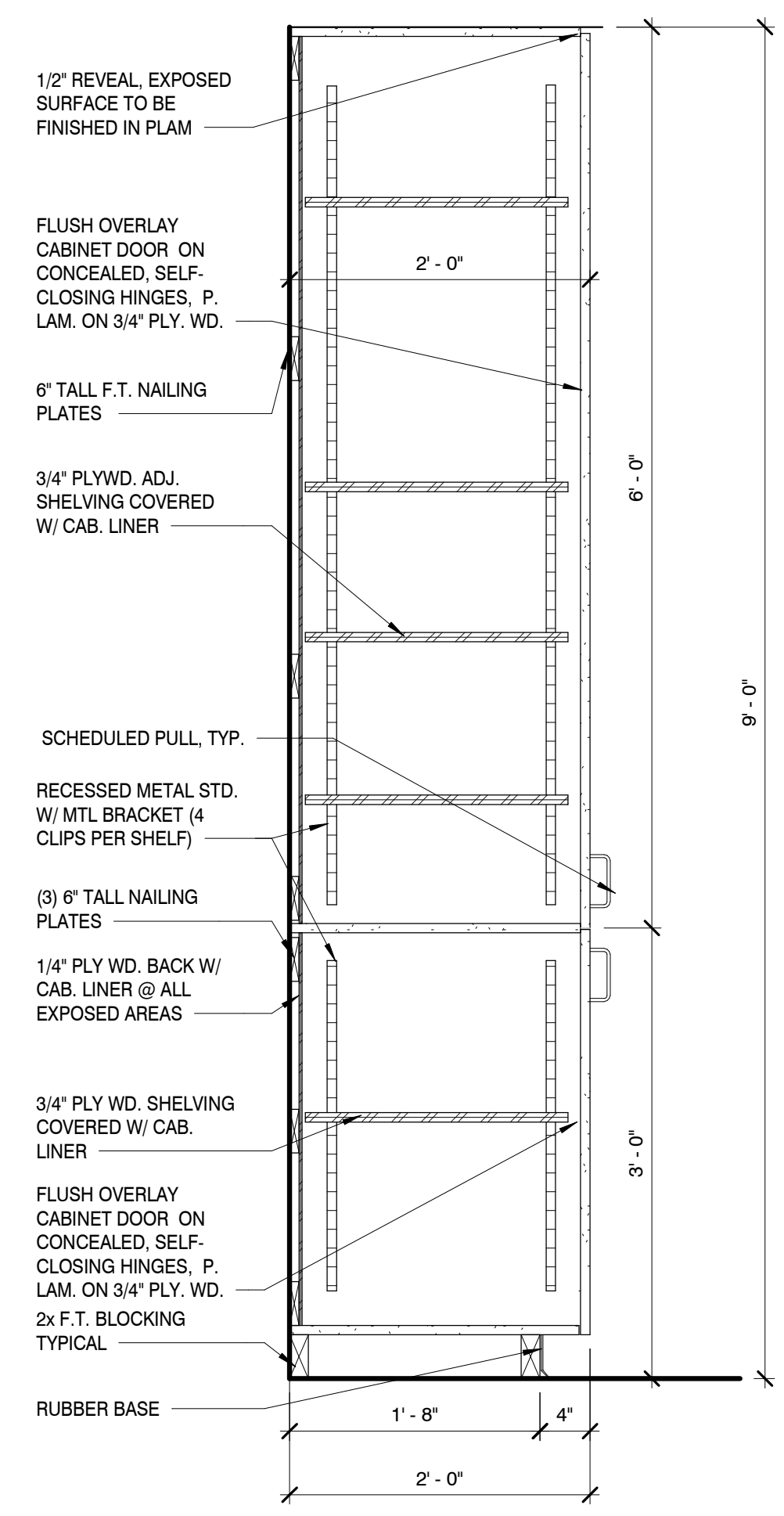
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MILLWORK SECTION

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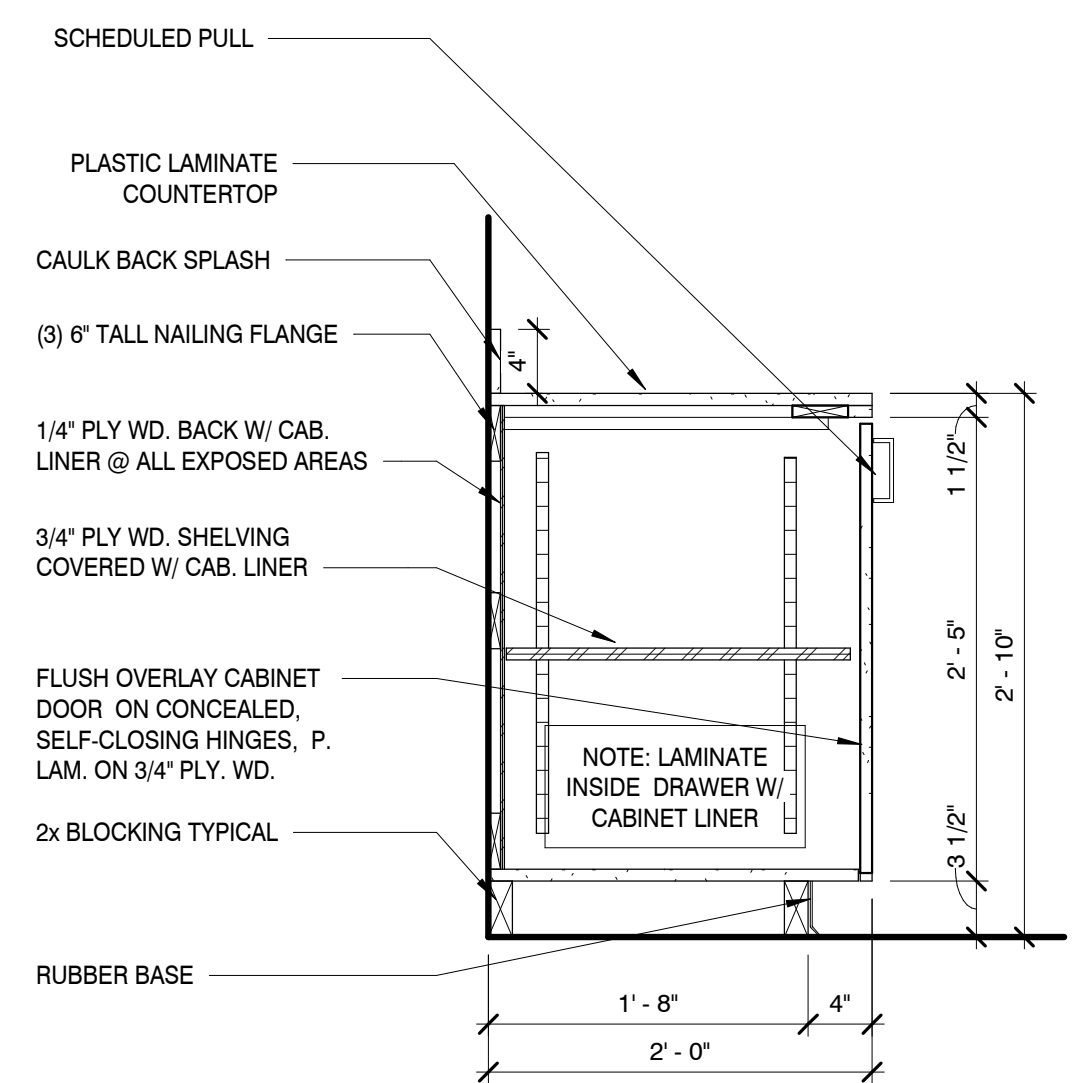
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MILLWORK SECTION

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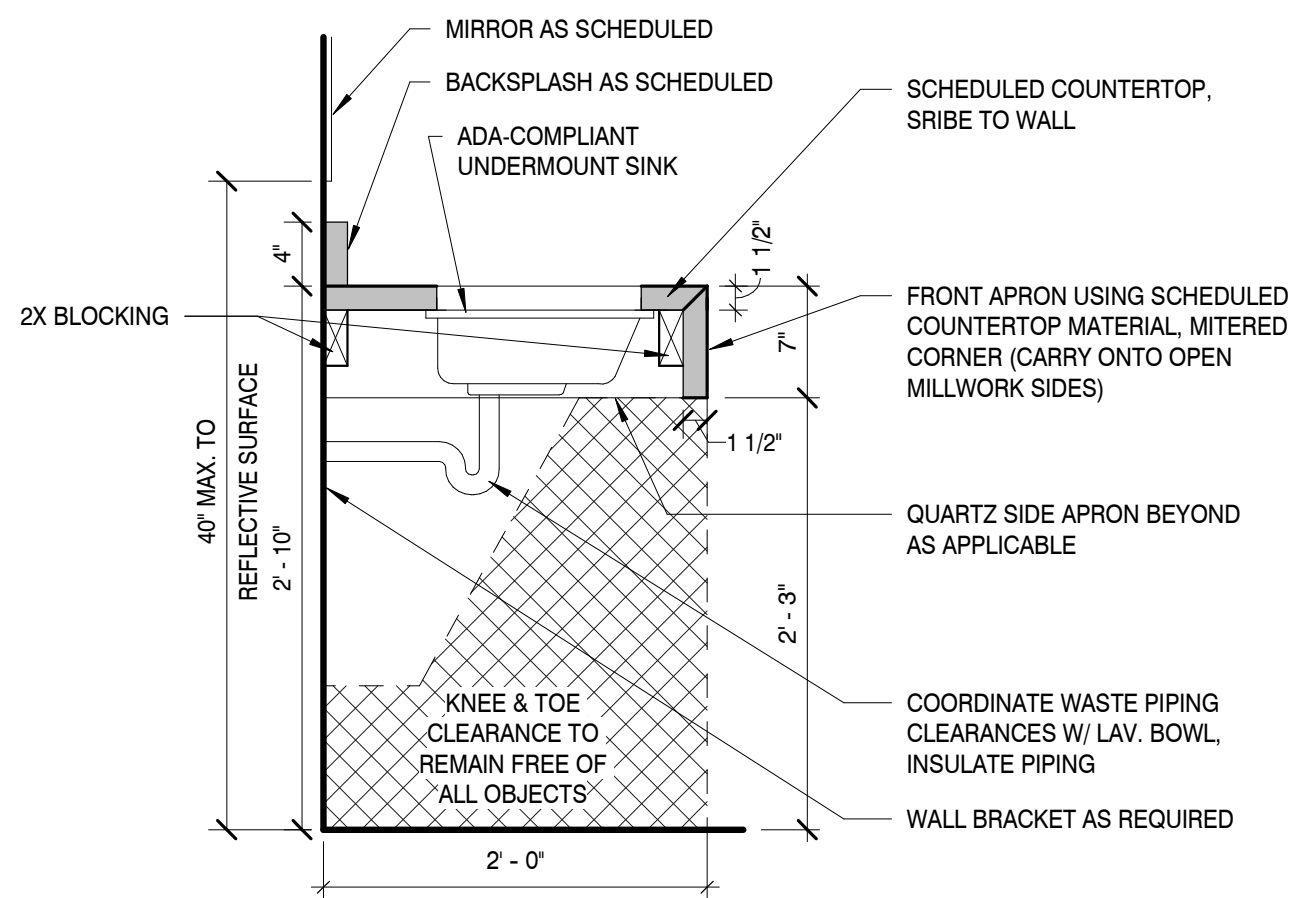
SCALE : 1" = 1'-0"



MILLWORK SECTION

5

SCALE : 1" = 1'-0"



MILLWORK SECTION

6

SCALE : 1" = 1'-0"



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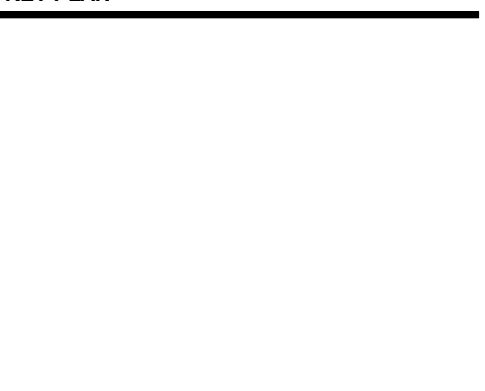
ACTIVE DESIGN PHASE

- FOR REVIEW ONLY
- FOR PERMITTING ONLY
- SCHEMATIC DESIGN
- DESIGN DEVELOPMENT
- CONSTRUCTION BIDDING
- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN



SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: KEF
DRAWN BY: MMW/AJA
REVIEWED BY: CMG
SHEET TITLE:



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PROJECT INFORMATION

PROJECT:

AN ADDITION &
RENOVATION TO:
NORRIS MIDDLE
SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

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- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

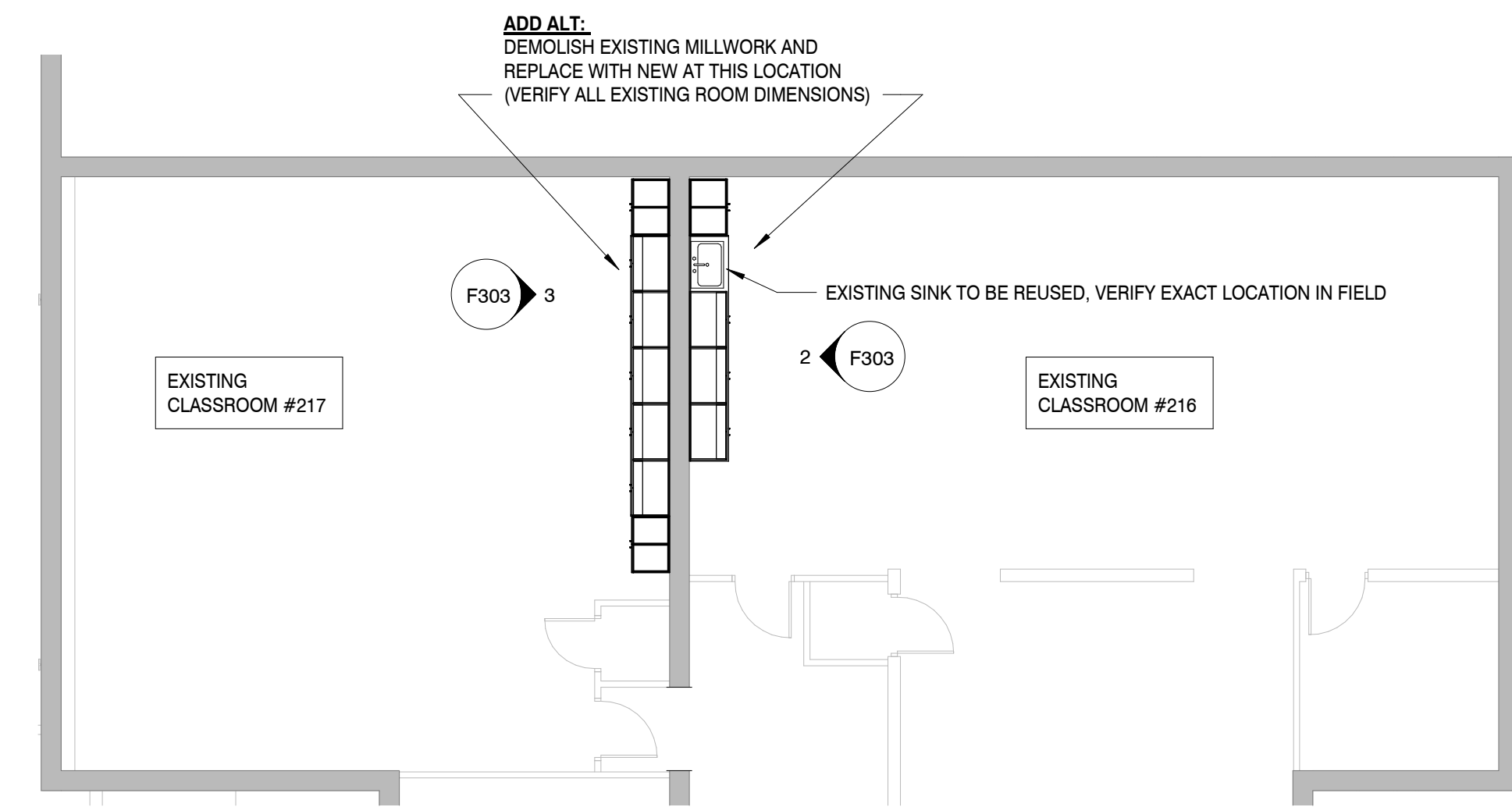
KEY PLAN

SHEET INFORMATION

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DESIGNED BY: KEF
DRAWN BY: MMW/AJA
REVIEWED BY: CMG
SHEET TITLE:

MILLWORK - ADD ALT
SHEET NO.:

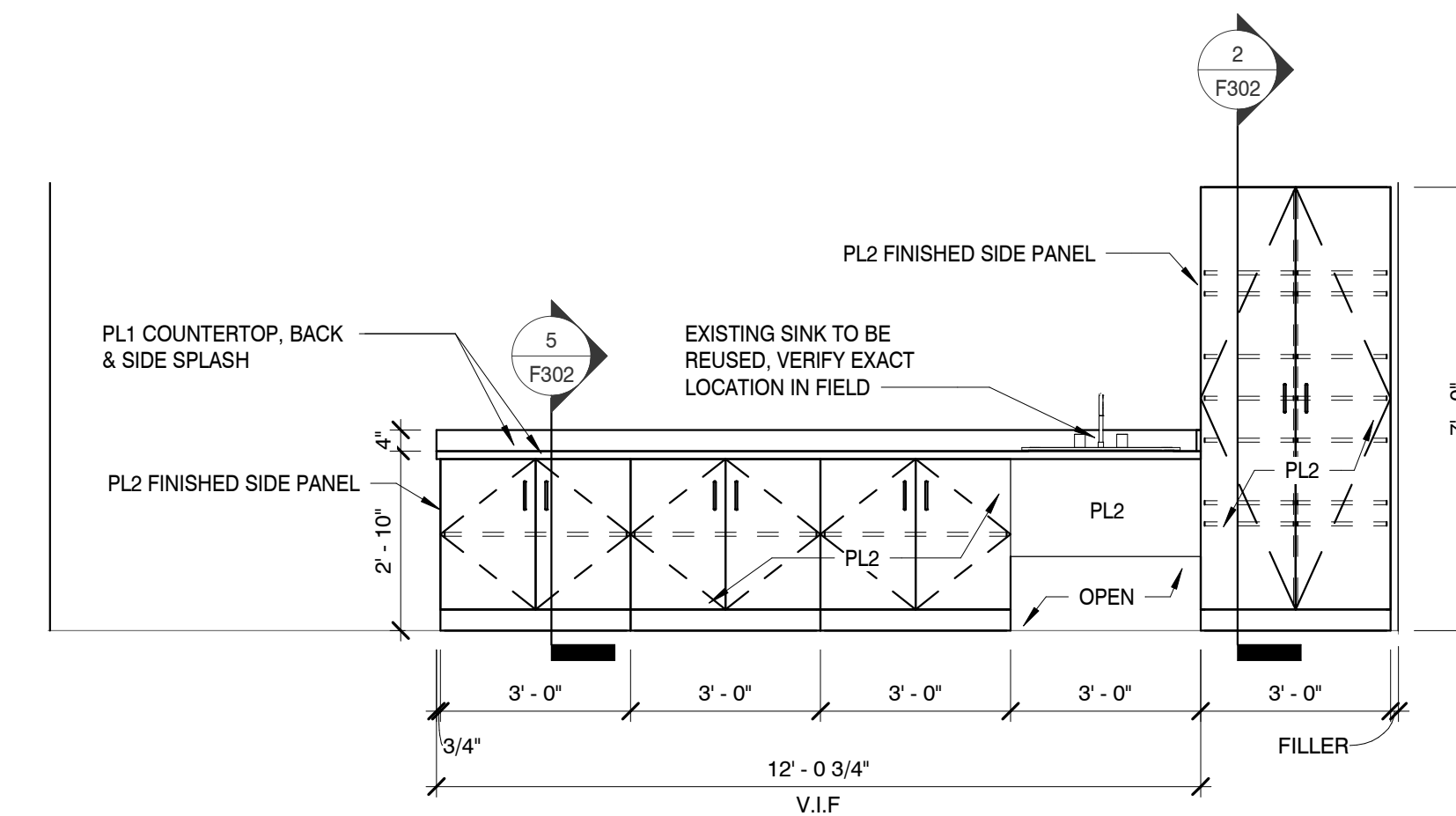
F303



SECOND FLOOR PLAN (EXISTING BUILDING)

SCALE: 1/8" = 1'-0"

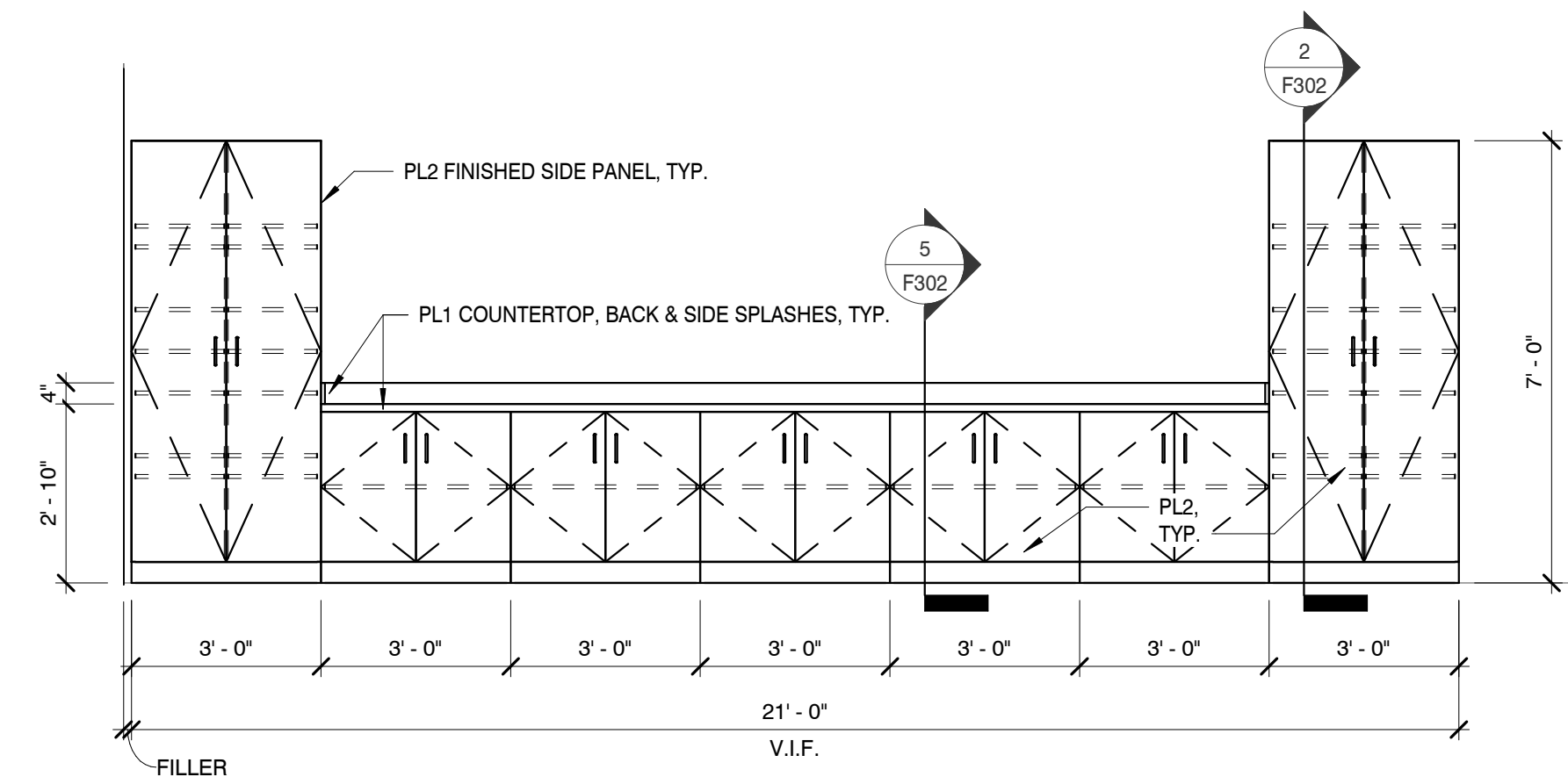
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MILLWORK ELEVATION - CLASSROOM 216

SCALE: 3/8" = 1'-0"

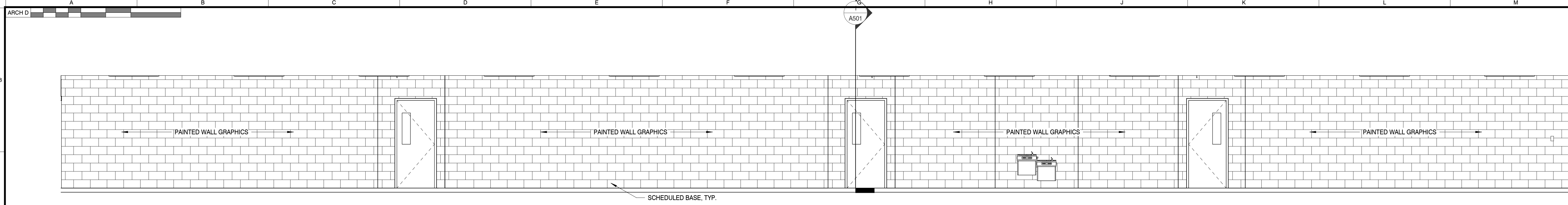
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MILLWORK ELEVATION FOR CLASSROOM 217

SCALE: 3/8" = 1'-0"

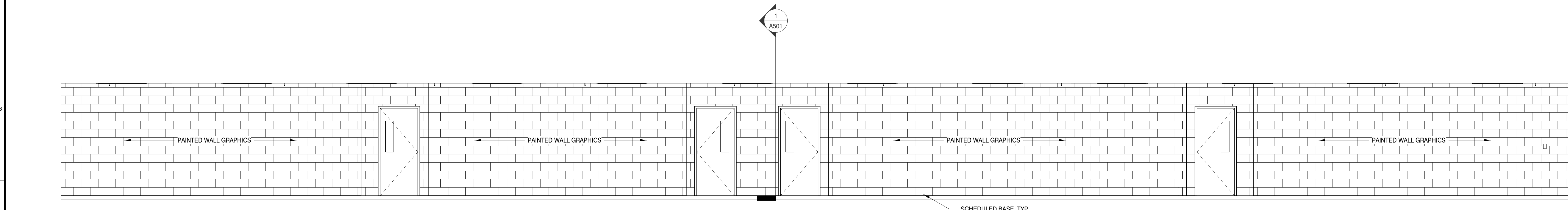
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CORRIDOR NORTH ELEVATION

SCALE: 1/4" = 1'-0"

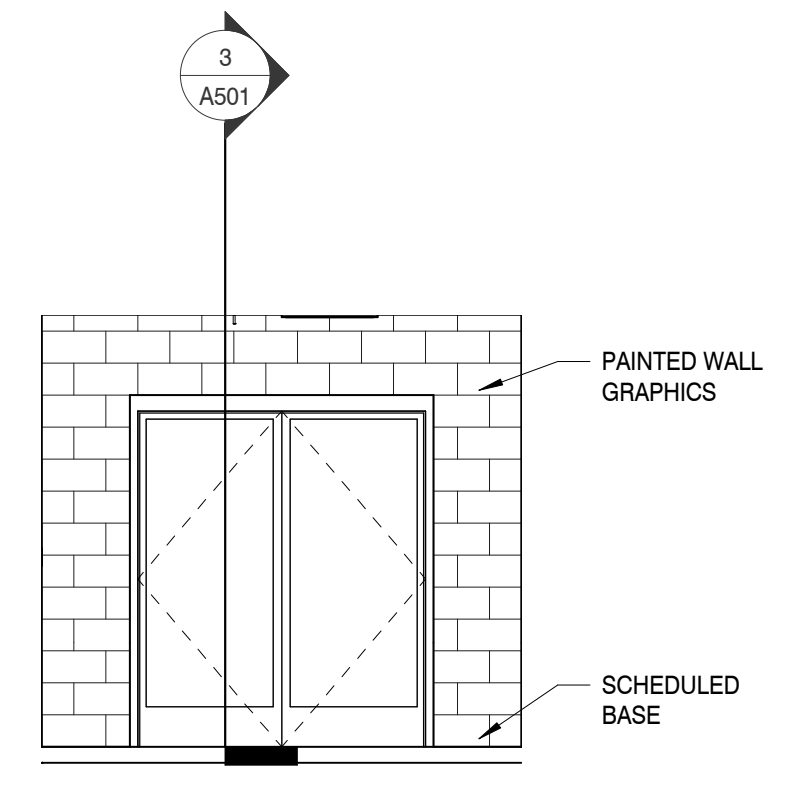
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CORRIDOR SOUTH ELEVATION

SCALE: 1/4" = 1'-0"

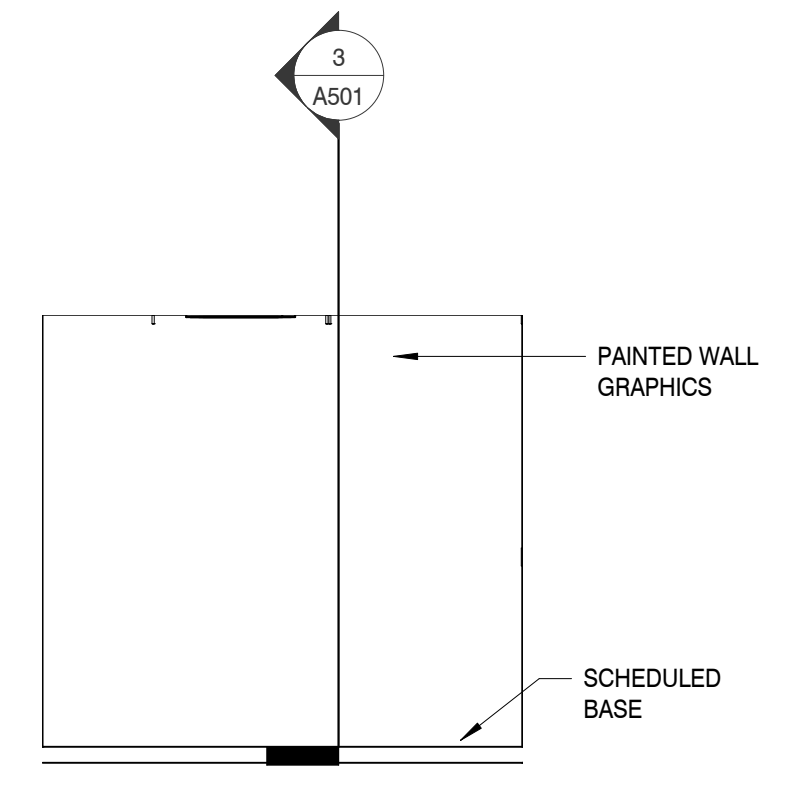
2



CORRIDOR WEST ELEVATION

SCALE: 1/4" = 1'-0"

3



CORRIDOR EAST ELEVATION

SCALE: 1/4" = 1'-0"

4



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AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL
PROJECT ADDRESS:
5 NORRIS SQUARE,
NORRIS, TN 37828
PROJECT NO.: **210042-04**

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SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: KEF
DRAWN BY: MMW/AJA
REVIEWED BY: CMG
SHEET TITLE:

GENERAL NOTES

- 1. Structural drawings are intended to be used in close coordination with the civil, architectural, mechanical, plumbing and electrical drawings...

SUBMITTAL NOTES

- 1. The Structural Engineer's review is only for general conformance with the design concept, the construction documents and specifications...

DESIGN CODES AND SPECIFICATIONS

Table with 2 columns: Building Code, Design Loads, Concrete, Steel, Masonry, Cold-formed Steel. Lists codes like 2018 International Building Code, ASCE 7-16, etc.

DESIGN LOADS

Table with 2 columns: Load Type, Value. Lists loads like Dead Load (20 psf), Live Load (20 psf), Snow Load (10 psf), etc.

SPECIALTY ENGINEER REQUIREMENTS

- 1. Steel pan stairs shall be designed by the steel fabricator's specialty engineer. The design shall include stringers, treads, hand railings, platform, pin inserts, miscellaneous supports and connections...

FOUNDATION NOTES

- 1. Foundation design parameters have been recommended in a geotechnical report provided by S&ME, INC. 1413 Topside Road, Louisville, TN 37777...

CONCRETE NOTES

- 1. All concrete elements shall be installed and detailed in accordance with the appropriate ACI documents. ACI 308-1R-00, Guide for Measuring, Mixing, Transporting and Placing Concrete...

REINFORCING STEEL NOTES

- 9. Provide top steel reinforcing, same size and spacing as bottom steel, in footings at any location where the soil changes from residual to engineered fill...

STRUCTURAL STEEL NOTES

- 1. Structural steel shall be designed, fabricated, erected, etc. as per the AISC Manual of Steel Construction. 2. Submit shop drawings of structural steel prior to fabrication.

REINFORCING STEEL NOTES

- 1. All steel exposed to earth or weather, including exposed lintel angles, shall be galvanized unless directed otherwise by Architect. 2. Hot-dip galvanizing shall be performed in accordance with ASTM A123 for fasteners with minimum coating thickness as specified in ASTM standards...

REINFORCING STEEL NOTES

- 1. Structural steel shall be designed, fabricated, erected, etc. as per the AISC Manual of Steel Construction. 2. Submit shop drawings of structural steel prior to fabrication.

POST-INSTALLED ANCHOR NOTES

- 1. Post-installed anchors shall be used only where specified on structural drawings. 2. The installation of post-installed anchors for missing or misplaced cast-in-place anchors shall be approved by the Structural Engineer.

REINFORCING STEEL NOTES

- 1. Structural masonry is defined as being either load bearing or serving as the lateral force resisting system. Structural masonry is shown on the structural plans, and is defined in schedules and details on the structural drawings.

STEEL JOIST AND GIRDER NOTES

- 1. Steel joists, joist girders and associated bridging shall be designed, fabricated, erected, etc. as per the latest edition of the SJI Standard Specifications and the applicable OSHA standards.

MASONRY NOTES

- 27. Bond and tie bond beams shall be reinforced as follows unless noted otherwise: a) 6x8 Bond / Tie Bond Beam: (1) #4 cont. TAB

COLD-FORMED STEEL (CFS) NOTES

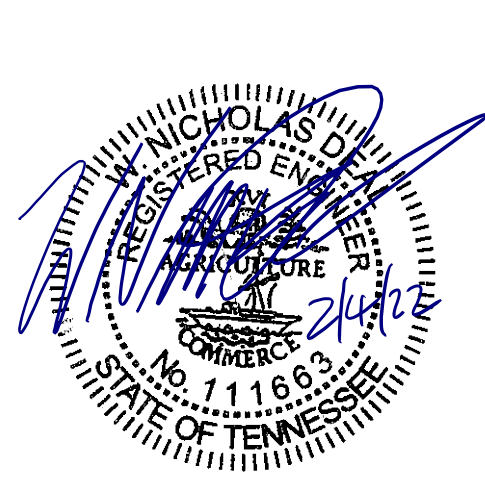
- 1. Cold-formed steel framing shall be designed, detailed and installed per the latest editions of the NASPEC and SSMA Product Technical Information.



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CONSULTANT STRUCTURAL ENGINEER

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PROJECT: AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL PROJECT ADDRESS: 5 NORRIS SQUARE, NORRIS, TN 37828 PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE table with checkboxes for FOR REVIEW ONLY, FOR PERMITTING ONLY, SCHEMATIC DESIGN, DESIGN DEVELOPMENT, CONSTRUCTION BIDDING, CONSTRUCTION DOCUMENTS, AS-BUILT RECORD SET.

REVISION INFORMATION

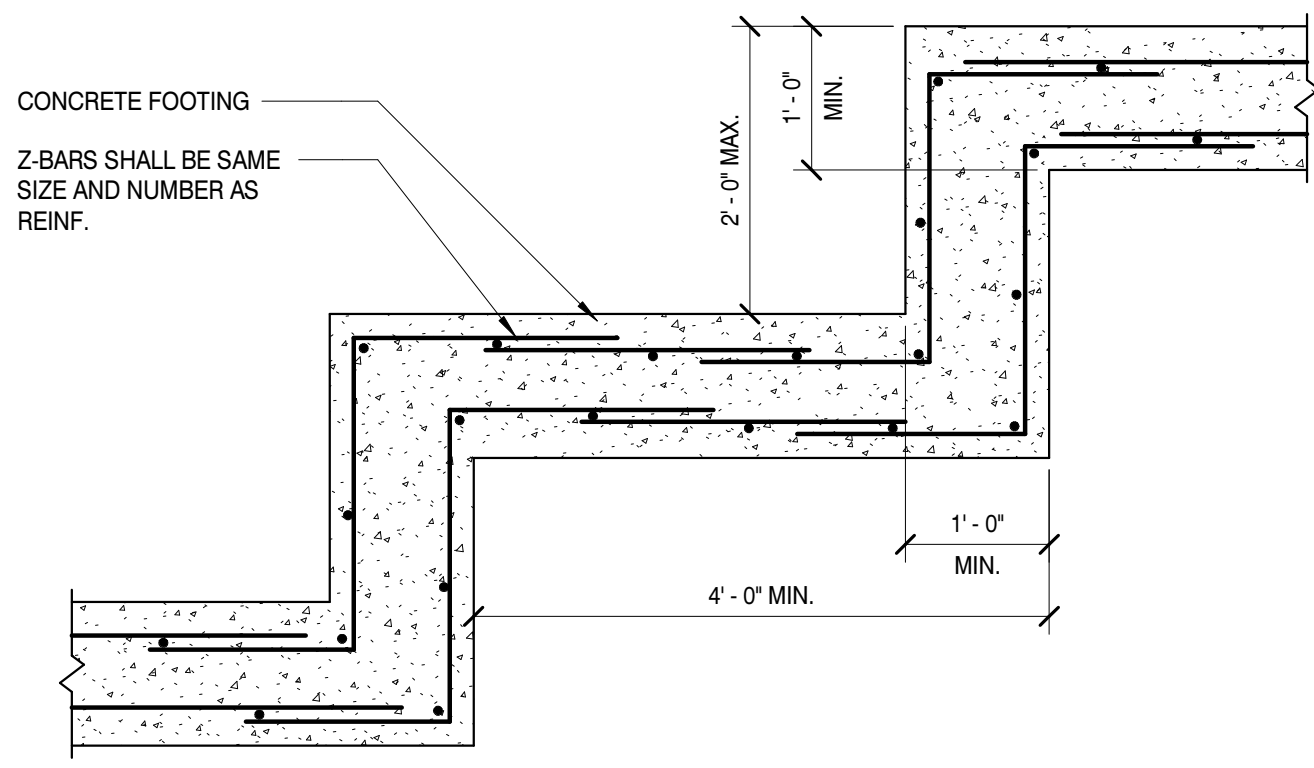
Table with columns: NO, DATE, DESCRIPTION. Includes revision entries for Design and Construction phases.

KEY PLAN

SHEET INFORMATION

SHEET ISSUED: 02/04/2022 DESIGNED BY: ZSP DRAWN BY: KAS REVIEWED BY: WND SHEET TITLE:

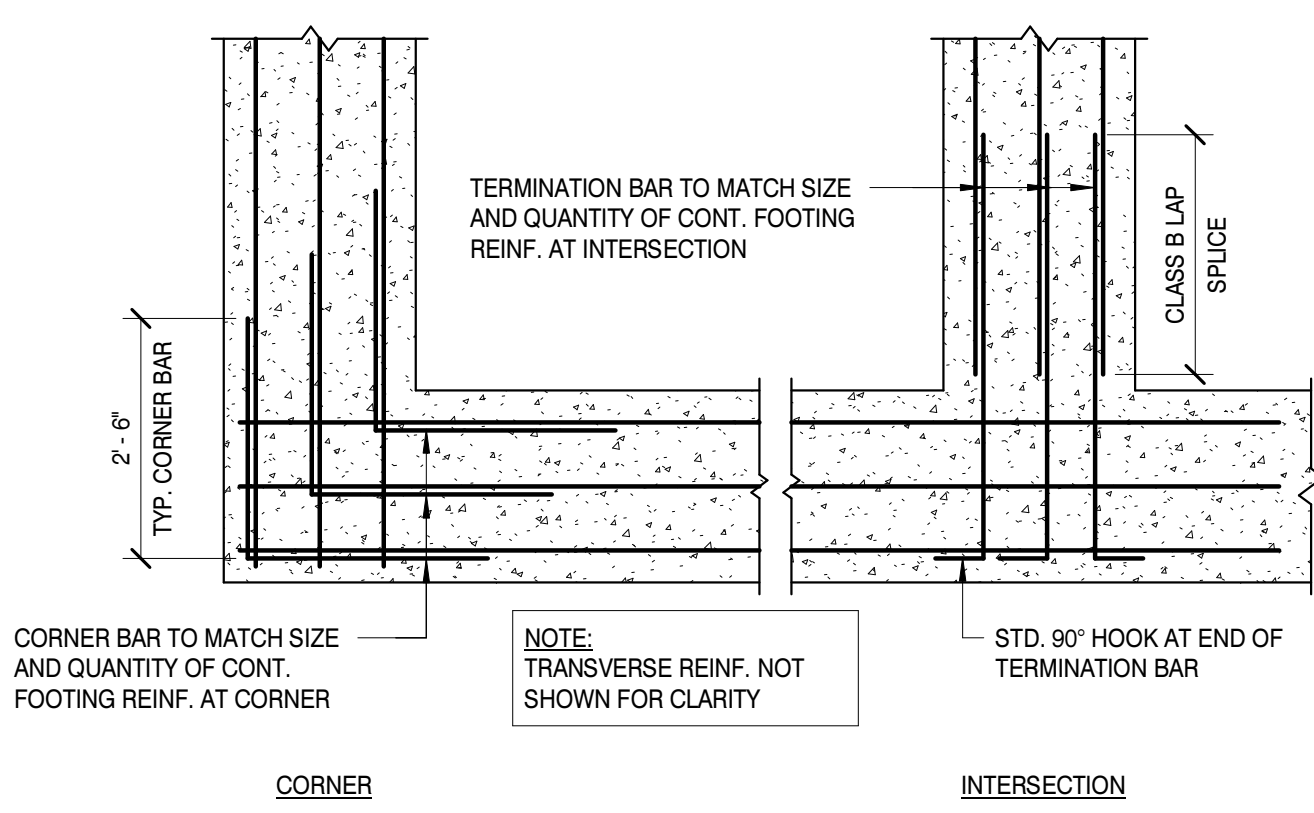
STRUCTURAL NOTES



FOOTING STEP DETAIL

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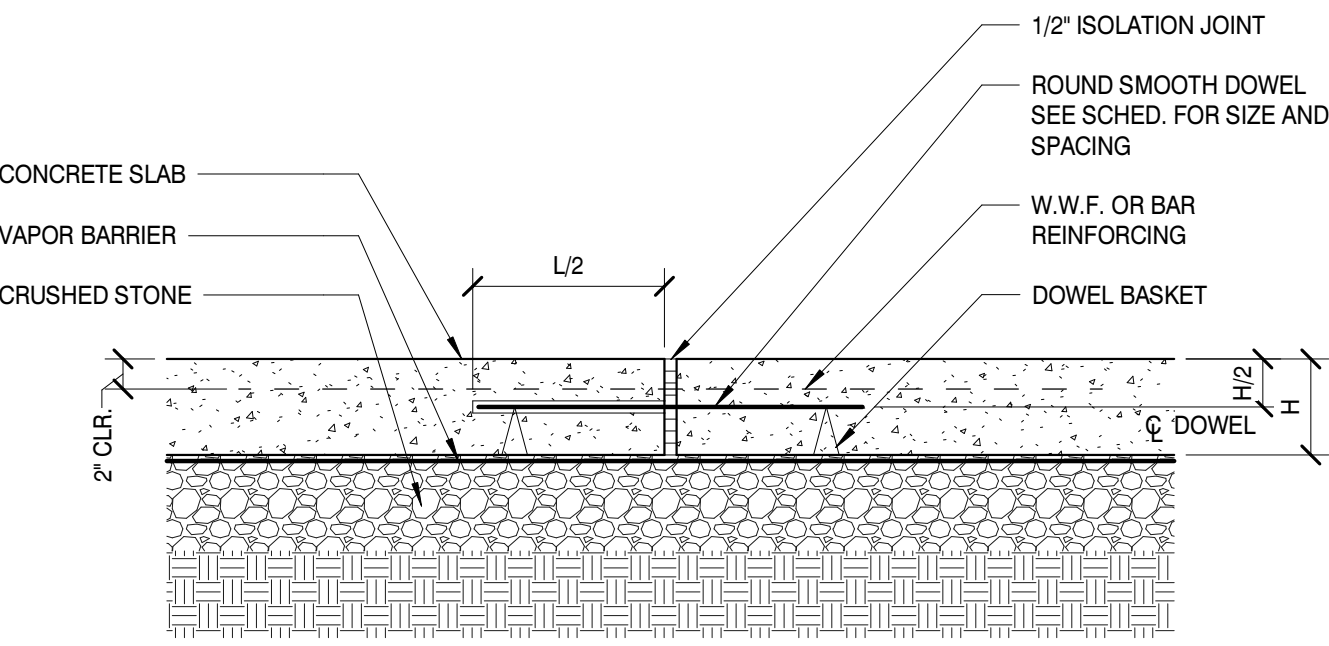
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TYP. WALL FOOTING REINF. LAYOUT

SCALE : 1/2" = 1'-0"

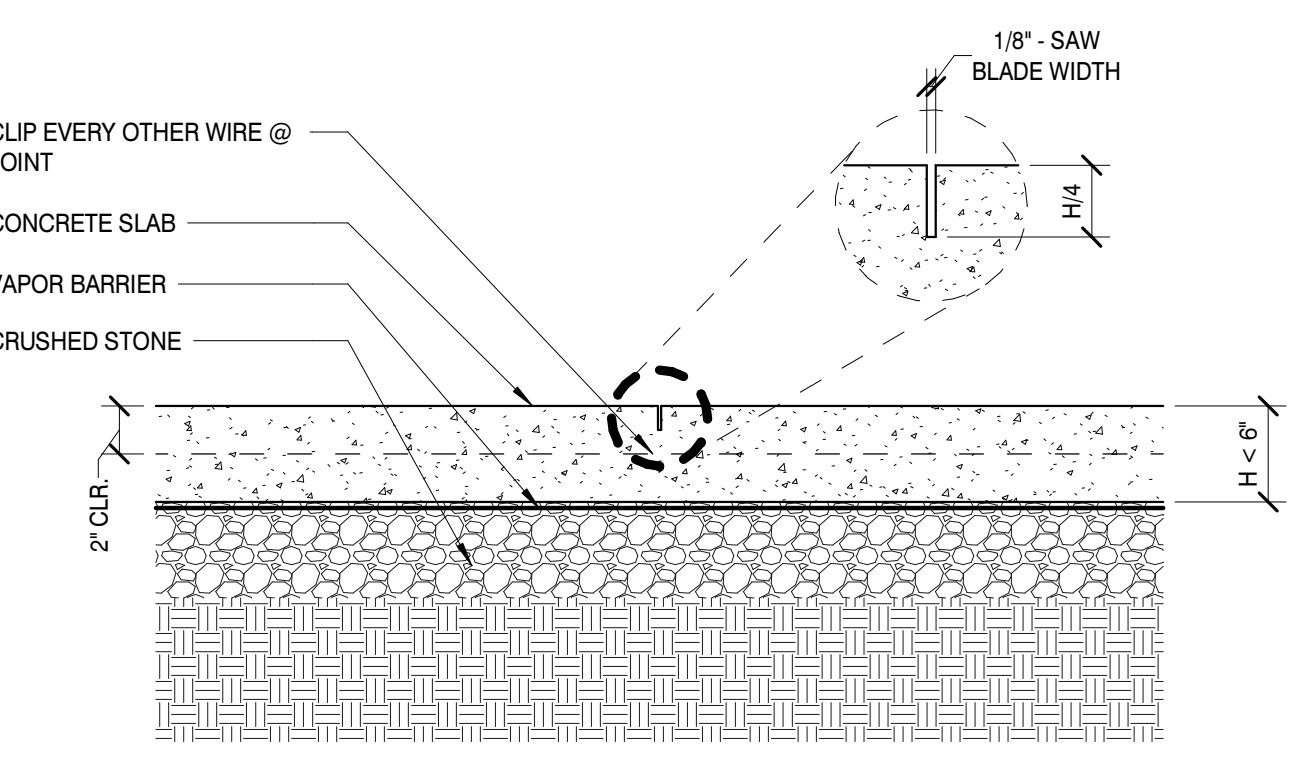
2



CONSTRUCTION JOINT DETAIL

SCALE : 1 1/2" = 1'-0"

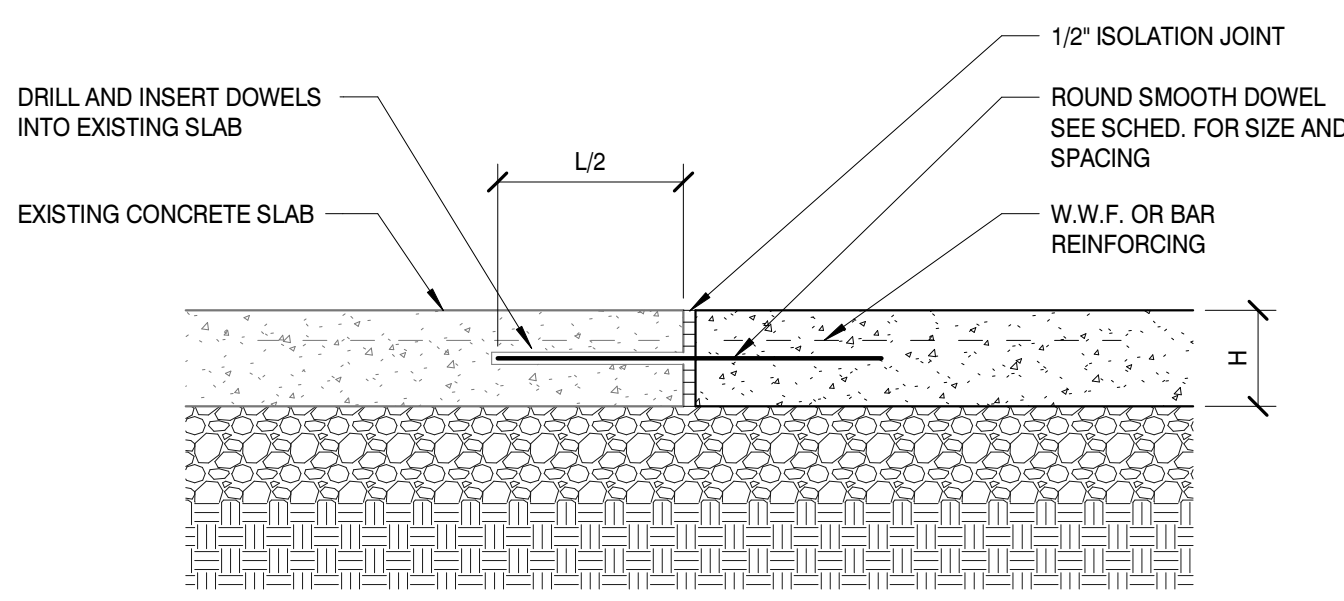
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CONTRACTION JOINT DETAIL

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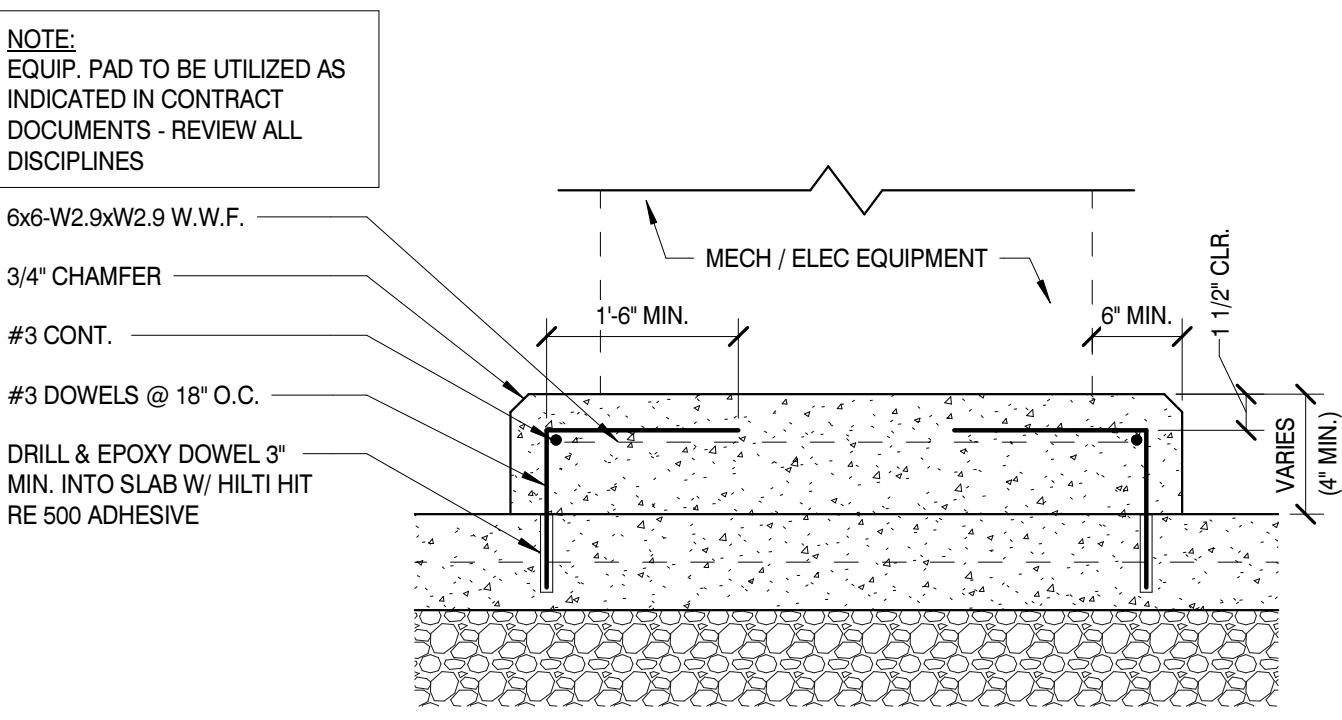
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SLAB TO EXISTING SLAB DETAIL

SCALE : 1 1/2" = 1'-0"

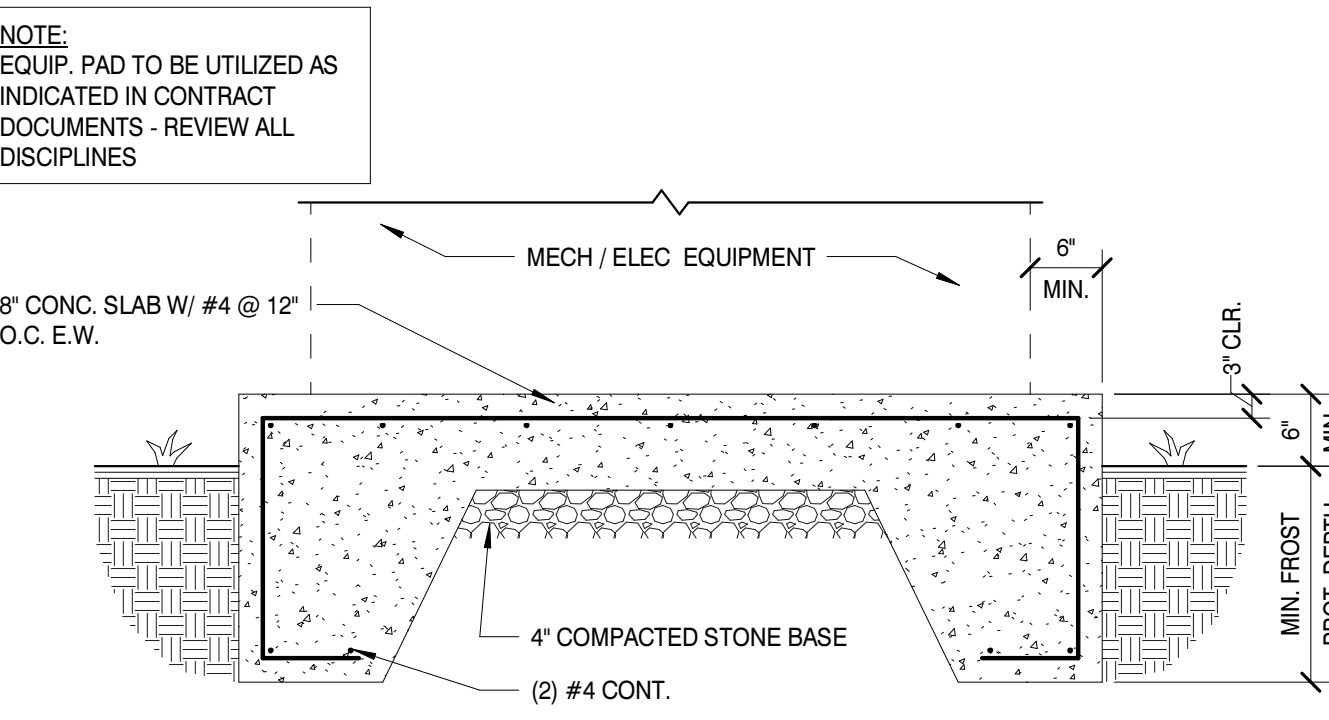
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INTERIOR EQUIP. PAD DETAIL

SCALE : 1 1/2" = 1'-0"

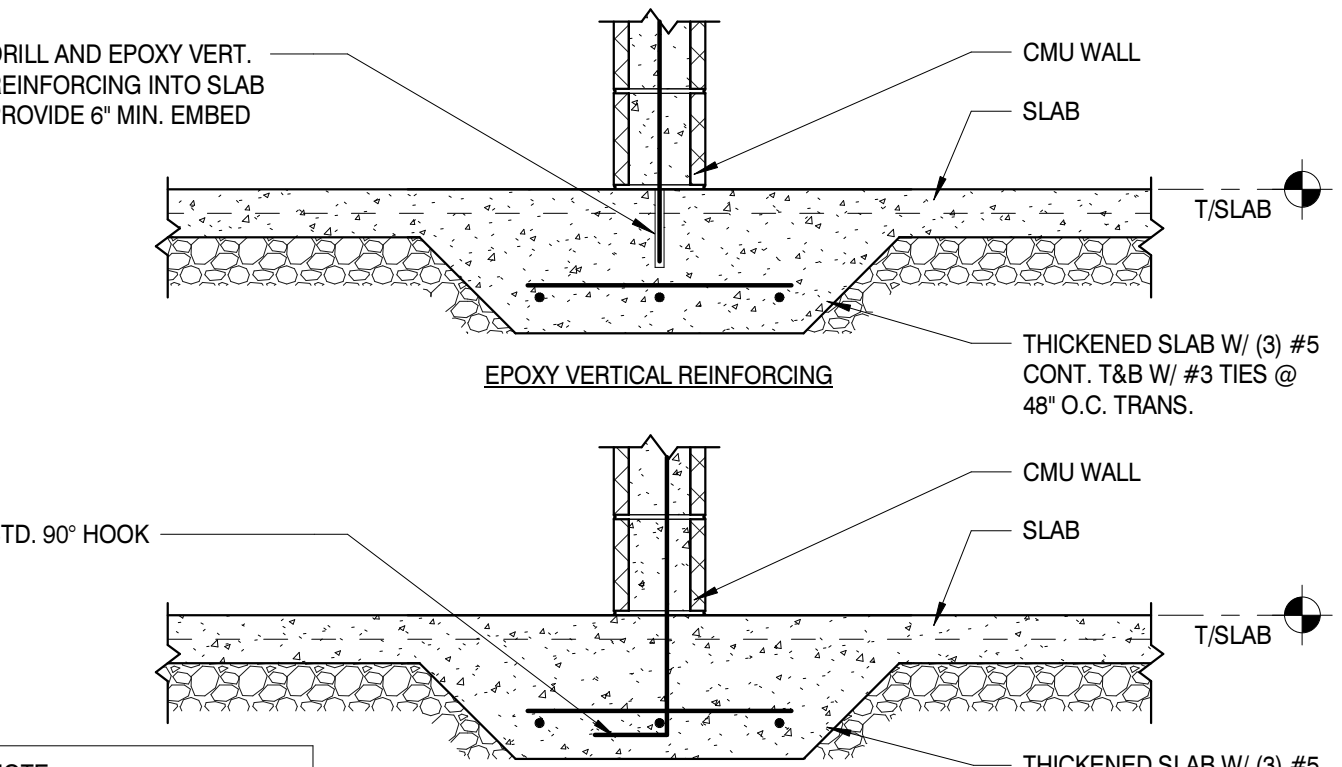
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EXTERIOR EQUIP. PAD DETAIL

SCALE : 3/4" = 1'-0"

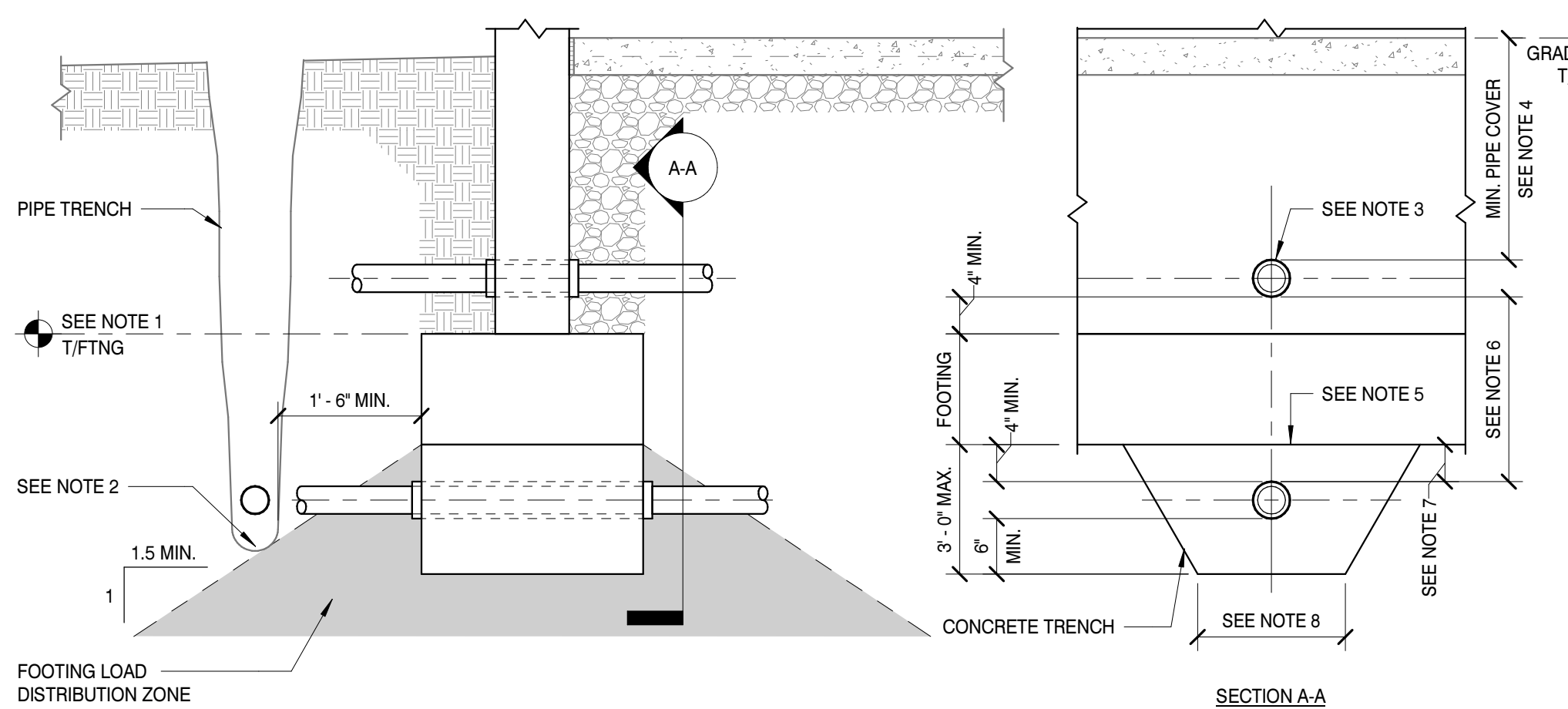
7



THICKENED SLAB DETAIL

SCALE : 3/4" = 1'-0"

8



TYPICAL PIPE AND TRENCH LOCATIONS AT FOUNDATION

SCALE : 3/4" = 1'-0"

9

- NOTES:**
1. STEP FOOTING AS REQUIRED TO ALLOW TRANSVERSE PIPES TO CROSS ABOVE OR BELOW FOOTING AS SHOWN.
 2. FOR PIPES RUNNING PARALLEL TO FOOTING, FOOTING DEPTH AND PIPE LOCATION SHALL BE COORDINATED SO THAT THE PIPE TRENCH IS NOT LOCATED WITHIN THE FOOTING LOAD DISTRIBUTION ZONE THAT EXTENDS OUT FROM THE BOTTOM EDGE OF THE FOOTING.
 3. PROVIDE PIPE SLEEVE AND COMPRESSIBLE FILLER MATERIAL AS REQUIRED TO ACCOMMODATE 1" SETTLEMENT UNLESS NOTED OTHERWISE IN GEOTECHNICAL REPORT AT ALL PIPE PENETRATIONS.
 4. TRANSVERSE PIPE PENETRATIONS MAY BE PLACED BETWEEN THE TOP OF FOOTING AND THE SLAB ON GRADE THROUGH THE STEM WALL PROVIDED MINIMUM PIPE COVER IS MAINTAINED.
 5. TRENCH AND FOOTING MAY BE POURED MONOLITHICALLY AT THE CONTRACTOR'S OPTION.
 6. TRANSVERSE PIPES SHALL NOT CROSS THROUGH FOOTING OR AREA 4" ABOVE AND BELOW FOOTING.
 7. IF CROWN OF PIPE IS LOCATED GREATER THAN 4'-0" BELOW BOTTOM OF FOOTING, NO CONCRETE TRENCH IS REQUIRED.
 8. TRENCH WIDTH SHALL BE EQUAL TO FOOTING WIDTH ABOVE.

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PROJECT INFORMATION

PROJECT:

AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE, NORRIS, TN 37828

PROJECT NO.: **210042-04**

ACTIVE DESIGN PHASE

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REVISION INFORMATION

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KEY PLAN

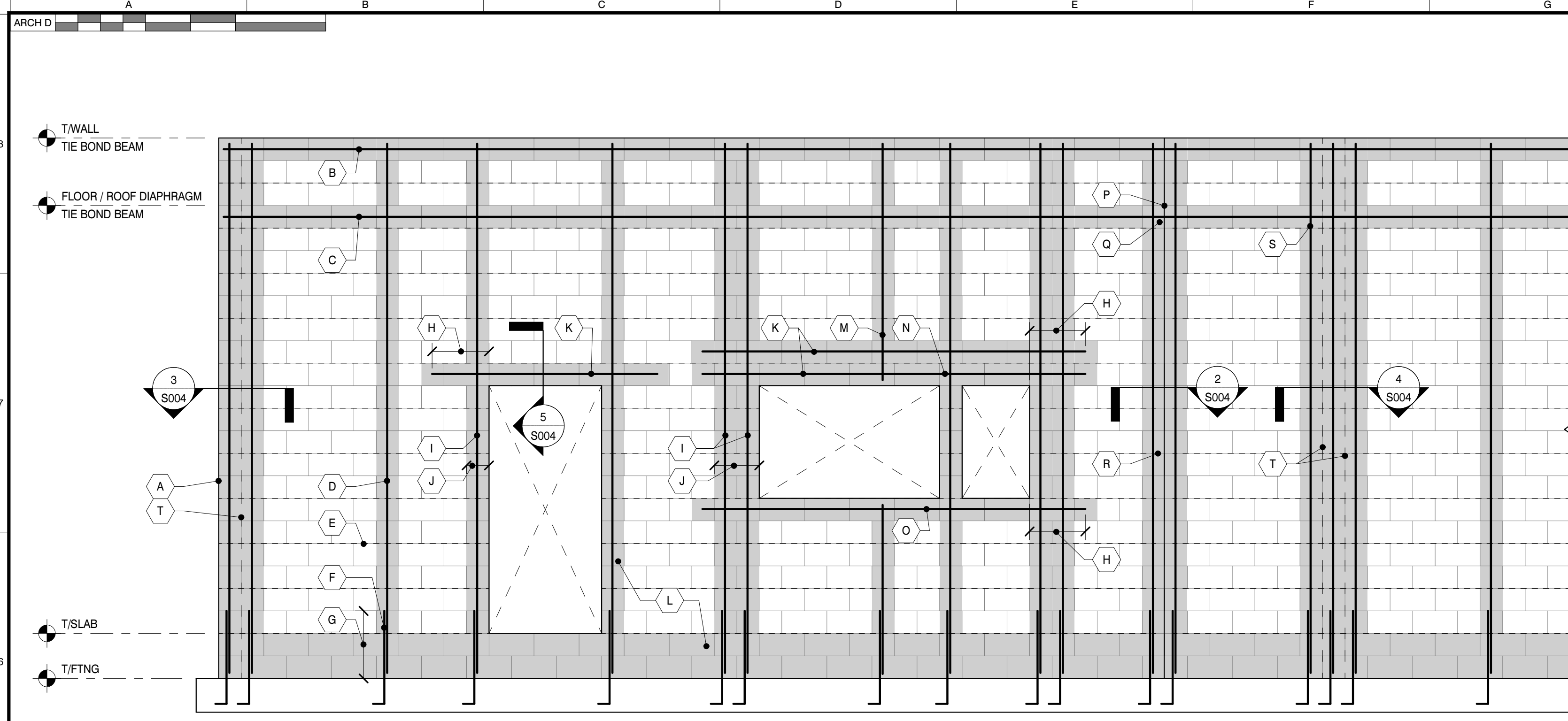
SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: ZSP
DRAWN BY: KAS
REVIEWED BY: WND
SHEET TITLE:

TYPICAL FOUNDATION AND SLAB ON GRADE DETAILS

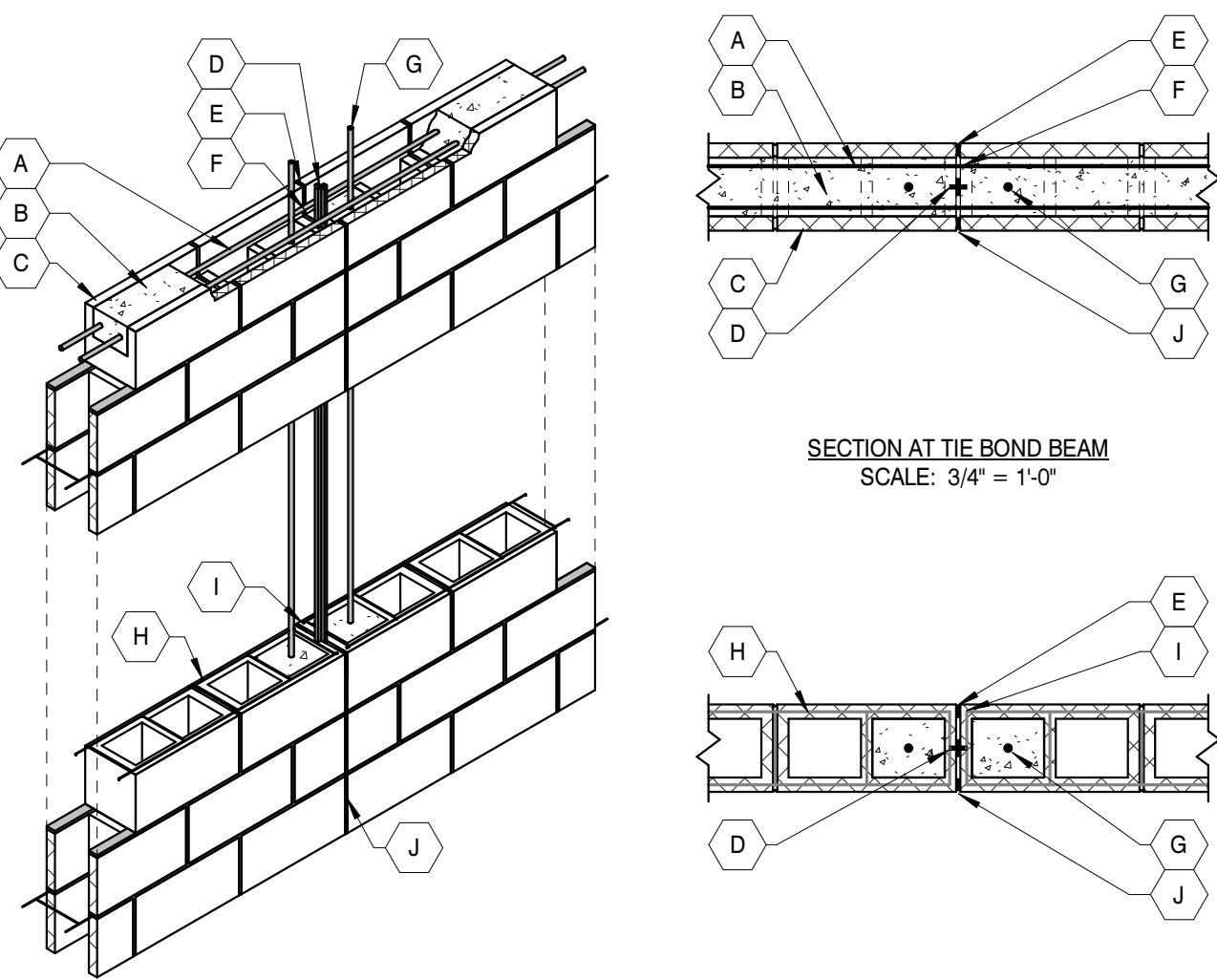
SHEET NO.:

S003



CMU WALL ELEVATION GUIDE (W/ HORIZONTAL JOINT REINFORCING)

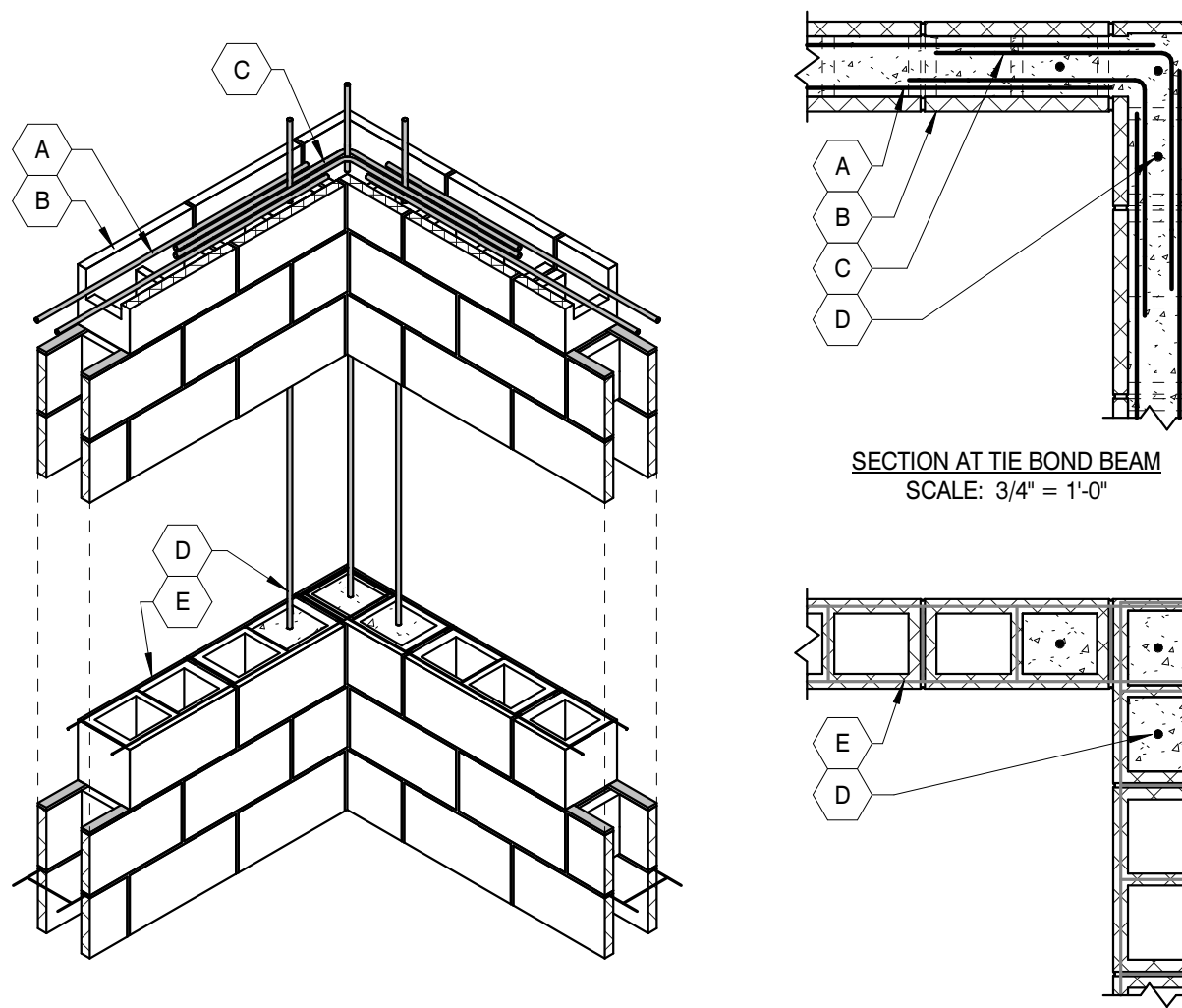
SCALE: 3/8" = 1'-0" S-B1000115 - CMU WALL ELEVATION W/ HORIZ JOINT REIN



CMU CONTRACTION JOINT DETAIL

SCALE: 1/2" = 1'-0"

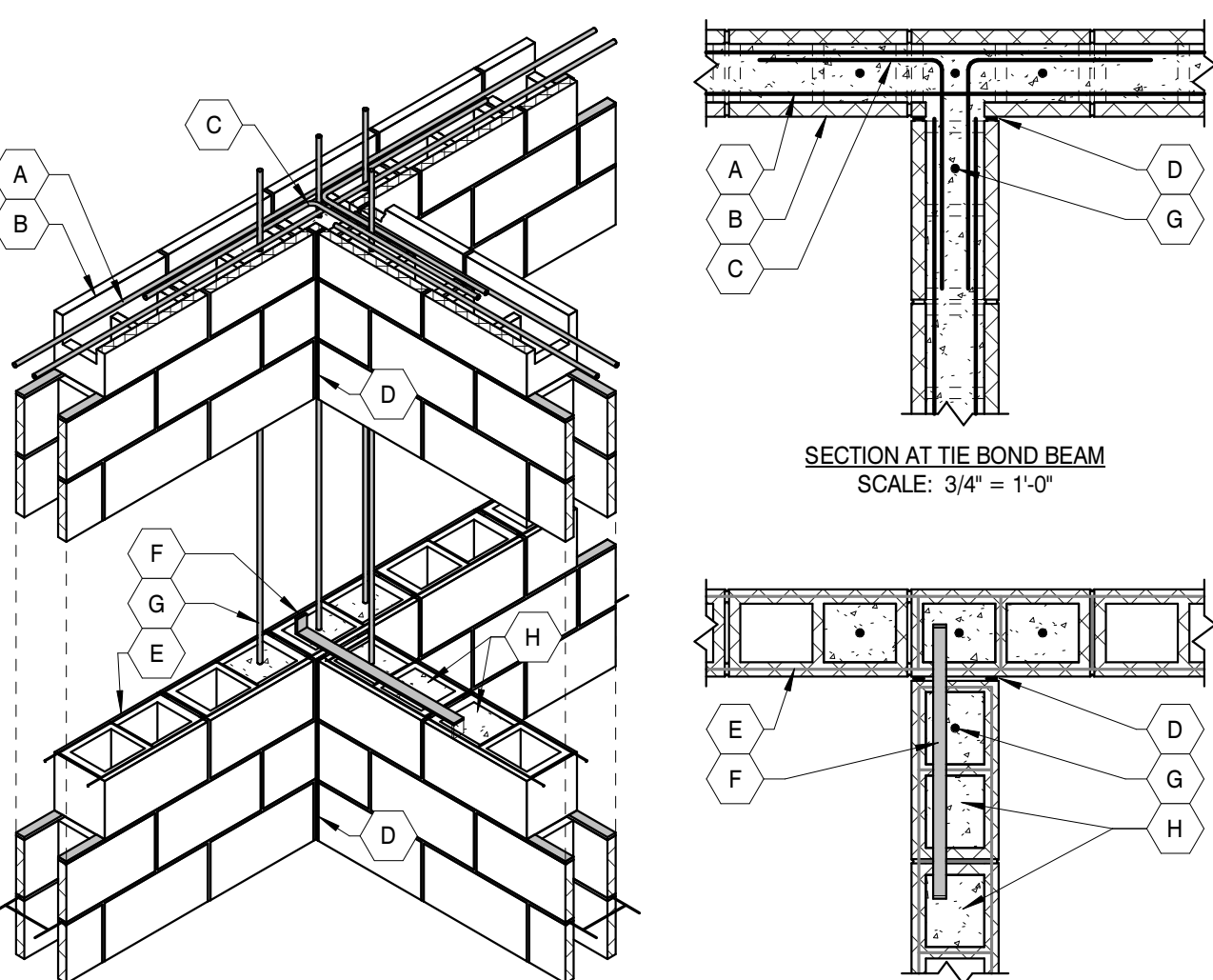
- KEYED NOTES**
- A. TIE BEAM REINFORCING
 - B. GROUT
 - C. BOND BEAM UNIT
 - D. PREFORMED GASKET IN SASH UNIT
 - E. BACKER ROD AND SEALANT
 - F. TIE BEAM REINFORCING CONTINUOUS ACROSS JOINT
 - G. VERTICAL BAR REINFORCING (MATCH SIZE AND QUANTITY OF VERTICAL WALL REINFORCING) AT (1) CELL EACH SIDE OF JOINT
 - H. HORIZONTAL JOINT REINFORCING
 - I. TERMINATE HORIZONTAL JOINT REINFORCING EACH SIDE OF JOINT
 - J. HEAD JOINTS TO ALIGN FULL HEIGHT OF JOINT AND SHALL BE FREE OF MORTAR AND GROUT



CMU WALL CORNER DETAIL

SCALE: 1/2" = 1'-0"

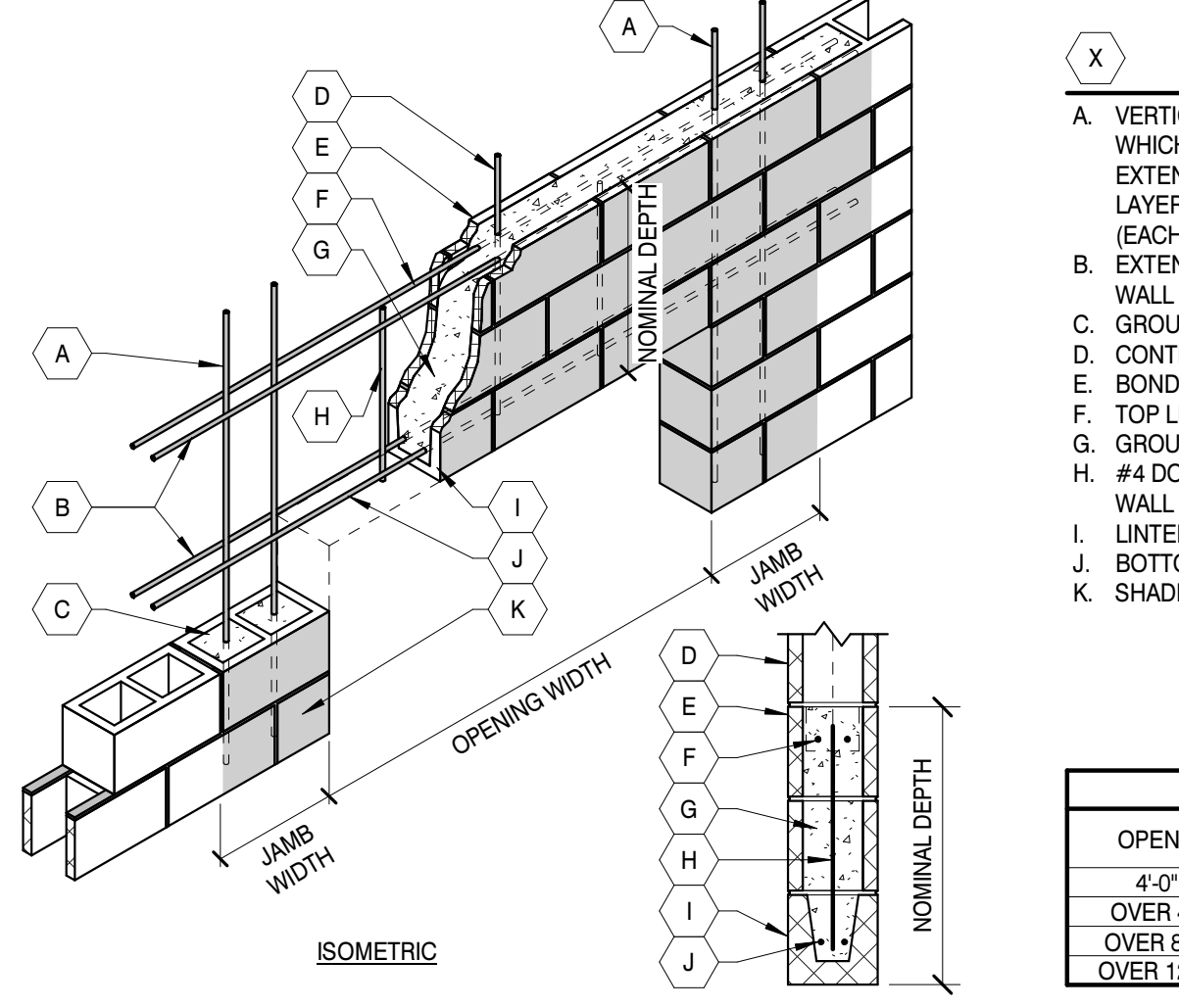
- KEYED NOTES**
- A. TIE BEAM REINFORCING (GROUT NOT SHOWN IN ISOMETRIC FOR CLARITY)
 - B. BOND BEAM UNIT
 - C. CORNER BAR (MATCH SIZE AND QUANTITY OF HORIZONTAL BAR REINFORCING), LAP WITH HORIZONTAL BAR REINFORCING
 - D. VERTICAL BAR REINFORCING (MATCH SIZE AND QUANTITY OF VERTICAL WALL REINFORCING) AT (3) CELLS AT CORNER
 - E. HORIZONTAL JOINT REINFORCING



CMU WALL INTERSECTION DETAIL

SCALE: 1/2" = 1'-0"

- KEYED NOTES**
- A. TIE BEAM REINFORCING (GROUT NOT SHOWN IN ISOMETRIC FOR CLARITY)
 - B. BOND BEAM UNIT
 - C. CORNER BAR (MATCH SIZE AND QUANTITY OF TIE BEAM REINFORCING), LAP WITH TIE BEAM REINFORCING
 - D. RAKE OUT MORTAR AND CALK
 - E. HORIZONTAL JOINT REINFORCING
 - F. 1/4" x 1 1/2" W x 24" L Z-STRAP CONNECTOR WITH 2" 90° BEND EXTENSIONS EACH END SPACED AT 48" O.C. MAX.
 - G. VERTICAL BAR REINFORCING (MATCH SIZE AND QUANTITY OF VERTICAL WALL REINFORCING) AT (4) CELLS AT CORNER
 - H. GROUT ADDITIONAL CELLS AT Z-STRAP CONNECTOR

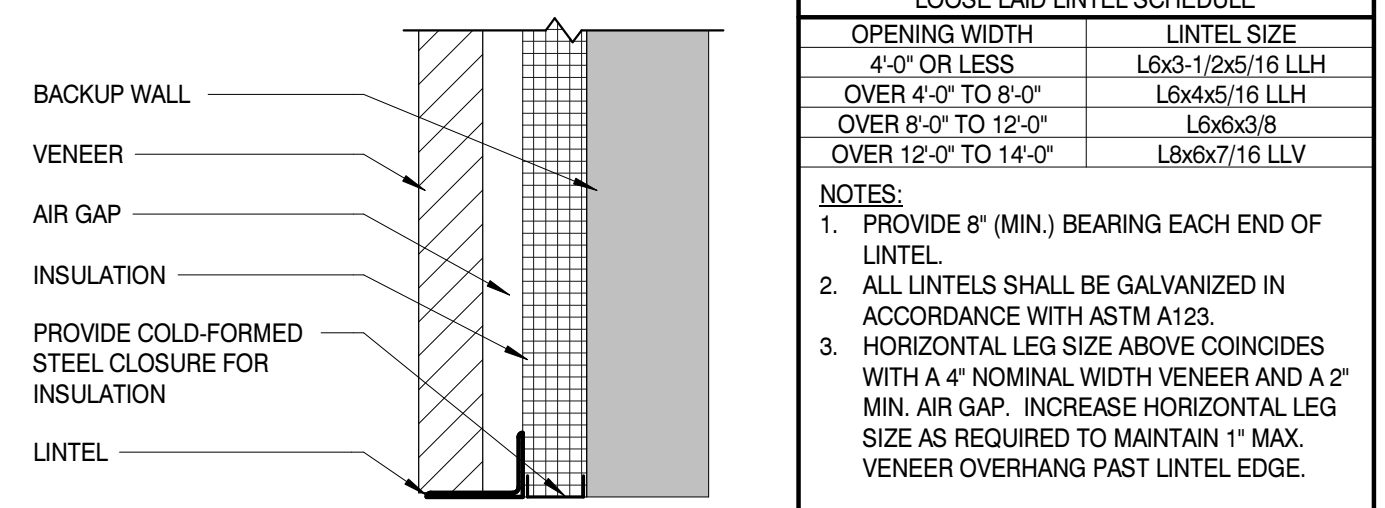


CMU LINTEL DETAIL

SCALE: 1/2" = 1'-0"

- KEYED NOTES**
- A. VERTICAL JAMB BAR REINFORCING TO MATCH SIZE OF WALL REINFORCING IN WHICH IT IS CONTAINED UNLESS NOTED OTHERWISE. REINFORCING TO EXTEND FULL HEIGHT OF WALL. PLACE ONE (1) BAR EACH CELL FOR SINGLE LAYER REINFORCED WALLS AND TWO (2) BARS EACH CELL FOR DUAL LAYER (EACH FACE) REINFORCED WALLS.
 - B. EXTEND REINFORCING BEYOND EDGE OF OPENING FOR DEVELOPMENT INTO WALL A DISTANCE OF 40 BAR DIAMETERS BUT NOT LESS THAN 24"
 - C. GROUTED CELL AT VERTICAL JAMB BAR REINFORCING
 - D. CONTINUATION OF INTERRUPTED VERTICAL WALL REINFORCING ABOVE OPENING
 - E. BOND BEAM BLOCK AT TOP OF LINTEL
 - F. TOP LINTEL REINFORCING
 - G. GROUT FULL DEPTH OF LINTEL ACROSS OPENING
 - H. #4 DWEL @ 18" O.C. MAX. NOT REQUIRED WHEN COINCIDES WITH VERTICAL WALL REINFORCING
 - I. LINTEL BLOCK AT BOTTOM OF LINTEL
 - J. BOTTOM LINTEL REINFORCING
 - K. SHADED AREA DENOTES EXTENT OF GROUTED CELLS FOR LINTEL AND JAMBS

OPENING WIDTH	NOMINAL DEPTH	REINFORCING	NO. JAMB BARS	JAMB WIDTH
4'-0" OR LESS	8"	(2) #4 BOT.	(1)	8"
OVER 4'-0" TO 8'-0"	1'-4"	(2) #5 T&B	(2)	1'-4"
OVER 8'-0" TO 12'-0"	2'-0"	(2) #6 T&B	(3)	2'-0"
OVER 12'-0" TO 18'-0"	2'-8"	(2) #6 T&B	(4)	2'-8"



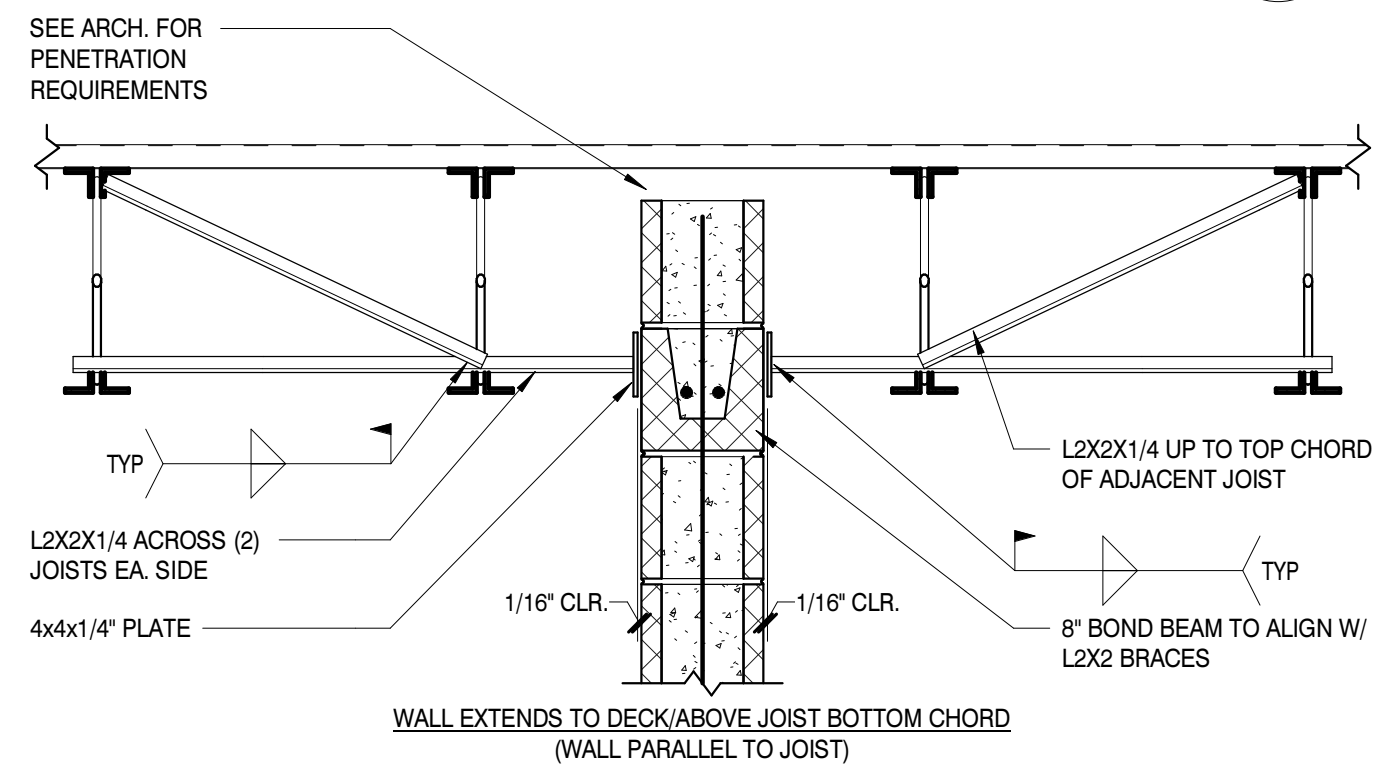
OPENING WIDTH	LINTEL SIZE
4'-0" OR LESS	L6x3-1/2x5/16 LLH
OVER 4'-0" TO 8'-0"	L8x4x5/16 LLH
OVER 8'-0" TO 12'-0"	L10x6x3/8
OVER 12'-0" TO 14'-0"	L8x6x7/16 LLV

NOTES:

- PROVIDE 8" (MIN.) BEARING EACH END OF LINTEL
- ALL LINTELS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.
- HORIZONTAL LEG SIZE ABOVE COINCIDES WITH 4" NOMINAL WIDTH VENEER AND A 2" MIN. AIR GAP. INCREASE HORIZONTAL LEG SIZE AS REQUIRED TO MAINTAIN 1" MAX. VENEER OVERHANG PAST LINTEL EDGE.

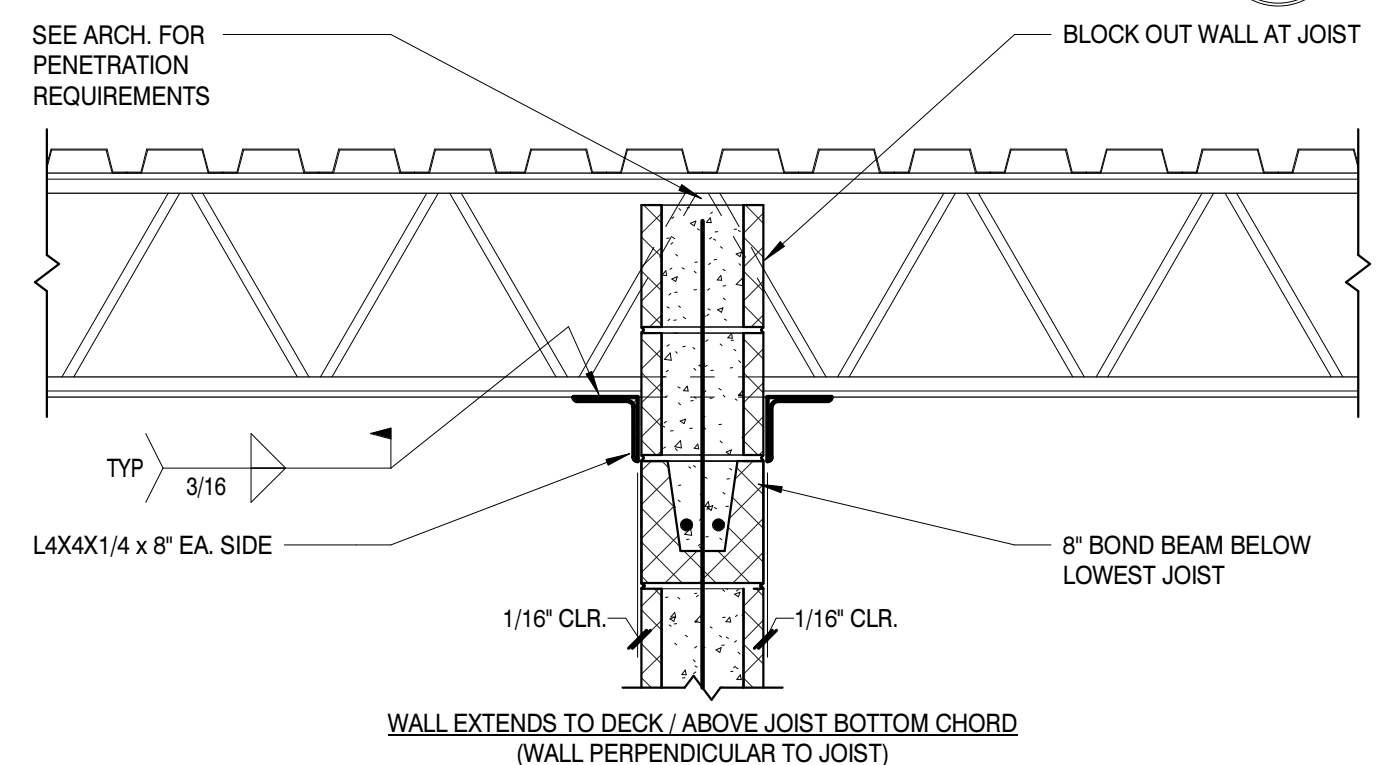
BRICK LINTEL DETAIL

SCALE: 1" = 1'-0"



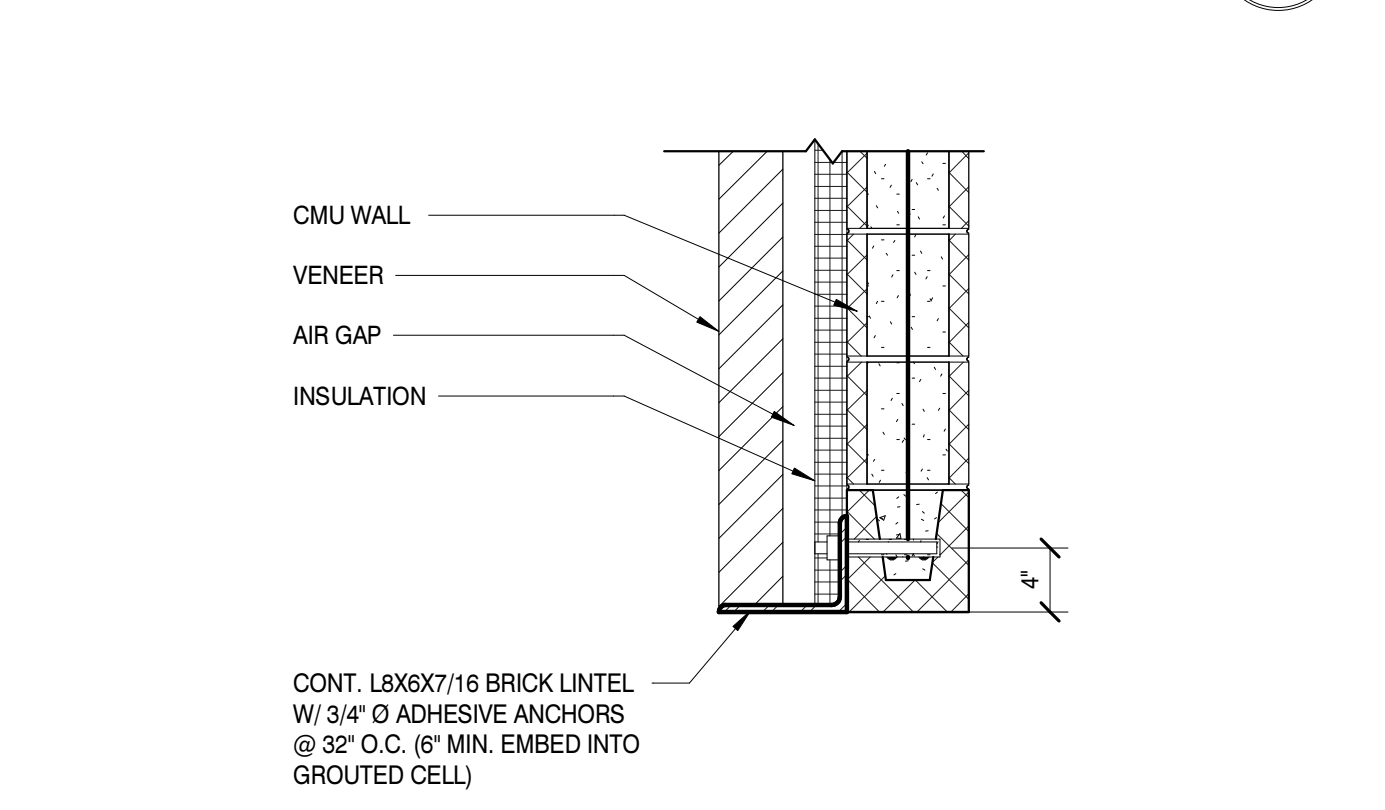
CMU PARTITION BRACING DETAIL

SCALE: 1" = 1'-0"



CMU PARTITION BRACING DETAIL

SCALE: 1" = 1'-0"



BRICK LEDGER DETAIL

SCALE: 1" = 1'-0"

CONT. L8x6x7/16 BRICK LINTEL W/ 3/4" Ø ADHESIVE ANCHORS @ 32" O.C. (6" MIN. EMBED INTO GROUTED CELL)

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SHEET ISSUED: 02/04/2022

DESIGNED BY: ZSP

DRAWN BY: KAS

REVIEWED BY: WND

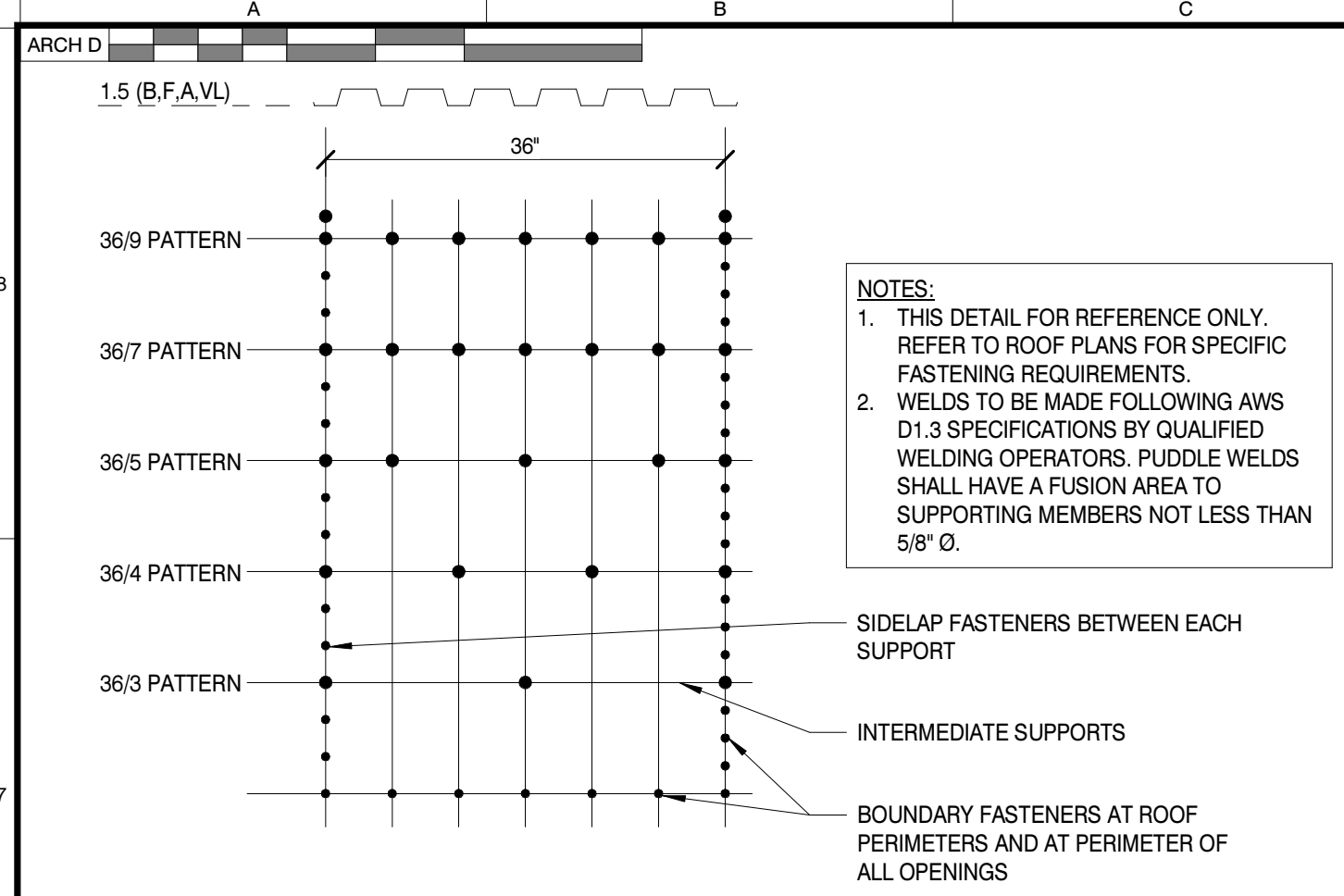
SHEET TITLE:

TYPICAL CMU DETAILS W/ HORIZONTAL JOINT REINFORCING

SHEET NO.:

S004

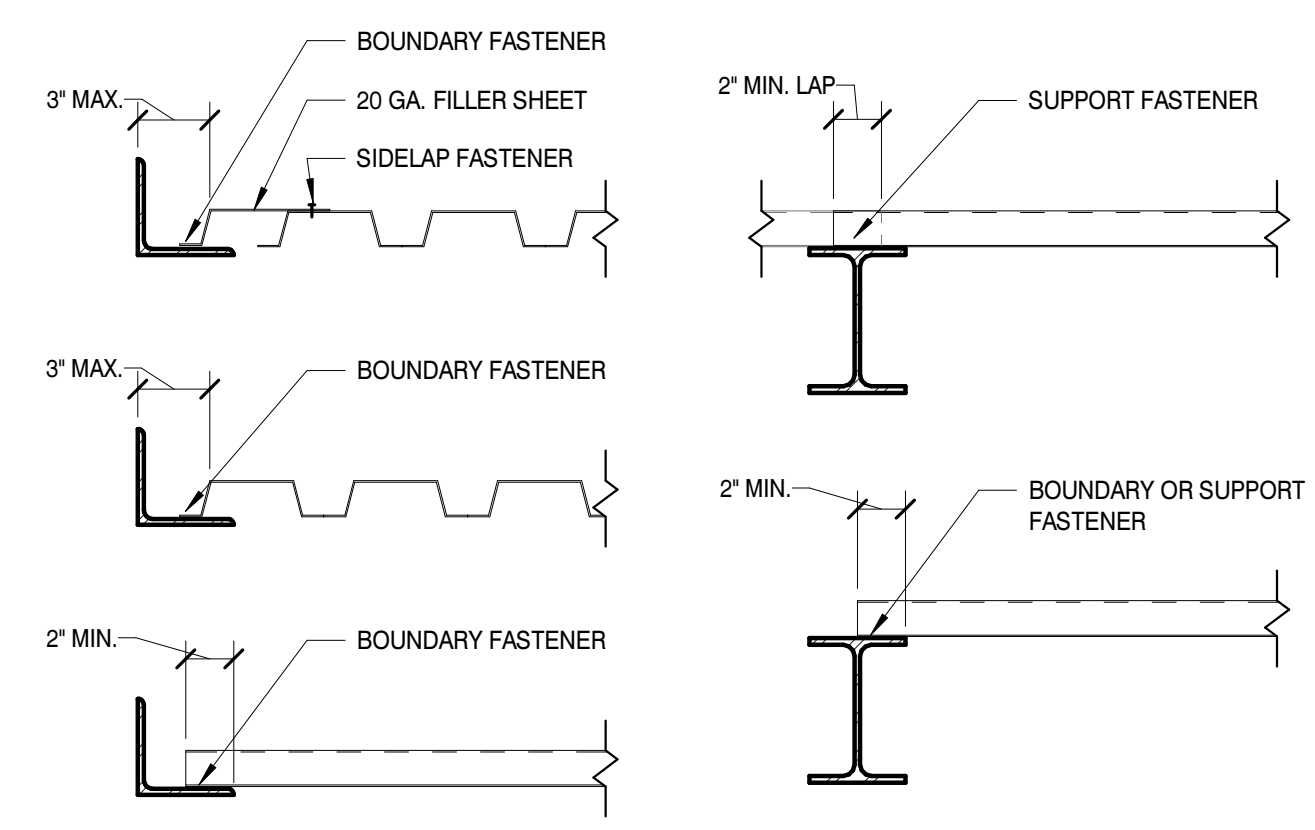
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ROOF DECK FASTENING LAYOUT

SCALE : 3/4" = 1'-0"

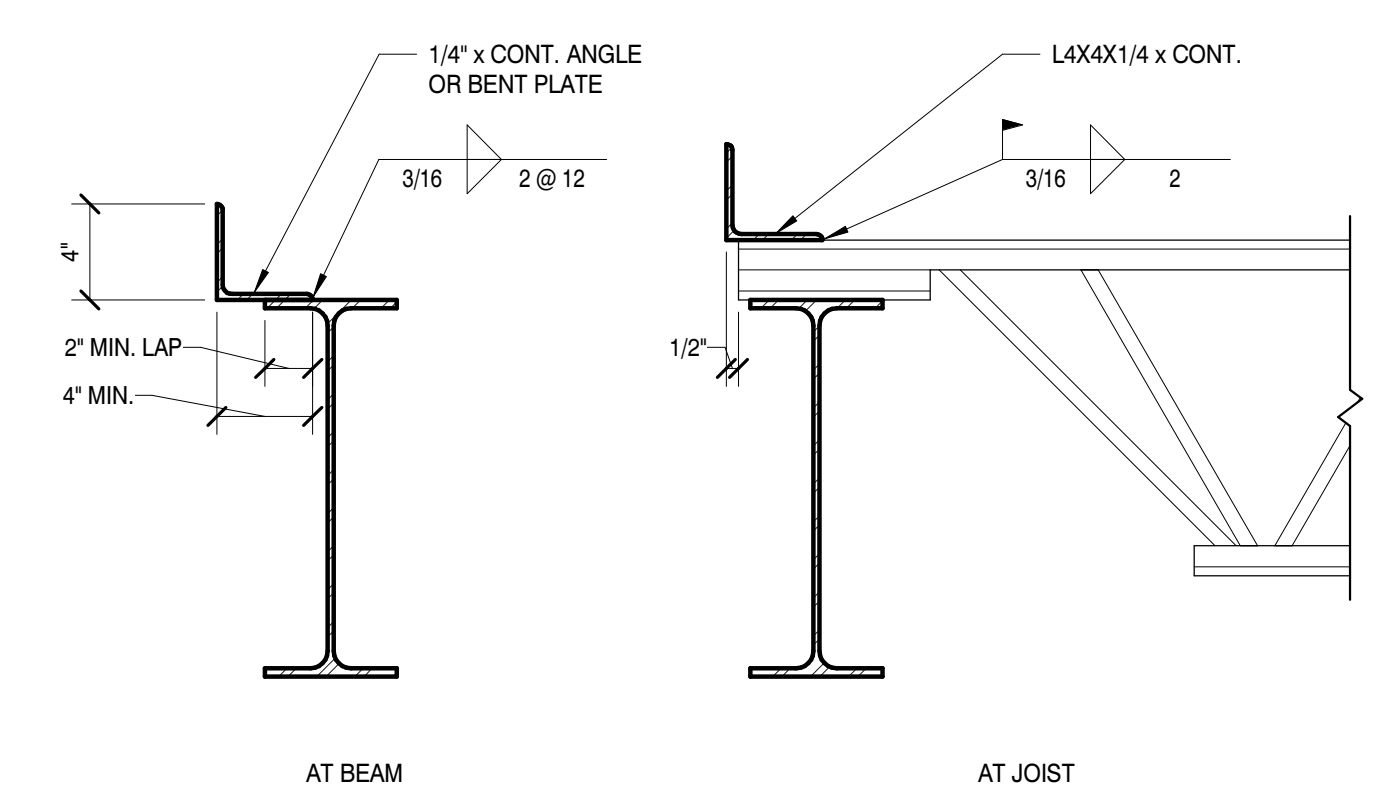
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ROOF EDGE ANGLE DETAIL

SCALE : 1 1/2" = 1'-0"

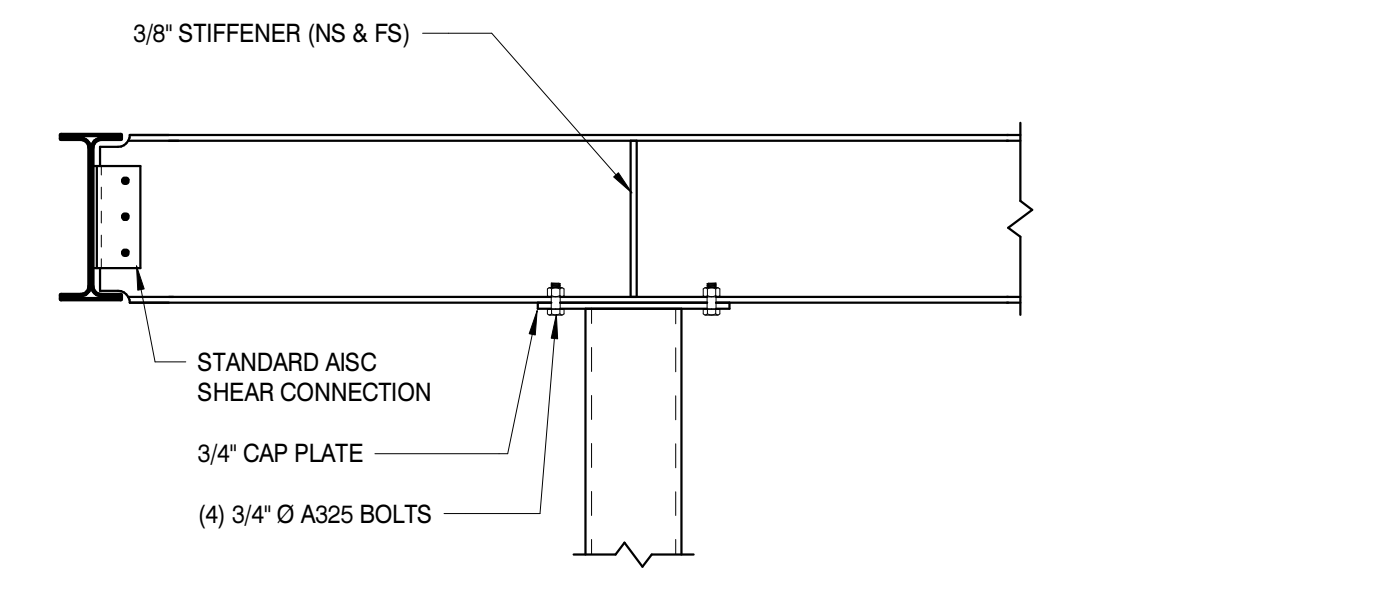
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ROOF EDGE ANGLE DETAIL

SCALE : 1 1/2" = 1'-0"

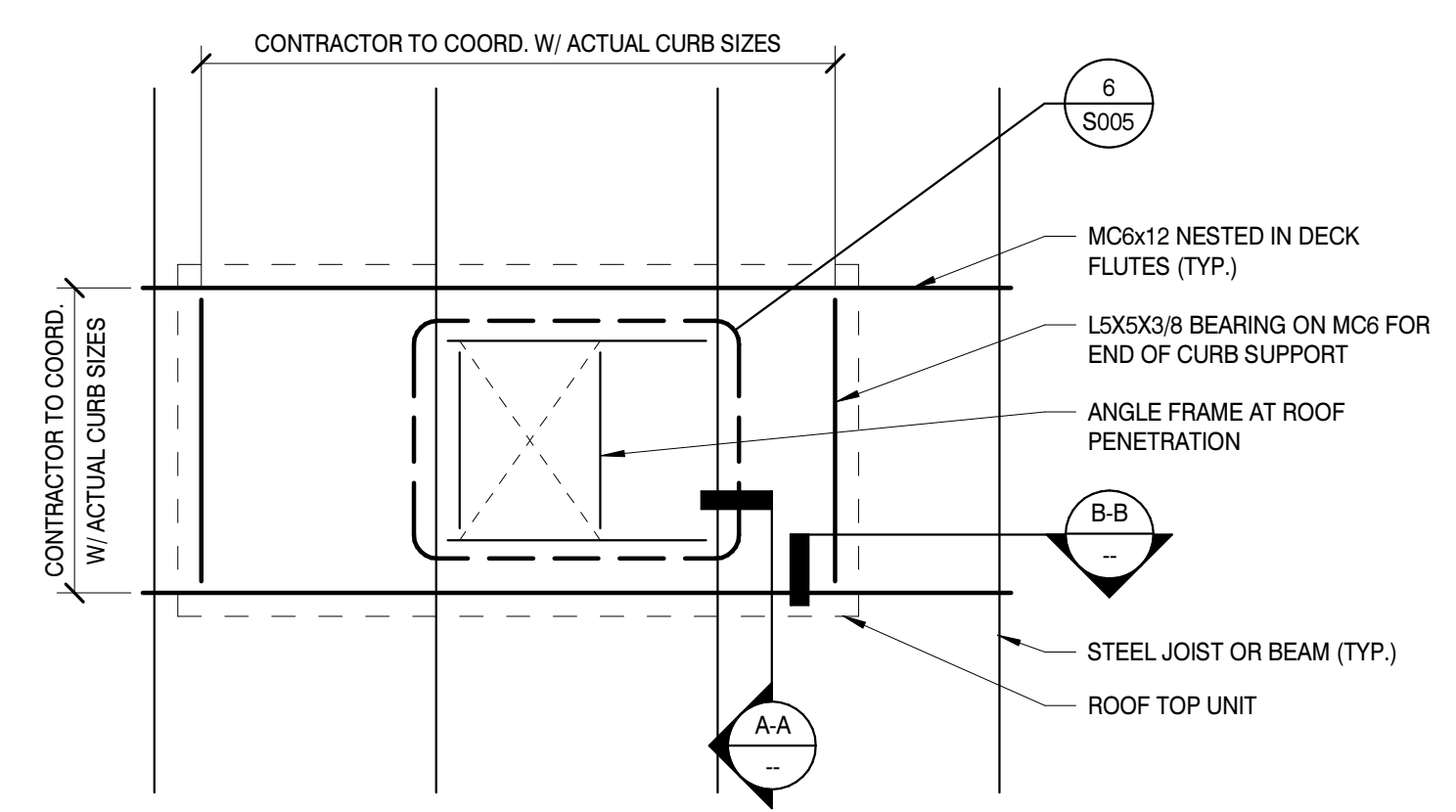
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CONNECTION DETAIL

SCALE : 3/4" = 1'-0"

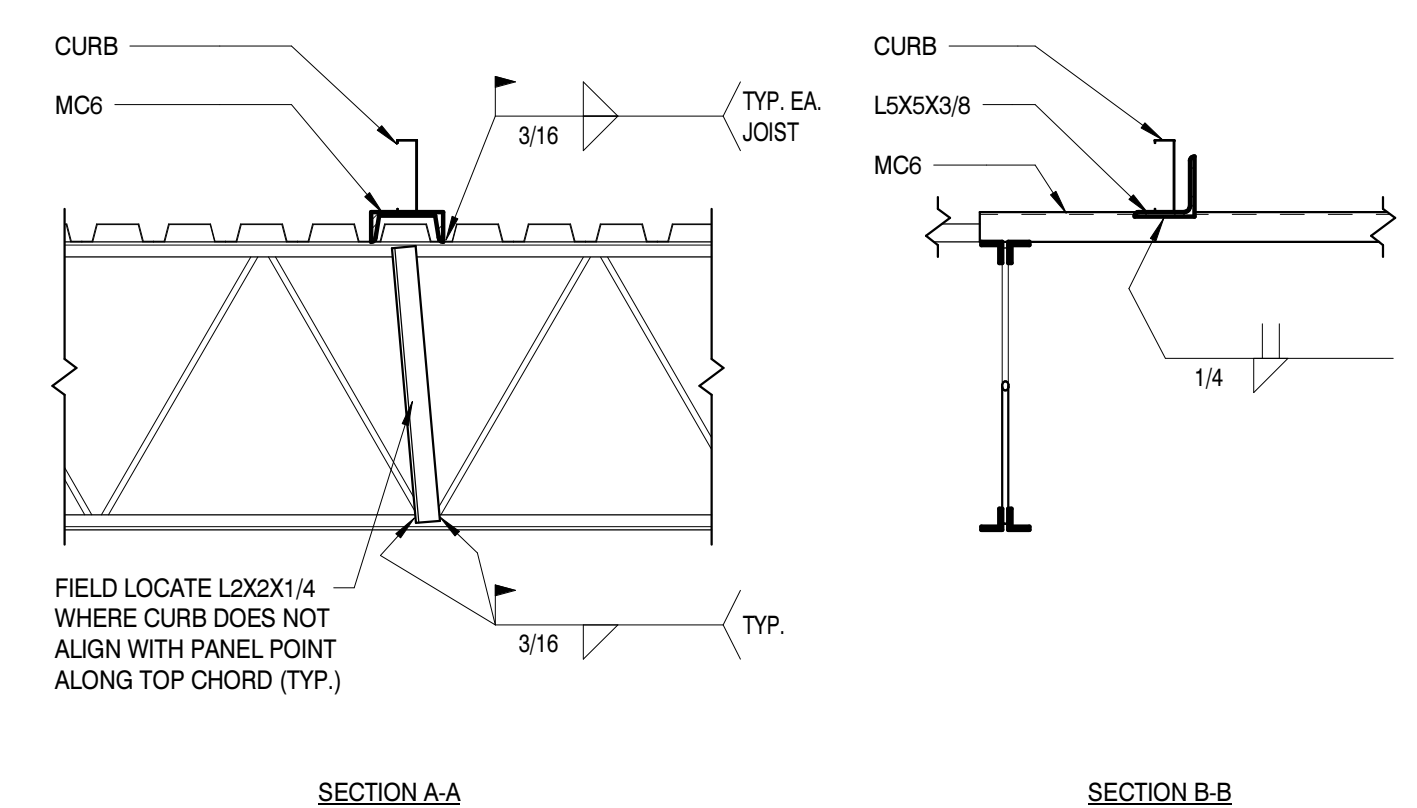
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RTU CURB DETAIL

SCALE : 3/4" = 1'-0"

5



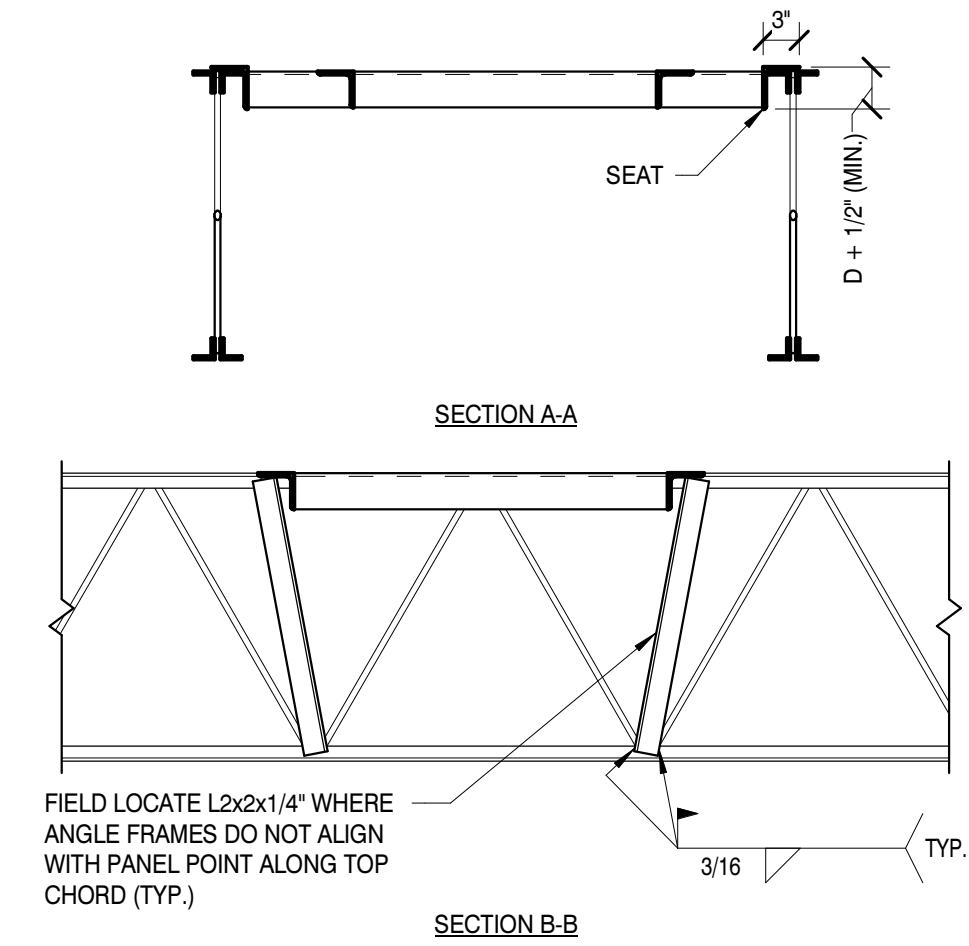
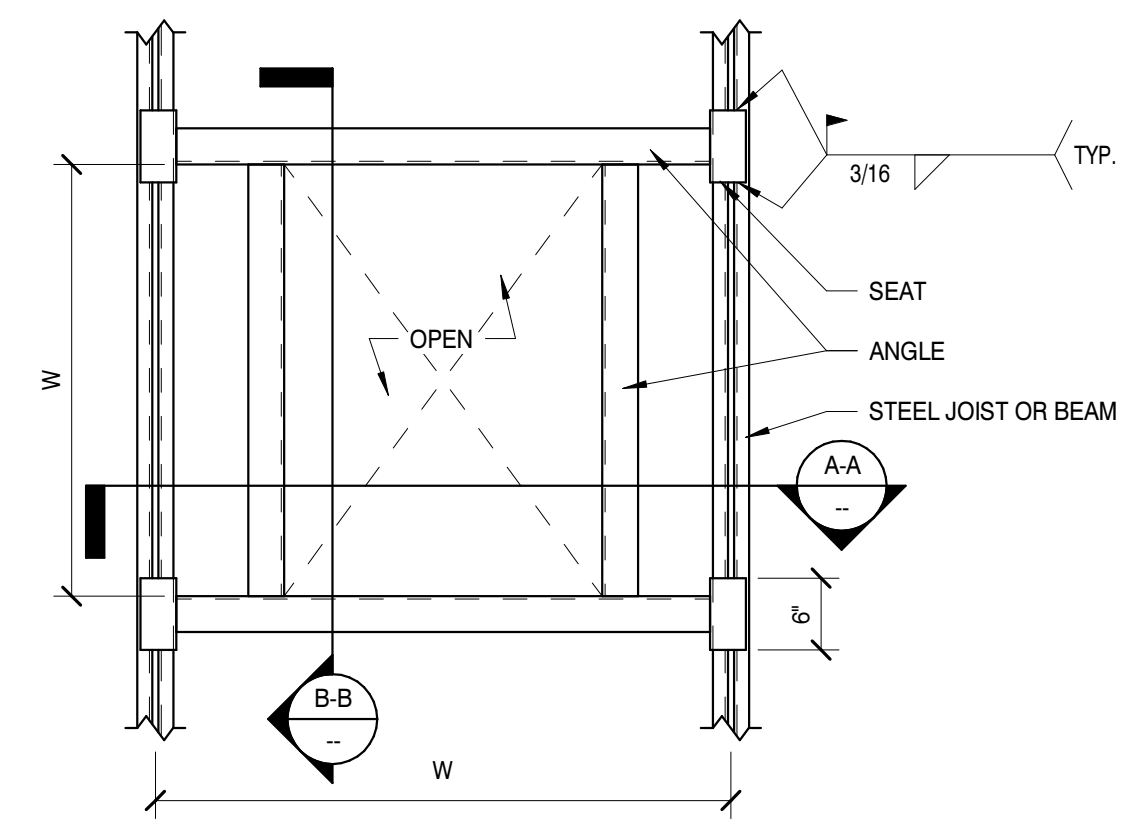
ANGLE FRAME SCHEDULE	
ANGLE SPAN (W)	ANGLE SIZE
2'-0" OR LESS	L2x2x1/4
OVER 2'-0" TO 4'-0"	L3x3x1/4
OVER 4'-0" TO 6'-0"	L4x4x3/16
OVER 6'-0" TO 8'-0"	L6x4x3/8 LLV

NOTES:
 1. PROVIDE ANGLE FRAME AS SHOWN FOR OPENINGS 8"x8" OR 8" DIAMETER AND LARGER, INCLUDING ROOF DRAINS AND SUMPS.
 2. USE LARGEST "W" DIMENSION FOR SELECTING ANGLE SIZE.
 3. SEAT TO BE THE SAME DEPTH AS SUPPORTED ANGLE + 1/2" x 3" WIDE x 3/8" THICK x 6" LONG.
 4. COORDINATE EXACT SIZE AND LOCATIONS OF OPENINGS WITH OTHER DISCIPLINES.
 5. SHOP WELD ALL CONNECTIONS WITH 3/16" FILLET WELDS ALL AROUND.

ROOF OPENING DETAIL

SCALE : 3/4" = 1'-0"

6



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PROJECT INFORMATION
 PROJECT:
AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL
 PROJECT ADDRESS:
 5 NORRIS SQUARE,
 NORRIS, TN 37828
 PROJECT NO.: **210042-04**

ACTIVE DESIGN PHASE

FOR REVIEW ONLY
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 SCHEMATIC DESIGN
 DESIGN DEVELOPMENT
 CONSTRUCTION BIDDING
 CONSTRUCTION DOCUMENTS
 AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION
 SHEET ISSUED: 02/04/2022
 DESIGNED BY: ZSP
 DRAWN BY: KAS
 REVIEWED BY: WND
 SHEET TITLE:

TYPICAL STEEL DETAILS

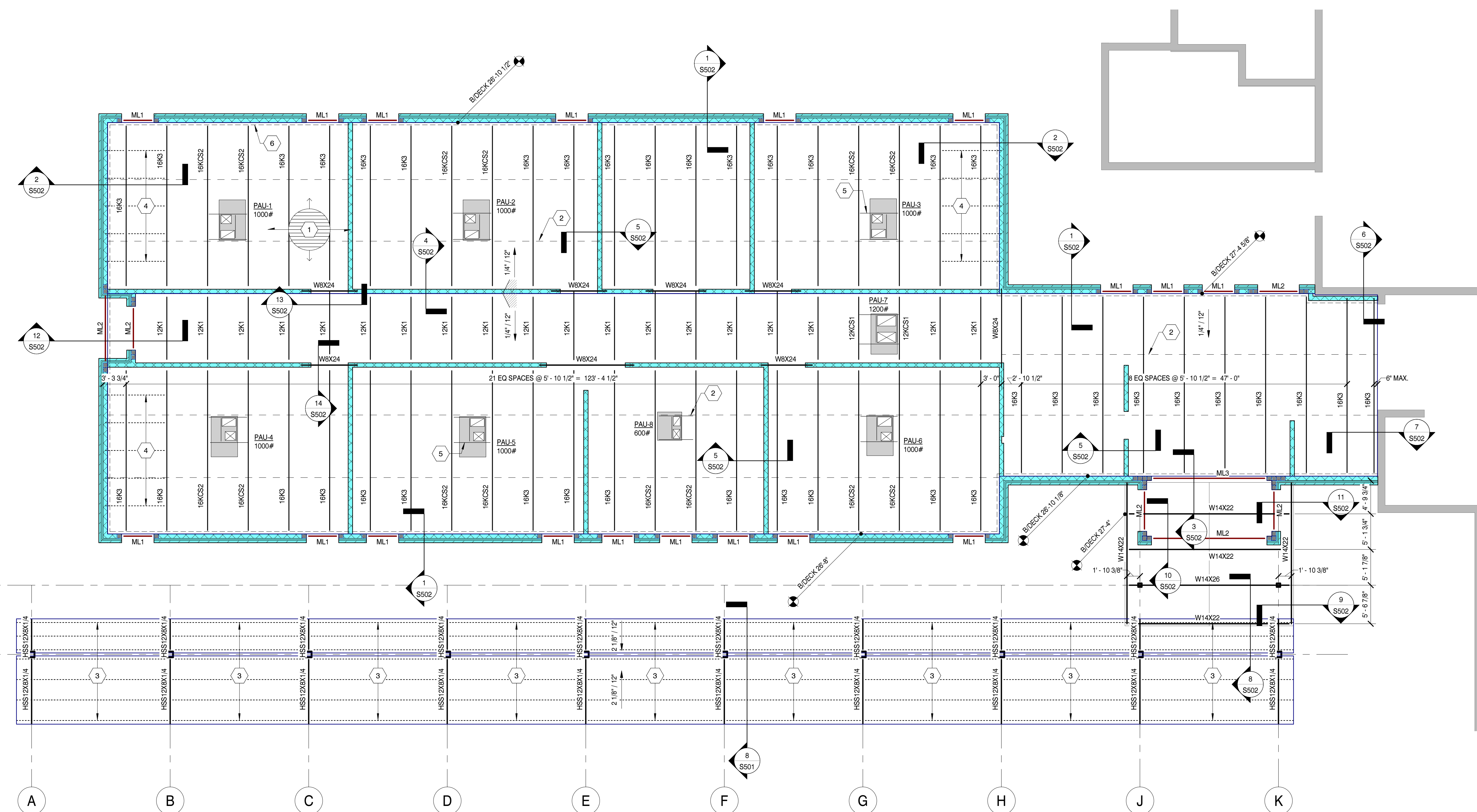
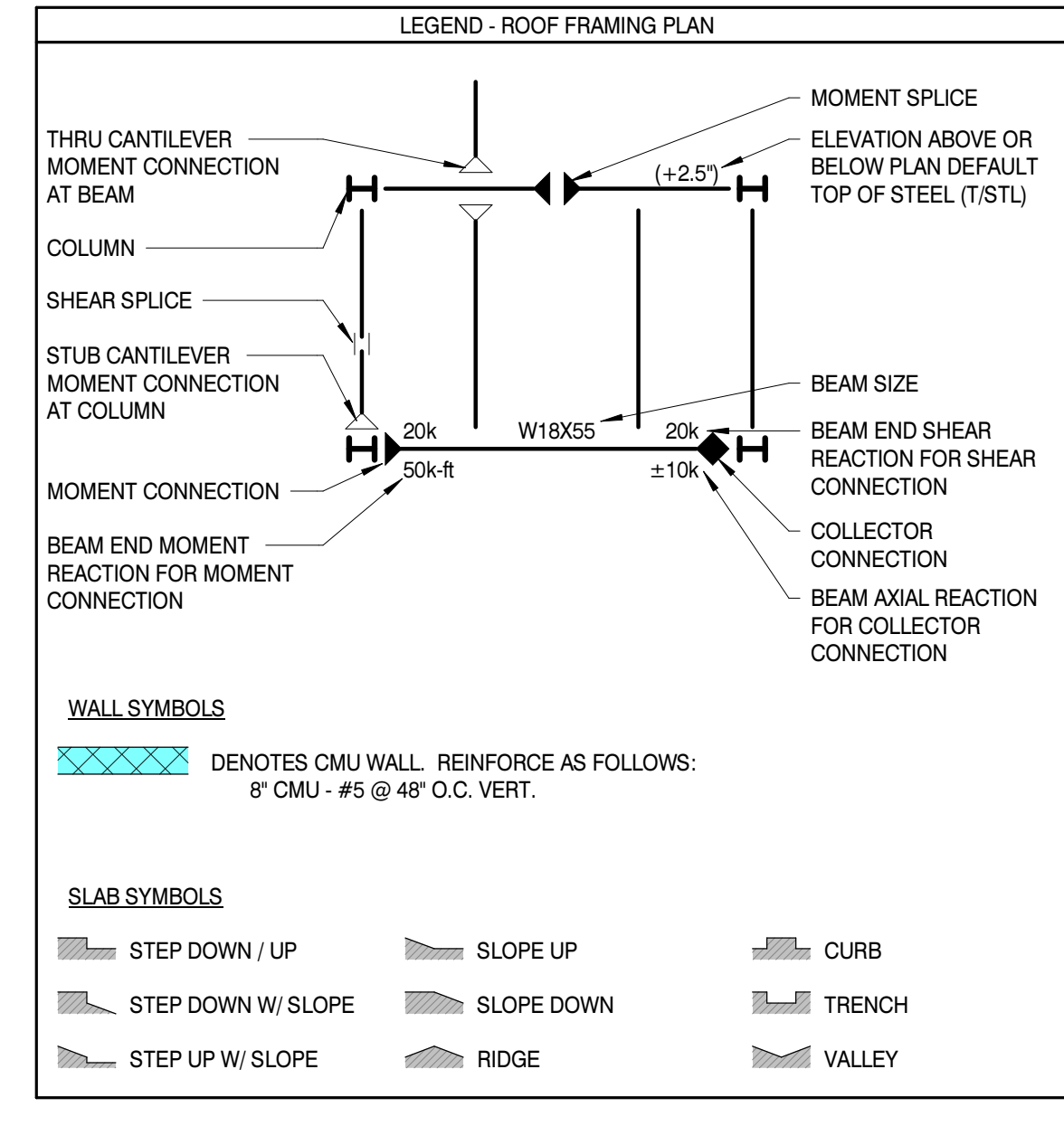
SHEET NO.: **S005**

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- GENERAL NOTES - ROOF FRAMING PLAN**
- ELEVATIONS ARE REFERENCED FROM THE FIRST LEVEL TOP OF SLAB (T/SLAB) DATUM ELEVATION OF 14'-8". SEE CIVIL DRAWINGS FOR EQUIVALENT MEAN SEA LEVEL ELEVATION.
 - CONTRACTOR SHALL COORDINATE STRUCTURAL DRAWINGS WITH OTHER DISCIPLINES.
 - TOP OF STEEL (T/STL) LOCATED AT UNDERSIDE OF ROOF DECK UNLESS NOTED OTHERWISE.
 - REFER TO ARCHITECTURAL DRAWINGS FOR STRUCTURAL MEMBERS THAT RECEIVE FIRE PROOFING. VERIFY WHETHER OR NOT THESE MEMBERS SHALL BE PAINTED WITH FIRE PROOFING MANUFACTURER'S RECOMMENDATIONS.
 - GENERAL SIZE AND LOCATION OF ROOF TOP EQUIPMENT IS INDICATED ON THE PLAN. EXACT SIZE OF OPENINGS AND LOCATIONS OF FRAMING MUST BE DETERMINED UPON FINAL SELECTION OF EQUIPMENT. COORDINATE WITH MECHANICAL DRAWINGS.
 - COORDINATE JOIST AND TRUSS LAYOUT WITH MECHANICAL AND PLUMBING RUNS AND PENETRATIONS. REFER TO MECHANICAL PLANS FOR DUCT CHASES IF REQUIRED.
 - SEE S00 SHEETS FOR ADDITIONAL NOTES AND TYPICAL DETAILS NOT SPECIFICALLY REFERENCED ON STRUCTURAL DRAWINGS.

- KEYED NOTES - ROOF FRAMING PLAN**
- ROOF DECK TO BE 1-1/2" 22 GA. TYPE B PAINTED ROOF DECKING WITH A MINIMUM 2 SPAN CONDITION. FASTEN DECKING WITH 5/8" PUDDLE WELDS ON A 3/4" PATTERN AT SUPPORTS, (6) #12 TEK SCREWS BETWEEN SUPPORTS AT SIDELAPS, AND 5/8" PUDDLE WELDS @ 6" O.C. AT ROOF DECK PERIMETER AND OPENINGS.
 - DENOTES STEEL JOIST BRIDGING. JOIST MANUFACTURER RESPONSIBLE FOR THE DESIGN OF STEEL JOISTS AND REQUIRED BRIDGING. SEE S000 SHEETS FOR ADDITIONAL INFORMATION REGARDING THE DESIGN OF THESE ELEMENTS. COORDINATE BRIDGING PLACEMENT SUCH THAT IT DOES NOT HINDER ROUTING OF DUCT WORK FROM ROOF TOP HVAC EQUIPMENT.
 - HSS6X3X1/4 PURLINS.
 - L4X4X1/4 CROSS-TIES @ 48" O.C. ALIGN WITH DECK VALLEYS.
 - RTU CURB AND OPENING FRAMING PER DETAILS ON S005
 - L4X4X5/16 x CONT. LEDGER. FASTEN TO CMU WALL WITH 5/8"Ø x 4" EMBED SCREW ANCHORS @ 32" O.C.

LINTEL SCHEDULE						
MARK	TYPE	WIDTH	DEPTH	REINFORCING	JAMB QTY	MAX. SPAN
ML1	8X8	7 5/8"	8"	(2) #4 BOT.	1	5'-0"
ML2	8X16	7 5/8"	16"	(2) #5 T&B	2	8'-0"
ML3	8X32	7 5/8"	32"	(2) #5 T&B	4	18'-0"



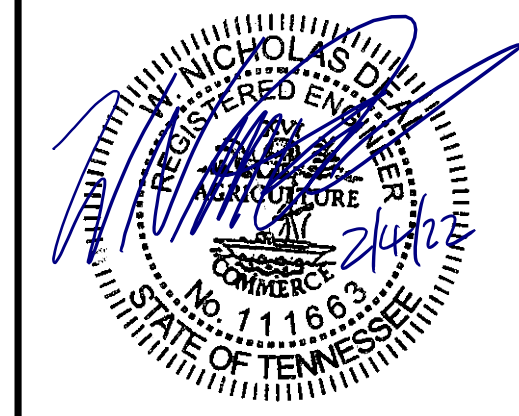
ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

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PROJECT INFORMATION

PROJECT: AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS: 5 NORRIS SQUARE, NORRIS, TN 37828

PROJECT NO.: 210042-04

- ACTIVE DESIGN PHASE**
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 - DESIGN DEVELOPMENT
 - CONSTRUCTION BIDDING
 - CONSTRUCTION DOCUMENTS
 - AS-BUILT RECORD SET

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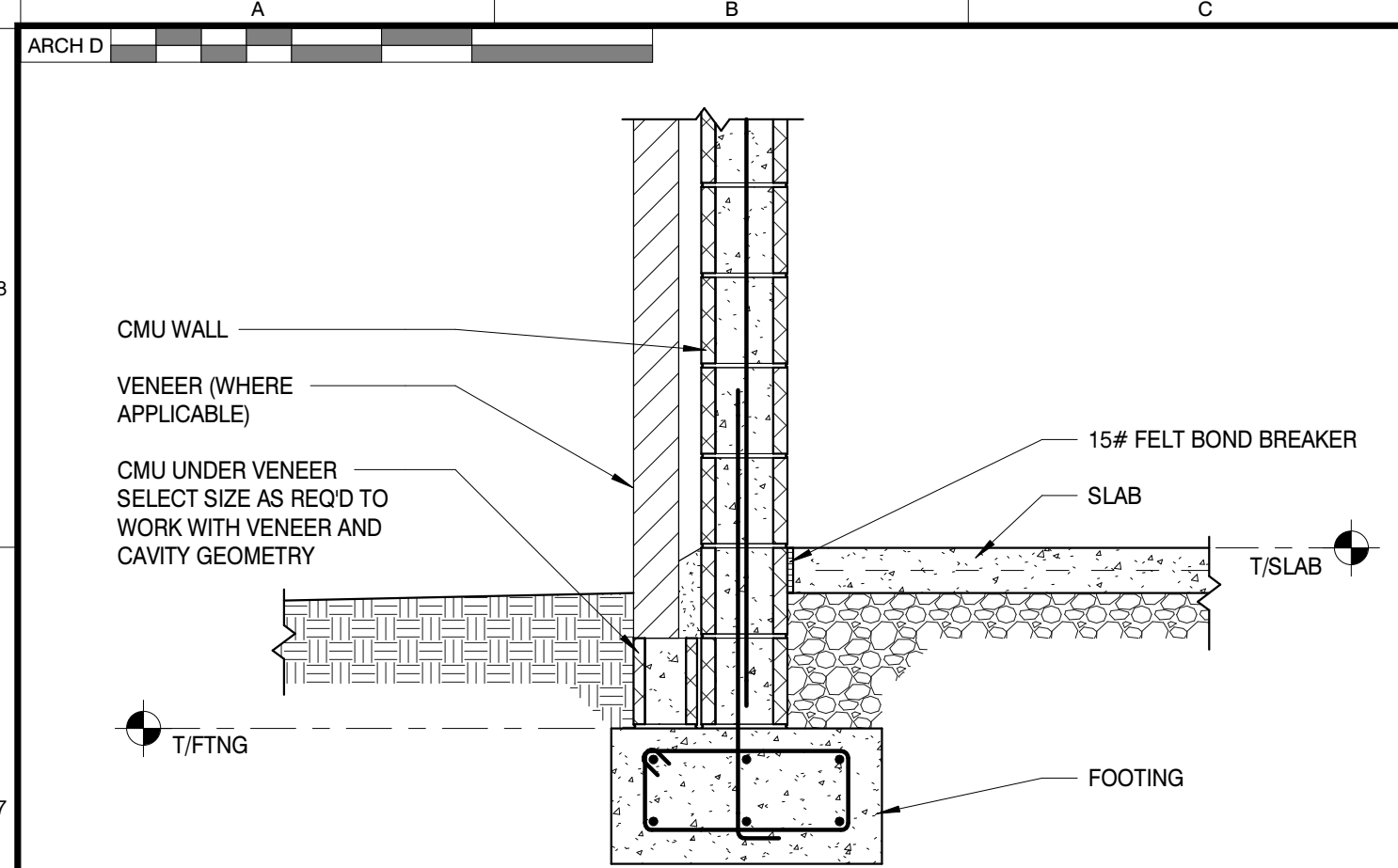
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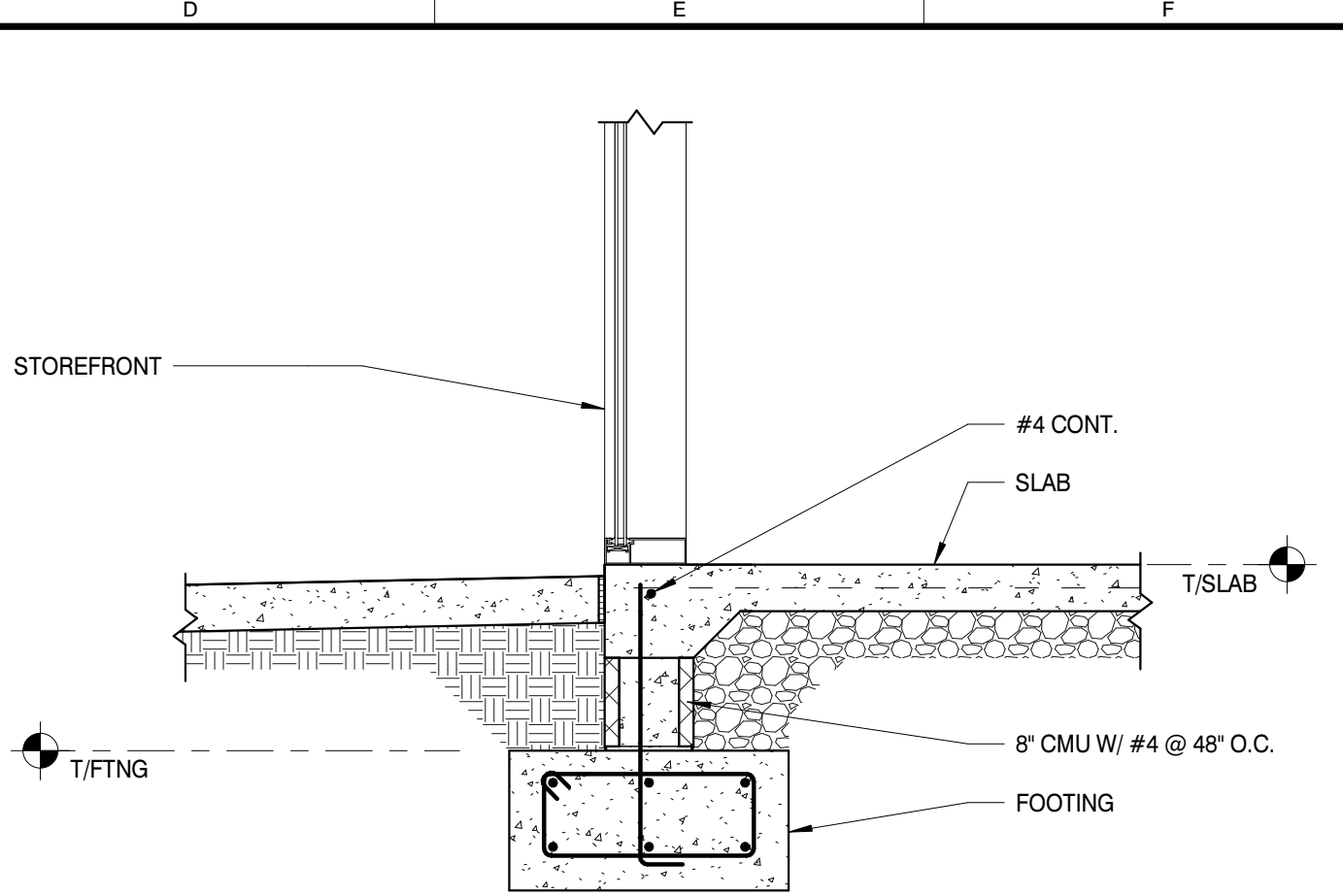


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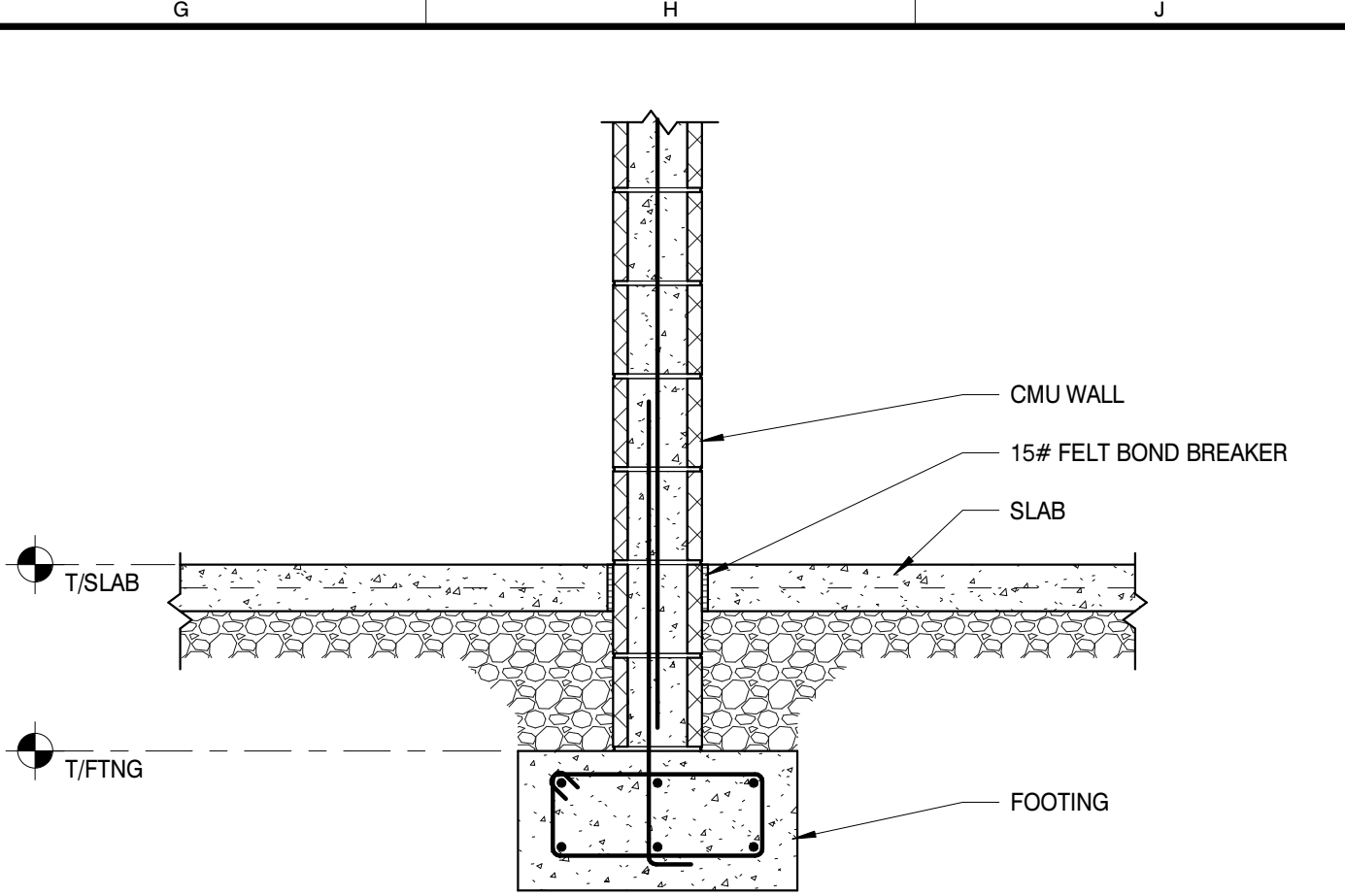
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DRAWN BY: KAS
REVIEWED BY: WND
SHEET TITLE:



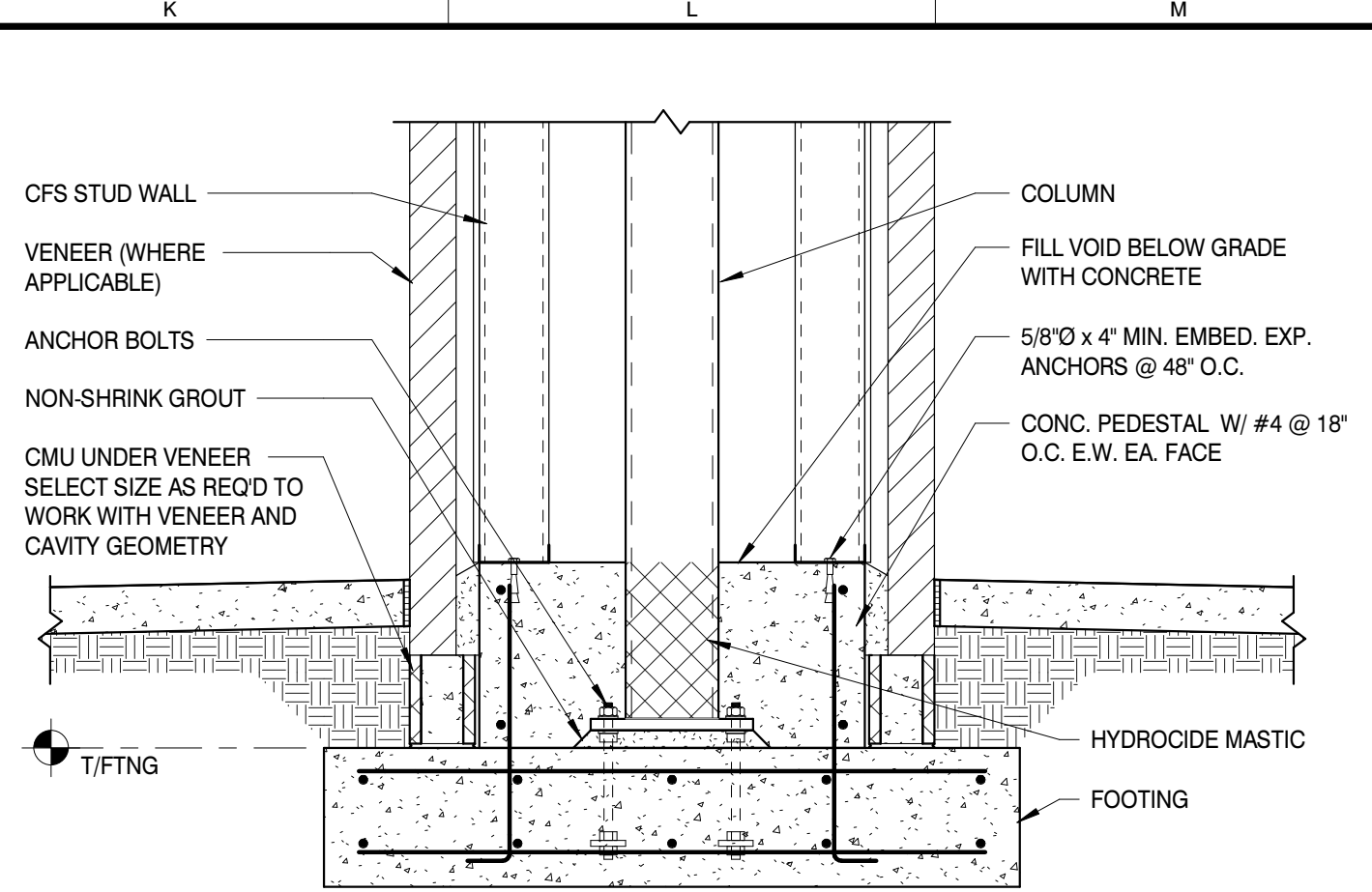
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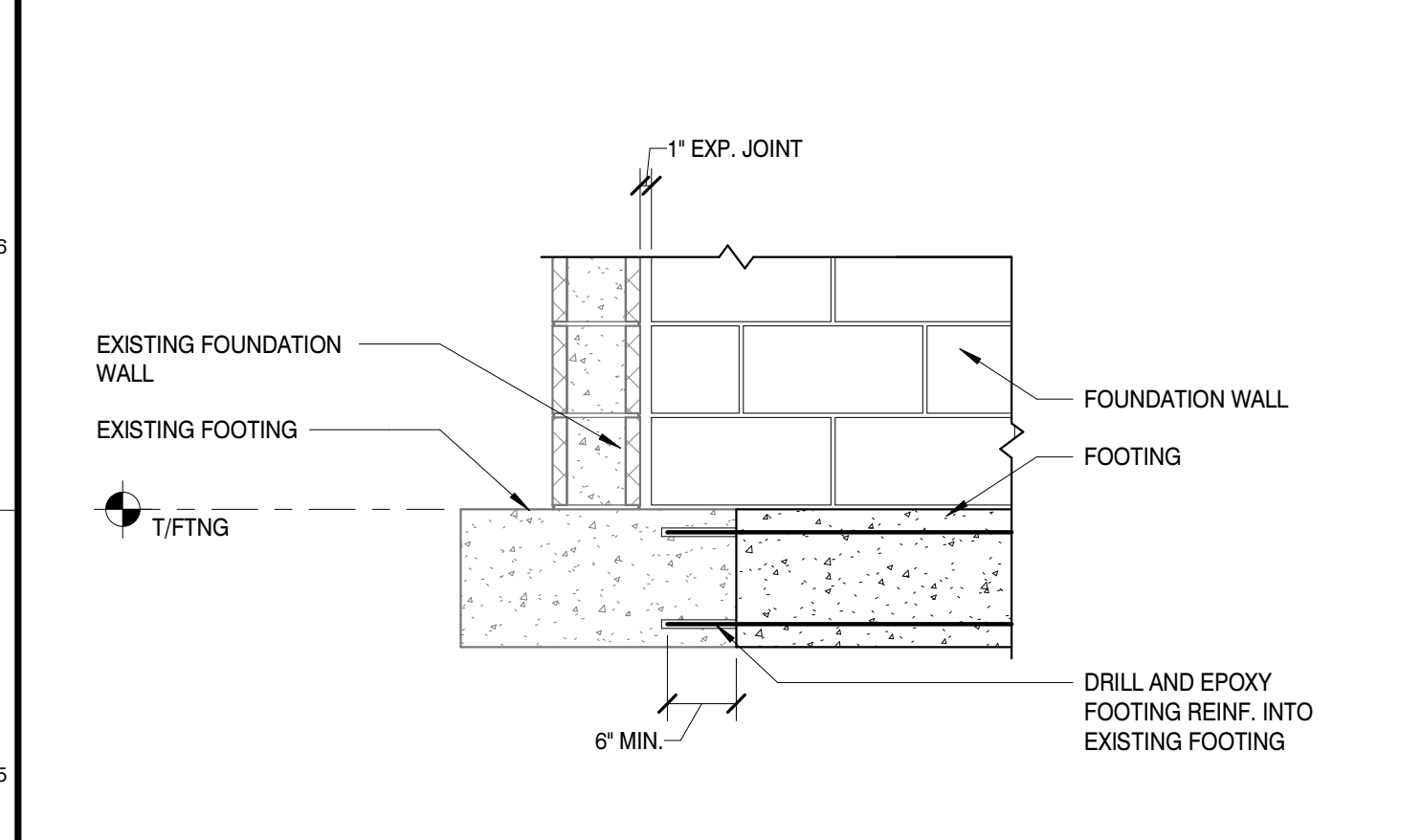
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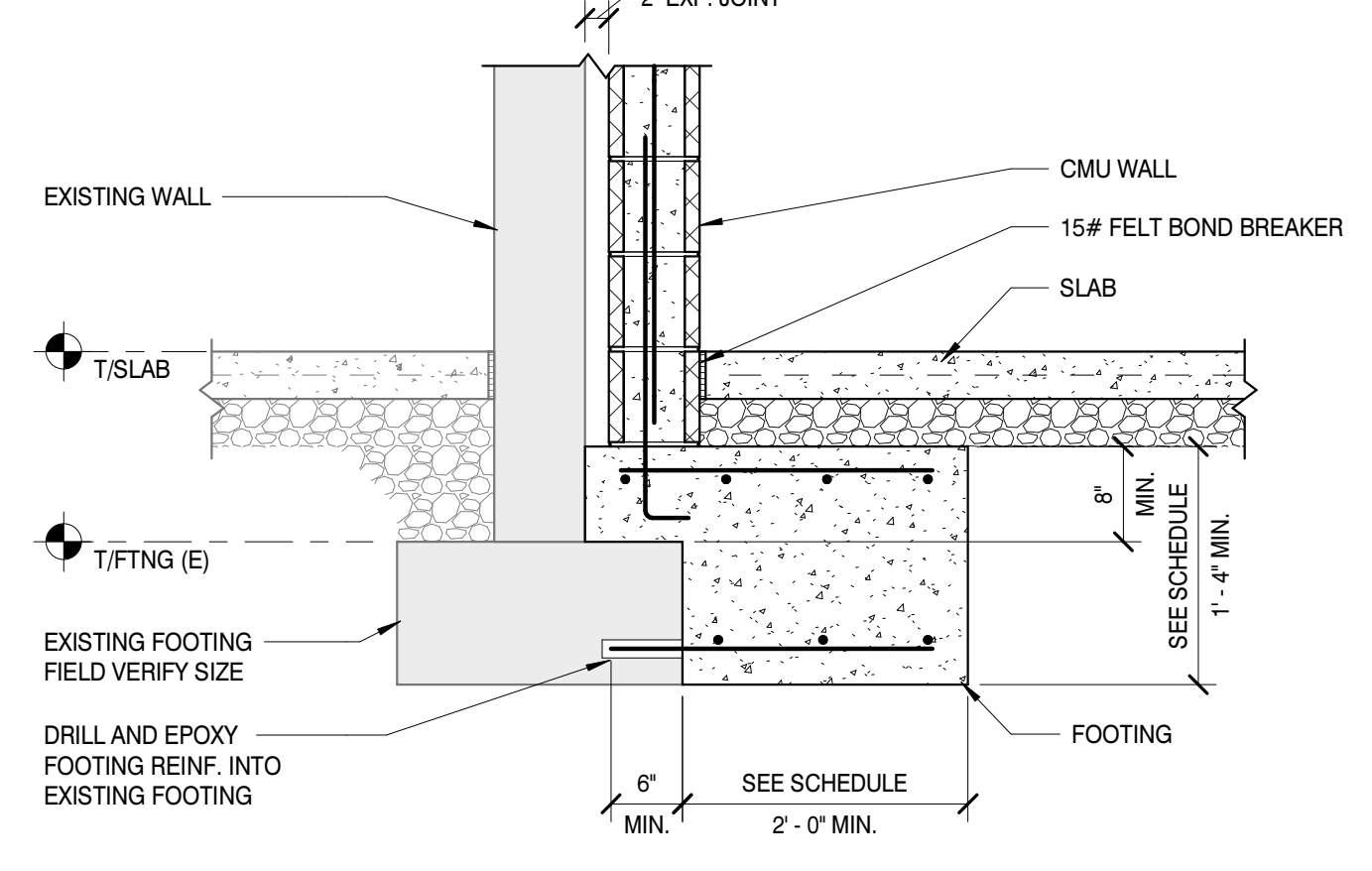
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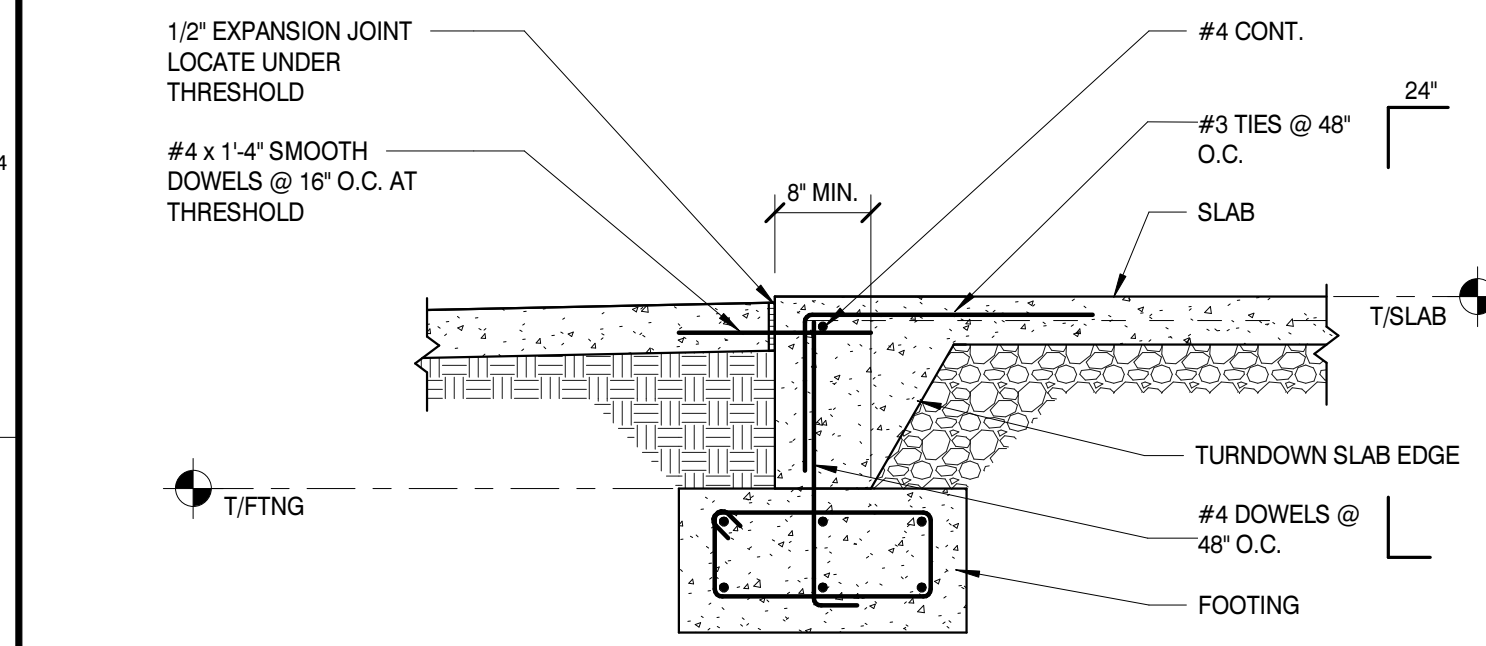
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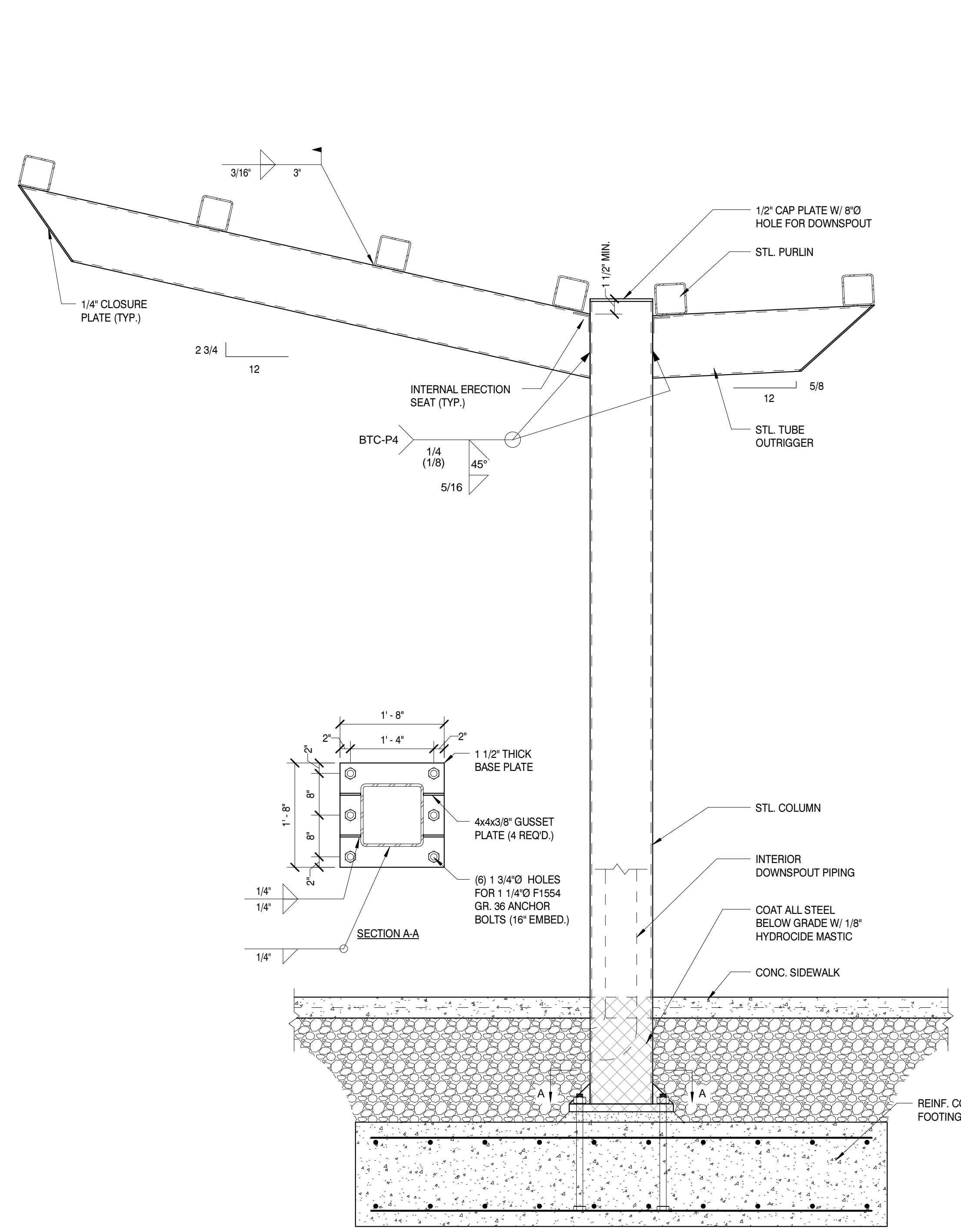
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FOUNDATION DETAIL 6
SCALE: 3/4" = 1'-0"



FOUNDATION DETAIL 7
SCALE: 3/4" = 1'-0"



CANOPY DETAIL 8
SCALE: 3/4" = 1'-0"

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NORRIS, TN 37828
PROJECT NO.: **210042-04**

ACTIVE DESIGN PHASE

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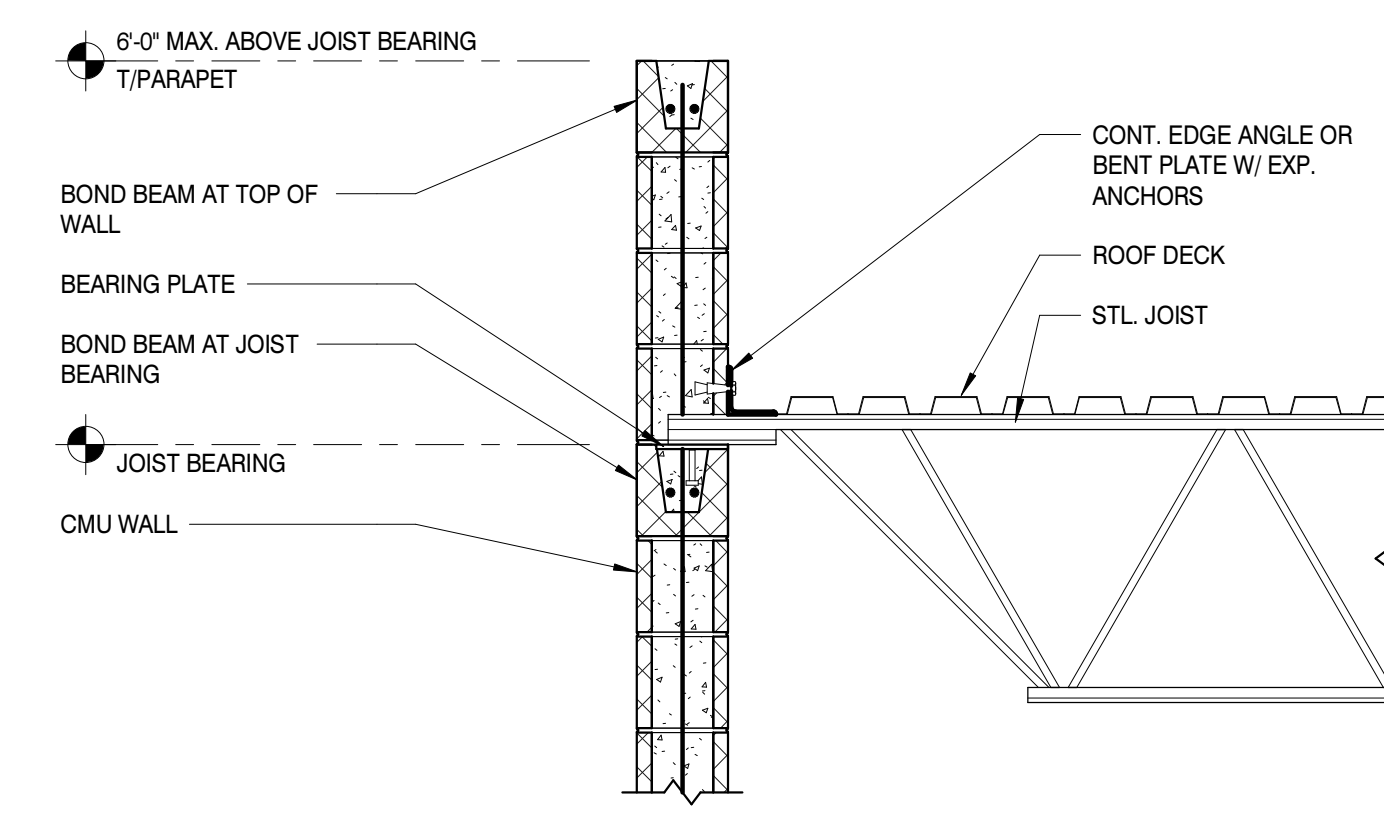
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SHEET INFORMATION

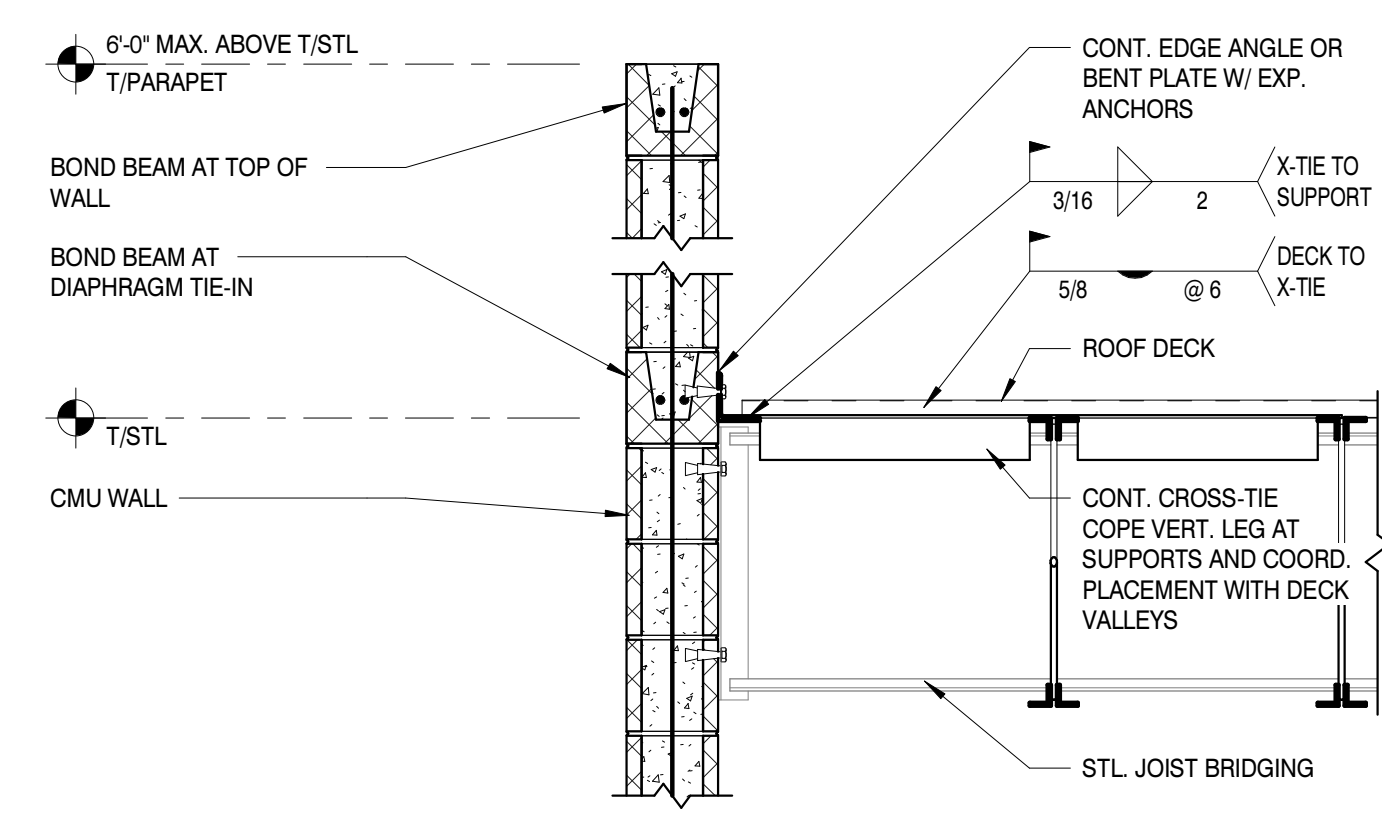
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DESIGNED BY: ZSP
DRAWN BY: KAS
REVIEWED BY: WND
SHEET TITLE:

FOUNDATION DETAILS
SHEET NO.: **S501**

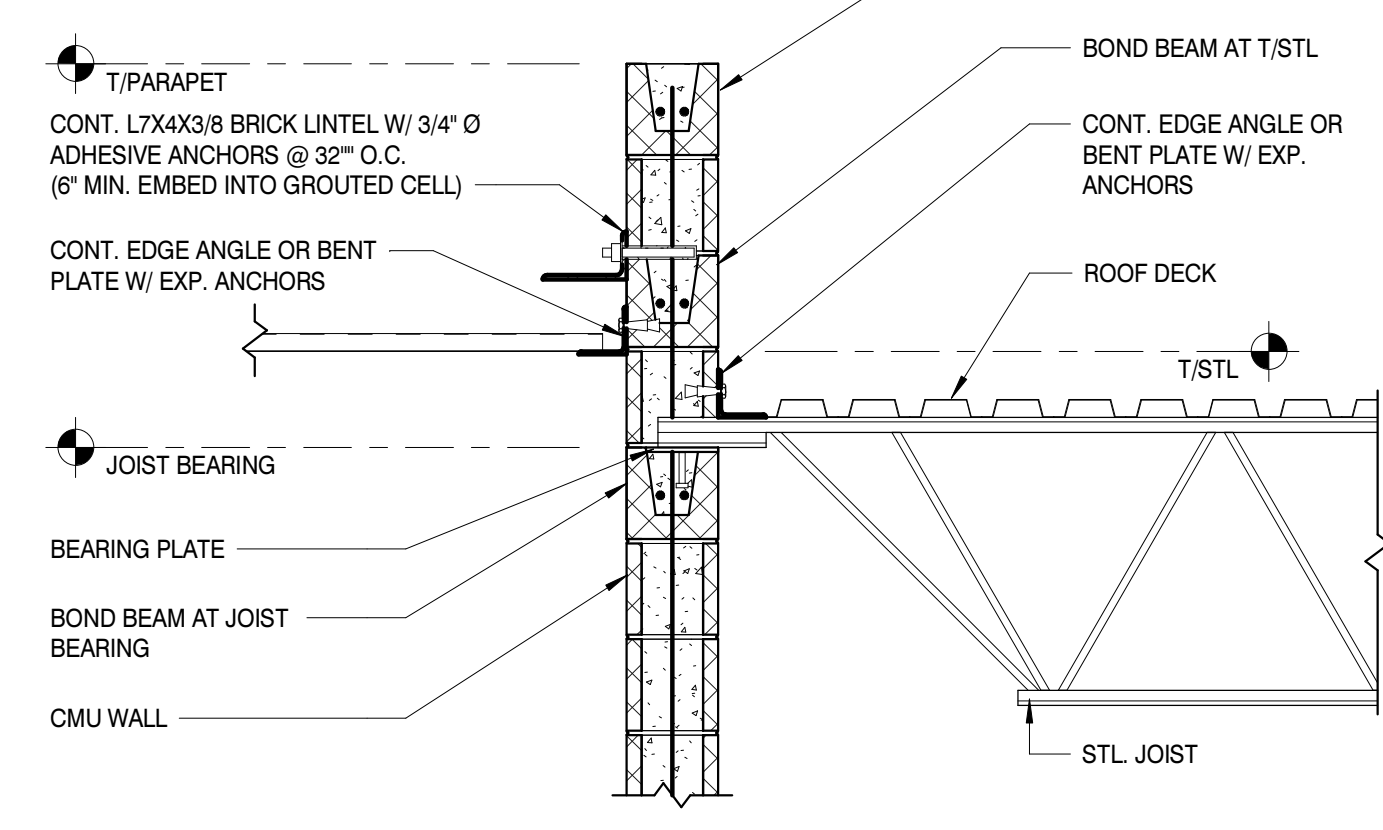
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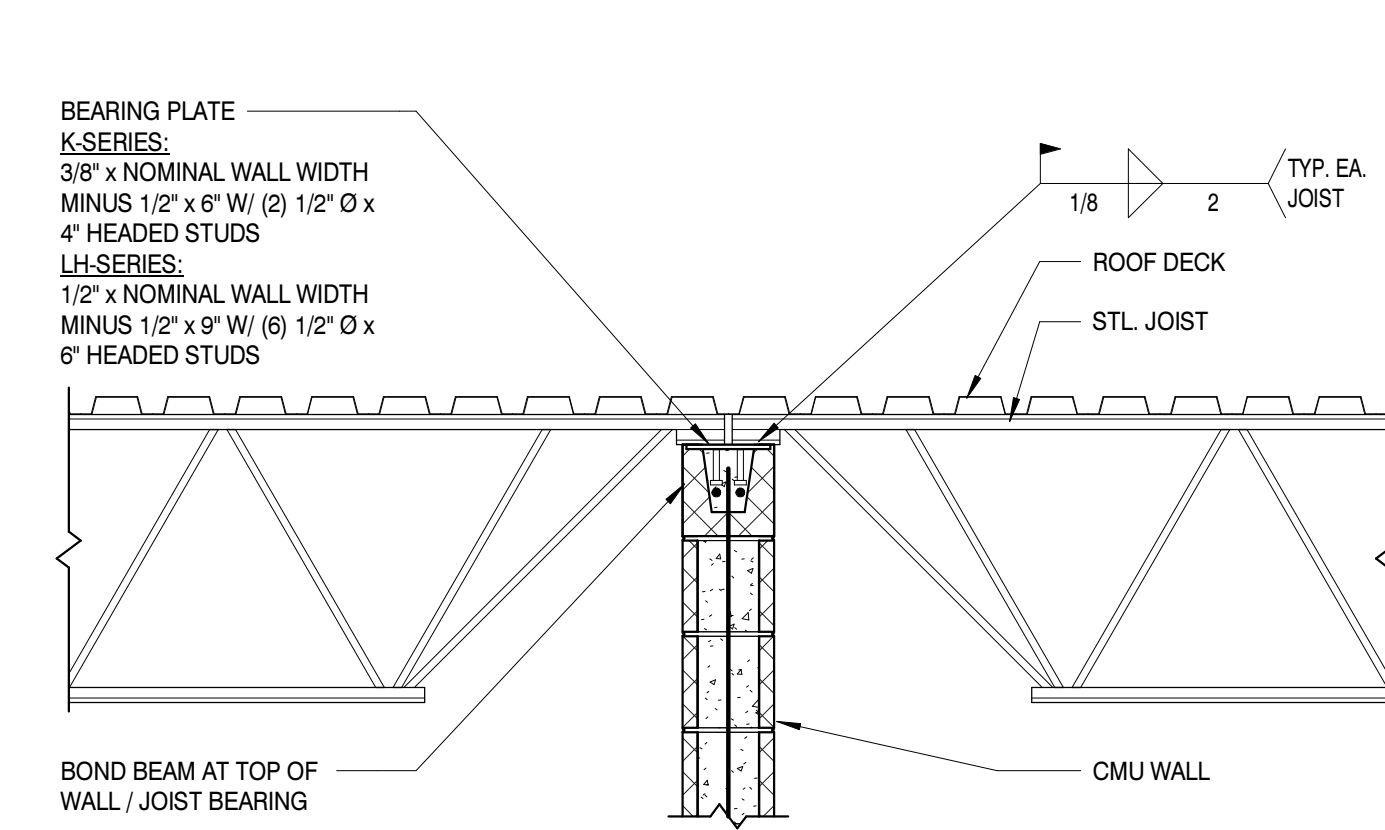
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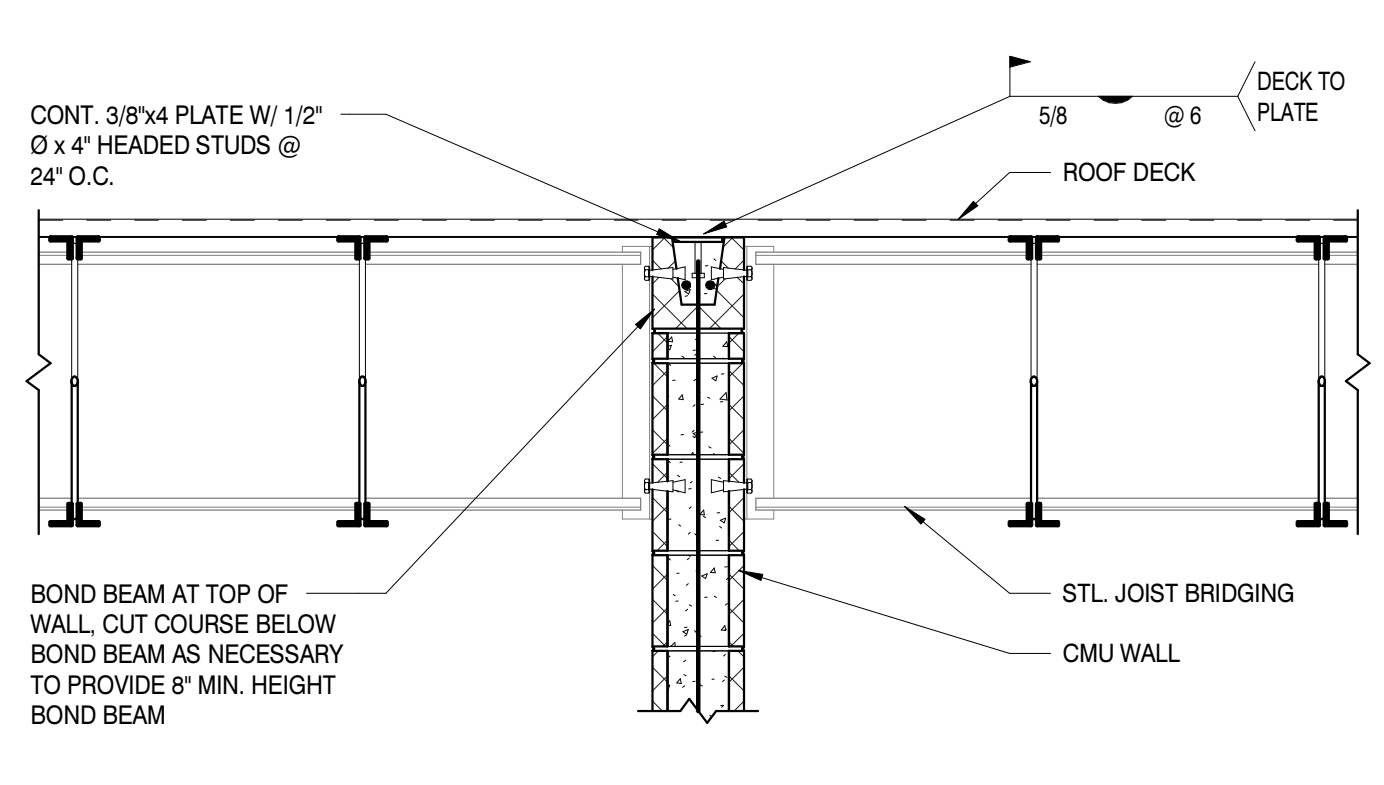
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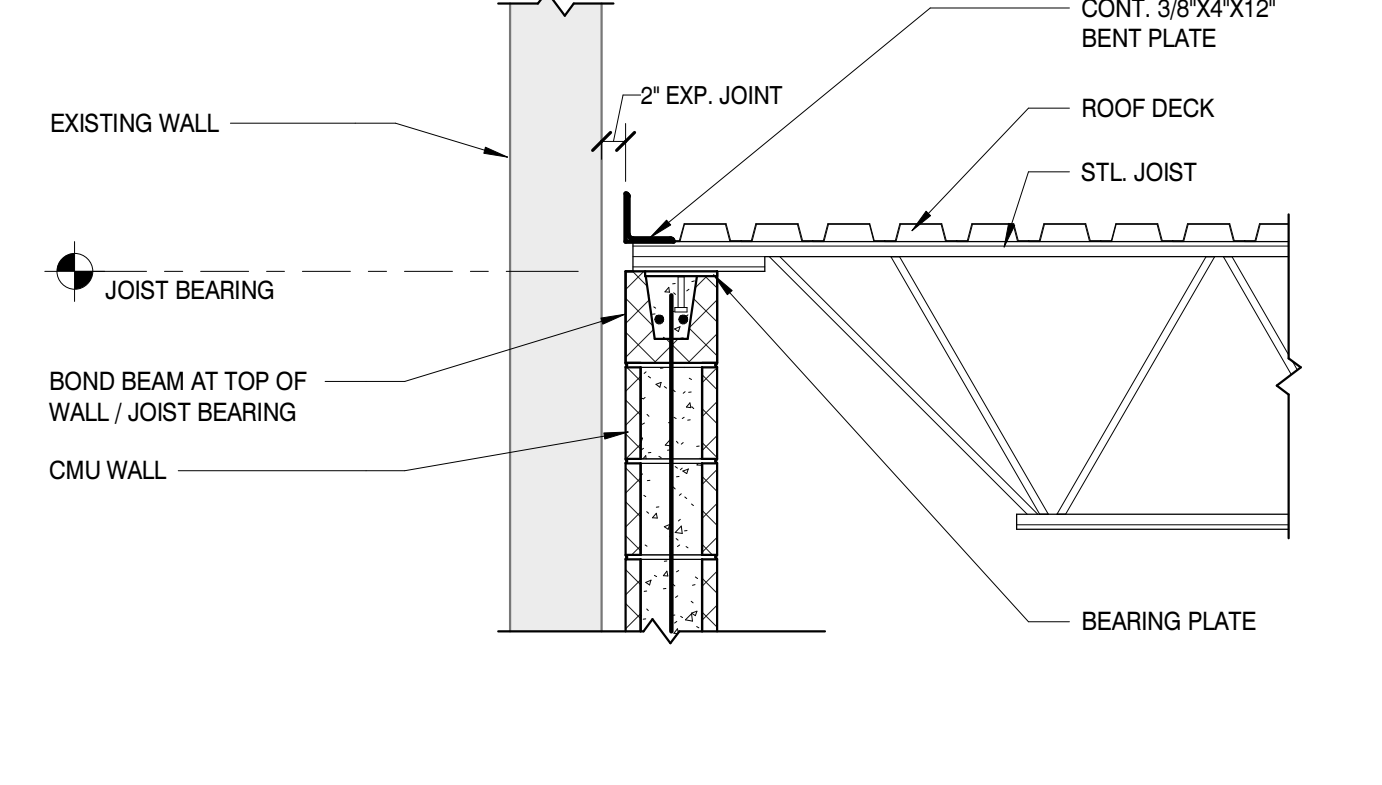
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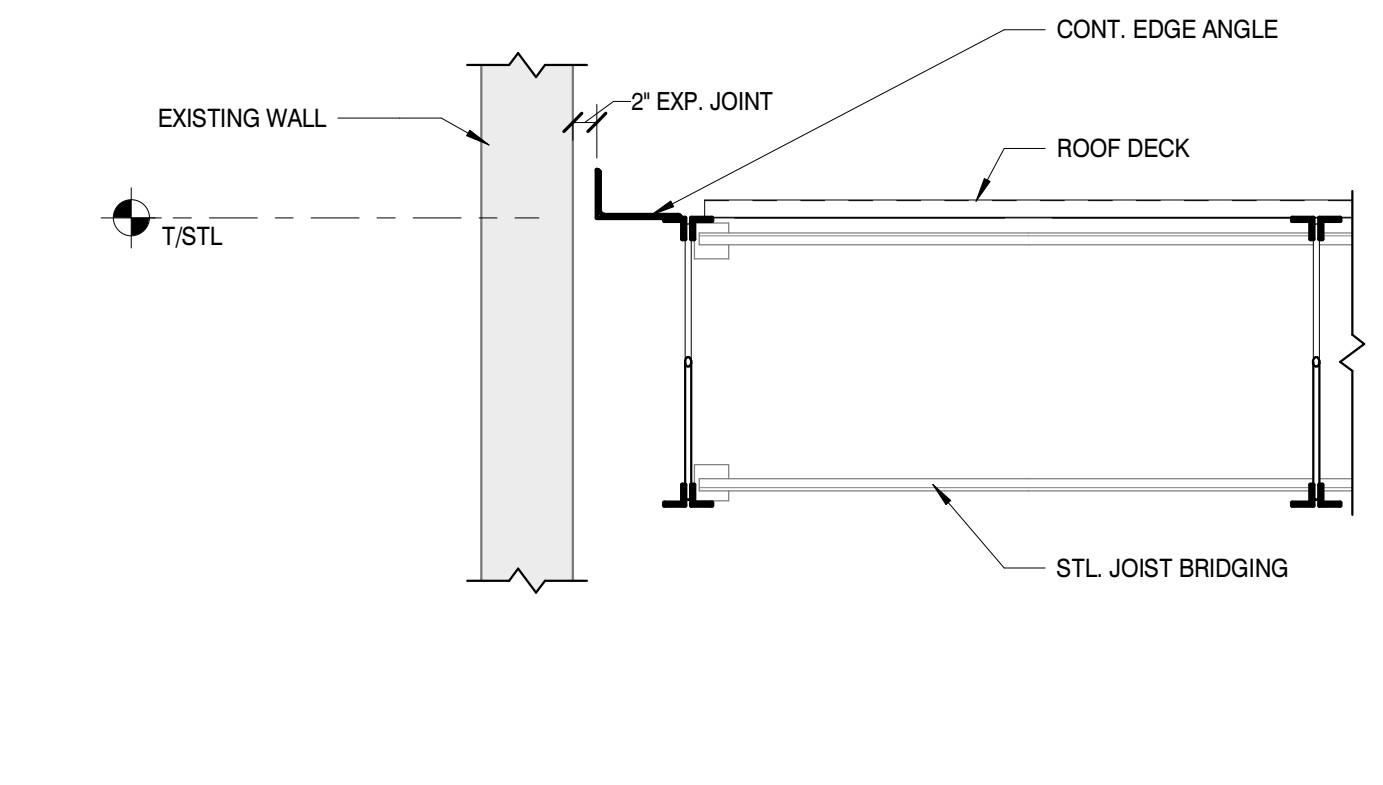
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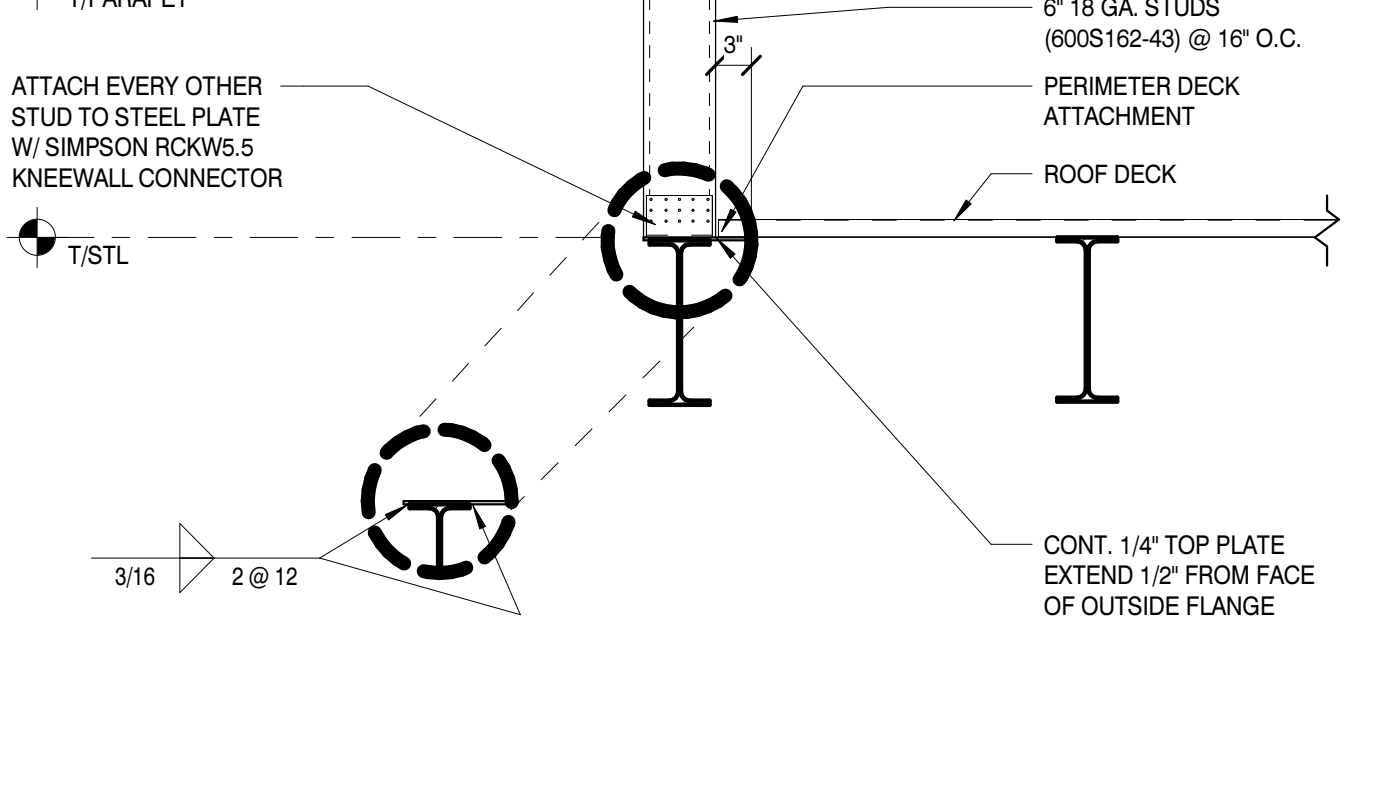
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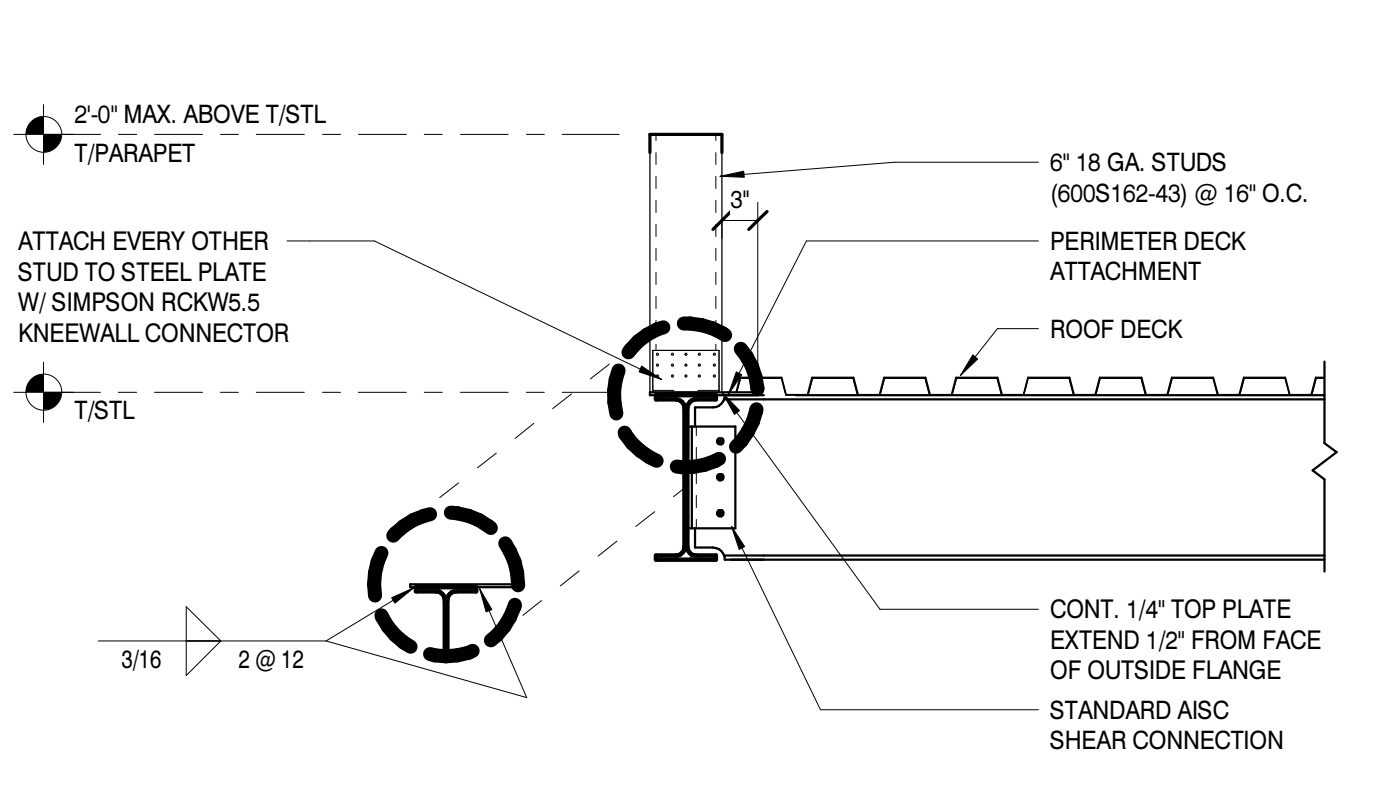
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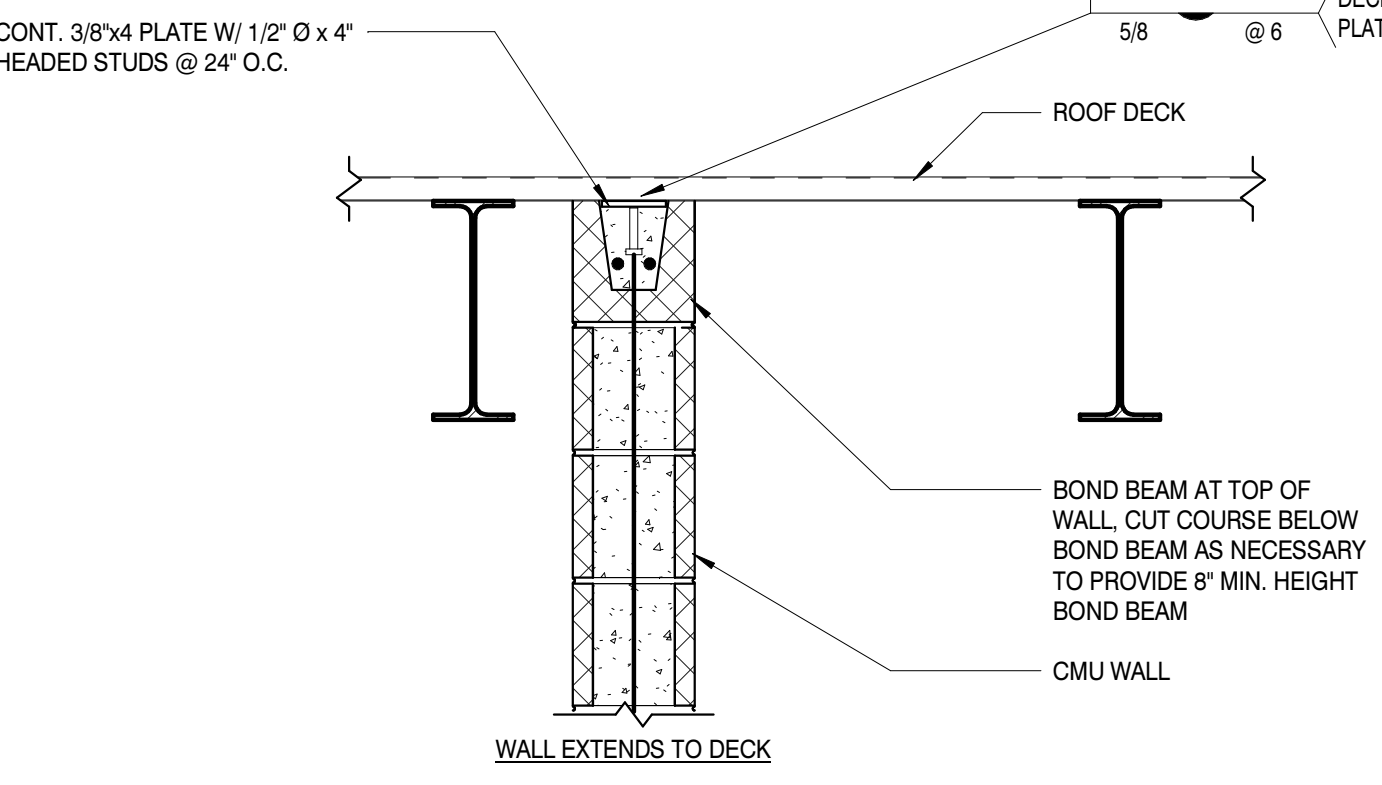
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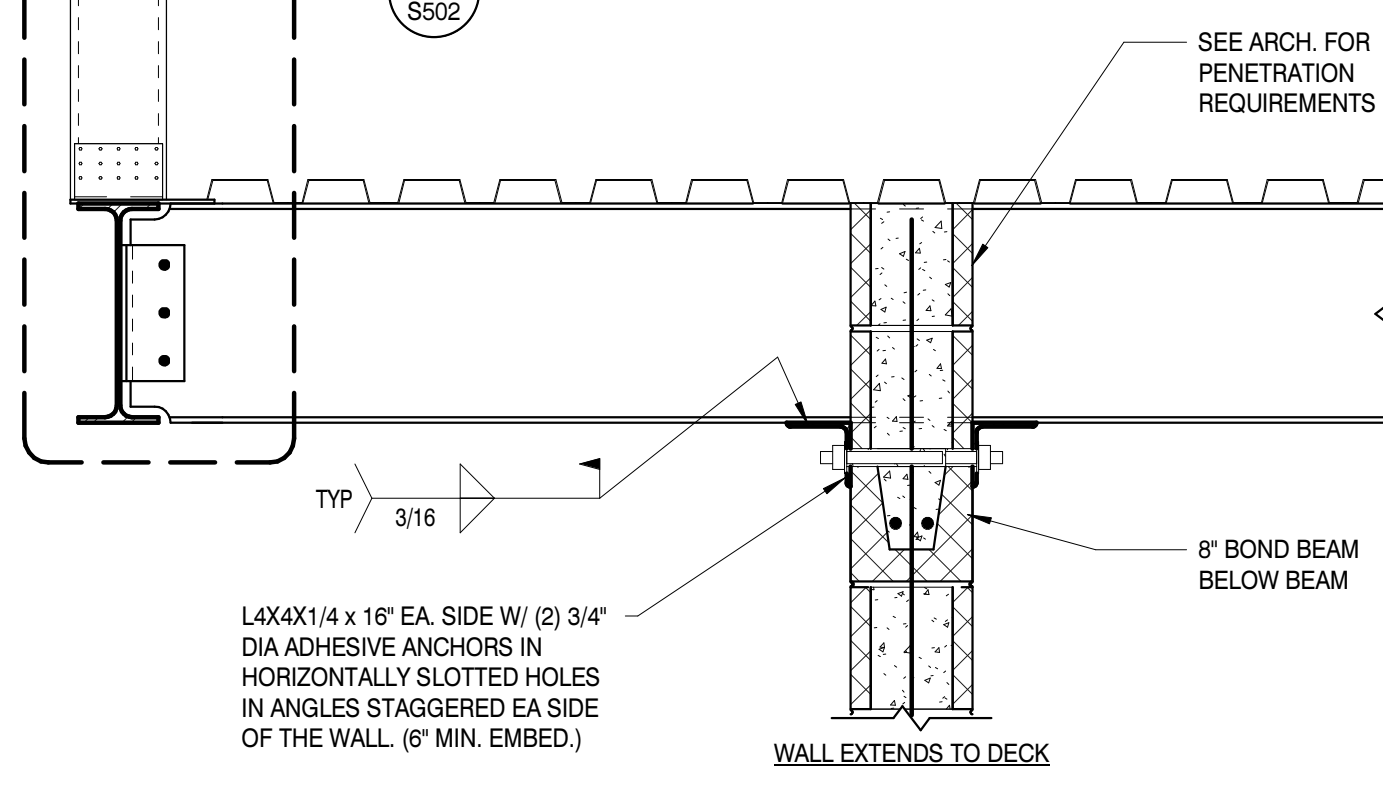
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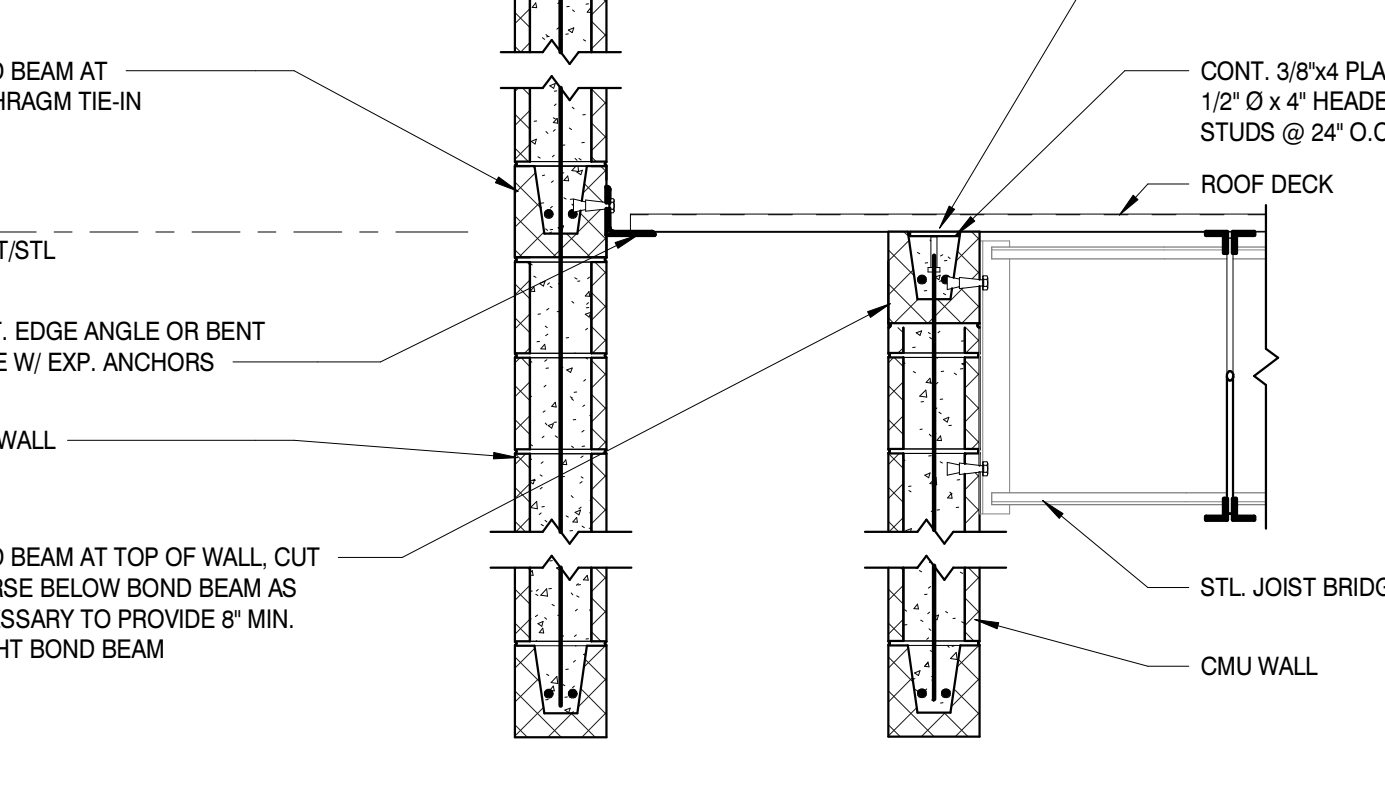
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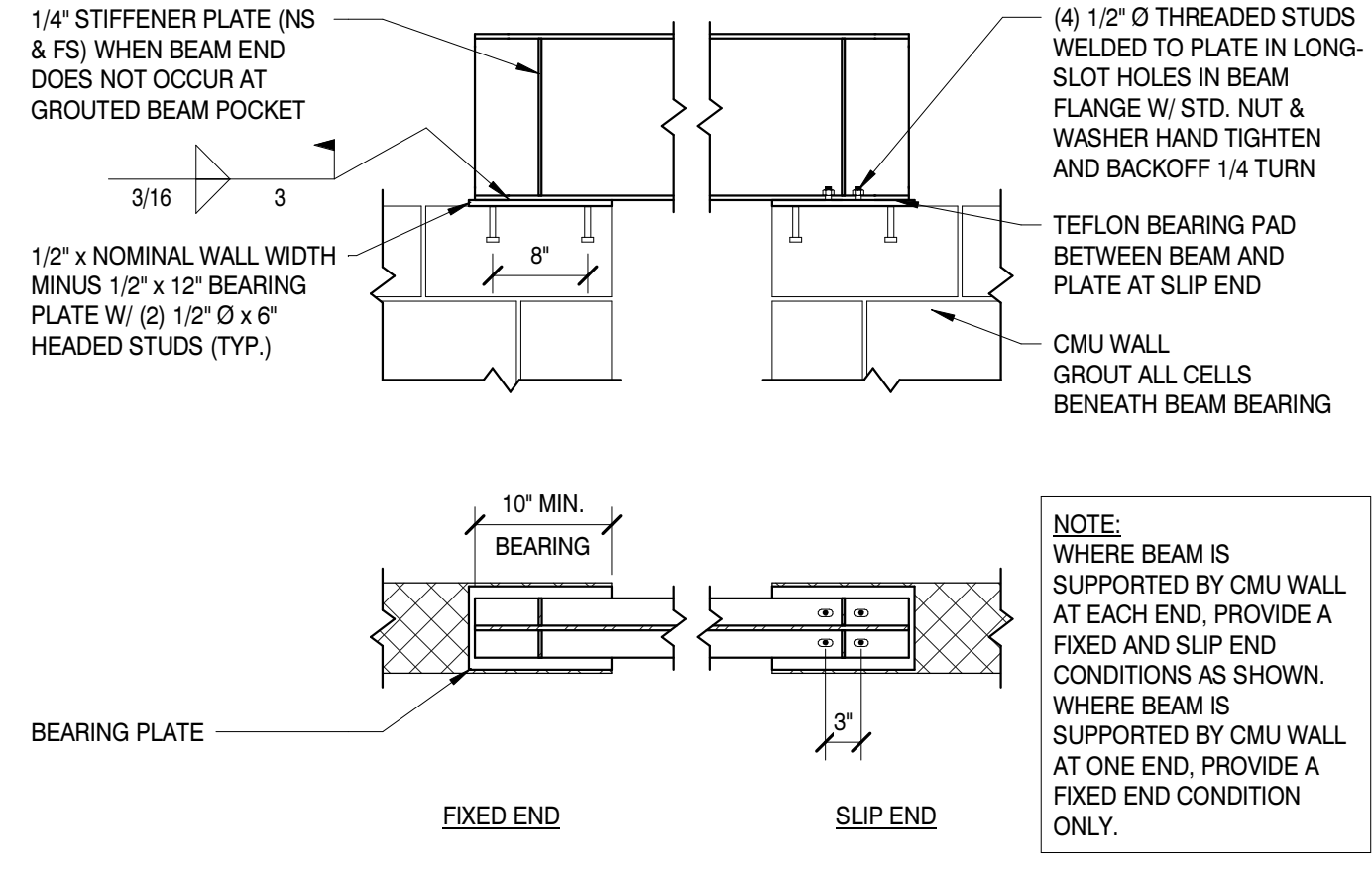
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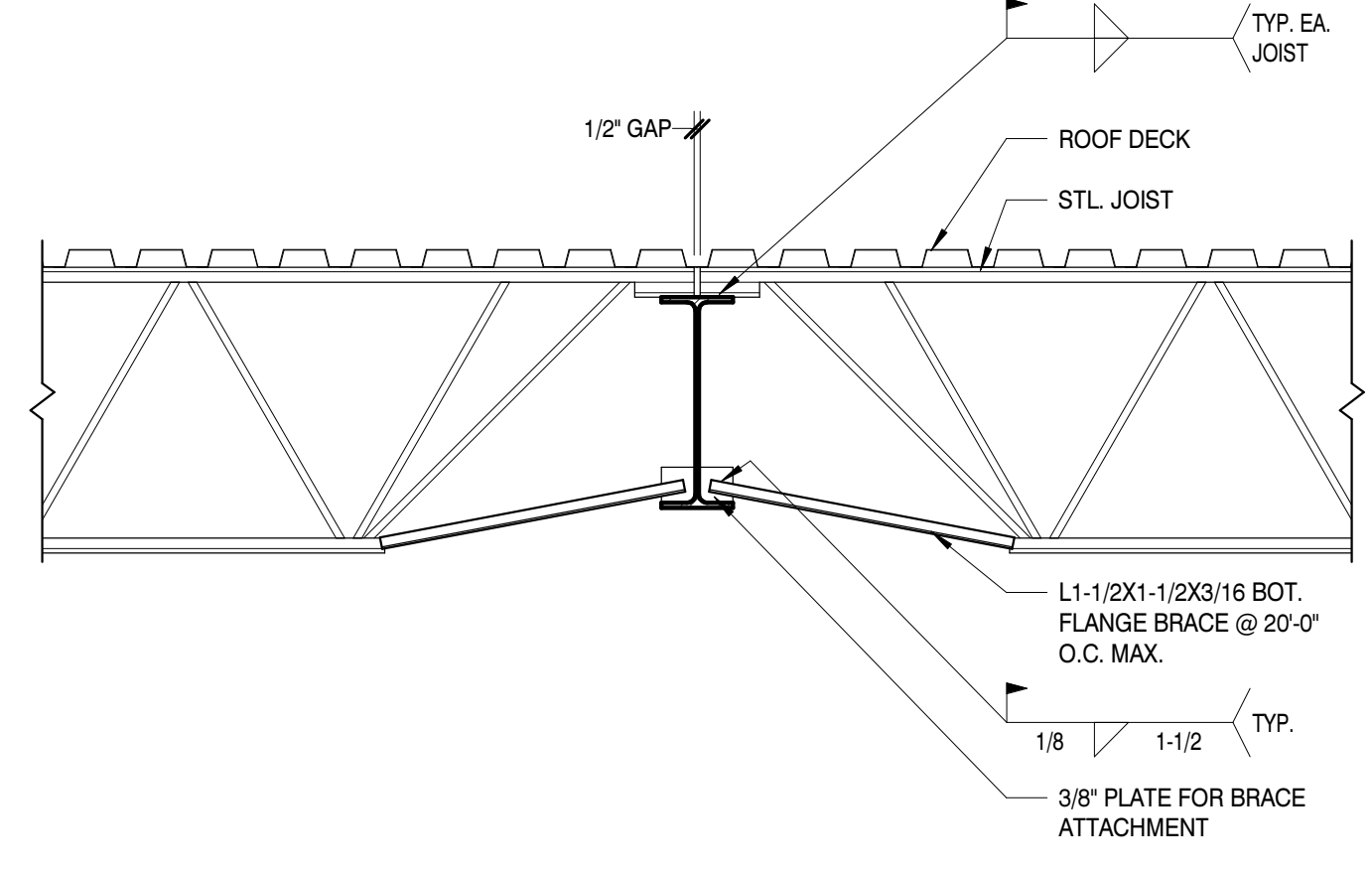
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CONNECTION DETAIL 12
SCALE: 3/4" = 1'-0"



CONNECTION DETAIL 13
SCALE: 3/4" = 1'-0"



CONNECTION DETAIL 14
SCALE: 3/4" = 1'-0"



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PROJECT ADDRESS:
5 NORRIS SQUARE, NORRIS, TN 37828

PROJECT NO.: **210042-04**

ACTIVE DESIGN PHASE

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REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN



SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: ZSP
DRAWN BY: KAS
REVIEWED BY: WND
SHEET TITLE:

FIRE PROTECTION SPECIFICATIONS

SECTION 15300 - FIRE PROTECTION
PART I GENERAL

1.01 DESCRIPTION OF WORK:
A. EXTENT OF FIRE PROTECTION WORK IS INDICATED ON DRAWINGS AND SCHEDULES, AND BY REQUIREMENTS OF THIS SECTION.
B. THE SYSTEM SHALL BE WET PIPE SYSTEM

1.02 QUALITY ASSURANCE:
A. CODES AND STANDARDS:
1. NFPA COMPLIANCE: INSTALL FIRE PROTECTION SYSTEM IN ACCORDANCE WITH NFPA 13 'STANDARDS FOR THE INSTALLATION OF SPRINKLER SYSTEMS', NFPA 14, 'STANDARDS FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS' AND NFPA 24 'STANDARD FOR OUTSIDE PROTECTION'.
2. UL COMPLIANCE: PROVIDE FIRE PROTECTION PRODUCTS IN ACCORDANCE WITH UL STANDARDS; PROVIDE UL LABEL ON EACH PRODUCT.
3. FM COMPLIANCE: PROVIDE FIRE PROTECTION PRODUCTS AND INSTALLATIONS IN ACCORDANCE WITH FM STANDARDS; PROVIDE FM LABEL ON EACH PRODUCT.
4. FIRE DEPARTMENT/MARSHAL COMPLIANCE: INSTALL FIRE PROTECTION SYSTEMS IN ACCORDANCE WITH LOCAL REGULATIONS OF FIRE DEPARTMENT OR FIRE MARSHAL.
5. QUALIFICATIONS: HYDRAULIC CALCULATIONS AND PREPARATION OF SHOP DRAWINGS SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A RESPONSIBLE MANAGING EMPLOYEE WHO HOLDS A NCET LEVEL III CERTIFICATION. INSTALLATION SHALL BE PERFORMED BY A LICENSED SPRINKLER CONTRACTOR.

1.03 SUBMITTALS:
A. PRODUCT DATA: SUBMIT MANUFACTURER'S TECHNICAL PRODUCT DATA AND INSTALLATION INSTRUCTIONS FOR FIRE PROTECTION MATERIALS AND PRODUCTS WITH A TABLE OF CONTENTS. IDENTIFY MATERIAL, SIZE, AND MODEL NUMBER OF EACH PRODUCT.
B. SHOP DRAWINGS: SUBMIT SCALED LAYOUT DRAWINGS FOR FIRE PROTECTION PIPE AND FITTINGS INCLUDING, BUT NOT LIMITED TO, PIPE AND TUBE SIZES, LOCATIONS, ELEVATIONS, AND SLOPES OF HORIZONTAL RUNS, WALL AND FLOOR PENETRATIONS, AND CONNECTIONS. INDICATE INTERFACE AND SPATIAL RELATIONSHIPS BETWEEN PIPING AND APPROXIMATE EQUIPMENT.
C. APPROVAL DRAWINGS: PREPARE APPROVAL DRAWINGS OF FIRE PROTECTION SYSTEMS INDICATING PIPE SIZES, PIPE LOCATIONS, FITTINGS, SHUTOFFS, EQUIPMENT, ETC. SUBMIT TO AGENCY HAVING JURISDICTION FOR APPROVAL. SUBMIT ONE APPROVED COPY, BEARING STAMP AND/OR SIGNATURE OF AGENCY HAVING JURISDICTION, BEFORE PROCEEDING WITH INSTALLATION.
D. APPROVAL CALCULATIONS: PREPARE HYDRAULIC CALCULATIONS OF FIRE PROTECTION SYSTEM USING A FIRE HYDRANT FLOW TEST THAT IS NO MORE THAN 6 MONTHS OLD. SUBMIT TO AGENCY HAVING JURISDICTION FOR APPROVAL. SUBMIT TO ARCHITECT, ONE APPROVED COPY, BEARING STAMP AND/OR SIGNATURE OF AGENCY HAVING JURISDICTION, BEFORE PROCEEDING WITH INSTALLATION.
E. RECORD DRAWINGS: AT PROJECT CLOSEOUT, SUBMIT RECORD DRAWINGS OF INSTALLED FIRE PROTECTION PIPING AND PRODUCTS.

PART II PRODUCTS

2.01 MATERIALS AND PRODUCTS:
A. GENERAL: PROVIDE PIPING MATERIALS AND FACTORY-FABRICATED PIPING PRODUCTS OF SIZES, TYPES, PRESSURE RATINGS, TEMPERATURE RATINGS, AND CAPACITIES AS INDICATED. WHERE NOT INDICATED, PROVIDE PROPER SELECTION AS DETERMINED BY INSTALLER TO COMPLY WITH INSTALLATION REQUIREMENTS. PROVIDE SIZES AND TYPES MATCHING PIPING AND EQUIPMENT CONNECTIONS; PROVIDE FITTINGS OF MATERIALS WHICH MATCH PIPE MATERIALS USED IN FIRE PROTECTION SYSTEM.

2.02 BASIC IDENTIFICATION:
A. GENERAL: PROVIDE IDENTIFICATION AS FOLLOWS:
1. FIRE PROTECTION PIPING: PLASTIC PIPE MARKERS
2. FIRE PROTECTION VALVES: PLASTIC VALVE TAGS.

2.03 BASIC PIPES AND PIPE FITTINGS AS FOLLOWS:
A. GENERAL: PROVIDE PIPES AND PIPE FITTINGS AS FOLLOWS:
B. BLACK STEEL PIPE: SCHEDULE 40 FOR ABOVE 6"; BLACK STEEL PIPE: SCHEDULE 10 FOR 6" AND SMALLER; MECHANICAL GROOVED PIPE COUPLINGS (VICTAULIC 009N/108 IGS SYSTEM OR EQUAL) AND FITTINGS (FIRELOCK, VICTAULIC IN FITTINGS, OR EQUAL); ROLL-GROOVE AND MECHANICAL LOCKING TYPE.
C. DUCTILE IRON PRESSURE PIPE: AWWA C-106 WITH FITTINGS COMPLYING WITH AWWA C-110 AND RUBBER GASKETS COMPLYING WITH AWWA C-111.
D. BRAIDED FLEXIBLE SPRINKLER HOSE FITTINGS: BRAIDED, FLEXIBLE HOSE FOR CONNECTION TO SPRINKLER WITH BRACKET FOR CONNECTION TO CEILING GRID.
1. APPROVED MANUFACTURERS: FLEXHEAD AND VICTAULIC [A#2, A#2C, A#6, OR V#1].
E. BRANCH OUTLET FITTINGS:
1. BODY MATERIAL: DUCTILE-IRON HOUSING WITH EPDM SEALS AND BOLTS AND NUTS.
2. TYPE: MECHANICAL-T AND -CROSS FITTINGS.
3. BRANCH OUTLETS: GROOVED, PLAIN-END PIPE, OR THREADED.
4. APPROVED MANUFACTURERS: ANVIL, TYCO, AND VICTAULIC.

2.04 BASIC PIPING SPECIALTIES:
A. GENERAL: PROVIDE PIPING SPECIALTIES:
1. PIPE ESCUTCHEONS
2. DIELECTRIC UNIONS
3. DRIP PANS
4. PIPE SLEEVES
5. SLEEVE SEALS
6. FIRE BARRIER PENETRATION SEALS

2.05 BASIC SUPPORTS AND ANCHORS:
A. GENERAL: PROVIDE SUPPORTS AND ANCHORS AS FOLLOWS:
1. ADJUSTABLE STEEL, CLEVIS HANGERS, ADJUSTABLE STEEL BAND HANGERS, OR ADJUSTABLE BAND HANGERS, FOR HORIZONTAL PIPING HANGERS AND SUPPORTS.
2. TWO-BOLT RISER CLAMPS FOR VERTICAL PIPING SUPPORTS.
3. STEEL TURNBUCKLES AND MALLEABLE IRON SOCKETS FOR HANGER-ROD ATTACHMENTS.
4. CONCRETE INSERTS, TOP-BEAM C-CLAMPS, SIDE BEAM OR CHANNEL CLAMP OR CENTER BEAM CLAMPS FOR BUILDING ATTACHMENTS.
B. ANCHORS:
1. GENERAL: PROVIDE ANCHORAGES FOR TEES, PLUGS, CAPS, BENDS, AND HYDRANTS IN ACCORDANCE WITH NFPA 24.
2. CLAMPS, STRAPS AND WASHERS: STEEL, ANSIASTM A-506
3. RODS: STEEL, ANSIASTM A-575
4. OD COUPLINGS: MALLEABLE IRON, ANSIASTM A-197
5. BOLTS: STEEL, ANSIASTM A-307
6. CAST-IRON WASHERS: ANSIASTM A-126, CLASS A
7. THRUST BLOCKS: 2500 PSI CONCRETE

2.06 BASIC VALVES:
A. GENERAL: PROVIDE VALVES AS FOLLOWS:
B. INTERIOR VALVES:
1. SECTIONAL: GATE VALVES OR BUTTERFLY VALVES; UL LISTED.
2. CHECK: SWING CHECK VALVES; UL LISTED.
C. EXTERIOR VALVES:
1. GATE VALVES: STANDARD SHUT-OFF VALVES CAST INTO BODY, OUTSIDE-SCREW-AND-YOKE TYPE COMPLYING WITH AWWA C-500. SIZES 2" AND SMALLER SHALL BE BRONZE, 175 PSI WG, RISING STEM, SCREWED BONNET, SIZES 2" AND LARGER SHALL BE IRON BODY BRONZE MOUNTED, 175 PSI WG, SOLID WEDGE, REPLACEABLE SEAT (VICTAULIC SERIES 771, OR EQUAL).
2. CHECK VALVES: GRAVITY-OPERATED, REGULAR TYPE, IRON-BODIED, BRONZE FITTED WITH METAL-TO-METAL OR RUBBER FACED CHECKS, COMPLYING WITH ASTM A-12 (VICTAULIC SERIES 717, OR EQUAL).
3. BUTTERFLY VALVES: RUBBER SEATED, EQUIPPED WITH GEAR OR TRAVELLING NUT ACTUATOR TO MINIMIZE WATER HAMMER, COMPLYING WITH AWWA C-50 (VICTAULIC SERIES 705 FIRELOCK, OR EQUAL).
4. INDICATOR POSTS: TELESCOPIC BARREL TYPE FOR USE WITH UNDERGROUND GATE VALVES.

SPECIAL VALVES:
A. GENERAL: PROVIDE VALVES, UL LISTED, IN ACCORDANCE WITH THE FOLLOWING LISTING. PROVIDE SIZES AND TYPES WHICH MATE AND MATCH PIPING AND EQUIPMENT CONNECTIONS.
B. ALARM CHECK VALVE: PROVIDE CAST-IRON WATER FLOW ALARM CHECK VALVE, 175 PSI WORKING PRESSURE. PROVIDE TRIM FOR BYPASS, DRAIN, ALARM, PRESSURE GAUGES AND FILL LINE.
1. APPROVED ALARM CHECK VALVE MANUFACTURERS: BERMAID, RELIABLE, TYCO, VICTAULIC, VIKING
C. DRY PIPE VALVES: PROVIDE DIFFERENTIAL TYPE, 175 PSIG WORKING PRESSURE VALVE, CAST IRON WITH FLANGES ENDS, BRONZE SEAT WITH O-RING SEALS. TRIM SHALL INCLUDE AIR SUPPLY, DRAIN, PRIMING LEVEL, ALARM, PRESSURE GAUGES, AND FILL LINE.
1. APPROVED DRY VALVE MANUFACTURERS: RELIABLE, VICTAULIC, VIKING, TYCO
D. HOSE OUTLET VALVES: PROVIDE ANGLE HOSE VALVES, 2-1/2" SIZE WHERE NOT OTHERWISE INDICATED.
E. FIRE DEPARTMENT CONNECTION VALVE: PROVIDE FIRE DEPARTMENT CONNECTION IRON SWING CHECK VALVE, 175 PSI RATED WORKING PRESSURE, OF SIZE AND END TYPE INDICATED.
F. DETECTOR CHECK VALVES: PROVIDE CAST-IRON BODY DETECTOR CHECK VALVE, BRONZE FITTED, WITH TAPPED BOSSES ON EACH SIDE FOR BY-PASS METER, AIR VENT, AND COVER-MOUNTED EYEBOLT.
1. APPROVED DETECTOR CHECK VALVE MANUFACTURERS: AMES, WATTS, WILKINS

H. BACKFLOW PREVENTION VALVES
1. PROVIDE APPROVED DOUBLE VALVE ASSEMBLIES TO SEPARATE AUTOMATIC FIRE SPRINKLER SYSTEM FROM POTABLE WATER SYSTEM.
2. APPROVED DOUBLE CHECK VALVE MANUFACTURERS: AMES, WATTS, WILKINS

2.08 HYDRANTS:
A. GENERAL: PROVIDE CAST-IRON SIDEWALK FIRE HYDRANTS WITH THREADED MALE NOZZLE CONFORMING TO 'AMERICAN NATIONAL STANDARD FIRE HOSE CONNECTION SCREW THREADS' UNLESS OTHER HOSE CONNECTION REQUIRED BY LOCAL FIRE AUTHORITIES.
B. PROVIDE DRY-BARREL FIRE HYDRANTS (BASE VALVE TYPE) COMPLYING WITH AWWA C-502 AND AS FOLLOWS:
1. WORKING PRESSURE, 150 PSI UNLESS OTHERWISE INDICATED.
2. VALVE OPENING DIRECTION, CLOCKWISE, INDICATED BY ARROW AND THE WORD 'OPEN' CAST ON DOME.
3. NOZZLES: TWO 2-1/2" HOSE CONNECTIONS AND ONE 4-1/2" PUMPER CONNECTION WITH CAPS AND CHAINS. NOZZLE CAP NUTS TO MATCH OPERATING STEM NUTS. PROVIDE NATIONAL STANDARD HOSE THREADS ON 2-1/2" HOSE THREADS ON 4-1/2" PUMPER CONNECTION SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS: O.D.-4.875", P.D.-4.777", ROOT DIAMETER 4.653", 6 THREADS PER INCH, GAUGE 20.

2.09 AUTOMATIC SPRINKLERS:
A. GENERAL: PROVIDE AUTOMATIC SPRINKLERS OF TYPE INDICATED ON DRAWINGS, AND IN ACCORDANCE WITH THE FOLLOWING LISTING. PROVIDE FUSIBLE LINKS FOR 135°F (57°C) AND SPRINKLERS WITH NOMINAL 1/2" DISCHARGE ORIFICE UNLESS OTHERWISE INDICATED.
1. PENDENT
FINISH: WHITE
B. APPROVED SPRINKLER HEAD MANUFACTURERS: RELIABLE, VICTAULIC, VIKING, TYCO
C. SPRINKLER CABINET AND WRENCH: FURNISH STEEL, BAKED RED ENAMELED, SPRINKLER BOX WITH CAPACITY TO STORE 12 SPRINKLERS AND WRENCH SIZED TO SPRINKLERS.
D. IN AREAS SUBJECT TO PHYSICAL ABUSE SUCH AS GYMNASIUMS AND MECHANICAL ROOMS, PROVIDE STEEL WIRE GUARDS OVER SPRINKLERS.
E. IN VARIOUS APPLICATIONS, UL LISTED AND FM APPROVED VICTAULIC V9 INSTALLATION READY COUPLING MAY BE USED TO JOIN 1/2", 3/4", OR 1" SPRINKLER HEADS ONTO THE 1" IGS OUTLET, OR APPROVED EQUAL.

2.10 SIDEWALK SIAMESE CONNECTIONS:
A. GENERAL: PROVIDE Y-TYPE CAST BRASS SIDEWALK SIAMESE CONNECTIONS, ESCUTCHEON PLATE AND SLEEVE ASSEMBLY; WITH 2,900, 2-1/2" FIRE DEPARTMENT INLETS WITH FEMALE HOSE CONNECTIONS, AMERICAN NATIONAL FIRE HOSE CONNECTION SCREW THREAD, EQUIPPED WITH SELF-CLOSING BRASS DOUBLE CLAPPER VALVES, EQUIPPED WITH PLUGS AND CHAINS, CONSTRUCTION FEATURES AS INDICATED, AND CONSTRUCTED WITH THE FOLLOWING ADDITIONAL CONSTRUCTION FEATURES:
1. FINISH: POLISHED BRASS
2. INLET STANDPIPE: 4" PIPE OR 6" PIPE (PIPE SIZE).
3. CAST LETTERING: 'AUTO. SPRK.'
4. PROVIDE KNOX BOX.
5. APPROVED MANUFACTURERS: CROKER AND GUARDIAN FIRE WALL TYPE FIRE HOSE CONNECTIONS

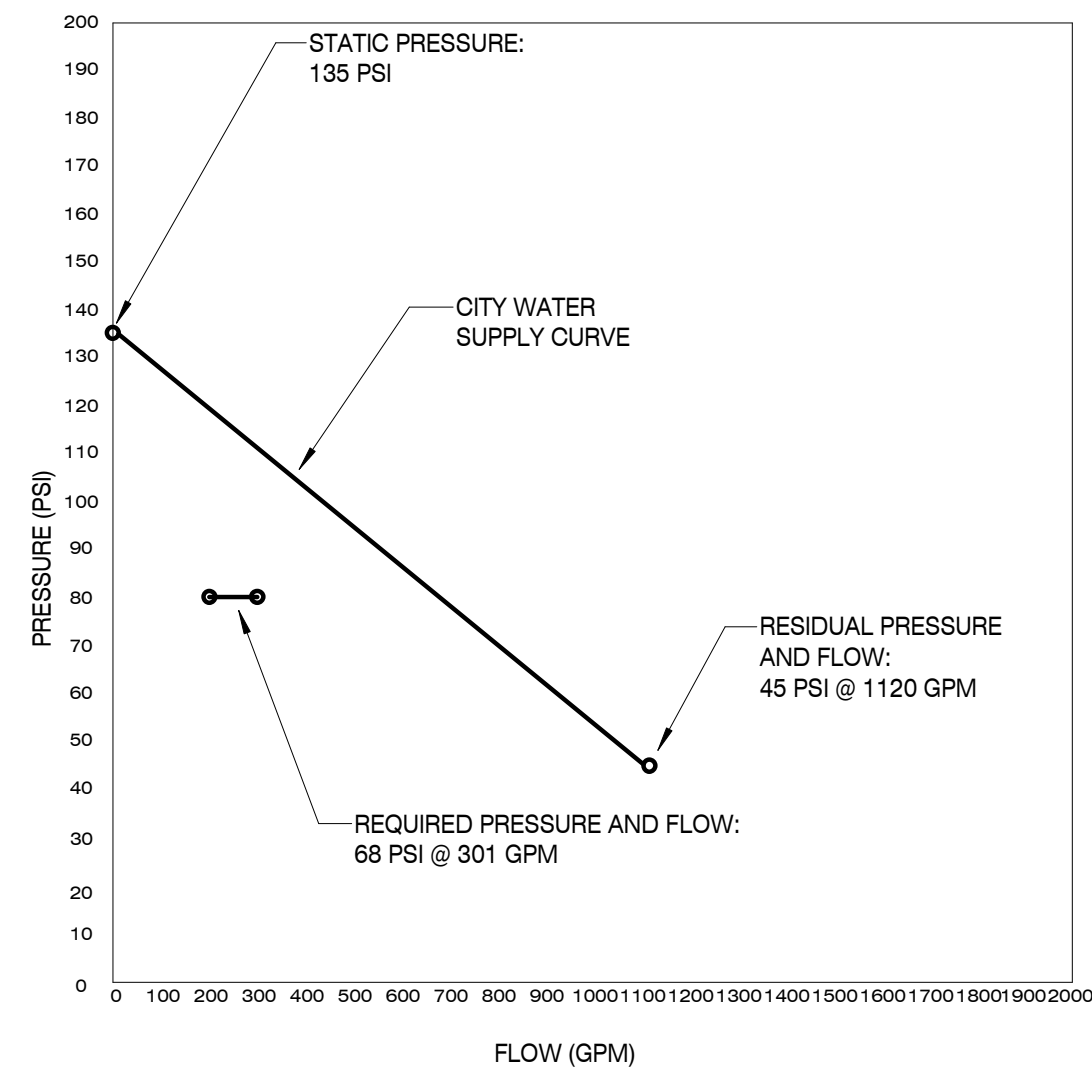
2.11 FIRE DEPARTMENT CONNECTIONS:
A. GENERAL: PROVIDE WALL TYPE CAST BRASS SIAMESE CONNECTIONS AND ESCUTCHEON PLATE ASSEMBLY, WITH 2, 2-1/2" FIRE DEPARTMENT INLETS WITH FEMALE HOSE CONNECTIONS, AMERICAN NATIONAL FIRE HOSE CONNECTION SCREW THREAD, EQUIPPED WITH INDIVIDUAL DROP CLAPPER VALVES, EQUIPPED WITH PLUGS AND CHAINS, CONSTRUCTION FEATURES AS INDICATED, AND CONSTRUCTED WITH THE FOLLOWING ADDITIONAL CONSTRUCTION FEATURES:
1. FINISH: POLISHED BRASS
2. INLET PIPE: 4" PIPE OR 6" PIPE (PIPE SIZE).
3. CAST LETTERING: 'AUTO. SPRK.'
4. ESCUTCHEON: 12" DIAMETER OF 7" X 14" RECTANGLE
5. SIAMESE CONNECTION: FLUSH, STACKED INLETS; FLUSH, ADJACENT INLETS; Y-TYPE, INLETS STRAIGHT, PROJECTING CONFIGURATION; OR Y-TYPE, INLETS 45°, PROJECTING CONFIGURATION.
6. PROVIDE KNOX BOX.
7. APPROVED MANUFACTURERS: CROKER, GUARDIAN FIRE, POTTER ROEMER, AND VIKING

PART III EXECUTION

3.01 INSPECTION:
A. GENERAL: EXAMINE AREAS AND CONDITIONS UNDER WHICH FIRE PROTECTION MATERIALS AND PRODUCTS ARE TO BE INSTALLED. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN MANNER ACCEPTABLE TO INSTALLER.
3.02 INSTALLATION OF BASIC IDENTIFICATION:
A. GENERAL: INSTALL MECHANICAL IDENTIFICATION SUCH THAT ALL FIRE PROTECTION PIPING AND EQUIPMENT CAN BE IDENTIFIED.
B. INSTALL FIRE PROTECTION IDENTIFICATION SIGNS ON PIPING IN ACCORDANCE WITH NFPA 13 AND NFPA 14 REQUIREMENTS.
3.03 INSTALLATION OF OUTSIDE PIPING:
A. GENERAL: INSTALL EXTERIOR FIRE WATER SYSTEM IN COMPLIANCE WITH APPLICABLE PROVISIONS OF NFPA 24 AND AS HEREIN SPECIFIED. ARRANGE AND PAY FOR TAPS AND SERVICE BY LOCAL WATER UTILITY. FOR SLIP-JOINT PIPE, PROVIDE 3000 PSI CONCRETE THRUST BLOCKS AGAINST UNDISTURBED SOIL.
B. DUCTILE-IRON PIPE: INSTALL IN ACCORDANCE WITH RECOMMENDED PROCEDURES OF THE CAST-IRON PIPE RESEARCH ASSOCIATION.
C. HYDRANTS: INSTALL IN ACCORDANCE WITH AWWA M-17.
D. CONTROL VALVES: INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
E. JOINT ADAPTERS: MAKE JOINTS BETWEEN CAST-IRON PIPE AND OTHER TYPES OF PIPE WITH STANDARD MANUFACTURED CAST-IRON ADAPTERS AND FITTINGS.
F. INTERIOR INSPECTION: INSPECT CONDUIT TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED.
1. IF THE INSPECTION INDICATES POOR ALIGNMENT, DEBRIS, DISPLACED PIPE, INFILTRATION, OR OTHER DEFECTS, CORRECT SUCH DEFECTS TO SATISFACTION OF ARCHITECT/ENGINEER.
G. CLEANING CONDUIT: CLEAR INTERIOR OF CONDUIT OF DIRT AND OTHER SUPERFLUOUS MATERIALS AS WORK PROGRESSES. MAINTAIN SWAB OR DRAG IN LINE AND PULL PAST EACH JOINT AS IT IS COMPLETED. PLACE PLUGS IN END OF UNCOMPLETED CONDUIT AT END OF DAY OR WHENEVER WORK STOPS. FLUSH LINES TO REMOVE COLLECTED DEBRIS BEFORE CONNECTING TO OTHER FIRE PROTECTION SYSTEMS. FLUSH CONDUIT AT RATES OF FLOW RECOMMENDED BY NFPA 24 UNLESS HIGHER RATES REQUIRED BY LOCAL AUTHORITIES.
3.04 INSTALLATION OF PIPES AND PIPE FITTINGS:
A. GENERAL: INSTALL PIPES AND PIPE FITTINGS IN ACCORDANCE WITH DRAWING AND REQUIREMENT OF AUTHORITY HAVING JURISDICTION. NOTE THAT ALL WORK INCLUDING UNDERGROUND LINES MUST BE INSTALLED BY A LICENSED SPRINKLER CONTRACTOR.
B. COMPLY WITH REQUIREMENTS OF NFPA 13 AND NFPA 14 FOR INSTALLATION OF FIRE PROTECTION PIPING MATERIALS. INSTALL PIPING PRODUCTS WHERE INDICATED, IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS, AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PIPING SYSTEMS COMPLY WITH REQUIREMENTS AND SERVE INTENDED PURPOSES.
C. COORDINATE WITH OTHER WORK, INCLUDING PLUMBING PIPING, AS NECESSARY, TO INTERFACE COMPONENTS OF FIRE PROTECTION PIPING PROPERLY WITH OTHER WORK.
D. INSTALL DRAIN PIPING AT LOW POINTS OF PIPING SYSTEMS. PROVIDE DRY DRUM DRIPS WHERE INDICATED.
E. INSTALL SECTIONAL VALVES IN INLET PIPING, AT BOTTOM OF EACH RISER, AND IN LOOPS.
F. INSTALL FIRE DEPARTMENT CONNECTION VALVES IN PIPING WHERE FIRE DEPARTMENT CONNECTIONS ARE INDICATED.
G. INSTALL WATER FLOW INDICATORS WHERE INDICATED.
1. APPROVED MANUFACTURERS: POTTER, VIKING, AND WATTS.
H. MOUNT SUPERVISORY SWITCHES ON EACH SECTIONAL VALVE.
I. INSTALL PRESSURE GAGES ON RISER OR MAIN FEED, AT EACH SPRINKLER TEST CONNECTION, AND AT TOP OF EACH STANDPIPE.
J. INSTALL MANUAL SHUTOFF AT EACH AUDIBLE ALARM STATION.
K. INSTALL INSPECTOR'S TEST CONNECTIONS WHERE INDICATED, OR AT MOST REMOTE POINT FROM RISER.
L. INSTALL ELECTRICALLY OPERATED ALARM BELL NEAR FIRE DEPARTMENT CONNECTION.
1. FINISH: RED-ENAMEL, FACTORY FINISH, SUITABLE FOR OUTDOOR USE.
2. APPROVED MANUFACTURERS: FIRE-LITE ALARMS, NOTIFIER, AND POTTER.

3.05 INSTALLATION OF VALVES:
A. INSTALL VALVES IN PER MANUFACTURERS WRITTEN RECOMMENDATIONS.
B. DETECTOR CHECK VALVES: INSTALL IN HORIZONTAL POSITION AS INDICATED, ORIENTED FOR PROPER FLOW DIRECTION. INSTALL BY-PASS METER WITH GLOBE VALVE AND CHECK VALVE, IN ACCORDANCE WITH MANUFACTURERS INSTALLATION DIRECTIONS.
C. INSTALL BACKFLOW PREVENTION VALVE TO SEPARATE SPRINKLER SYSTEM FROM POTABLE WATER SYSTEM.

3.06 INSTALLATION OF FIRE PROTECTION SPECIALTIES:
A. GENERAL: INSTALL FIRE PROTECTION SPECIALTIES AS INDICATED, AND IN ACCORDANCE WITH NFPA 13 AND 14. FURNISH WIRING REQUIREMENTS TO ELECTRICAL INSTALLER FOR ELECTRICAL WIRING OF SUPERVISORY SWITCHES.
3.07 FIELD QUALITY CONTROL:
A. SPRINKLER PIPING FLUSHING: PRIOR TO CONNECTING SPRINKLER RISERS FOR FLUSHING, FLUSH WATER FEED MAINS, LEAD-IN CONNECTIONS AND CONTROL PORTIONS OF SPRINKLER PIPING. AFTER FIRE SPRINKLER PIPING INSTALLATION HAS BEEN COMPLETED AND BEFORE PIPING IS PLACED IN SERVICE, FLUSH ENTIRE SPRINKLER SYSTEM, AS REQUIRED TO REMOVE FOREIGN SUBSTANCES, UNDER PRESSURE AS SPECIFIED IN NFPA 13. CONTINUE FLUSHING UNTIL WATER IS CLEAR, AND CHECK TO ENSURE THAT DEBRIS HAS NOT CLOGGED SPRINKLERS.
B. PERFORM HYDROSTATIC TESTING OF COMPLETED OUTSIDE LINES IN ACCORDANCE WITH NFPA 24 UNLESS MORE STRINGENT TEST REQUIRED BY LOCAL AUTHORITIES HAVING JURISDICTION.
C. HYDROSTATIC TESTING: AFTER FLUSHING SYSTEM, TEST FIRE SPRINKLER PIPING HYDROSTATICALLY, FOR PERIOD OF 2 HOURS, AT NOT LESS THAN 200 PSI OR AT 50 PSI IN EXCESS OF MAXIMUM STATIC PRESSURE WHEN MAXIMUM STATIC PRESSURE IS IN EXCESS OF 150 PSI. CHECK SYSTEM FOR LEAKAGE OF JOINTS. MEASURE HYDROSTATIC PRESSURE AT LOW POINT OF EACH SYSTEM OR ZONE BEING TESTED.
D. REPAIR OR REPLACE PIPING SYSTEM AS REQUIRED TO ELIMINATE LEAKAGE IN ACCORDANCE WITH NFPA STANDARDS FOR 'LITTLE OR NO LEAKAGE' AND RETEST AS SPECIFIED TO DEMONSTRATE COMPLIANCE.
E. ADJUSTING AND CLEANING:
3.08 CLEANING AND INSPECTING: CLEAN AND INSPECT FIRE PROTECTION SYSTEMS TO BE WIP-DOWN CLEAN AND FREE FROM LEAKS AND DEFECTS; SATISFY PIPE HANGERS TO INSURE SECURE STRUCTURAL CONNECTION AND THE HANGER IS TIGHT AND CARRYING THE WEIGHT OF THE PIPE.
3.09 EXTRA STOCK:
A. HEADS: FOR EACH STYLE AND TEMPERATURE RANGE REQUIRED, FURNISH ADDITIONAL SPRINKLER HEADS, AMOUNTING TO ONE UNIT FOR EVERY 100 INSTALLED UNITS, BUT NOT LESS THAN 5 UNITS OF EACH.
B. WRENCHES: FURNISH 2 SPANNER WRENCHES FOR EACH TYPE AND SIZE OF VALVE CONNECTION AND FIRE HOSE COUPLING.



PRELIMINARY SPRINKLER CALCULATION

Flow test Data
Static Pressure: 135
Residual Pressure: 45
Flow (GPM) : 1120
Date taken: 12/29/21
Time: AFTERNOON
Test taken by: NORRIS WATER COMMISSION
Elevation of Hydrant: 0

GPM Demand of BLDG.
Most remote area or highest demand (Room Name) NA
Design Density (NFPA 13 or supplied by insurance Co.) 0.1
Design Area (Square footage) 1500
Overage Factor (1.20 typ.) 1.34
Remote area GPM demand (Density x Area x Overage) 201
Standpipe GPM demand (If required) (500 gpm for the first, 250 after) 0
Hose GPM demand (100 Light, 250 ordinary, 500 extra hazard) 100
Total GPM (Remote Area + Standpipe + Hose) 301

Available Pressure
Density 0.1
Max Sprinkler Head coverage (As per NFPA 13 table 4-2.2) 168
Square footage spacing x Density = GPM sprinkler head (Q) 16.8

K-Factor of Sprinkler head (K) 5.6
Equation: Pressure required at head = (Q / K)²
Elevation difference from test hydrant to base of riser x .433 23
Elevation difference from base of riser to remote area x .433 15

Backflow Preventer pressure drop 5
Safety Factor (5 psi min.) (SF) 5
Fixed Pressure drop = 35

Estimated Friction Drop Thru Fire Line
Length of run from test hydrant to riser (HR) 355
Pipe C Factor (Ductile Iron C-100) 100
Nominal Pipe Inside Diameter (10", 8", 6", 4", 3") 6

Friction loss in pipe (psi/ft) (Based on Hazen William Equation) (HW1)
HR x 1.30 x HW1 = 3
Length of run from riser to last sprinkler head (estimated.) (RS)

Base of Riser to farthest sprinkler 275
Pipe C Factor (Black Steel C-120) 120
Nominal Pipe Inside Diameter (6", 4", 3", 2-1/2", 2") 3

Friction loss in pipe (psi/ft) (Based on Hazen William Equation) (HW2)
RS x 1.30 x HW2 = 42

Estimated Required Flow Data for Building
Required GPM 301
Required PSI 80

SPRINKLER LEGEND

SYM	DESCRIPTION	SPRAY	TYPE	TEMP.	ORIFICE	K	MODEL #	FINISH
●	PENDENT	15' X 15'	QUICK RESPONSE	135°F	1/2"	5.6	V2708	WHITE

FIRE PROTECTION GENERAL NOTES:

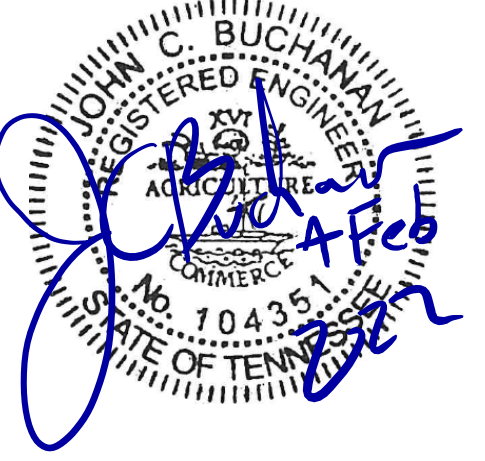
- THE SPRINKLER HEADS SHOWN ARE GENERAL IN NUMBER AND LOCATION. THE EXACT NUMBERS AND LOCATIONS SHALL BE DETERMINED BY THE SUCCESSFUL SPRINKLER INSTALLER AND SHALL BE SHOWN ON HIS SHOP DRAWINGS. THE SPRINKLER SYSTEM SHALL BE IN ACCORDANCE WITH SPECIFICATIONS AND NFPA 13 & 24.
- PROVIDE A HYDRAULICALLY DESIGNED FULL COVERAGE SPRINKLER SYSTEM.
- PROVIDE DRY PENDANT TYPE HEADS IN COOLER, FREEZER AND/OR OTHER AREAS THAT ARE SUBJECT TO FREEZING OR FREEZE PROTECTION.
- THE SPRINKLER CONTRACTOR SHALL COORDINATE LOCATIONS OF SPRINKLER HEADS AND ASSOCIATED PIPING WITH ALL OTHER TRADES.
- ALL SPRINKLER HEADS LOCATED IN 2x2 TILES SHALL BE CENTERED.
- SPRINKLER SYSTEM SHALL BE LIGHT HAZARD
- CONTRACTOR SHALL VERIFY LOCATION AND INSTALLATION REQUIREMENTS OF BACKFLOW PREVENTER WITH THE LOCAL AUTHORITY HAVING JURISDICTION, AND LOCAL WATER UTILITY BEFORE CONSTRUCTION OR SITE EXCAVATION HAS BEGUN.
- SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR FULL REPLACEMENT COST OF SURFACES DAMAGED BY DRAINAGE FROM THE SPRINKLER SYSTEM.
- THE CONTRACTOR MUST PROVIDE A CERTIFIED CALCULATION DEMONSTRATING THE CHARACTERISTICS OF THE PROPOSED SYSTEM AND SHOWING PIPE SIZE AND SYSTEM FLOW.
- THE MINIMUM PIPE SIZE FOR THE UNDERGROUND SPRINKLER MAIN IS 6". CONTRACTOR TO VERIFY WITH A CERTIFIED CALCULATION. THE MINIMUM BURY DEPTH FOR THE FIRE MAIN IS 36" BELOW FINISHED GRADE.
- PROVIDE A 'PUMPER' HYDRANT WITHIN 100' OF THE FIRE DEPARTMENT CONNECTION AS REQUIRED BY THE AHJ.
- THE NEW SPRINKLER SYSTEM IS AN NFPA (13-4.1) WET PIPE SYSTEM.
- ALL FIRE PROTECTION PIPING STARTING FROM POINT OF SERVICE ON MUST BE INSTALLED BY A LICENSED FIRE PROTECTION CONTRACTOR. SEE THE SITE UTILITY DRAWING FOR UNDERGROUND PIPING AND VALVES REQUIRED.
- ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE LOCAL CODES, RULES AND ORDINANCES.
- THE VELOCITY OF WATER FOR SPRINKLER PIPING SHALL NOT EXCEED 21 FPS (FEET PER SECOND).
- CONTRACTOR SHALL MAKE ARRANGEMENTS FOR CONNECTIONS TO ALL UTILITY LINES AND PAY ALL FEES AND COSTS FOR CONNECTIONS TO THOSE SERVICES.
- SEE MECHANICAL SHEETS FOR DIFFUSER LOCATIONS.
- SEE ELECTRICAL LIGHTING SHEETS FOR LOCATION OF LIGHTS.



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PROJECT INFORMATION
PROJECT:

**AN ADDITION & RENOVATION TO:
NORRIS MIDDLE SCHOOL**

PROJECT ADDRESS:
5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE
 FOR REVIEW ONLY
 FOR PERMITTING ONLY
 SCHEMATIC DESIGN
 DESIGN DEVELOPMENT
 CONSTRUCTION BIDDING
 CONSTRUCTION DOCUMENTS
 AS-BUILT RECORD SET

REVISION INFORMATION
NO. DATE DESCRIPTION

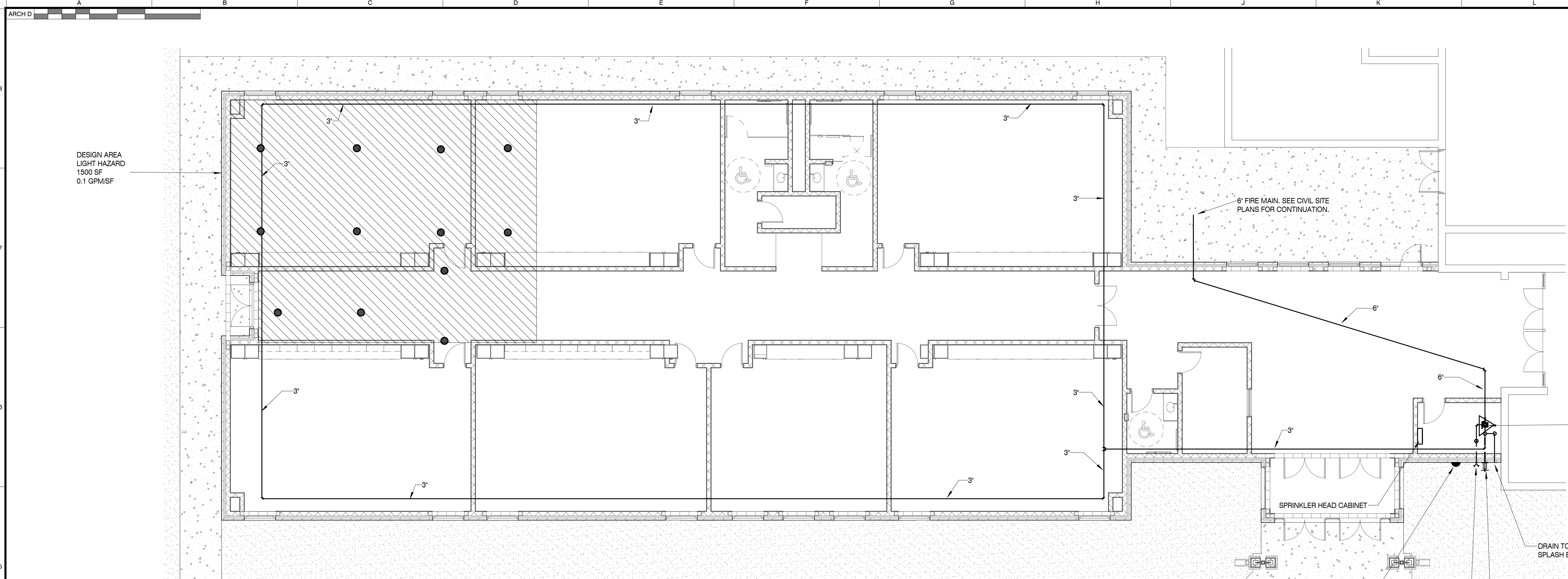
KEY PLAN

SHEET INFORMATION
SHEET ISSUED: 2/4/2022
DESIGNED BY: DF
DRAWN BY: DF
REVIEWED BY: JCB
SHEET TITLE:

FIRE PROTECTION LEGENDS, SPECIFICATIONS, AND NOTES

SHEET NO.: FP001

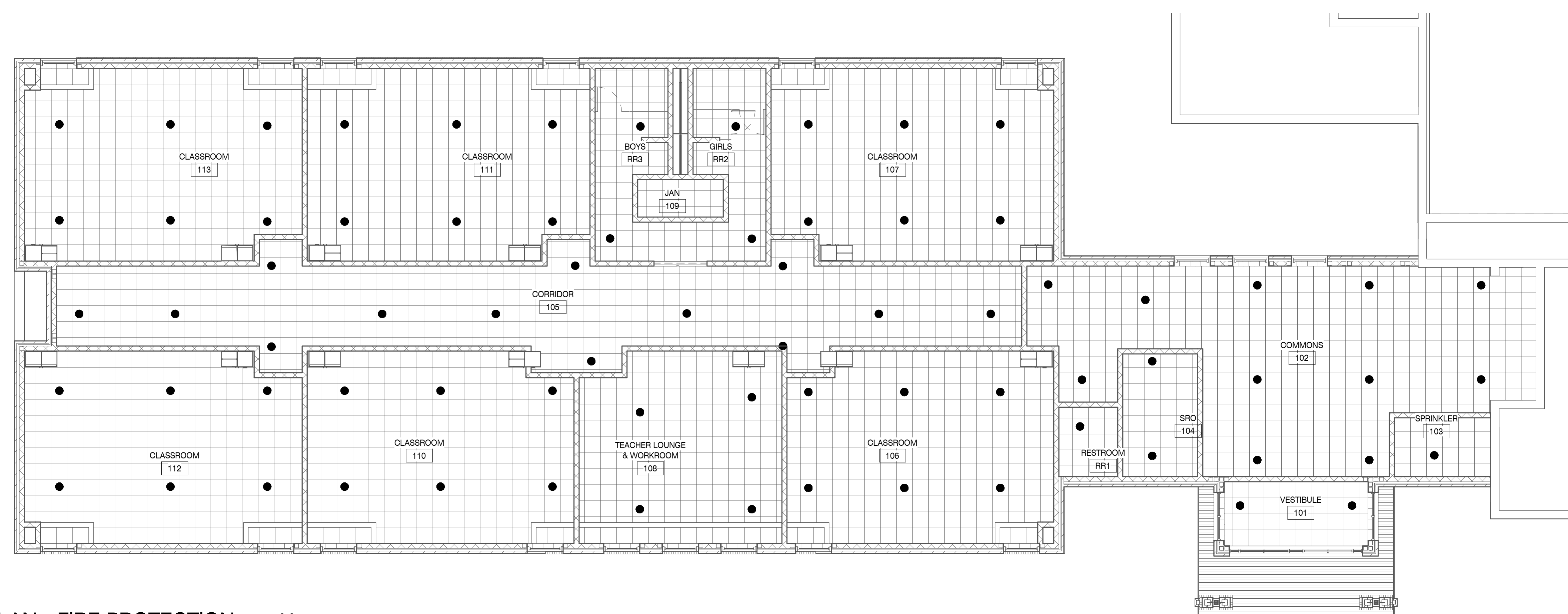
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FLOOR PLAN - FIRE PROTECTION

SCALE: 1/8" = 1'-0"

1



CEILING PLAN - FIRE PROTECTION

SCALE: 1/8" = 1'-0"

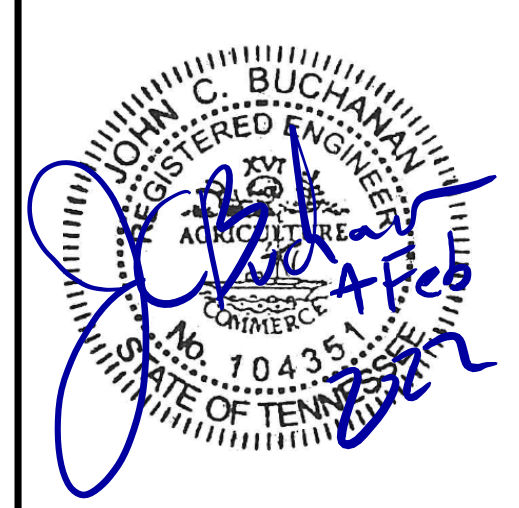
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AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE, NORRIS, TN 37828

PROJECT NO.: **210042-04**

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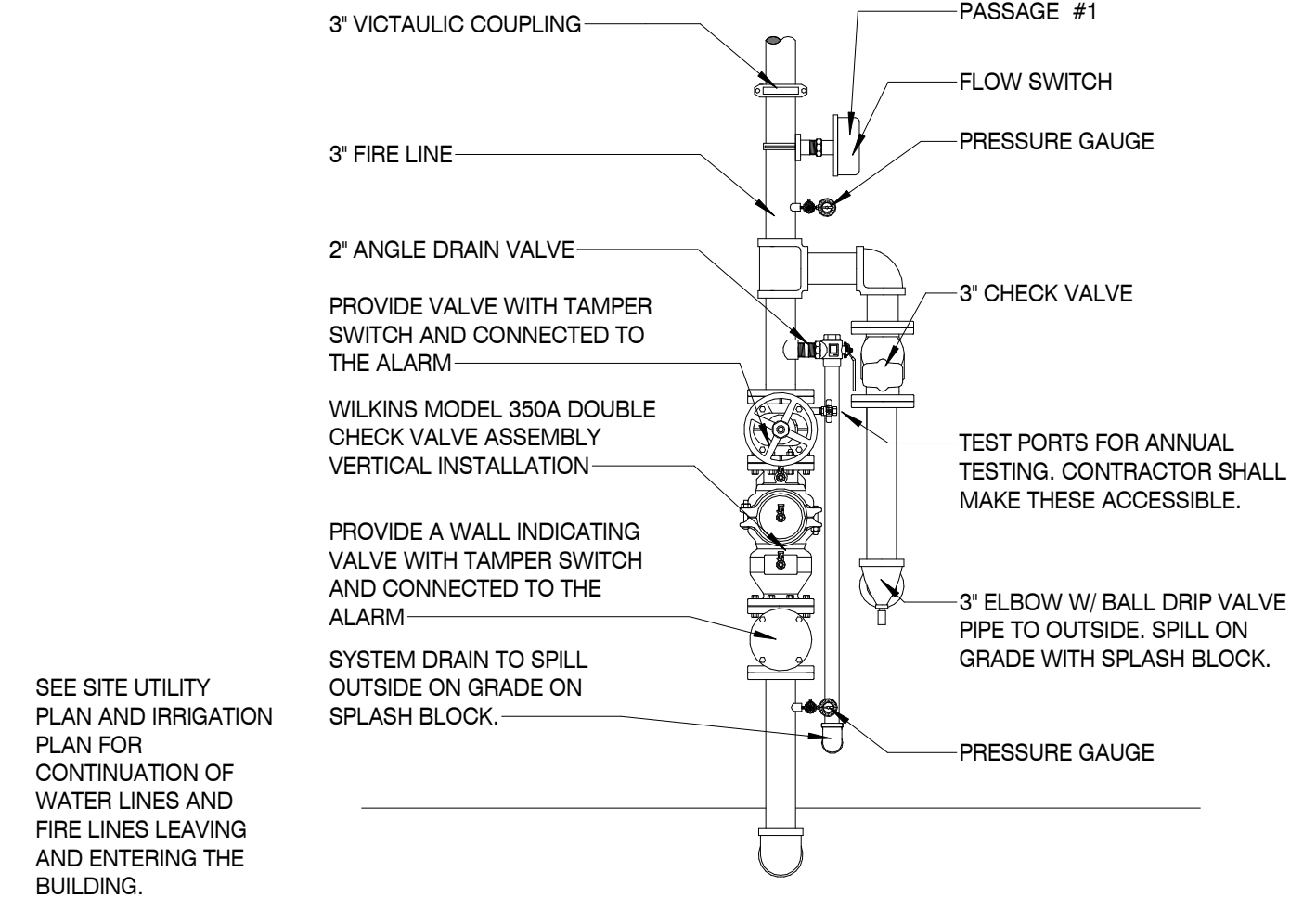
FLOOR PLAN - FIRE PROTECTION

SHEET NO.:

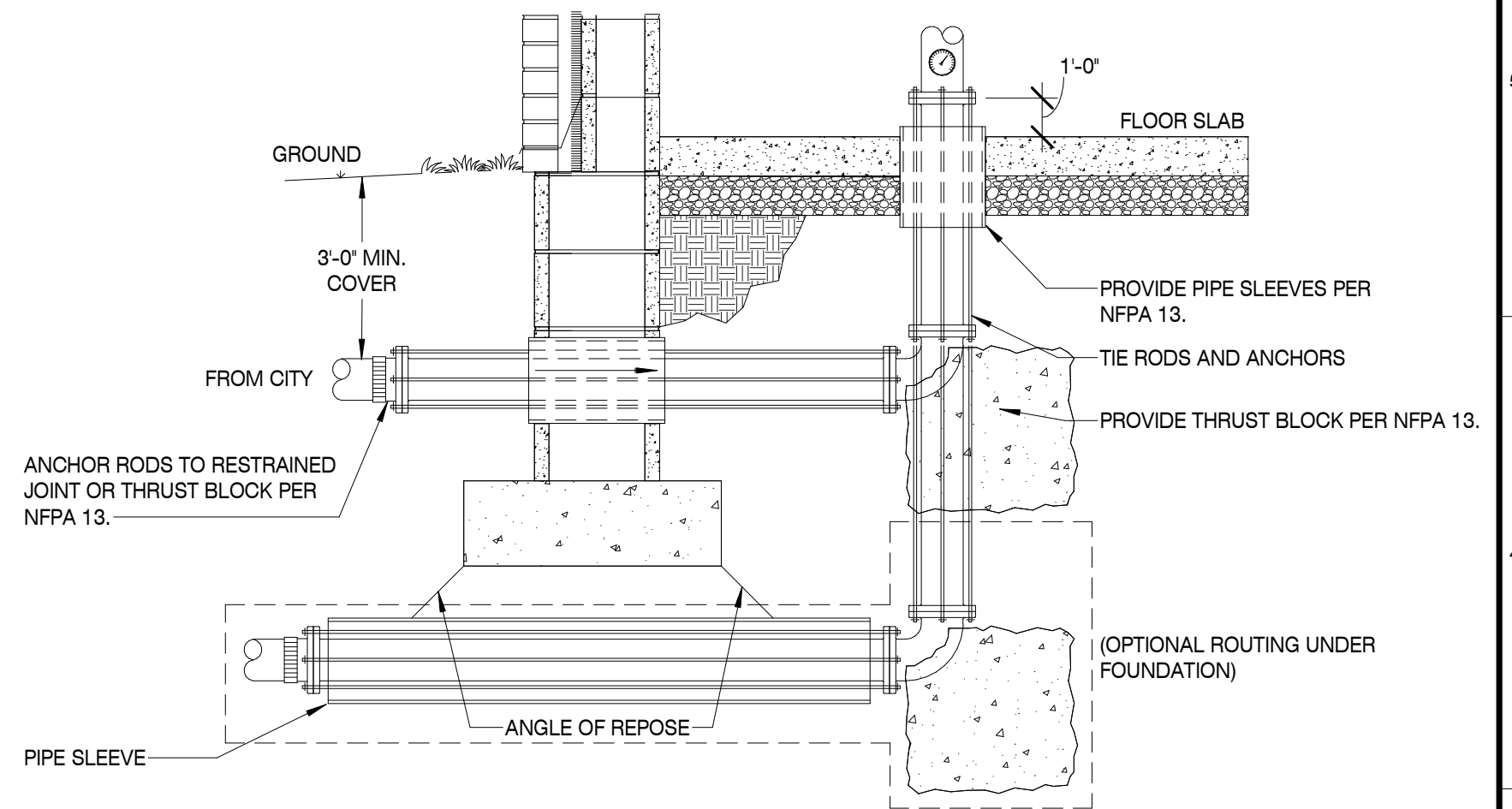
FP101

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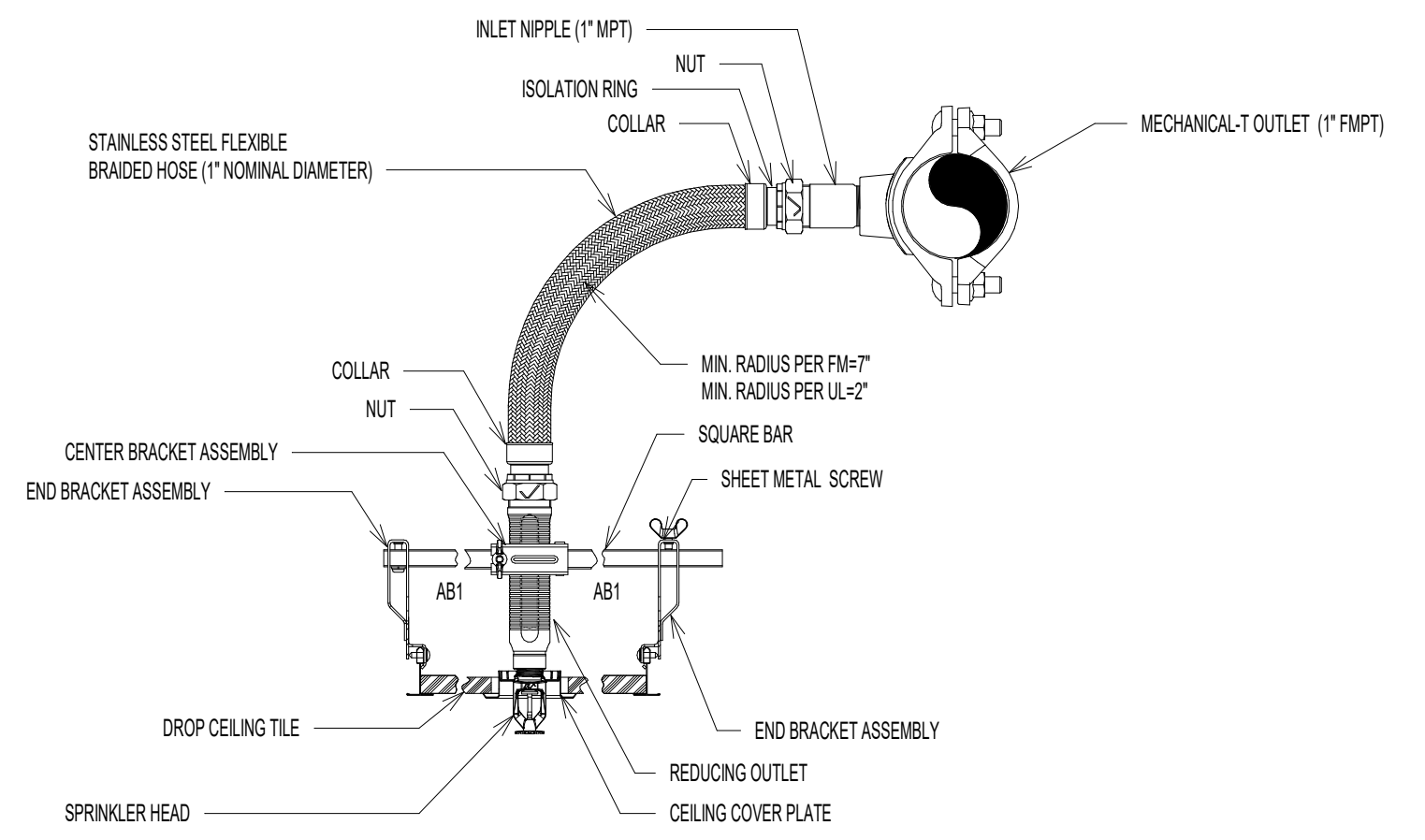
FIRE PROTECTION RISER SHALL BE INSTALLED BY A LICENSED FIRE PROTECTION CONTRACTOR. RISER IS SHOWN FOR INSTALLATION PURPOSES ONLY.



SPRINKLER ENTRANCE DETAIL 1
SCALE: N.T.S.



FIRE LINE LEAD-IN DETAIL 2
SCALE: 1/8" = 1'-0"



BRAIDED FLEXIBLE SPRINKLER HEAD CONNECTION 3
SCALE: 1/2" = 1'-0"



MBI COMPANIES INC.
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CONSULTANT
MECHANICAL ENGINEER:

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PROJECT INFORMATION

PROJECT:
AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:
5 NORRIS SQUARE,
NORRIS, TN 37828
PROJECT NO.: **210042-04**

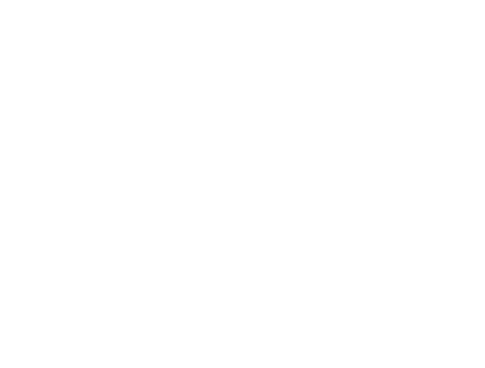
ACTIVE DESIGN PHASE

- FOR REVIEW ONLY
- FOR PERMITTING ONLY
- SCHEMATIC DESIGN
- DESIGN DEVELOPMENT
- CONSTRUCTION BIDDING
- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN



SHEET INFORMATION

SHEET ISSUED: 2/4/2022
DESIGNED BY: DF
DRAWN BY: DF
REVIEWED BY: JCB
SHEET TITLE:

FIRE PROTECTION DETAILS

SHEET NO.: **FP201**

AIR DISTRIBUTION EQUIPMENT SCHEDULE

DESIGNATION	SERVICE	DESCRIPTION	MATERIAL/FINISH	MANUFACTURER MODEL NUMBER	PRICE	SIZING CFM	NECK
8	CD1	SQUARE, 3- CONE, CEILING SUPPLY DIFFUSER	24"x24" FACE T-BAR LAY-IN, ADJUSTABLE PATTERN W/ O.B.D.	ALUMINUM WHITE ENAMEL	PRICE ASCDA	0-110 111-240 241-420	6"0 8"0 10"0
	CD2	SQUARE, 3- CONE, CEILING SUPPLY DIFFUSER	SURFACE MOUNTED, ADJUSTABLE PATTERN WITH O.B.D.	ALUMINUM WHITE ENAMEL	PRICE ASCDA	421-615 616-840	12"0 14"0
	RCD	ROUND CONE DIFFUSER	FOUR CONE, ADJUSTABLE PATTERN	ALUMINUM WHITE ENAMEL	PRICE RCDA	0-410	10"0
	LSD1	LINEAR SLOT DIFFUSER	() SLOTS 2-WAY PATTERN CONTROL	ALUMINUM WHITE ENAMEL	PRICE		
7	CR1	EGGCRATE FACE CEILING RETURN GRILLE	12"x12"x1/2" CORE, PANEL MTD, T-BAR LAY-IN, BORDER TYPE 3, WITH ALUMINUM O.B.D.	ALUMINUM CORE ALUMINUM FRAME WHITE ENAMEL	PRICE 80DAL-F	0-415 416-815 816-1300	10x10 14x14 18x18
	CR2		1/2"x12"x1/2" CORE, PANEL MTD, SURFACE MOUNT, BORDER TPE 1, WITH ALUMINUM O.B.D.	ALUMINUM CORE ALUMINUM FRAME WHITE ENAMEL	PRICE 80	0-350 351-680 681-1125 1126-1680	10x10 14x14 18x18 22x22
	TG	EGGCRATE FACE TRANSFER GRILLE	12"x12"x1/2" CORE, PANEL MTD, SURFACE MOUNT OR T-BAR LAY-IN AS REQUIRED	ALUMINUM CORE ALUMINUM FRAME WHITE ENAMEL	PRICE 80	0-350 351-680 681-1125 1126-1680	10x10 14x14 18x18 22x22
	SWR1	SIDEWALL RETURN GRILLE	O DEG. FIXED HORIZONTAL FACE BARS	ALUMINUM WHITE ENAMEL	PRICE 510ZD		
6	CE1	EGGCRATE FACE CEILING EXHAUST GRILLE	12"x12"x1/2" CORE, PANEL MTD, T-BAR LAY-IN, BORDER TYPE 3 WITH ALUMINUM O.B.D.	ALUMINUM CORE ALUMINUM FRAME WHITE ENAMEL	PRICE 80DAL-TB	0-415 416-815	10x10 14x14
	CE2		1/2"x12"x1/2" CORE, PANEL MTD, SURFACE MOUNT, BORDER TYPE 1 WITH ALUMINUM O.B.D.	ALUMINUM CORE ALUMINUM FRAME WHITE ENAMEL	PRICE 80DAL-F	0-415 416-815 816-1300	10x10 14x14 18x18

NOTES AND ACCESSORIES:
 - SIZING COLUMN GOVERNS DECK SIZE ONLY. RUN-OUT DUCT SIZES MAY VARY (SEE FLOOR PLAN DRAWINGS). PROVIDE DUCT TRANSITIONS INCLUDING SQUARE TO ROUND AS REQUIRED.
 - ALTERNATE MANUFACTURERS: KRUEGER, METALAIR, PRICE
 - MECHANICAL CONTRACTOR SHALL PROVIDE DIFFUSERS WITH APPROPRIATE AIR PATTERN AS SHOWN ON PLANS.
 - PRIOR TO ORDERING DEVICES MECHANICAL CONTRACTOR SHALL PROVIDE TO ARCHITECT A COLOR/FINISH SELECTION CHART FOR EACH DEVICE SCHEDULED. SELECTIONS MAY DIFFER ON A SPACE BY SPACE BASIS PER ARCHITECTS OPTION. IF COLOR/FINISH IS NOT COORDINATED WITH ARCHITECT PRIOR TO ORDERING MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND PAINTING TO MATCH INTERIOR.
 - ORDER DIFFUSERS WITH VOLUME DAMPER.
 - FOR SIDEWALL DIFFUSERS ADJUST VERTICAL BLADES FOR A 45 DEGREE HORIZONTAL SPREAD.
 - FOR SIDEWALL DIFFUSER, GRILLES, AND REGISTERS SIZES ARE SHOWN ON FLOOR PLAN DRAWINGS. VERIFY EXACT FRAME TYPE WITH ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

1.05 MAINTENANCE MANUALS
 FURNISH (3) THREE SETS OF OPERATING INSTRUCTIONS AND MAINTENANCE MANUALS COVERING HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS AS WELL AS EQUIPMENT WARRANTIES, CONTROL SEQUENCES AND DIAGRAMS. MANUALS ARE TO BE BOUND AND COVERED. DELIVER MANUALS TO THE ARCHITECT. INCLUDE A COMPLETE DESCRIPTION OF THE OPERATION OF THE CONTROL SYSTEM. THE CONTRACTOR SHALL INSTRUCT THE OWNER'S REPRESENTATIVE IN THE PROPER OPERATION OF ALL EQUIPMENT.

1.06 WARRANTIES
 1. ALL WARRANTIES SHALL BEGIN UPON FINAL ACCEPTANCE BY THE OWNER, NOT BENEFICIAL USE BY THE CONTRACTOR.
 2. FURNISH A FIVE (5) YEAR WARRANTY ON ALL COMPRESSORS AND REFRIGERATION CIRCUIT AND A ONE (1) YEAR WARRANTY ON ALL CONTROLS AND OTHER EQUIPMENT.

1.07 PERMITS, ORDINANCES, AND INSPECTIONS
 1. OBTAIN AND PAY FOR ALL PERMITS AND INSPECTION FEES REQUIRED. DELIVER TO THE ARCHITECT. ALL CERTIFICATES AND INSPECTION REPORTS.
 2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CITY, COUNTY, STATE, OR NATIONAL ORDINANCES AND CODES. EFFORT HAS BEEN MADE TO MEET OR EXCEED REQUIREMENTS. THE CONTRACTOR SHALL MAKE ANY MINOR ADJUSTMENTS TO MEET THESE REQUIREMENTS AT NO ADDITIONAL COST TO OWNER.

2.01 DUCTWORK
 1. GENERAL
 A. SEE HVAC GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.
 B. DIMENSIONS INDICATED ON THE DRAWINGS ARE INSIDE AREAS. WHERE DUCTS ARE TO BE INTERNALLY INSULATED OR LINED INCREASE SHEET METAL OVERALL DIMENSIONS TO ACCOMMODATE INSULATION THICKNESS.
 C. PROVIDE FLEXIBLE WOVEN DUCT CONNECTIONS IN DUCTS AS INDICATED. SECURE CONNECTIONS WITH GALVANIZED CHANNELS. PROVIDE A BRAIDED COPPER BRIDGE STRAP ACROSS FLEXIBLE CONNECTIONS.

2. FLEXIBLE DUCTWORK. THE CONTRACTOR MAY INSTALL SUPPLY DIFFUSERS WITH A MAXIMUM OF A 5 FOOT RUN OF INSULATED FLEXIBLE DUCTWORK EQUAL TO FLEXMASTER TYPE 1M, MINIMUM R=8. ALL FLEXIBLE DUCTWORK SHALL BE INSTALLED AND ENDS TERMINATED IN COMPLIANCE WITH THE METHODS SHOWN IN THE AEC INSTALLATION MANUAL AND USE METAL STRAPS NOT LESS THAN 1-1/2" WIDE AT A MAXIMUM OF 5 FEET ON CENTER. DUCTS SHALL NOT DEFLECT MORE THAN 1/2" IN 5 FEET NOR HAVE ANY KINKS OR RESTRICTIONS TO FLOW. ELBOWS SHALL HAVE A MINIMUM RADIUS OF ONE DUCT DIAMETER WITH INTERIOR LINER FULLY EXTENDED. FLEXIBLE DUCTWORK SHALL NOT BE USED IN RETURN NOR EXHAUST SYSTEMS.

2.02 DAMPERS.
 PROVIDE APPROVED MANUAL BALANCE DAMPERS WHERE SHOWN ON THE PLANS FOR THE PROPER REGULATION OF THE AIR HANDLING SYSTEM AND SO LOCATE AS TO BE ACCESSIBLE.

2.03 GRILLES, REGISTERS, AND DIFFUSERS
 1. FURNISH AND INSTALL WHERE INDICATED RETURN AND SUPPLY GRILLES, COMPLETE WITH BAKED ENAMEL FINISH AND OPPOSED BLADE DAMPERS.
 2. ALL DUCTWORK AND DIFFUSERS SHALL BE RATED FOR THE USE, PRESSURE AND TEMPERATURE SPECIFIED AND AS REQUIRED BY THE CEILING OR WALL SYSTEM RATING. IF THE CEILING ASSEMBLY IS RATED PROVIDE RADIATION DAMPERS AT THE PENETRATION WHEN THE AREA OF ALL PENETRATIONS, INCLUDING DUCT AND DIFFUSERS, IN THE MEMBRANE EXCEED AN AGGREGATE AREA OF 100 SQUARE INCHES IN ANY 100 SQUARE FEET OF CEILING AREA.
 3. DUCT INSULATION: INSULATE ALL SUPPLY, RETURN AND OUTDOOR AIR DUCTWORK WITH A MINIMUM OF 2" THICK 3/4" DENSITY DUCTWRAP INSULATION. ALL INSULATION WILL HAVE FIRE/SMOKE RATING LESS THAN 25-50. ALL EXTERIOR DUCTWORK SHALL BE WEATHER-PROOFED WITH A COVERING OF "ALUMIGUARD" WRAP.

2.04 EXHAUST FANS
 FANS SHALL BE AS INDICATED ON DRAWINGS.

2.05 CONTROLS
 CONTROLS SHALL BE ELECTRIC/ELECTRONIC TYPE, PROVIDE ALL WIRING, ACTUATORS, AND CONTROL DEVICES. FURNISH ALL THERMOSTATS AND SENSORS WITH INSULATED SUB-BASE.

2.06 PROTECTIVE DEVICES
 1. FIRE DAMPERS
 A. INSTALL NFPA APPROVED, FUSIBLE LINK OPERATED TYPE 'B' FIRE DAMPERS OF SUITABLE RATING IN ALL DUCTWORK PENETRATIONS OF RATED WALLS AND FLOORS IN LOCATIONS REQUIRED BY LOCAL AND STATE ORDINANCES.
 B. PROVIDE ACCESS IN BOTH CEILING CONSTRUCTION AND DUCTWORK FOR MAINTENANCE OF ALL FIRE DAMPERS.

2.07 THERMOSTATS AND SENSORS
 1. THERMOSTATS AND SENSORS SHALL BE LOCATED AS REQUIRED BY THE ARCHITECT. THERMOSTATS AND SENSORS SHALL BE LOCATED AS REQUIRED BY THE ARCHITECT. THERMOSTATS AND SENSORS SHALL BE LOCATED AS REQUIRED BY THE ARCHITECT. THERMOSTATS AND SENSORS SHALL BE LOCATED AS REQUIRED BY THE ARCHITECT.

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HVAC SPECIFICATIONS

PART 1 - GENERAL

1.01 SCOPE
 FURNISH ALL LABOR, MATERIALS, EQUIPMENT, CONTROL SYSTEMS, DEVICES, ACCESS PANELS, PERMITS, AND SERVICES NECESSARY TO INSTALL THE COMPLETE AND OPERABLE AIR CONDITIONING, HEATING, AND VENTILATING SYSTEM INDICATED ON THE DRAWINGS, AS SPECIFIED HEREIN, AND IN ACCORDANCE WITH ALL CITY, STATE, AND NATIONAL CODES, IF THERE IS A CONFLICT BETWEEN CODES AND OR THE CONTRACT DOCUMENTS, THE CONTRACTOR IS TO FOLLOW THE MORE STRINGENT OF THE REQUIREMENTS. ALL MATERIALS SHALL BE NEW AND ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE LOCAL CODES, PRODUCT APPROVAL, RULES AND ORDINANCES. ANY DAMAGED EQUIPMENT SHALL BE REPLACED OR RESTORED TO ORIGINAL CONDITION. ALL MECHANICAL EQUIPMENT SHALL BE ARI & U.I. LISTED WHERE APPLICABLE AND RATED FOR THE REQUIRED SERVICE. PRESSURES, TEMPERATURES AND SHALL BE PROVIDED WITH ALL NECESSARY TRANSFORMERS, SEALS, VALVES, CONNECTIONS, ETC. TO FUNCTION PROPERLY.

1.02 ELECTRICAL WORK
 ALL CONDUIT, ROUGH IN ELECTRICAL BOXES AND WIRING, EXCLUDING LOW VOLTAGE CONTROL WIRING, SHALL BE INCLUDED UNDER THE ELECTRICAL SECTION OF THE CONTRACT DOCUMENTS, COORDINATE REQUIREMENTS AND ROUGH IN LOCATIONS FOR ALL EQUIPMENT. CONTROL WIRING SHALL BE PROVIDED AND INSTALLED UNDER THE MECHANICAL SECTION OF THE CONTRACT DOCUMENTS.

1.03 SUBMITTAL DATA
 PRIOR TO ORDERING EQUIPMENT THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A MINIMUM OF THREE (3) SETS OF THE EQUIPMENT BROCHURES, TECHNICAL DATA AND/OR SHOP DRAWINGS, AS AN ALTERNATIVE, AN ELECTRONIC SUBMITTAL IS ACCEPTABLE. CONTRACTOR IS INSTRUCTED TO CONSOLIDATE INFORMATION WHEN SUBMITTING ELECTRONICALLY AND AVOID MULTIPLE COMMUNICATIONS.

1.04 NOISE AND VIBRATION
 EQUIPMENT SHALL OPERATE QUIETLY. THE OPERATION OF THE EQUIPMENT SHALL CAUSE NO PERCEPTIVE QUIETLY NOR OBJECTIONABLE NOISE IN ANY PORTION OF THE BUILDING OR STRUCTURE.

1.05 MAINTENANCE MANUALS
 FURNISH (3) THREE SETS OF OPERATING INSTRUCTIONS AND MAINTENANCE MANUALS COVERING HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS AS WELL AS EQUIPMENT WARRANTIES, CONTROL SEQUENCES AND DIAGRAMS. MANUALS ARE TO BE BOUND AND COVERED. DELIVER MANUALS TO THE ARCHITECT. INCLUDE A COMPLETE DESCRIPTION OF THE OPERATION OF THE CONTROL SYSTEM. THE CONTRACTOR SHALL INSTRUCT THE OWNER'S REPRESENTATIVE IN THE PROPER OPERATION OF ALL EQUIPMENT.

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1.07 PERMITS, ORDINANCES, AND INSPECTIONS
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 2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CITY, COUNTY, STATE, OR NATIONAL ORDINANCES AND CODES. EFFORT HAS BEEN MADE TO MEET OR EXCEED REQUIREMENTS. THE CONTRACTOR SHALL MAKE ANY MINOR ADJUSTMENTS TO MEET THESE REQUIREMENTS AT NO ADDITIONAL COST TO OWNER.

1.22 PERMITS, ORDINANCES, AND INSPECTIONS
 1. OBTAIN AND PAY FOR ALL PERMITS AND INSPECTION FEES REQUIRED. DELIVER TO THE ARCHITECT. ALL CERTIFICATES AND INSPECTION REPORTS.
 2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CITY, COUNTY, STATE, OR NATIONAL ORDINANCES AND CODES. EFFORT HAS BEEN MADE TO MEET OR EXCEED REQUIREMENTS. THE CONTRACTOR SHALL MAKE ANY MINOR ADJUSTMENTS TO MEET THESE REQUIREMENTS AT NO ADDITIONAL COST TO OWNER.

1.23 PERMITS, ORDINANCES, AND INSPECTIONS
 1. OBTAIN AND PAY FOR ALL PERMITS AND INSPECTION FEES REQUIRED. DELIVER TO THE ARCHITECT. ALL CERTIFICATES AND INSPECTION REPORTS.
 2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CITY, COUNTY, STATE, OR NATIONAL ORDINANCES AND CODES. EFFORT HAS BEEN MADE TO MEET OR EXCEED REQUIREMENTS. THE CONTRACTOR SHALL MAKE ANY MINOR ADJUSTMENTS TO MEET THESE REQUIREMENTS AT NO ADDITIONAL COST TO OWNER.

1.24 PERMITS, ORDINANCES, AND INSPECTIONS
 1. OBTAIN AND PAY FOR ALL PERMITS AND INSPECTION FEES REQUIRED. DELIVER TO THE ARCHITECT. ALL CERTIFICATES AND INSPECTION REPORTS.
 2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CITY, COUNTY, STATE, OR NATIONAL ORDINANCES AND CODES. EFFORT HAS BEEN MADE TO MEET OR EXCEED REQUIREMENTS. THE CONTRACTOR SHALL MAKE ANY MINOR ADJUSTMENTS TO MEET THESE REQUIREMENTS AT NO ADDITIONAL COST TO OWNER.

HVAC GENERAL NOTES

1. REFERENCE HVAC SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

2. ALL WARRANTIES SHALL BEGIN UPON FINAL ACCEPTANCE BY THE OWNER, NOT BENEFICIAL USE BY THE CONTRACTOR.

3. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATE THE APPROXIMATE ROUTING OF PIPING AND DUCTWORK. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS AND DELAYS MINOR OFFSETS AND ADJUSTMENTS SHALL BE PROVIDED WHERE REQUIRED AT NO ADDITIONAL COST TO THE OWNER.

4. COORDINATE CEILING DIFFUSERS AND REGISTER LOCATIONS WITH THE ARCHITECTURAL REFLECTED CEILING. COORDINATE SIDE WALL GRILLES AND REGISTERS WITH STRUCTURAL AND ARCHITECTURAL ELEMENTS.

5. DUCT DIMENSIONS INDICATED ON THE DRAWINGS ARE NET AIR SIDE DIMENSIONS.

6. DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS. SEAL ALL DUCTS, JOINTS, AND SEAMS IN DUCTWORK TO INSURE AGAINST LEAKAGE. MITERED ELBOWS SHALL BE PROVIDED WITH SINGLE THICKNESS TURNING VANES. SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK SHALL BE GALVANIZED STEEL WITH INSULATION AS NOTED. EXHAUST DUCTWORK SHALL BE GALVANIZED STEEL.

7. INSULATE SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK WITH A MINIMUM OF 2" THICK 3/4" POF BLANKET INSULATION WITH FOIL VAPOR BARRIER. SEAL ALL JOINTS AND SEAMS IN THE VAPOR BARRIER. FOR ACCUSTICAL REASONS, IN ADDITION TO EXTERIOR INSULATION, ALL RETURN AIR DUCTS WITHIN 15' OF AIR HANDLER ARE TO BE INTERNALLY LINED WITH 1" LAYER OF 3/4 LB DENSITY LINER.

8. DUCT SEALING: PRESSURE SENSITIVE TAPE USED AS THE PRIMARY SEALANT IS TO BE CERTIFIED AND SHALL COMPLY WITH UL-181A OR UL-181B. PROVIDE LONGITUDINAL SEAMS ON RIGID DUCT AND TRANSVERSE SEAMS ON ALL DUCTS. MECHANICAL FASTENERS AND SEALANTS SHALL BE USED TO CONNECT DUCTS AND AIR DISTRIBUTION DEVICES.

9. RECTANGULAR SUPPLY AND RETURN BRANCH TAKE-OFFS SHALL BE 45° THROAT TAKE-OFFS WITH BALANCING DAMPERS IN THE BRANCH DOWNSTREAM OF THE TAKE-OFF. ROUND SUPPLY AND RETURN TAKE-OFFS SHALL BE BELL-MOUTH OR SPIN-IN FITTINGS WITH DAMPERS IN THE BRANCH DOWNSTREAM. PROVIDE BACKDRAFT DAMPERS ON ALL EXHAUST FANS AND/OR INLINE FANS.

10. ALL LOUVERS, ALL GRILLES, EXPOSED PIPING, EXPOSED EQUIPMENT, AND EXPOSED DUCTWORK SHALL BE PAINTED TO MATCH ADJACENT SURFACE COLOR AND TEXTURE OR AS DIRECTED BY THE ARCHITECT. VERIFY COLOR AND TEXTURE WITH THE ARCHITECT PRIOR TO PAINTING. PAINT ALL EXPOSED MECHANICAL EQUIPMENT WITH BENJAMIN MOORE EPOXY ENAMEL 182 OR AS DIRECTED BY THE ARCHITECT.

11. THERMOSTATS AND SENSORS SHALL BE LOCATED 48" A.F.F. UNLESS OTHERWISE NOTED. ALL CONDUIT, ROUGH IN ELECTRICAL BOXES AND WIRING, EXCLUDING LOW VOLTAGE CONTROL WIRING, SHALL BE INCLUDED UNDER THE ELECTRICAL SECTION OF THE CONTRACT DOCUMENTS, COORDINATE REQUIREMENTS AND ROUGH IN LOCATIONS FOR ALL CONTROL DEVICES, ELECTRICAL CONNECTIONS TO EQUIPMENT, AND SWITCH LOCATION. CONTROL WIRING SHALL BE PROVIDED AND INSTALLED UNDER THE MECHANICAL SECTION OF THE CONTRACT DOCUMENTS.

12. PROVIDE A 12 1/2" (MINIMUM) ACCESS DOOR FOR ACCESS TO ALL DAMPERS, CONTROL DAMPERS, EXTRACTORS, PLENUMS, OR ANY OTHER DEVICE MOUNTED IN THE DUCT SYSTEM.

13. INSTALL ALL EQUIPMENT ACCORDING TO THE MANUFACTURERS' INSTRUCTIONS.

14. REFRIGERANT PIPING SHALL BE PRE-CHARGED TUBING PACKAGES OR TYPE ADR COPPER PIPING IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.

15. PROVIDE A MINIMUM OF 10' CLEARANCE BETWEEN FRESH AIR INTAKES AND EXHAUST OUTLETS, RELIEF OUTLETS, PLUMBING VENTS, ETC.

16. PROVIDE CONDENSATE DRAINS WITH A VENTED P-TRAP FOR ALL COOLING COILS. P-TRAPS TO BE PVC ON INTERIOR INSTALLED EQUIPMENT AND TYPE M COPPER ON EXTERIOR INSTALLED EQUIPMENT.

17. THE OUTSIDE AIR QUANTITIES ARE CALCULATED ACCORDING TO TABLE 6-1 'MINIMUM VENTILATION RATES IN BREATHING ZONE' OF ASHRAE STANDARD 62.1. CHAPTER 6 'DESIGN FOR VARYING OPERATING CONDITIONS' HAS BEEN UTILIZED AS ALLOWED TO REDUCE AIRFLOW RATES FOR INTERMITTENT USE.

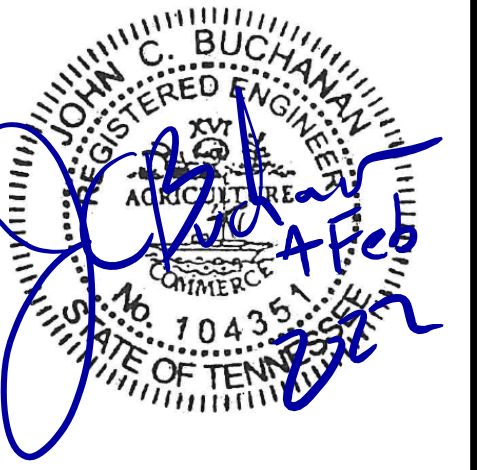
18. AFTER THE CONSTRUCTION OF THE BUILDING HAS REACHED A POINT WHERE THE PERMANENT HEATING AND COOLING SYSTEMS ARE OPERABLE, THE CONTRACTOR MAY, AT HIS OPTION, USE THE PERMANENT HEATING AND COOLING EQUIPMENT FOR TEMPORARY ENVIRONMENTAL CONTROL. THE CONTRACTOR MUST SUBMIT A REQUEST FOR USE TO THE ARCHITECT OUTLINING THE INTENDED USE. THE HEATING SYSTEM SHALL NOT BE USED FOR TEMPORARY HEAT UNTIL THE BUILDING IS BROOM CLEAN AND SHALL NOT BE USED WITHOUT ALL FILTERS IN PLACE. FILTERS MUST BE CHECKED WEEKLY AND REPLACED AS REQUIRED TO PROTECT THE EQUIPMENT AND DUCT SYSTEMS. UPON THE COMPLETION OF THE WORK, AND PRIOR TO SUBSTANTIAL COMPLETION, ALL DUCTWORK AND EQUIPMENT SHALL BE INTERNALLY CLEANED AND ALL FILTERS SHALL BE REPLACED WITH NEW FILTERS.

19. ALL OF THE COSTS ASSOCIATED WITH PROVIDING TEMPORARY HEATING AND COOLING SHALL BE BORNE SOLELY BY THE CONTRACTOR, INCLUDING BUT NOT LIMITED POWER CONSUMPTION, ADDITIONAL ACCESS DOORS FOR CLEANING, FILTERS, DUCT AND EQUIPMENT CLEANING, ENGINEERS TIME, TEST AND BALANCE AGENT TIME TO SUPPORT THE ENGINEERS INSPECTION, ETC.

20. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL EQUIPMENT WITH THE ELECTRICAL SERVICE AND THE EC. THE SCOPE OF THIS COORDINATION INCLUDES BUT IS NOT LIMITED TO, REQUIRED VOLTAGE, PHASE, AMP CAPACITY, WIRE SIZE, CONDUIT SIZE AND LOCATION, DISCONNECT SIZE AND LOCATION, FUSE SIZE, ETC. IN THE EVENT OF A CONFLICT, THE MC IS TO NOTIFY THE ENGINEER PRIOR TO MECHANICAL AND ELECTRICAL EQUIPMENT BEING ORDERED.

21. ALL CUTTING, PATCHING, STRUCTURAL STEEL, WEATHER PROOFING, PAINTING, AND WALL OPENINGS REQUIRED FOR THE INSTALLATION OF MECHANICAL WORK SHALL BE PROVIDED BY THE CONTRACTOR AT NO COST TO THE OWNER. COORDINATE WITH OTHER TRADES.

22. PROVIDE VIBRATION ISOLATORS ON ALL MECHANICAL EQUIPMENT.



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PROJECT INFORMATION

PROJECT:
**AN ADDITION & RENOVATION TO:
NORRIS MIDDLE SCHOOL**

PROJECT ADDRESS:
5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: **210042-04**

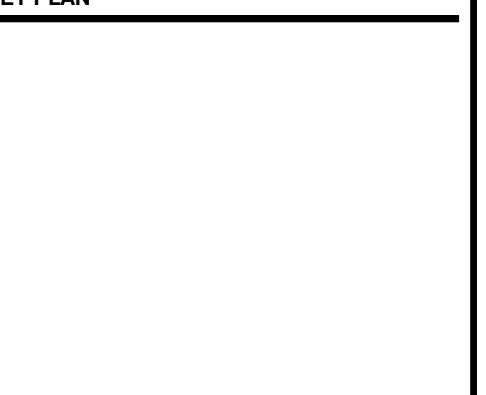
ACTIVE DESIGN PHASE

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- FOR PERMITTING ONLY
- SCHEMATIC DESIGN
- DESIGN DEVELOPMENT
- CONSTRUCTION BIDDING
- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

REVISION INFORMATION

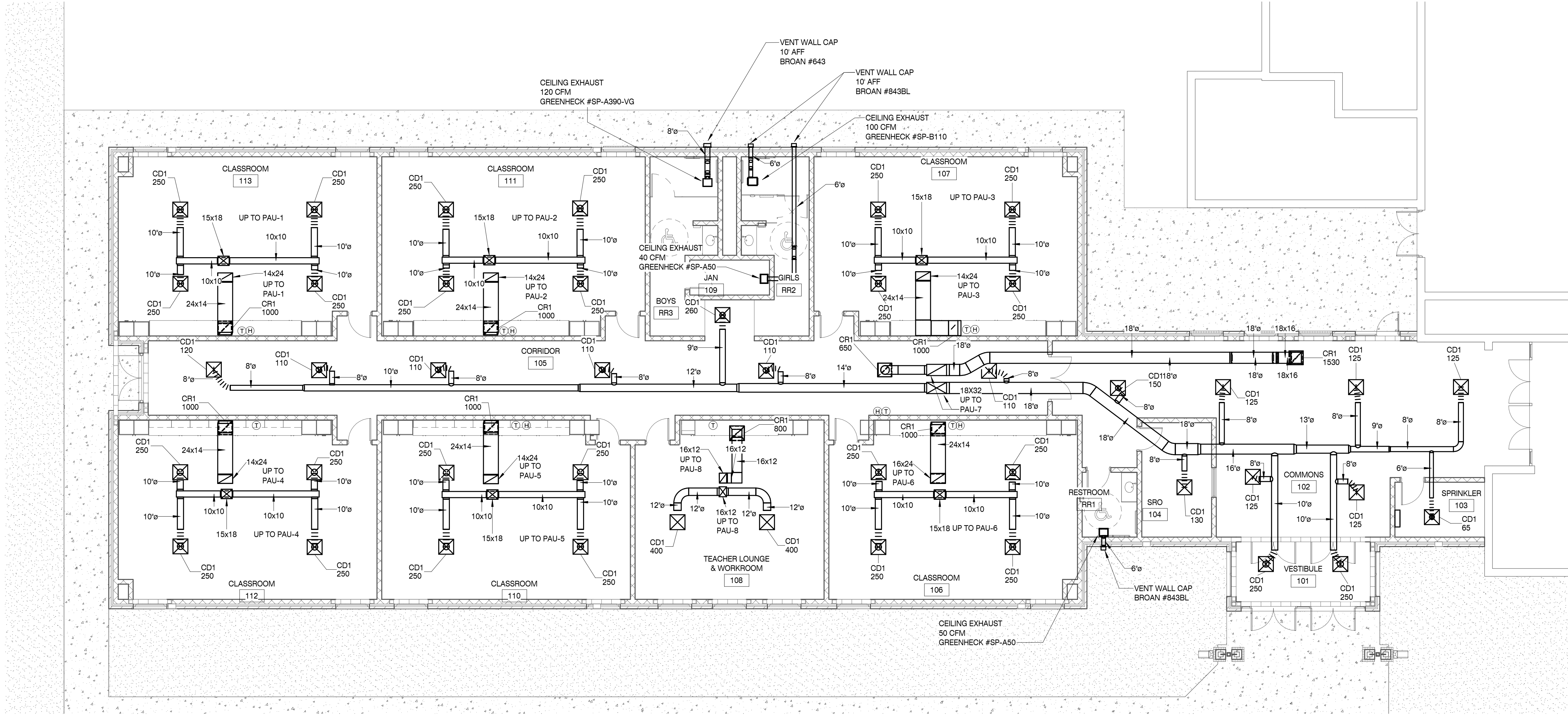
NO.	DATE	DESCRIPTION

KEY PLAN



SHEET INFORMATION

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DESIGNED BY: DF
DRAWN BY: DF
REVIEWED BY: JCB
SHEET TITLE:

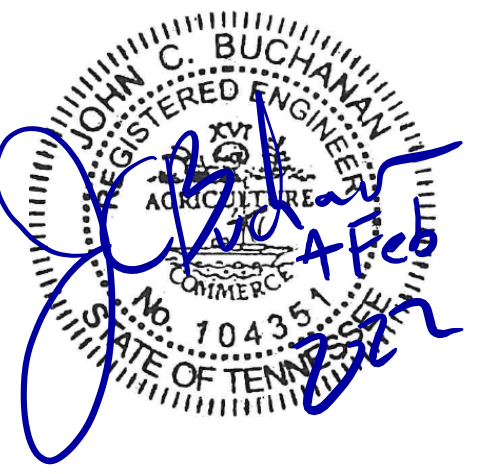


FLOOR PLAN - HVAC

SCALE: 1/8" = 1'-0"

1

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PROJECT INFORMATION

PROJECT:

AN ADDITION &
RENOVATION TO:
NORRIS MIDDLE
SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

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REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN



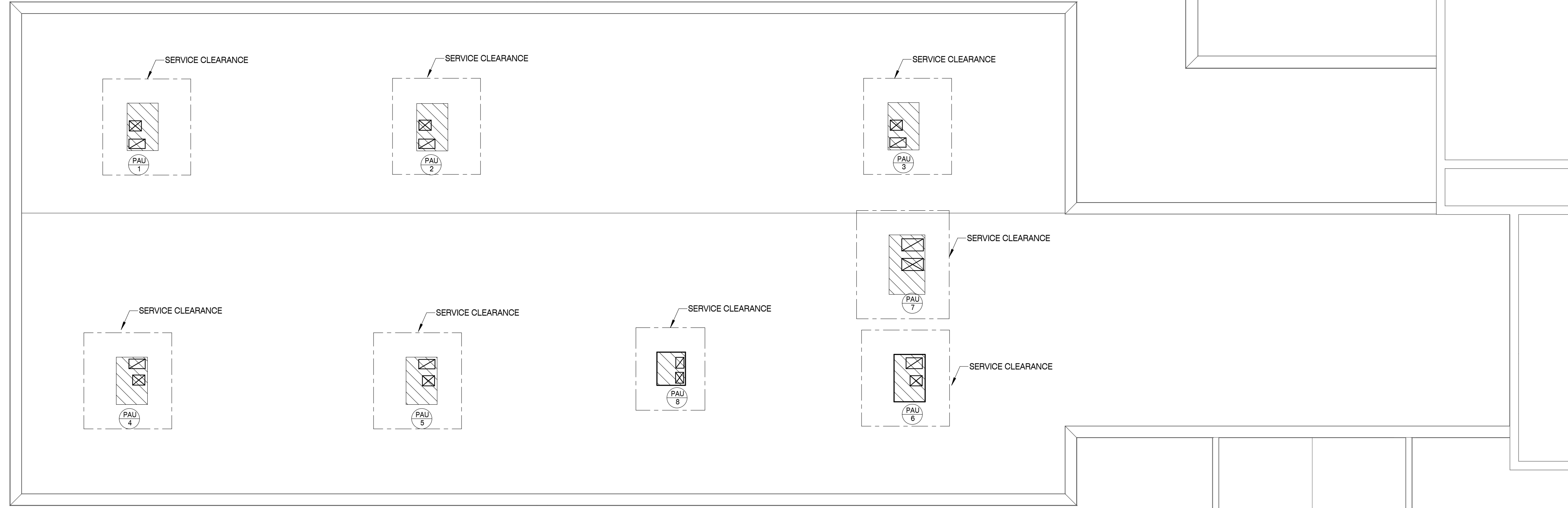
SHEET INFORMATION

SHEET ISSUED: 2/4/2022
DESIGNED BY: DF
DRAWN BY: DF
REVIEWED BY: JCB
SHEET TITLE:

ROOF PLAN - HVAC

SHEET NO.:

M102



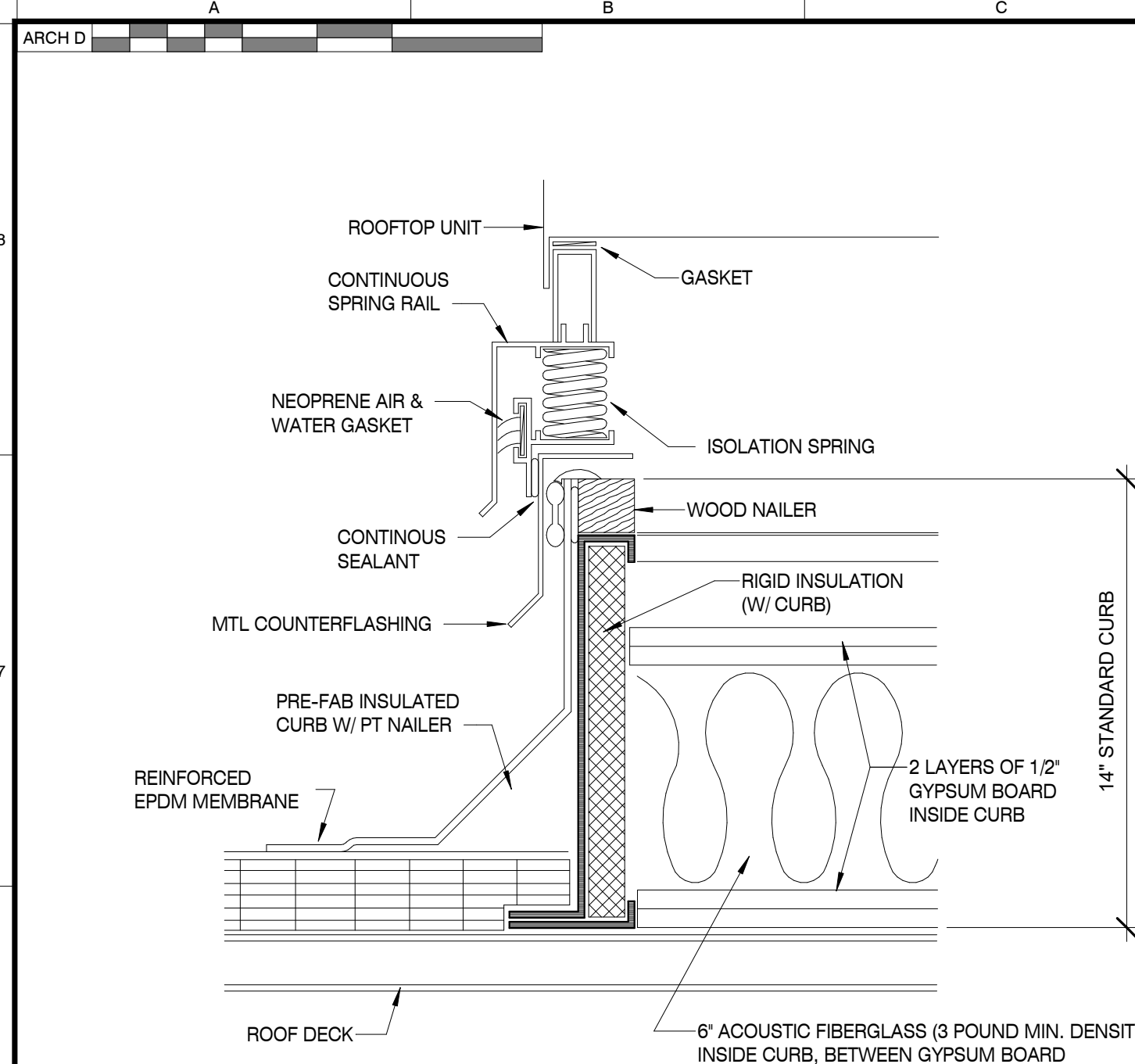
ROOF PLAN - HVAC 1
SCALE: 1/8" = 1'-0"

GAS FIRED PACKAGED UNIT WITH DX COOLING SCHEDULE

DRAWING SYMBOL	SUPPLY AIR			OUTSIDE AIR CFM	COOLING				HEATING		SMOKE DETECTORS		EFFICIENCIES			SINGLE POINT ELECTRICAL			WEIGHT (LBS.)	MFR MODEL NUMBER
	TOTAL CFM	EXT. SP (IN. WG)	FAN HP		TEMPS (°F) @ 95°F AMBIENT		CAPACITIES (MBH)		CAPACITIES (MBH)		SUPPLY	RETURN	EER	SEER	AFUE	MCA	MOCP	VOLTAGE		
					UNIT ENT AIR	COIL LVG AIR	TOTAL	SENS	INPUT	OUTPUT										
(PAU 1-6)	1000	0.75	0.75	248	78.4 DB / 65.7 WB	55 DB / 54.3 WB	34	24.5	80	64	NO	NO	13	17.5	-	24	30	208/3	767	TRANE YHC037E3RMA**D6C100 00B0000000000000000000
(PAU 7)	2400	0.75	1	305	78 DB / 65 WB	57.9DB / 55.2WB	70	52.1	120	96	YES	YES	12.6	14.5	-	31	45	208/3	1168	TRANE YHC072E3RMA**D6C100 00B0000000000000000000
(PAU 8)	STAGE: 1/2 570/790	0.3	1	80	80 DB / 67 WB	----	24	-	STAGE: 1/2 48/60	-	NO	NO	12/17.7	16	81	19.5	30	208/1	370	TRANE 4YC26024A1

- ACCESSORIES AND FEATURES:
- 5 YEAR COMPRESSOR WARRANTY.
 - FILTER RACK AND THROW-AWAY 2" THICK FILTER FURNISHED WITH UNIT.
 - UNIT SHALL BE TRANE OR APPROVED SUBSTITUTE.
 - EQUIPMENT TO BE ARI CERTIFIED AND U.L. AND A.G.A. APPROVED.
 - AUTOMATIC CHANGEOVER THERMOSTAT WITH LOCKING PLASTIC COVER.
 - PROVIDE DUCT SMOKE DETECTORS ON UNITS SCHEDULED AT OR ABOVE 2000 CFM. PER NFPA 90A & ALL LOCAL CODES.
 - SUBMIT SHOP DRAWINGS SHOWING COOLING CAPACITIES WITH MOTOR HEAT AS NOTED.
 - PAU(1-6)
 - SINGLE ZONE VAV.
 - HOT GAS REHEAT.
 - POWERED EXHAUST.
 - PAU-7
 - HOT GAS REHEAT.
 - POWERED EXHAUST.
 - PAU-8
 - 2 STAGE COMPRESSOR.
 - VARIABLE SPEED FAN.
 - 2 POSITION MOTORIZED OA DAMPER

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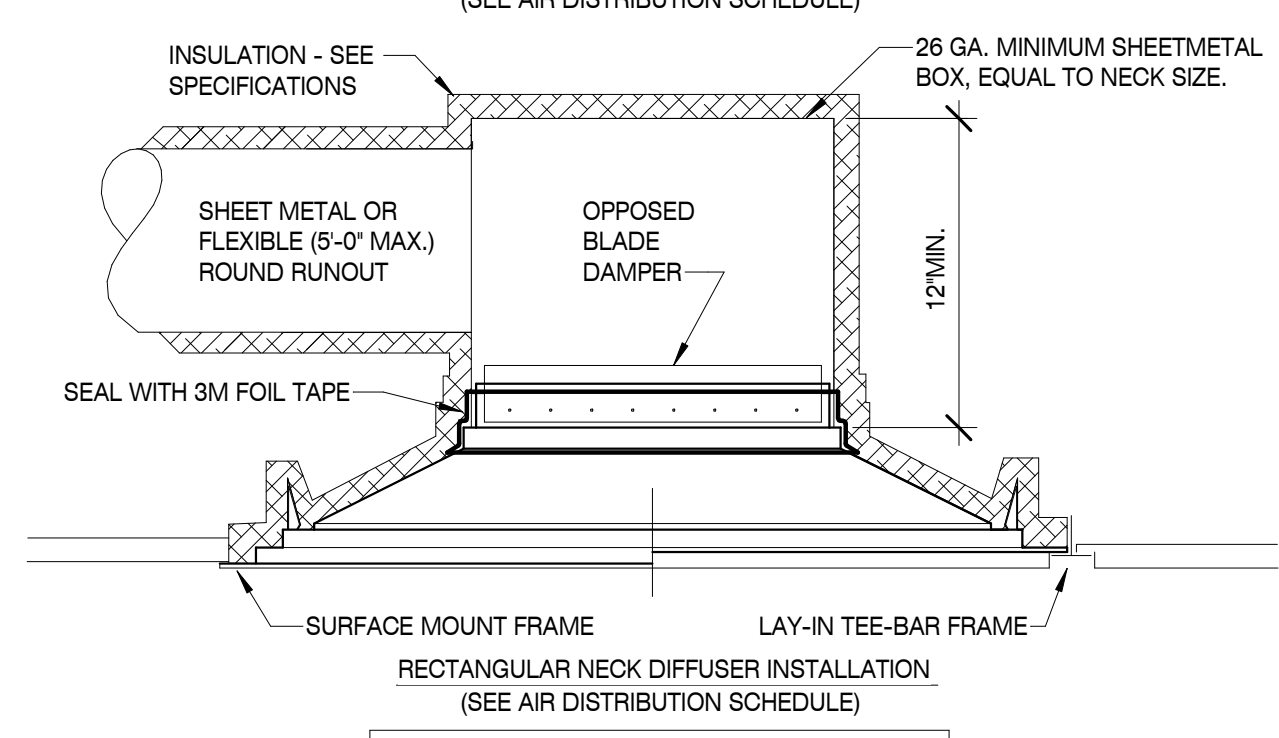
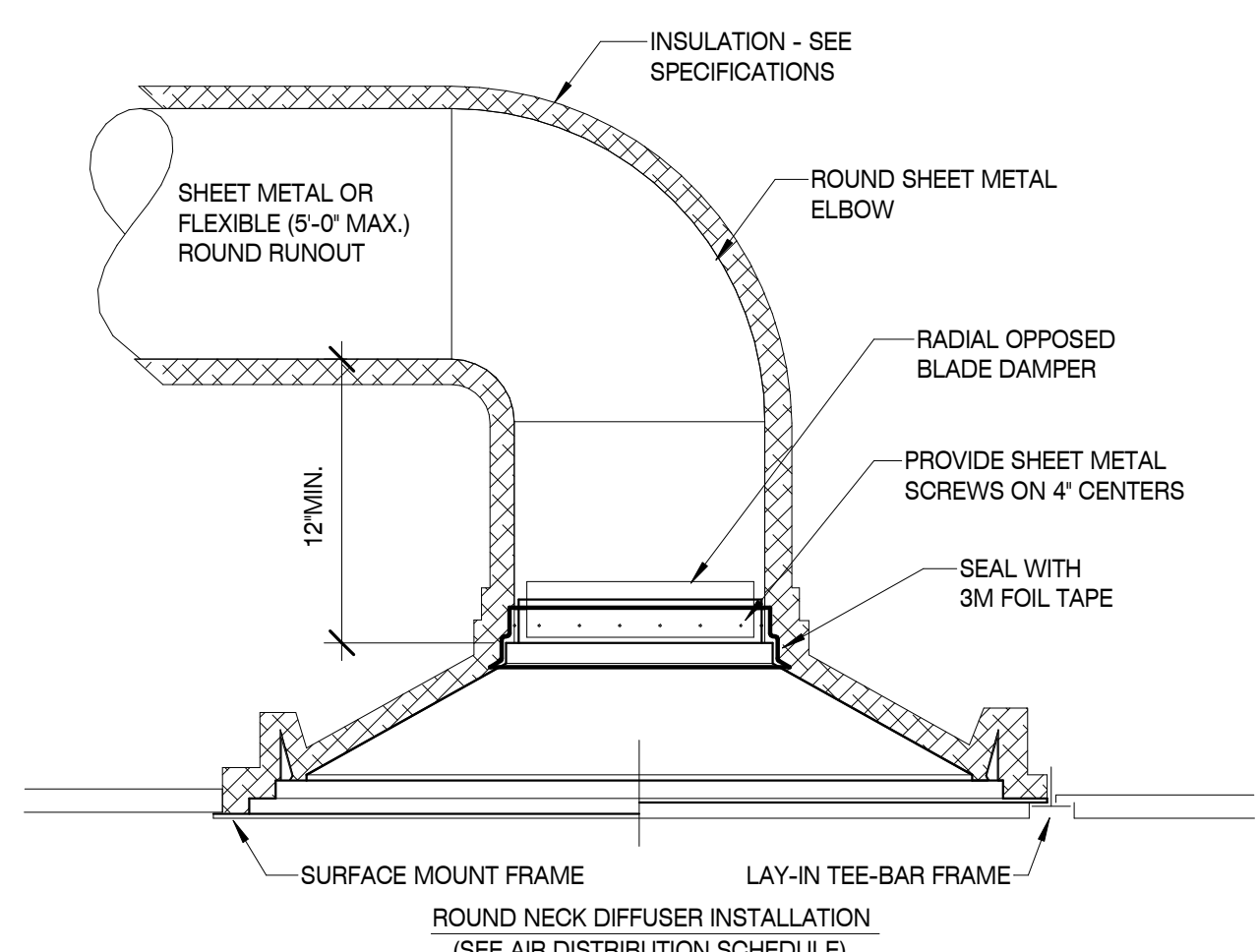


NOTES:
 1. PROVIDE STRUCTURAL SUPPORTS AS REQUIRED TO MAKE INSTALLED UNIT LEVEL.
 2. VERIFY ROOF SLOPE AND CONSTRUCTION. PROVIDE CURB TO MATCH.

ROOF CURB DETAIL

SCALE: N.T.S.

12

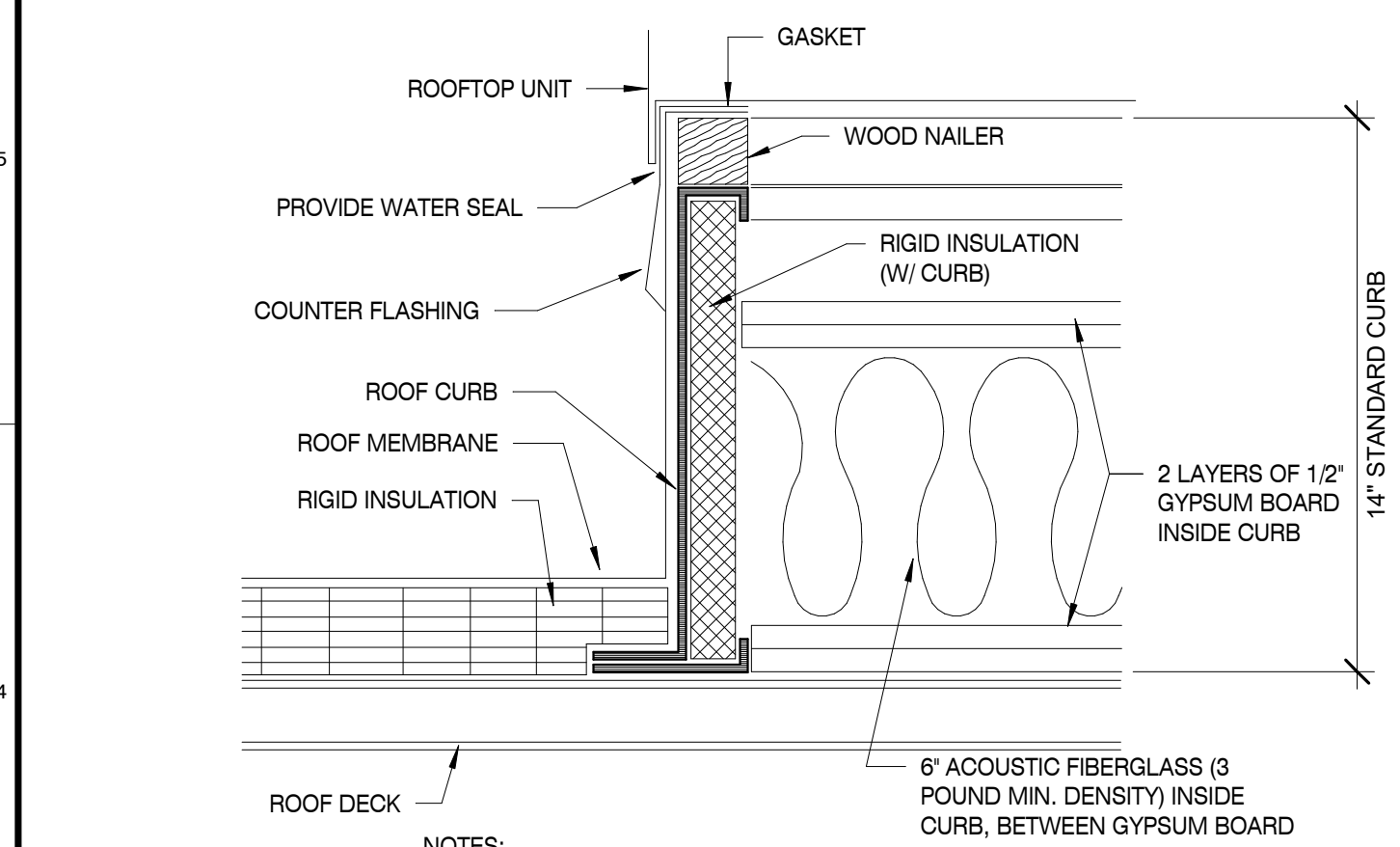


NOTE: WHERE SPACE LIMITATIONS DO NOT PERMIT THE ABOVE ROUND INSTALLATION, AN INSTALLATION SIMILAR TO THE SQUARE NECK MAY BE USED.

TYPICAL CEILING DIFFUSER DETAIL

SCALE: N.T.S.

9

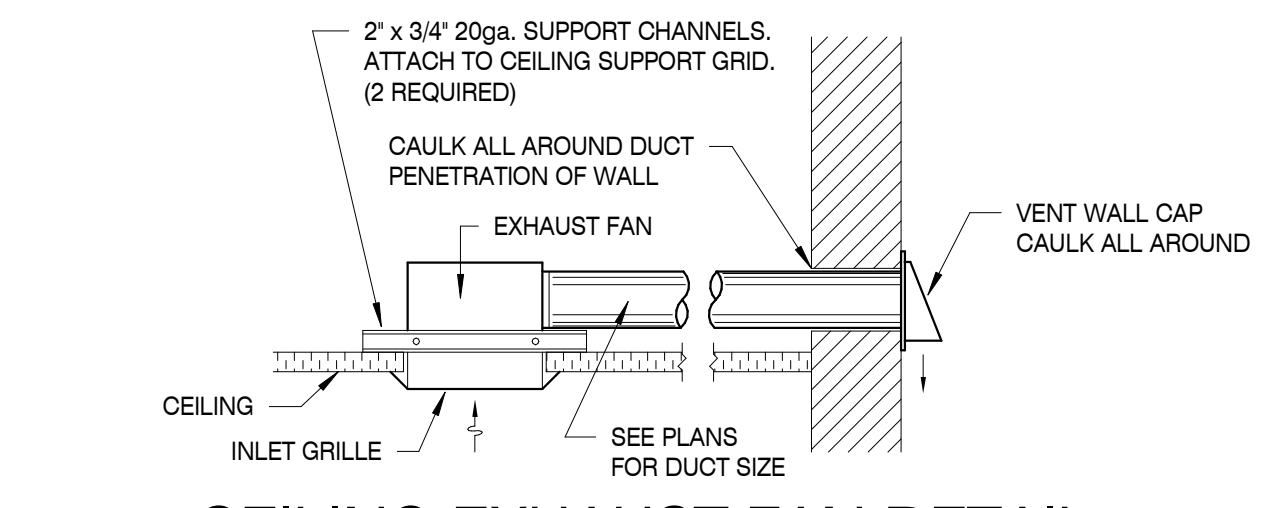


NOTES:
 1. KINETICS MODEL ASR ROOF CURB RAIL ON CUSTOM CURB MODEL CRC-3 CURB, SEISMIC RATED, 14 GA.
 2. PROVIDE STRUCTURAL SUPPORTS AS REQUIRED TO MAKE INSTALLED UNIT LEVEL.
 3. VERIFY ROOF SLOPE AND CONSTRUCTION. PROVIDE CURB TO MATCH.

ROOF CURB DETAIL

SCALE: N.T.S.

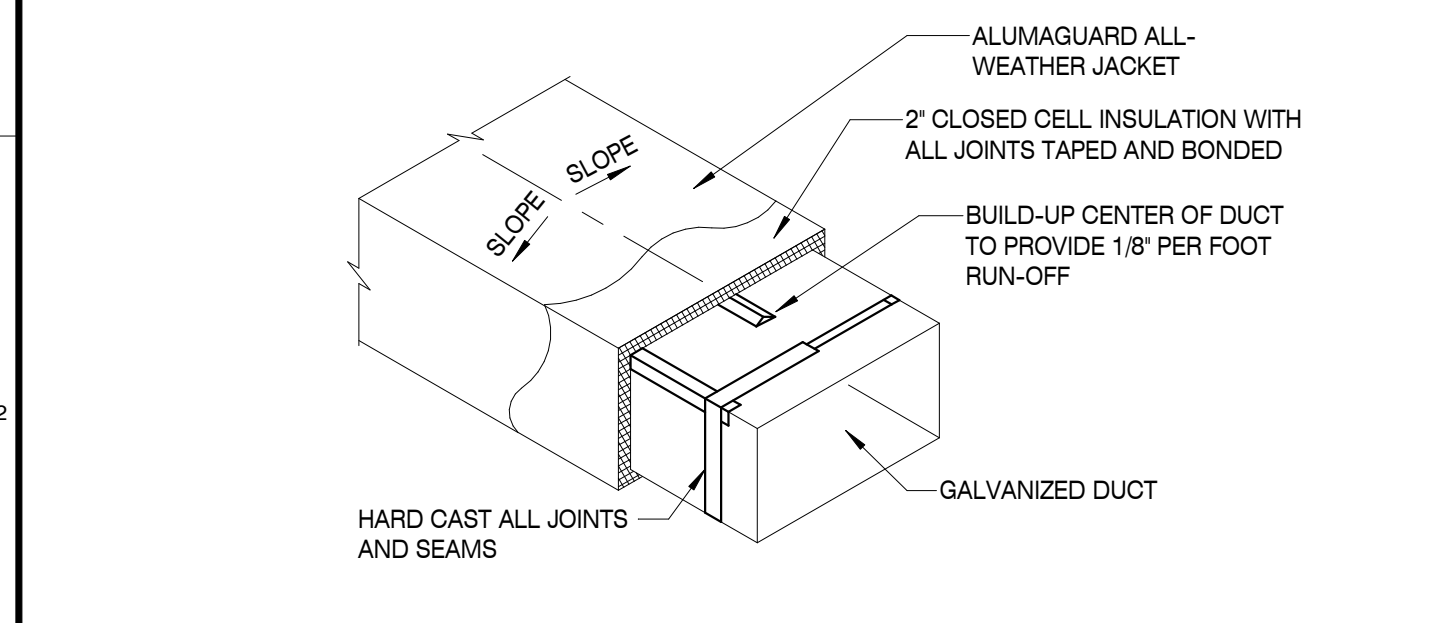
13



CEILING EXHAUST FAN DETAIL

SCALE: N.T.S.

5



DUCT EXPOSED TO WEATHER DETAIL

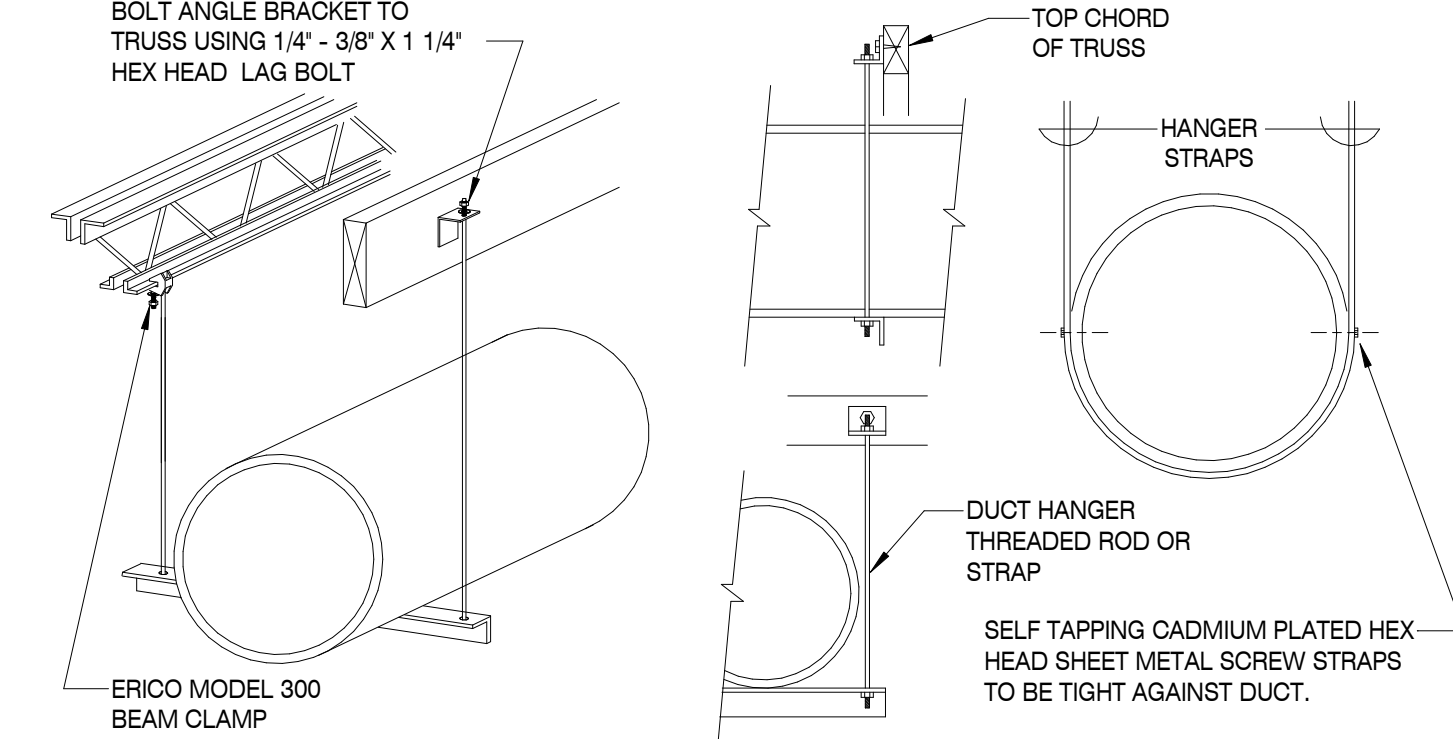
SCALE: N.T.S.

14

HANGER SIZES FOR ROUND DUCT

MAX SIDE	HANGER	HORIZONTAL SUPPORT ANGLE	MAXIMUM SPACING
30"	1"x 18-GAGE STRAP	1-1/2"x1/2"x1/8"	10'-0"
36"	1/4" ROUND ROD	1-1/2"x1/2"x1/8"	8'-0"
48"	1/4" ROUND ROD	2"x2"x1/8"	8'-0"
60"	5/16" ROUND ROD	2"x2"x1/8"	8'-0"
84"	5/16" ROUND ROD	2"x2"x1/8"	8'-0"

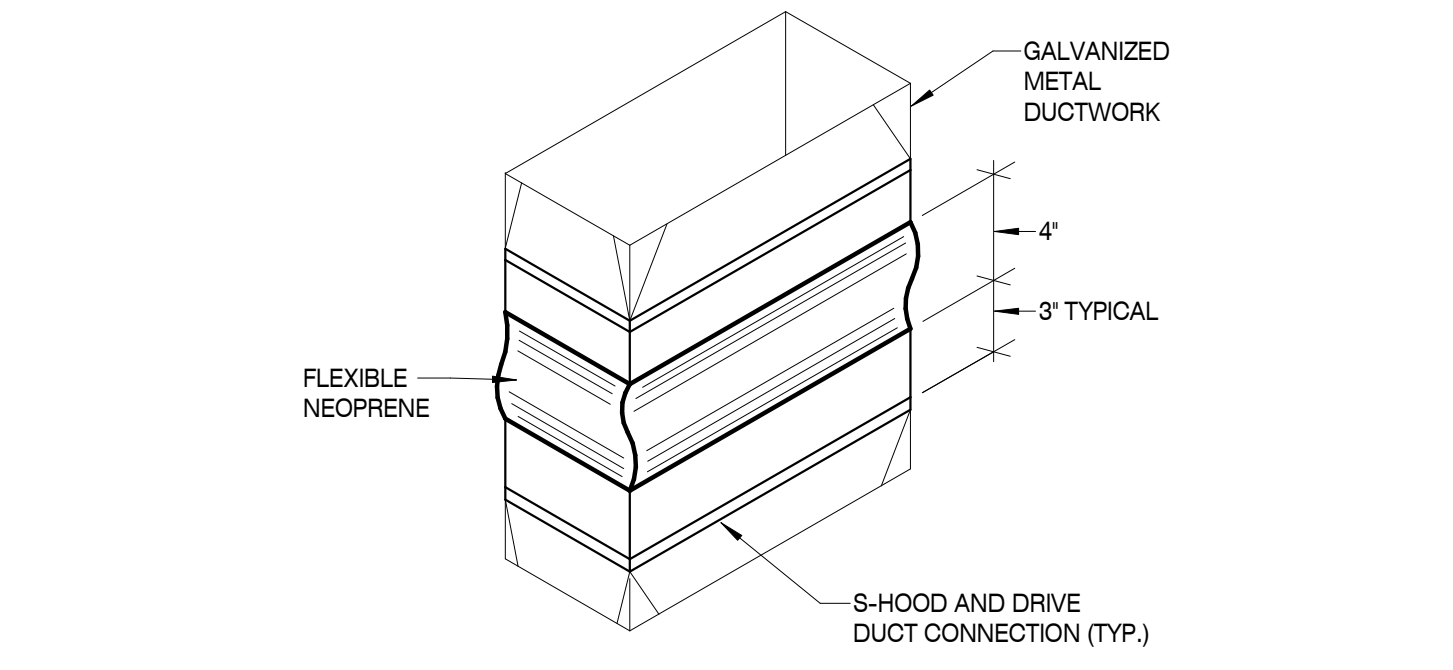
NOTE:
 ALL SUPPLY AIR DUCTS SHALL BE WRAPPED EXTERNALLY AS PER SPECIFICATIONS.
 NO POP RIVETS ALLOWED



ROUND DUCT HANGER DETAIL

SCALE: 1/8" = 1'-0"

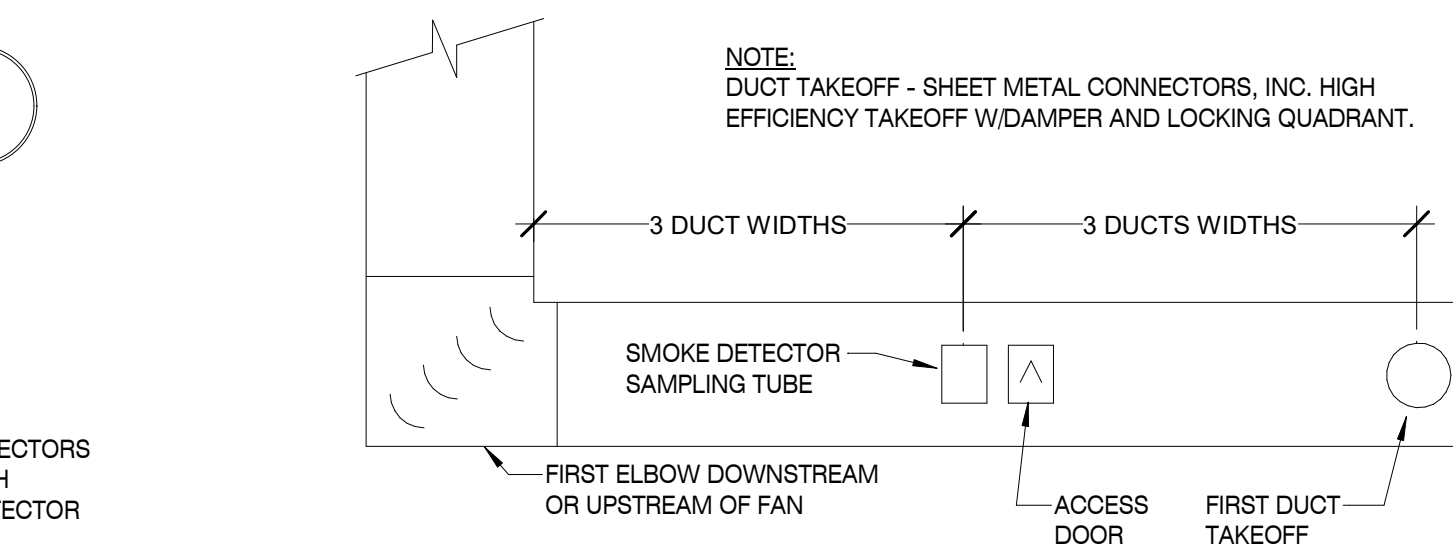
6



FLEXIBLE CONNECTOR DETAIL

SCALE: N.T.S.

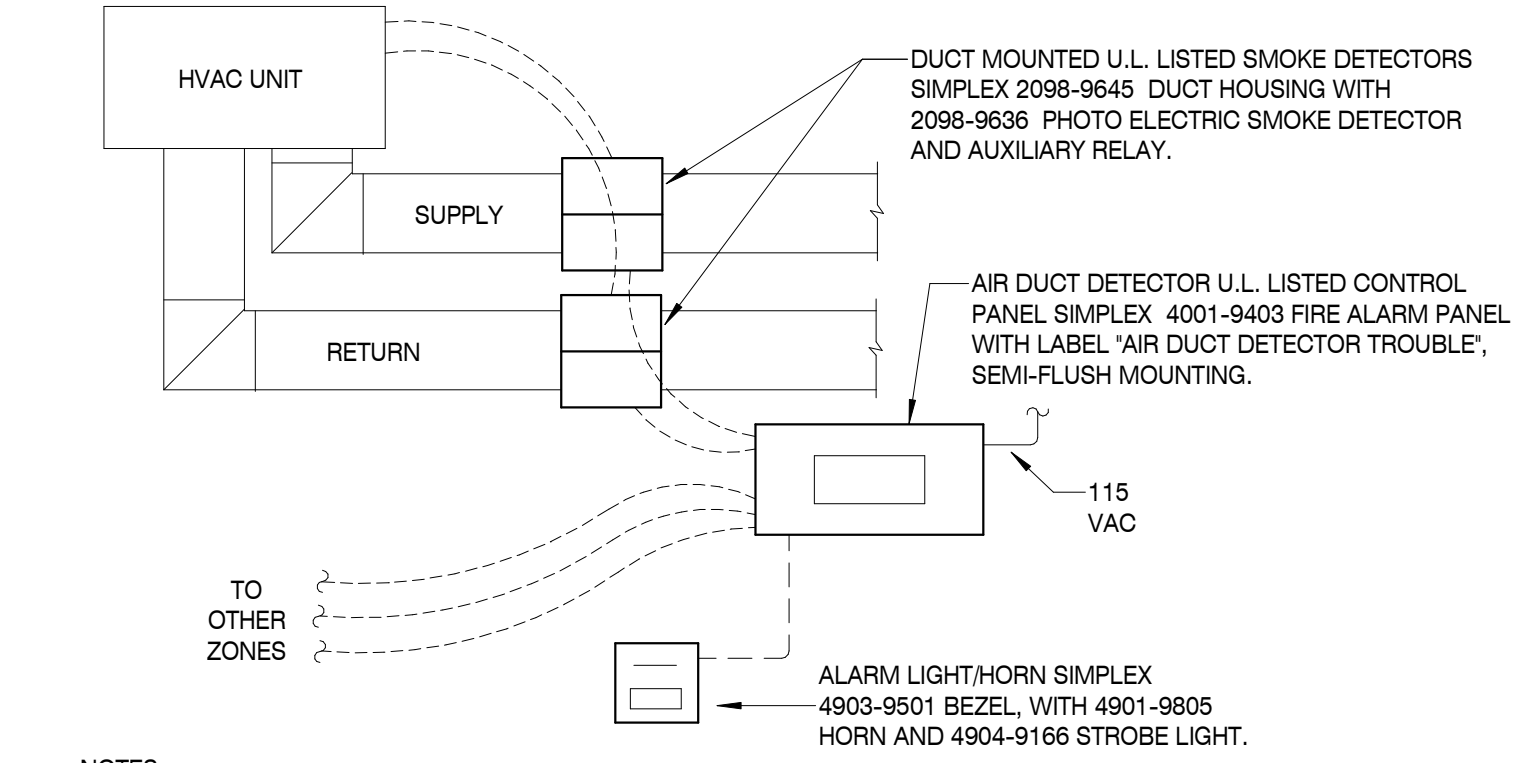
8



DUCT DETECTOR DETAIL

SCALE: N.T.S.

7



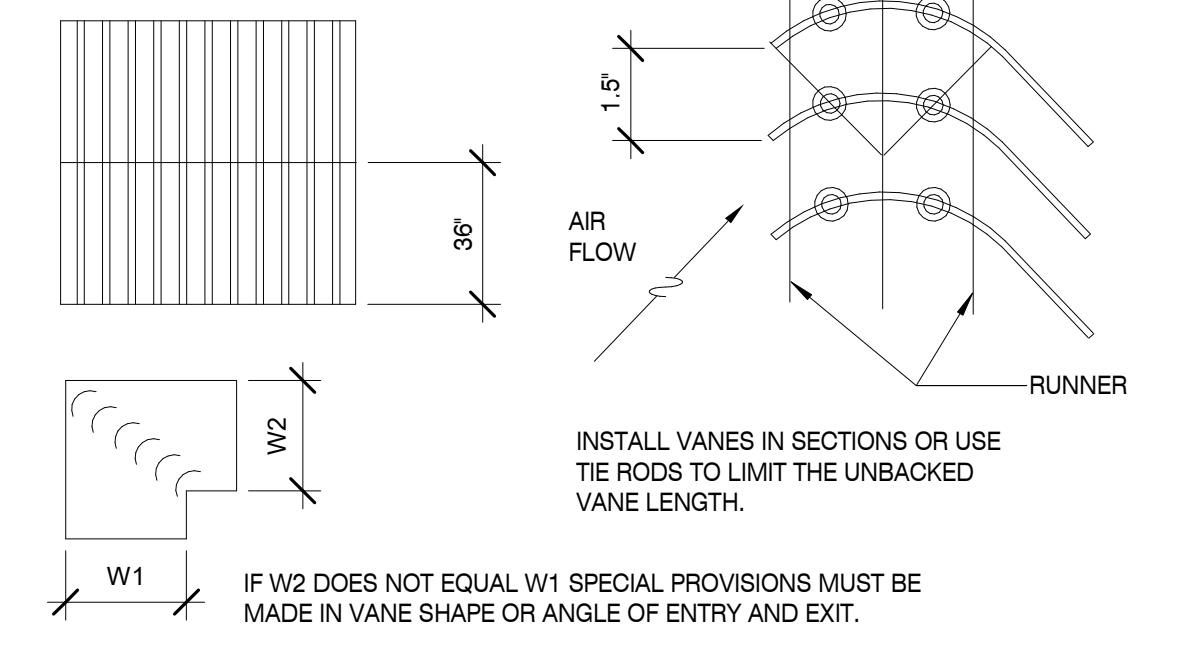
NOTES:
 1. LOCATE FIRE ALARM CONTROL PANEL AND HORN / LIGHT AS INDICATED ON THE DRAWINGS.
 2. INTERLOCK HVAC UNIT TO SHUT DOWN UPON AN ALARM CONDITION.
 3. ALL HVAC UNITS SHALL SHUT DOWN UPON AN ALARM FROM ANY DEVICE.
 4. ALL PANELS AND CONTROL WIRING TO EQUIPMENT SHALL BE BY THE MECHANICAL INSTALLER.
 5. SMOKE DETECTORS AND WIRING TO BE SUPERVISED AND GIVE A TROUBLE ALARM AND LIGHT IF A PROBLEM IS DETECTED.

FIRE ALARM CONTROL DETAIL

SCALE: 1/8" = 1'-0"

10

NOTES:
 - VANES SHALL BE SECURELY FASTENED TO RUNNERS.
 - ALL VANES SHALL BE SECURE AND STABLE IN INSTALLED OPERATING POSITION.
 - CARE MUST BE EXERCISED WHEN INSTALLING VANES IN DUCTWORK TO BE LINED AND IN FIBROUS GLASS DUCT.
 - MAXIMUM UNSUPPORTED VANE LENGTH SHALL BE 36"



TURNING VANES DETAIL

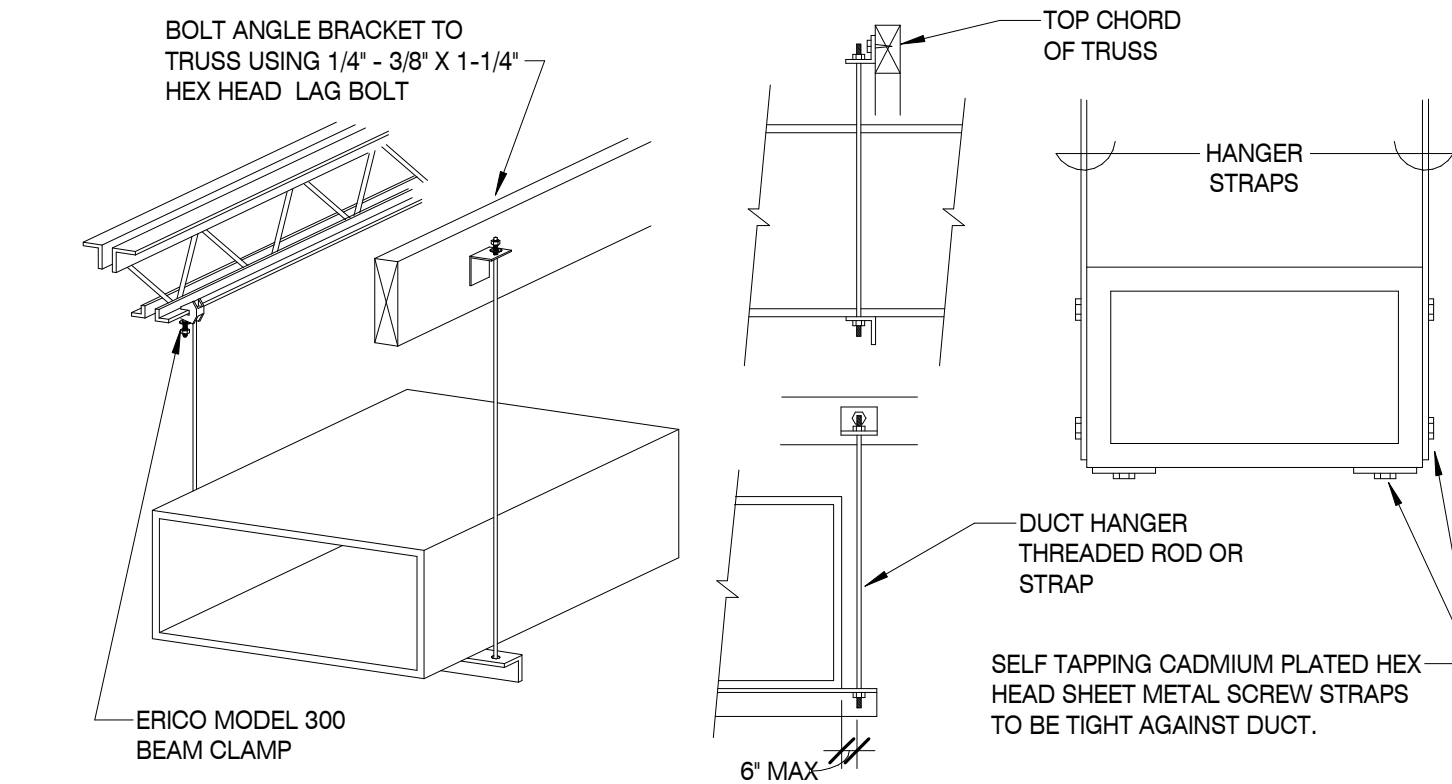
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1

HANGER SIZES FOR ROUND DUCT

MAX SIDE	HANGER	HORIZONTAL SUPPORT ANGLE	MAXIMUM SPACING
30"	1"x 18-GAGE STRAP	NONE REQUIRED	10'-0"
36"	1/4" ROUND ROD	1-1/2"x1/2"x1/8"	8'-0"
48"	1/4" ROUND ROD	1-1/2"x1/2"x1/8"	8'-0"
60"	5/16" ROUND ROD	2"x2"x1/8"	8'-0"

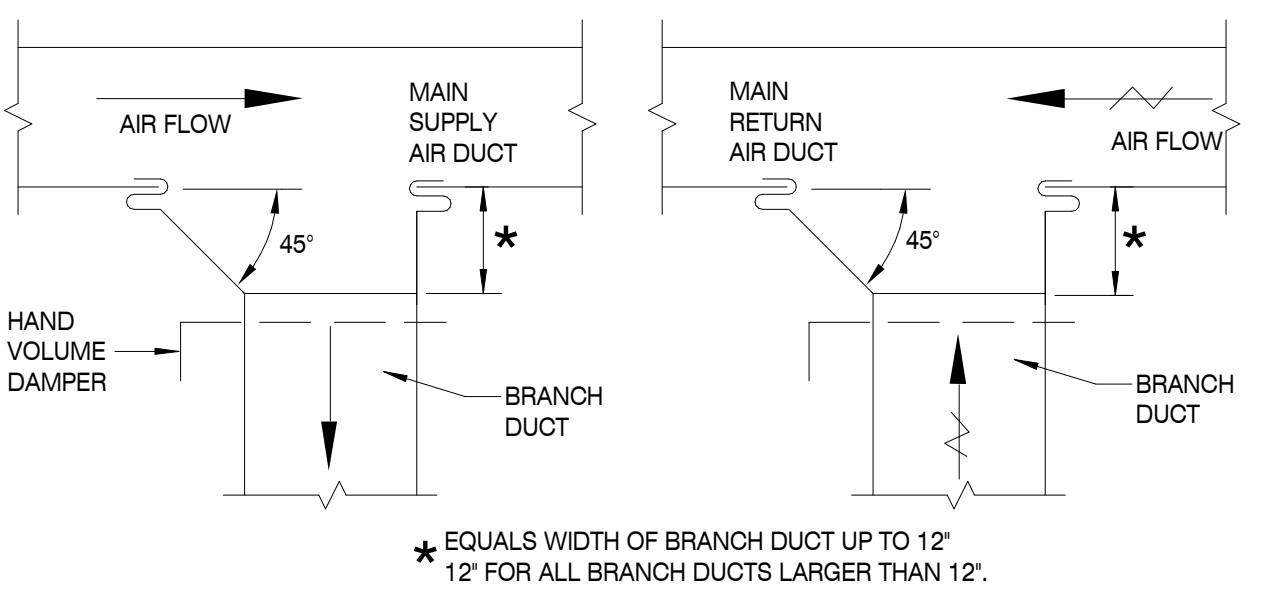
NOTE:
 ALL SUPPLY AIR DUCTS SHALL BE WRAPPED EXTERNALLY AS PER SPECIFICATIONS.
 NO POP RIVETS ALLOWED



RECTANGULAR DUCT HANGER DETAIL

SCALE: N.T.S.

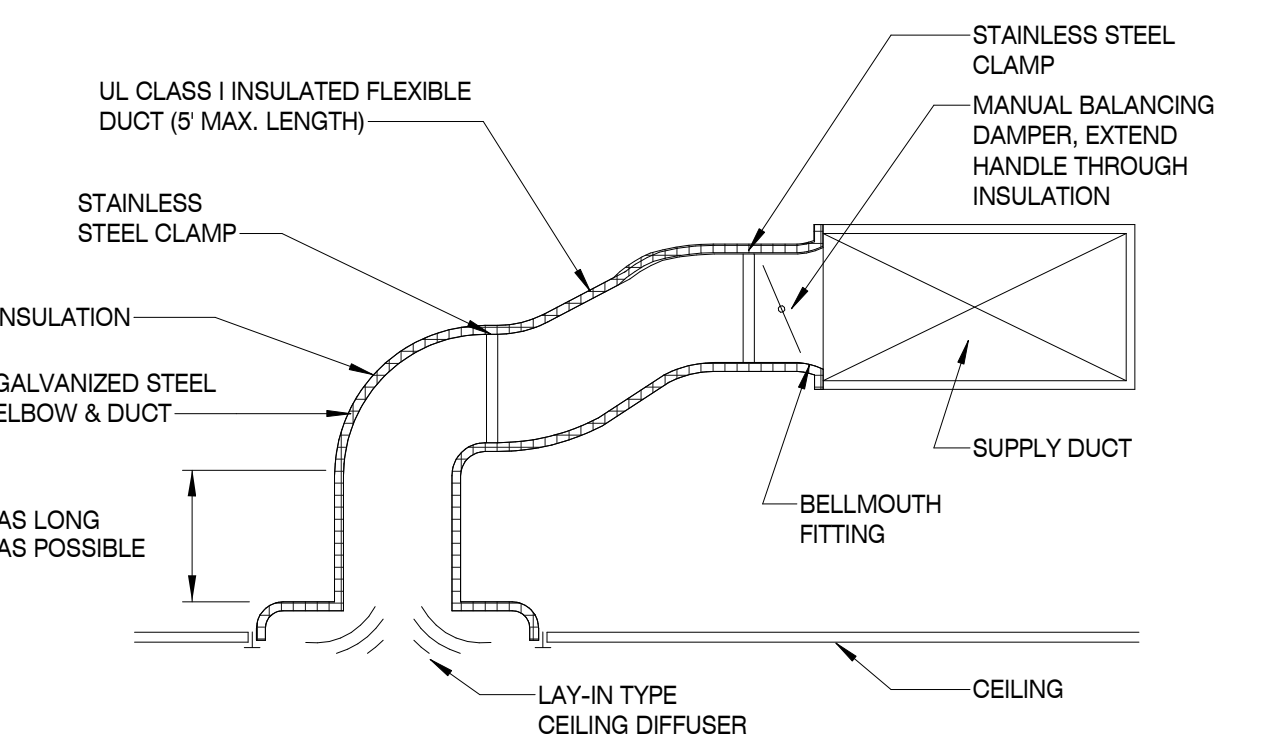
2



BRANCH DUCT TAKE-OFF DETAIL

SCALE: N.T.S.

3



SUPPLY BRANCH TAKE-OFF DETAIL

SCALE: N.T.S.

4

MBI

MBI COMPANIES INC.
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 KNOXVILLE, TN 37919
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CONSULTANT
 MECHANICAL ENGINEER:

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PROJECT INFORMATION

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AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:
 5 NORRIS SQUARE, NORRIS, TN 37828
 PROJECT NO.: **210042-04**

ACTIVE DESIGN PHASE

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REVISION INFORMATION

NO.	DATE	DESCRIPTION

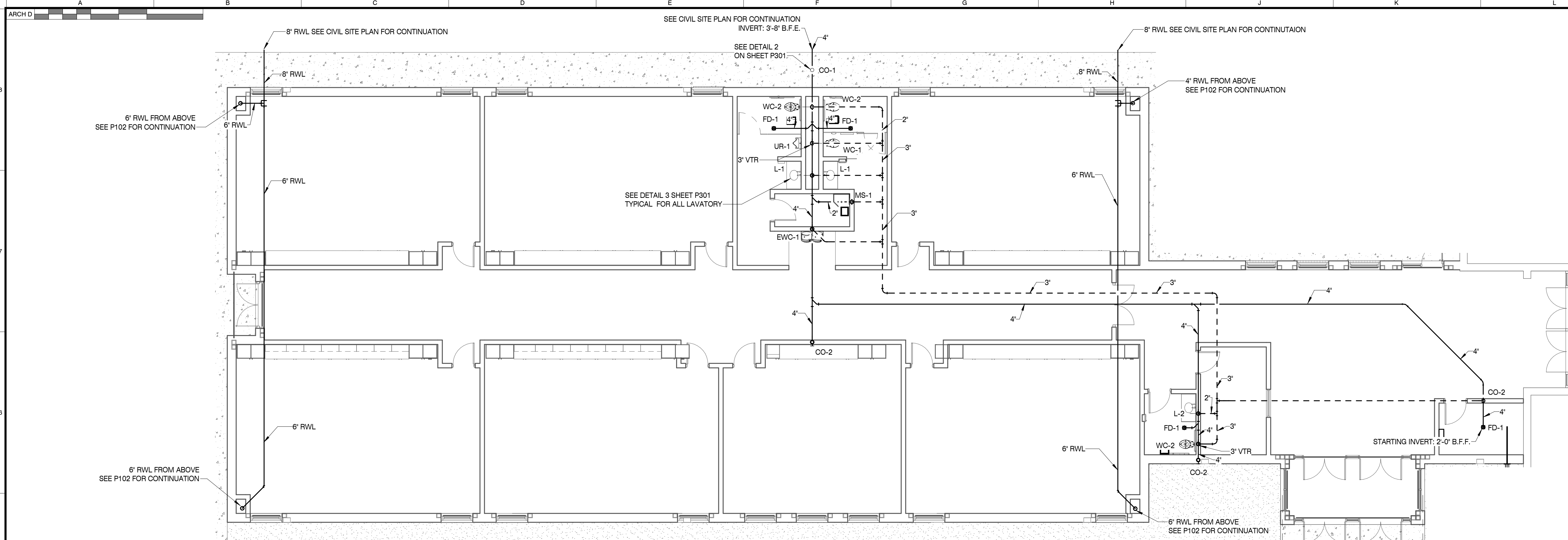
KEY PLAN

SHEET INFORMATION
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 DESIGNED BY: DF
 DRAWN BY: DF
 REVIEWED BY: JCB
 SHEET TITLE:

HVAC DETAILS

SHEET NO.: **M201**

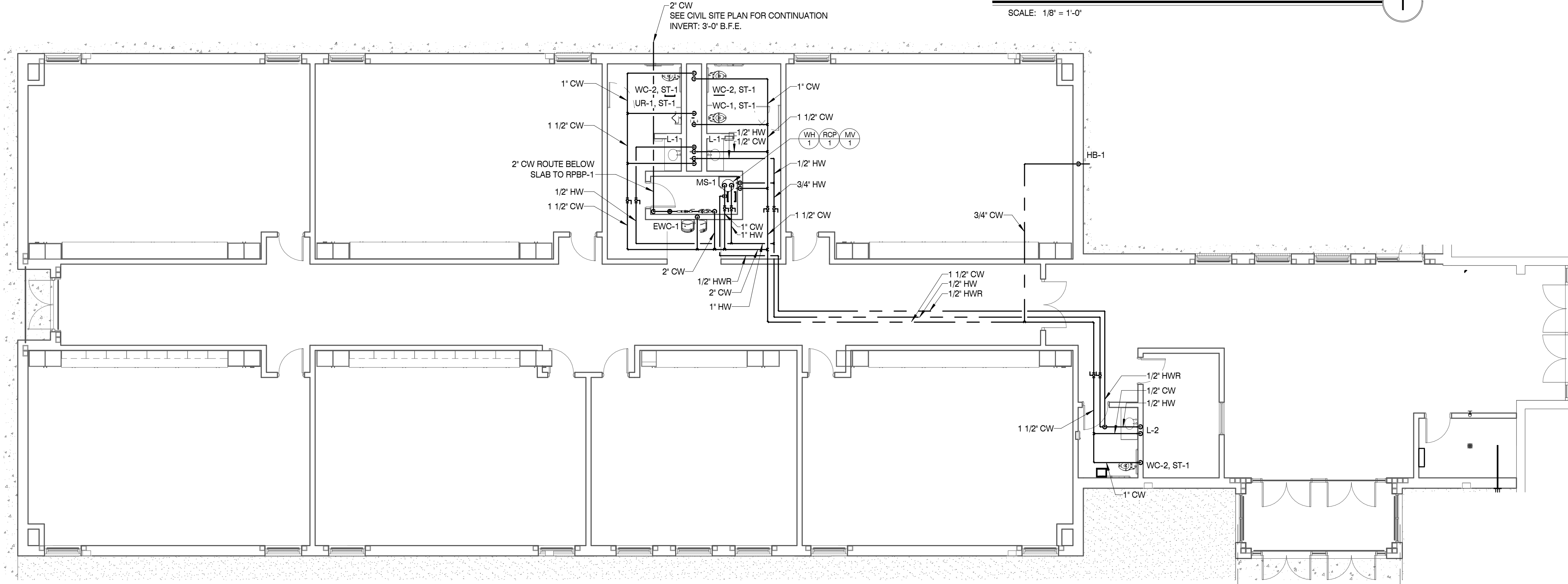
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FLOOR PLAN - SANITARY

SCALE: 1/8" = 1'-0"

1



FLOOR PLAN - WATER

SCALE: 1/8" = 1'-0"

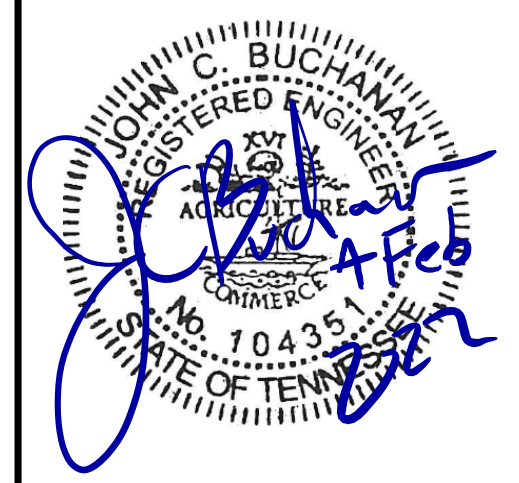
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PROJECT INFORMATION

PROJECT:
AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:
5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: **210042-04**

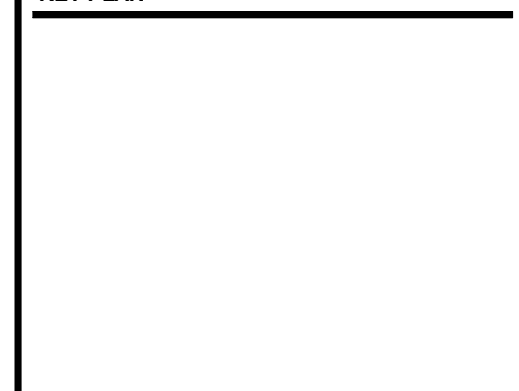
ACTIVE DESIGN PHASE

- FOR REVIEW ONLY
- FOR PERMITTING ONLY
- SCHEMATIC DESIGN
- DESIGN DEVELOPMENT
- CONSTRUCTION BIDDING
- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

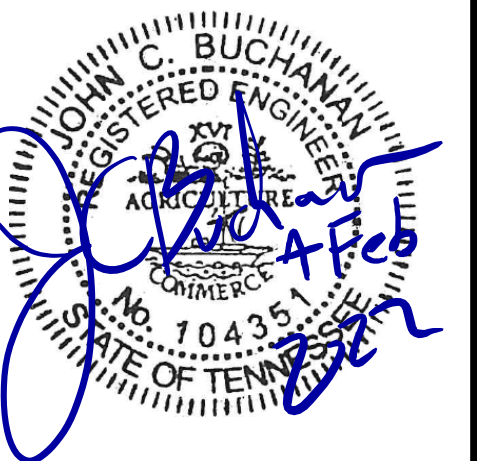


SHEET INFORMATION

SHEET ISSUED: 2/4/2022
DESIGNED BY: KAS
DRAWN BY: KAS
REVIEWED BY: JCB
SHEET TITLE:

FLOOR PLAN - PLUMBING

SHEET NO.: **P101**



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PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: **210042-04**

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- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN



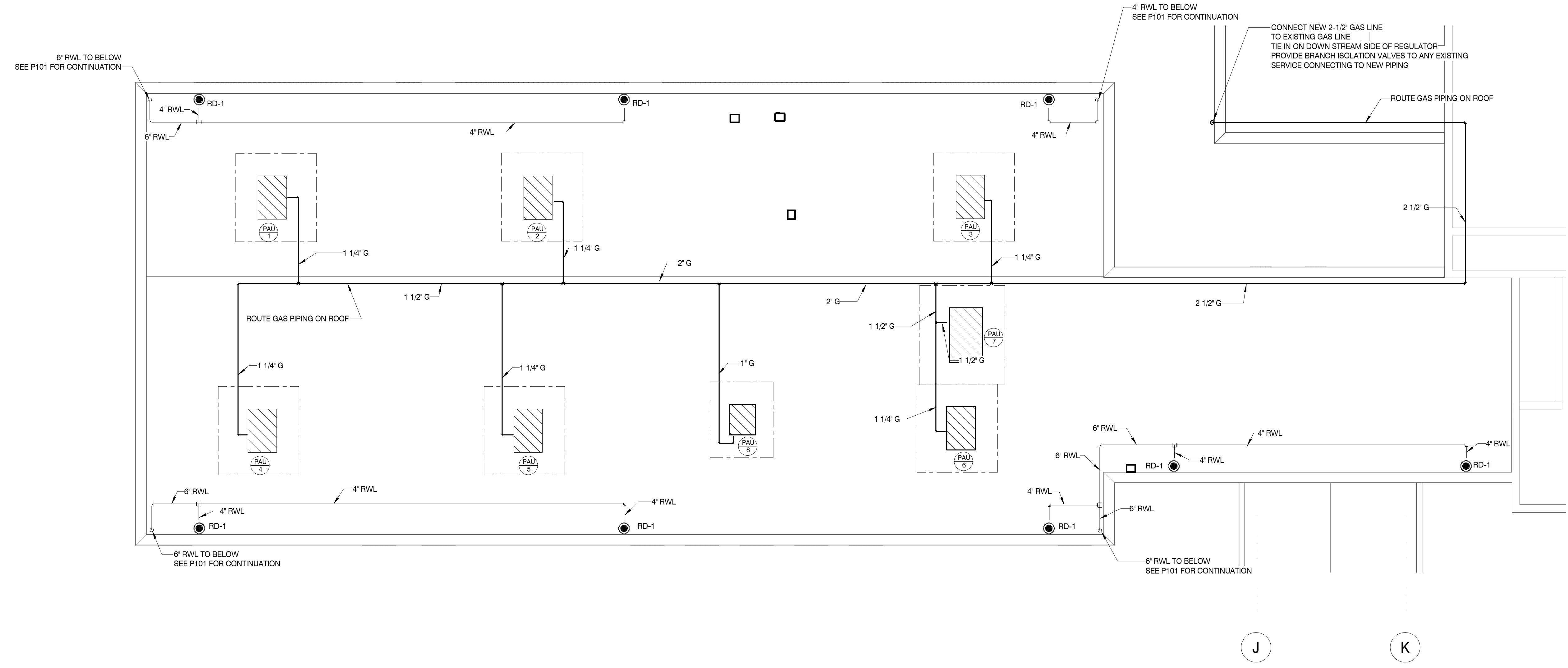
SHEET INFORMATION

SHEET ISSUED: 2/4/2022
DESIGNED BY: DF
DRAWN BY: DF
REVIEWED BY: JCB
SHEET TITLE:

ROOF PLAN - PLUMBING

SHEET NO.:

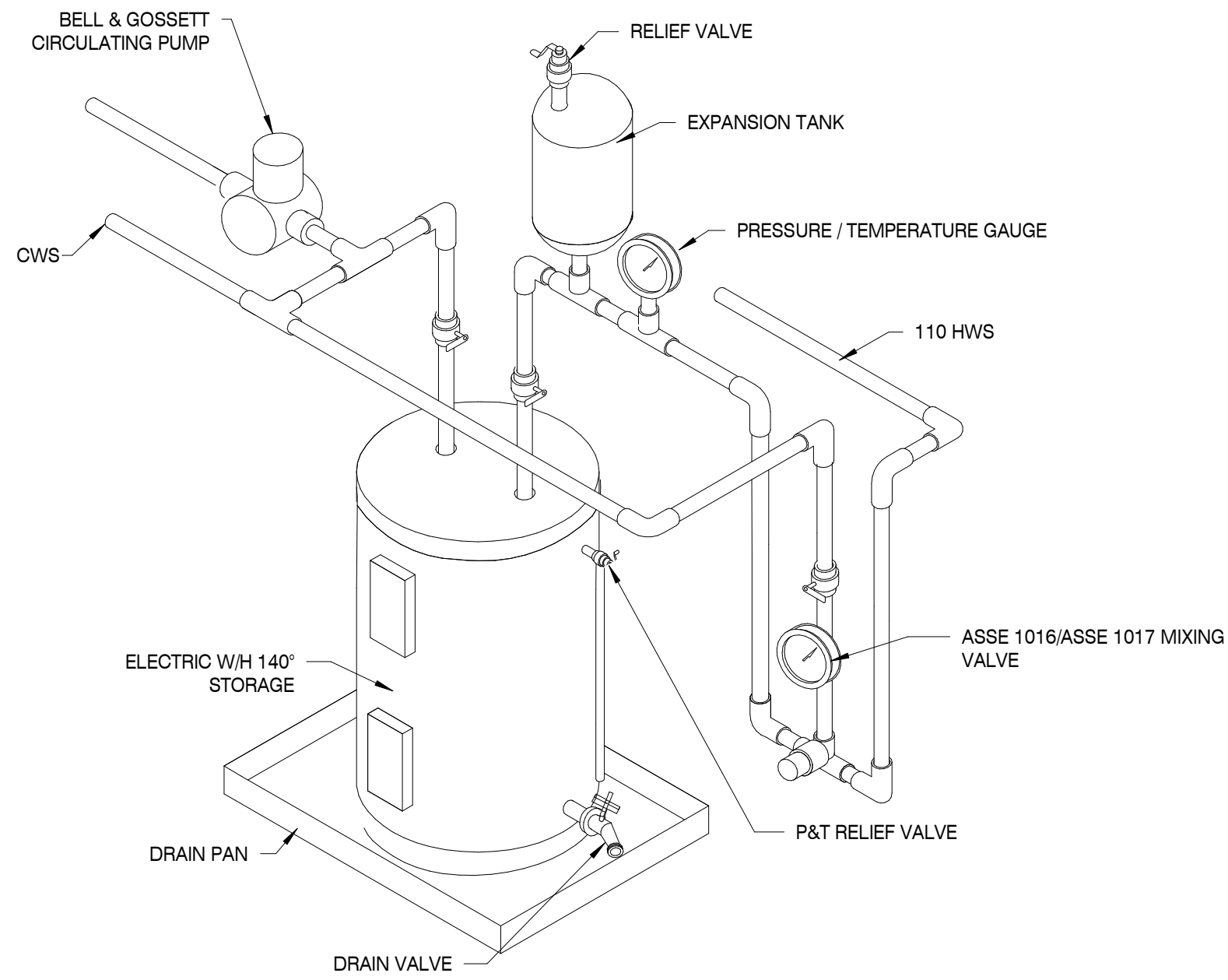
P102



ROOF PLAN - PLUMBING

SCALE: 1/8" = 1'-0"

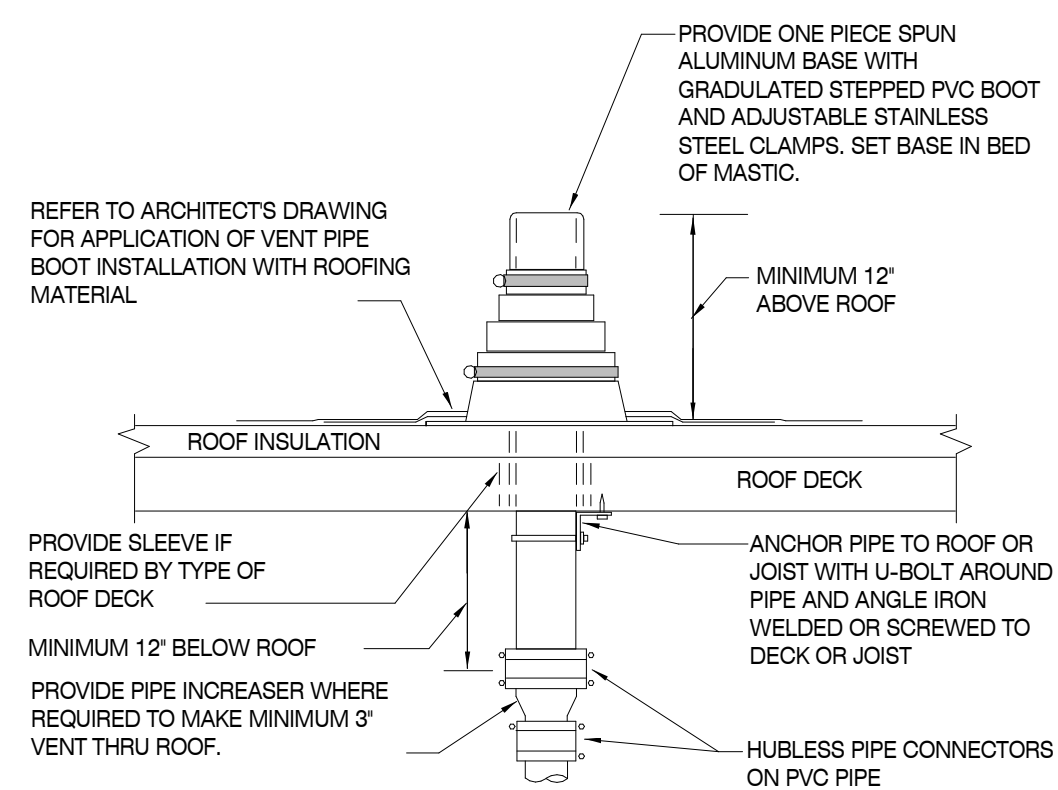
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ELECTRIC WATER HEATER DETAIL

SCALE: N.T.S.

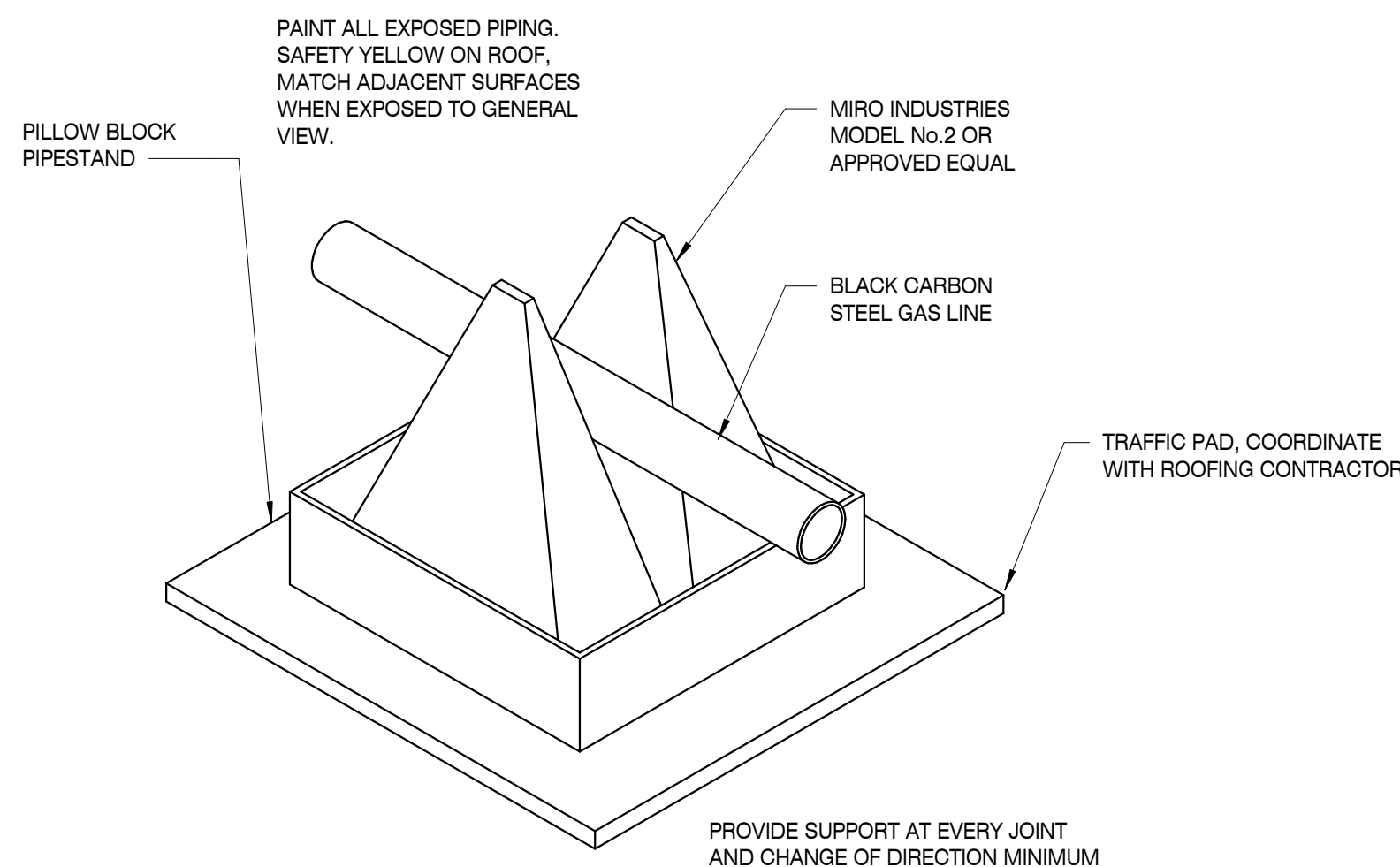
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VENT THROUGH ROOF DETAIL

SCALE: 3" = 1'-0"

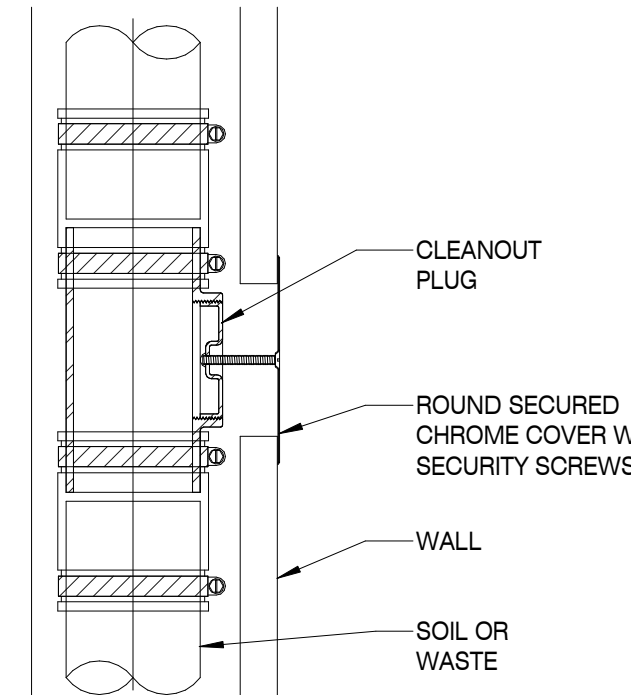
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GAS LINE SUPPORT DETAIL

SCALE: N.T.S.

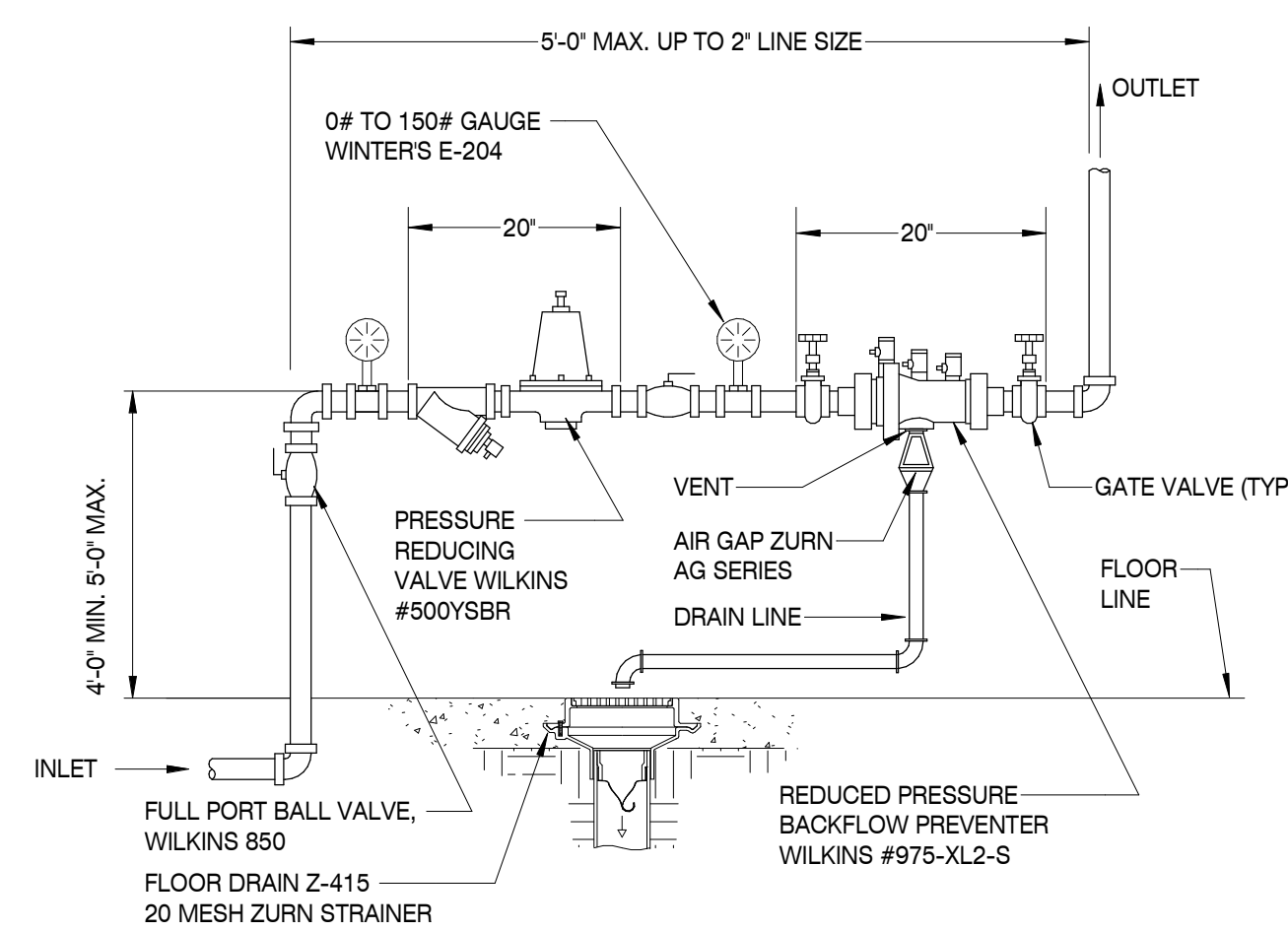
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WALL CLEANOUT DETAIL

SCALE: N.T.S.

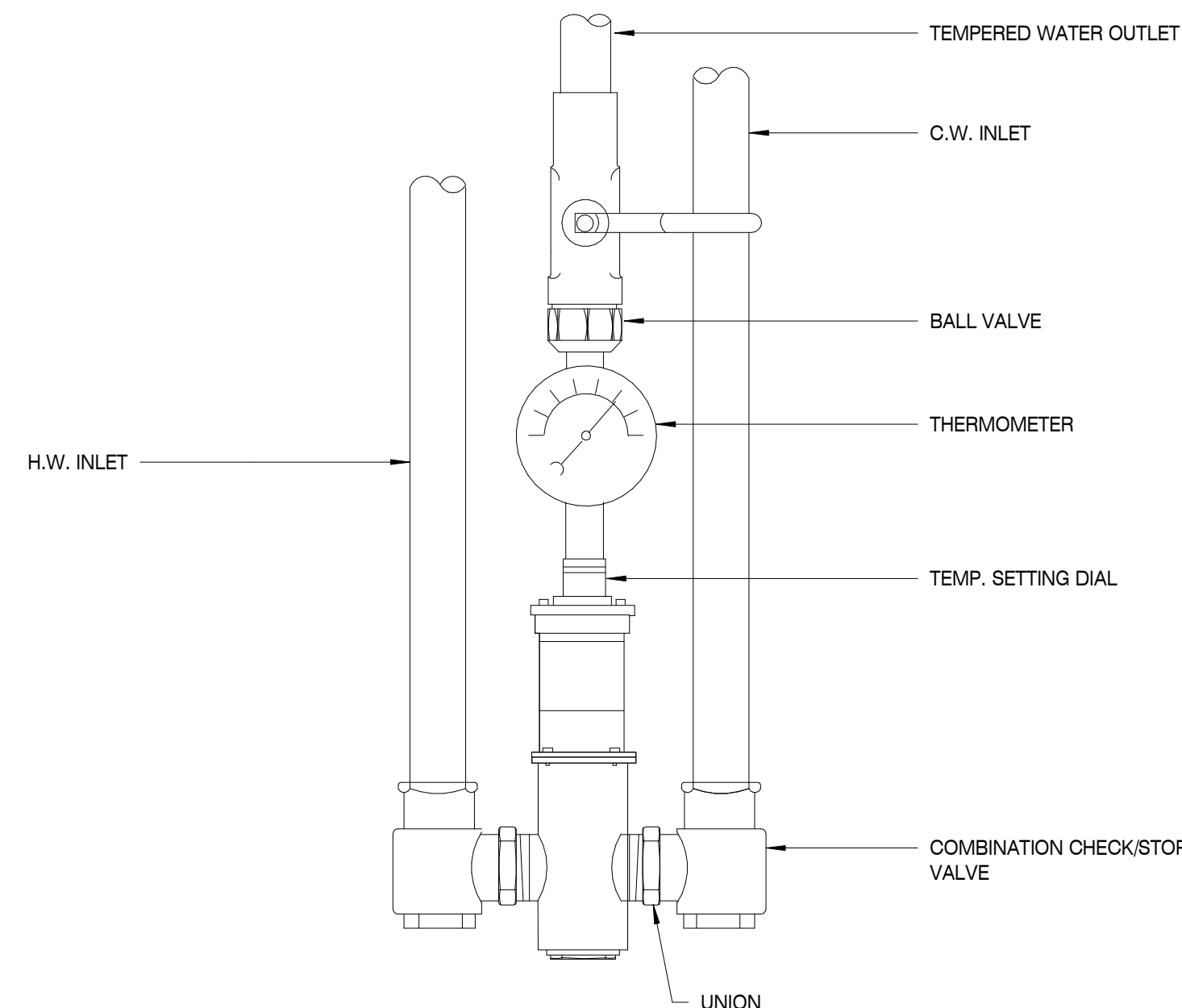
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WATER SERVICE ENTRANCE DETAIL

SCALE: 1/8" = 1'-0"

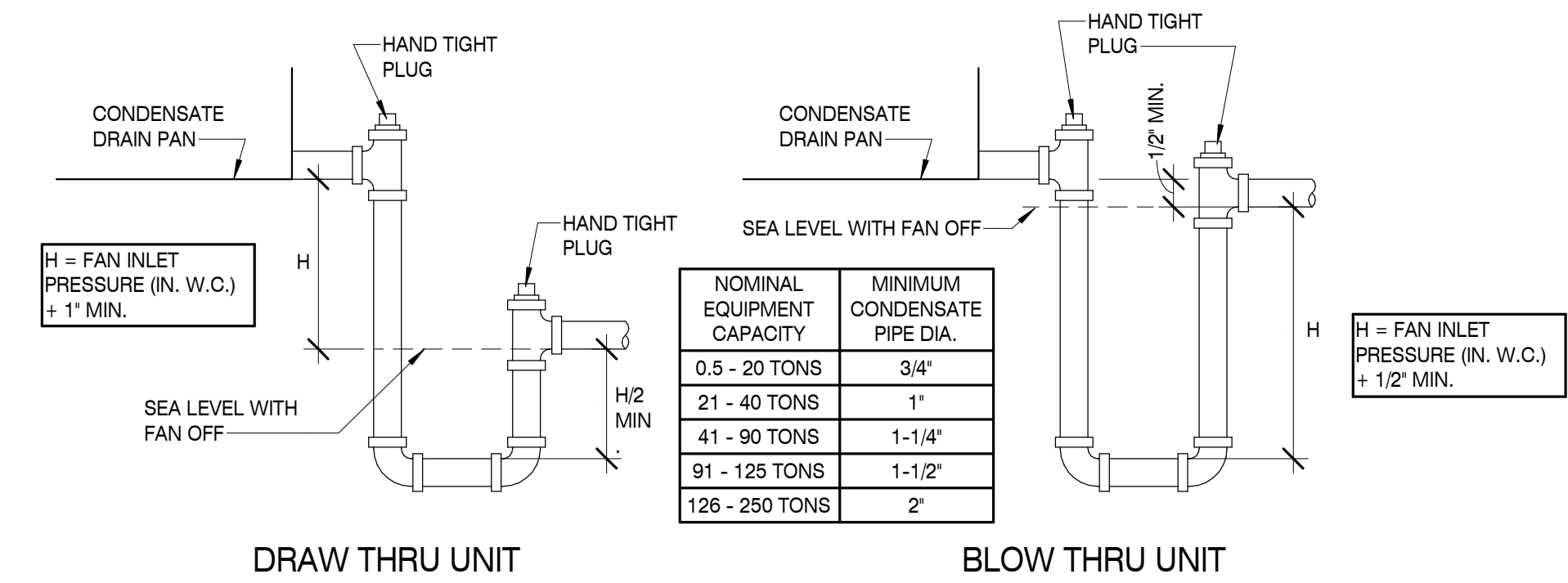
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MIXING VALVE DETAIL

SCALE: N.T.S.

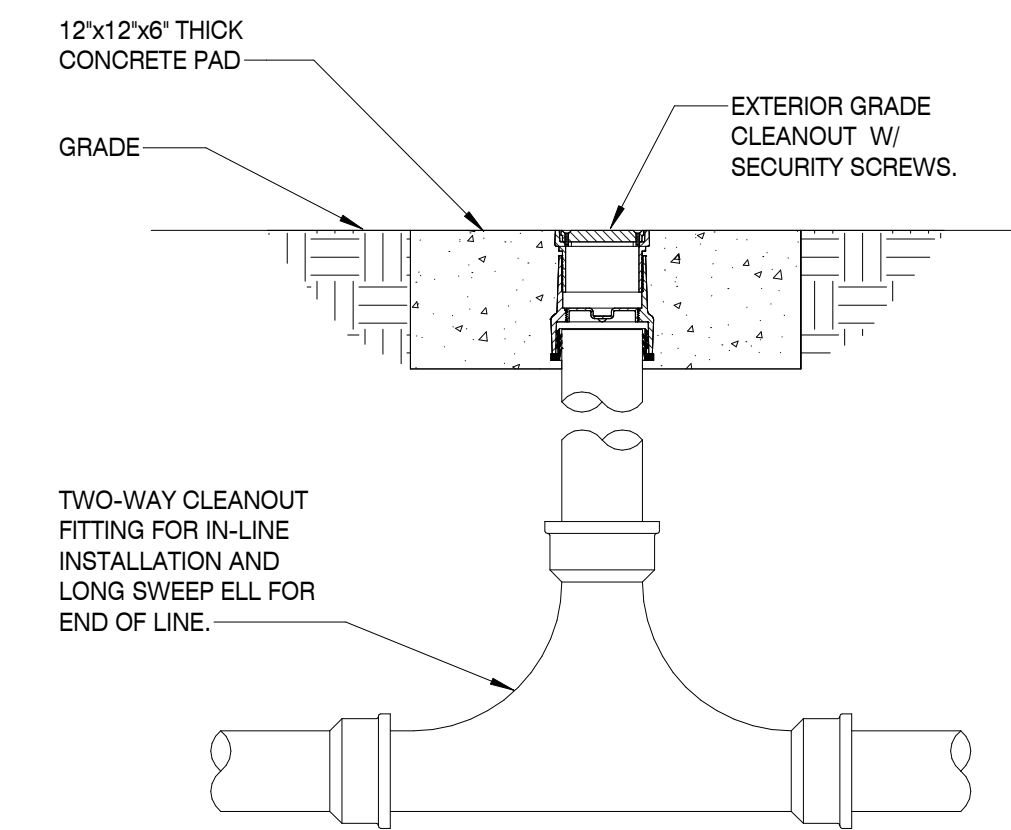
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CONDENSATE TRAP DETAIL

SCALE: 1/8" = 1'-0"

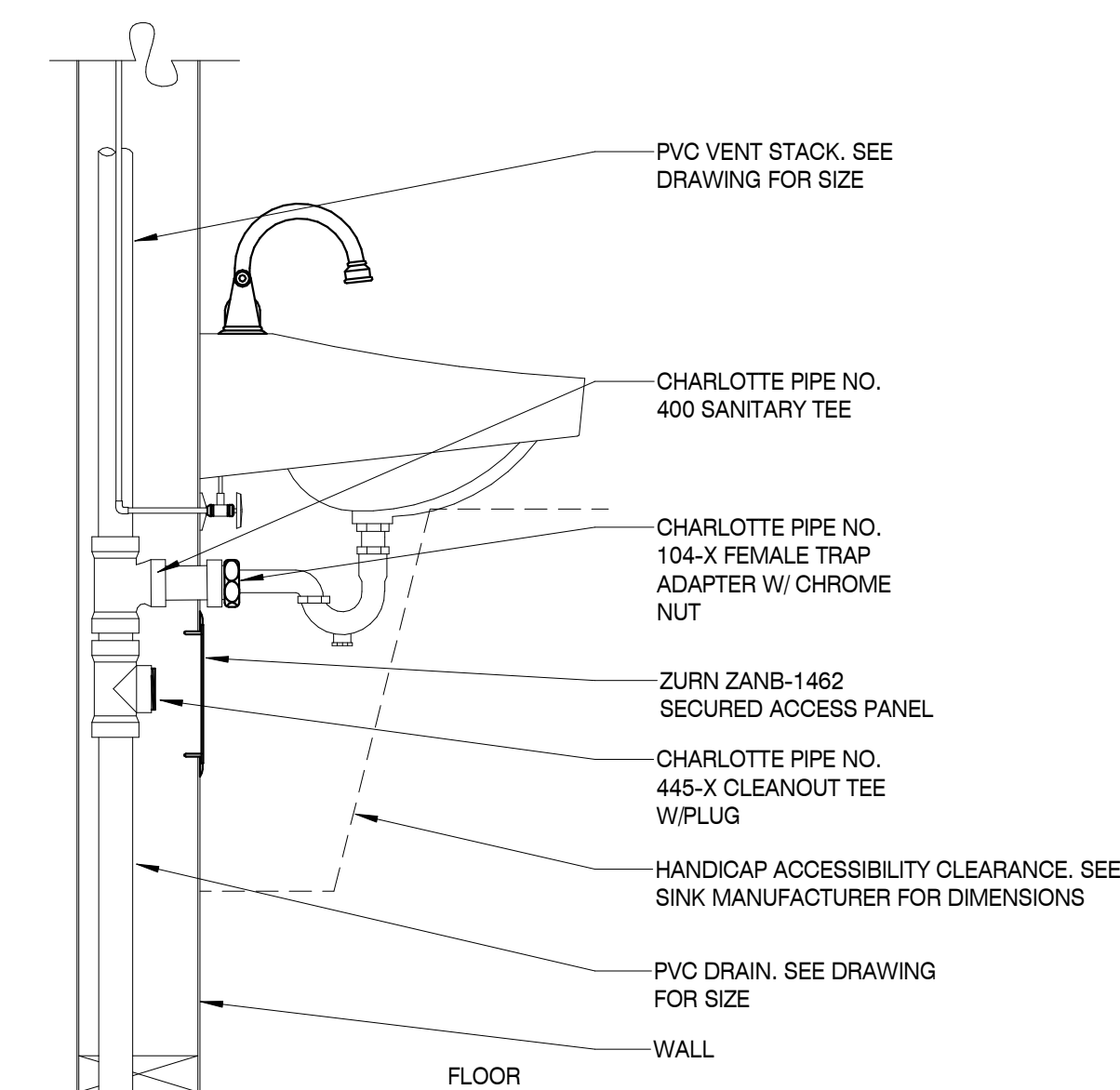
1



EXTERIOR GRADE CLEANOUT

SCALE: N.T.S.

2



STACK CLEANOUT DETAIL

SCALE: 1/8" = 1'-0"

3

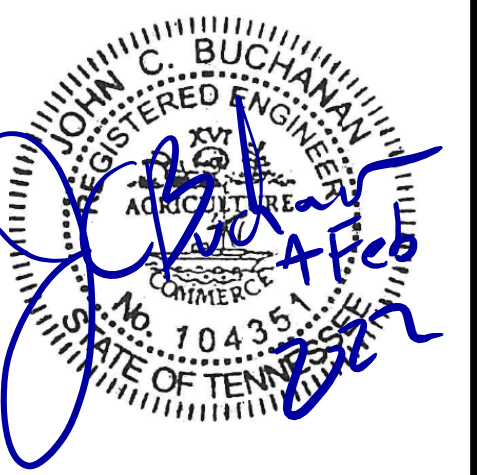
MBI

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CONSULTANT
MECHANICAL ENGINEER:

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PROJECT INFORMATION

PROJECT:

AN ADDITION &
RENOVATION TO:
NORRIS MIDDLE
SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

- FOR REVIEW ONLY
- FOR PERMITTING ONLY
- SCHEMATIC DESIGN
- DESIGN DEVELOPMENT
- CONSTRUCTION BIDDING
- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN



SHEET INFORMATION

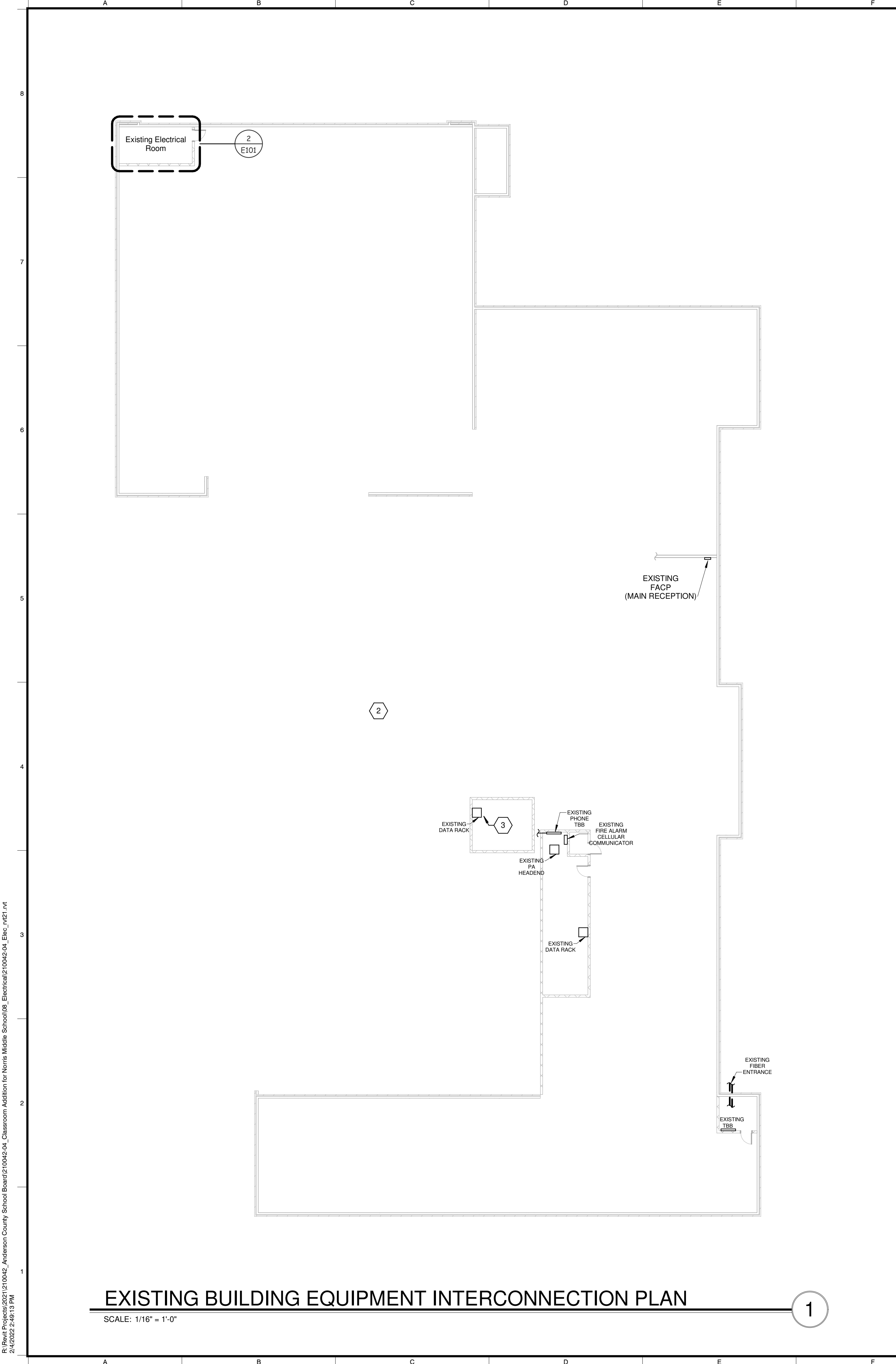
SHEET ISSUED: 2/4/2022
DESIGNED BY: KAS
DRAWN BY: KAS
REVIEWED BY: JCB
SHEET TITLE:

PLUMBING DETAILS

SHEET NO.:

P301

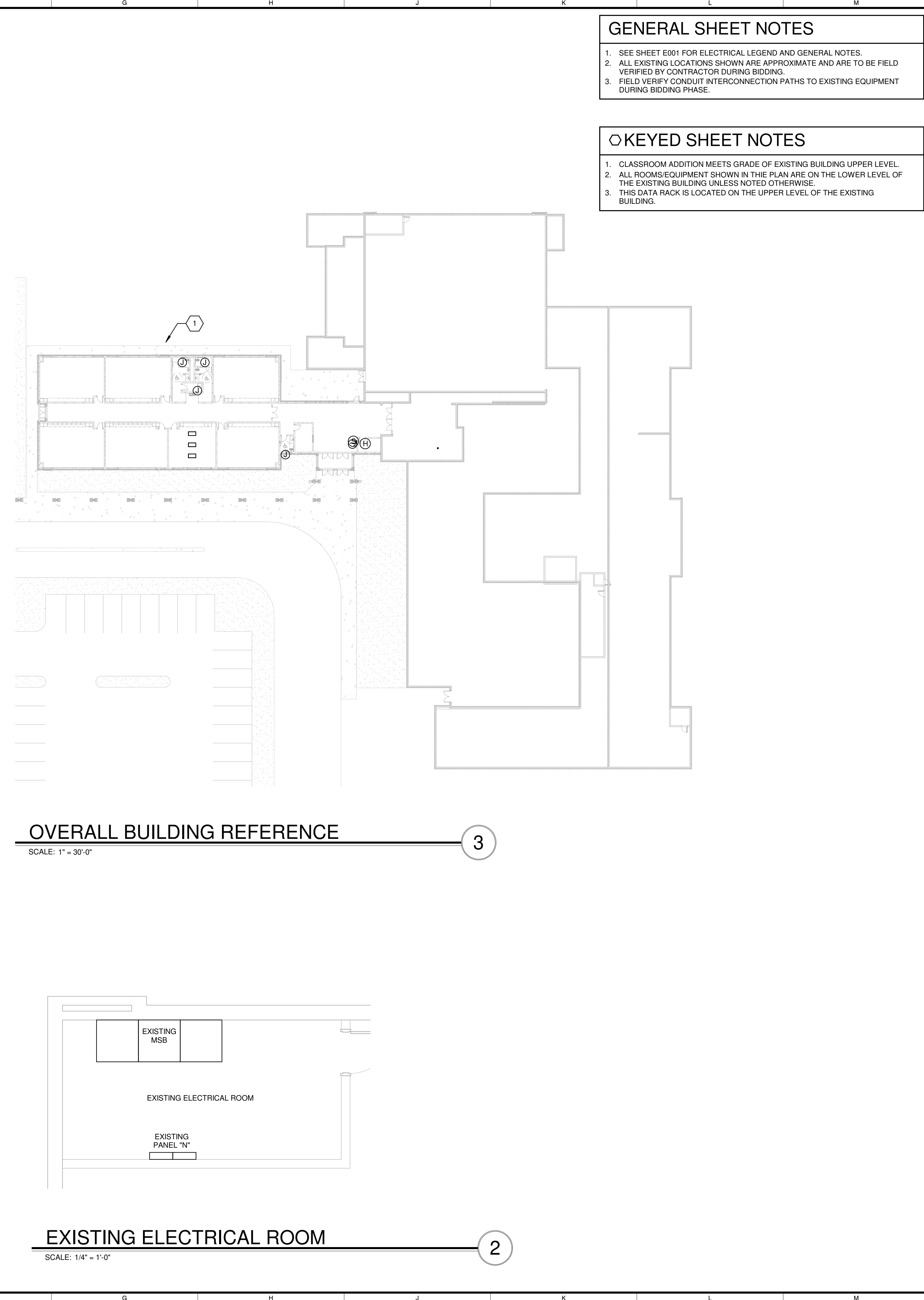
C:\Users\mmb\OneDrive\Documents\Norris MS_210042_FPB&HAC017_210042-04_MECH.dwg (mmb) mmb\k301.dwg 2/4/2022 2:11:22 PM



EXISTING BUILDING EQUIPMENT INTERCONNECTION PLAN

SCALE: 1/16" = 1'-0"

1



EXISTING ELECTRICAL ROOM

SCALE: 1/4" = 1'-0"

2

GENERAL SHEET NOTES

1. SEE SHEET E001 FOR ELECTRICAL LEGEND AND GENERAL NOTES.
2. ALL EXISTING LOCATIONS SHOWN ARE APPROXIMATE AND ARE TO BE FIELD VERIFIED BY CONTRACTOR DURING BIDDING.
3. FIELD VERIFY CONDUIT INTERCONNECTION PATHS TO EXISTING EQUIPMENT DURING BIDDING PHASE.

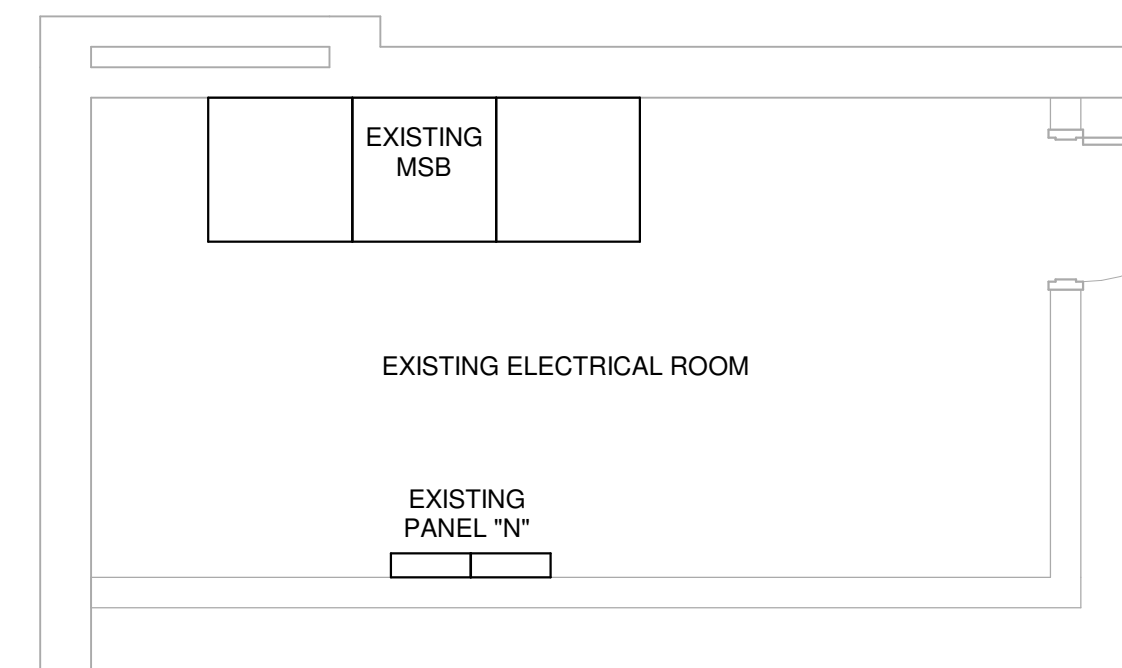
KEYED SHEET NOTES

1. CLASSROOM ADDITION MEETS GRADE OF EXISTING BUILDING UPPER LEVEL.
2. ALL ROOMS/EQUIPMENT SHOWN IN THE PLAN ARE ON THE LOWER LEVEL OF THE EXISTING BUILDING UNLESS NOTED OTHERWISE.
3. THIS DATA RACK IS LOCATED ON THE UPPER LEVEL OF THE EXISTING BUILDING.

OVERALL BUILDING REFERENCE

SCALE: 1" = 30'-0"

3



MBI

ARCHITECT:

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AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:
5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

FOR REVIEW ONLY
 FOR PERMITTING ONLY
 SCHEMATIC DESIGN
 DESIGN DEVELOPMENT
 CONSTRUCTION BIDDING
 CONSTRUCTION DOCUMENTS
 AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: WAH
DRAWN BY: WAH
REVIEWED BY: SMN
SHEET TITLE:
EXISTING BUILDING EQUIPMENT INTERCONNECTION PLAN

SHEET NO.: **E101**

P:\Arch\Projects\2021\210042_Ardersen County School Board\210042-04_Classroom Addition for Norris Middle School\08_Electrical\210042-04_Elec_rxd1.rvt
 2/4/2022 2:48:13 PM

GENERAL SHEET NOTES

1. SEE SHEET E001 FOR ELECTRICAL LEGEND AND GENERAL NOTES.

KEYED SHEET NOTES

1. EXTEND CONDUIT AND WIRING FROM FLOORBOX UNDERGROUND TO NEAREST FULL-HEIGHT WALL UP IN WALL AND OVERHEAD TO CORRESPONDING CIRCUIT BREAKER.
2. PROVIDE JUNCTION BOX ABOVE CEILING FOR ADA AUTOMATIC DOOR.
3. PUSH BUTTON FOR ADA AUTOMATIC DOOR CONTROL. COORDINATE WITH OWNER AND DOOR SUPPLIER FOR INSTALLATION. WIRE PER MANUFACTURER SPECIFICATION.
4. FIELD VERIFY EXACT MOUNTING HEIGHT OF RECEPTACLES FOR DATA RACK WITH OWNER PRIOR TO ROUGH-IN.

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NORRIS, TN 37828

PROJECT NO.: 210042-04

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REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

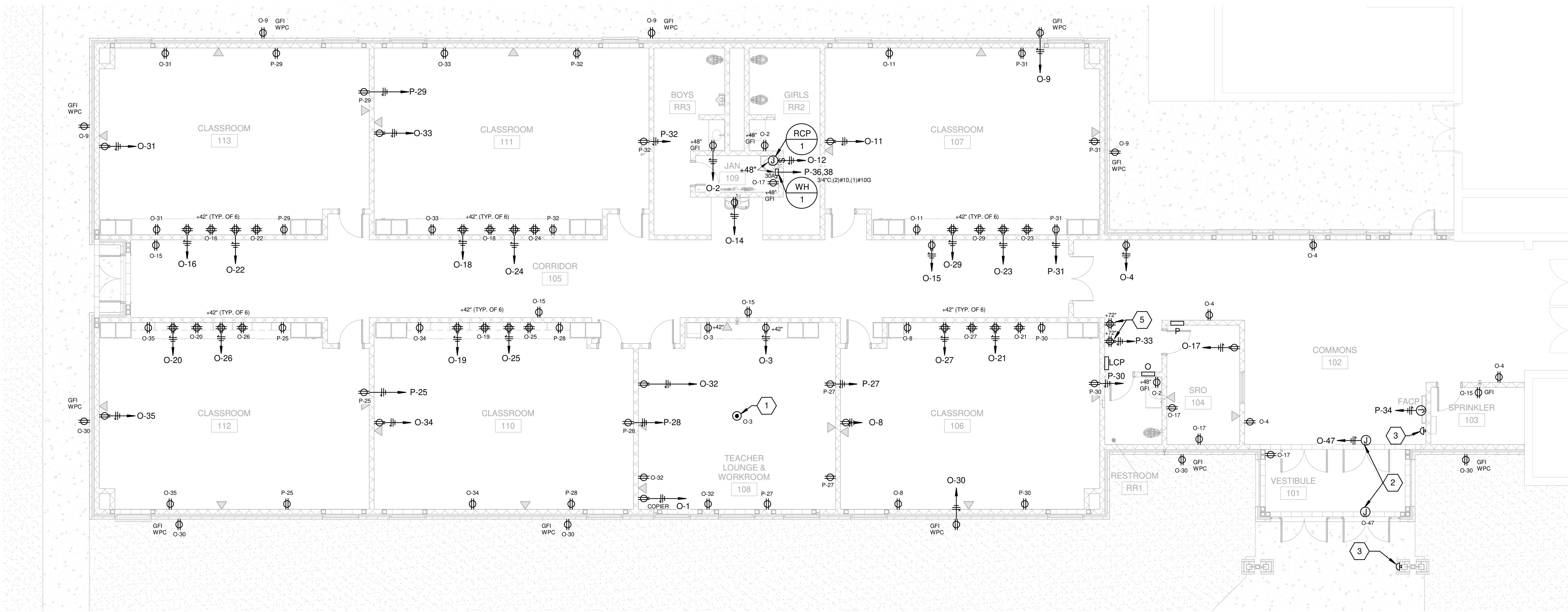
SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: WAH
DRAWN BY: WAH
REVIEWED BY: SMN
SHEET TITLE:

CLASSROOM ADDITION
POWER PLAN

SHEET NO.:

E111



CLASSROOM ADDITION POWER PLAN

SCALE: 1/8" = 1'-0"

1

P:\Revit\Projects\2021\101042_Ardressen County School Board\210042-04_Classroom Addition for Norris Middle School\06_Electrical\210042-04_Elec_rxd1.rvt
 2/4/2022 2:48:17 PM

GENERAL SHEET NOTES

- SEE SHEET E001 FOR ELECTRICAL LEGEND AND GENERAL NOTES.
- LOCATIONS SHOWN ARE APPROXIMATE TO BE FIELD COORDINATED WITH MECHANICAL AND HVAC EQUIPMENT SUPPLIERS PRIOR TO ROUGH-IN AND INSTALLATION.



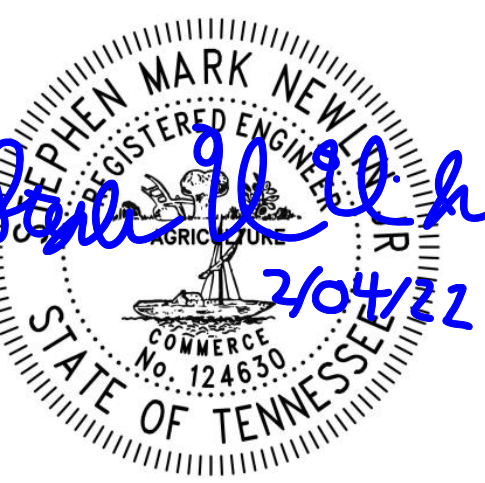
ARCHITECT:

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NORRIS, TN 37828

PROJECT NO.: 210042-04

- ACTIVE DESIGN PHASE**
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 - AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN



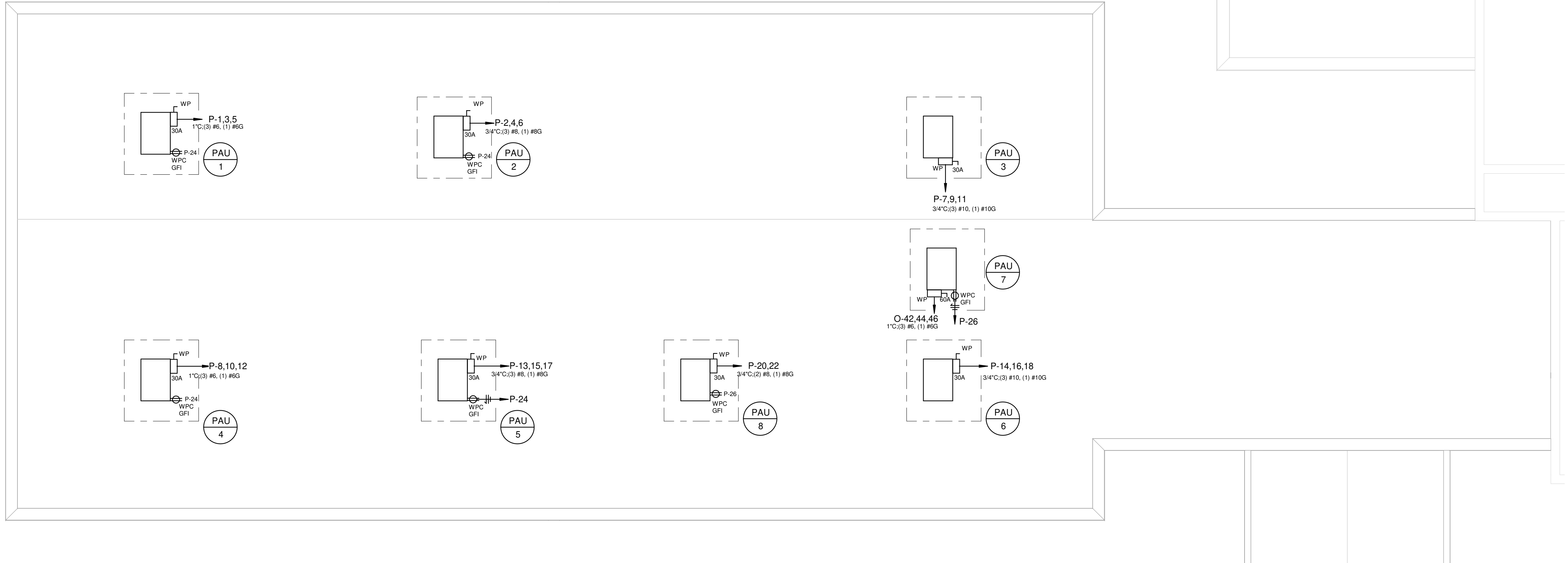
SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: Designer
DRAWN BY: Author
REVIEWED BY: Checker
SHEET TITLE:

HVAC ROOF POWER PLAN

SHEET NO.:

E112



HVAC ROOF POWER PLAN

SCALE: 1/8" = 1'-0"

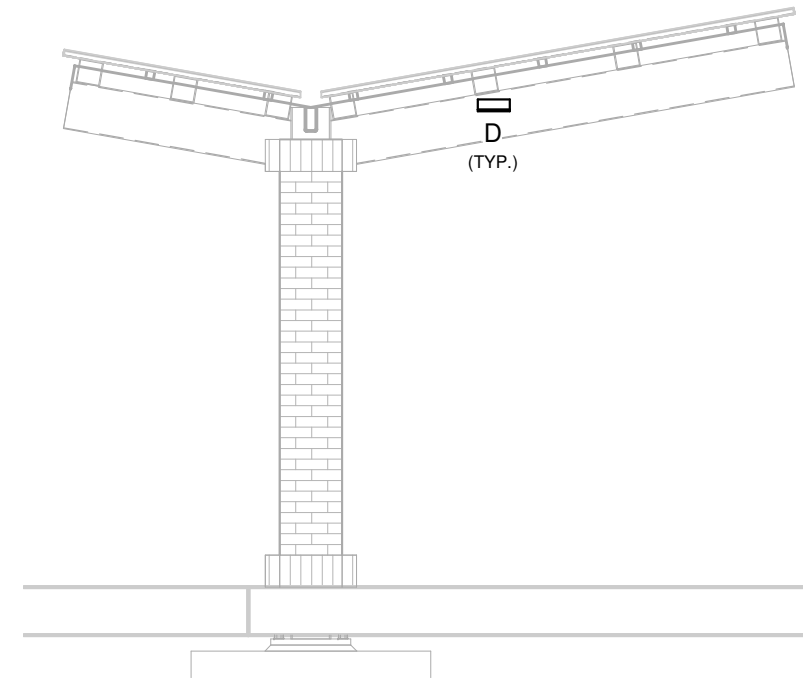
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 2/4/2022 2:48:19 PM

LIGHTING FIXTURE SCHEDULE

TYPE	LAMP TYPE	VOLTAGE	WATTS	LUMENS	COLOR TEMP (K)	CRI	MOUNTING	HEIGHT	MANUFACTURER	FINISH	MODEL	COMMENTS
A	LED	120V	56	4363	3500	>80	RECESSED	CEILING	LITHONIA	N/A	CPANL 2X4 AL06 SWW7 M2	DIMMABLE 2X4 FLAT PANEL TROFFER, LOW OUTPUT.
AE	LED	120V	56	4363	3500	>80	RECESSED	CEILING	LITHONIA	N/A	CPANL 2X4 AL06 SWW7 M2 ILBLP CP10 HE SD A	DIMMABLE 2X4 FLAT PANEL TROFFER, LOW OUTPUT, W/BATTERY BACKUP
B	LED	120V	56	5354	3500	>80	RECESSED	CEILING	LITHONIA	N/A	CPANL 2X4 AL06 SWW7 M2	DIMMABLE 2X4 FLAT PANEL TROFFER, MEDIUM OUTPUT.
BE	LED	120V	56	5354	3500	>80	RECESSED	CEILING	LITHONIA	N/A	CPANL 2X4 AL06 SWW7 M2 ILBLP CP10 HE SD A	DIMMABLE 2X4 FLAT PANEL TROFFER, MEDIUM OUTPUT, W/BATTERY BACKUP
C15	LED	120V	18	1514	3500	>80	RECESSED	CEILING	LITHONIA	N/A	LDN6 35/15 L06AR LSS MVOLT GZ10	DIMMABLE 6" DOWNLIGHT
C25	LED	120V	29	2504	3500	>80	RECESSED	CEILING	LITHONIA	N/A	LDN6 35/25 L06AR LSS MVOLT GZ10	DIMMABLE 6" DOWNLIGHT
C25E	LED	120V	29	2504	3500	>80	RECESSED	CEILING	LITHONIA	N/A	LDN6 35/25 L06AR LSS MVOLT EZ10 EL	DIMMABLE 6" DOWNLIGHT W/BATTERY BACKUP
D	LED	120V	50	4938	4000	>80	SURFACE	N/A	KEMALL	N/A	MLRS8 48 F MB CP 1 45L40K DCC 1 DV WL	WET LOCATION IMPACT RESISTANT LED STRIP LIGHT
X	LED	120V	1	N/A	N/A	N/A	UNIVERSAL	N/A	LITHONIA	WHITE	EXRG EL M6	SINGLE FACE EXIT SIGN W/BATTERY BACK-UP

- NOTES:
- FURNISH AND INSTALL LAMPS FOR ALL FIXTURES.
 - THE FINISH OF ALL FIXTURES SHALL BE VERIFIED AND APPROVED BY THE ARCHITECT.
 - VERIFY ALL CEILING TYPES BEFORE STARTING ANY WORK. COORDINATE WITH ARCHITECT'S REFLECTED CEILING PLAN FOR CEILING TYPES AND FIXTURE LOCATIONS.
 - PROVIDE ALL NECESSARY MOUNTING HARDWARE AND ACCESSORIES FOR A COMPLETE INSTALLATION OF ALL LIGHTING FIXTURES.
 - PROVIDE ALL NECESSARY EQUIPMENT FOR LOW VOLTAGE LIGHTING AND CONTROLS, SUCH ITEMS WOULD INCLUDE TRANSFORMERS, POWER PACKS, AND CABLING.
 - ALL FIXTURES IN KITCHEN OR FOOD PREP AREAS SHALL BE LENSED OR HAVE SHATTER PROOF LAMPS.
 - ALTERNATE FIXTURES MUST BE APPROVED BY ELECTRICAL ENGINEER. ALTERNATE FIXTURES MUST MATCH GENERAL DESIGN, LUMEN OUTPUT, COLOR TEMPERATURE, LIGHT DISTRIBUTION, AND FINISH.
 - PROVIDE BRIDGING STRUT AS NECESSARY.
 - SUPPORT FIXTURES PER DETAIL 3 ON SHEET E501 AS REQUIRED.



ENTRY CANOPY LIGHTING SECTION

SCALE: 1/4" = 1'-0"

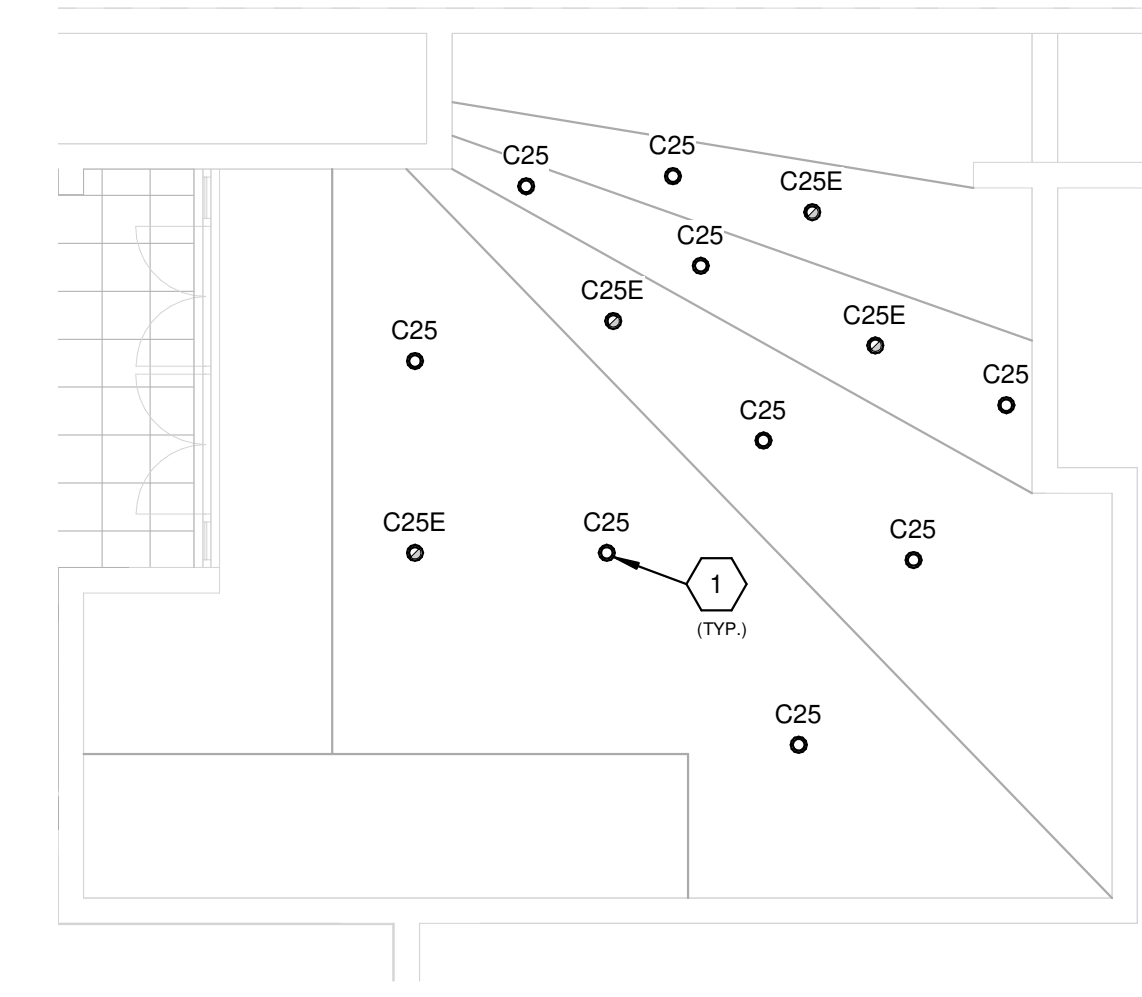
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GENERAL SHEET NOTES

- SEE SHEET E001 FOR ELECTRICAL LEGEND AND GENERAL NOTES.

KEYED SHEET NOTES

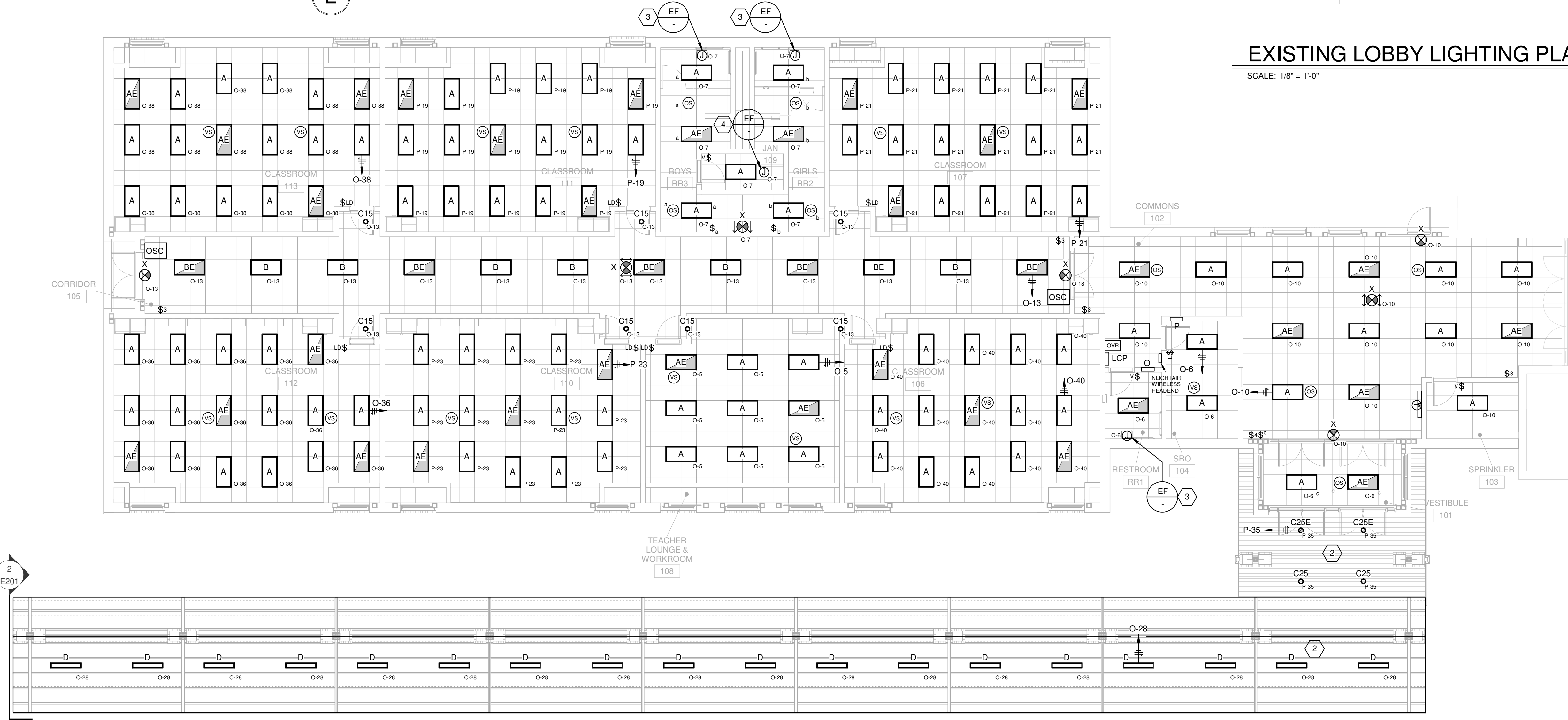
- REPLACE EXISTING FIXTURE WITH NEW FIXTURE TYPE SHOWN. LOCATION AND QUANTITY SHOWN ARE APPROXIMATE TO BE FIELD VERIFIED BY CONTRACTOR DURING BIDDING PHASE. REUSE EXISTING WIRE AND CONDUIT.
- SEE DETAIL 2 ON SHEET E501 FOR LIGHTING CONTROL INFORMATION.
- PROVIDE JUNCTION BOX ABOVE CEILING FOR EXHAUST FAN CONNECTION. CONNECT TO 120V LIGHTING CIRCUIT AND SWITCH WITH LIGHTS IN SAME ROOM.
- PROVIDE JUNCTION BOX ABOVE CEILING FOR EXHAUST FAN CONNECTION. CONNECT TO 120V LIGHTING CIRCUIT IN SAME ROOM VIA SEPARATE SWITCH IN ROOM.



EXISTING LOBBY LIGHTING PLAN

SCALE: 1/8" = 1'-0"

3



CLASSROOM ADDITION LIGHTING PLAN

SCALE: 1/8" = 1'-0"

1

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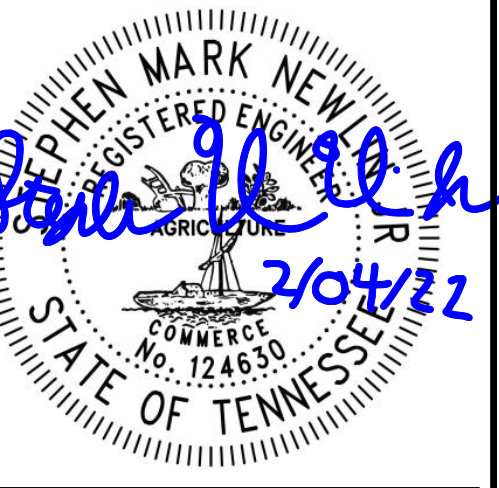
CONSULTANT

ELECTRICAL ENGINEER:

STEPHEN M. NEWLIN JR.

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NORRIS MIDDLE
SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

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REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: WAH
DRAWN BY: WAH
REVIEWED BY: SMN
SHEET TITLE:

LIGHTING PLANS

SHEET NO.:

E201

GENERAL SHEET NOTES

1. SEE SHEET E001 FOR ELECTRICAL LEGEND AND GENERAL NOTES.

KEYED SHEET NOTES

1. PROVIDE QUANTITY OF TAMPER AND FLOW SWITCHES AS REQUIRED.
2. THIS DEVICE TO BE HORN/STROBE IN LIEU OF SPEAKER/STROBE.
3. DATA RACK FURNISHED AND INSTALLED BY OWNER.
4. EXTEND (2) 1" CONDUITS AND WIRING FROM FLOORBOX UNDERGROUND TO NEAREST FULL-HEIGHT WALL, UP IN WALL AND STUBBED OUT TO ABOVE ACCESSIBLE CEILING WITH BUSHING.
5. 2" C WITH PULLSTRING FROM NEW DATA RACK TO EXISTING DATA RACK IN ROOM BEHIND LIBRARY. SEE KEYED NOTE 3 ON SHEET E101 FOR INTERCONNECTION LOCATION.
6. FURNISH AND INSTALL 1-1/4" C AND ASSOCIATED WIRING FROM NEW FACP TO EXISTING FACP. PROVIDE NECESSARY COMPONENTS AND PROGRAMMING FOR BOTH SYSTEMS TO MONITOR TROUBLES AND ALARMS ON BOTH PANELS SO THAT BOTH PANELS GO INTO ALARM IF EITHER PANEL GOES INTO ALARM. SEE DETAIL 1/E101 FOR EXISTING FACP LOCATION.
7. EXTEND 1-1/4" C WITH PULLSTRING FROM ABOVE ACCESSIBLE CEILING TO EXISTING PHONE TBB LOCATION FOR PHONE CABLING. CABLING BY OTHERS. SEE DETAIL 1/E101 FOR EXISTING PHONE TBB LOCATION.
8. EXTEND 1-1/4" C WITH PULLSTRING FROM ABOVE ACCESSIBLE CEILING TO EXISTING PA HEADEND LOCATION FOR NEW PA SPEAKERS. CABLING BY OTHERS. SEE DETAIL 1/E101 FOR PA HEADEND LOCATION.
9. PROVIDE CONDUIT PROVISIONS FOR INTERLOCK OF ACCESS CONTROL AND MOTORIZED DOORS. OUTSIDE OF NORMAL HOURS, THE EXTERIOR PUSH BUTTON SHOULD ONLY OPERATE DOOR IF ACCESS IS GRANTED VIA THE CARD READER AND THE BUTTON IS PUSHED.
10. FURNISH AND INSTALL MIC AND REMOTE ANNUNCIATOR PANEL FOR NEW FACP NEXT TO EXISTING FACP LOCATION IN MAIN OFFICE RECEPTION. SEE SHEET E101 FOR EXISTING FACP LOCATION.

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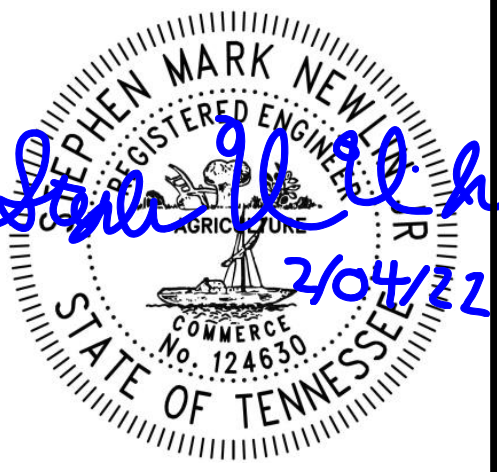
ARCHITECT:

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PROJECT INFORMATION

PROJECT:
AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:
5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

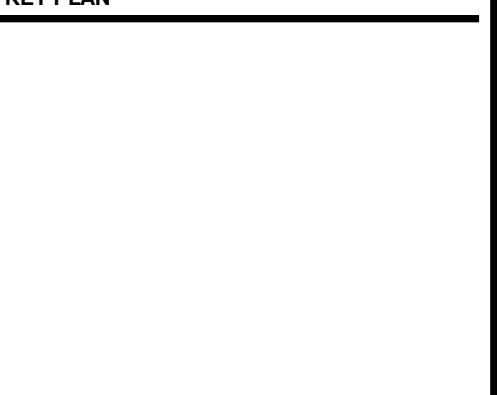
ACTIVE DESIGN PHASE

- FOR REVIEW ONLY
- FOR PERMITTING ONLY
- SCHEMATIC DESIGN
- DESIGN DEVELOPMENT
- CONSTRUCTION BIDDING
- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN



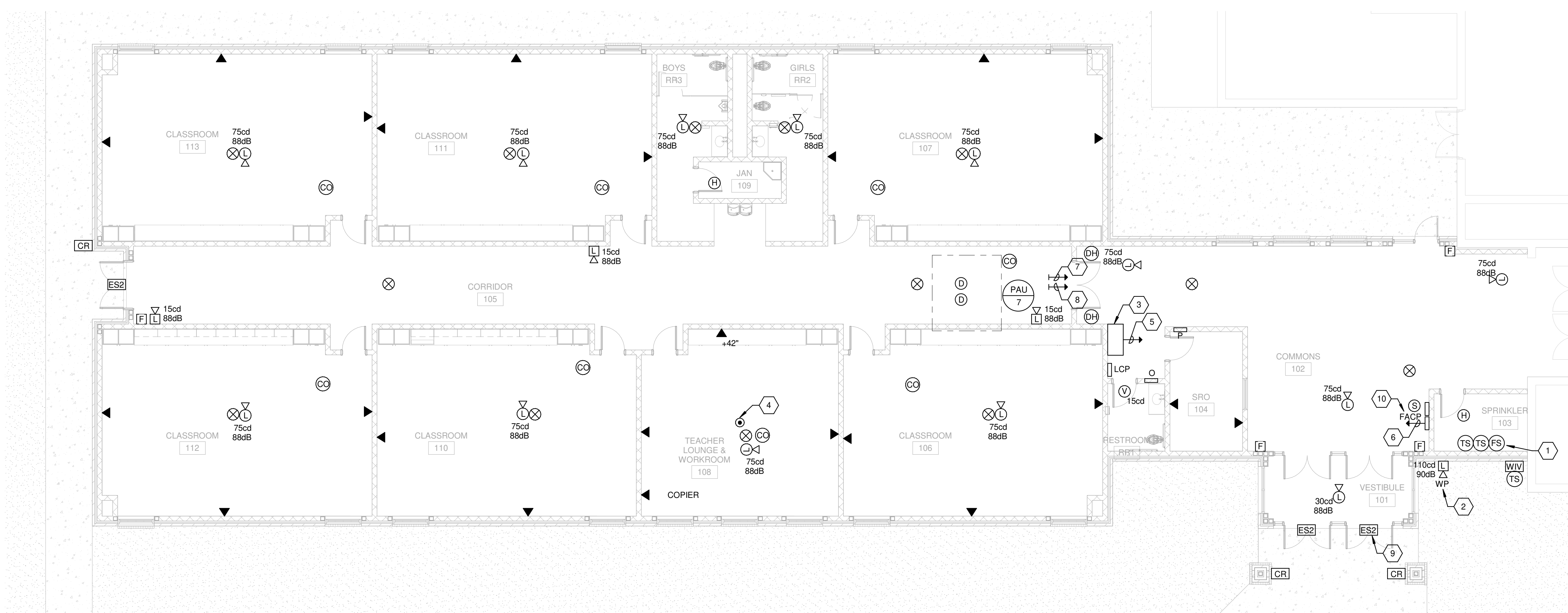
SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: WAH
DRAWN BY: WAH
REVIEWED BY: SMN
SHEET TITLE:

CLASSROOM ADDITION
FIRE ALARM AND
COMMUNICATIONS
PLAN

SHEET NO.:

E311



CLASSROOM ADDITION FIRE ALARM AND COMMUNICATIONS PLAN

SCALE: 1/8" = 1'-0"

1

P:\Arch\Projects\2021\210042_Archives\County School Board\210042-04_Classroom Addition for Norris Middle School\08_Electrical\210042-04_Elec_v02.rvt
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Branch Panel: O

Location: RESTROOM RR1
Supply From:
Mounting: RECESSED
Enclosure: TYPE 1

Volts: 120/208 3P
Phases: 3
Wires: 4

A.I.C. Rating: 35,000
Mains Type: BREAKER
Mains Rating: 200 A
MCB Rating: 200 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT	
1	R - COPIER 108	20 A	1	1500...	540 VA		1	20 A	R - BATHROOMS RR1,RR2,RR3	2	
3	R - WORKROOM 108 FLOOR	20 A	1		360 VA	900 VA	1	20 A	R - COMMONS 102	4	
5	L - WORKROOM 108	20 A	1			495 VA	285 VA	1	20 A	L - VEST.101, ENTRY CANOPY, SRO 104, RR1	6
7	L - RR2, RR3, JANITOR 109	20 A	1	420 VA	540 VA		1	20 A	R - CLASSROOM 106	8	
9	R - EXTERIOR WEST	20 A	1		900 VA	785 VA	1	20 A	L - COMMONS 102, SPRINKLER 103	10	
11	R - CLASSROOM 107	20 A	1			540 VA	675 VA	1	20 A	E - RECIRC. PUMP	12
13	L - CORRIDOR 105	20 A	1	897 VA	180 VA		1	20 A	R - WATER FOUNTAIN -GFI	14	
15	R - CORRIDOR 105 & SPRINKLER 103	20 A	1		900 VA	1500...	1	20 A	R - CHR.G. 2 - CLASSROOM 113	16	
17	R - JANITOR 109, SRO 104, VEST. 101	20 A	1			900 VA	1500...	1	20 A	R - CHR.G. 2 - CLASSROOM 111	18
19	R - CHR.G. 2 - CLASSROOM 110	20 A	1	1500...	1500...		1	20 A	R - CHR.G. 2 - CLASSROOM 112	20	
21	R - CHR.G. 2 - CLASSROOM 106	20 A	1		1500...	1500...	1	20 A	R - CHR.G. 1 - CLASSROOM 113	22	
23	R - CHR.G. 2 - CLASSROOM 107	20 A	1			1500...	1500...	1	20 A	R - CHR.G. 1 - CLASSROOM 111	24
25	R - CHR.G. 1 - CLASSROOM 110	20 A	1	1500...	1500...		1	20 A	R - CHR.G. 1 - CLASSROOM 112	26	
27	R - CHR.G. 1 - CLASSROOM 106	20 A	1		1500...	720 VA	1	20 A	L - DROP-OFF CANOPY	28	
29	R - CHR.G. 1 - CLASSROOM 107	20 A	1			1500...	1080...	1	20 A	R - EXTERIOR EAST	30
31	R - CLASSROOM 113	20 A	1	540 VA	540 VA		1	20 A	R - WORKROOM 108	32	
33	R - CLASSROOM 111	20 A	1		540 VA	540 VA	1	20 A	R - CLASSROOM 110	34	
35	R - CLASSROOM 112	20 A	1			540 VA	935 VA	1	20 A	L - CLASSROOM 112	36
37	SPARE	20 A	1	0 VA	935 VA		1	20 A	L - CLASSROOM 113	38	
39	SPARE	20 A	1		0 VA	825 VA	1	20 A	L - CLASSROOM 106	40	
41	SPARE	20 A	1				3	45 A	H - PAU-7	42	
43	L - WALL PACKS	20 A	1	360 VA	3000...		1	20 A	L - SITE LIGHTING	44	
45	L - WALL PACKS	20 A	1		250 VA	3000...	1	20 A	L - SITE LIGHTING	46	
47	E - MOTORIZED DOORS	20 A	1			1800...	701 VA	2	20 A	L - SITE LIGHTING	48
49	TVSS - NOTE 1	30 A	3	0 VA	701 VA		1	20 A	L - SITE LIGHTING	50	
51	--	--	--			0 VA	226 VA	2	20 A	L - SITE LIGHTING	52
53	--	--	--			0 VA	226 VA	1	20 A	SPARE	54
				Total Load:	16153 VA	15946 VA	17177 VA				
				Total Amps:	135 A	133 A	143 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
H - HVAC	9000 VA	100.00%	9000 VA	
L - LIGHTING	6257 VA	100.00%	6257 VA	Total Conn. Load: 49276 VA
R - RECEPTACLE	27540 VA	68.16%	18770 VA	Total Est. Demand: 39502 VA
E - EQUIPMENT	2515 VA	75.00%	1886 VA	Total Conn. Current: 137 A
A - APPLIANCE	1500 VA	75.00%	1125 VA	Total Est. Demand Current: 110 A

NOTES: 1) FURNISH AND INSTALL TVSS EXTERNAL TO PANEL, RATINGS PER SPECIFICATIONS. 2) CIRCUIT SHALL BE RED, PROVIDED WITH LOCK-ON DEVICE AND LABELED AS "FIRE ALARM CIRCUIT".

Branch Panel: P

Location: COMMONS 102
Supply From:
Mounting: RECESSED
Enclosure: TYPE 1

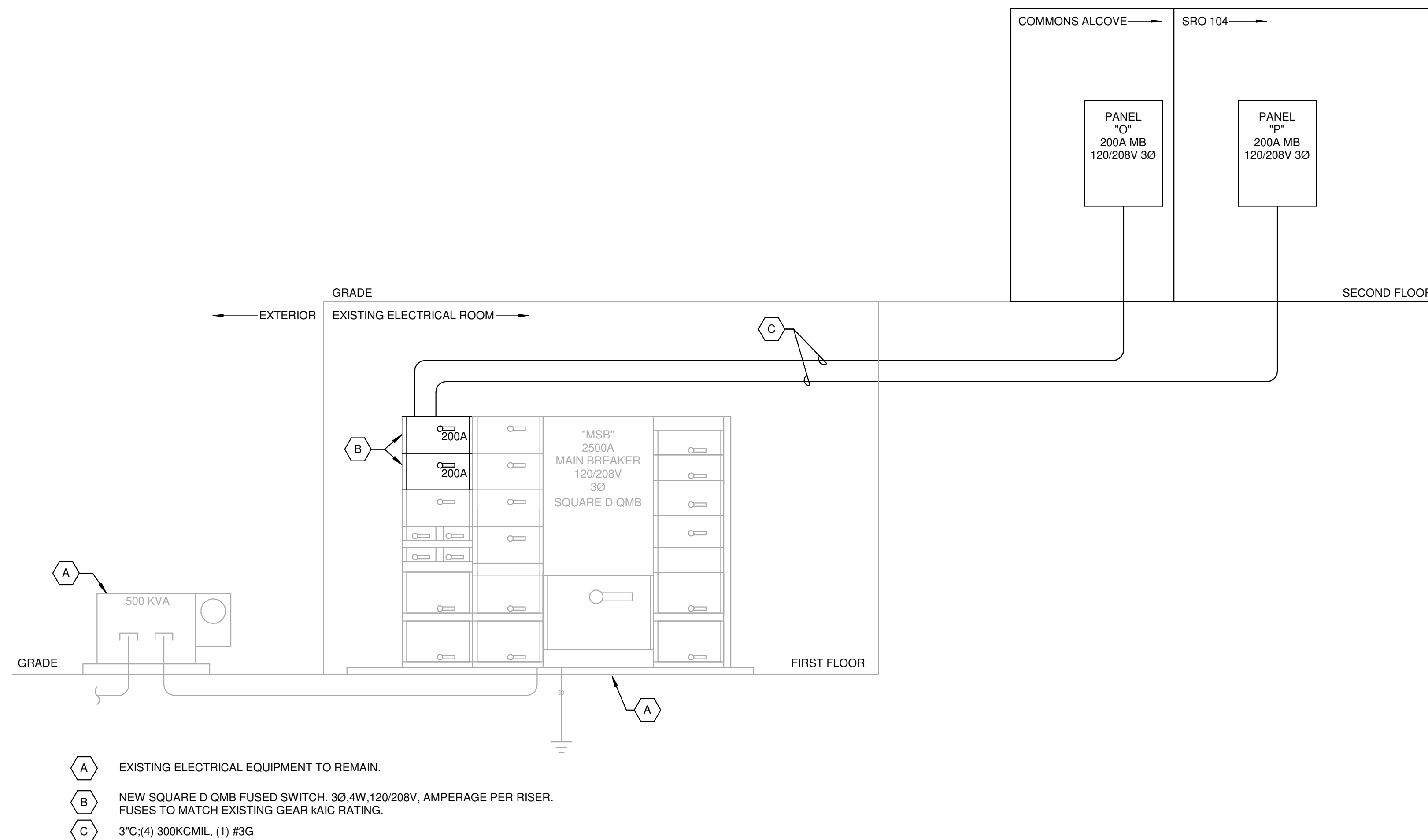
Volts: 120/208 3P
Phases: 3
Wires: 4

A.I.C. Rating: 35,000
Mains Type: BREAKER
Mains Rating: 200 A
MCB Rating: 200 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT	
1	H - PAU-1	30 A	3	2307...	2307...		3	30 A	H - PAU-2	2	
3	--	--	--		2307...	2307...	--	--	--	4	
5	--	--	--			2307...	2307...	--	--	6	
7	H - PAU-3	30 A	3	2307...	2307...		3	30 A	H - PAU-4	8	
9	--	--	--		2307...	2307...	--	--	--	10	
11	--	--	--			2307...	2307...	--	--	12	
13	H - PAU-5	30 A	3	2307...	2307...		3	30 A	H - PAU-6	14	
15	--	--	--		2307...	2307...	--	--	--	16	
17	--	--	--			2307...	2307...	--	--	18	
19	L - CLASSROOM 111	20 A	1	935 VA	1625...		2	30 A	H - PAU-8	20	
21	L - CLASSROOM 107	20 A	1		935 VA	1625...	1	20 A	--	22	
23	L - CLASSROOM 110	20 A	1			825 VA	720 VA	1	20 A	R - ROOFTOP	24
25	R - CLASSROOM 112	20 A	1	540 VA	360 VA		1	20 A	R - ROOFTOP	26	
27	R - WORKROOM 108	20 A	1		540 VA	540 VA	1	20 A	R - CLASSROOM 110	28	
29	R - CLASSROOM 113	20 A	1			540 VA	540 VA	1	20 A	R - CLASSROOM 106	30
31	R - CLASSROOM 107	20 A	1	540 VA	540 VA		1	20 A	R - CLASSROOM 111	32	
33	R - DATA RACK	20 A	1		720 VA	500 VA	1	20 A	E - FACP - NOTE 2	34	
35	L - ENTRY CANOPY AND VESTIBULE 101	20 A	1			120 VA	2250...	2	20 A	H - WH-1	36
37	TVSS - NOTE 1	30 A	3	0 VA	2250...		--	--	--	38	
39	--	--	--		0 VA	0 VA	1	20 A	SPARE	40	
41	--	--	--			0 VA	0 VA	1	20 A	SPARE	42
				Total Load:	20630 VA	18700 VA	18835 VA				
				Total Amps:	172 A	156 A	157 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
H - HVAC	44770 VA	100.00%	44770 VA	
L - LIGHTING	2815 VA	100.00%	2815 VA	Total Conn. Load: 58165 VA
R - RECEPTACLE	5580 VA	100.00%	5580 VA	Total Est. Demand: 56915 VA
E - EQUIPMENT	5000 VA	75.00%	3750 VA	Total Conn. Current: 161 A
				Total Est. Demand Current: 158 A

NOTES: 1) FURNISH AND INSTALL TVSS EXTERNAL TO PANEL, RATINGS PER SPECIFICATIONS. 2) CIRCUIT SHALL BE RED, PROVIDED WITH LOCK-ON DEVICE AND LABELED AS "FIRE ALARM CIRCUIT".



RISER DIAGRAM

SCALE: N.T.S.

1

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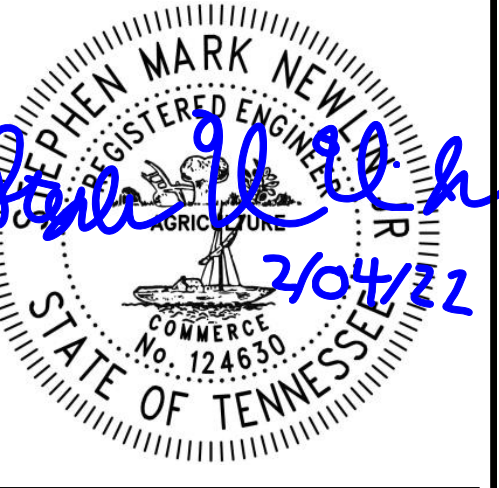
CONSULTANT

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PROJECT INFORMATION

PROJECT:

AN ADDITION & RENOVATION TO:
NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

- FOR REVIEW ONLY
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REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

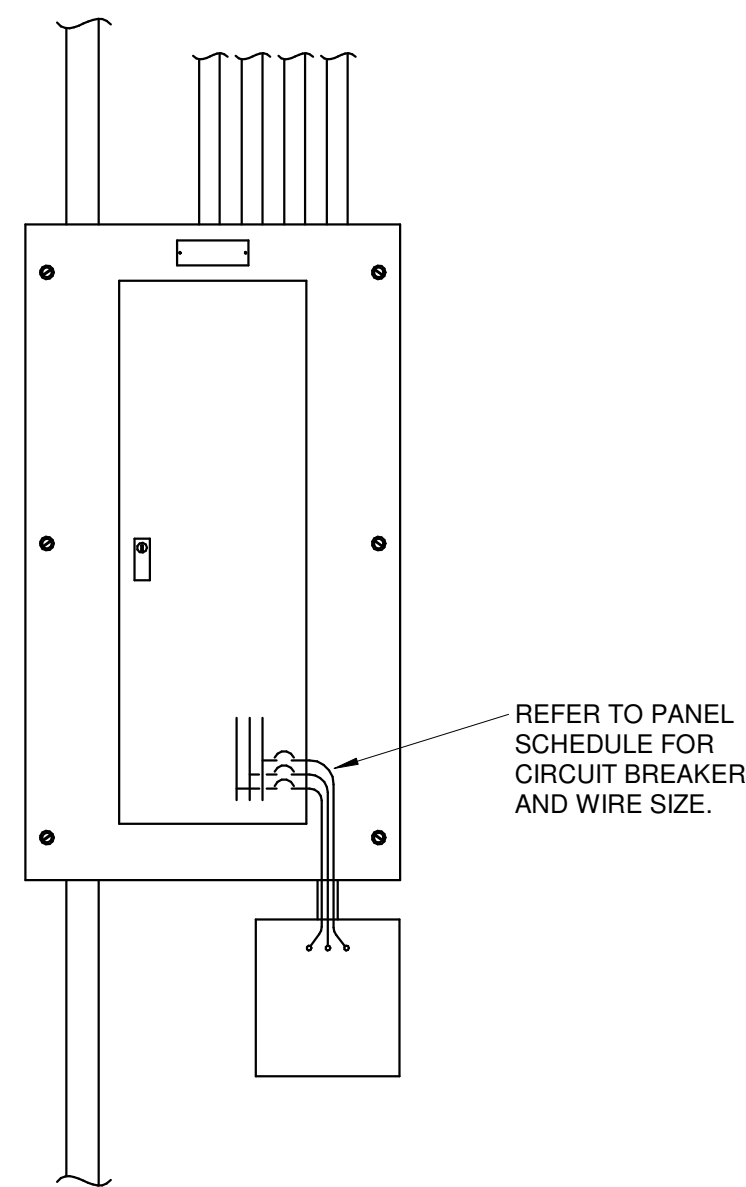
SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: WAH
DRAWN BY: WAH
REVIEWED BY: SMN
SHEET TITLE:

RISER DIAGRAM AND
PANELBOARD
SCHEDULES

SHEET NO.:

E401

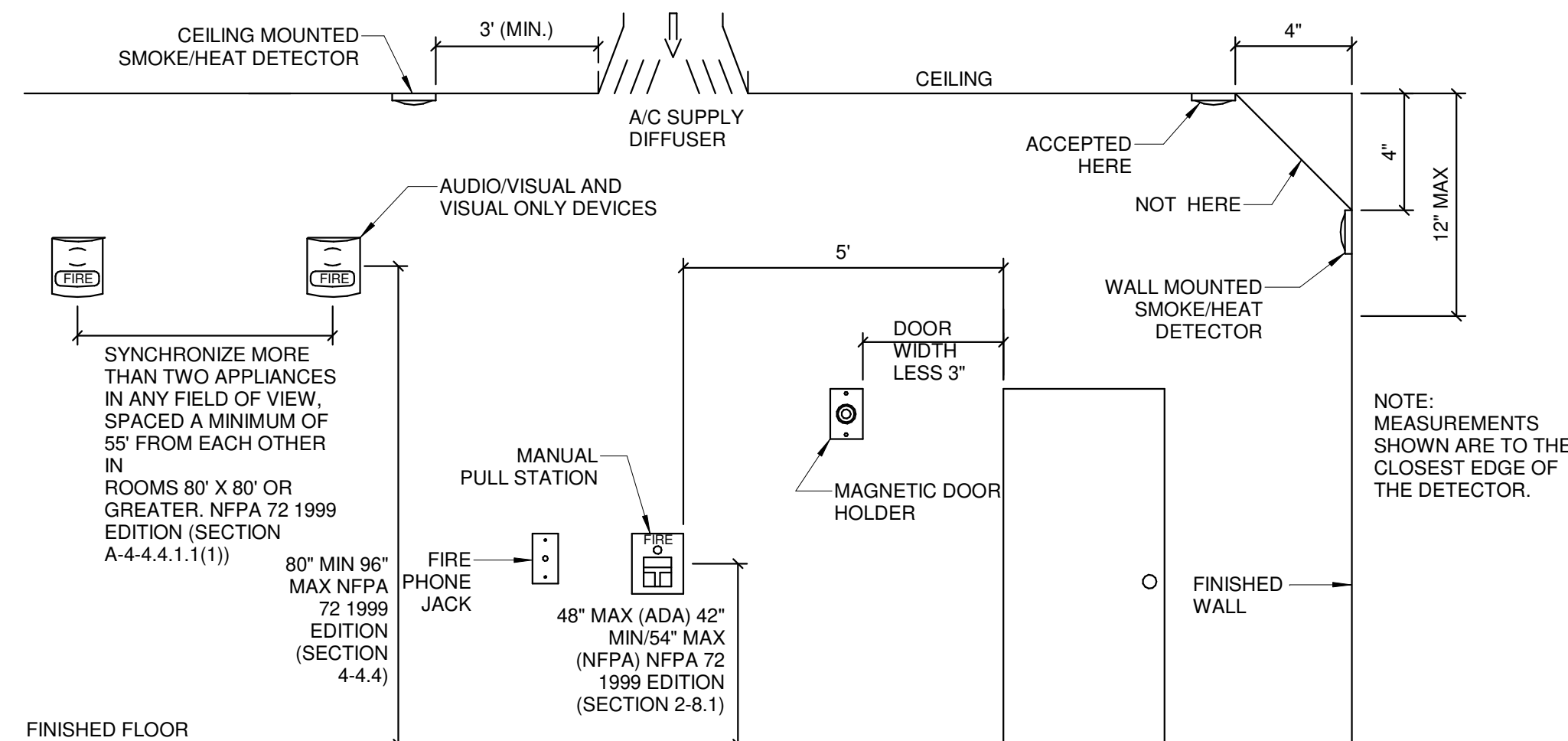


NOTE:
SPD SHALL BE CLOSE-NIPPLED TO PANEL ENCLOSURE AND CONNECTED TO CLOSEST CIRCUIT BREAKER IN SPACE TO MINIMIZE LENGTH OF CONDUCTORS (NOT TO EXCEED 18") AND AVOID UNNECESSARY BENDS.

SURGE SUPPRESSION DETAIL

SCALE: N.T.S.

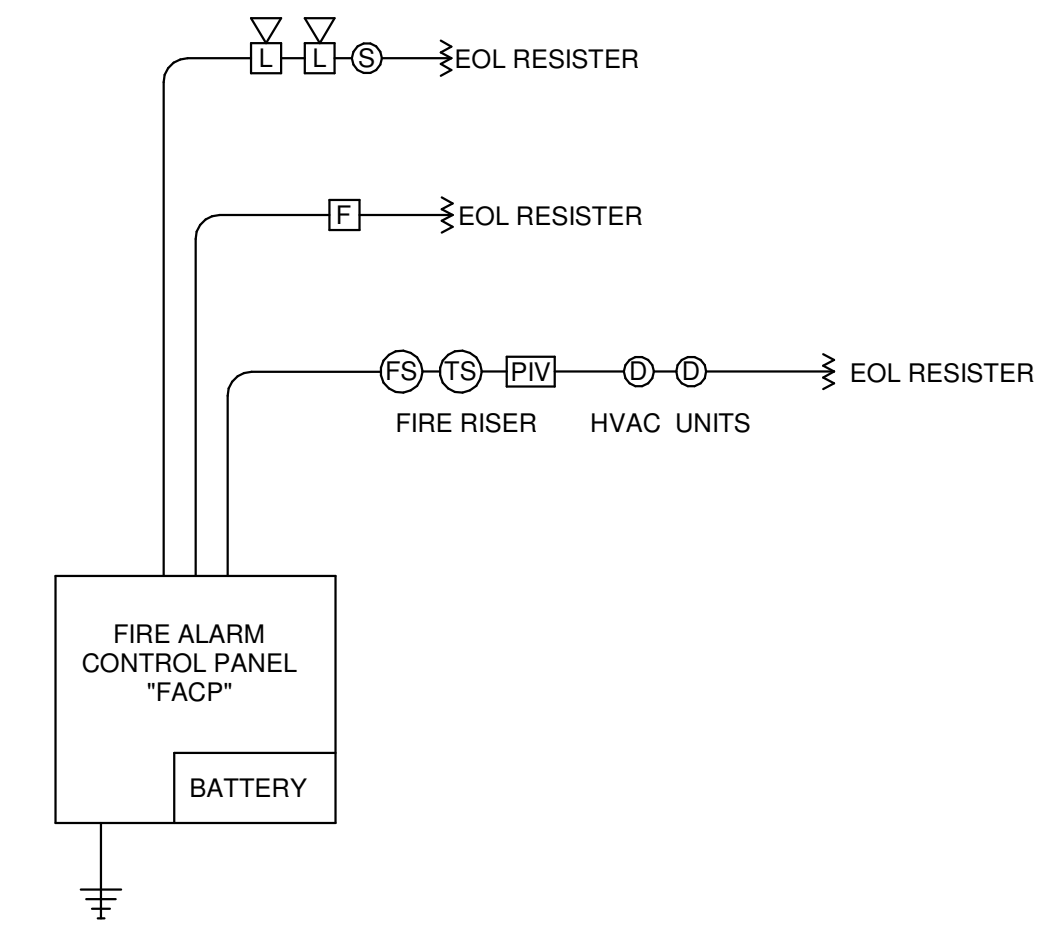
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FIRE ALARM - DEVICE DETAIL

SCALE: N.T.S.

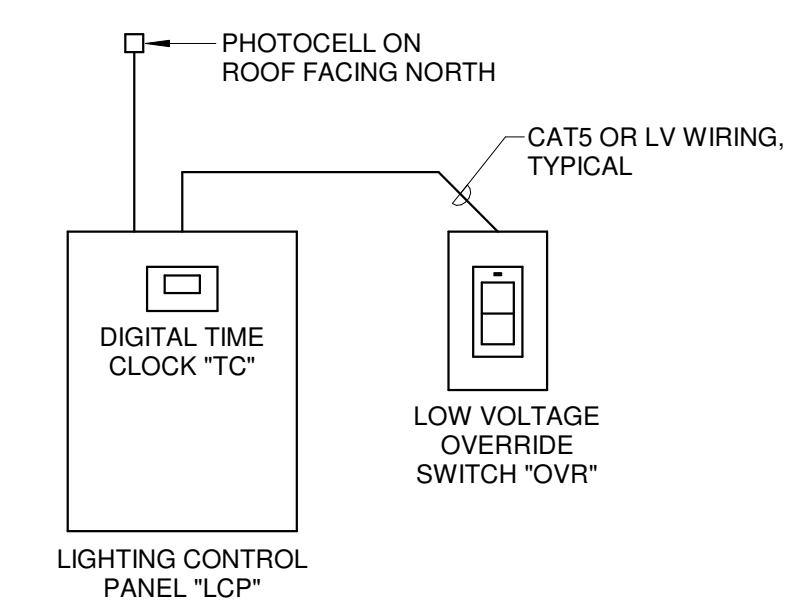
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FIRE ALARM - RISER

SCALE: N.T.S.

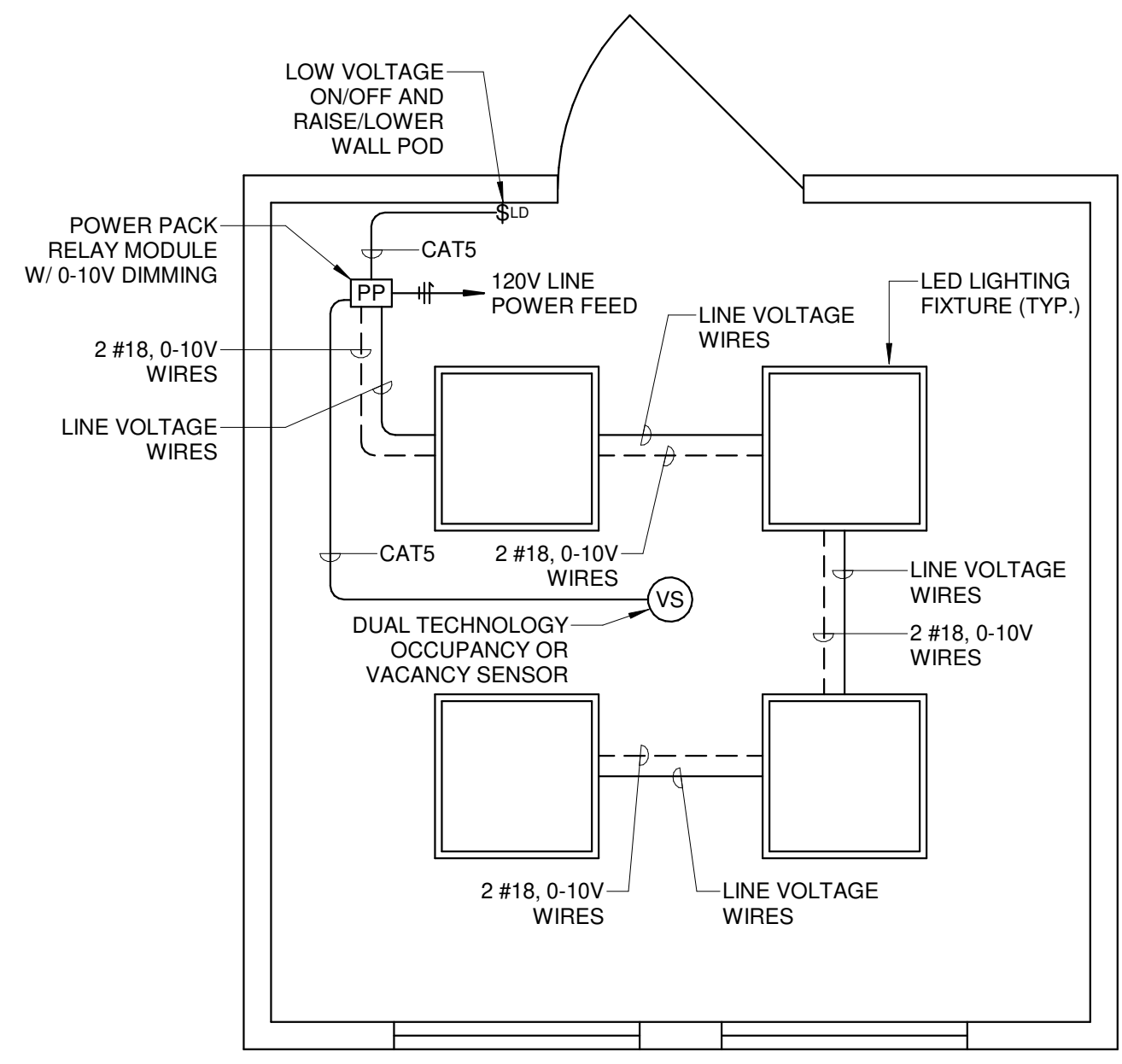
7



LIGHTING CONTROL RISER

SCALE: N.T.S.

8



LIGHTING SEQUENCE FOR VACANCY SENSORS SHALL BE MANUAL ON/AUTO OFF AND AUTO ON/OFF FOR OCCUPANCY SENSORS WITH LOW VOLTAGE WALL SWITCH. LIGHTS WILL AUTOMATICALLY SWITCH OFF WITH VACANCY/OCCUPANCY SENSOR WHEN ROOM IS VACANT FOR 20 MINUTES. ALL VACANCY SENSORS SHALL BE SET TO MAXIMUM 20 MINUTE SHUT-OFF TIME. CONTRACTOR SHALL COORDINATE WITH LIGHTING SUPPLIER FOR QUANTITY OF SENSORS AND POWER PACKS REQUIRED BEFORE ORDERING.

LIGHTING CONTROL DETAIL

SCALE: N.T.S.

1

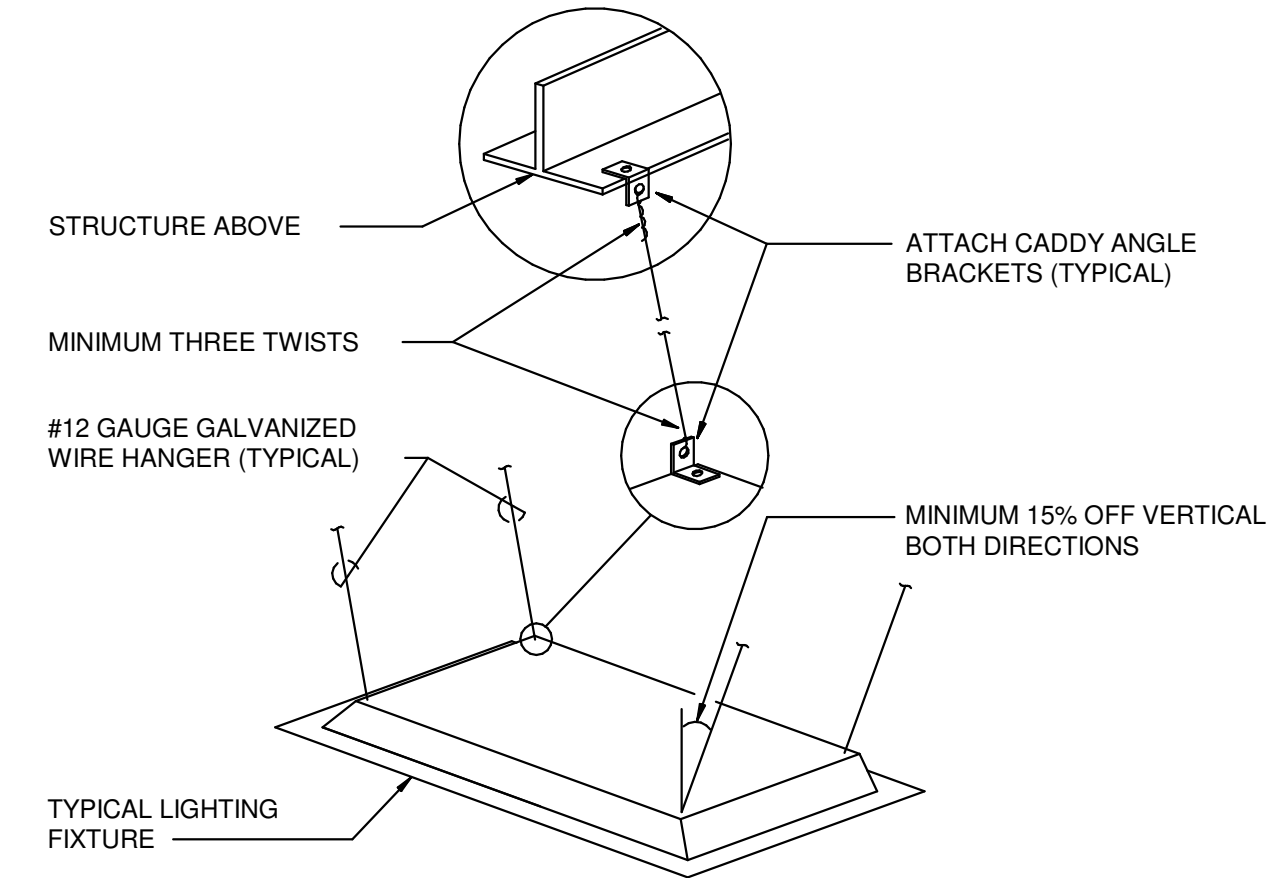
RELAY	LOAD DESCRIPTION	SWITCHING ON/OFF	CIRCUIT #
1	ENTRYWAY CANS	TC/PC	P-35
2	PICKUP/DROPOFF CANOPY	TC/PC	O-28
3	SPARE	N/A	-
4	SPARE	N/A	-

NOTES:
1. "TC" INDICATES RELAY CONTROLLED BY TIMECLOCK. "PC" INDICATES RELAY CONTROLLED BY PHOTOCELL.
2. MOUNT PHOTOSENSOR ON ROOF FACING NORTH.
3. CIRCUIT P-35 EXTERIOR DOWNLIGHTS SHALL BE CONTROLLED VIA LIGHTING CONTROL PANEL TIMECLOCK AND PHOTOCELL IN ACCORDANCE WITH IECC 2018 C405.2.8.1 AND C405.2.6.3. 0-10V DIMMING WIRE SHALL BE RUN TO FIXTURES AND DIMMING SIGNAL SUPPLIED BY LIGHTING CONTROL PANEL TO MEET SETBACK REQUIREMENTS.

LIGHTING CONTROL SCHEDULE

SCALE: N.T.S.

2

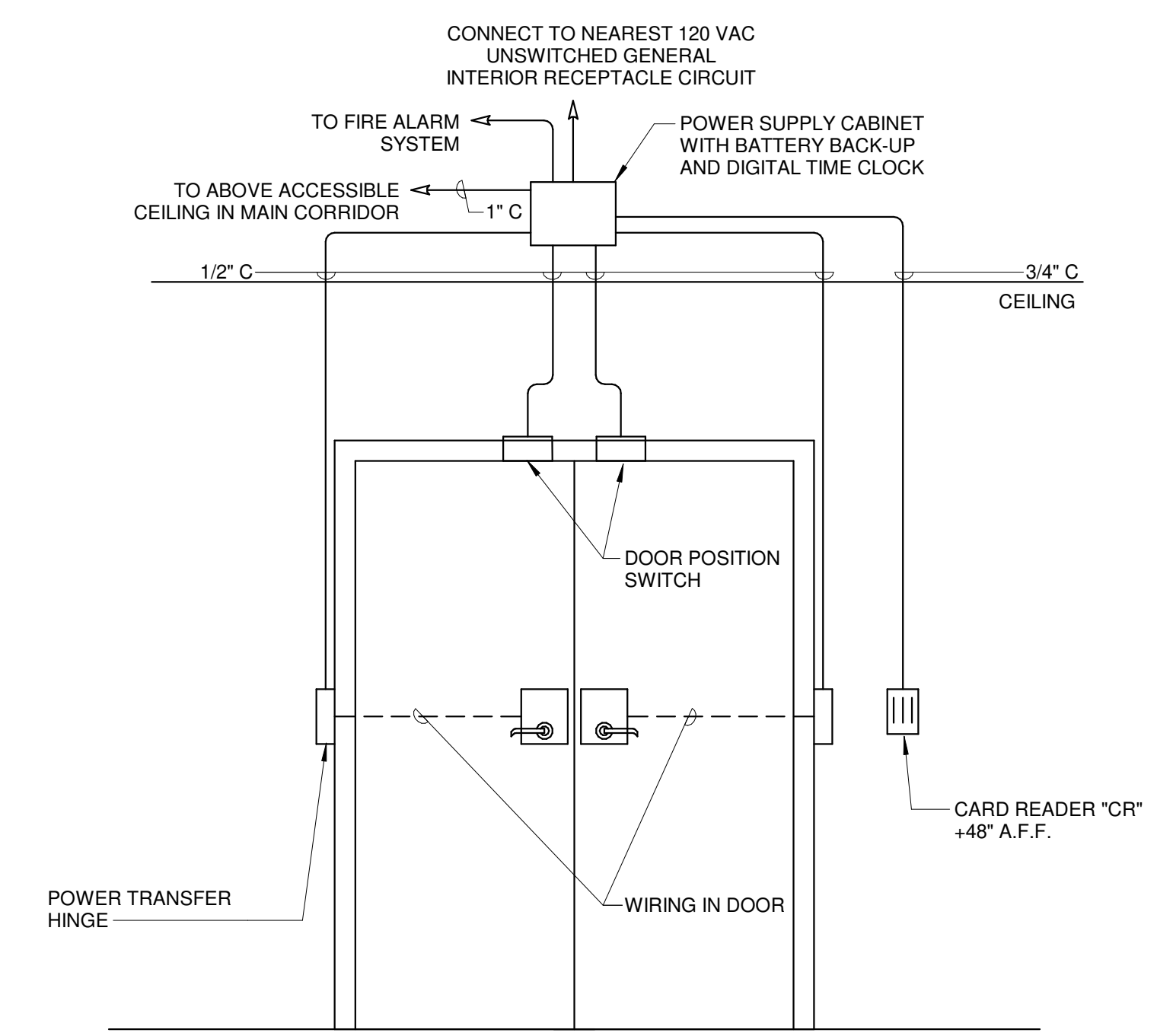


- FIXTURE SUPPORT NOTES:
- ATTACH ALL LIGHT FIXTURES TO THE CEILING GRID RUNNERS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURES.
 - ALL FLUSH OR RECESSED LIGHT FIXTURES WEIGHING LESS THAN 56 POUNDS SHALL BE SUPPORTED DIRECTLY ON THE RUNNERS OF A HEAVY DUTY GRID SYSTEM AND THEY MUST HAVE A MINIMUM OF TWO #12 GAUGE SLACK SAFETY WIRES ATTACHED AT DIAGONAL CORNERS AND ANCHORED TO THE STRUCTURE ABOVE.
 - ALL FIXTURES SUPPORTED ON INTERMEDIATE DUTY GRID SYSTEMS MUST BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN FOUR TAUT #12 GAUGE WIRES ATTACHED TO THE STRUCTURE ABOVE.
 - ALL FLUSH OR RECESSED LIGHT FIXTURES WEIGHING MORE THAN 56 POUNDS MUST BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN FOUR #12 GAUGE TAUT WIRES ATTACHED TO THE STRUCTURE ABOVE REGARDLESS OF THE TYPE OF CEILING GRID SYSTEM USED.
 - THE FOUR TAUT #12 GAUGE WIRES INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE MUST BE CAPABLE OF SUPPORTING FOUR TIMES THE WEIGHT OF THE UNIT.

FIXTURE SUPPORT DETAIL

SCALE: N.T.S.

3



PROVIDE ALL NECESSARY EQUIPMENT, BACK BOXES, CONDUITS, AND CONDUCTORS FOR A COMPLETE INSTALLATION OF ACCESS CONTROL SYSTEM. VERIFY ACCESS CONTROL LOCATIONS WITH OWNER BEFORE ROUGH-IN. COORDINATE WITH ARCHITECT'S DOOR SCHEDULE FOR APPROPRIATE DOOR HARDWARE. OMIT DEVICES NOT REQUIRED. VERIFY SIDE OF DOOR FOR DEVICE LOCATIONS.

ACCESS CONTROL - DOUBLE DOOR ELECTRIC STRIKE

SCALE: N.T.S.

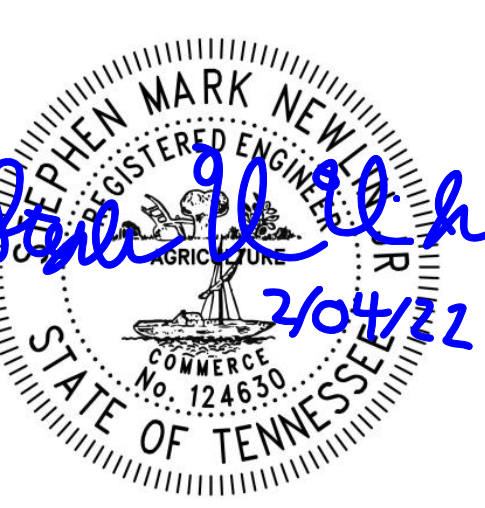
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- ACTIVE DESIGN PHASE
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 - AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION
SHEET ISSUED: 02/04/2022
DESIGNED BY: WAH
DRAWN BY: WAH
REVIEWED BY: SMN
SHEET TITLE:

ELECTRICAL DETAILS
SHEET NO.:

LIGHTING FIXTURE SCHEDULE

TYPE	LAMP TYPE	WATTS	VOLTS	MOUNTING	HEIGHT	MANUFACTURER	CATALOG NO.	REMARKS
SA	LED	217	208	POLE	25'-0"	LITHONIA	DSX2 LED P3 40K T4M MVOLT RPA NLTAR2 PIRHN DBLXD	MOTION/AMBIENT SENSOR, WIRELESS ENABLED, TYPE 4 MEDIUM OPTIC, 28255 LUMENS, 4000K, 70CRI
SB	LED	125	208	POLE	25'-0"	LITHONIA	DSX1 LED P4 40K T4M MVOLT RPA NLTAR2 PIRHN DBLXD	MOTION/AMBIENT SENSOR, WIRELESS ENABLED, TYPE 4 MEDIUM OPTIC, 14182 LUMENS, 4000K, 70CRI
SC	LED	52	120	WALL	12'-0"	LITHONIA	WDGE3 LED P1 40K 70CRI MVOLT SRM NLTAR2 PIR DBLXD	MOTION/AMBIENT SENSOR, WIRELESS ENABLED, TYPE R2 OPTIC, 7649 LUMENS, 4000K, 70CRI
SCE	LED	52	120	WALL	12'-0"	LITHONIA	WDGE3 LED P1 40K 70CRI MVOLT SRM E10WH NLTAR2 PIR DBLXD	MOTION/AMBIENT SENSOR, WIRELESS ENABLED, TYPE R2 OPTIC, 7649 LUMENS, 4000K, 70CRI, W/BATTERY BACKUP
P1	-	-	-	-	22'	LITHONIA	RSA-22-5G-DBXDX	STRAIGHT, ROUND, ALUMINUM POLE FOR FIXTURES "SA" AND "SB"

NOTES:

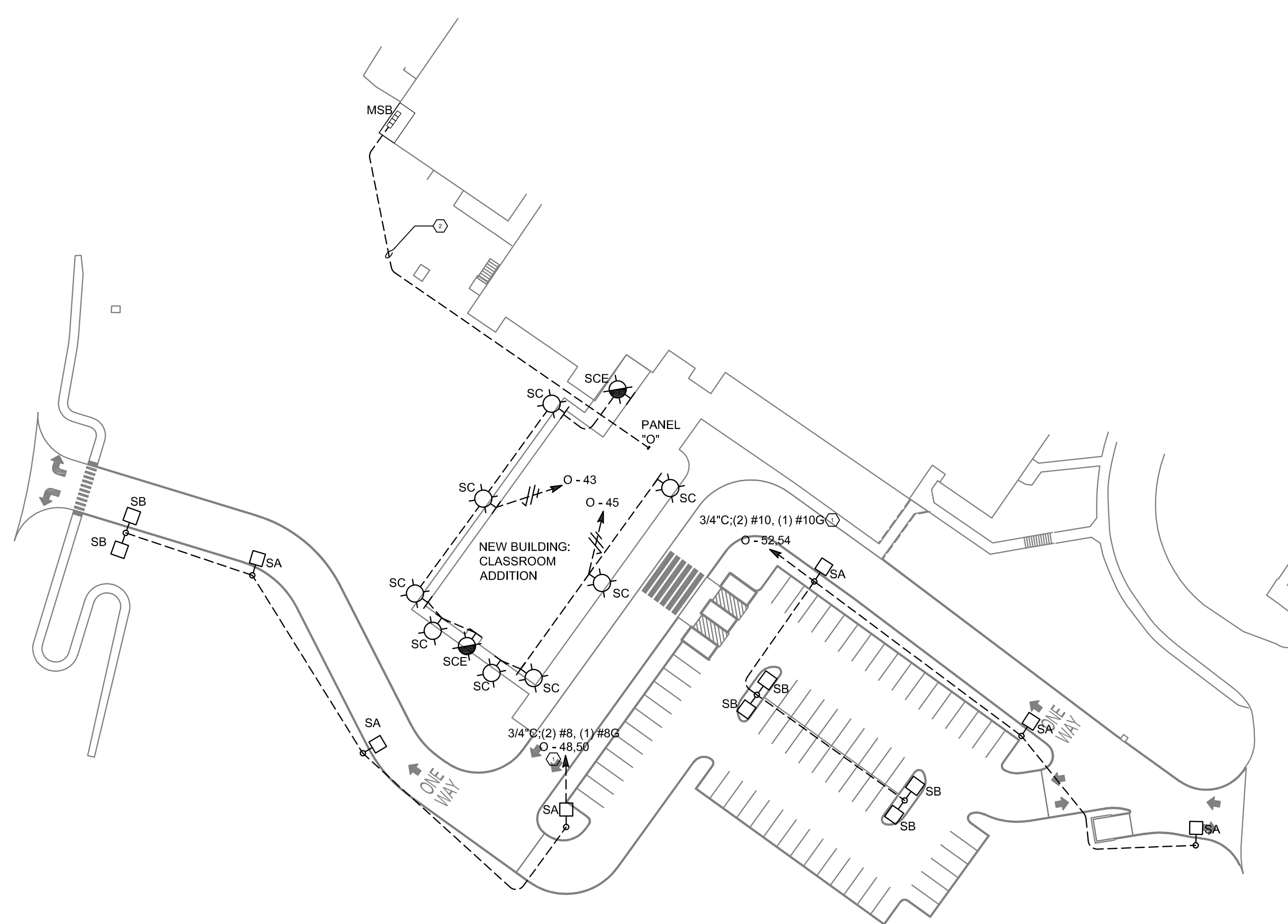
1. PROVIDE ALL NECESSARY ACCESSORIES AND EQUIPMENT FOR A COMPLETE INSTALLATION OF POLES AND LIGHTING FIXTURES.
2. ALTERNATE FIXTURES MUST MATCH DESIGN, LUMEN OUTPUT, COLOR TEMP. AND LIGHT DISTRIBUTION. SUPPLY POINT-TO-POINT CALCULATIONS WITH AVERAGE, MAXIMUM, AND MINIMUM FOOT CANDLE VALUES, MAX/MIN VALUE, AND AVG/MIN VALUE. ACCEPTABLE ALTERNATE MANUFACTURERS ARE COOPER AND PHILIPS.
3. LIGHTING SUBMITTALS ARE REQUIRED, INCLUDING FIXTURE MODEL NUMBER AND ACCESSORIES, LAMP CUT SHEET ETC. PARTIAL SUBMITTALS WILL NOT BE ACCEPTED.
4. PROVIDE FIXTURES WITH APPROPRIATE MOUNTING HARDWARE TO FIT POLES. ALL MOUNTING HARDWARE SHALL MATCH FIXTURE COLOR.

NOTES:

1. SEE SHEET E001 FOR ELECTRICAL LEGEND AND GENERAL NOTES.
2. ALL TYPE "SA", "SB", "SC", AND "SCE" FIXTURES TO BE CONTROLLED VIA WIRELESS SYSTEM WITH ASTRONOMICAL TIMECLOCK. SEE SHEET E201 FOR WIRELESS SYSTEM HEADEND EQUIPMENT LOCATION. HEADEND EQUIPMENT SHALL BE INSTALLED IN NEMA 1 ENCLOSURE LABELED "SLCP". FIXTURE MOTION SENSORS SHALL BE GROUPED TO WHERE ALL FIXTURES GO TO FULL BRIGHTNESS UPON MOTION DETECTION OF ANY FIXTURE IN THE SAME PARKING LOT. WHEN MOTION IS NOT DETECTED, FIXTURES SHALL BE PROGRAMMED TO A SETBACK OF 70% OF FULL BRIGHTNESS DURING TIMES REQUIRED BY IECC 2018 C405.2.6.3. ONE POLE LIGHT AMBIENT SENSOR SHALL BE CHOSEN AS THE MASTER SENSOR TO CONTROL ALL FIXTURES IN LOW LIGHT CONDITIONS. FIXTURE CONTROLS FOR TIME OF DAY AND MOTION DETECTION TIME SHALL BE PER IECC 2018 C405.2.6.3 & C405.2.6.4.

KEYED NOTES:

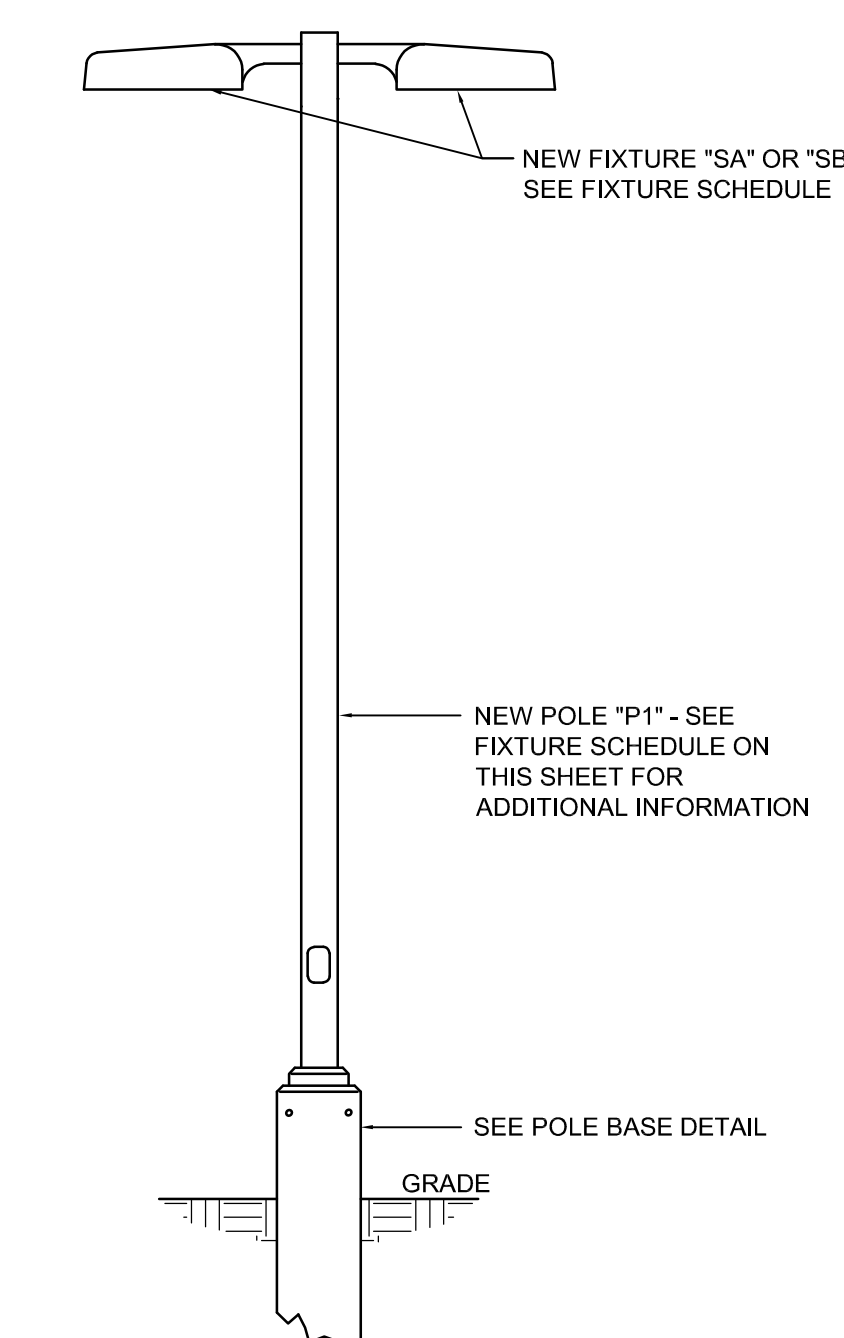
1. CONDUIT AND CABLE SIZE SHOWN IS FOR ENTIRE LENGTH SHOWN BETWEEN ALL FIXTURES ON CIRCUIT.
2. POWER FEEDERS. SEE RISER DIAGRAM ON SHEET E401 FOR CONDUIT AND CABLE SIZE AND ADDITIONAL INFORMATION.



ELECTRICAL SITE PLAN

SCALE: 1" = 50'

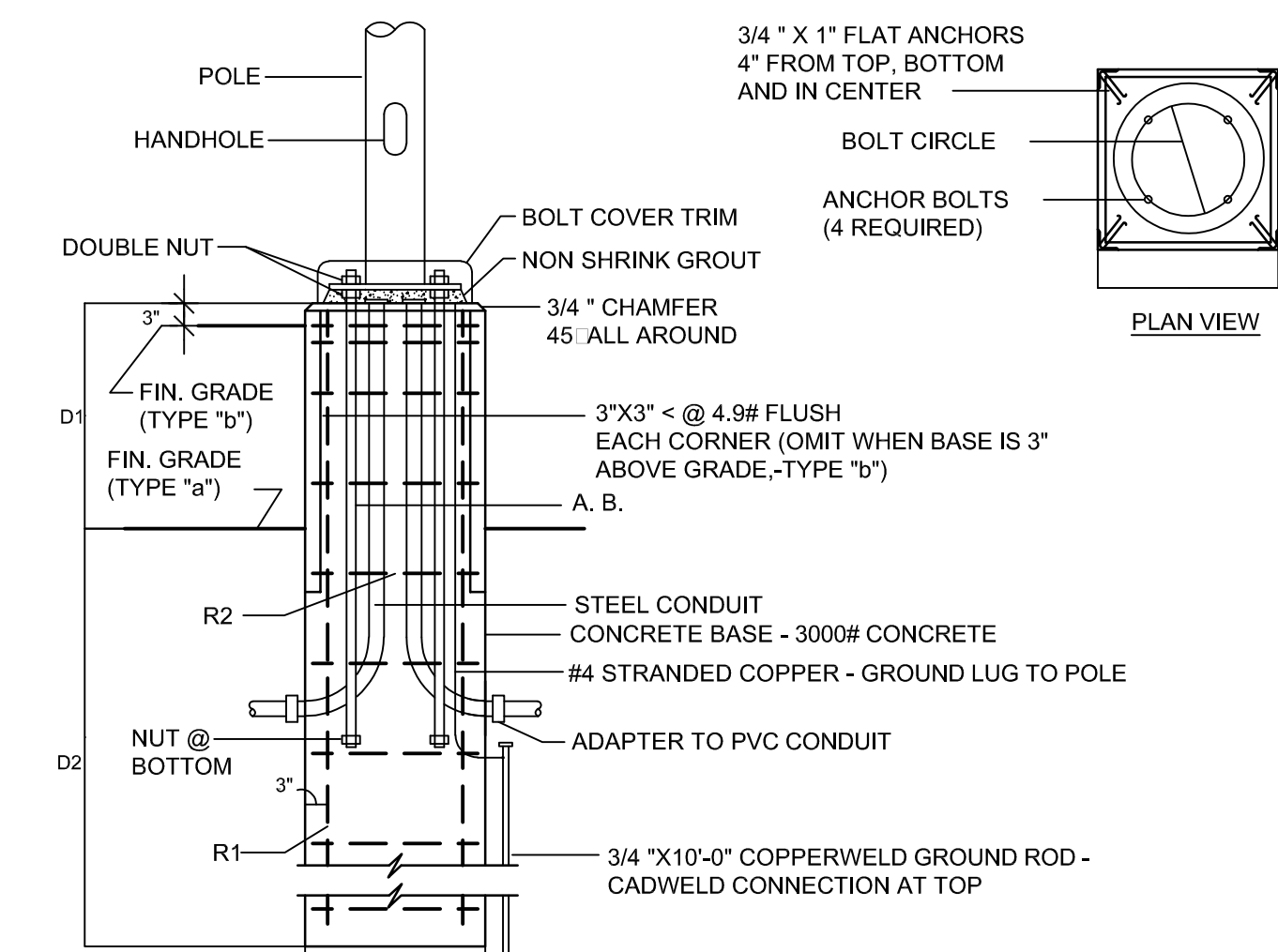
1



POLE DETAIL

SCALE: N.T.S.

3



POLE HT.	D1	D2	W	R1	R2	A. B.'s (A307)	M max
22'	3'-0"	5"	24"	(4) # 6 BAR	#3 TIES @ 12" O.C. 3" O.C. @ TOP	(4) 3/4" X 24"	4.63 K-FT

POLE BASE DETAIL

SCALE: N.T.S.

2



ARCHITECT:

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INTERIORS NO.: IS26000665

CONSULTANT

ELECTRICAL ENGINEER:

STEPHEN M. NEWLIN JR.

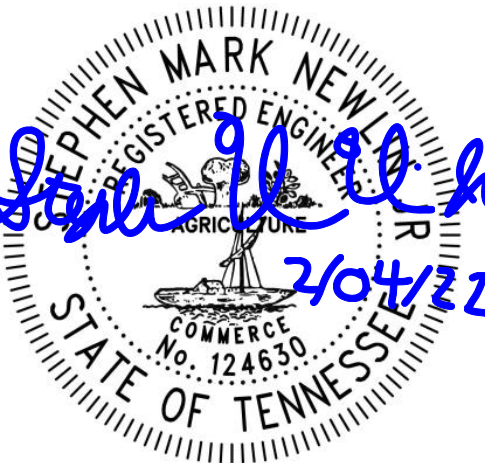
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PROJECT INFORMATION

PROJECT:

**AN ADDITION & RENOVATION TO:
NORRIS MIDDLE SCHOOL**

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

- FOR REVIEW ONLY
- FOR PERMITTING ONLY
- SCHEMATIC DESIGN
- DESIGN DEVELOPMENT
- CONSTRUCTION BIDDING
- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION
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KEY PLAN

SHEET INFORMATION

SHEET ISSUED: 02/04/2022
DESIGNED BY: WAH
DRAWN BY: WAH
REVIEWED BY: SMN
SHEET TITLE:

ELECTRICAL SITE PLAN

SHEET NO.:

ES101