AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

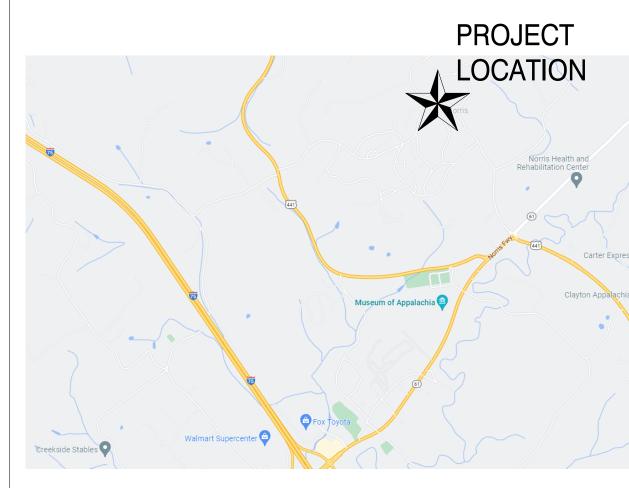


5 NORRIS SQUARE, NORRIS, TN 37828

ABE	BREVIATIO	NS:
AFF ALT	- ABOVE FINISH FLOOR - ALTERNATE	MTL MG
ALUM	- ALUMINUM	MFR
ARCH	- ARCHITECTURAL	MIN
ACT	- ACOUSTICAL TILE CEILING	MISC
ASPH	- ASPHALT	NIC
BF BSMT	- BOTTOM FACE - BASEMENT	NTS NO, #
BM	- BENCH MARK	OC
BLDG	- BUILDING	OD
BLK	- BLOCK	P
BRG	- BEARING	PLAS
CB	- CATCH BASIN	P LAM
CJ	- CONTROL JOINT	PLYWD
CHB CLG	- CHALK BOARD - CEILING	PTD RAD;R
CLOS, CL	- CLOSET	RD
CLR	- CLEAR	REINF
COL	- COLUMN	REQ'D
COMP	- COMPOSITION	RS
CONC	- CONCRETE	RM
CONST CMU	- CONSTRUCTION - CONCRETE MASONRY UNIT	RO SCHED
CMO	- CERAMIC TILE	SCHED
DTL	- DETAIL	SECT
D, DIA	- DIAMETER	SHT
DN	- DOWN	SIM
DWG	- DRAWING	SPECS
DF	- DRINK FOUNTAIN	SQFT / SF
DS	- DOWNSPOUT	STD STL
EA EF	- EACH - EACH FACE	STOR
ELEC	- ELECTRIC	SD
EWC	- ELECTRIC WATER COOLER	SUSP
ELEV	- ELEVATION	SQ
EXIST	- EXISTING	ТВ
EXT		T'HOLD
EJ FE	- EXPANSION JOINT - FIRE EXTINGUISHER	TLT TD, TDS
FL	- FLOOR	TE, TDS
FD	- FLOOR DRAIN	TYP
FT	- FOOT	U
FTNG	- FOOTING	VIF
GALV	- GALVANIZED IRON	VS
GA	- GAUGE	VOL
GYP HB	- GYPSUM - HOSE BIB	VT VERT
HCWD	- HOLLOW CORE WOOD	WSCT
HDW	- HARDWARE	WC
HGT	- HEIGHT	WH
HM	- HOLLOW METAL	WPFG
ID	- INSIDE DIAMETER	WF
		WDW
INV JAN	- INVERT - JANITOR	WD W/
JST	- JOIST	WWF
LAV	- LAVATORY	WWM
lb	- POUND	L
MH	- MANHOLE	@
		С

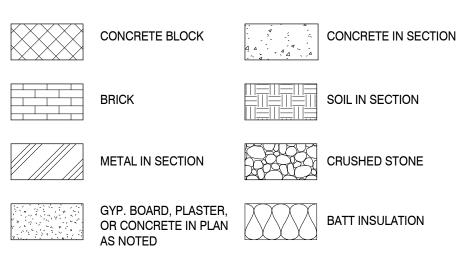
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VICINITY MAP:



MATERIALS LEGEND:

С



RIGID INSULATION, EIFS AS NOTED PLYWOOD

MECH

- MECHANICAL

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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

Pizza Plus 💔

DESIGN CODES 2018 INTERNATIONAL BUILDING CODE 2017 NATIONAL ELECTRICAL CODE 2018 INTERNATIONAL FIRE CODE 2018 INTERNATIONAL MECHANICAL CODE 2018 INTERNATIONAL FUEL 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. EDUCATIONAL OCCUPANCY: 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

G

FINISH WOOD

WOOD FRAMING

E

PROJECT DIREC

OWNER:

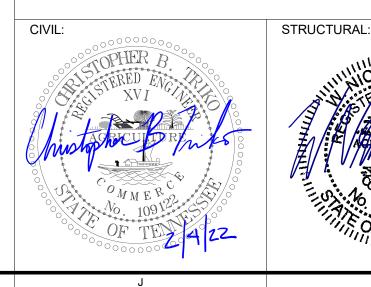
ANDERSON COUNTY SCHOOLS CONTACT: CLAY MCKAMEY 101 S. MAIN STREET CLINTON, TN 37716 865-457-2519

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

LIST OF DRAWINGS:

SHEET #	DRAWING TITLE
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	
C400	SITE GRADING AND DRAINAGE PLAN
C500	SITE UTILITIES PLAN
C800	
	CIVIL DETAILS
	CIVIL DETAILS
C803	CIVIL DETAILS
ARCHITE	CTURAL
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	BOOF PLAN
A302	BOOF DETAILS
A401	EXTERIOR ELEVATIONS
	BUILDING SECTIONS
A502	EXTERIOR WALL SECTIONS
	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
STRUCTU	IRAL ENGINEERING
S001	STRUCTURAL NOTES
	SPECIAL INSPECTIONS
S002	TYPICAL FOUNDATION AND SLAB ON GRADE DETAILS
S003 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
MECHAN	CAL
FP001	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
M101 M102	BOOF PLAN - HVAC
M102 M201	HVAC DETAILS
P001	PLUMBING LEGEND AND NOTES
	FLOOR PLAN - PLUMBING
P102	ROOF PLAN - PLUMBING
P201	PLUMBING SCHEDULES
P301	PLUMBING DETAILS
ELECTRIC	CAL ENGINEERING
E001	ELECTRICAL LEGEND AND GENERAL NOTES
E101	EXISTING BUILDING EQUIPMENT INTERCONNECTION PLAN
E111	CLASSROOM ADDITION POWER PLAN
	HVAC ROOF POWER PLAN
	LIGHTING PLANS
	CLASSROOM ADDITION FIRE ALARM AND COMMUNICATIONS
	PLAN
E401	RISER DIAGRAM AND PANELBOARD SCHEDULES
E501	ELECTRICAL DETAILS
ES101	ELECTRICAL DETAILS
Grand tota	
	<u>μι. υσ</u>



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2	ECTORY:
s	TRUCTURAL ENGINEER:

MBI COMPANIES INC. NICK DEAL 299 N. WEISGARBER ROAL KNOXVILLE, TN 37919 865-584-0999

MECHANICAL ENGINEER MBI COMPANIES INC. JOHN BUCHANAN 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



REV #

MECHANICAL



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ELECTRICAL:

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8	MBI
7	MBI COMPANIES INC. 299 N. WEISGARBER ROAD KNOXVILLE, TN 37919 PHONE: (865) 584-0999 FAX: (865) 584-5213 WEB: mbicompanies.com CONSULTANT
6	SEAL
5	COPYRIGHT © MBI COMPANIES INC. 2021 THE DESIGN PROFESSIONAL DENIES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/ OR FOLLOW THE DESIGN PROFESSIONAL'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.
4	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
3	FOR REVIEW ONLY FOR PERMITTING ONLY SCHEMATIC DESIGN DESIGN DEVELOPMENT CONSTRUCTION BIDDING CONSTRUCTION DOCUMENTS AS-BUILT RECORD SET REVISION INFORMATION NO. DATE DESCRIPTION
2	KEY PLAN
	SHEET INFORMATIONSHEET ISSUED:02/04/2022DESIGNED BY:CMGDRAWN BY:KEFREVIEWED BY:CMGSHEET TITLE:
1	COVER SHEET



		A B C		
		ENERAL NOTES		ROSION
	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.		UNLESS SHO
		DEPARTMENT OF LABOR, 29 CFR 1926 OSHA.	2.	THE CONTR/
	2.	THE APPROPRIATE TRAFFIC CONTROL SIGNS AS DEFINED BY THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES,		LOCAL, STAT
		F.H.W.A., 2009", SHALL BE INSTALLED AT THE INCEPTION OF CONSTRUCTION AND SHALL BE PROPERLY MAINTAINED AND/OR OPERATED DURING THE TIME SUCH SPECIAL CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS		AND STORM NO LAND DIS
		LONG AS THEY ARE NEEDED AND SHALL BE REMOVED IMMEDIATELY AFTER NEED.		RECEIVED A
8	3.	NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM THEIR		(TDEC). COO DISTURBANO
	4.	RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC. VERIFY THE LOCATIONS OF ALL PROPOSED ITEMS PRIOR TO COMMENCING CONSTRUCTION. NOTIFY A/E		A NOTICE W
		IMMEDIATELY OF ANY DISCREPANCIES BEFORE STARTING WORK. COMMENCEMENT OF CONSTRUCTION AFTER SUCH		A. A CO B. THE
	-	DISCOVERY SHALL BE AT THE CONTRACTOR'S RISK.		INCL
	5.	ANY AREA THAT IS DISTURBED OUTSIDE THE LIMITS OF CONSTRUCTION DURING THE LIFE OF THE PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.		C. A PF
	П	EMOLITION NOTES	5.	D. THE
	1.	DO ALL DEMOLITION WORK REQUIRED TO REMOVE EXISTING MASONRY WALLS, PAVING, FOUNDATIONS, CONCRETE		CONTRACTO
	1.	SLABS, EXISTING UNDERGROUND PIPING, CONDUIT, BUILDING FINISHES, DOORS, WINDOWS AS SHOWN ON THE		A. EXAI SED
	2.	DRAWINGS AND ANY OTHER NECESSARY ITEMS TO INSTALL THE PROPOSED WORK. CONTRACTORS SUBMITTING PROPOSALS SHALL DETERMINE THE QUANTITIES OF DEMOLITION WORK REQUIRED BY		B. NOT
	Ζ.	EIELD INVESTIGATION OF THE DUILDING AND SITE	6.	CON FURNISH, EF
	3.	SUBMIT A DEMOLITION SCHEDULE TO THE PROJECT MANAGER PRIOR TO EXECUTION OF THE WORK. INDICATE		TENNESSEE
		PROPOSED METHODS AND SEQUENCE OF OPERATIONS. INCLUDE PROPOSAL FOR CONTROL OF DUST AND NOISE, AND COORDINATION FOR SHUT-OFF, CAPPING, AND CONTINUATION OF UTILITY SERVICES.		DETAILS FOR EROSION AN
	4.	MAINTAIN TEMPORARY BARRICADES FOR PROTECTION OF JOB PERSONNEL AND THE PUBLIC. REMOVE BARRICADES		
7	5.	WHEN NO LONGER REQUIRED. CONDUCT OPERATIONS IN SUCH A MANNER AS TO MINIMIZE INTERFERENCE WITH USE OF PUBLIC WAYS AND		PREVENT SE ENVIRONME
	•.	ADJACENT USED FACILITIES. DO NOT CLOSE, BLOCK OR OTHERWISE OBSTRUCT USE OF PUBLIC WAYS OR FACILITIES	-	
		WITHOUT WRITTEN CONSENT OF AUTHORITIES HAVING JURISDICTION. PROVIDE ALTERNATIVE ROUTES TO CLOSED OR OBSTRUCTED FACILITIES AS REQUIRED BY LOCAL REGULATIONS.		TDEC (CGP)
	6.	EXISTING UTILITIES INDICATED TO REMAIN SHALL BE KEPT IN SERVICE AND PROTECTED FROM DAMAGE DURING		WITH COPIE: KEEPING, AN
	7.	DEMOLITION OPERATIONS. DO NOT INTERRUPT EXISTING UTILITIES USED OR OCCUPIED FACILITIES UNLESS AUTHORIZED IN WRITING BY	9.	NSPECTION
	1.	AUTHORITIES HAVING JURISDICTION IF INTERRUPTION IS ALLOWED, PROVIDE ALTERNATIVE TEMPORARY SERVICES		PROOF OF IN REPORTS AN
	0	ACCEPTABLE TO GOVERNING AUTHORITIES.		REPAIR NEE
	8.	LOCATE, IDENTIFY, SHUT OFF, CAP AND DISCONNECT UTILITIES AT PROPERTY LINE OR VALVE AS REQUIRED. PROVIDE BY-PASS CONNECTIONS AS REQUIRED TO MAINTAIN SERVICES TO ADJACENT PROPERTIES AND FACILITIES.		DOCUMENT ' MAINTAIN A I
		PROVIDE A MINIMUM OF 72 HOURS ADVANCE NOTICE TO PROPERTY OWNERS IF SHUT-DOWN OF SERVICES IS		EROSION AN
	9.	REQUIRED DURING THE CHANGE-OVER. COORDINATE WITH ALL UTILITY COMPANIES 48 HOURS PRIOR TO ANY DEMOLITION WORK.	А. В.	STAKE ⁻ INSTALI
		REMOVE DEBRIS, RUBBISH, AND OTHER SUBSTANCES FROM SITE. LEGALLY TRANSPORT AND DISPOSE OF SUCH	в. С.	TEMPO
	11	MATERIALS OFF-SITE. BURYING OR BURNING OF MATERIALS ON THE PROJECT SITE IS FORBIDDEN.		DISCHA PROPEI
	12.	AVAILABILITY FOR DEMOLITION MUST BE CONFIRMED BY OWNER JUST PRIOR TO DEMOLITION.		WELL A
6		THE USE OF EXPLOSIVES IS STRICTLY PROHIBITED. HISTORIC ARTIFACTS, INCLUDING CORNERSTONES, THEIR CONTENTS, COMMEMORATIVE PLAQUES AND TABLETS,	D.	BEGIN S
		ANTIQUES, AND OTHER ITEMS OF SIGNIFICANCE SHALL REMAIN THE PROPERTY OF THE OWNER. NOTIFY OWNERS	E.	VERIFY CONST
		REPRESENTATIVE IF SUCH ARTICLES ARE ENCOUNTERED. OBTAIN APPROVAL REGARDING METHOD OF REMOVAL. SALVAGE SUCH ARTICLES AND TURN OVER TO OWNER.	F.	INSPEC
	15.	SALVAGE SUCH ARTICLES AND TURN OVER TO OWNER. IF HAZARDOUS MATERIALS ARE ENCOUNTERED, COMPLY WITH APPLICABLE REGULATIONS IN HANDLING, REMOVING,	G.	CONSTI CLEAN,
		AND PROTECTING AGAINST EXPOSURE OR ENVIRONMENTAL POLLUTION.		SEDIME
	16.	REGRADE ALL AREAS WHERE DEMOLITION HAS OCCURRED. PROVIDE SMOOTH TRANSITION BETWEEN EXISTING AND NEW GRADING, THERE SHALL NOT BE ANY VOIDS, PITS, OR MOUNDING OF EARTHWORK.	н.	APPROI AFTER I
			п.	STABILI
1	S	TE NOTES	I.	STORM BARRIE
	1.	WHERE PROPOSED PAVEMENT ABUTS EXISTING PAVEMENT, THE EXISTING PAVEMENT SHALL BE CUT IN A NEAT		STORM
		STRAIGHT LINE THROUGH PAVEMENT AND BASE. PROVIDE A SMOOTH TRANSITION.	J.	PROJEC
	2. 3.	INSTALL EXPANSION JOINT MATERIAL BETWEEN NEW AND EXISTING CONCRETE AND/OR ASPHALT. MAINTAIN AND PROTECT EXISTING PAVEMENT OR GRAVEL SURFACES WHICH ARE TO REMAIN. CONTRACTOR SHALL		MATERI OPERA
	0.	REPLACE DAMAGED AREAS, MATCHING DEPTH, MATERIAL AND GRADE OF EXISTING SURFACES.	.,	CONTRO
	4.	DIMENSIONS SHOWN ARE TO FACE OF CURB, CENTER OF COLUMN, EDGE OF BUILDING EXTERIOR OR CENTER OF PAINTED STRIPES.	K.	PROVID REQU I R
5	5.	SIDEWALK AND PAVING JOINTS ARE SHOWN FOR REFERENCE ONLY. REVIEW JOINT LAYOUT WITH ALL		EXCAVA
		SPECIFICATIONS AND DETAILS BEFORE POURING CONCRETE.	L.	MAINTA PROJEC
	Sl	JRVEY NOTES		MAINTE
	1.	BOUNDARY AND TOPOGRAPHIC INFORMATION WAS PREPARED BY MBI COMPANIES INC, 299 N.		EROSION CC PROTECT AD
	2.	WEISGARBER ROAD, KNOXVILLE TN 37919. SURVEY PERFORMED 01/06/2022. Coordinates are in feet and reference to tennessee state plane system of 1983 .		THE LIFE OF
	3.	BEARINGS SHOWN ARE BASED ON MAGNETIC NORTH.		THE ENGINE STABILIZATI(
	4. 5.	THE VERTICAL DATUM IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) . FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. EXISTING UTILITIES SHOWN ON		CONSTRUCT
	5.	DRAWINGS ARE APPROXIMATE IN DEPTH AND LOCATION. REPAIR EXISTING UTILITIES DAMAGED DURING		STABILIZATIO DAYS AFTER
		CONSTRUCTION AT NO COST TO THE OWNER.		CEASED. SL
	Gl	RADING NOTES		ON THE SLO VEGETATION
		FIELD VERIFY CRITICAL GRADES AT CONNECTION POINTS SUCH AS ENTRANCES PRIOR TO CONSTRUCTION AND		MEASURES A
		NOTIFY PROJECT MANAGER OR ENGINEER OF ANY DISCREPANCIES. THE MINIMUM SLOPE FOR PARKING, SIDEWALKS, AND LANDSCAPED AREAS IS 1%. FIELD VERIFY MINIMUM SLOPE IS		CONSIDEREI
		ACHIEVED.	:	SEDIMENT C
4	3.	MAXIMUM SLOPE IN HANDICAP PARKING AREAS IS 2%. MAXIMUM LONGITUDINAL SIDEWALK SLOPE IS 5%. SLOPE SIDEWALKS AWAY FROM BUILDING AT 1½% CROSS SLOPE UNLESS OTHERWISE NOTED. SIDEWALK CROSS SLOPE		UNLESS OTH 9" TH I CK ANI
		CANNOT EXCEED 2% IN ANY CASE.	16.	CONCRETE
		UNLESS OTHERWISE NOTED, ELEVATIONS SHOWN REPRESENT FINISHED GRADES. ADJUST FOR PAVEMENT THICKNESS, TOPSOIL, ETC.		PERMITTING AT THE END
		ADJUST DRAINAGE STRUCTURE TOPS AS NECESSARY TO MATCH FINAL GRADES.		TRAPS IN CO
		NO SLOPE SHALL BE STEEPER THAN 2(H):1(V)		
	7. A.	ALL EARTHWORK SHALL MEET THE FOLLOWING REQUIREMENTS AT A MINIMUM: FOLLOW RECOMMENDATIONS OF THE PROJECT SUBSURFACE INVESTIGATION REPORT. REPORT ANY	18.	OWNER TO F CONTRACTC
		CONTRADICTIONS TO THE PROJECT MANAGER. SOIL EXCAVATION SHALL BE CONSIDERED AS		AN INITIAL S
	в.	UNCLASSIFIED. OBTAIN CERTIFICATION FROM A TESTING LAB, SIGNED AND SEALED BY AN ENGINEER, STATING THAT		ENGINEER A
		ALL EARTHWORK IS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SUBSURFACE		
		INVESTIGATION REPORT AND SOILS ARE CAPABLE OF SUPPORTING THE STRUCTURE AND IMPROVEMENTS.		TILITY N
	C.	SUBMIT SOIL SAMPLES FOR TESTING AS REQUIRED BY THE PROJECT GEOTECHNICAL ENGINEER.	1.	
	D.	SOIL FOR COMPACTED BACKFILL AND ENGINEERED FILL SHALL CONSIST OF CLEAN GRANULAR SOILS, CLAY SOILS, OR SHALE SOILS HAVING A PLASTICITY INDEX OF LESS THAN 35 AND A MINIMUM		INSTALLAT UTILITIES
		DENSITY OF 90 POUNDS PER CUBIC FOOT WHEN COMPACTED TO ONE HUNDRED PERCENT (100%)		WITH NOF
3		OF ITS MAXIMUM DRY DENSITY PER STANDARD PROCTOR TEST. (ASTM D698) MATERIAL SHALL BE FREE OF VEGETATION, ROOTS, ROCKS LARGER THAN 2" IN ANY DIMENSION, DEBRIS AND OTHER		DISTRICT REQUIREM
		DELETERIOUS MATERIALS. RESIDUAL SOIL EXCAVATED AT THE SITE MAY BE USED FOR BACKFILL IF IT	2.	PAVEMEN
		MEETS THE SPECIFICATION REQUIREMENTS. THE MOISTURE CONTENT OF THE FILL SOILS SHOULD BE MAINTAINED WITHIN +3 AND -3 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT	3.	JURISDICT COORDINA
		DETERMINED FROM THE STANDARD PROCTOR COMPACTION TEST.		SERVICE S
	E.	ALL FILL IN AREAS TO BE OCCUPIED BY THE BUILDING(S) AND PAVING, INCLUDING AN AREA 10 FEET OUTSIDE THE PERIMETERS THEREOF, SHALL BE CONTROLLED (ENGINEERED) FILL AND THE	4.	POWELL - GAS METE
		COMPACTION SHALL BE TESTED BY A LICENSED AND QUALIFIED GEOTECHNICAL ENGINEER.		THE LOAD
		CONTROLLED FILL IN AREAS OF BUILDINGS SHALL BE COMPACTED IN MAXIMUM 4" LIFTS TO AT LEAST 98% OF MAXIMUM DRY DENSITY WITHIN 3% OF OPTIMUM MOISTURE CONTENT IN	5.	IT IS THE R WORK IN T
		ACCORDANCE WITH ASTM SPECIFICATION D-698 (STANDARD PROCTOR). FILL IN AREAS OF ASPHALT		WITH NOF
		PAVING SHALL BE COMPACTED IN MAXIMUM 6" LIFTS TO AT LEAST 98% OF MAXIMUM DRY DENSITY	6.	PROVIDE 1 PROVIDE 1
		WITHIN 3% OF OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM SPECIFICATION D-698. THE UPPER 12 INCHES OF FILL BENEATH PAVEMENTS AND UPPER 24 INCHES BENEATH FOOTINGS		SEWERS A
		AND GRADE SLABS SHALL BE COMPACTED TO 100%. PROVIDE 95% COMPACTION IN ALL OTHER	7.	PROVIDE # ADJUST AL
	F.	AREAS. AFTER STRIPPING TOPSOIL, ALL FILL AREAS SHALL BE PROOFROLLED AND MONITORED BY THE		MATCH FIN
ļ		PROJECT GEOTECHNICAL ENGINEER.	0	
2	G.	FILL OUTSIDE OF BUILDING AND PAVEMENT SHALL BE PLACED IN 8" LIFTS IN THE PRESENCE OF A REPRESENTATIVE OF THE SOIL TESTING LAB, COMPACTED TO SPECIFIED REQUIREMENTS, AND	8.	COORDINA UTILITY D
		TESTED EVERY 900 SF FOR EACH LAYER OF FILL. REMEDY ANY INADEQUATELY PLACED FILL TO MEET		DRAWINGS
	Н.	PROJECT SPECIFICATIONS. ALL LANDSCAPED AND GRASS AREAS SHALL HAVE A MINIMUM OF 5" OF CLEAN TOPSOIL.	9.	UNLESS O
	н. I.	TOLERANCES FOR SURFACES: HARDSCAPE: ± 0.025		REQUIREN
		LANDSCAPE/GRASSED AREAS: ± 0.1'		WHICH HA THE GASK
	J.	ALL OFFSITE BORROW AND SPOIL SITES, IF REQUIRED, SHALL BE PROPERLY PERMITTED.		LOCK-IN T
	DF	RAINAGE NOTES	10	UNLESS O
	1.	FIELD VERIFY CRITICAL GRADES AT CONNECTION POINTS PRIOR TO CONSTRUCTION OR FABRICATION OF PRECAST	10.	PUSH-ON 1
		STRUCTURES. UNLESS OTHERWISE NOTED, HDPE SHALL BE HANCOR, LANE HDPE, OR ADS N-12 SMOOTH INTERIOR WALL HDPE PIPE.		REQUIREM
		PROVIDE #57 STONE BEDDING AND BACKFILL TO PAVEMENT SUBGRADE OR 12" ABOVE PIPE IN GRASS AREAS. ALL PIPE	11.	ALL FIRE V
		AND FITTINGS SHALL MEET THE REQUIREMENTS OF AASHTO M252, TYPE S (4"-10") OR AASHTO M294, TYPE S (12"-48"). GASKET SHALL MEET THE REQUIREMENTS OF ASTM F477. INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321.		AWWA C15 AWWA C60
		JOINTS SHALL BE SILT TIGHT AND NON-RATED WATERTIGHT GASKETS SHALL BE COVERED WITH A REMOVABLE WRAP	12.	FIRE LINE
		BY THE MANUFACTURER TO ENSURE THAT THE GASKET IS FREE FROM DEBRIS. UNLESS OTHERWISE NOTED, RCP SHALL BE CLASS III CONFORMING TO ASTM C-76 (LATEST REVISION):		TO THE OV
1 7		"STANDARD SPECIFICATION FOR REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE".		STARTING CONTRAC
		ROOF LEADERS SHALL BE ASTM D3034 SDR 35 PVC WITH GASKET JOINTS. UNLESS OTHERWISE NOTED ON THE PLANS,	13.	ALL WATE
1	4.			
	4.	4" SHALL BE LAID AT A 2% MINIMUM SLOPE AND 6" SHALL BE LAID AT 1% MINIMUM SLOPE. COORDINATE WITH GOVERNING AGENCY FOR ALL REQUIRED MATERIAL APPROVALS, INSPECTIONS AND TESTING.		

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CONTROL NOTES WN OTHERWISE, ALL DISTURBED AREAS NOT ULTIMATELY RECEIV

PTH OF 5" OF TOPSOIL AND BE STABILIZED WITH GRASS. ACTOR IS RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMIT TE AND FEDERAL REGULATIONS RELATED TO SITE GRADING, EROS WATER RUNOFF.

STURBANCE IS PERMISSIBLE UNTIL THE CONTRACTOR HAS SUBMIT NOTICE OF COVERAGE FROM THE TENNESSEE DEPARTMENT OF ORDINATE WITH OWNER TO ENSURE THAT ALL NECESSARY PERMI

- ILL BE POSTED BY NEAR THE CONSTRUCTION ENTRANCE BEFORE OPY OF THE NOC WITH THE TRACKING NUMBER ASSIGNED BY TDE NAME, COMPANY NAME, TELEPHONE NUMBER, EMAIL AND ADDRE
- UDING A LOCAL CONTACT PERSON. ROJECT DESCRIPTION

LOCATION OF THE SWPPP ON SITE. TION FOR AND PRIOR TO INSTALLATION OF EROSION AND SEDIME

OR SHALL: MINE THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

IMENTATION CONTROL DRAWINGS AT THE SITE. IFY ENGINEER OF DEFICIENCIES OR CHANGES IN THE SWPPP OR I DITIONS. REVISIONS OF THE DOCUMENTS WILL BE MADE AS DETE RECT AND MAINTAIN EROSION AND SEDIMENTATION CONTROL MEA EROSION AND SEDIMENT CONTROL HANDBOOK, FOURTH EDITION R SPECIFIC EROSION AND SEDIMENTATION CONTROL MEASURES. ID SEDIMENTATION CONTROL MEASURES SHOWN ON THIS PLAN AI

ADD EROSION AND SEDIMENTATION CONTROL MEASURES DURING DIMENT FROM LEAVING THE SITE. ENTAL PERMIT REQUIREMENTS: SHOW COMPLIANCE WITH ALL REQU R STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION A

AND THE PROJECT STORM WATER POLLUTION PREVENTION PLAN S OF ALL REQUIRED PAPERWORK. PERFORM AND PROVIDE ALL M ID REPORTING. S WILL BE PERFORMED BY PERSONNEL CERTIFIED IN THE TDEC LE

SPECTOR'S CERTIFICATION SHALL BE KEPT ON FILE AT THE JOBS ND OTHER REQUIRED PAPERWORK IDENTIFIED IN THE PROJECT SV EDS IDENTIFIED BY INSPECTIONS SHALL BE ADDRESSED WITHIN 7 D WHEN MAINTENANCE ITEMS ARE COMPLETED ON THE INSPECTION RAIN GAUGE AND RAINFALL RECORDS ON SITE AS REQUIRED BY T

ND SEDIMENTATION CONTROL IMPLEMENTATION: THE DISTURBED AREA LIMITS AND UNDISTURBED AREAS IN THE FI _ CONSTRUCTION EXIT

- RARY EROSION AND SEDIMENTATION CONTROL: PROVIDE MEASU RGE OF SOIL-BEARING WATER RUNOFF AND AIRBORNE DUST TO U RTIES AND WALKWAYS, ACCORDING TO THE SITE EROSION AND SE S THE CGP AND THE SWPPP.
- SITE GRADING THAT FLOWS OF WATER REDIRECTED FROM CONSTRUCTION ARE
- RUCTION ACTIVITY DO NOT ENTER OR CROSS TREE- OR PLANT- PF I, REPAIR, AND MAINTAIN EROSION AND SEDIMENTATION CONTRO
- RUCTION UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHE
- REPAIR, AND RESTORE ADJOINING PROPERTIES AND ROADS AFFE ENTATION FROM THE PROJECT SITE DURING THE COURSE OF THE I PRIATE PERMITS TO ACCESS AREAS OUTSIDE THIS SITE.
- FINAL STABILIZATION OF THE SITE, REMOVE EROSION AND SEDIME IZE AREAS DISTURBED DURING REMOVAL. WATER CONTROL: COMPLY WITH REQUIREMENTS OF AUTHORITIES RS IN AND AROUND EXCAVATIONS AND SUBGRADE CONSTRUCTIO
- WATER FROM HEAVY RAINS. CT MANAGER OR ENGINEER MAY DIRECT CONTRACTOR TO LIMIT SI RIAL EXPOSED BY CLEARING AND GRUBBING, EXCAVATION, BORRO TIONS AND MAY DIRECT CONTRACTOR TO PROVIDE IMMEDIATE PE
- OL MEASURES. E PERMANENT EROSION CONTROL MEASURES AT EARLIEST PRAC EMENT FOR TEMPORARY EROSION CONTROLS. PERMANENTLY SE TION PROCEEDS.

IN TEMPORARY EROSION CONTROL SYSTEMS INSTALLED BY CONT T MANAGER OR ENGINEER TO CONTROL SILTATION AT ALL TIMES NANCE OR ADDITIONAL WORK DIRECTED BY ENGINEER WITHIN 48 NTROL SHALL BE MAINTAINED UNTIL PAVING IS COMPLETED AND

JACENT PROPERTIES AND WATER RESOURCES FROM EROSION A THE PROJECT UNTIL A NOTICE OF TERMINATION IS FILED WITH TD ER AND OWNER FOR APPROVAL TO FILE A NOTICE OF TERMINATIC ON MEASURES WILL BE INITIATED AS SOON AS POSSIBLE IN PORTI TION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. ON AT THE CONSTRUCTION SITE (OR PHASE OF THE PROJECT) MU THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS OPES STEEPER THAN 3:1 SHALL BE STABILIZED NOT LATER THAN PE HAS TEMPORARILY OR PERMANENTLY CEASED. PERMANEN OR OTHER PERMANENTLY STABLE, NON-ERODING SURFACE SHA AS SOON AS PRACTICABLE. UNPACKED GRAVEL CONTAINING FINE

- D A NON-ERODING SURFACE. DISCHARGED FROM EXCAVATIONS AND TEMPORARY SEDIMENT PC ONTROLS ACCEPTABLE TO TDEC AS WELL AS THE LOCAL AUTHOR
- ERWISE NOTED. RIP-RAP SHALL BE T.D.O.T. MACHINED CLASS A-1 SHALL BE UNDERLAIN WITH A NON-WOVEN GEOTEXTILE FABRIC. WASHOUT AREA SHALL BE IN CONFORMANCE WITH STANDARDS O
- AUTHORITY HAVING JURISDICTION. D OF THE PROJECT, DURING FINAL SITE STABILIZATION, DEWATER T NFORMANCE WITH STANDARDS OF TDEC, AS WELL AS THE LOCAL N. REMOVE ALL TEMPORARY EROSION CONTROLS AT THE END OF
- FILE NOTICE OF TERMINATION, AT THE APPROPRIATE TIME, WITH A DR COORDINATE WITH ENGINEER AT BEGINNING OF LAND DISTURB/ SITE ASSESSMENT INSPECTION BY THE ENGINEER IS REQUIRED. IF I BY THE ENGINEER MUST BE PERFORMED WITHIN 1 MONTH OF STA MINIMUM OF 1 WEEK NOTICE IN SCHEDULING SITE ASSESSMENT I

IOTES

- TE WITH EXISTING UTILITIES AND STORM SEWER INSTALLATION T ION AND MATERIAL SHALL MEET THE REQUIREMENTS OF NORRIS BOARD, AND POWELL-CLINCH UTILITY DISTRICT AND AL RRIS WATER COMMISSION, CLINTON UTILITIES BOARD, F PRIOR TO CONSTRUCTION TO DETERMINE MATERIAL, INSTALLAT IENTS. VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES F FREPAIR AND TRAFFIC CONTROL SHALL MEET THE REQUIREMENT
- ION. ATE LOCATION OF GAS LINE TO AVOID CONFLICTS WITH OTHER UTI HALL MEET THE REQUIREMENTS OF **POWELL-CLINCH UTILITY** -CLINCH UTILITY DISTRICT AND COORDINATE INSTALLATION.
- R AND SUPPLY LINE SHALL BE SIZED AND INSTALLED BY **POWEL**I S SHOWN ON THE PLUMBING DRAWINGS. PROVIDE 4" SLEEVE UND
- RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY AND ALL PE HE PUBLIC R.O.W. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RRIS WATER COMMISSION TO ESTABLISH WATER AND SEWER 0' MIN. HORIZONTAL SEPARATION BETWEEN WATER AND SEWER I 18" MIN SEPARATION BETWEEN WATER AND SEWER LINES. PROVID
- ND OTHER UTILITIES. UNLESS OTHERWISE NOTED PROVIDE 3' MIN #57 STONE BEDDING AND BACKFILL TO SUBGRADE FOR ALL UTILITI L EXISTING UTILITY STRUCTURES, WHETHER SPECIFICALLY INDIC NAL GRADES. ADJUSTMENTS SHALL MEET THE REQUIREMENTS OF
- UTILITIES BOARD, AND POWELL-CLINCH UTILITY DISTR ATE WITH NORRIS WATER COMMISSION, CLINTON UTILITI DISTRICT TO REMOVE OR ABANDON EXISTING UTILITIES, WHETHE
- S OR NOT, THAT ARE LOCATED WITHIN THE PROJECT LIMITS AND N THERWISE NOTED, ALL SANITARY SEWER PIPE AND FITTINGS SHAI IENTS OF ASTM D 3034. USE SDR 35 UNLESS OTHERWISE SPECIFIEI IENTS OF ASTM D 3311 AND ASTM D 2665. PIPE SHALL HAVE AN INT S BEEN REINFORCED WITH A STEEL RING, BAND, OR OTHER RIGID ET IN PLACE. THE JOINT SHALL MEET THE REQUIREMENTS OF AST YPE GASKET, REIBER TYPE OR APPROVED SUBSTITUTE, MEETING
- THERWISE NOTED, MINIMUM SLOPE SHALL BE 2.0% FOR 4" LINE ANI THERWISE NOTED, ALL WATER LINES SHALL BE AWWA C900 PVC (0 IYPE JOINTS. JOINTS SHALL CONSIST OF COMPACT PATTERN DUC IENTS OF AWWA C 153 WITH RUBBER GASKETS MEETING THE REQ
- ION SHALL COMPLY WITH UL 1285. WATER LINES SHALL BE CLASS 350 DUCTILE IRON WITH PUSH-ON T 51 AND CEMENT - MORTAR LINING SHALL COMPLY WITH AWWA C104
- SIZE SHALL BE VERIFIED BY SPRINKLER CONTRACTOR. CERTIFIED VNER. SEE THE FIRE PROTECTION PLAN FOR FURTHER REQUIREM FROM THE POINT OF SERVICE MUST BE INSTALLED BY A TENNESS

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TOR. R LINE MATERIALS SHALL BE LEAD FREE.

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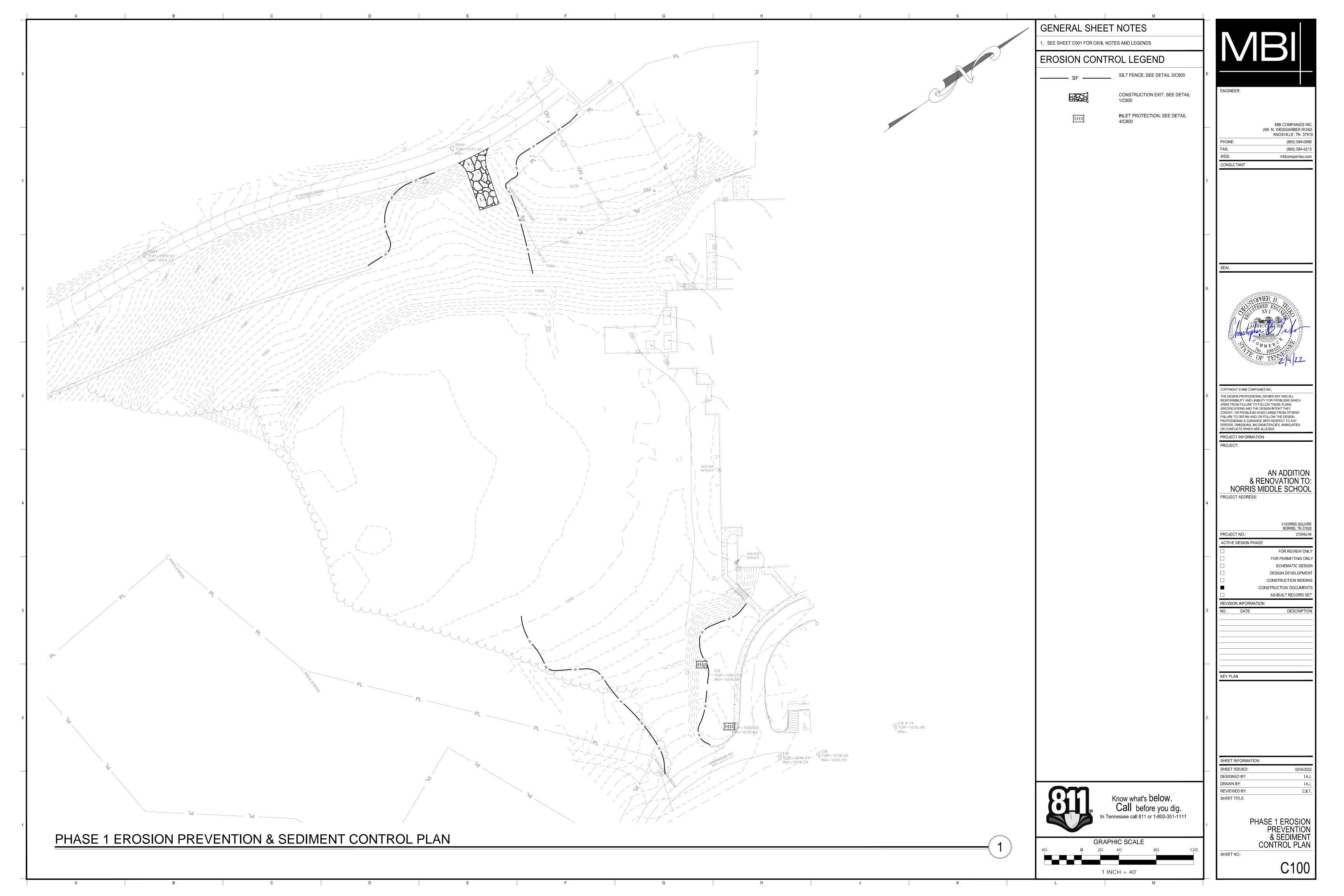
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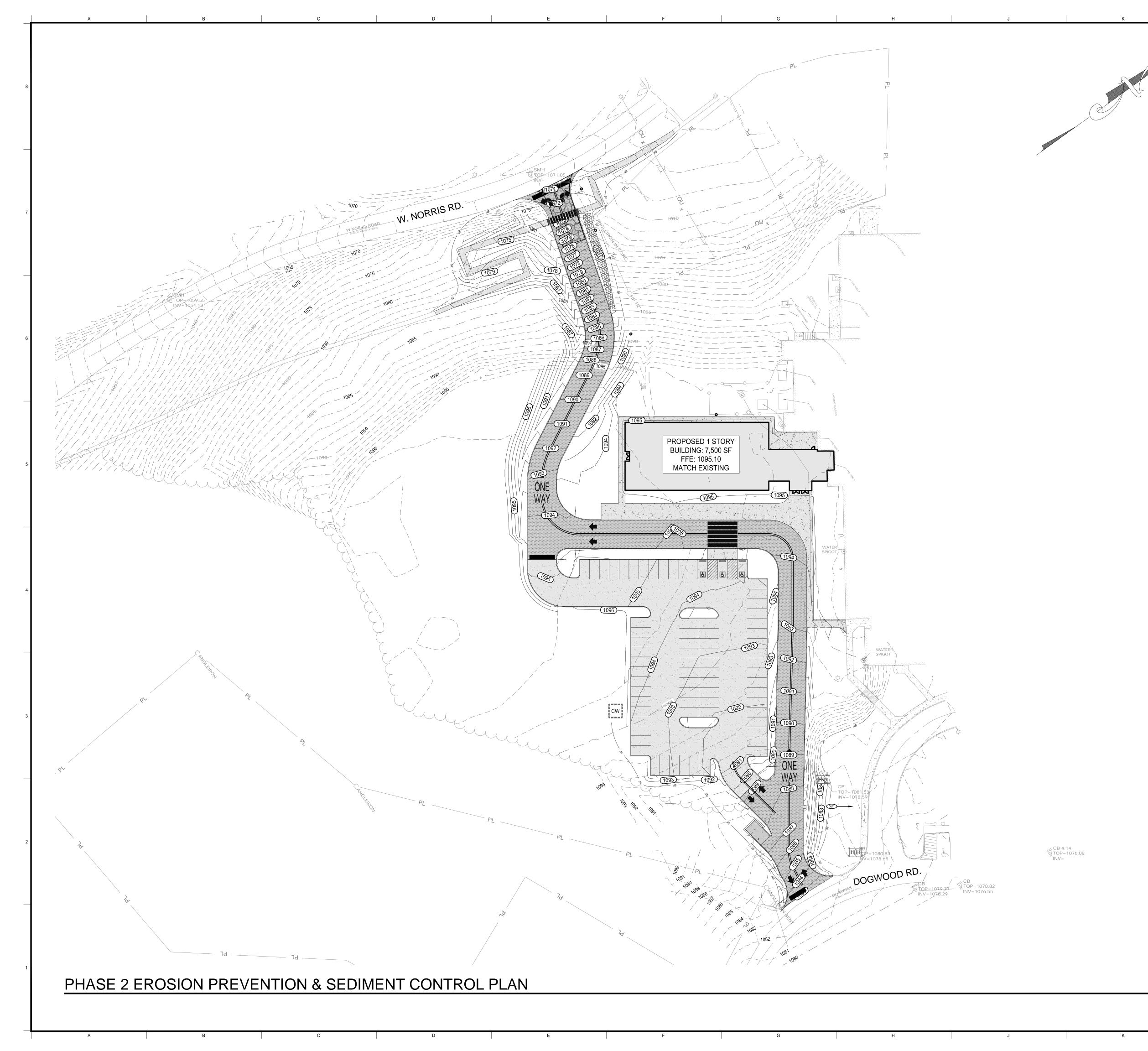
E EIVING A HARD SURFACE SHALL HAVE A	ABBREVIA NOTE: ALL ABB	G H TIONS REVIATIONS MAY NOT APPLY TO THIS PROJECT	EXISTING	LEGEND
ITS AND COMPLYING WITH ALL APPLICABLE OSION AND SEDIMENTATION CONTROL,	@ &	AT AND	P/E	EASEMENT
MITTED A SIGNED NOTICE OF INTENT AND	AASHTO ADA	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS AMERICANS WITH DISABILITIES ACT	R/W	RIGHT-OF-WAY
F ENVIRONMENT AND CONSERVATION MITS HAVE BEEN RECEIVED PRIOR TO LAND	APP'D APPROX. OR ~	APPROVED APPROXIMATE	PL	
RE WORK BEGINS CONTAINING:	ASCE ASPH.	AMERICAN SOCIETY OF CIVIL ENGINEERS ASPHALT AMERICAN COCIETY FOR TECTING AND MATERIAL C	2010 2011	MAJOR CONTOUR MINOR CONTOUR
DEC. RESS OF THE PROJECT SITE OPERATOR	ASTM AWWA	AMERICAN SOCIETY FOR TESTING AND MATERIALS AMERICAN WATER WORKS ASSOCIATION	SS _x	SANITARY SEWER
	B/C BLDG.	BACK OF CURB BUILDING	G	GAS PIPING
IENTATION CONTROL MEASURES, THE	BLVD. BM	BOULEVARD BENCHMARK		WATER LINE OVERHEAD UTILITIES
P) AND THE SITE EROSION AND	B/W	BOTTOM OF WALL	UE	ELECTRIC (UNDERGROU
R DRAWINGS REQUIRED BY CURRENT SITE TERMINED BY THE ENGINEER.	∆ CB	CURVE DELTA ANGLE CATCH BASIN	UT _X	TELEPHONE/COMM.
IEASURES IN CONFORMITY WITH THE ON, AS PREPARED BY TDEC. SEE PLAN AND	CFS CGP	CUBIC FEET PER SECOND CONSTRUCTION GENERAL PERMIT	SD _x	STORM SEWER ROOF DRAINS
S. I ARE A MINIMUM REQUIREMENT. MAINTAIN,	CI C	CURB INLET CENTERLINE		FIRE SUPPRESSION LINE
RING CONSTRUCTION AS NECESSARY TO	CMP CMU C.O.	CORRUGATED METAL PIPE CONCRETE MASONRY UNIT CLEANOUT		FORCE MAIN
EQUIREMENTS OF THE GENERAL NPDES	CONC. CONT.	CONCRETE CONTINUOUS		
AN (SWPPP). PROVIDE ENGINEER AND TDEC MAINTENANCE, INSPECTIONS, RECORD	•	DEGREES		REINFORCED SILT FENCI CONSTRUCTION LIMITS
LEVEL 1 EROSION CONTROL COURSE. BSITE ALONG WITH ALL INSPECTION	DCB DIA. OR Ø	DOUBLE CATCH BASIN DIAMETER		SETBACK
SSITE ALONG WITH ALL INSPECTION SWPPP AND THE CGP. MAINTENANCE 7 DAYS OR BEFORE THE NEXT RAIN EVENT.	DIP DWG.	DUCTILE IRON PIPE DRAWING		EXISTING TO BE REMOVE
ON REPORT. Y TDEC.	E	EAST		DRAINAGE SWALE
FIELD BEFORE BEGINNING WORK	EA. E.F.	EACH EACH FACE		CHECK DAM DIVERSION DITCH
SURES TO PREVENT SOIL EROSION AND	EIP EL. OR ELEV.	EXISTING IRON PIPE ELEVATION		TUBES AND WATTLES
O UNDISTURBED AREAS AND TO ADJACENT SEDIMENTATION CONTROL DRAWINGS AS	EOP EPA	EDGE OF PAVEMENT ENVIRONMENTAL PROTECTION AGENCY		CURBLINE
	ETC. E.W.	ET CETERA EACH WAY		CURBLINE
REAS OR GENERATED BY PROTECTION ZONES.	EX. OR EXIST.	EXISTING	V	BUILDING FENCE
ROL MEASURES DURING HED.	F/C FFE	FACE OF CURB FINISHED FLOOR ELEVATION		VEGETATION
FECTED BY EROSION AND IE PROJECT. OBTAIN PERMISSION AND	FIN. FP	FINISHED FIRE PROTECTION	S	SEWER MANHOLE
MENTATION CONTROLS AND RESTORE AND	FT. GC		GT	GREASE TRAP
TIES HAVING JURISDICTION. PROVIDE	GC GI GPM	GENERAL CONTRACTOR GRATE INLET GALLONS PER MINUTE	(ST)	STORM MANHOLE
TION TO PREVENT FLOODING BY RUNOFF OF	GV	GAS VALVE	JB	JUNCTION BOX
SURFACE AREA OF ERODIBLE EARTH	H HDPE	HORIZONTAL HIGH DENSITY POLYETHYLENE	CB	CATCH BASIN
	HP HP HDPE	HIGH POINT HIGH PERFORMANCE HIGH DENSITY POLYETHYLENE	CB	CURB INLET
ACTICAL TIME TO MINIMIZE ' SEED AND MULCH CUT SLOPES AS	HWY.	HIGHWAY		THROATED INLET
ONTRACTOR AS DIRECTED BY ES THROUGHOUT WORK, PROVIDE	ID IN.	INSIDE DIAMETER OR INLINE DRAIN INCH(ES)	Ô	CLEAN OUT
48 HOURS OF NOTIFICATION BY ENGINEER. ID LAWNS HAVE BEEN ESTABLISHED.	INV. IPF	INVERT IRON PIN FOUND		HEADWALL
N AND SEDIMENT DAMAGE THROUGHOUT TDEC. CONTRACTOR COORDINATE WITH	JB	JUNCTION BOX	XXX.XX $ imes$	SPOT GRADE
TION AT THE APPROPRIATE TIME. RTIONS OF THE SITE WHERE	L	LENGTH		OUTFALL
D. TEMPORARY OR PERMANENT SOIL MUST BE COMPLETED NO LATER THAN 14	LBS. LF	POUNDS LINEAR FEET		RIPRAP OUTLET PROTEC
HAS TEMPORARILY OR PERMANENTLY N 7 DAYS AFTER CONSTRUCTION ACTIVITY	MAX.	MAXIMUM		TEMP. CONSTRUCTION E
T STABILIZATION WITH PERENNIAL HALL REPLACE ANY TEMPORARY	MH MIN.	MANHOLE MINIMUM		INLET PROTECTION
NES OR CRUSHER RUNS WILL NOT BE	MUTCD	MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES	×	
PONDS SHALL BE FILTERED USING ORITY HAVING JURISDICTION.	N N/A NEDA	NORTH NOT APPLICABLE NATIONAL FIRE PROTECTION AGENCY		
Α-1 WITH A MEDIAN RIP-RAP SIZE D50 OF 6", IC.	NFPA NIC NIP	NATIONAL FIRE PROTECTION AGENCY NOT IN CONTRACT NEW IRON PIN	図 PIV	WATER METER
S OF TDEC, AS WELL AS THE LOCAL	NO. OR # NOI		Ē	FIRE HYDRANT
R TEMPORARY SEDIMENT PONDS AND CAL PERMITTING AUTHORITY HAVING	NPDES N.T.E.	NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM	∇	FIRE DEPARTMENT CON
OF THE PROJECT AND COORDINATE WITH HAUTHORITY HAVING JURISDICTION.	0.C.	ON CENTER	IV O	IRRIGATION VALVE
RBANCE TO DETERMINE WHETHER OR NOT IF REQUIRED, THE SITE ASSESSMENT	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION	⊖ ∳	GAS VALVE
STARTING CONSTRUCTION. ALLOW	PIV POB	POST INDICATOR VALVE POINT OF BEGINNING (ALIGNMENT)	GM	GAS METER
	POE PP	POINT OF ENDING (ALIGNMENT) POWER/UTILITY POLE	Ś	UTILITY POLE
NTO AVOID CONFLICTS . UTILITY RIS WATER COMMISSION, CLINTON	PSI PVC	POUNDS PER SQUARE INCH POLYVINYL CHLORIDE	EV	ELECTRICAL VAULT
ALL APPLICABLE CODES. COORDINATE D, AND POWELL-CLINCH UTILITY	PVMT	PAVEMENT	EM	ELECTRIC METER
ATION TESTING AND INSPECTION S PRIOR TO CONSTRUCTION.	Q1 Q10	1 YEAR STORM PEAK FLOW 10 YEAR STORM PEAK FLOW	E	ELECTRICAL BOX
NTS OF THE AGENCY HAVING	QLP R	QUALIFYING LOCAL PROGRAM	> GW	GUY WIRE
UTILITIES. CONNECTION TO EXISTING GAS ITY DISTRICT. CONTACT	RCP RD	REINFORCED CONCRETE PIPE ROAD	¢	LIGHT STANDARD
N. ELL-CLINCH UTILITY DISTRICT FOR	REF. REQ'D	REFERENCE REQUIRED	T	TELEPHONE PEDESTAL
NDER PAVED AREAS. PERMITS AND LICENSES REQUIRED TO	REV. R.O.W.	REVISION RIGHT-OF-WAY	0	BOLLARD
FOR ALL TAP FEES AND COORDINATION VER SERVICE.	S	SOUTH		SLOPE DRAIN
R LINES. WHERE CROSSINGS OCCUR, /IDE 6" MIN. CLEARANCE BETWEEN STORM MINIMUM COVER FOR ALL UTILITIES.	SAN. SCH.	SANITARY SCHEDULE		SLOPE MATTING
ITIES LOCATED IN PAVED AREAS. DICATED ON THE DRAWINGS OR NOT, TO	SD SDR	STORM DRAIN STANDARD DIMENSION RATIO		TEMPORARY STABILIZAT
OF NORRIS WATER COMMISSION, TRICT.	SF SPAP	SQUARE FEET SPECIAL POLLUTION ABATEMENT PERMIT		PERMANENT STABILIZAT
ITIES BOARD, AND POWELL-CLINCH HER SPECIFICALLY INDICATED ON THE	SQ. ST.	SQUARE STREET		FILTER RING
NO LONGER IN USE. HALL BE PVC MEETING THE	STA. SS SSFM	STATION SANITARY SEWER	•	BENCHMARK
FIED. FITTINGS SHALL MEET THE NTEGRAL BELL END WITH GASKET SEAL	SWPPP	SANITARY SEWER FORCE MAIN STORM WATER POLLUTION PREVENTION PLAN	\bigtriangleup	CONTROL POINT
BID MATERIAL THAT PERMANENTLY LOCKS STM D 3212. GASKETS SHALL BE OF A	TBM TDEC	TEMPORARY BENCH MARK TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION		
IG THE REQUIREMENTS OF ASTM F-477. AND 1.0% FOR 6" LINES.	T.D.O.T. THK.	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION TENNESSEE DEPARTMENT OF TRANSPORTATION THICK		
C (CLASS 200) WITH BELL END FOR UCTILE IRON FITTINGS MEETING THE	THK. TC T/C	TOP OF CASTING TOP OF CURB ELEVATION		
EQUIREMENTS OF AWWA C 111.	TP T/W	TOP OF PAVEMENT ELEVATION TOP OF WALL		
N TYPE JOINTS. PIPE SHALL COMPLY WITH C104. INSTALLATION SHALL COMPLY WITH	TYP.	TYPICAL		
ED CALCULATIONS SHALL BE SUBMITTED	V	VERTICAL		
EMENTS. ALL FIRE PROTECTION PIPING ESSEE REGISTERED SPRINKLER	W W/	WEST WITH		
	WS WV	WATER SURFACE WATER VALVE		
	W.W.F. W.W.M.	WELDED WIRE FABRIC WELDED WIRE MESH		
	YD	YARD DRAIN		
E	F	G H	_	

К	L M	
PROPOSED	AREAS & CALCULATIONS	
C/E	EXISTINGPROPOSEDTOTAL INCREASE0.54Acres1.59Acres1.05Acres	
R/W	23,390 sqft 69,468 sqft 46,078 sqft	
PL 	DISTURBED AREA TOTAL SITE AREA DISTURBED AREA	8
2010	12.3 Acres 2.37 Acres	
\$\$	535,788 sqft 103,237 sqft PARKING CALCULATION Instant Instant <thinstant< th=""> <thinstant< th=""> <thi< td=""><td>ENGINEER:</td></thi<></thinstant<></thinstant<>	ENGINEER:
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es OU	TOTAL 73	MBI COMPANIES INC.
GROUND) ———— UE ————	PROPERTY INFORMATION	299 N. WEISGARBER ROAD KNOXVILLE, TN 37919
SD	OWNER	PHONE: (865) 584-0999 FAX: (865) 584-5213
	NAME: ANDERSON COUNTY SCHOOLS	WEB: mbicompanies.com
LINE ——— F ———	ADDRESS: 101 S. MAIN ST.	CONSULTANT
SSFM	CLINTON, TN 37716 PHONE: (865) 463-2800	7
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•		CONVEY, OR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/ OR FOLLOW THE DESIGN
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		PROJECT INFORMATION
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		5 NORRIS SQUARE NORRIS, TN 37828
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		SHEET INFORMATION
		SHEET ISSUED: 02/04/2022
		DESIGNED BY: I.A.J.
		DRAWN BY: I.A.J. REVIEWED BY: C.B.T.
		SHEET TITLE:
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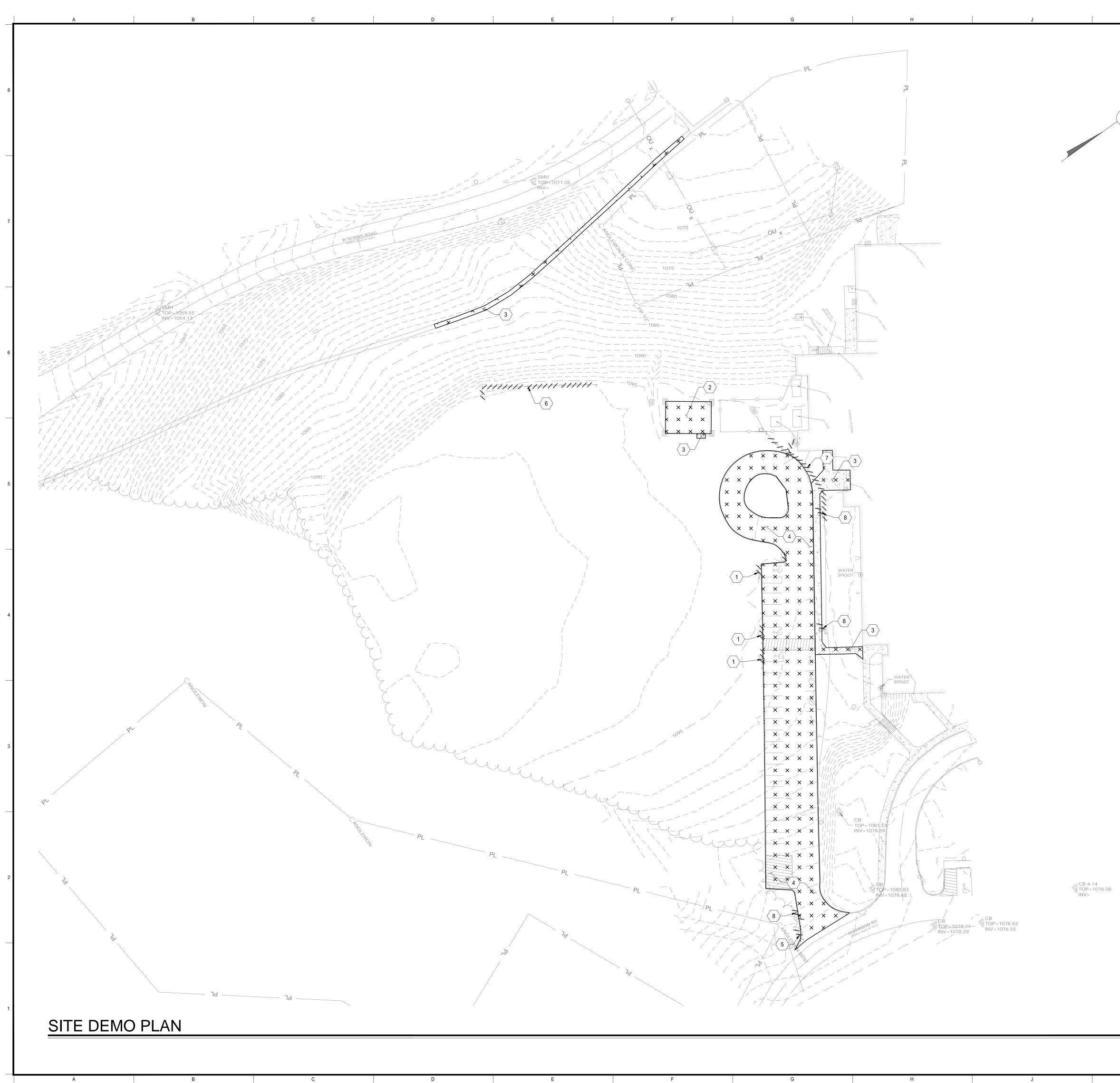


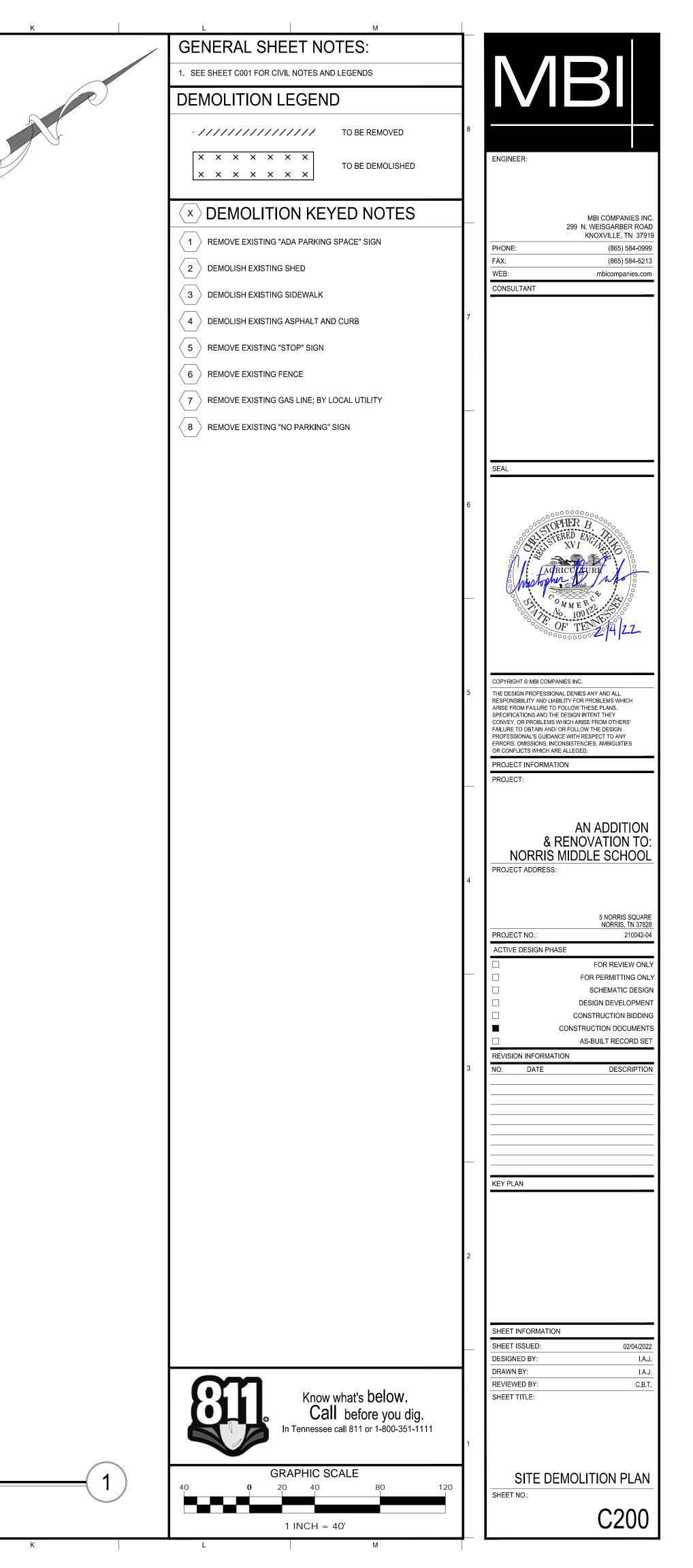


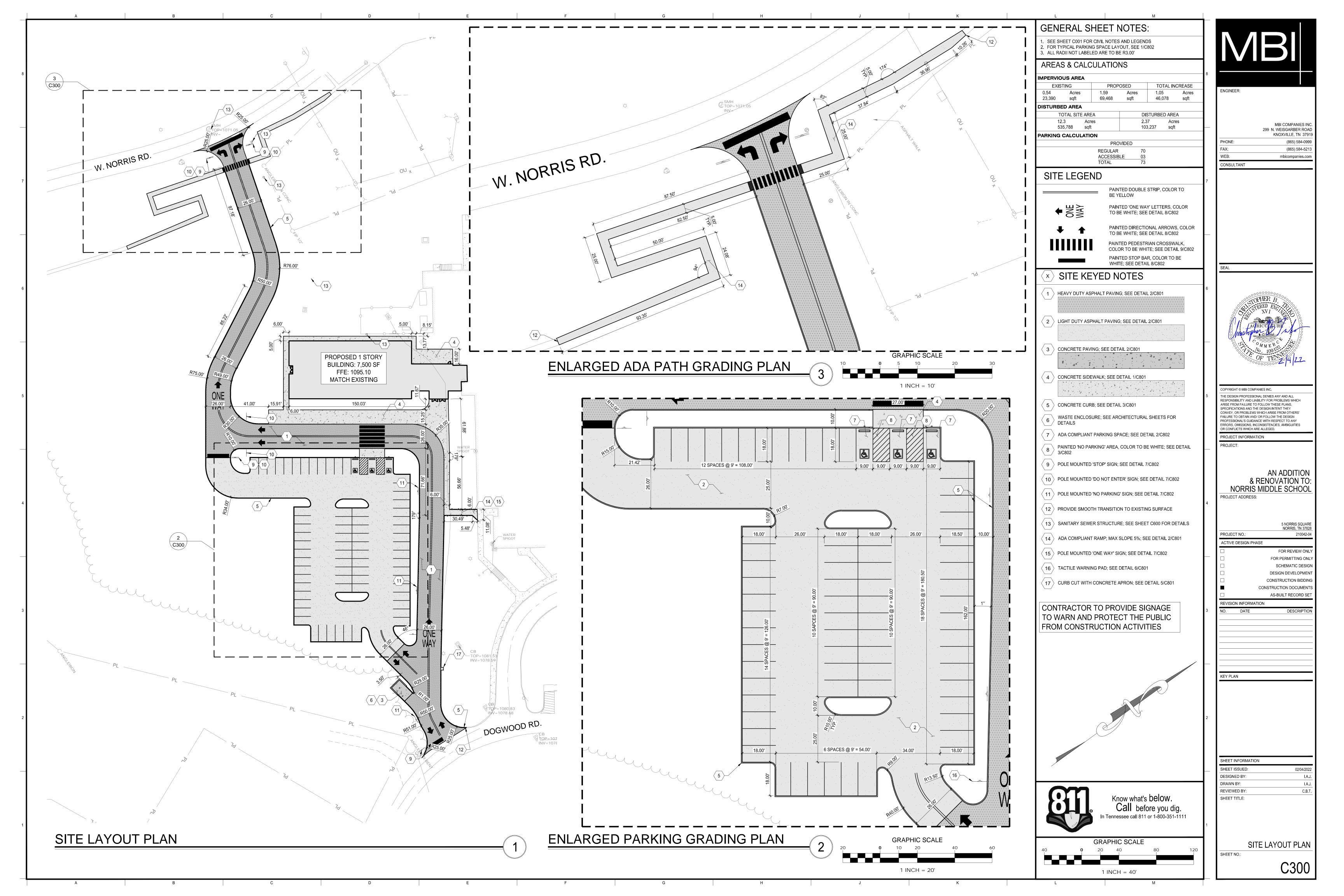
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		SILT FENCE; SEE DETAIL 3	/C800	
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		INLET PROTECTION; SEE D 4/C800	DETAIL	MBI COMPANIE
		OUTFALL		299 N. WEISGARBER KNOXVILLE, TN
	CW	CONCRETE WASHOUT; SE 5/C800	E DETAIL	PHONE: (865) 584 FAX: (865) 584 WEB: mbicompanie
		PERMANENT STABILIZATIO	DN; SEE	CONSULTANT
	PS	SEED MIXTURE TABLES BE		7
		SLOPE MATTING; SEE DET	AIL 2/C800	
	ANENT SEED MI			
GROUPS	SEEDING DATES	GRASS SEEDS KENTUCKY 31 FESCUE	80%	
A	FEBRUARY 1 TO JULY 1	KOREAN LESPEDEZA ENGLISH RYE	15% 5%	
		KENTUCKY 31 FESCUE ENGLISH RYE	55% 20%	SEAL
В	JUNE 1 TO AUGUST 15	KOREAN LESPEDEZA	15%	6
D4		GERMAN MILLET BERMUDAGRASS (HULLED)	10% 70%	- CONTOPHER B
B1	APRIL 15 TO AUGUST 15	ANNUAL LESPEDEZA KENTUCKY 31 FESCUE	30% 70%	
С	AUGUST 1 TO DECEMBER 1	ENGLISH RYE	20%	AGRICUPTURE Mustophy Ale No
		WHITE CLOVER KENTUCKY 31 FESCUE	10% 70%	
C1	FEBRUARY 1 TO DECEMBER 1	CROWN VETCH ENGLISH RYE	25% 5%	OF TEN 204 2.7
				& RENOVATION NORRIS MIDDLE SCHO
E		now what's below. Call before you d		A PROJECT ADDRESS: A PROJECT ADDRESS: A S NORRIS SC NORRIS SC NORRIS, TN PROJECT NO.: PROJECT NO.: CONSTRUCTION DI CONSTRUCTION DOCUM CONSTRUCTION CONSTRUC

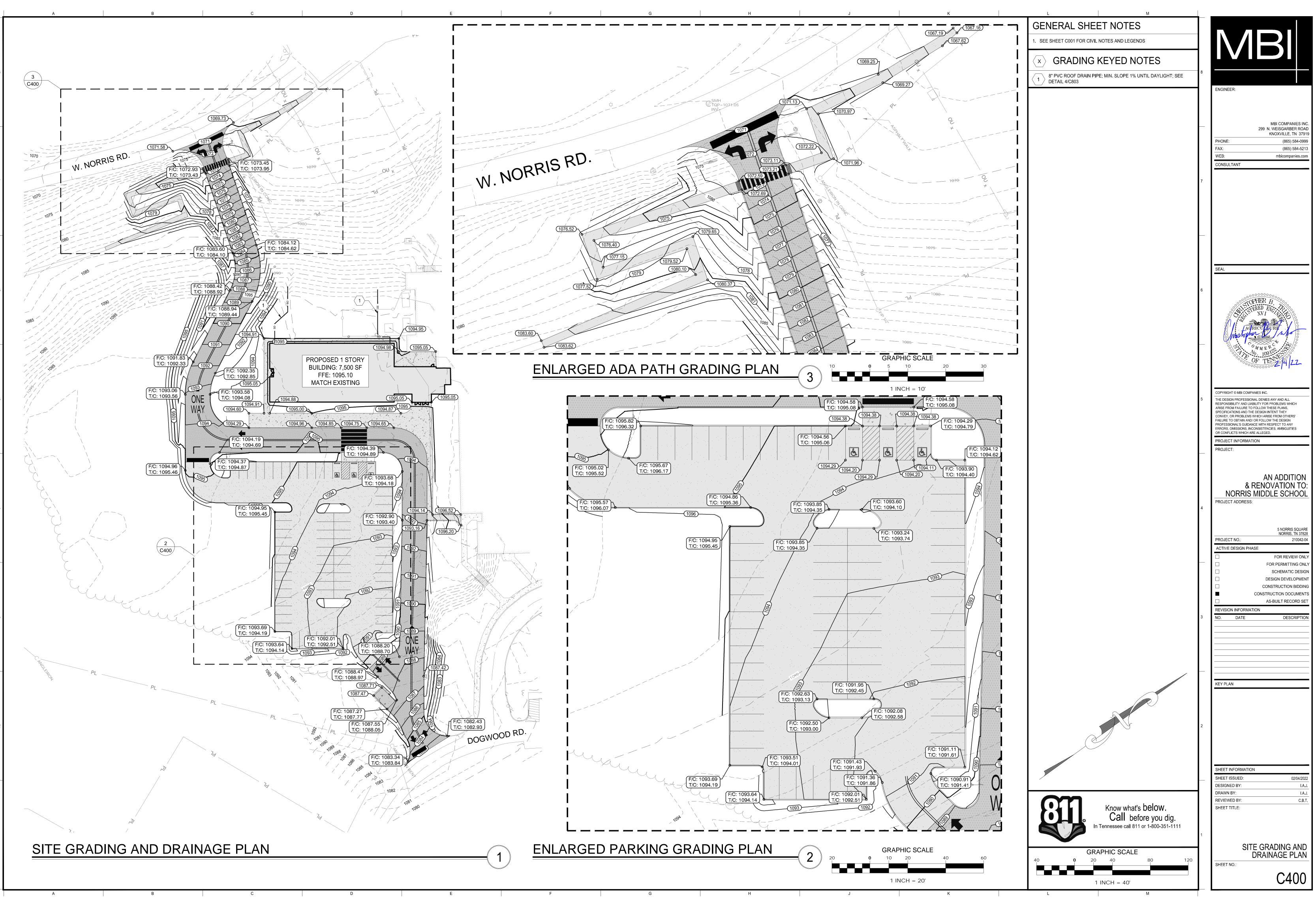
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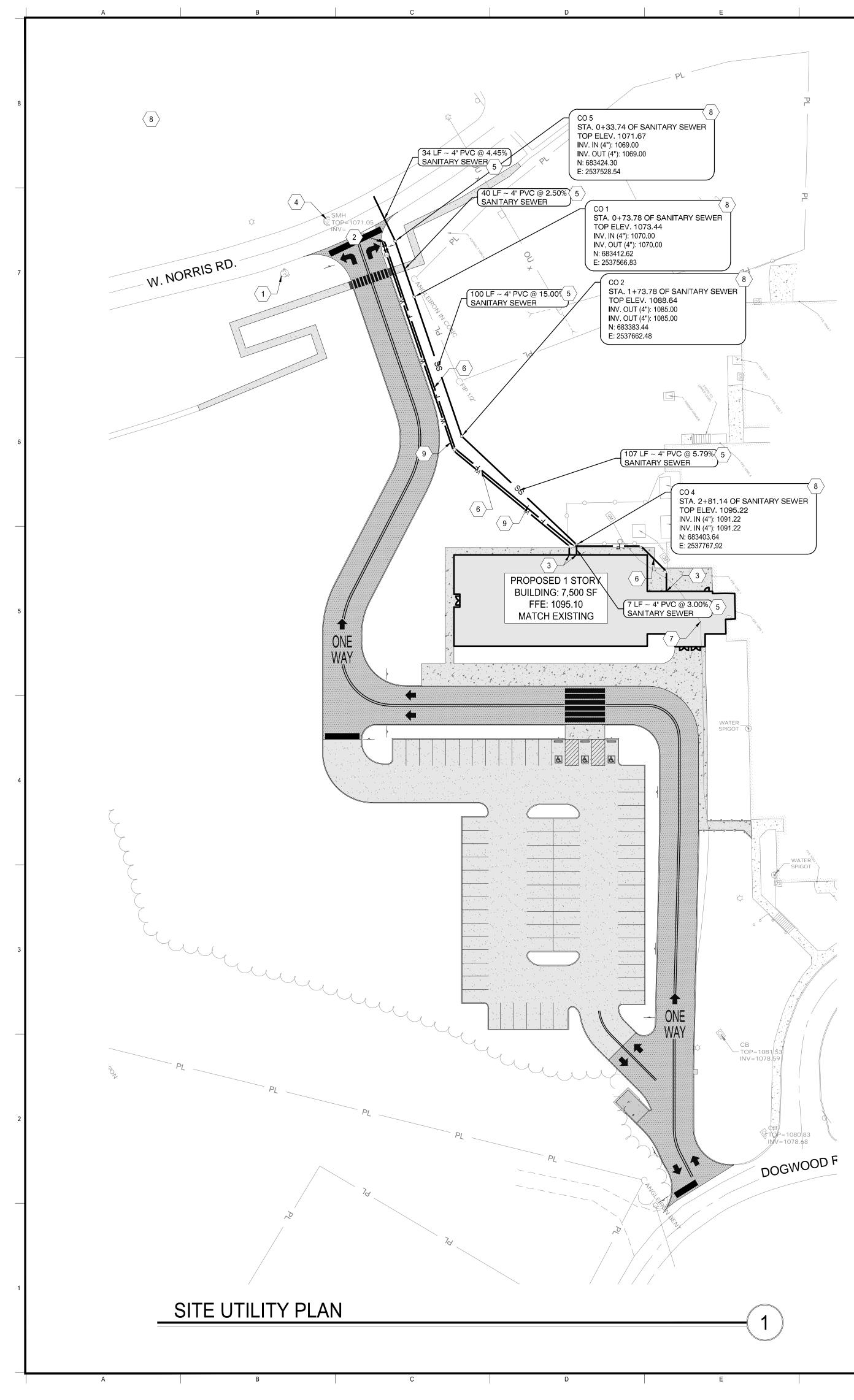
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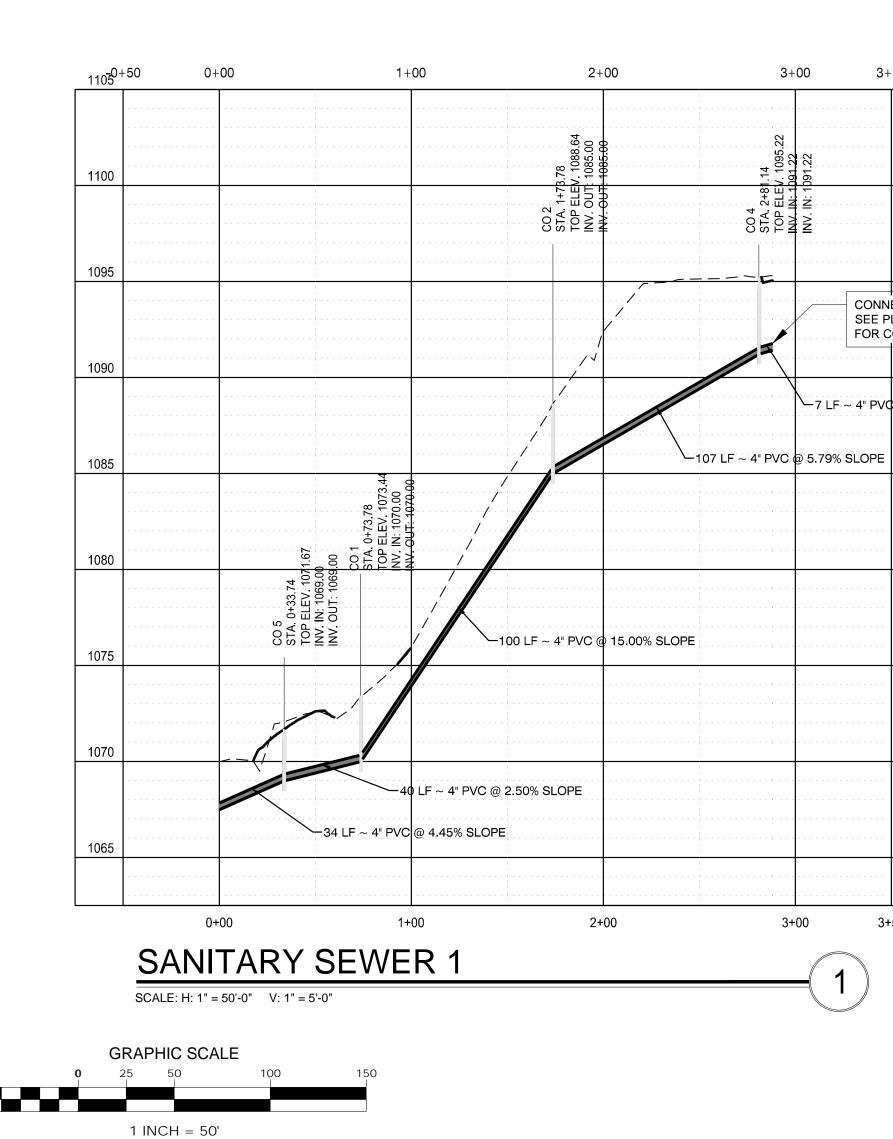


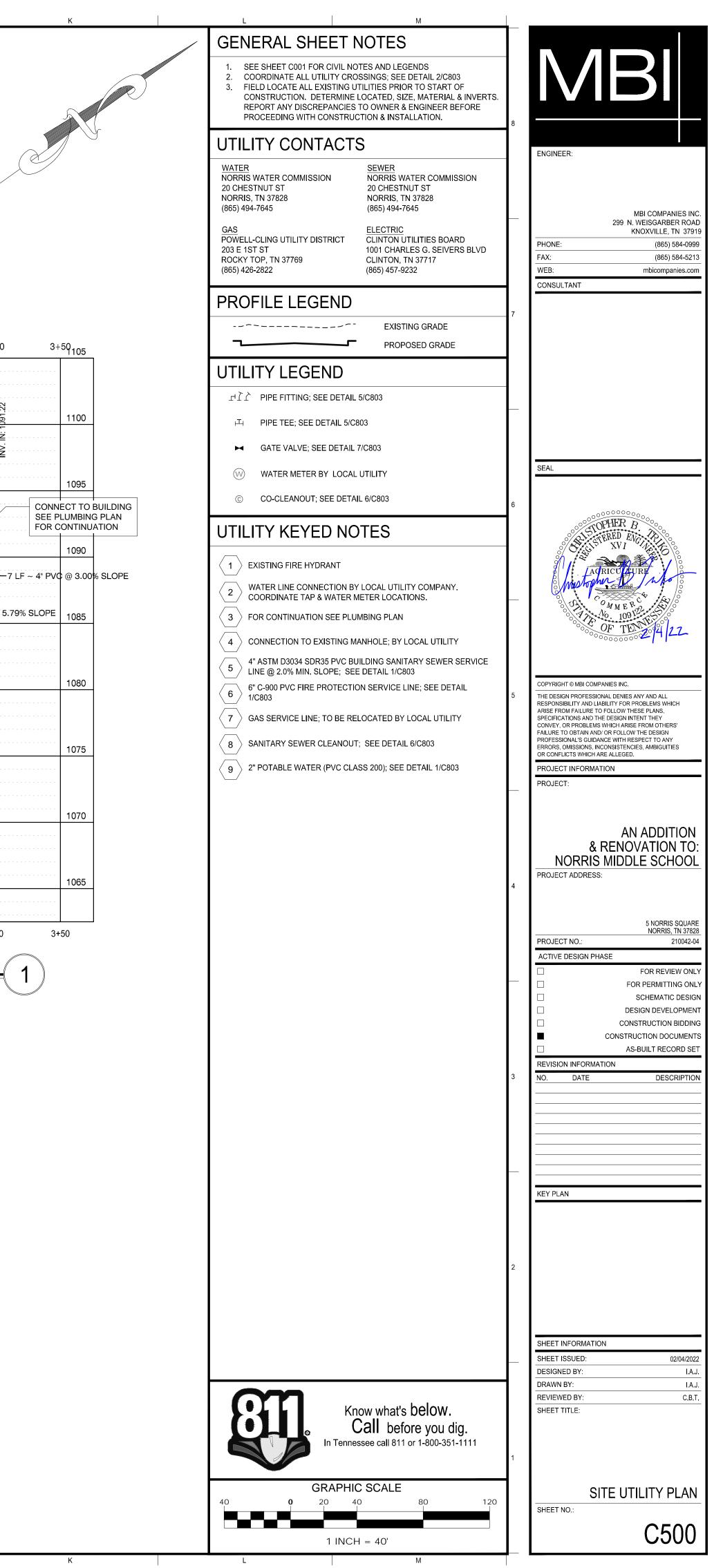


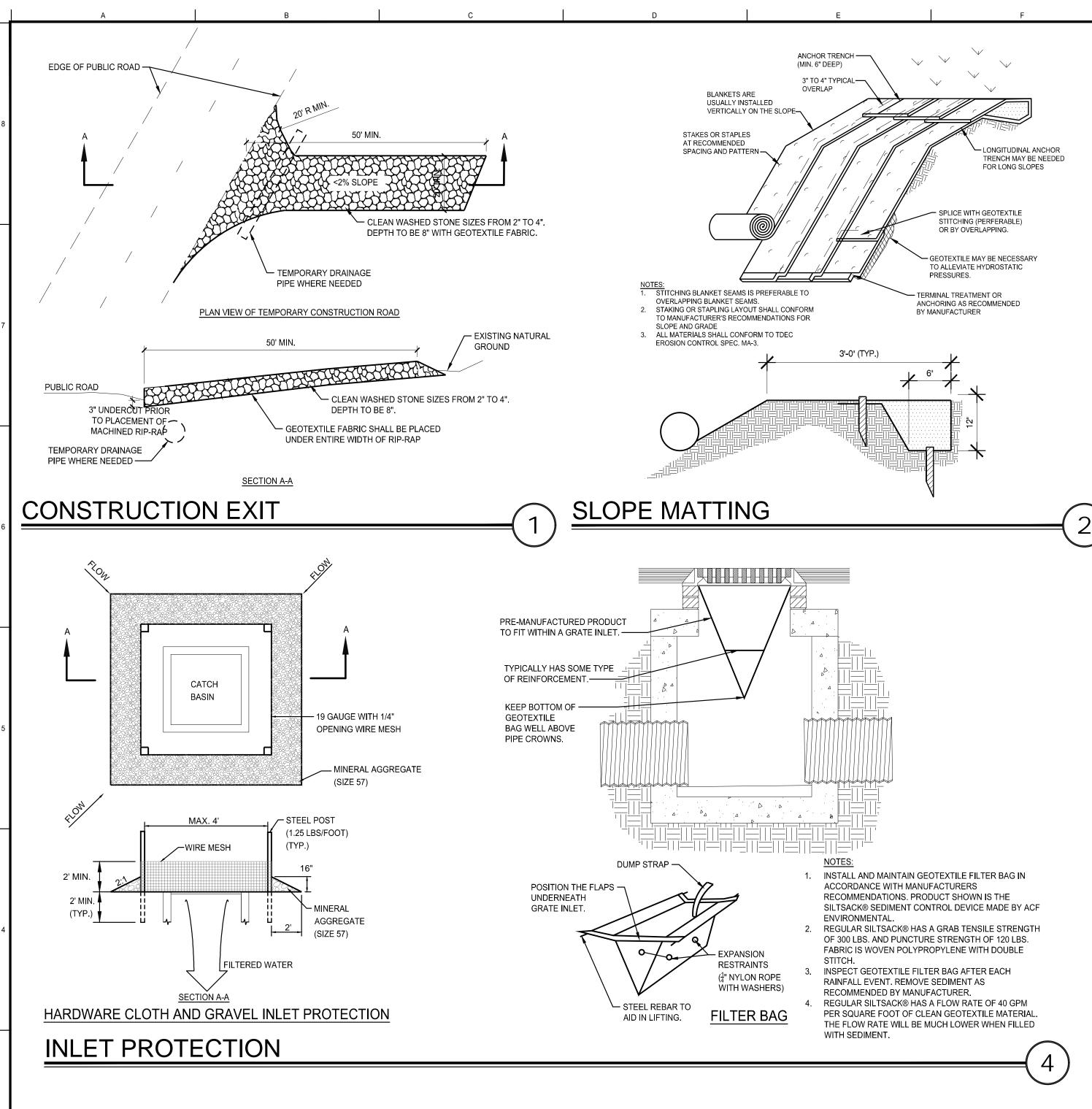


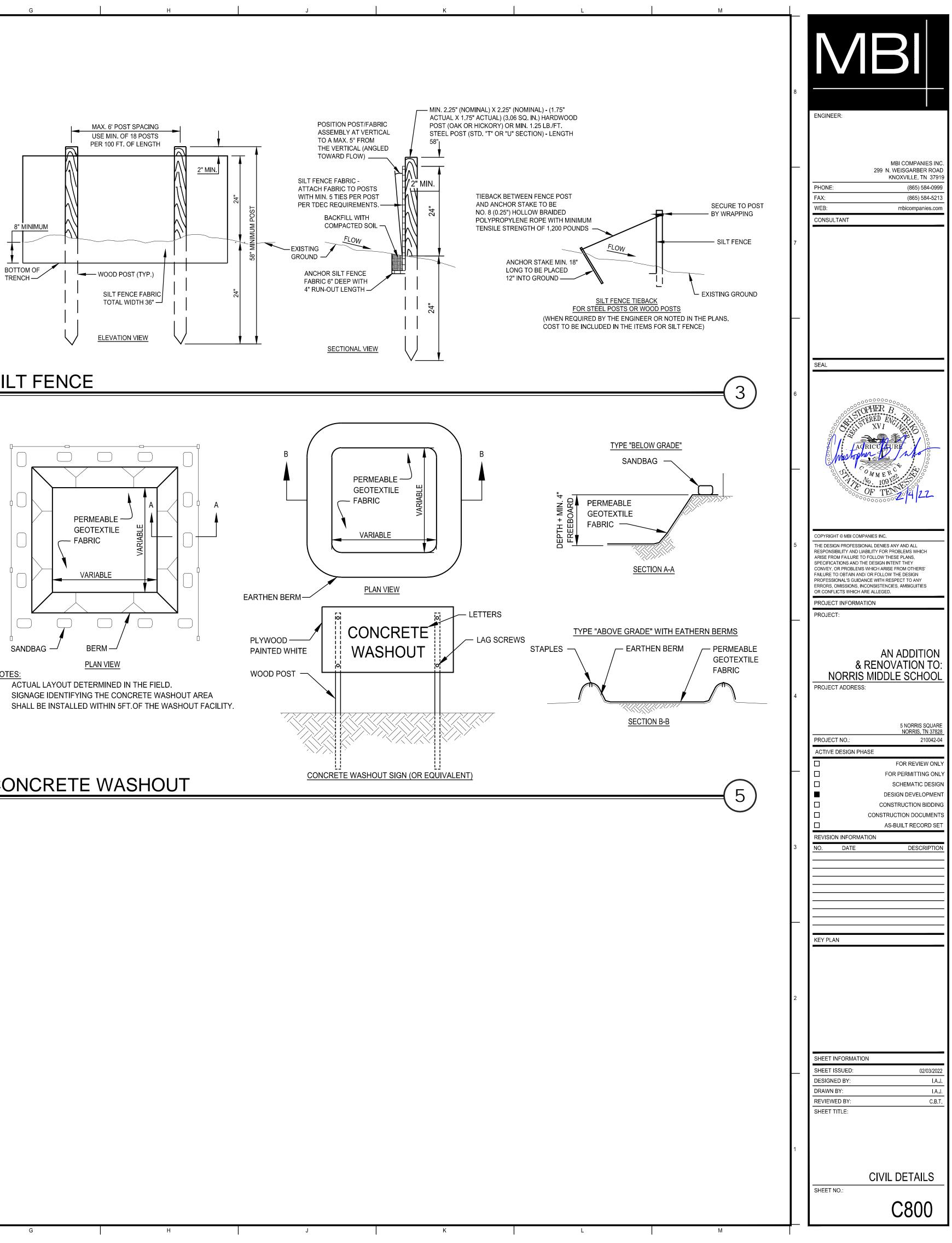




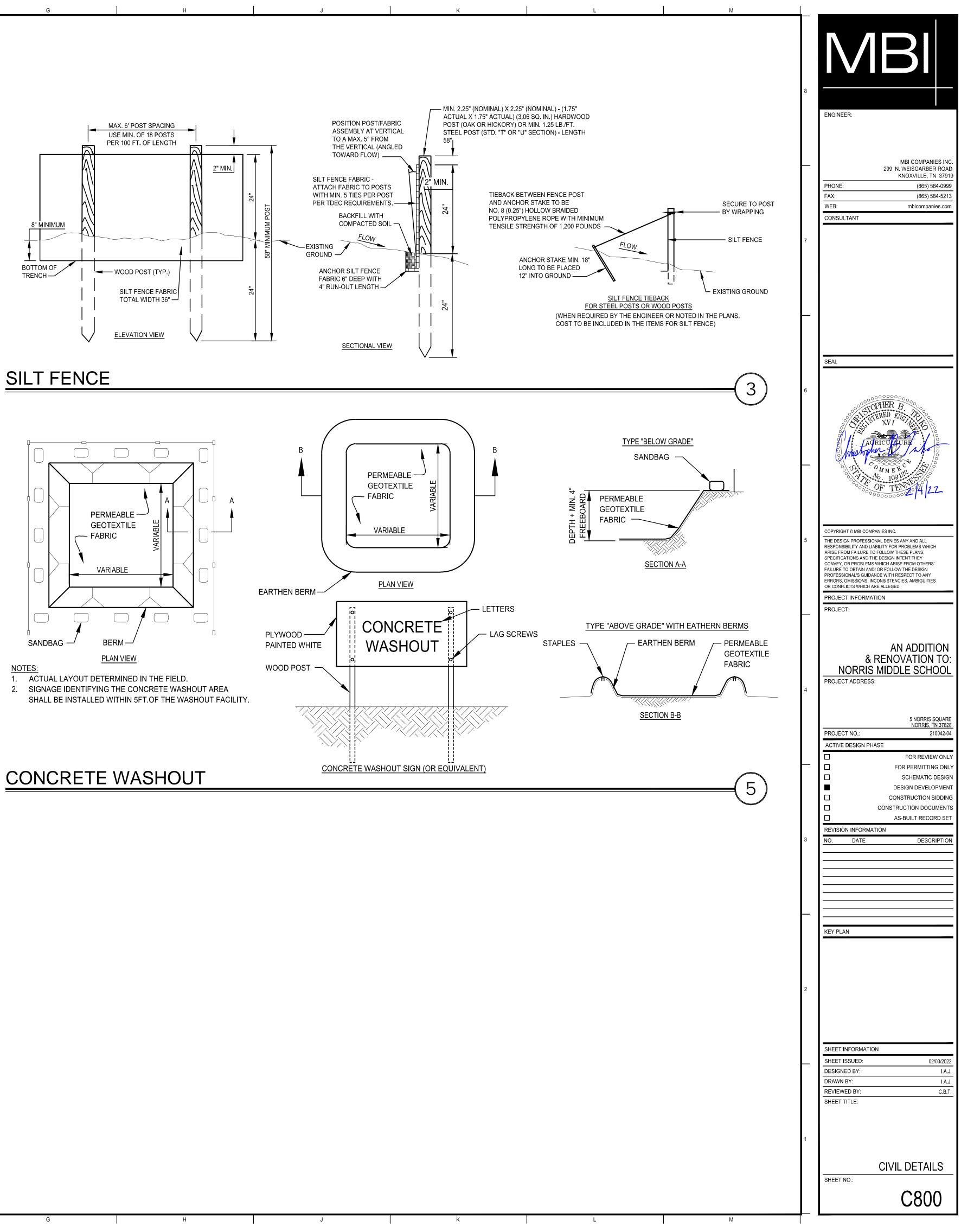


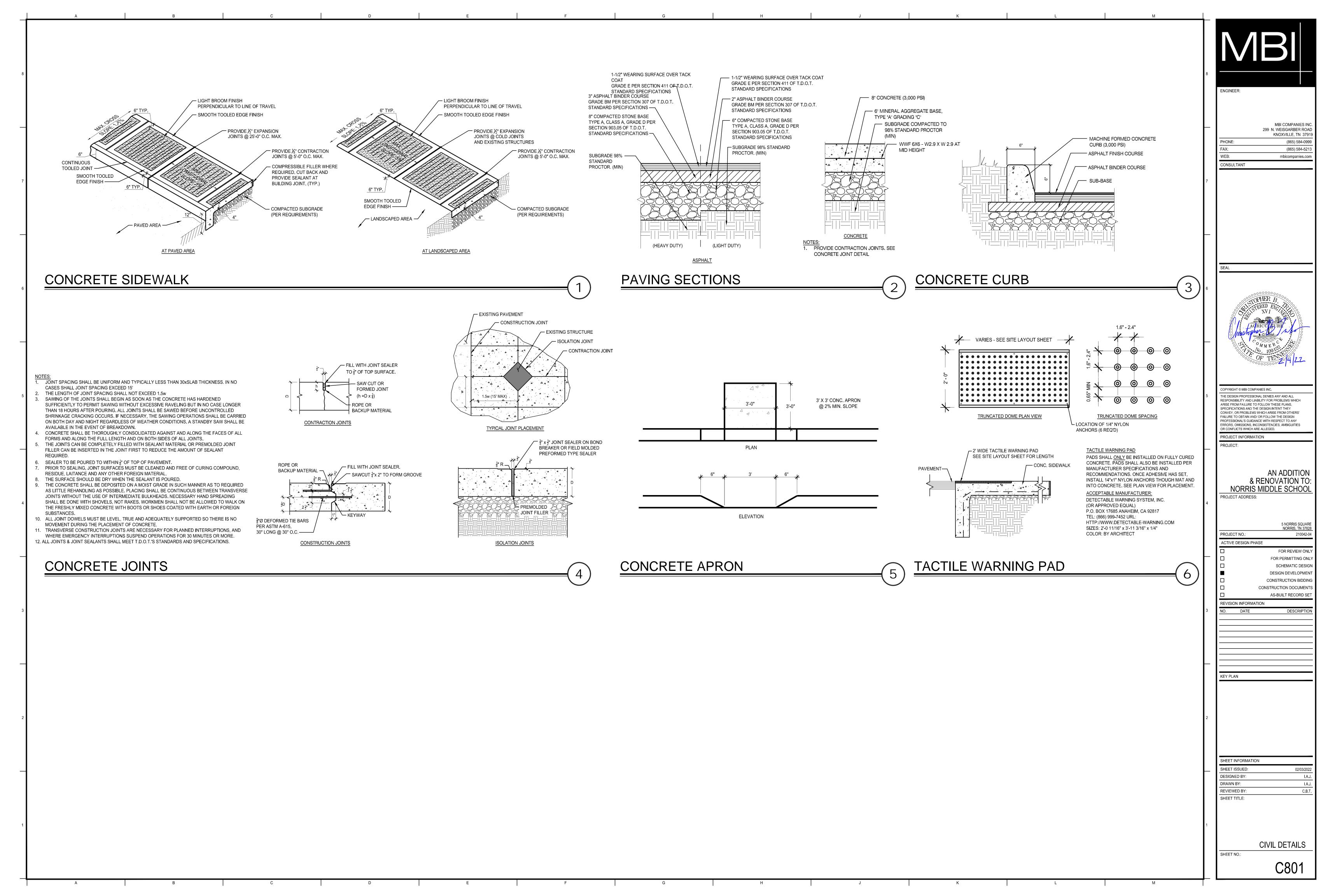


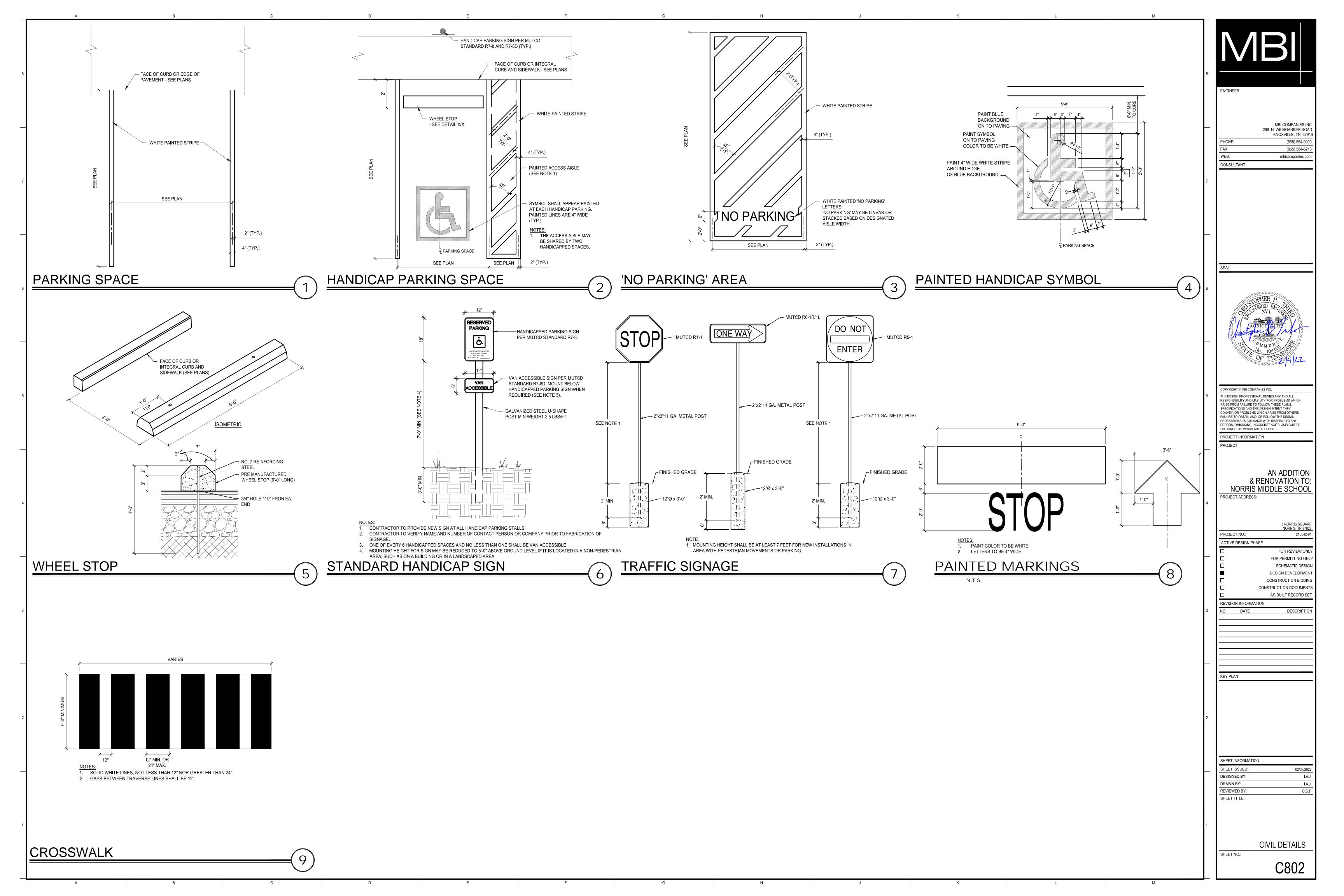


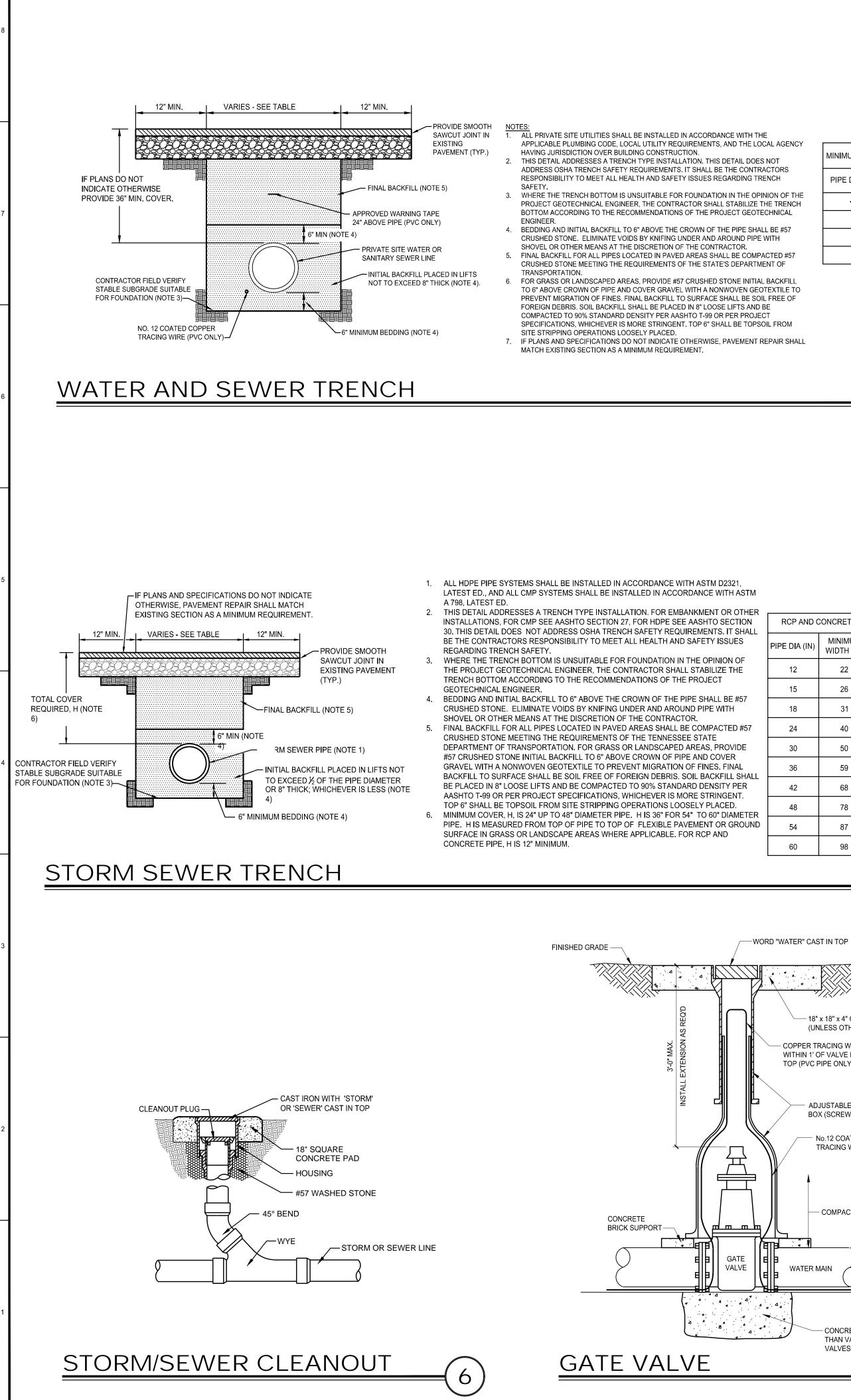


SILT FENCE









WITHIN 1' OF VALVE BOX TOP (PVC PIPE ONLY) ADJUSTABLE CAST IRON VALVE BOX (SCREW TYPE) - No.12 COATED COPPER TRACING WIRE (PVC PIPE ONLY) - COMPACTED BACKFILL 'anal WATER MAIN - CONCRETE SUPPORT PAD 6" LARGER THAN VALVE (REQUIRED ON GATE VALVES 10" AND LARGER ONLY)

- 18" x 18" x 4" CONCRETE PAD (UNLESS OTHERWISE SPECIFIED)

COPPER TRACING WIRE

THRUST BLOCK

	VOLUMES SHOWN TO LEFT OF SOLID LINE IN TABLE.
10.	TEST PRESSURES ARE SHOWN IN THE PIPING SCHEDULE.
11.	ALLOWABLE SOIL BEARING STRESS IS 2000 LBS/SQ FT.

- PLANS TAKE PRECEDENCE OVER THIS STANDARD 8. BEARING AREA OF THRUST BLOCK SHALL NOT BE LESS THAN 1.0 SQ FT. 9. VERTICAL BENDS THAT REQUIRE A THRUST BLOCK VOLUME EXCEEDING 5 CUBIC YARDS REQUIRE SPECIAL BLOCKING DETAILS. SEE PLANS FOR
- THRUSTS SHALL BE THE SAME AS FOR HORIZONTAL BENDS. BEARING AREAS, VOLUMES, AND SPECIAL BLOCKING DETAILS SHOWN ON

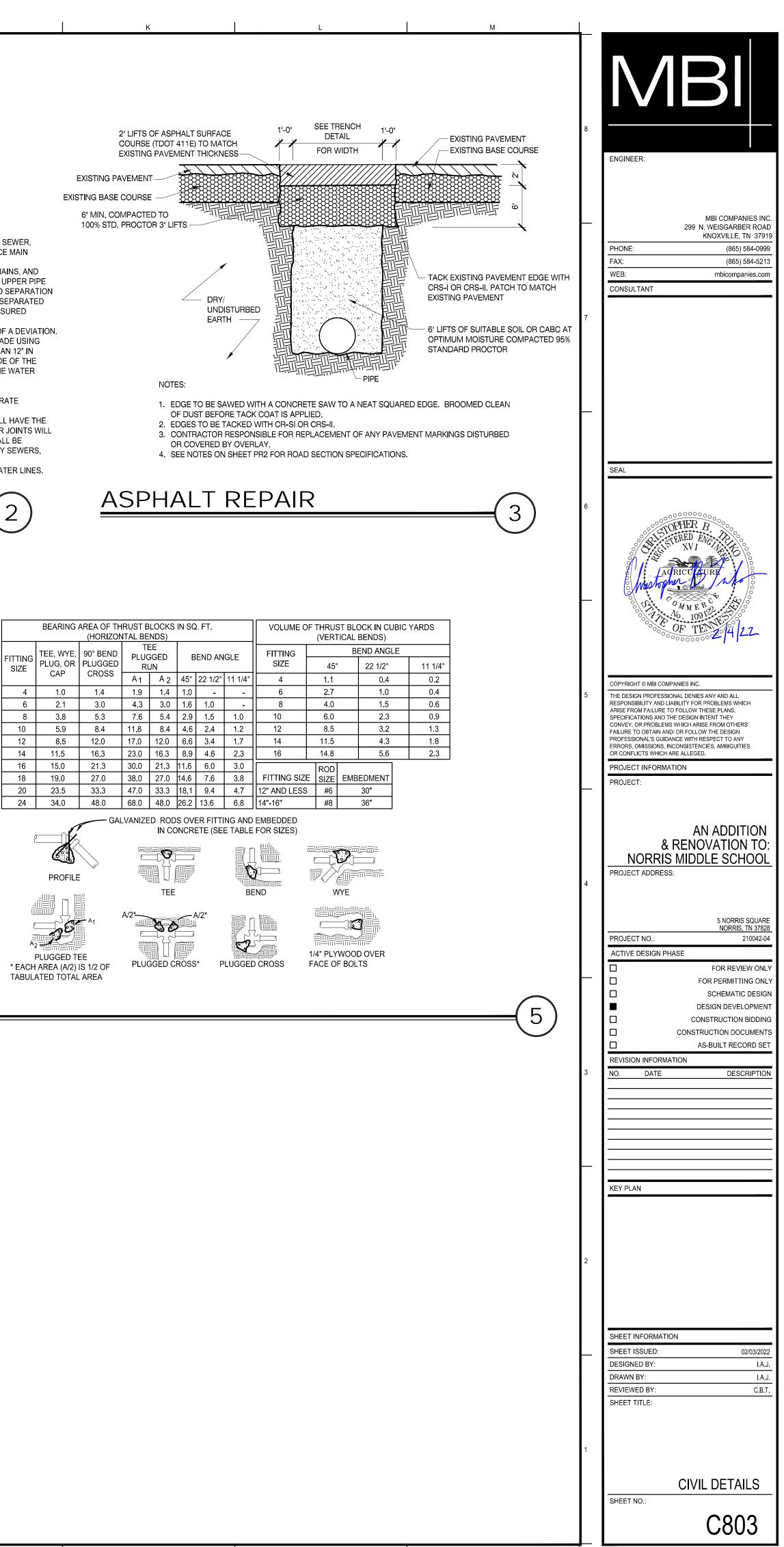
- 6. THRUST BLOCKS FOR VERTICAL BENDS HAVING DOWNWARD RESULTANT

THE FACTOR (13.33)(P'/S'), WHERE:	UES BY
P'b = ACTUAL TEST PRESSURE, PSIG S'b = ACTUAL SOIL BEARING PRESSURE, PSF.	

- VOLUME = (TEST PRESS./150) x (TABLE VALUE). 5. BEARING AREAS FOR HORIZONTAL BEND THRUST BLOCKS ARE BASED ON TEST PRESSURE OF 150 PSIG AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 LBS/SQ FT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST
- SPECIFICATIONS. 4. THRUST BLOCK VOLUMES FOR VERTICAL BENDS HAVING UPWARD RESULTANT THRUSTS ARE BASED ON TEST PRESSURE OF 150 PSIG AND THE WEIGHT OF CONCRETE = 4050 LBS/CU YD. TO COMPUTE VOLUMES FOR DIFFERENT TEST PRESSURES, USE THE FOLLOWING EQUATION:
- FARTH. 3. REQUIRED VOLUMES OR BEARING AREAS AT FITTINGS SHALL BE AS INDICATED BELOW, ADJUSTED, IF NECESSARY, TO CONFORM TO THE TEST PRESSURE(S) AND ALLOWABLE SOIL BEARING STRESS(ES) STATED IN THE
- 2. CONCRETE THRUST BLOCKING SHALL BE POURED AGAINST UNDISTURBED

<u>NC</u> 1.	 CRETE CLEAR (





PIPE SEPARATION

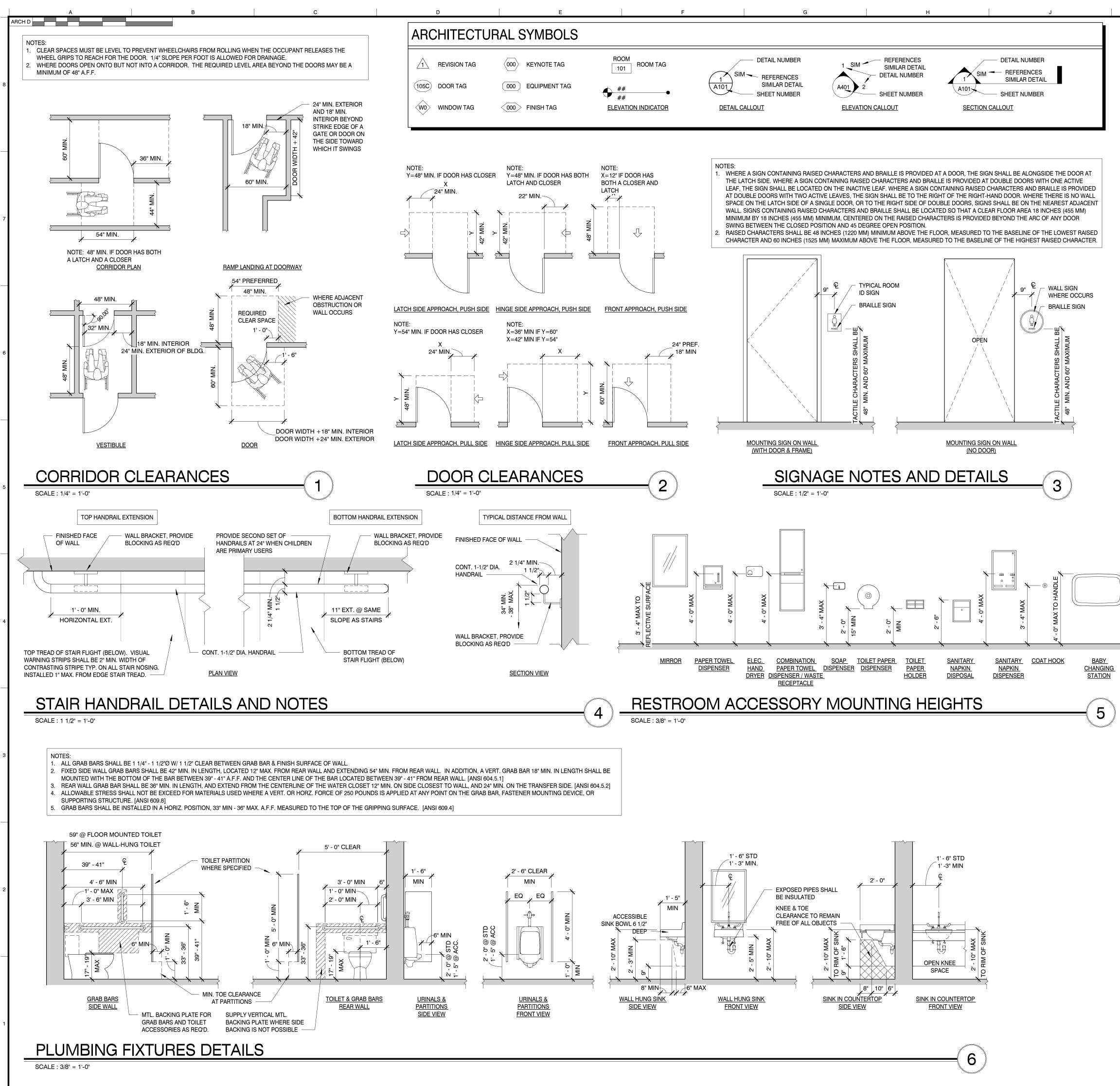
STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER. 6. 10" STONE SHALL BE UTILIZED FOR SEPARATION BETWEEN GRAVITY SANITARY SEWER LINES AND STORMWATER LINES.

- TRENCHES. BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST 3' FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS,
- 5. WATER MAINS CROSSING ANY TYPE OF SANITARY SEWER, INCLUDING FORCE MAIN, OR STORM SEWER SHALL HAVE THE ONE FULL LENGTH OF WATER MAIN CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THAT THE WATER JOINTS WILL
- DIRECTOR OR HIS DESIGNEE. 3. 18" CLEAR DISTANCE SHALL NOT BE REDUCED IN CASES WHERE WATER CROSSES UNDER SEWER LINE. 4. WATER MAINS, SANITARY SEWER, STORM SEWER, AND NON-POTABLE IRRIGATION MAINS SHALL BE IN SEPARATE
- DIAMETER) OR DUCTILE IRON, PRESSURE CLASS 250 PIPE FOR A HORIZONTAL DISTANCE OF 10' ON EACH SIDE OF THE CROSSING. WATER MAIN CONCRETE ENCASEMENT SHALL ONLY BE MADE AFTER WRITTEN APPROVAL OF THE WATER
- HORIZONTALLY BETWEEN OUTSIDE OF PIPES. IF A DEVIATION IS SUBMITTED, THE FOLLOWING MINIMUM STIPULATIONS APPLY: THE CROSSING SHALL BE MADE USING THICKNESS CLASS 200 AWWA C-900 DR14, PVC (CLASS 235 AWWA C-905, DR 18, PVC FOR PIPES GREATER THAN 12" IN
- FORCE MAINS BY A MINIMUM CLEAR VERTICAL DISTANCE OF 18" MEASURED BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE TOP OF THE LOWER PIPE. THE 18" MINIMUM VERTICAL SEPARATION DISTANCE DOES NOT APPLY TO SEPARATION OF SEWER LATERALS AND POTABLE WATER MAIN PIPELINE INSTALLATIONS, ALSO, WATER MAINS SHALL BE SEPARATED FROM STORM SEWER, SANITARY SEWER AND FORCE MAINS BY 10' AND FROM IRRIGATION MAINS BY 12' MEASURED 2. ALL CROSSINGS WITH VERTICAL CLEARANCE LESS THAN 18" SHALL REQUIRE SUBMISSION AND APPROVAL OF A DEVIATION.
- SANITARY SEWER, STORM SEWER, IRRIGATION MAIN OR FORCE MAIN 1. WATER MAINS SHALL BE SEPARATED FROM STORM SEWER, SANITARY SEWER, NON-POTABLE IRRIGATION MAINS, AND

WATER MAIN 10' MIN. SEPARATION FOR SANITARY SEWER. STORM SEWER OR FORCE MAIN 12' MIN. SEPARATION FOR IRRIGATION MAIN

		ALUMINIZ HDPE AI	
		PIPE DIA (IN)	MINIMUM WIDTH (IN)
		4	21
		6	23
RCP AND C	CONCRETE	8	26
PIPE DIA (IN)	MINIMUM WIDTH (IN)	10	28
12	22	12	30
15	26	15	34
18	31	18	39
24	40	24	48
30	50	30	56
36	59	36	64
42	68	42	72
48	78	48	80
54	87	54	88
60	98	60	96

AGENCY					
DT FORS - CH	MINIMUM TRENCH WIDTHS				
	PIPE DIA. (IN.)	MIN. WIDTH (IN.)			
N OF THE TRENCH INICAL	< 4	18			
	4	21			
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GENERAL NOTES

- . THE ARCHITECT HAS MADE EVERY EFFORT TO SET FORTH IN THE CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS AND DISCREPANCIES IN THE DRAWINGS AND SPECIFICATIONS SHALL NOT EXCUSE HIM FROM PROVIDING A COMPLETED FACILITY AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS. IN THE EVENT OF DISCREPANCIES, CONTRACTOR SHALL PRICE THE MORE EXPENSIVE AND EXTENSIVE WORK, UNLESS DIRECTED OTHERWISE.
- 2. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. THE DRAWINGS, GENERAL NOTES AND SPECIFICATIONS ARE COMPLIMENTARY, AND WHAT IS CALLED FOR BY ANY WILL BE BINDING AS IF CALLED FOR BY ALL. WORK SHOWN OR REFERRED TO ON ANY DRAWING SHALL BE PROVIDED AS THOUGH SHOWN ON ALL RELATED DRAWINGS. IF THERE IS ANY CONFLICT OR DISCREPANCY WITHIN OR BETWEEN ANY OF THE CONTRACT DOCUMENTS INVOLVING THE QUALITY OR QUANTITY OF WORK REQUIRED, THE WORK OF HIGHEST QUALITY AND/OR GREATEST QUANTITY SHOWN OR SPECIFIED SHALL BE FURNISHED.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING FAMILIAR WITH ALL CONTRACT DOCUMENTS AND FIELD CONDITIONS, AND CONFIRM THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION.
- 4. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING HIS BEST SKILL AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT. THE CONTRACTOR SHALL PROVIDE AT THE PROJECT SITE A FULL SET OF CONSTRUCTION DOCUMENTS ANNOTATED WITH THE LATEST REVISIONS AND CLARIFICATIONS FOR THE USE BY ALL.
- 5. CONDUCT OPERATIONS IN SUCH A MANNER AS TO MINIMIZE INTERFERENCE WITH USE OF PUBLIC WAYS AND ADJACENT USED FACILITIES. DO NOT CLOSE, BLOCK OR OTHERWISE OBSTRUCT USE OF PUBLIC WAYS OR FACILITIES WITHOUT WRITTEN CONSENT OF AUTHORITIES HAVING JURISDICTION. PROVIDE ALTERNATE ROUTES TO CLOSED OR OBSTRUCTED FACILITIES AS REQUIRED BY LOCAL REGULATIONS.
- 6. EXCEPT WHERE OTHERWISE SPECIFIED, THE CONTRACTOR SHALL AT ALL TIMES PROVIDE PROTECTION AGAINST WEATHER TO MAINTAIN ALL WORK, MATERIALS, APPARATUS, AND FIXTURES FROM INJURY OR DAMAGES. AT THE END OF THE DAY'S WORK, ALL NEW WORK LIKELY TO BE DAMAGED SHALL BE COVERED OR OTHERWISE PROTECTED AS REQUIRED.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING HIS OWN TELEPHONE AND TOILET FOR ALL SCOPE OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL TAPS, EXTENSIONS, VALVES, OR OTHER DEVICES NECESSARY TO RUN POWER TOOLS AND EQUIPMENT. SUCH MODIFICATIONS TO EXISTING UTILITIES MUST BE REMOVED AT COMPLETION OF THE PROJECT.
- 8. THE CONTRACTOR SHALL LIMIT THE INGRESS AND EGRESS OF WORKERS AND EQUIPMENT TO THE CONSTRUCTION SITE TO AUTHORIZED PERSONS ONLY. DAMAGE TO ANY EXISTING INTERIOR OR EXTERIOR CONSTRUCTION SHALL BE REPAIRED TO "LIKE NEW" CONDITION UNDER THIS CONTRACT.
- THE CONTRACTOR SHALL MAINTAIN AT ALL TIMES ADEQUATE SAFETY BARRICADES FOR PROTECTION OF JOB PERSONNEL AND THE PUBLIC AND CLEAR ACCESS IN AND OUT OF THE WORK SITE SO AS TO FACILITATE DAILY TRAFFIC MOVEMENT, DELIVERIES, AND SAFETY. REMOVE BARRICADES WHEN NO LONGER REQUIRED.
- 10. REMOVE DEBRIS, RUBBISH, AND OTHER SUBSTANCES FROM SITE. LEGALLY TRANSPORT AND DISPOSE OF SUCH MATERIALS OFF-SITE. BURYING OR BURNING OF "TO BE REMOVED" MATERIALS ON THE PROJECT SITE IS FORBIDDEN.
- 11. COOPERATE WITH THE APPLICABLE CITY OR OTHER GOVERNMENT OFFICIALS AND INSPECTORS AT ALL TIMES. IF SUCH OFFICIAL OR INSPECTOR DEEMS SPECIAL INSPECTION NECESSARY, PROVIDE ALL ASSISTANCE AND FACILITIES THAT WILL EXPEDITE HIS INSPECTION.
- 12. ALL DETAILS OF CONSTRUCTION SHALL CONFORM WITH THE APPLICABLE CODES (SEE PROJECT INFORMATION ON COVER SHEET)
- 13. PROVIDE HIGH SECURITY SURFACE MOUNTED BOX W/ TAMPER SWITCH (FIRE DEPARTMENT KEY BOX) AT THE ENTRANCE. THREE COMPLETE SETS OF KEYS MUST BE PROVIDED. KEYS MUST BE PROVIDED FOR ALL ROOMS CONTAINING FIRE AND LIFE SAFETY SYSTEM CONTROLS. PRIOR TO INSTALLATION VERIFY EXACT LOCATION AND EXACT TYPE OF BOX REQUIRED WITH LOCAL AUTHORITY HAVING JURISDICTION.
- 14. MOUNT FIRE EXTINGUISHERS LISTED IN SPECIFICATIONS AT LOCATIONS SHOWN AND/OR DIRECTED BY FIRE DEPARTMENT CODE OFFICIAL HAVING JURISDICTION.
- 15. INSTALL ALL MANUFACTURED ITEMS, MATERIALS, AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDED SPECIFICATIONS, UNLESS OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE, AS A MINIMUM STANDARD, WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES HAVING JURISDICTION. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY BEARING ON THE PERFORMANCE OF THE WORK.
- 16. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY, UNLESS NOTED OTHERWISE. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT AND APPURTENANCES, AND LABOR NECESSARY TO AFFECT ALL INSTALLATIONS INDICATED ON THE DRAWINGS. THE WORK SHALL ALSO INCLUDE ALL MATERIALS, DETAIL AND LABOR NECESSARY FOR THE SUCCESSFUL INSTALLATION OF THE WORK DESCRIBED HEREIN.
- 17. ALL DIMENSIONS ARE TO FACE OF CONC. BLOCK, CONC. PANEL, FACE OF EXISTING FINISH, OR FACE OF NEW STUD, UNLESS OTHERWISE NOTED. "CLEAR" DENOTES FINISH TO FINISH DIMENSIONS.
- 18. CONTRACTOR IS TO COORDINATE THE BUILDING PLANS WITH THE CIVIL AND SURVEY DRAWINGS FOR EXACT ELEVATIONS AND SLOPES OF EXTERIOR GRADES FOR INSTALLATION OF NEW EXTERIOR STAIRS, RAMPS AND SIDEWALKS. CONTRACTOR TO FIELD VERIFY EXTERIOR GRADES AT BUILDING ENTRANCES TO ALIGN WITH FINISHED FLOOR ELEVATIONS AND/OR NEW STAIR/RAMP ELEVATIONS. GRADING AT BUILDING PERIMETER TO SLOPE AWAY FROM BUILDING MIN. 1/4" PER FOOT.
- 19. ALL GRADES, LINES, LEVELS, AND DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO START OF CONSTRUCTION. ANY ERROR OR INCONSISTENCY SHALL BE REPORTED TO THE ARCHITECT FOR INSTRUCTIONS PRIOR TO START OF CONSTRUCTION.
- 20. CONTRACTOR IS TO FIELD VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR POSSIBLE CONFLICTS.
- 21. CONTRACTOR IS TO FIELD VERIFY LOCATIONS AND RUNS OF ALL NEW AND EXISTING STORM SEWER PIPING AND ROOF TIE-INS. REPORT ANY DISCREPANCY TO THE ARCHITECT PRIOR TO START OF CONSTRUCTION.
- 22. DO NOT INTERRUPT EXISTING UTILITIES IN OCCUPIED FACILITIES UNLESS AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION. IF INTERRUPTION IS ALLOWED, PROVIDE ALTERNATE TEMPORARY SERVICES ACCEPTABLE TO GOVERNING AUTHORITIES. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES 48 HOURS PRIOR TO ANY DEMOLITION WORK.
- 23. CONTRACTOR SHALL PERFORM HIGH QUALITY PROFESSIONAL WORK. JOIN MATERIALS TO UNIFORM ACCURATE FITS SO THEY MEET WITH NEAT, STRAIGHT LINES, FREE OF SMEARS OR OVERLAPS. INSTALL EXPOSED MATERIALS APPROPRIATELY LEVEL, PLUMB AND AT THE ACCURATE RIGHT ANGLES, OR FLUSH WITH ADJOINING MATERIALS. WORK OF EACH TRADE SHALL MEET ALL NATIONAL STANDARDS PUBLISHED BY THAT TRADE.
- 24. BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK THE CONTRACTOR SHALL VERIFY ALL MEASUREMENTS AND SHALL BE RESPONSIBLE FOR THEIR CORRECTNESS. ANY DIFFERENCES BETWEEN DIMENSIONS INDICATED ON THE DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR INSTRUCTIONS AND CONSIDERATIONS BEFORE PROCEEDING WITH THE WORK.
- 25. FURNISH AND INSTALL ALL REQUIRED BACKING FOR ALL SHELVES, CABINETS, FIXTURES, HANDRAILS AND EQUIPMENT. COORDINATING WITH OWNER AND CONTRACTOR FOR EXACT SIZE, NUMBER, AND LOCATION PRIOR TO START OF CONSTRUCTION. METAL BACKING PLATES TO BE FLAT STOCK (20 GAUGE MIN.) WHEN APPLIED TO METAL FRAMING. ALL WOOD BLOCKING, NAILERS, ETC. MUST BE FIRE RETARDANT TREATED.
- 26. GLAZING IN DOORS AND ADJACENT PANELS MUST BE TEMPERED. RESPONSIBILITY OF GLAZING SUBCONTRACTOR TO VERIFY & PLACE TEMPERED GLASS AS REQUIRED BY THE LOCAL BUILDING CODE & INSPECTOR.
- 27. SPOUT OUTLETS FOR WHEELCHAIR ACCESSIBLE DRINKING FOUNTAINS SHALL BE 36" MAX A.F.F. AND FOR STANDING PERSONS SHALL BE 38" MIN A.F.F. AND 43" MAX. A.F.F.
- 28. FILL ALL C.M.U. CELLS BELOW FINISH FLOOR OR FINISHED GRADE, WHICHEVER IS HIGHER SHALL BE SOLID GROUTED.
- 29. PROVIDE ADA COMPLIANT SIGNAGE AT ALL TOILET AND BATHROOMS. APPROPRIATELY IDENTIFIED AS "MEN" AND "WOMEN".
- 30. ALL TOILET ROOMS AND BATHROOMS WALLS SHALL EXTEND FROM FINISH FLOOR TO FLOOR/ ROOF DECK ABOVE, PROVIDE SOUND BATT INSULATION IN ENTIRE STUD CAVITY.
- 31. ALL WALLS WITHIN 24" OF SERVICE SINK, URINAL AND/ OR WATER CLOSET SHALL HAVE A SMOOTH, HARD, NONABSORBENT SURFACE, TO A HEIGHT OF NOT LESS THAN 48" A.F.F. IF TILE OR FRP IS NOT SPECIFIED PROVIDE EPOXY PAINT, COLOR TO BE SELECTED BY ARCHITECT.
- 32. ALL WALL BASE IN TOILET ROOMS, BATHROOMS AND KITCHENS SHALL BE COVED AND EXTEND UPWARD ONTO THE WALL A MIN. OF 4" A.F.F.

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4	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
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1	SHEET ISSUED: 02/04/2022 DESIGNED BY: CMG DRAWN BY: KEF REVIEWED BY: CMG SHEET TITLE: CMG
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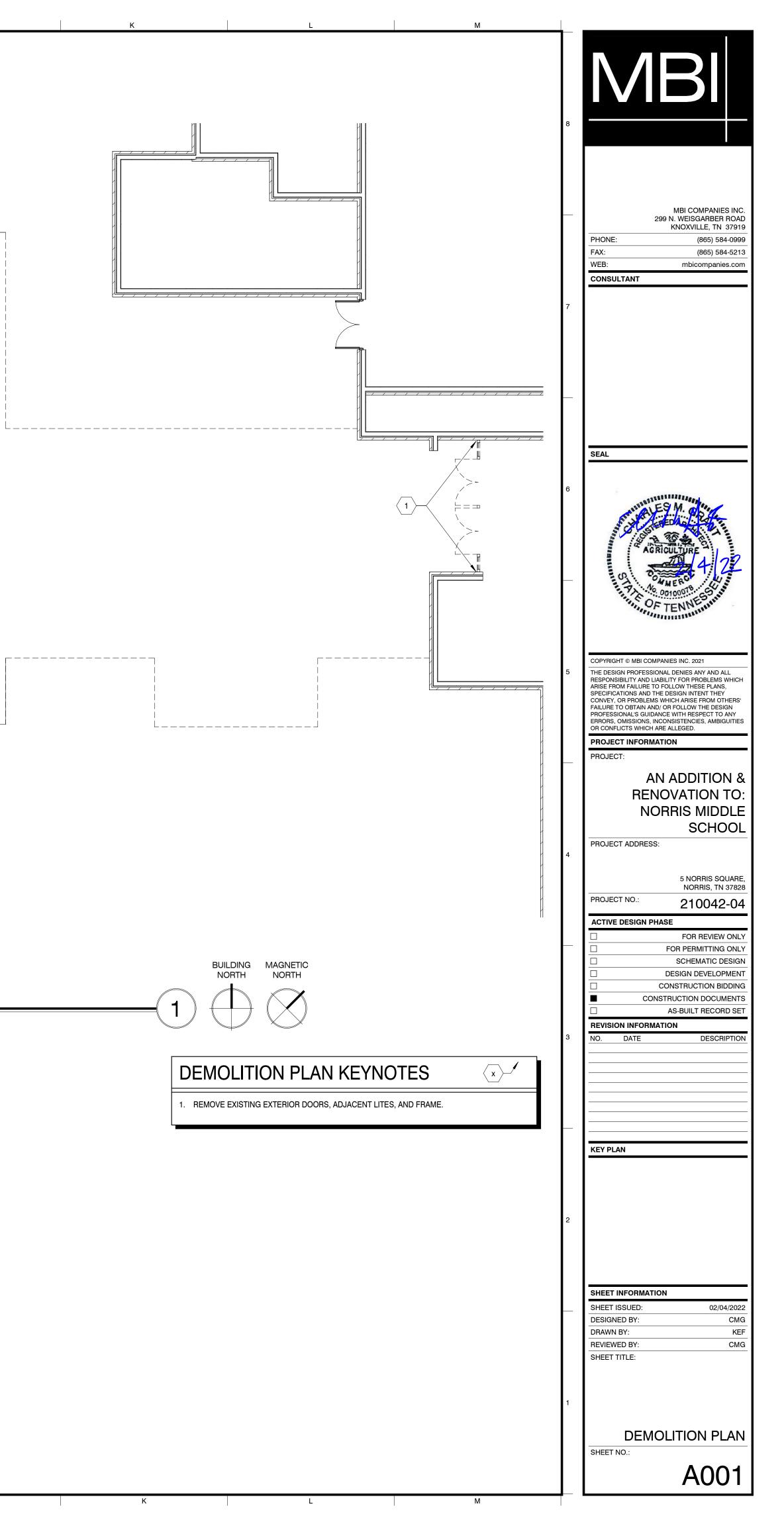
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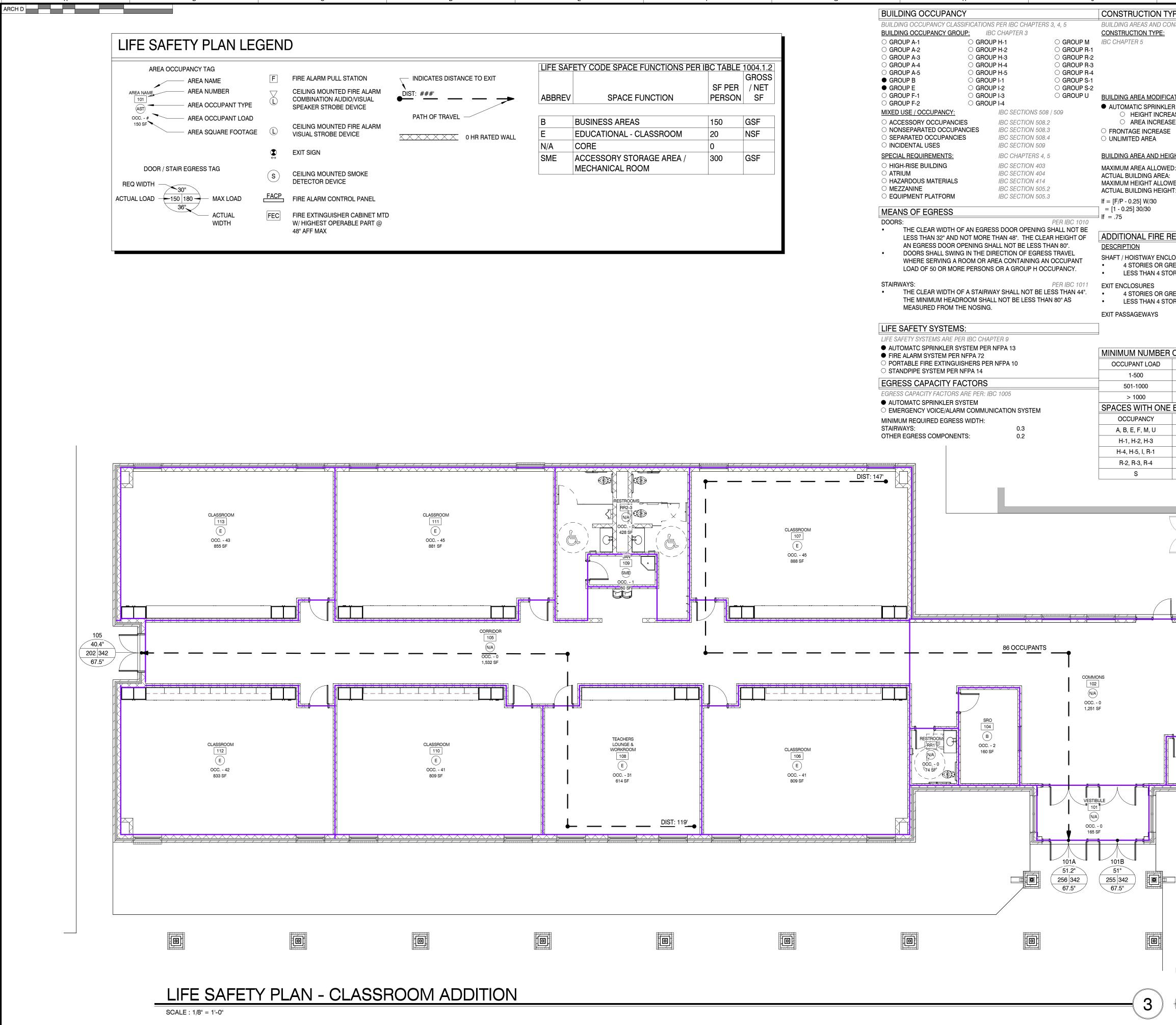
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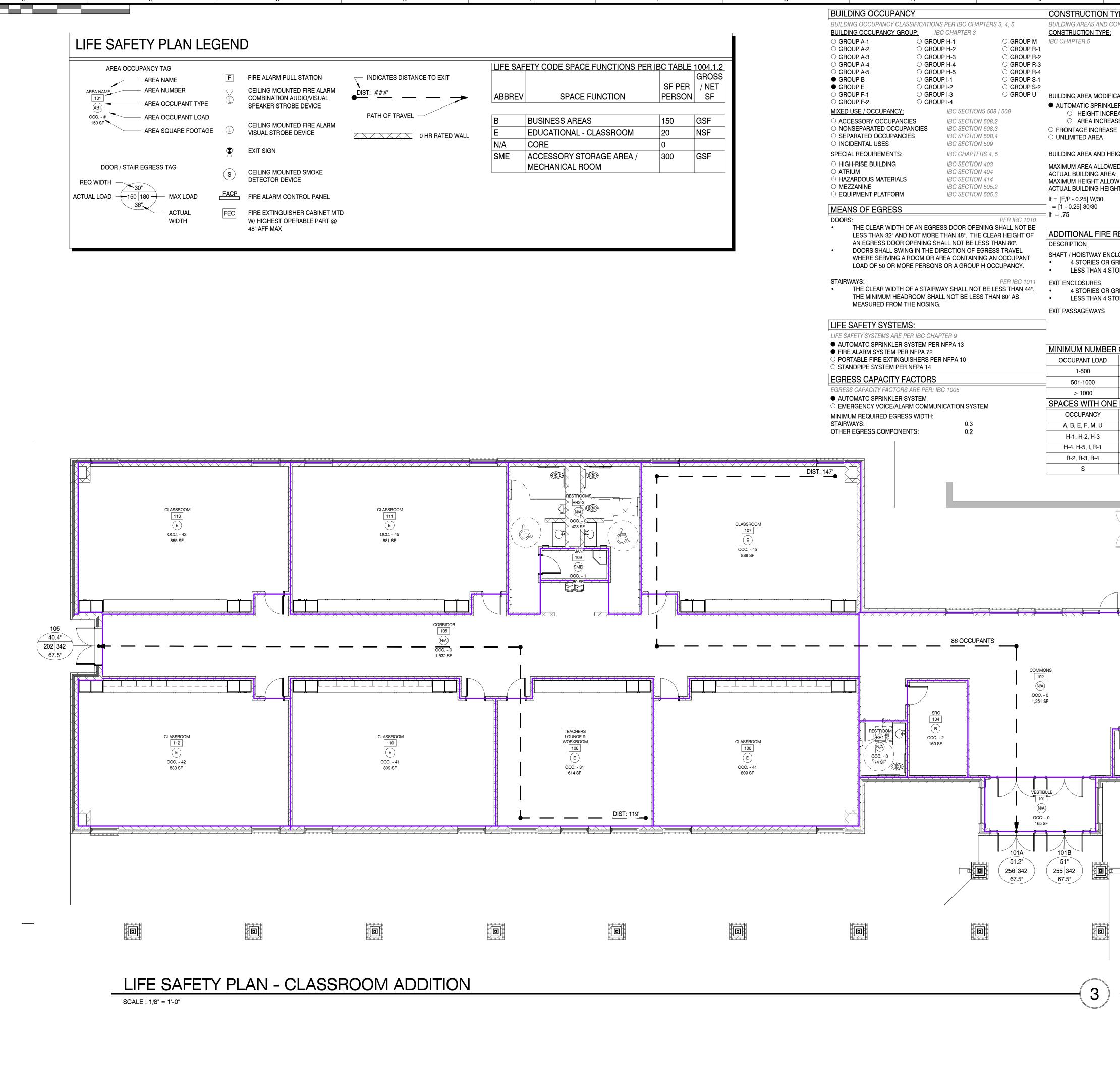
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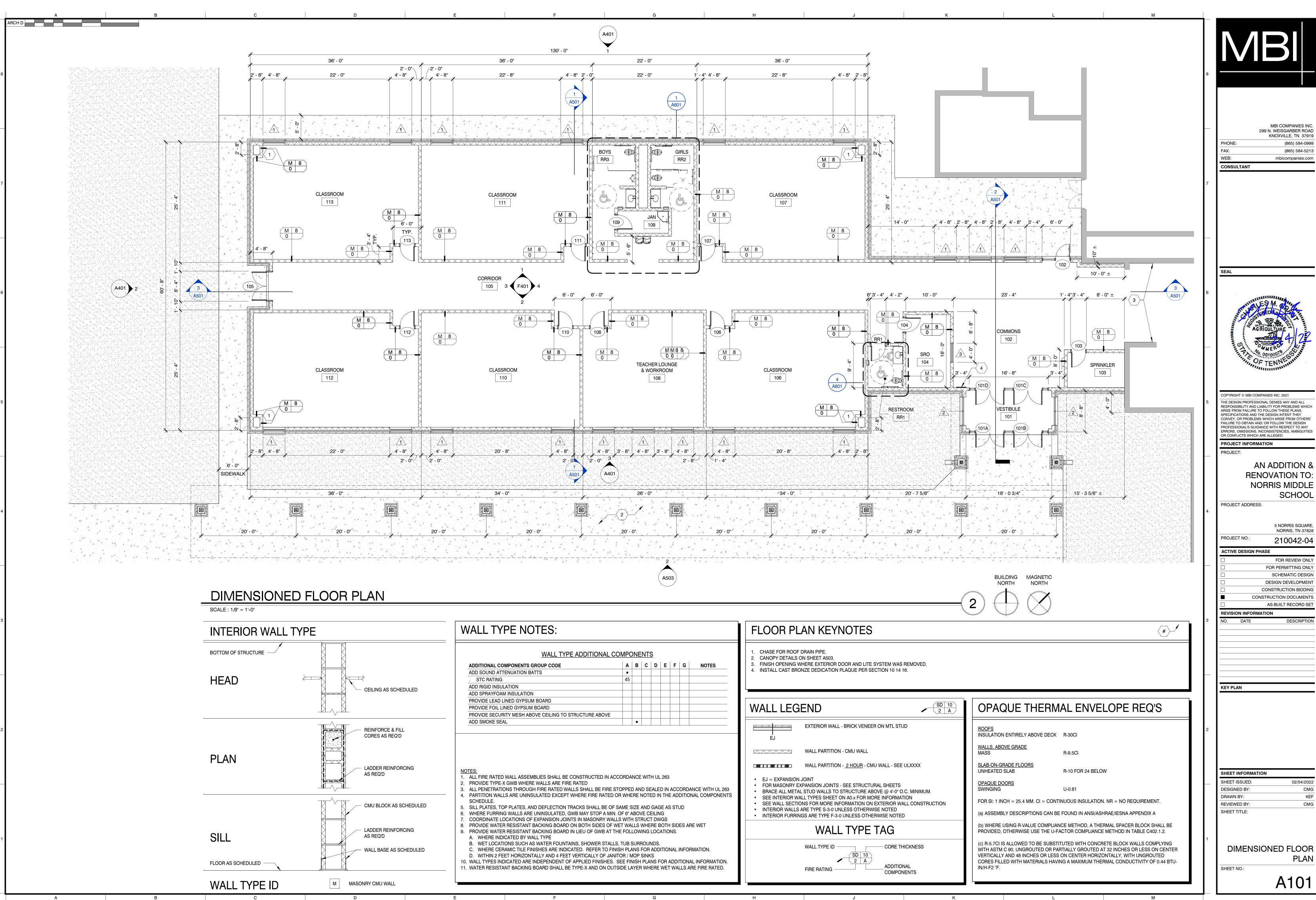
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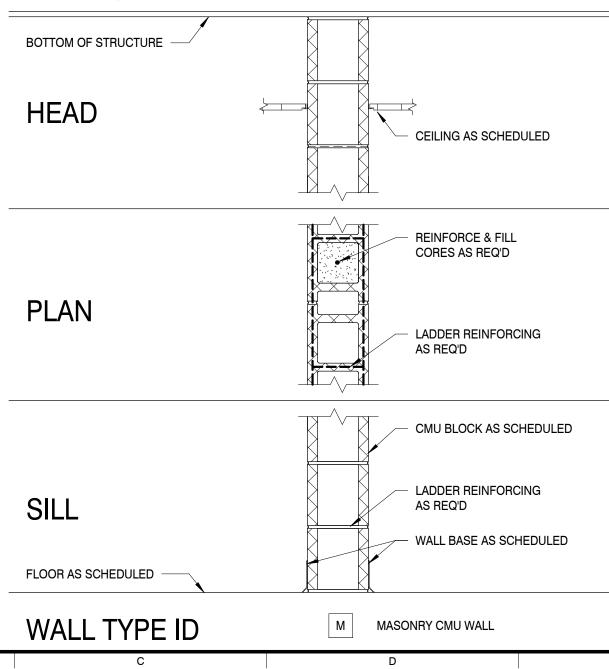
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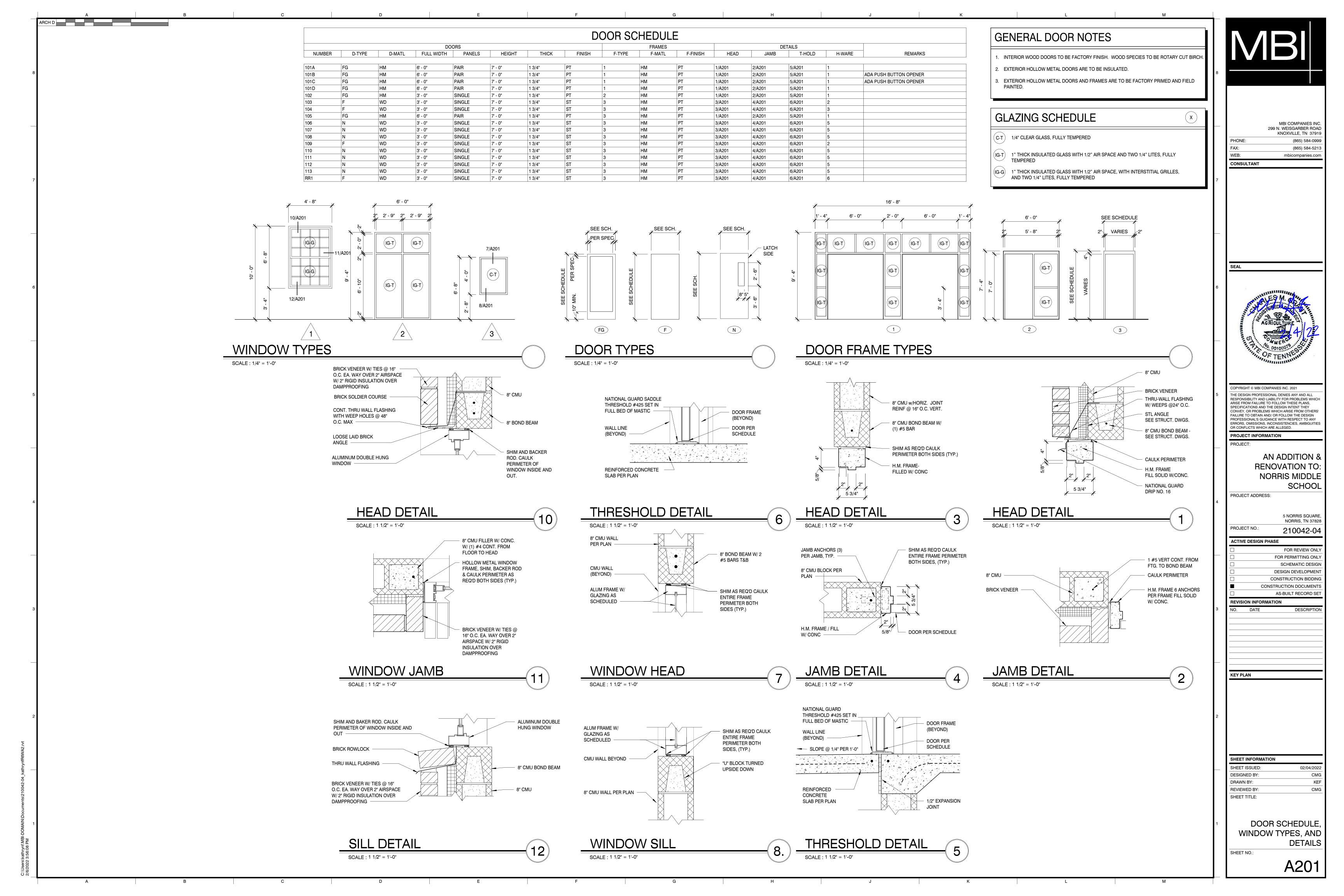
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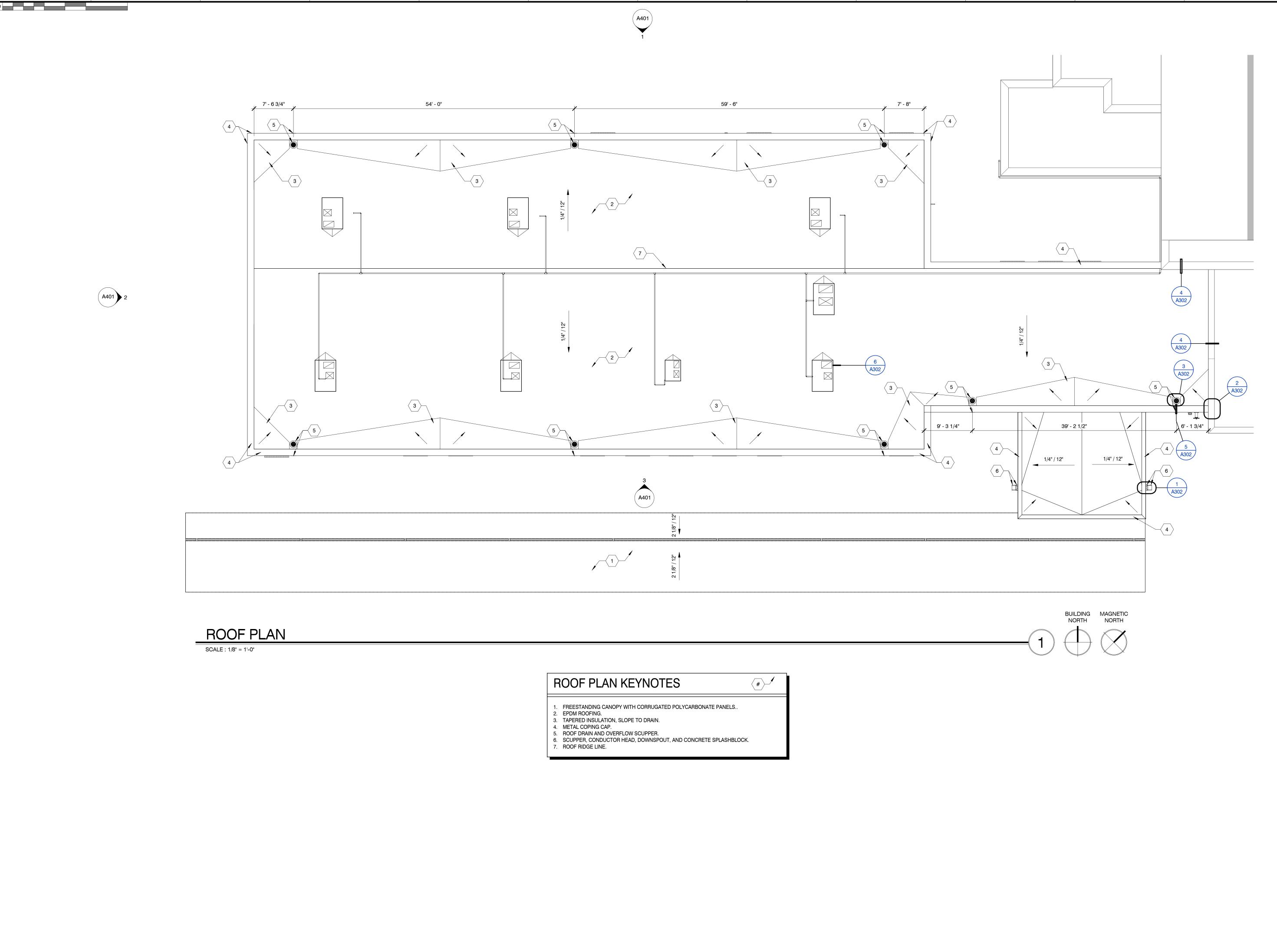
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TYPE		IB	
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CATIONS: IBC CHAPTER 5 ER SYSTEM	FLOOR CONSTRUCTION:	0 HOURS 0 HOURS 0 HOURS	
EASEIBC SECTION 504.3SEIBC SECTION 506.2	IBC TABLE 602: EXTERIOR WALL FIR		
E IBC SECTION 506.3 IBC SECTION 507	SEPERATION CONS OCCUPANC DISTANCE TYPE H F-1, M, S-1 A, X < 5	Y GROUP B, E, F-2, I, R, S-2, U	MBI COMPANIES INC. 299 N. WEISGARBER ROAD
IBC TABLE 506.2 / 504.3 ED: 68,875 PER STORY	$5 \le X \le 10 \qquad \begin{array}{ccc} IA & 3 & 2 \\ OTHERS & 2 & 1 \end{array}$	1	KNOXVILLE, TN 37919 PHONE: (865) 584-0999
A: 44,554 PER STORY WED: 2 STORIES, 55 FEET HT: 50'-4"	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	0 1	FAX: (865) 584-5213 WEB: mbicompanies.com
$Aa = At + (At \times If) + (At \times Is)$ = 14,500 + (14,500 x 0.75) + (14,500 x 3) = 14,500 + 10,875 + 43,500 Aa = 68,875 SF PER STORY		RINKLERED	CONSULTANT
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PER IBC 1022.2 GREATER 2 HR TORES 1 HR	DEAD END CORRIDOR PER IBC OCCUPANCY SP B	1020.4 RINKLERED 50	
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R OF EXITS PER IBC TABLE 1006.3.2 MIN NUMBER OF EXITS PER STORY	OCCUPANCY SERVED BY CORRIDOR V H-1, H-2, H-3 ALL H-4, H-5 > 30	V/ SPRINKLER SYSTEM	
2 3	A, B, E, F, M, S, U > 30 R > 10	0.5 / 1	STATISTICS ESM. CONTRACT
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E EXIT PER IBC TABLE 1006.2.1 MAXIMUM OCCUPANT LOAD	I-4 ALL EGRESS DOOR SCHEDUL DOOR		0 2 4 22
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		CCUPANT LOAD CALCULATED	SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/ OR FOLLOW THE DESIGN PROFESSIONAL'S GUIDANCE WITH RESPECT TO ANY
	NO. NAME SQ.FT. LOAD FA	CTOR LOAD	ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED. PROJECT INFORMATION
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	103 SPRINKLER 98 SF 300 BUSINESS AREAS 104 SRO 160 SF 150	2	AN ADDITION &
1	CORE RR2-3 RESTROOMS 428 SF 0		RENOVATION TO: NORRIS MIDDLE
	101 VESTIBULE 165 SF 0 102 COMMONS 1251 SF 0		SCHOOL PROJECT ADDRESS:
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424 OCCUPANTS	EDUCATIONAL - CLASSROOM 108 TEACHERS LOUNGE 614 SF 20 & WORKROOM 20 20 20	31	5 NORRIS SQUARE, NORRIS, TN 37828 PROJECT NO.:
	106 CLASSROOM 809 SF 20 110 CLASSROOM 809 SF 20	41 41	ACTIVE DESIGN PHASE
	112 CLASSROOM 833 SF 20 113 CLASSROOM 855 SF 20	42 43	FOR REVIEW ONLY FOR PERMITTING ONLY
	107 CLASSROOM 888 SF 20 111 CLASSROOM 881 SF 20 GRAND TOTALS 9457 SF	45 45 292	SCHEMATIC DESIGN DESIGN DEVELOPMENT
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			DRAWN BY: KEF REVIEWED BY: CMG
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WALL TYPE NOTES:			FLOOR PLAN KEYNOTES			
WALL TYPE ADDITIONAL CO ADDITIONAL COMPONENTS GROUP CODE ADD SOUND ATTENUATION BATTS . STC RATING ADD RIGID INSULATION ADD SPRAYFOAM INSULATION PROVIDE LEAD LINED GYPSUM BOARD			EF	G	NOTES	 CHASE FOR ROOF DRAIN PIPE. CANOPY DETAILS ON SHEET A503. FINISH OPENING WHERE EXTERIOR DOOR AND LITE SYSTEM WAS REMOVE INSTALL CAST BRONZE DEDICATION PLAQUE PER SECTION 10 14 16.
PROVIDE LEAD LINED GYPSOM BOARD PROVIDE FOIL LINED GYPSOM BOARD PROVIDE SECURITY MESH ABOVE CEILING TO STRUCTURE ABOVE						WALL LEGEND
ADD SMOKE SEAL	•					EXTERIOR WALL - BRICK VENEER ON MTL STUD
 <u>NOTES:</u> ALL FIRE RATED WALL ASSEMBLIES SHALL BE CONSTRUCTED IN ACC PROVIDE TYPE-X GWB WHERE WALLS ARE FIRE RATED ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE FIRE STO PARTITION WALLS ARE UNINSULATED EXCEPT WHERE FIRE RATED OF SCHEDULE. SILL PLATES, TOP PLATES, AND DEFLECTION TRACKS SHALL BE OF SJ WHERE FURRING WALLS ARE UNINSULATED, GWB MAY STOP A MIN. OF COORDINATE LOCATIONS OF EXPANSION JOINTS IN MASONRY WALLS PROVIDE WATER RESISTANT BACKING BOARD ON BOTH SIDES OF WE PROVIDE WATER RESISTANT BACKING BOARD IN LIEU OF GWB AT THI A. WHERE INDICATED BY WALL TYPE 	OPPED AI R WHERE AME SIZE DF 6" ABO S WITH ST ET WALLS E FOLLOV	ND SEALE NOTED I AND GAO VE CEILII RUCT DV WHERE VING LOC	ED IN AC N THE A GE AS S NG VGS BOTH SI CATIONS	DDITIC TUD DES A	NAL COMPONENTS	 WALL PARTITION - CMU WALL WALL PARTITION - <u>2 HOUR</u> - CMU WALL - SEE ULXXXX EJ = EXPANSION JOINT FOR MASONRY EXPANSION JOINTS - SEE STRUCTURAL SHEETS BRACE ALL METAL STUD WALLS TO STRUCTURE ABOVE @ 4'-0" O.C. MININ SEE INTERIOR WALL TYPES SHEET ON A0.x FOR MORE INFORMATION SEE WALL SECTIONS FOR MORE INFORMATION ON EXTERIOR WALL CONS INTERIOR WALLS ARE TYPE S-3-0 UNLESS OTHERWISE NOTED INTERIOR FURRINGS ARE TYPE F-3-0 UNLESS OTHERWISE NOTED
 B. WET LOCATIONS SUCH AS WATER FOUNTAINS, SHOWER STALLS, C. WHERE CERAMIC TILE FINISHES ARE INDICATED. REFER TO FINIS D. WITHIN 2 FEET HORIZONTALLY AND 4 FEET VERTICALLY OF JANITI 10. WALL TYPES INDICATED ARE INDEPENDENT OF APPLIED FINISHES. S 11. WATER RESISTANT BACKING BOARD SHALL BE TYPE-X AND ON OUTS 	6H PLANS OR / MOP EE FINISH	FOR ADI SINKS I PLANS I	Ditional For ade	DITION	AL INFORMATION.	WALL TYPE ID CORE THICKNES





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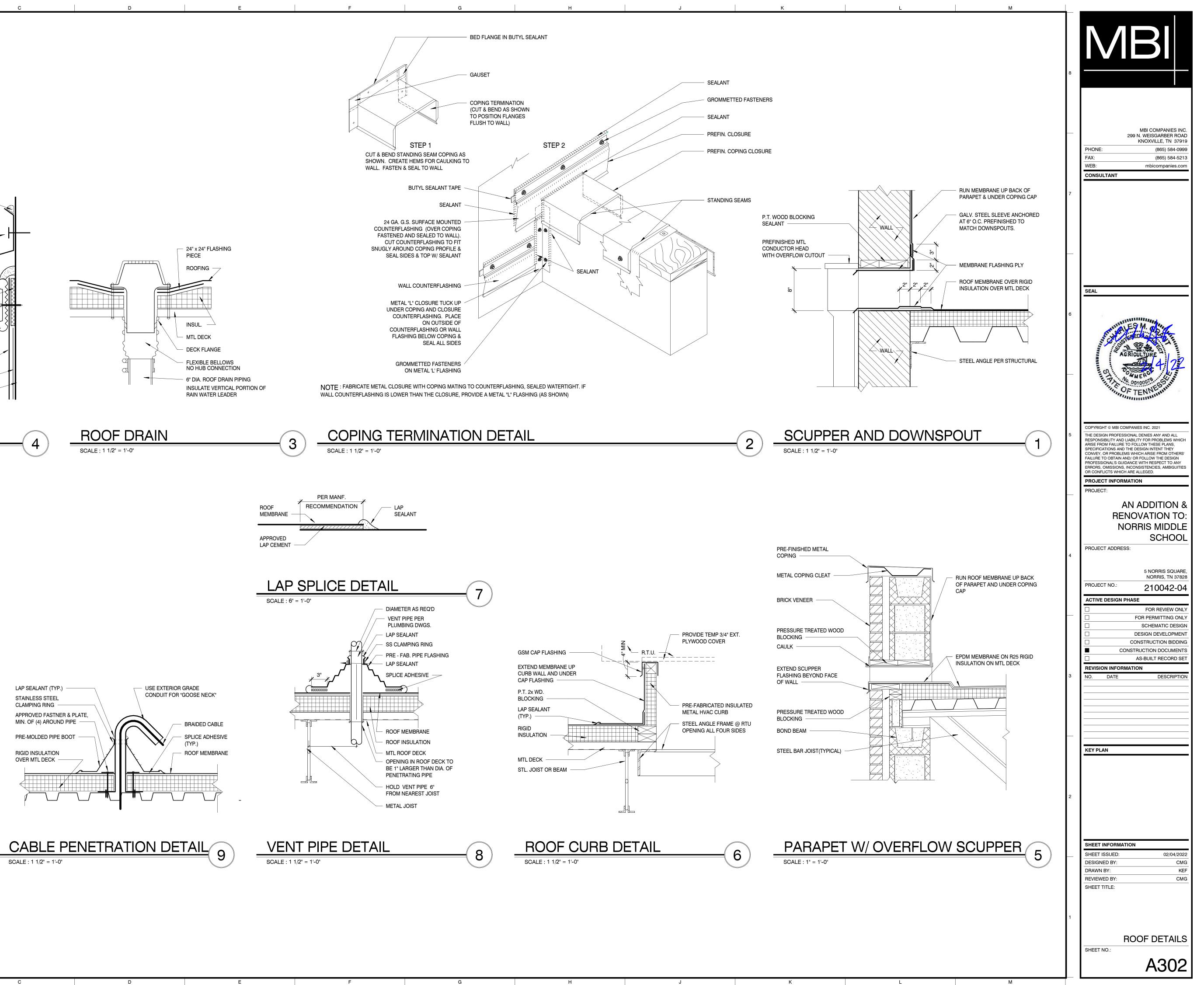
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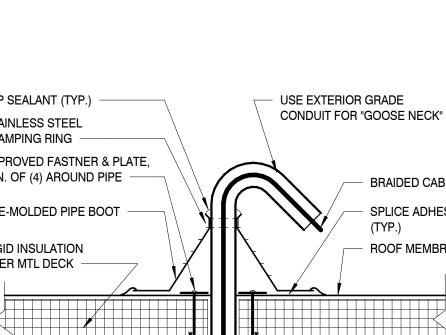
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2	KEY PLAN
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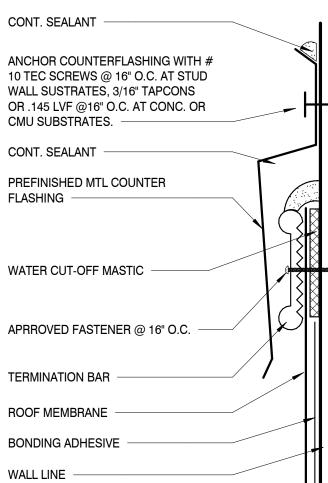
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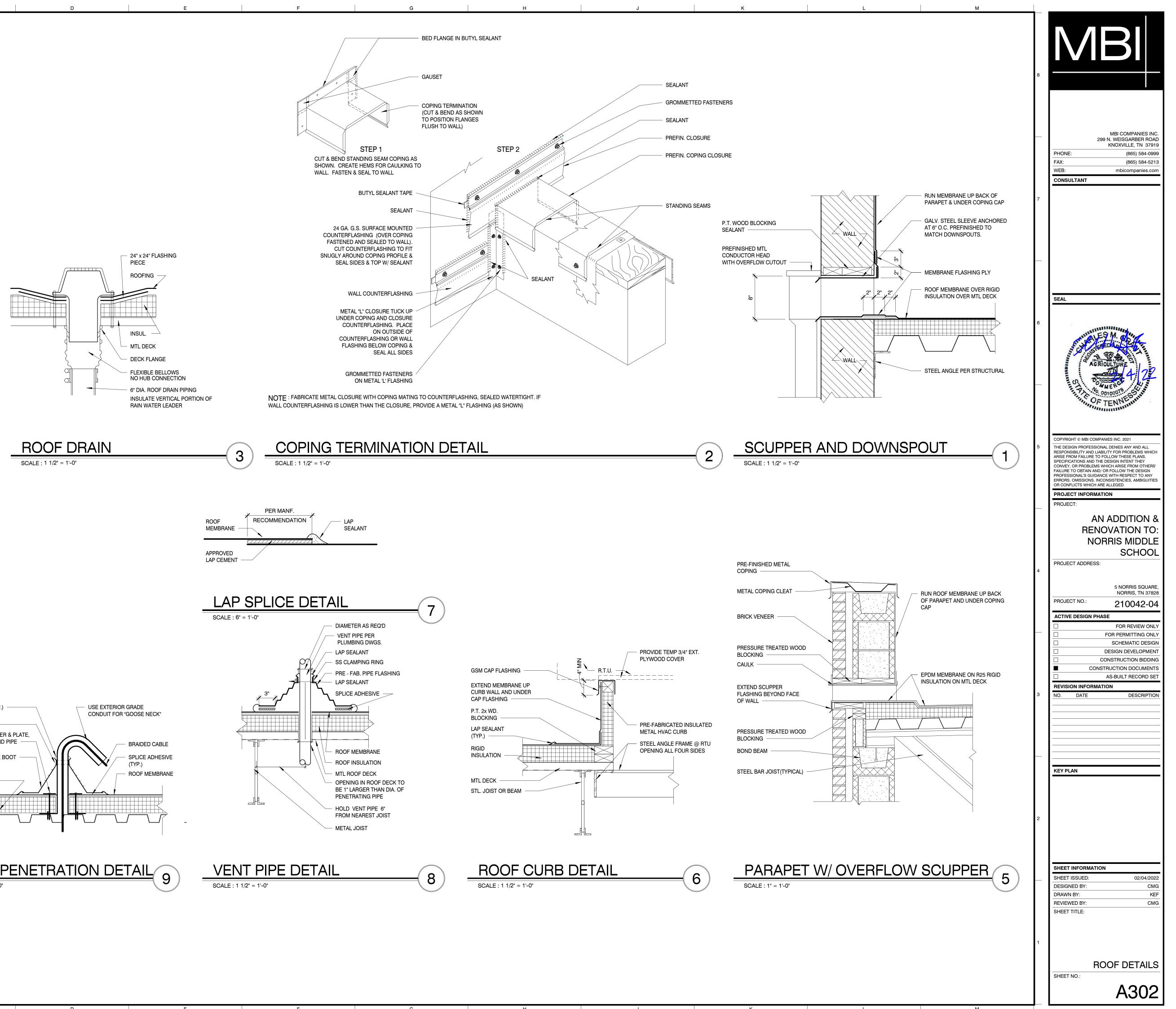
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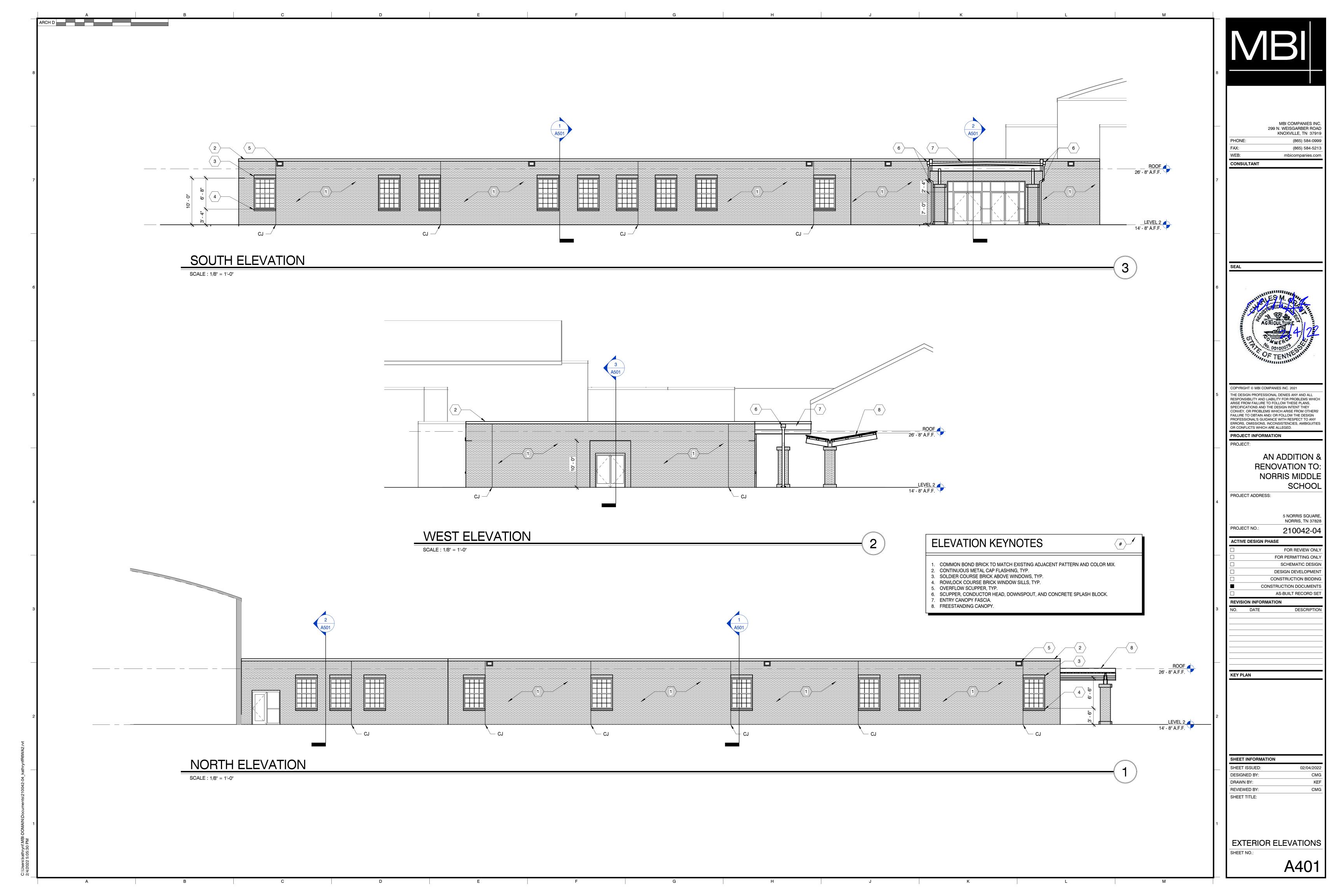


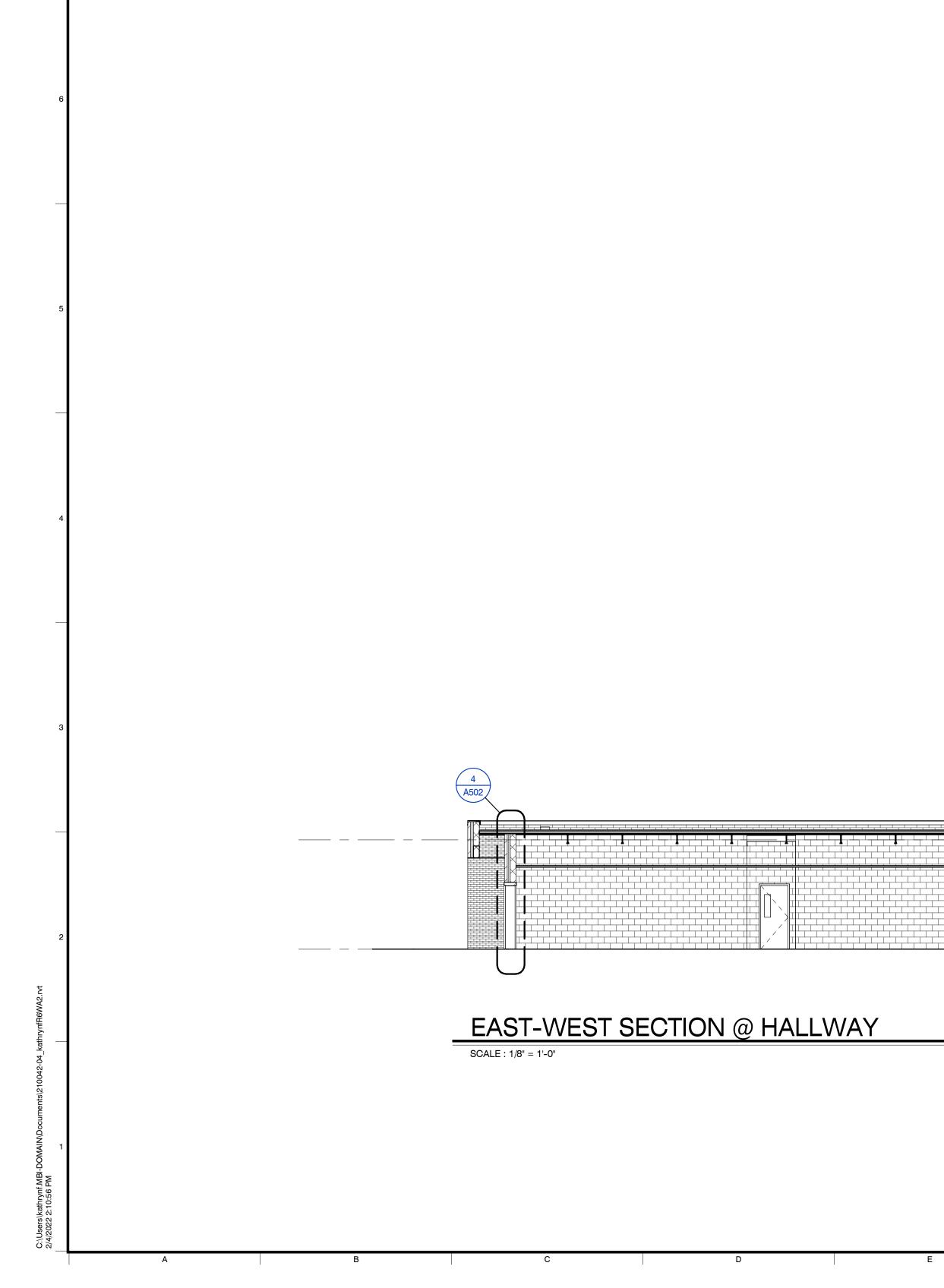




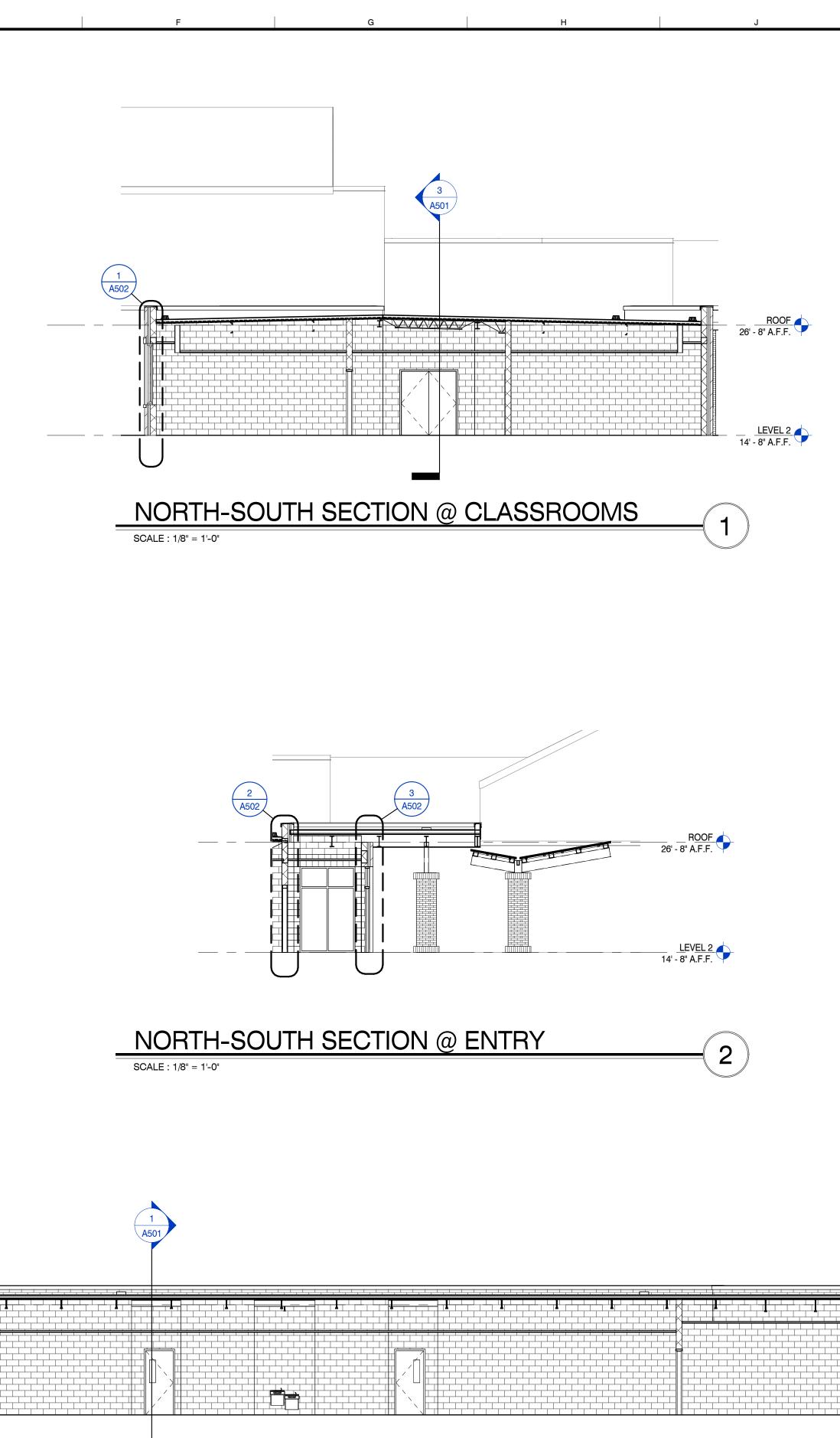


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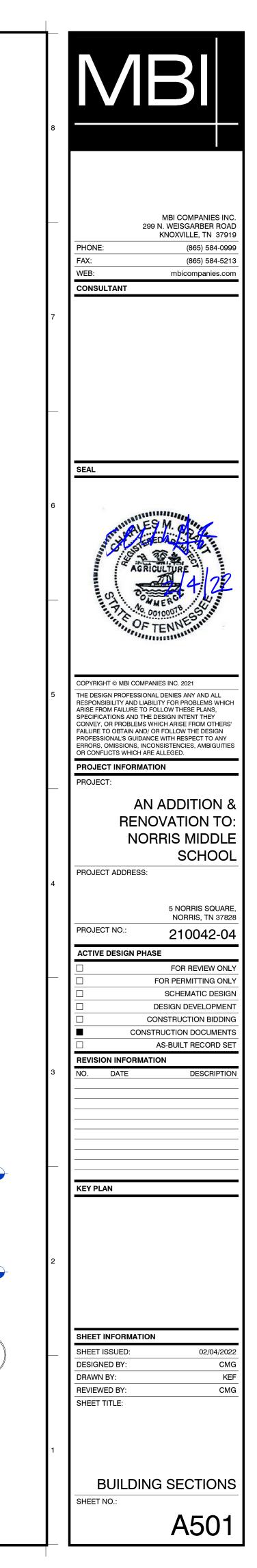
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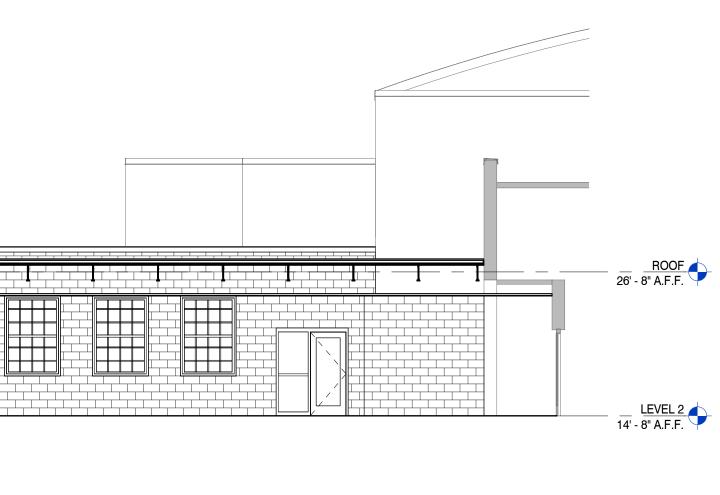
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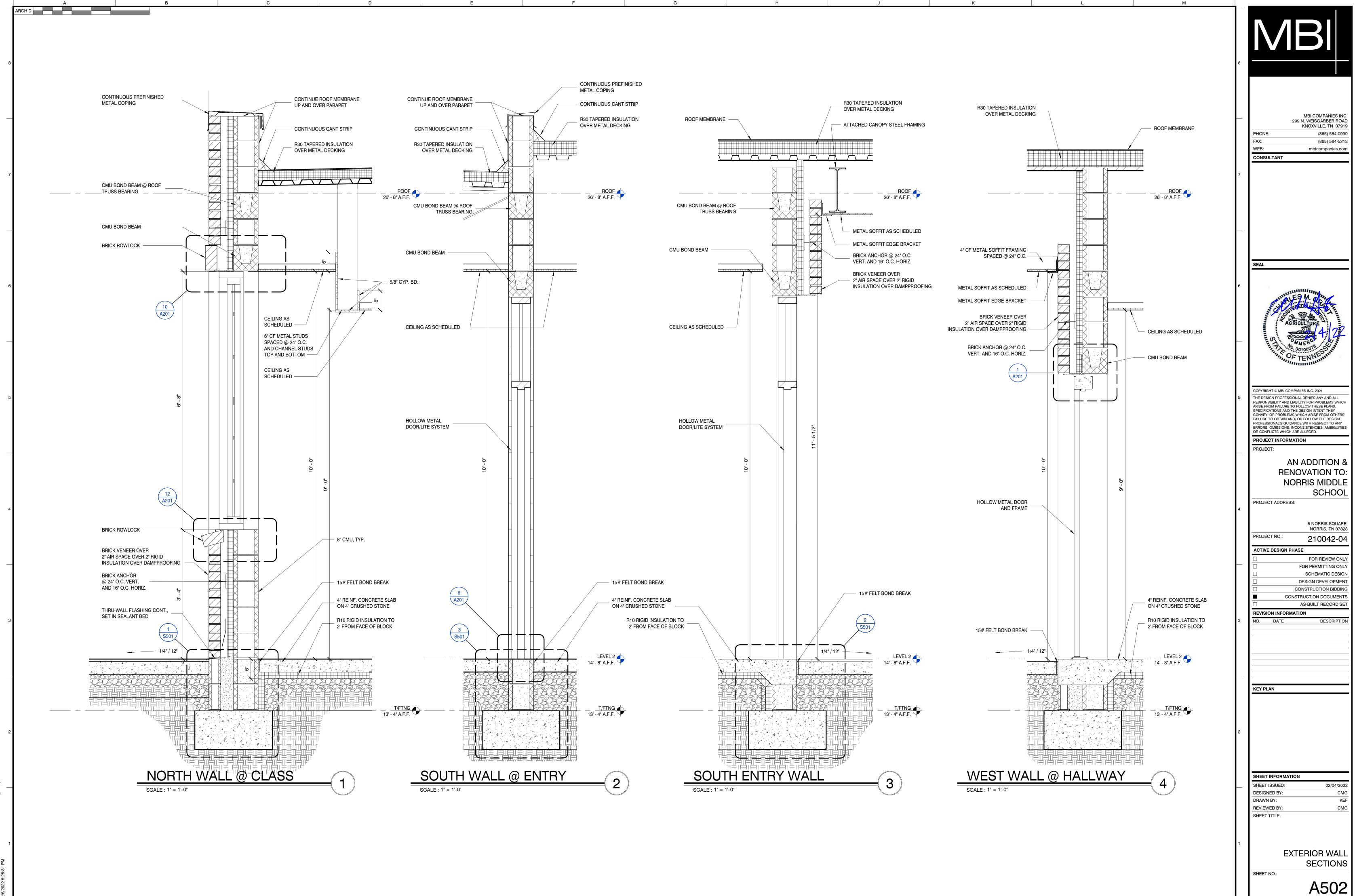
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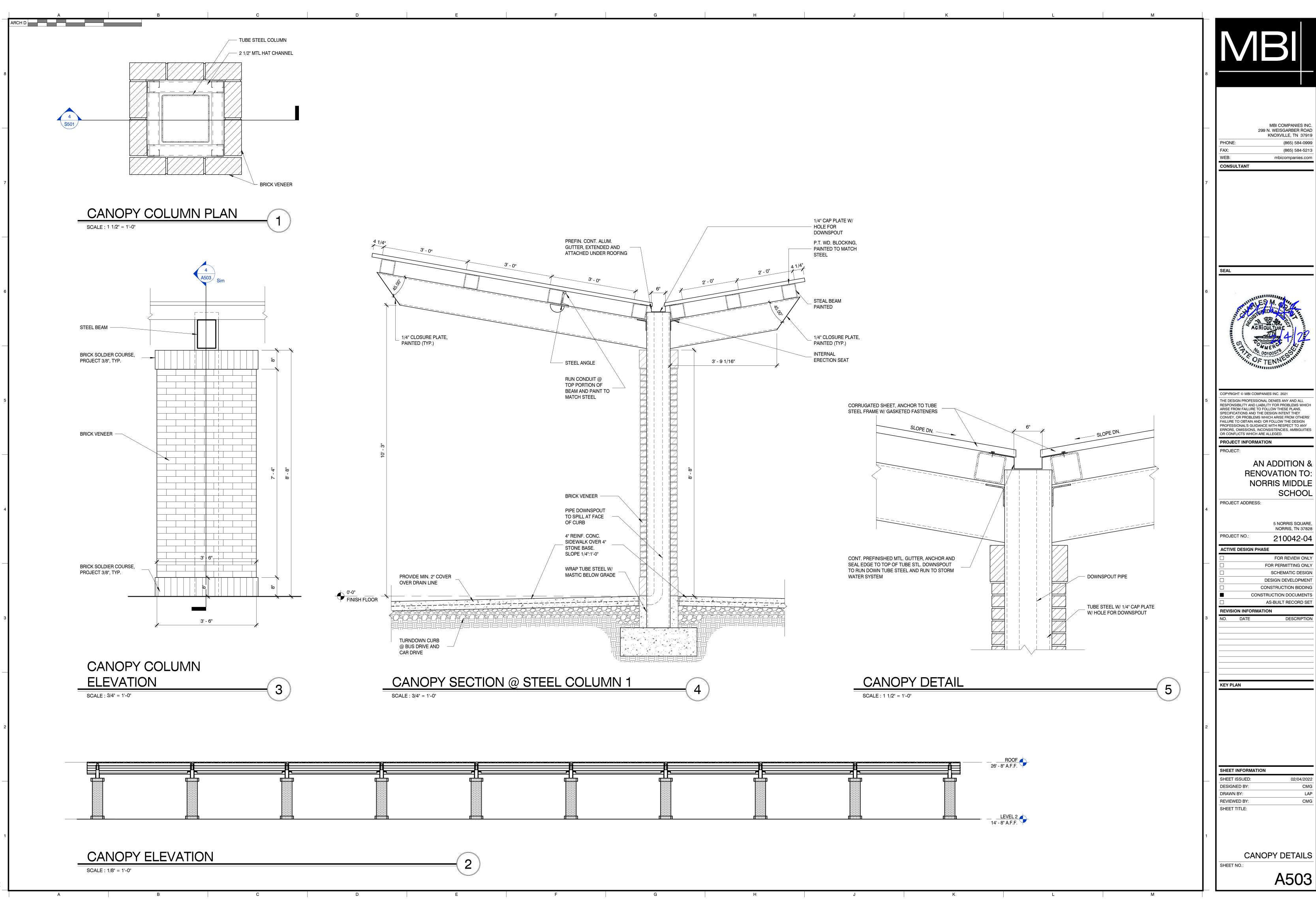
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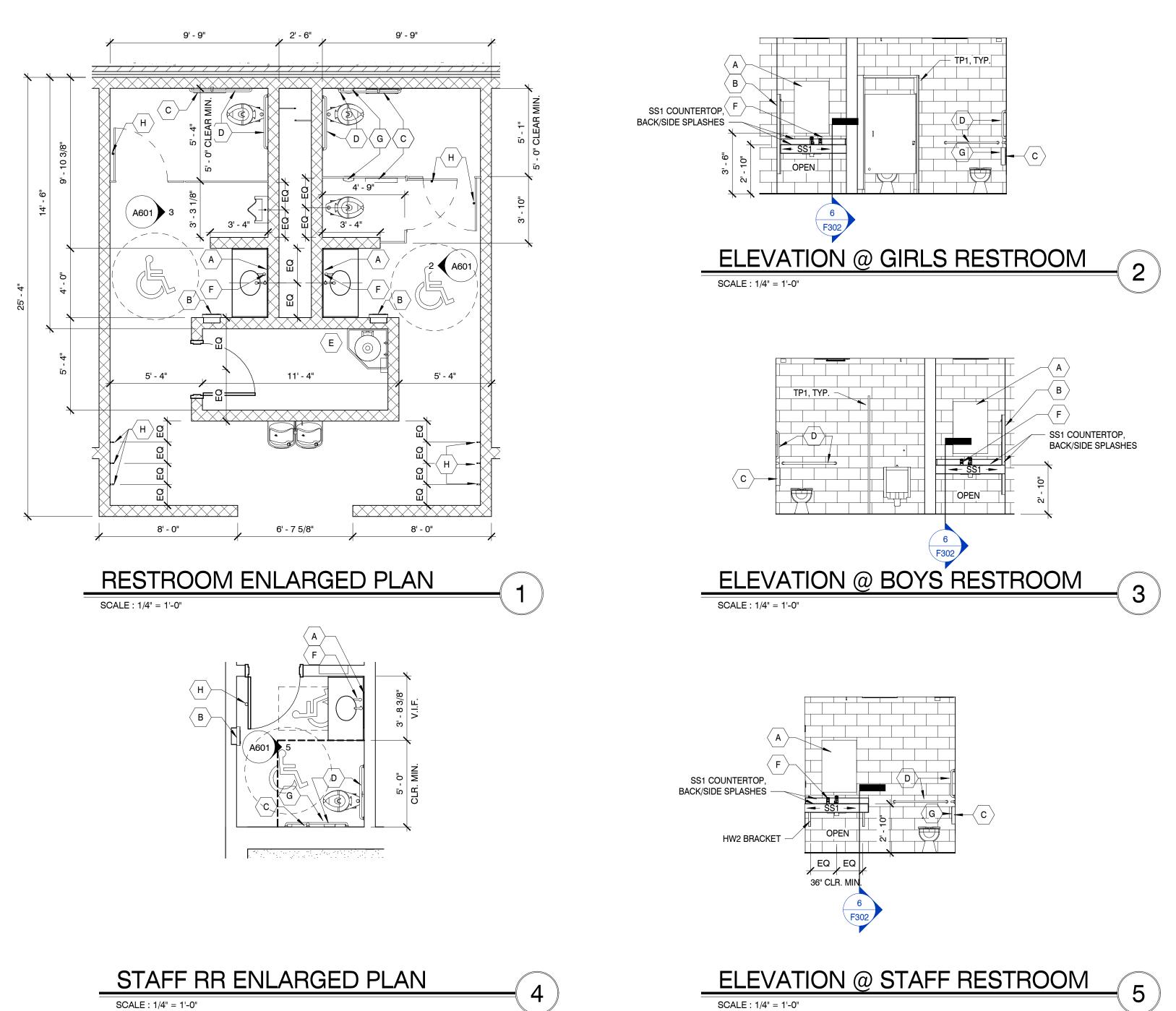
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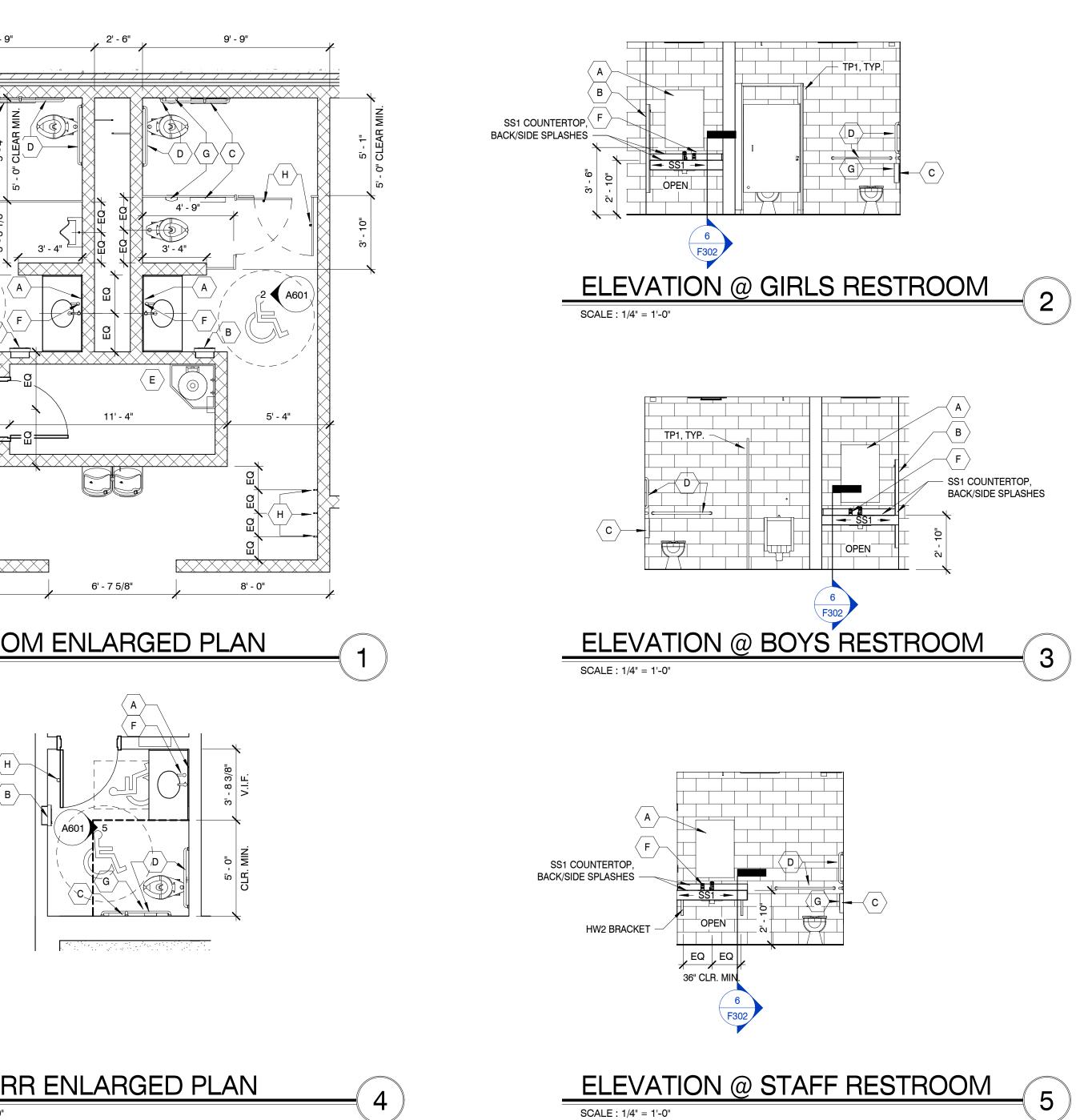
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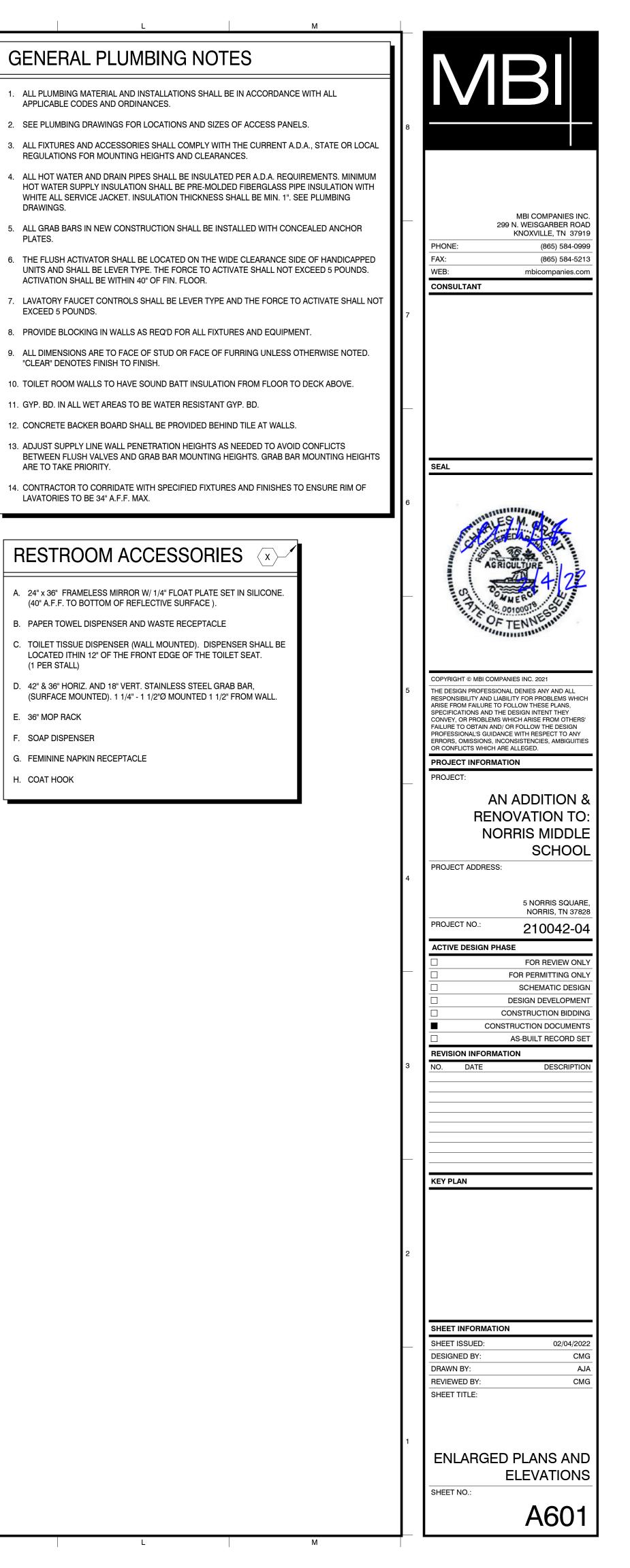
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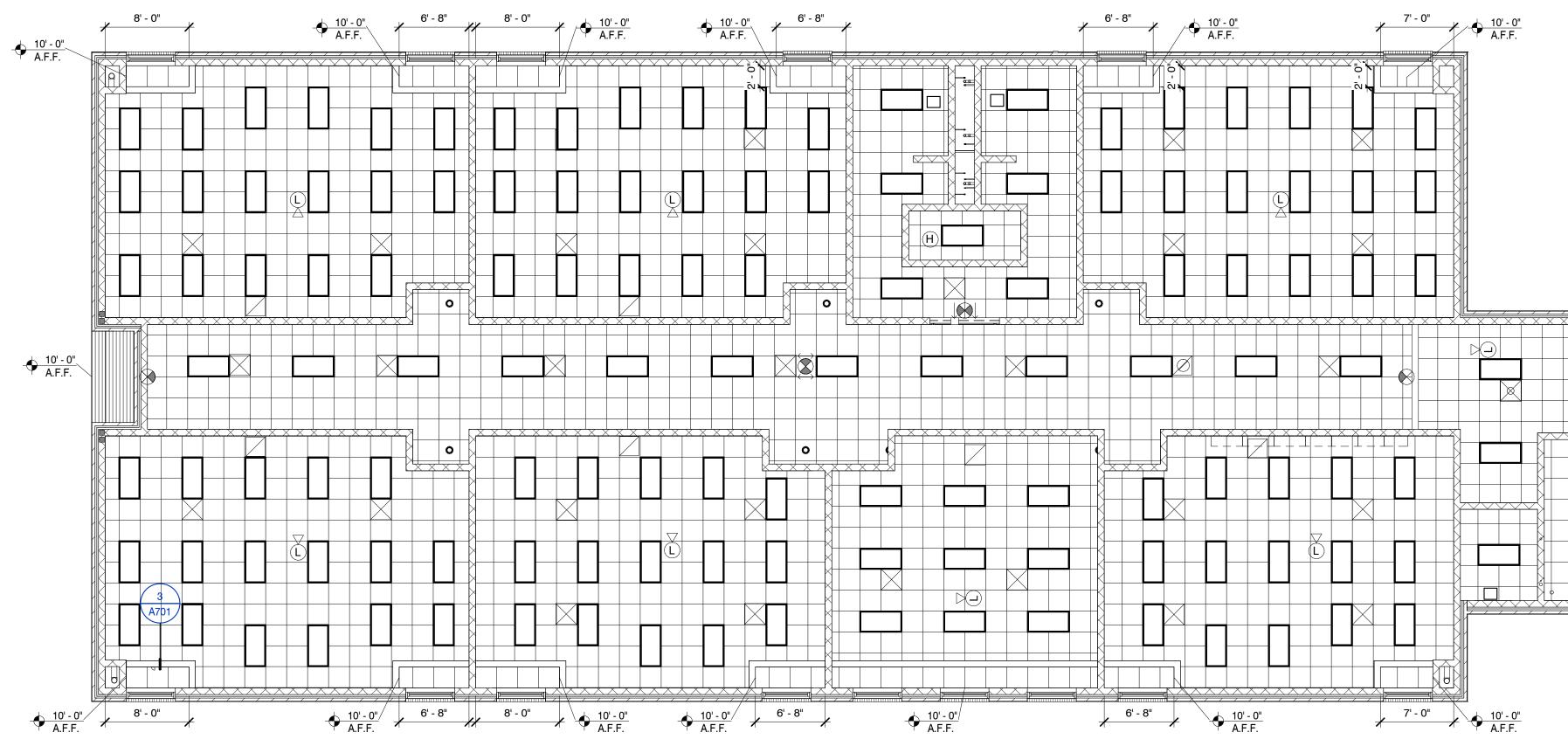
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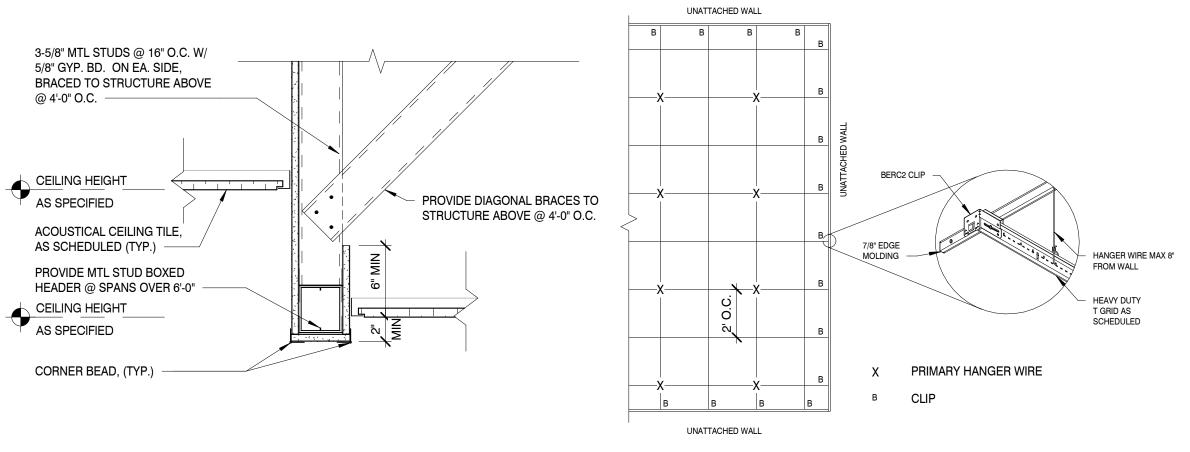




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REFLECTED CEILING PLAN

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





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	2X4 LED VOLUMETRIC LAY-IN FIXTURE	\otimes	EXIT LIGH1
ο	8" RECESSED CAN LIGHT	4_4	EMERGEN
	4'-0" SURFACE LINEAR LIGHTING	\square	HVAC SUP
	EXHAUST FAN		HVAC R/A

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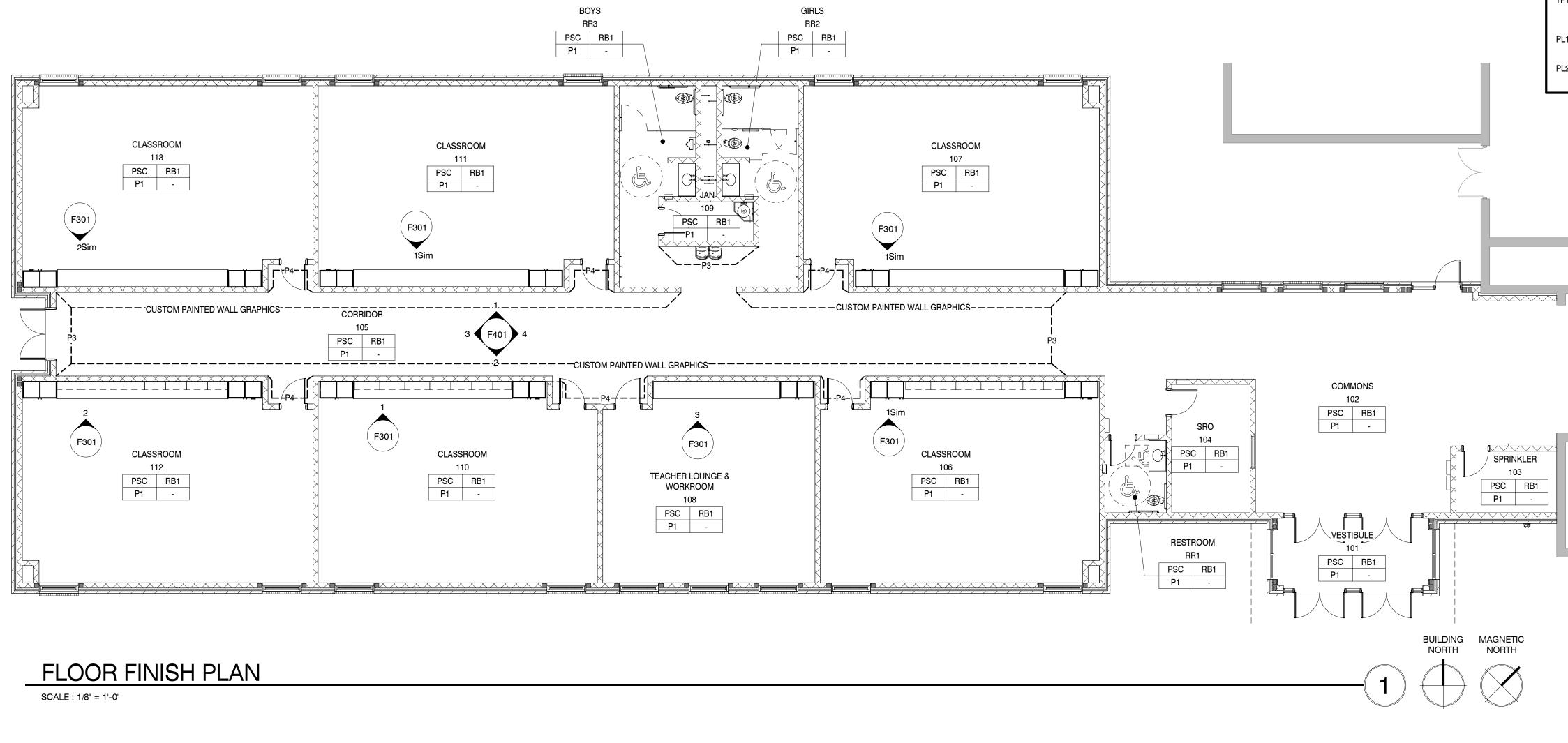
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ADD ALTERNATE:

ROOMS 216 & 217 OF EXISTING BUILDING: REPAINT ALL WALLS (P2) REMOVE EXISTING MILLWORK AND REPLACE WITH NEW PER SHEET F303

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INTERIOR FINISH TAG

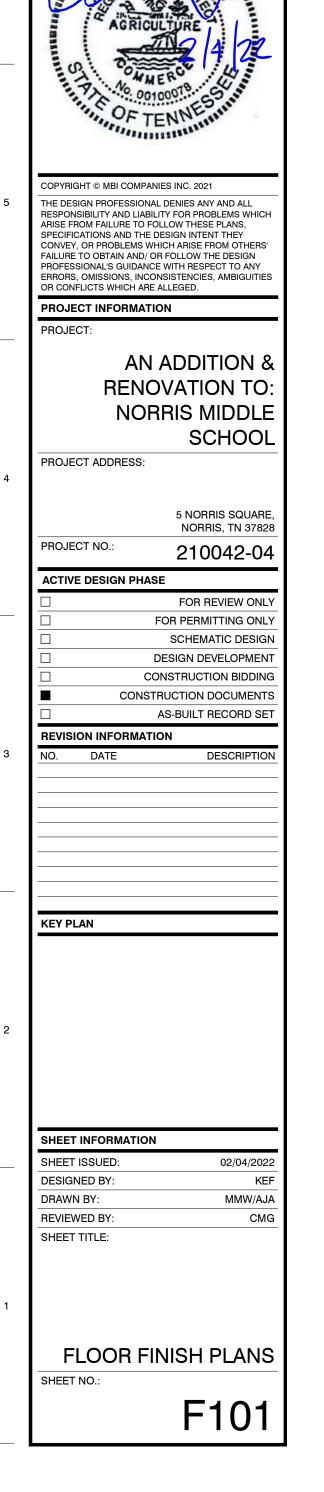
	ROON		
FLOOR FINISH	### 🗡		- BASE
	C1	B1	
	P1	P2	
WALL FINISH			

GENERAL INTERIOR NOTES

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

FIN	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			
	WALL BASE					
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)			

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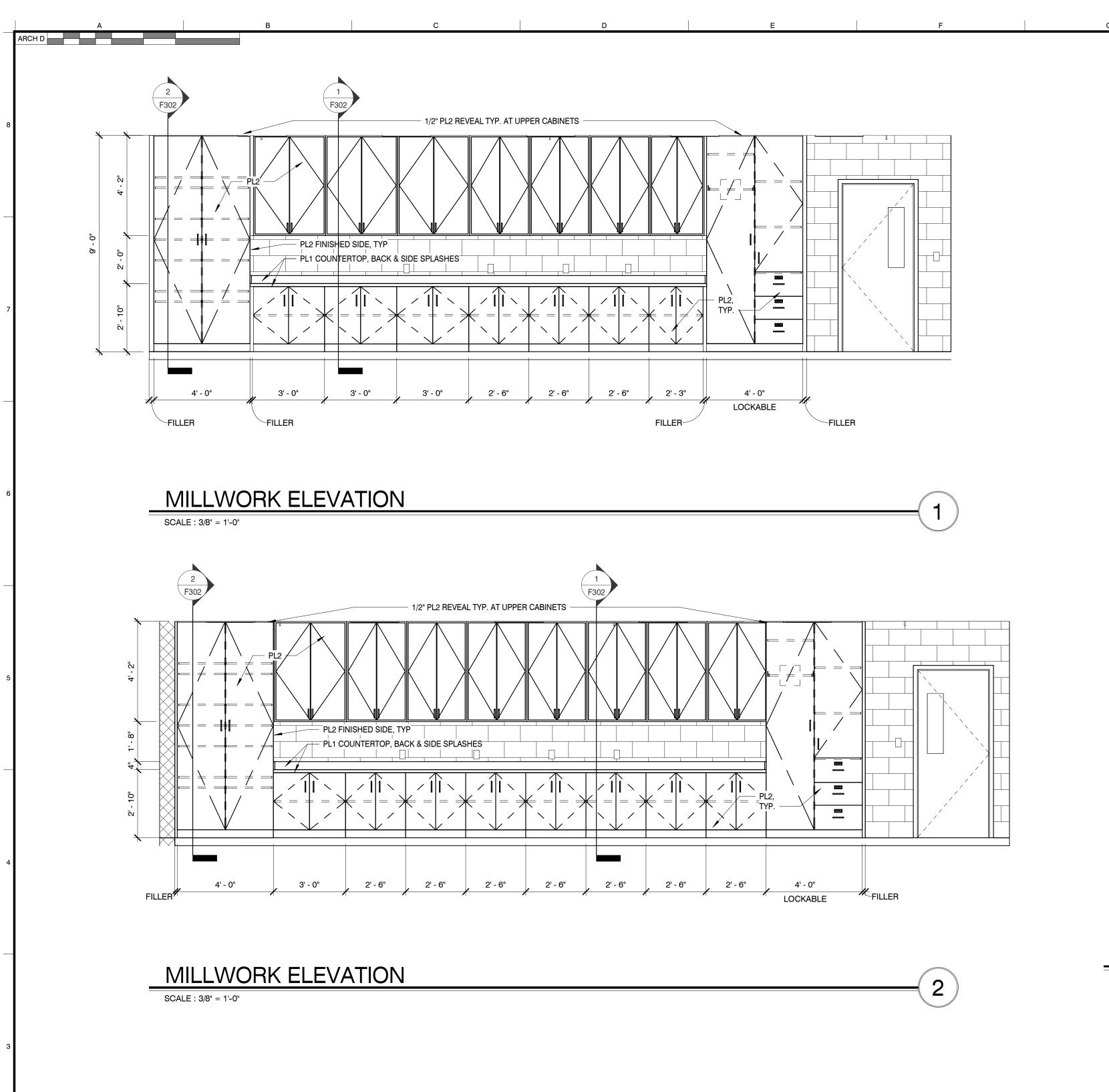
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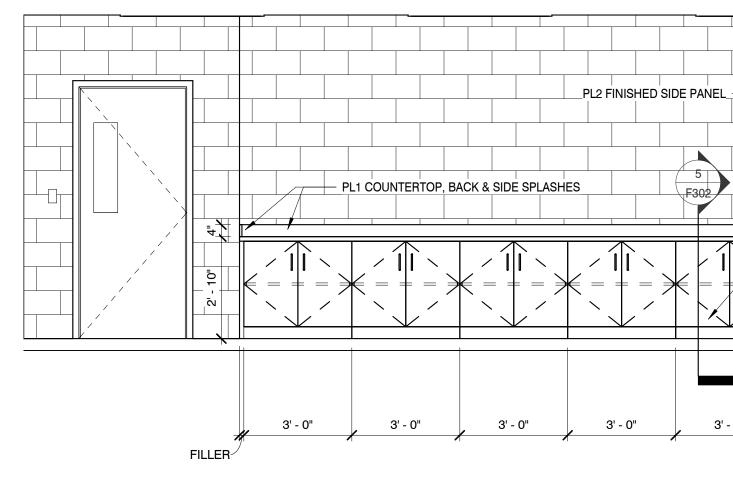
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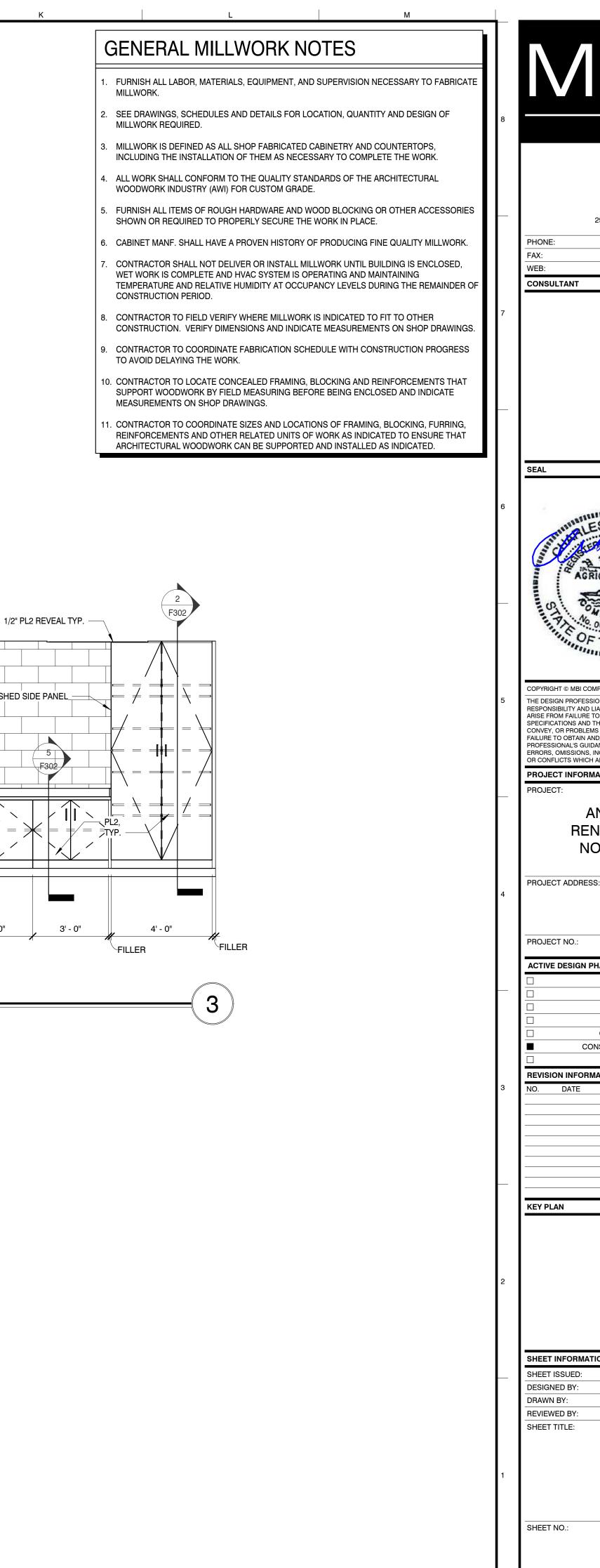


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SCALE : 3/8" = 1'-0"

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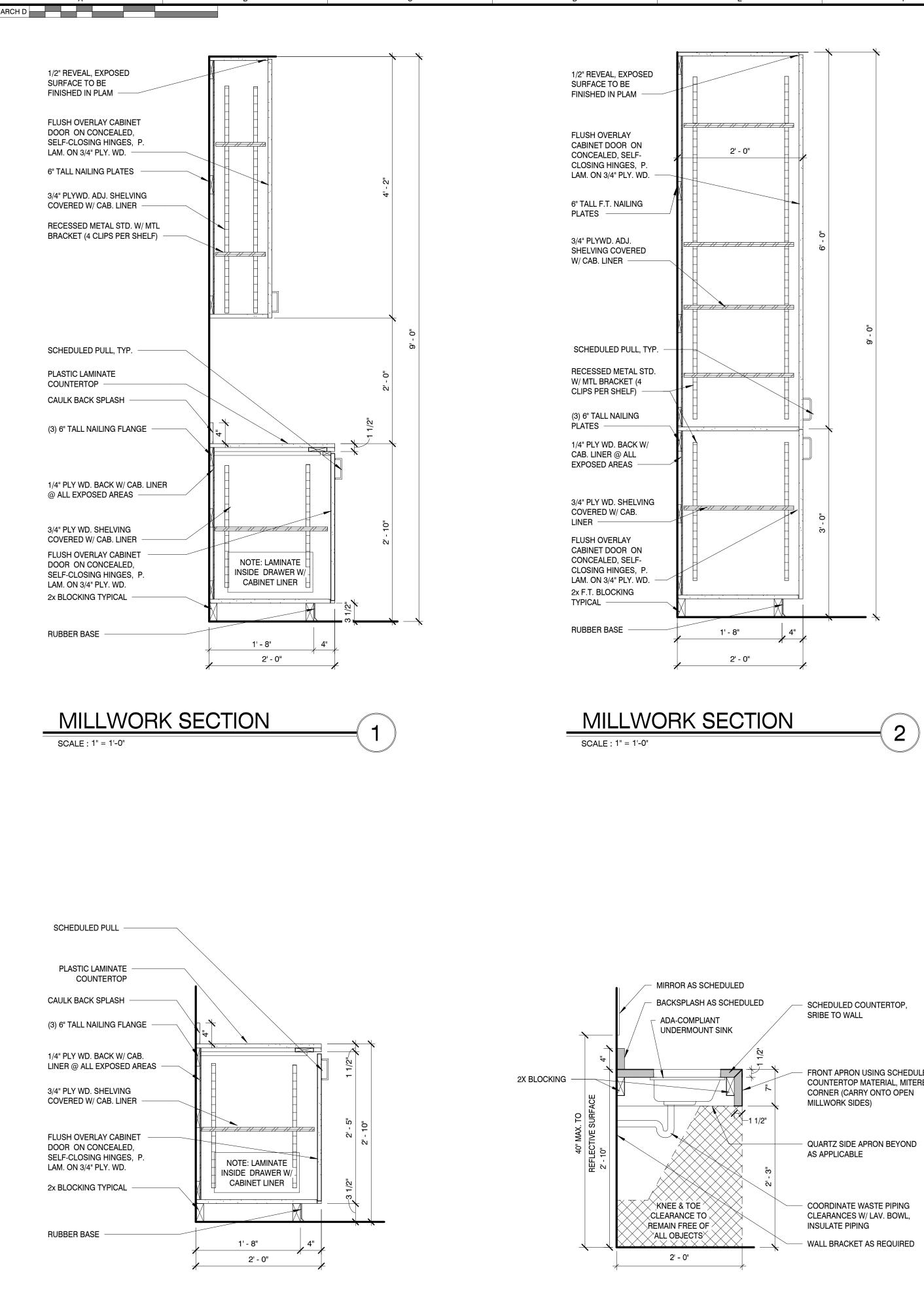


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KEY PLAN
SHEET INFORMATION
SHEET ISSUED: 02/04/2022 DESIGNED BY: KEF DRAWN BY: MMW/AJA REVIEWED BY: CMG SHEET TITLE:

MILLWORK ELEVATIONS

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MILLWORK SECTION SCALE : 1" = 1'-0"

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FRONT APRON USING SCHEDULED COUNTERTOP MATERIAL, MITERED

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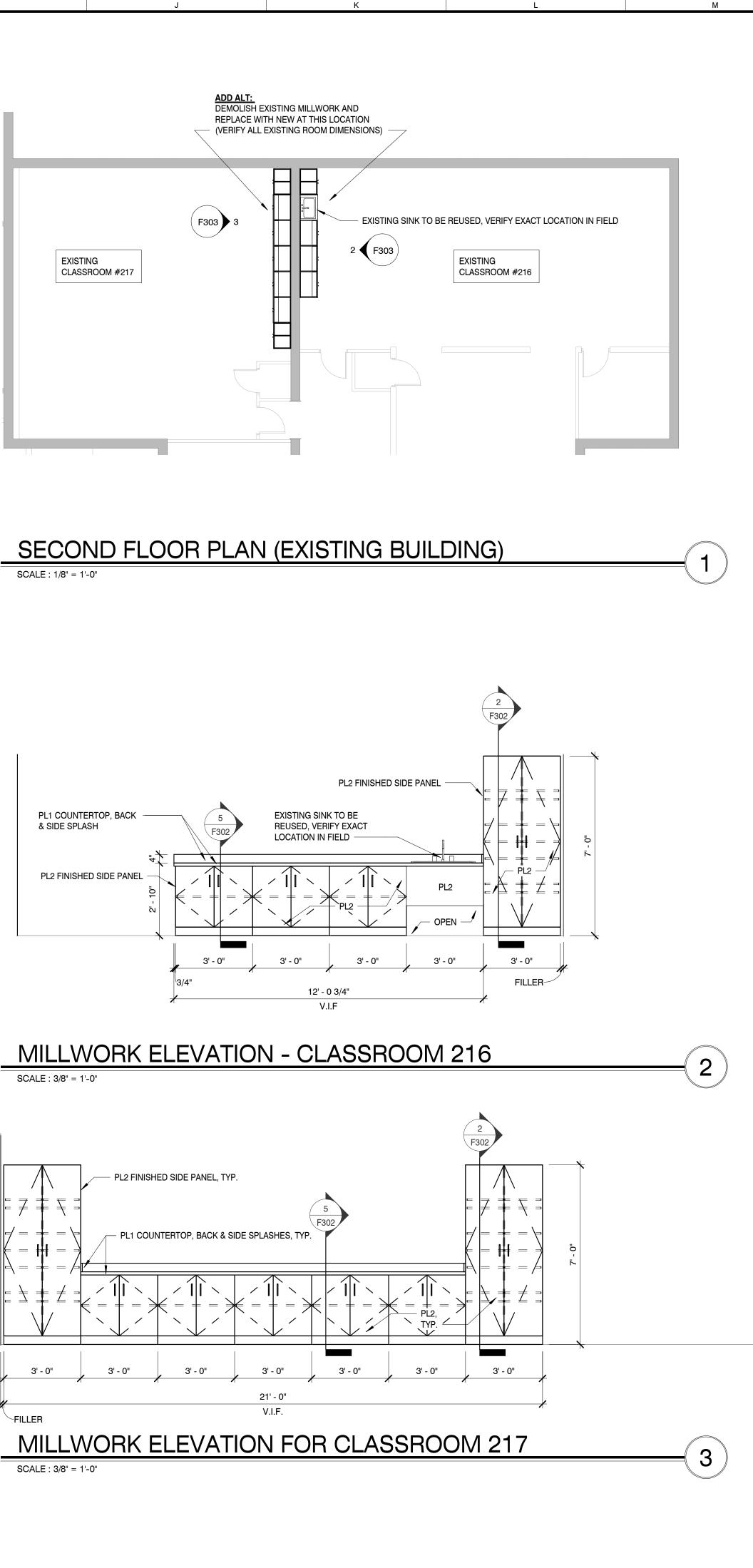
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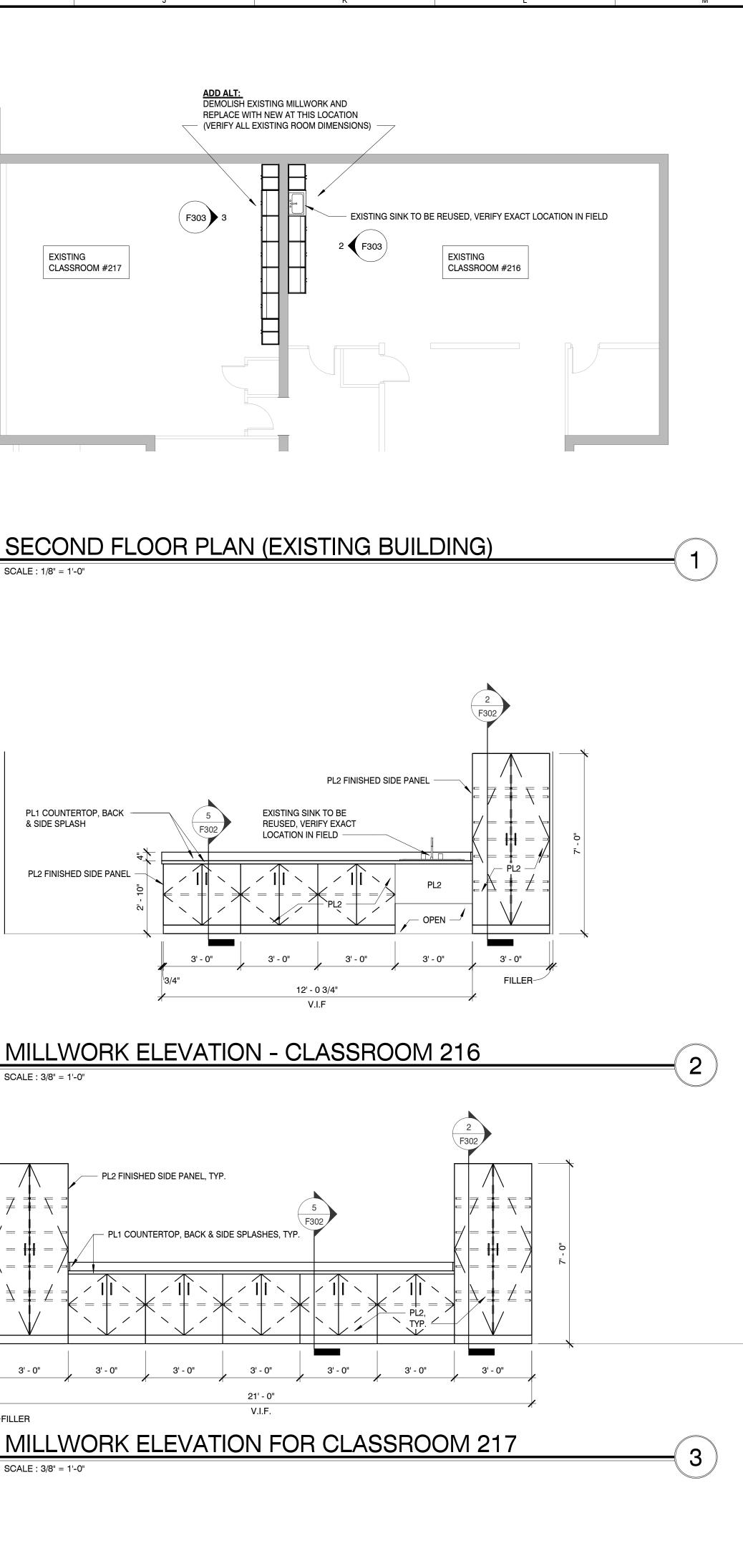
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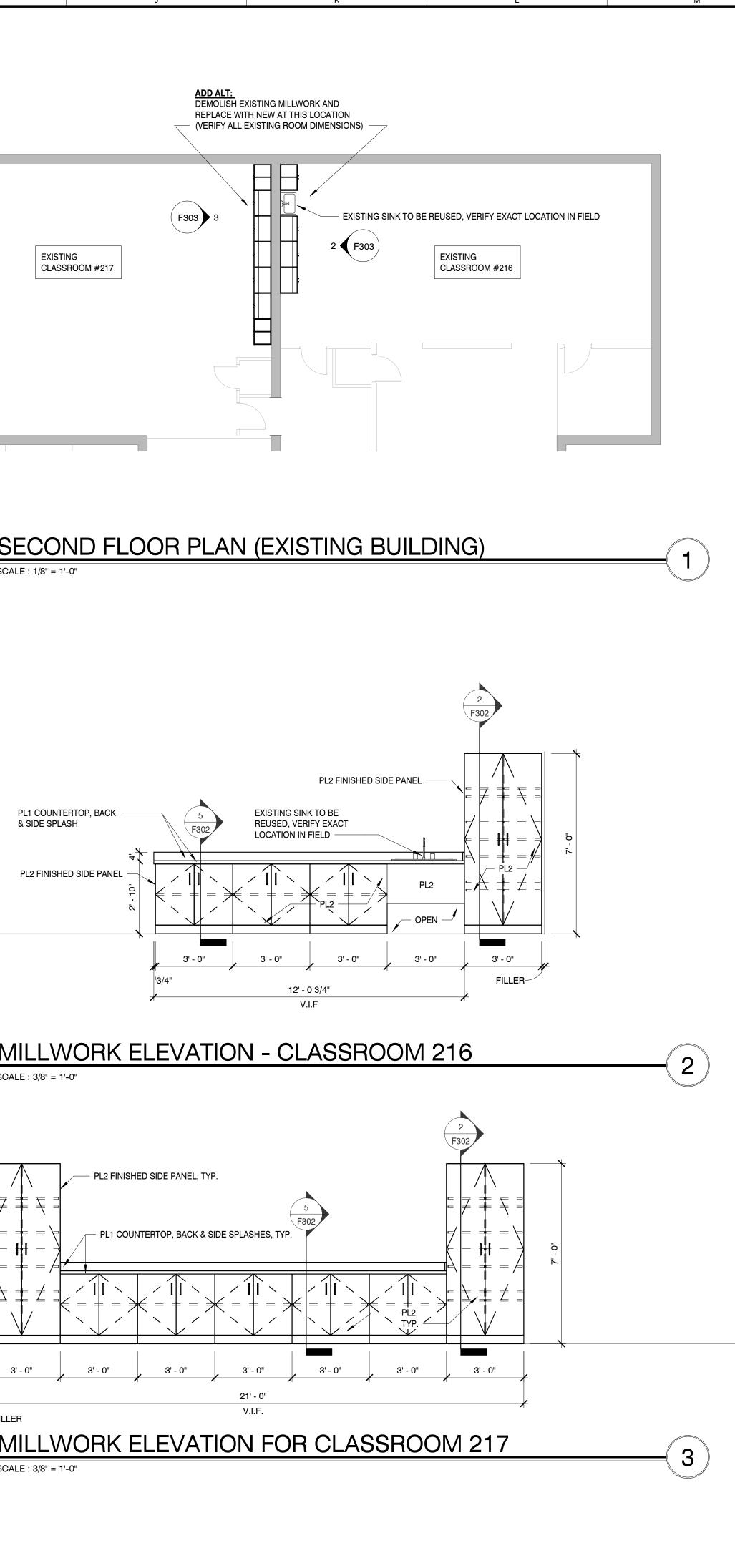
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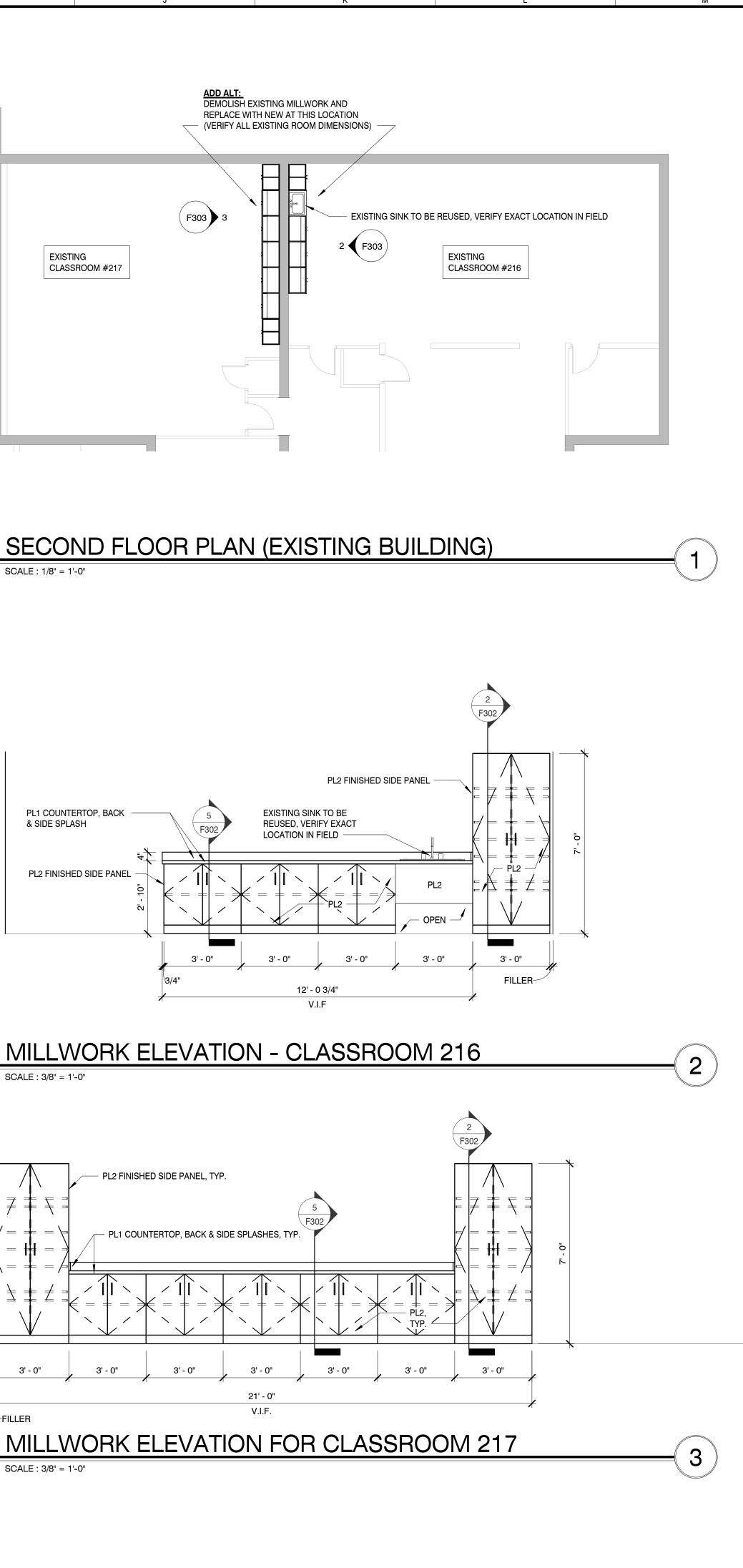
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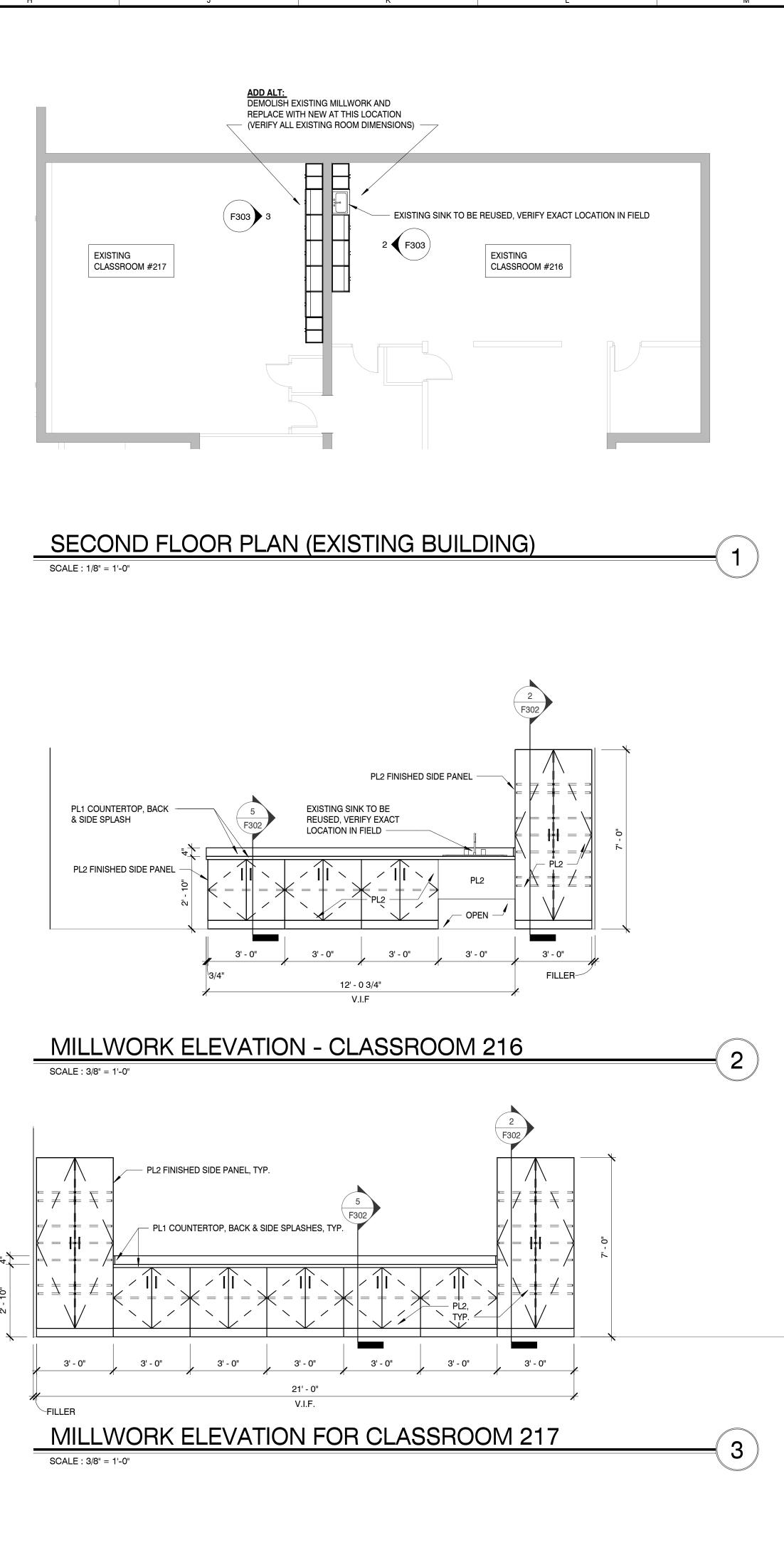
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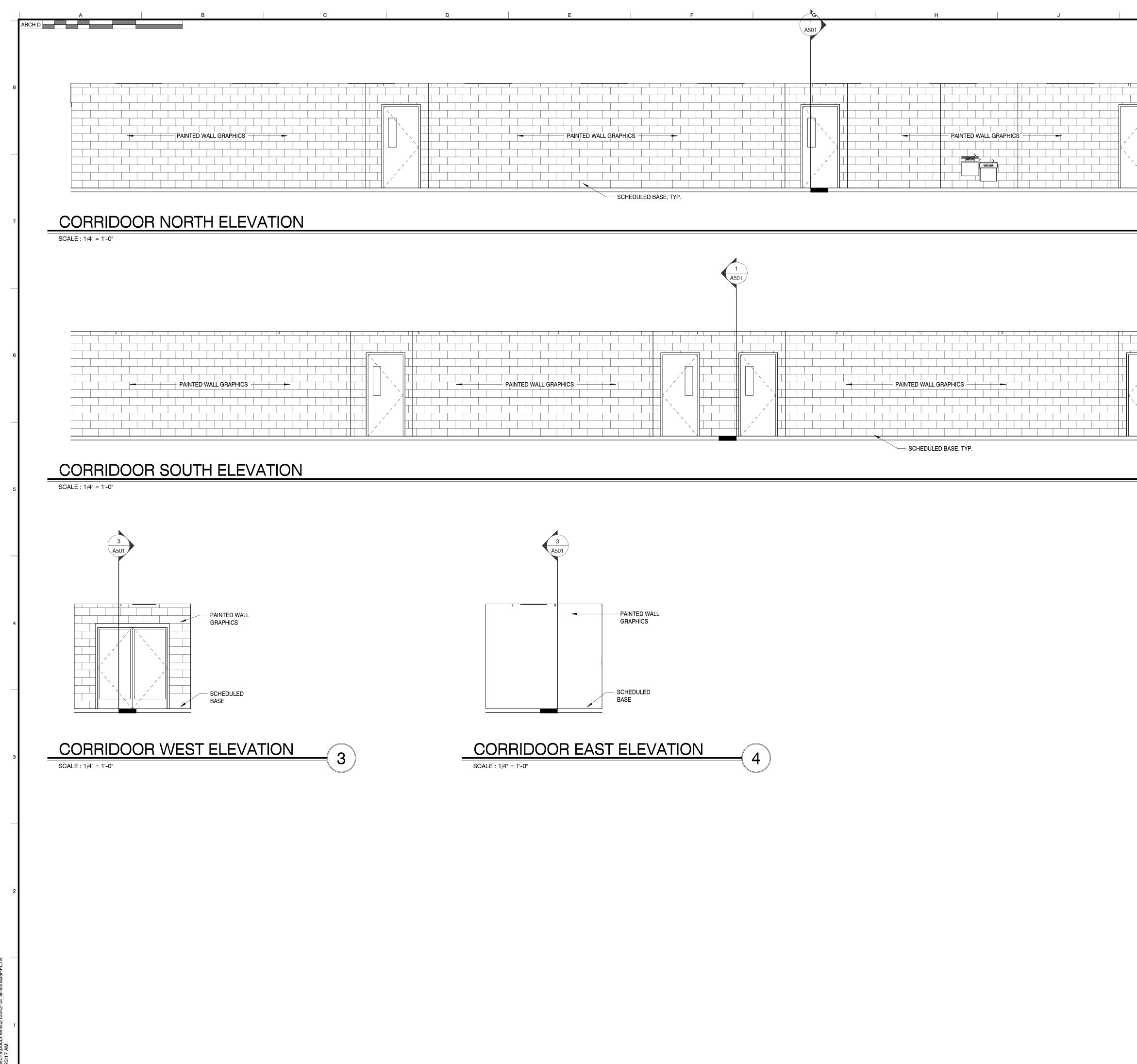


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d Observations Labor	GENERAL NOTES	<u> </u>	0
plumbing and	wings are intended to be used in close coordination with the civil, architectural, mechanical d electrical drawings. Any discrepancies or omissions shall be brought to the attention of the reaction of the bacianing of construction		Steel pan s stringers, t
	resolved prior to the beginning of construction. n request to the Architect for approval of any proposed change to the requirements of the		drawings s registered
	iments. Splicing, cutting, notching or other alterations to structural members are not nout written authorization of the Structural Engineer. Any unauthorized deviation from the	2.	without rev Handrails,
contract docu	ments, and correction thereof, is the responsibility of the Contractor.		Shop draw registered
	or is responsible for the means and methods of construction in regards to job site safety. or shall verify all dimensions and conditions. The Architect shall be notified of any		without rev
discrepancies 5. The Contracto	s. or is responsible for bracing the structure prior to the completion of all roof, floor, and wall		assemblies a) 50 lbs p
diaphragms.			b) Single (c) Interme
7. Where live loa	or shall coordinate the structural foundation and framing layouts with other trades. ads for which each floor or portion thereof a commercial or industrial building is or has bee		area d) Grab b
	exceed 50 psf, such design live loads shall be conspicuously posted by the owner in that p in which they apply using durable signs.	art 3.	Exterior cu frame, glas
			and sealed drawings r
1. The Structura	SUBMITTAL NOTES I Engineer's review is only for general conformance with the design concept, the		requireme
construction of	documents and specifications. Corrections or comments made on this review do not reliev	/e	will be app
authorize an i	r from compliance with the plans and specifications. Comments on this review do not ncrease in the construction budget.		
unless accept	hop drawings does not indicate acceptance of deviations from the contract documents, ted by the Engineer in writing prior to submission of shop drawings. Conflicts resulting fro	1. m	Foundatio S&ME, IN
	ns, conflicts between this work and the work of other trades due to such deviations, and conflicts as a result of such deviations shall be deemed the Contractor's responsibility.		1413 Tops Louisville,
	to the details shown in these contract documents shall be submitted in writing by RFI and the Architect and Engineer prior to submitting shop drawings. All such changes shall be		Phone: (8 Project No
"bubbled" on	the shop drawings and referenced to the proper RFI.	_	Date: 12/0
	all conform to the requirements of the contract documents. Non-conforming or submittals will be returned without review.	2.	Foundatio a) Minimu
	all be checked and marked "Reviewed - No Exceptions Taken" by the Contractor prior to ne Architect. Submittals that have not been reviewed by the Contractor prior to submittal w	vill	b) Allowac) Subgra
be returned w	vithout review.	3.	All footing
reproductions	all not contain reproductions of the contract documents. Submittals containing such swill be returned without review.		BEARING
7. Submit the fo a) Concrete r	llowing items for the Engineer's review: mix designs	4.	CONSTRU Provide th
b) Reinforcin			footing or any exteri
d) Structural	steel (1)(2)	-	finished g
f) Metal deck		5.	Contracto undergrou
Footnotes:	ed steel framing (1)(2)	6.	Backfill re the footing
	erial specific notes for items to be reviewed by a Specialty Engineer ions shall be submitted and signed/sealed by the Specialty Engineer	7.	Provide 6
(-)			finished g not conne
Building Code	DESIGN CODES AND SPECIFICATIONS 2018 International Building Code		Architect of Provide co
Design Loads Concrete	ASCE 7-16: Minimum Design Loads for Buildings and Other Structures ACI 318-14: Building Code Requirements for Structural Concrete	9.	grade is lo Contracto
	ACI 315-99: Manual of Standard Practice for Detailing Concrete Structures		control or
	ACI 301-10: Specifications for Structural Concrete ACI 305.1-06: Specifications for Hot Weather Concrete	10.	Refer to the struct
	ACI 306.1-90: Standard Specification for Cold Weather Concreting		
	ACI 302.1R-04: Guide for Concrete Floor and Slab Construction ACI 304.R-00: Guide for Measuring, Mixing, Transporting and Placing Concrete	1.	All concre
	CRSI 8th Edition: Placing Reinforcing Bars		Contracto
	AWS D1.4/D1.4M-2017 Structural Welding Code - Reinforcing Steel	2.	Concrete
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SPECIALTY ENGINEER REQUIREMENTS

- irs shall be designed by the steel fabricator's specialty engineer. The design ds, hand railings, platforms, pan inserts, miscellaneous supports and conne Il be submitted for review and must be signed and sealed by a Professional I the same state as the project location. Shop drawings not signed and sealed A minimum design live load of 100 psf shall be used.
- sts and support connections shall be designed by the steel fabricator's spec is shall be submitted for review and must be signed and sealed by a Profess the same state as the project location. Shop drawings not signed and sealed . Design loads shall conform to all requirements of the governing building of uards shall also be designed for the following minimum criteria: linear foot in any direction
- ncentrated load of 200 lbs applied in any direction
- ate rails designed to withstand a horizontal applied normal load of 50 lbs on a
- to resist a single concentrated load of 250 lbs applied in any direction in walls shall be designed by the vendor's specialty engineer. The design sl glazing and connections. Shop drawings shall be submitted for review and y a Professional Engineer registered in the same state as the project location signed and sealed will be rejected without review. Design loads shall confo of the governing building code. Shop drawings shall contain anticipated lo d to the supporting structure.

FOUNDATION NOTES

- esign parameters have been recommended in a geotechnical report provide Road 37777 970-0003 219016 2021 esign parameters: Frost Protection Depth = 18" Soil Bearing Pressure = 2500 psf
- Modulus = 100 pci
- nall bear on firm undisturbed residual soil and/or engineered earth fill compa dry density as per ASTM D698 (Standard Proctor), unless noted otherwise. PACITY IS TO BE VERIFIED BY A GEOTECHNICAL ENGINEER PRIOR TO ION.
- ninimum frost depth protection depth from finished grade to the bottom of any n down building slab. Also provide a minimum of 1'-0" cover from finished gr poting. Contractor to coordinate the location and depths of footing steps as e conditions.
- coordinate the location and depths of footing steps as required to allow for t plumbing and utilites.
- ing walls with clean crushed stone (No. 57 or 67 size) 2-6" wide (minimum) f within 1'-0" of finished grade.
- meter perforated pipe footing drains at all retaining walls and foundation wal e occurs above the finished floor elevation. Footing drains are to be totally i vith any other type of water drainage systems except at the footing drain tern
- tructural Engineer should approve connections at the footing drain termination nuous waterstops between footings and concrete/masonry walls at locations
- ed above the adjacent finished floor or at floor pits (i.e. elevator shaft). all treat soil under slabs, footings and crawl spaces with EPA approved chem required per the building code.
- nechanical, plumbing or electrical drawings for concrete pads and foundation drawings.

CONCRETE NOTES

- elements shall be installed and detailed in accordance with the appropriate have copies of the ACI documents at the job site during construction.
- npressive strength, fc, at 28-days shall be as follows at minimum unless note 3000 psi (2500 psi used in design) abs on Grade Less Than 6" Thick: 3000 psi (non air entrained)
- Fill: 3000 psi Exposed to Weather: 4000 psi (w/ 4%-6% air entrainment)
- n water-to-cement ratios shall be as follows:
- exposed to freezing and thawing: 0.50
- subject to deicers and/or required to be watertight: 0.45
- oncrete types: 0.58 designs shall be submitted as follows:
- design shall be labeled to indicate the area in which the concrete is to be pla slab on grade, columns, etc.). Failure to do so will cause delay and/or reject
- mix design shall be in accordance with Method 1 or Method 2 of ACI 301. ata in tabular form for each separate proposed mix.
- ncrete mix designs for each proposed class of concrete.
- ing ASTM C618 Class C or Class F may be used to replace up to 25% of Port nd supplier shall coordinate to ensure that required set times for concrete are se of fly ash. Contractor and all concrete subcontractors shall have experience cing and finishing concrete with fly ash.
- grout beds under column base plates shall be cement based, non-shrink gr o shrinkage in accordance with ASTM C827, "Test Method for Early Volume Mixtures" and shall have a minimum 28-day compressive strength of 5000 p e with ASTM C109, "Test Method for Compressive Strength of Hydraulic Cerr
- minimum concrete cover shall be provided for reinforcing bars:
- nst and permanently exposed earth: 3" nd exposed to earth or weather (#6 thru #18 bars): 2"
- nd exposed to earth or weather (#5 bars, W31 wire and smaller): 1-1/2" Is & joists formed and not exposed to weather or in contact with the ground (
- rders & columns formed and not exposed to weather or in contact with the g otherwise, slabs on grade shall be 4" thick with 6x6-W1.4xW1.4 W.W.F. on 2 vapor barrier on 4" thick crushed stone base.
- e contraction joints may be saw cuts 1/8" wide x 1/4 slab thickness as detailed d approved method. Joints shall be placed at 24'-0" o.c. maximum spacing.
- I have a maximum aspect ratio of 1.5:1. e construction joints shall be as detailed or other submitted and approved m
- shall be placed over prepared base material where indicated below slabs or be no less than 20 mil thick in accordance with ACI 302.1R.
- shall conform to ASTM E1745, Class B or higher unless noted otherwise. T vater-vapor permeance rate no greater than 0.3 perms when tested in accord n 11, a minimum tensile strength of 30 lb/in when tested in accordance with A a resistance to puncture of 1700 grams in accordance with ASTM E154, Se
- shall be arranged in a layout to minimize seams and penetrations. Overlap a " and seal with tape. All penetrations must be sealed using a combination of ordance with manufacturer's latest printed instructions.
- ural, mechanical, plumbing, fire protection and electrical drawings for drips, o sleeves, rustications, inserts and anchors not noted on structural drawings. drawings, no openings larger than 12" x 12" shall be placed in slabs or walls v the Architect or Engineer. Approvals must be obtained prior to fabrication of concrete.
- include with contract price an allowance for twenty (20) cubic yards of reinfor erials and labor.

REINFORCING STEEL NOTES

- teel and accessories shall be detailed, fabricated and placed in accordance v ACI Detaling Manual. Provide shop drawings for reinforcing steel prior to fab
- g shall conform to ASTM A615, Grade 60.
- einforcing shall conform to ASTM A706, Grade 60.
- g lap splices shall be Class "B" but not less than 24", unless noted otherwise. hall be held securely in position with standard accessories in accordance with of Standard Practice.
- abric shall conform to ASTM A185.

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- abric lap splices shall be the cross wire spacing plus 6" but not less than 10"
- Welded wire fabric located in concrete slabs shall be located in the center of the slab unles otherwise. Supports used shall be spaced at a maximum of 3'-0" o.c. in any direction.

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		REINFORCING STEEL NOTES		GALVANIZED STEEL NOTES
ign shall include nnections. Shop	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. Top steel shall extend 8'-0" minimum each side of the soil transition area.	1.	All steel exposed to earth or weather, including exposed lintel angles, shall be galvanized otherwise by Architect.
nal Engineer aled will be rejected	10.	transition area. Use #3 stirrups at 18" o.c. at these locations to tie top and bottom steel. Provide top steel reinforcing, same size and spacing as bottom steel, in footings at any corner in load	2.	Hot-dip galvanizing shall be performed in accordance with ASTM A123 for fasteners with n coating thickness as specified in ASTM standards. Standard practice for galvanization sha in accordance with ASTM A385.
pecialty engineer. fessional Engineer	11.	bearing walls. Top steel shall extend 8'-0" minimum each way from the wall corner. Use #3 stirrups at 18" o.c. at these locations to tie top and bottom reinforcing. Provide (2) #4 bars x 4'-0" long in slabs on grade at all re-entrant corners, contraction joint terminations	3.	Galvanizer shall submit certificate of conformance as a part of the steel shop drawing subr that project specifications have been met.
aled will be rejected ng code. Handrail	12.	and isolation joint terminations. Provide 2'-6" x 2'-6" corner bars at the corners of all continuously reinforced elements such as footings,	4.	If galvanized steel is stored for a period in excess of one month after galvanization, galvan fabricator shall package and store steel by methods required to prevent tight or nested sta
	12.	walls, bond beams, etc. Corner bars shall be the same size, spacing, location and quantity as the continuous reinforcing.	5.	allow development of zinc coating. For a material thicker than 3/4", drill holes in steel. For material 3/4" or less, punched holes
on an 1'-0" x 1'-0"			01	acceptable. Punched holes shall be punched undersized and then reamed an additional holes shall be tapped after galvanizing to remove coating on interior surface of hole.
n shall include	1.	STRUCTURAL STEEL NOTES Structural steel shall be designed, fabricated, erected, etc. as per the AISC Manual of Steel Construction.	6. 7.	All bolts used for connections at galvanized steel members shall be galvanized per noted Weld rods used for welds at galvanized steel shall be composed of no more than 25% silic
nd must be signed tion. Shop	2. 3.	Submit shop drawings of structural steel prior to fabrication. Connections not detailed on the structural drawings should be designed and detailed by the steel detailer	8.	Damaged areas, bare spots, welds and field connections shall be touch-up galvanized per stipulated in ASTM A780.
nform to all I load reactions that		under direct supervision of a Professional Engineer experienced in design of this work and licensed in the state where the project is located.	9.	Refer to ASTM A143, A384 and D6386 for additional standard practices related to special on hot-dip galvanizing.
	4.	Member reactions shown on the structural drawings are given as maximum loads derived from the Allowable Stress Design load combinations prescribed by ASCE 7.	10.	Galvanized faying surfaces at slip critical connectios shall be hot-dip galvanized in accorda A123 and shall be roughened by means of hand wire brushing. Power wire brushing is not
ided by	5.	Allowable Strength Design (ASD) values are to be utilized in the selection or completion of the connection details.		
<i>v</i> ided by:	6.	Unless specific member reactions are shown on the structural drawings, connections shall develop the following loads found in the AISC Steel Construction Manual: a) Simple span beam shear connections: 1/2 of the maximum total uniform load capacity tabulated in	1.	POST-INSTALLED ANCHOR NOTES Post-installed anchors shall be used only where specified on structural drawings.
		Part 3 for the given shape and span b) Simple span beam moment connections: 90% of Allowable plastic moment (0.9Mp) strength tabulated	2.	The installation of post-installed anchors for missing or misplaced cast-in-place anchors sl by the Structural Engineer.
		in Part 3 for the given shape c) Brace connections (compression): Allowable axial compressive strength tabulated in Part 4 for the	3.	Care shall be given to avoid conflicts with existing reinforcing when drilling holes. Existing bars in the concrete structure shall not be cut unless approved by the Structural Engineer.
		given shape and unbraced length d) Brace connections (tension): Allowable axial tension strength tabulated in Part 5 for the given shape	4.	Submittal of all proposed products with technical data and current ICC-ES reports is requi and approval by the Structural Engineer. Additional application calculations may be requi Structural Engineer.
	7.	Structural calculations signed and sealed by a Professional Engineer shall be submitted with shop drawings for the following connections if not specifically detailed on the structural drawings:	5.	All anchors shall be installed in strict accordance with manufacturer's printed installation in (MPII) in conjunction with edge distance, spacing and embedment depth as indicated on t
npacted to 98% of e. THE SOIL O		 a) Shear connections with reaction greater than 100 kips b) Field bolted moment connections c) Braced frame connections 	6.	The contractor shall arrange for a manufacturer's field representative to provide installation products to be used prior to commencement of work. Only trained installers shall perform
f any exterior		 d) Collector beam connections e) Truss connections 		anchor installation. A record of training shall be kept on site and be made available to the Engineer or inspector as requested.
d grade to the top of as required by	8.	Structural steel material to be as follows: a) Channels, angles and plates: ASTM A36	7.	Adhesive anchors installed in horizontal to vertically overhead orientation to support sustal loads shall be done by a certified adhesive anchor installer (AAI) as certified through ACI/C
for the passage of		b) W- and WT-shapes: ASTM A992 c) Pipes: ASTM A53 Grade B	8.	current certification shall be submitted to the EOR for approval prior to commencement of Adhesive anchors must be installed in concrete aged a minimum of 21 days.
n) from the top of	9.	d) HSS: ASTM A500 Grade B Bolted connections shall be bearing type, snug-tightened joints unless noted otherwise and should utilize	9.	Mechanical anchors into concrete shall have been tested and qualified for use in accordar 355.2 and ICC-ES AC193 for cracked, uncracked and seismic concrete recognition. Approx
walls in which	10.	3/4" Ø (min.) high strength bolts conforming to ASTM A325. Welded connections should utilize E70 electrodes.		include the following: a) Hilti KH-EZ
ly independent and terminations. The	11.	Structural steel shall receive a shop coat of rust-inhibitive primer unless noted otherwise. Contractor shall coordinate fire proofing requirements of structural steel with architectural drawings to determine whether	10	 b) Simpson Titen HD c) DeWalt Screw-Bolt+
nations. ons where finished	12.	the chosen fire proofing material can tolerate the primer. Structural steel exposed to weather shall be hot dipped galvanized in accordance with ASTM A123 unless	10.	Adhesive anchors into concrete shall have been tested and qualified for use in accordance and ICC-ES AC308 for cracked, uncraced and seismic concrete recognition. Approved ar the following:
hemical vermin	13.	directed otherwise by the Architect. Protect structural steel from earth, gravel and/or concrete with 1/8" thick hydrocide mastic.		a) Hilti RE-500 V3 b) Simpson SET-XP
ations not shown on	14.	Beams supported by concrete or masonry walls to bear on a steel bearing plate, measuring 6" wide x 12" long x 1/2" thick, with (2) 1/2" diameter x 6" long headed studs cast into the wall unless noted otherwise.	11.	 c) DeWalt Pure 110+ Mechanical anchors into masonry shall have been tested and qualified for use in accordar
	15.	Columns shall be anchored at minimum with (4) 3/4" diameter x 9-1/2" embed (measured from top of footing to center of embedded washer) ASTM F1554 Grade 36 anchor rods unless noted otherwise.		AC01 or AC106. Approved anchors include the following: a) Hilti KH-EZ
e ACI documents.		Anchor rods shall be straight and fitted with a double nut and washer at embedded end. Threads shall project a minimum of 4" above the top of base plate and shall receive double nuts and washers for leveling. Provide 1-1/2" minimum between top of footing and bottom of base plate for placement of		b) Simpson Titen HD c) DeWalt Screw-Bolt+
noted otherwise:	16.	non-shrink grout. Post-installed adhesive anchors may be considered as a substitute for 3/4" diameter cast-in-place anchor	12.	Adhesive anchors into masonry shall have been tested and qualified for use in accordance AC58. Approved anchors include the following:
	10.	rods provided the adhesive anchors are field tested to resist forces specified by the Structural Engineer. Submit request to Structural Engineer prior to installation for approval. See Post-Installed Anchor Notes		a) Hilti HY-70 b) Simpson AT-XP c) DeWalt AC100+ Gold
	17.	for approved adhesive anchors. Post-installed adhesive anchors for connecting steel members to concrete or masonry shall use approved	13.	Provide Special Inspection for all mechanical and adhesive anchors per the applicable but per the current ICC-ES report. Adhesive anchors installed in horizontal of upwardly incline
		adhesive anchors listed in Post-Installed Anchor Notes. Threaded rods shall be ASTM A36 material unless noted otherwise. Submit request to Structural Engineer to use alternate adhesive anchor for		to resist sustained tension loads shall be continuously inspected during installation by an specially approved for that purpose by the building official.
	18.	approval prior to installation. Post-installed expansion/screw anchors for connecting steel members to concrete or masonry shall use		
placed (i.e. jection of	10	approved mechanical anchors listed in Post-Installed Anchor Notes. Submit request to Structural Engineer to use alternate expansion/screw anchor for approval prior to installation.	1.	MASONRY NOTES Structural masonry is defined as being either load bearing or serving as the lateral force re
. Provide	19.	HSS4X4 or 4" pipe and smaller columns shall have 3/4" top plates sizes as required and 12x12x3/4" base plates unless noted otherwise.		Structural masonry is shown on the structural plans, and is defined in schedules and detai structural drawings. Partition walls, masonry veneer and other non-structural masonry are architectural drawings.
Deutleur die europet	20. 21.	HSS5X5, HSS6X6, 5" pipe or 6" pipe columns shall have 3/4" top plates sized as required and 14x14x3/4" base plates unless noted otherwise. Welding shall be performed by operators qualified in accordance with AWS tests for the types of welding	2. 3.	Concrete masonry units shall be light weight and shall conform to ASTM C90. Minimum concrete masonry compressive strength, f'm, shall be 2000 psi at 28 days.
Portland cement. are not adversely rience with	21.	required for this project. All welders must be certified for the type of welding specified and shall be in accordance with an approved WPS. All quality procedures and personnel shall be in accordance with	3. 4.	Minimum concrete masoning compressive strength, rm, shall be 2000 psr at 20 days. Mortar shall conform to ASTM C270. Type S mortar shall be used for structural masonry a walls. Type N mortar shall be used for veneer.
k grout. The grout	22.	AWS D1.1. Minimum welds unless noted otherwise:	5. 6.	Masonry bar reinforcing shall conform to ASTM A615, Grade 60. Masonry joint reinforcing shall be Hohmann and Barnard, Inc. assembly or approved equa
me Change of 10 psi when tested		 a) Bar joists to supports: 1/8" x 2 1/2" fillet weld each side b) Joist girders to supports: 1/4" x 2 1/2" fillet weld each side 	0.	product approval of governing code. Reinforcing shall be ladder type and shall be manufa cold drawn steel wire conforming to ASTM A1064. Cross rods and side rods shall not be l
Cement Mortars."	23.	c) All others not specified: 1/8" x 2" long fillet weld except where noted as "all around" Roof deck shall be 1-1/2", 22 gauge, Type B painted steel decking meeting the requirements of the Steel	7.	(9 ga) wire. May provide preformed corners and tees to match type, size and spacing of jo Structural masonry walls shall be reinforced as follows unless noted otherwise:
		Deck Institute unless noted otherwise. Deck shall be welded to the supporting steel with 5/8" puddle welds on a 36/4 pattern with (2) #10 screw sidelap fasteners per span unless noted otherwise.		 a) 6" CMU: (1) #4 vertical @ 48" o.c. b) 8" CMU: (1) #5 vertical @ 48" o.c.
nd (#11 bar and	24.	Metal deck shall be erected with a minimum three (3) span condition and shall lap at the centerline of supports a minimum of 2". Provide a minimum end bearing of 2" on supports. Metal deck shall be	8.	c) 12" CMU: (1) #5 vertical @ 48" o.c. See architectural drawings for interior non-structural masonry partition walls which may or
ne ground: 1-1/2" on 20 mil	25.	erected and fastened in accordance with the manufacturer's specifications and erection pay-outs. Provide at minimum a L4X4X1/4 edge angle at the perimeter of all roof decks and at all openings in roof decks unless noted otherwise.		shown on the structural drawings. Interior non-structural masonry partition walls should be follows for the given unbraced height for an out-of-plane load of 10 psf unless noted other
ailed or other	26.	Refer to civil, architectural, mechanical, plumbing, fire protection and electrical drawings for structural steel items not shown on the structural drawings.		top of partition walls as shown in the typical details. Braces to be located at a maximum s o.c. along the wall length with braces located no further than 1'-0" from an unsupported fre a corner) and 8'-0" from tees or corners. Braces not required when wall length is less than
ng. Areas created	27.	Refer to Specialty Engineer Requirements for additional criteria for steel stairs and handrails.		tees or corners. a) 6" CMU up to 17'-6" unbraced: (1) #5 vertical @ 48" o.c.
d method. s on grade. Vapor	28.	Contractor to include with the contract price an allowance for two (2) tons of structural steel including materials and labor.		 b) 6" CMU up to 20'-6" unbraced: (1) #5 vertical @ 32" o.c. c) 6" CMU up to 23'-0" unbraced: (1) #5 vertical @ 16" o.c.
. The membrane	1.	STEEL JOIST AND GIRDER NOTES Steel joists, joist girders and associated bridging shall be designed, fabricated, erected, etc. as per the		 d) 8" CMU up to 24'-6" unbraced: (1) #5 vertical @ 32" o.c. e) 8" CMU up to 28'-3" unbraced: (1) #6 vertical @ 32" o.c.
cordance with ASTM ith ASTM E154,	2.	latest edition of the SJI Standard Specifications and the applicable OSHA standards. Steel joists shall be designed for the uniform Allowable Stress Design (ASD) loads specified in the SJI	9.	 f) 8" CMU up to 31'-9" unbraced: (1) #6 vertical @ 16" o.c. All masonry walls shall have horizontal joint reinforcing consisting of (2) W1.7 wires space
Section 10. ap all seams a		Load Tables and Weight Tables for Steel Joists and Joist Girders and the concentrated loads indicated on the drawings and/or joist diagrams.	10.	unless noted otherwise. All vertical bar reinforcing shall extend from the foundation to the top of wall. Provide dow
n of seam tape and	3.	Joist manufacturer to supply material and specification for installation of field located elements such as diagonals to be placed at HVAC supports, bottom chord extensions not sized on the drawings, etc.	11.	and spacing as vertical bar reinforcing into foundation. All vertical bar reinforcing shall extend through all bond and tie beams.
os, chamfers, gs. Unless shown	4. 5.	Submit shop drawings of steel joists and joist girders prior to fabrication. All joists and joist girders framing into columns shall have erection bolts and be field welded into final	12.	All vertical reinforcing shall be located within the center of the wall unless noted otherwise. which is not centered, provide 3/4" clear space between reinforcing and face shell.
alls without prior on of steel and		position. Bottom chords are to be extended to columns and stabilized by a vertical stabilizer plate to prevent rotation during erection. Bottom chord should not be rigidly attached to vertical stabilizer plate	13. 14.	All horizontal bar reinforcing shall be placed within bond beam units. Masonry bar reinforcing development length and lap splice length shall be 64 bar diamete
inforced concrete		unless noted otherwise. Vertical stabilizer plate shall be a minimum of 6" x 6" and shall extend a minimum of 3" below the bottom chord of the joist with a 13/16" hole to provide an attachment point for guying or	15.	than 12 inches. Masonry joint reinforcing lap splice length shall be 36 wire diameters, but not less than 6 in
	6.	plumbing cables. Any hangers except ceiling support wires supported from joists shall be placed at panel points and connected without drilling balos in joists or field welding.	16.	Fill reinforced masonry cores, bond beams and lintels with grout conforming to ASTM C47 coarse grouts shall attain a minimum compressive strength of 3000 psi at 28 days. Grout a of design strength prior to application of service loads
ce with the latest fabrication.	7.	connected without drilling holes in joists or field welding. K-series joists to be attached to supporting steel with 1/8" x 2" fillet welds each side of joist or (2) 1/2" Ø	17.	of design strength prior to application of service loads. All cells below finished floor or finished grade, whichever is higher, shall be solid grouted.
	8.	A307 bolts. LH-series joists to be attached to supporting steel with 3/16" x 2" fillet welds each side of joist or (2) 3/4" Ø A307 bolts	18.	The selection of fine and coarse grouts and the maximum grout pour height shall be in coarse grout space requirements set forth in the Specification for Masonry Structures (ACI 530 TMS 602).
vise. with ACI 315 and	9.	A307 bolts. Joist girders to be attached to supporting steel with 1/4" x 2-1/2" fillet welds each side of girder or (2) 3/4" (2) A307 bolts	19.	Each grout lift shall not exceed 5'-0" unless inspection cleanouts are provided in the bottor lift.
	10.	Ø A307 bolts. K-series joists supported by masonry walls to bear on 4x6x3/8" minimum bearing plates with (1) 1/2" diameter x 4" long beaded stude unless noted otherwise	20.	Stop each intermediate grout lift 1-1/2" below the top of masonry at the top of the lift.
10" Inless noted	11.	diameter x 4" long headed studs unless noted otherwise. LH-series joists supported by masonry walls to bear on 6x9x1/2" minimum bearing plates with (3) 1/2" diameter x 6" long headed studs unless noted otherwise.	21. 22.	Grout shall be consolidated immediately after pouring and reconsolidated. Provide reinforcing positioners at 5'-0" on center minimum vertically.
	12.	Coordinate elevations of wall ledgers and beams when parallel to steel joists with spans equal to or greater than 60'-0" to accommodate standard joist camber.	23.	Furnish all special shapes, such as bond beam, open end, lintel and pilaster units, as requ accomodate reinforcing.
			24. 25.	When it is necessary to cut masonry, use an approved masonry saw. Use no units less the Provide bond beam at joist and beam bearing locations.
			26.	Provide tie bond beam at floor or roof diaphragms and at top of wall. Where diaphragms s bond beam as required to follow slope and provide lap splice for tie bond beam reinforcin

- pproved anchors include the following:
- into masonry shall have been tested and qualified for use in accordar nchors include the following:
- Gold
- pection for all mechanical and adhesive anchors per the applicable b C-ES report. Adhesive anchors installed in horizontal of upwardly incli tension loads shall be continuously inspected during installation by a for that purpose by the building official.

MASONRY NOTES

- y is defined as being either load bearing or serving as the lateral force y is shown on the structural plans, and is defined in schedules and det Partition walls, masonry veneer and other non-structural masonry a
- units shall be light weight and shall conform to ASTM C90.
- masonry compressive strength, f'm, shall be 2000 psi at 28 days.
- rm to ASTM C270. Type S mortar shall be used for structural masonry
- tar shall be used for veneer.
- rcing shall conform to ASTM A615, Grade 60. rcing shall be Hohmann and Barnard, Inc. assembly or approved eq f governing code. Reinforcing shall be ladder type and shall be manu rire conforming to ASTM A1064. Cross rods and side rods shall not be rovide preformed corners and tees to match type, size and spacing of
- walls shall be reinforced as follows unless noted otherwise: vertical @ 48" o.c.
- vertical @ 48" o.c.
- 5 vertical @ 48" o.c.
- awings for interior non-structural masonry partition walls which may ural drawings. Interior non-structural masonry partition walls should n unbraced height for an out-of-plane load of 10 psf unless noted othe s as shown in the typical details. Braces to be located at a maximum ength with braces located no further than 1'-0" from an unsupported rom tees or corners. Braces not required when wall length is less that
- "-6" unbraced: (1) #5 vertical @ 48" o.c.
- '-6" unbraced: (1) #5 vertical @ 32" o.c.
- 3'-0" unbraced: (1) #5 vertical @ 16" o.c. -6" unbraced: (1) #5 vertical @ 32" o.c.
- "-3" unbraced: (1) #6 vertical @ 32" o.c.
- 1'-9" unbraced: (1) #6 vertical @ 16" o.c.
- hall have horizontal joint reinforcing consisting of (2) W1.7 wires spac
- orcing shall extend from the foundation to the top of wall. Provide do
- rtical bar reinforcing into foundation. orcing shall extend through all bond and tie beams.
- ing shall be located within the center of the wall unless noted otherwis
- red, provide 3/4" clear space between reinforcing and face shell. inforcing shall be placed within bond beam units.
- cing development length and lap splice length shall be 64 bar diame
- rcing lap splice length shall be 36 wire diameters, but not less than 6 onry cores, bond beams and lintels with grout conforming to ASTM C attain a minimum compressive strength of 3000 psi at 28 days. Grou prior to application of service loads.
- hed floor or finished grade, whichever is higher, shall be solid grouted e and coarse grouts and the maximum grout pour height shall be in a uirements set forth in the Specification for Masonry Structures (ACI 5
- not exceed 5'-0" unless inspection cleanouts are provided in the both
- diate grout lift 1-1/2" below the top of masonry at the top of the lift.
- olidated immediately after pouring and reconsolidated.

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- positioners at 5'-0" on center minimum vertically. hapes, such as bond beam, open end, lintel and pilaster units, as re
- rcing.
- ary to cut masonry, use an approved masonry saw. Use no units less n at joist and beam bearing locations.
- 26. Provide tie bond beam at floor or roof diaphragms and at top of wall. Where diaphragm bond beam as required to follow slope and provide lap splice for tie bond beam reinforce

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GALVANIZED STEEL NOTES	MASONRY NOTES	
earth or weather, including exposed lintel angles, shall be galvanized unless directed ect.	 27. Bond and tie bond beams shall be reinforced as follows unless noted otherwise: a) 6x8 Bond / Tie Bond Beam: (1) #4 cont. b) 6x16 Bond / Tie Bond Beam: (1) #4 cont. T&B 	NB
shall be performed in accordance with ASTM A123 for fasteners with minimum s specified in ASTM standards. Standard practice for galvanization shall be performed ASTM A385.	 b) 6x16 Bond / Tie Bond Beam: (1) #4 cont. 14B c) 8x8 Bond / Tie Bond Beam: (2) #5 cont. d) 8x16 Bond / Tie Bond Beam: (2) #5 cont. T&B 	
omit certificate of conformance as a part of the steel shop drawing submittal stating ations have been met.	e) 12x8 Bond / Tie Bond Beam: (2) #5 cont. f) 12x16 Bond / Tie Bond Beam: (2) #5 cont. T&B	8
s stored for a period in excess of one month after galvanization, galvanizer and/or kage and store steel by methods required to prevent tight or nested stacks and to	28. Vertical contraction joints in concrete masonry shall be spaced at 25'-0" on center maximum unless noted otherwise on architectural or structural plans (See notes 29 & 30 for reinforcing required at joint). Joints shall be 3/8" wide and shall extend the full height of the wall. Joints shall be free of mortar and grout.	
of zinc coating. er than 3/4", drill holes in steel. For material 3/4" or less, punched holes are ed holes shall be punched undersized and then reamed an additional 1/8" overall. All	Head joints to align full height of joint. Preferred joint locations are as follows. Submit joint layout for approval with masonry submittal. See typical contraction joint detail for more information.	
ad after galvanizing to remove coating on interior surface of hole.	 a) Not less than 1'-4" from a joist or beam bearing plate b) Near wall openings, not less than required lintel jamb width away from opening c) Near wall corners in one of the two joining walls, not greater than 5'-0" from corner 	
welds at galvanized steel shall be composed of no more than 25% silicon material. The spots, welds and field connections shall be touch-up galvanized per methods	 d) Near column lines e) At changes in wall height 	MBI COMPANIES INC. 299 N. WEISGARBER ROAD KNOXVILLE, TN 37919
A780. 3, A384 and D6386 for additional standard practices related to special conditions for	f) At changes in wall thicknessg) At tee intersections between an interior and exterior wall	PHONE: (865) 584-0999 FAX: (865) 584-5213
urfaces at slip critical connectios shall be hot-dip galvanized in accordance with ASTM	 All horizontal joint reinforcing shall be discontinuous at vertical contraction joints. All horizontal bar reinforcing shall be discontinuous at vertical contraction joints except where reinforcing is used as a tip hand have a staff disphagement and at tap of well. 	WEB: mbicompanies.com
oughened by means of hand wire brushing. Power wire brushing is not permitted.	 is used as a tie bond beam at floor or roof diaphragms and at top of wall. 31. Lintels at wall openings shall be provided as follows unless noted otherwise. See typical lintel detail for more information. 	STRUCTURAL ENGINEER:
POST-INSTALLED ANCHOR NOTES ors shall be used only where specified on structural drawings.	 a) Opening width up to 4'-0": 8" nominal depth w/ (2) #4 bars b) Opening width over 4'-0" up to 8'-0": 16" nominal depth w/ (2) #5 bars T&B 	7
ost-installed anchors for missing or misplaced cast-in-place anchors shall be approved gineer.	 c) Opening width over 8'-0" up to 12'-0": 24" nominal depth w/ (2) #6 bars T&B d) Opening width over 12'-0" up to 16'-0": 32" nominal depth w/ (2) #6 bars T&B 	
to avoid conflicts with existing reinforcing when drilling holes. Existing reinforcing estructure shall not be cut unless approved by the Structural Engineer.	32. Jambs at wall openings shall be provided as follows unless noted otherwise. See typical jamb detail for more information.a) Opening width up to 4'-0": (1) bar and 8" min. width each side	
e Structural Engineer. Additional application calculations may be required by the	 b) Opening width over 4'-0" up to 8'-0": (2) bars and 16" min. width each side c) Opening width over 8'-0" up to 12'-0": (3) bars and 24" min. width each side 	MBI COMPANIES INC. 299 N. WEISGARBER ROAD KNOXVILLE, TN 37919
installed in strict accordance with manufacturer's printed installation instructions n with edge distance, spacing and embedment depth as indicated on the drawings.	 d) Opening width over 12'-0" up to 16'-0": (4) bars and 32" min. width each side 33. Pre-cast lintels shall not be permitted unless noted otherwise. 	PHONE: (865) 584-0999
l arrange for a manufacturer's field representative to provide installation training for all d prior to commencement of work. Only trained installers shall perform post-installed	 34. Provide lintels above mechanical, plumbing or electrical wall penetrations which exceed 16" wide. 35. All anchors shall be located within solid grouted cells. 	FAX:(865) 584-5213WEB:mbicompanies.com
A record of training shall be kept on site and be made available to the Structural or as requested.	COLD-FORMED STEEL (CFS) NOTES	SEAL
nstalled in horizontal to vertically overhead orientation to support sustained tension by a certified adhesive anchor installer (AAI) as certified through ACI/CRSI. Proof of shall be submitted to the EOR for approval prior to commencement of installation.	1. Cold-formed steel framing shall be designed, detailed and installed per the latest editions of the NASPEC and SSMA Product Technical Information.	6
nust be installed in concrete aged a minimum of 21 days. s into concrete shall have been tested and qualified for use in accordance with ACI	 Cold-formed steel framing not designed and detailed in the structural drawings shall be designed by a specialty engineer employed by the framing sub-contractor. The design shall include exterior and interior wall assemblies, exiling assemblies and other miscellaneous framing. 	NULLICHOLAS
C193 for cracked, uncracked and seismic concrete recognition. Approved anchors g:	 wall assemblies, ceiling assemblies and other miscellaneous framing. Submit shop drawings which include the following items: a) Plan layout showing location of cold-formed steel framing members and assemblies, including type, 	
D olt+	spacing and gauge of members b) Accesories and details required for proper installation	A AGRICOTORE 2
nto concrete shall have been tested and qualified for use in accordance with ACI 355.4 for cracked, uncraced and seismic concrete recognition. Approved anchors include	c) Permanent and/or supplemental bracing, strapping, bridging, etc.d) Structural calculations, signed and sealed by a Professional Engineer registered in the same state as	- IST NO THERE GO HIS
	 the project location, to verify the framing assembly's ability to meet or exceed the loads set forth by the governing building code For proprietary cold-formed steel framing materials to be considered as an equal product, the Contractor 	OF TENNE
, + s into masonry shall have been tested and qualified for use in accordance with ICC-ES	shall submit product data, installation details and any other supplemental information required by the Structural Engineer with the shop drawing submittal.	
pproved anchors include the following:	 5. Cold-formed steel material and minimum yield strength shall be as follows based on material thickness: a) 33 and 43 mil: ASTM A653 Grade A, Fy = 33 ksi 	COPYRIGHT © MBI COMPANIES INC. 2021
D vlt+	 b) 54, 68 and 97 mil: ASTM A653 Grade D, Fy = 50 ksi 6. Deflection criteria for walls shall be as follows: a) Interior: Height (inches) / 240 	5 THE DESIGN PROFESSIONAL DENIES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS,
nto masonry shall have been tested and qualified for use in accordance with ICC-ES inchors include the following:	 a) Interior: Height (inches) / 240 b) Exterior: Height (inches) / 360 c) Support masonry veneer: Height (inches) / 600 	SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/ OR FOLLOW THE DESIGN
Gold	7. All structural cold-formed steel framing shall be factory color coded to provide a suitable visible means of field checking for proper location of gauge material. Submit color coding schedule with shop drawing	PROFESSIONAL'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.
pection for all mechanical and adhesive anchors per the applicable building code and ES report. Adhesive anchors installed in horizontal of upwardly inclined orientations	 submittal prior to installation. 8. Wall studs shall be positioned vertically between top and bottom tracks and spaced no greater than 16" concentrative lass noted at homoires. Converting and bottom tracks and spaced no greater than 16" 	PROJECT INFORMATION PROJECT:
ension loads shall be continuously inspected during installation by an inspector for that purpose by the building official.	 on center unless noted otherwise. Securely anchor each stud to the top or bottom track with (2) #12-14 x 5/8" hex or pan head screws with one screw in each flange. 9. Wall studs shall be cut to proper length to provide a tight fit between the stud and the web of the track so 	AN ADDITION &
MASONRY NOTES	 as not to have the screws carrying the structural loads. Top and bottom tracks shall be the same gauge as the studs unless noted otherwise. 	RENOVATION TO:
is defined as being either load bearing or serving as the lateral force resisting system. is shown on the structural plans, and is defined in schedules and details on the Partition walls, masonry veneer and other non-structural masonry are shown on the	11. At track butt joints, abutting pieces of track shall be securely anchored to a common structural element or be butt welded and/or mechanically spliced together.	NORRIS MIDDLE SCHOOL
gs. units shall be light weight and shall conform to ASTM C90.	12. Top and bottom tracks shall be securely anchored to the supporting structure as detailed in the structural drawings or as directed by the specialty engineer.	PROJECT ADDRESS:
masonry compressive strength, f'm, shall be 2000 psi at 28 days. n to ASTM C270. Type S mortar shall be used for structural masonry and partition	 Screws for steel-to-steel and rigid material-to-steel (i.e. wood structural sheathing, gypsum board, etc.) shall be corrosion-resistant coated, self-drilling tapping screws conforming to ASTM C1513. Attach exterior gypsum sheathing to exterior of each stud with #12-14 x 1" wafer or bugle head screws 	5 NORRIS SQUARE,
ar shall be used for veneer. cing shall conform to ASTM A615, Grade 60.	 Iccated 3/8" from ends and edges and spaced at 8" on center max. All welds shall be touched up with a zinc-rich paint. 	PROJECT NO.: 210042-04
rcing shall be Hohmann and Barnard, Inc. assembly or approved equal and shall have governing code. Reinforcing shall be ladder type and shall be manufactured from re conforming to ASTM A1064. Cross rods and side rods shall not be less than W1.7	16. All load bearing walls, lateral bracing, etc. shall be field reviewed by the Architect or Structural Engineer prior to being concealed.	ACTIVE DESIGN PHASE
ovide preformed corners and tees to match type, size and spacing of joint reinforcing. walls shall be reinforced as follows unless noted otherwise:		FOR REVIEW ONLY FOR PERMITTING ONLY
vertical @ 48" o.c. vertical @ 48" o.c.		SCHEMATIC DESIGN DESIGN DEVELOPMENT
5 vertical @ 48" o.c. awings for interior non-structural masonry partition walls which may or may not be		CONSTRUCTION BIDDING CONSTRUCTION DOCUMENTS
tural drawings. Interior non-structural masonry partition walls should be reinforced as unbraced height for an out-of-plane load of 10 psf unless noted otherwise. Brace the s as shown in the typical details. Braces to be located at a maximum spacing of 12'-0"		AS-BUILT RECORD SET
ength with braces located no further than 1'-0" from an unsupported free end (without rom tees or corners. Braces not required when wall length is less than 12'-0" between		3 <u>NO. DATE DESCRIPTION</u>
'-6" unbraced: (1) #5 vertical @ 48" o.c. '-6" unbraced: (1) #5 vertical @ 32" o.c.		
'-0" unbraced: (1) #5 vertical @ 16" o.c. '-6" unbraced: (1) #5 vertical @ 32" o.c.		
'-3" unbraced: (1) #6 vertical @ 32" o.c. -9" unbraced: (1) #6 vertical @ 16" o.c. 		
nall have horizontal joint reinforcing consisting of (2) W1.7 wires spaced at 16" o.c. vise. prcing shall extend from the foundation to the top of wall. Provide dowels same size		KEY PLAN
ical bar reinforcing into foundation. brcing shall extend through all bond and tie beams.		
ng shall be located within the center of the wall unless noted otherwise. For reinforcing ed, provide 3/4" clear space between reinforcing and face shell.		
inforcing shall be placed within bond beam units. cing development length and lap splice length shall be 64 bar diameters but not less		2
rcing lap splice length shall be 36 wire diameters, but not less than 6 inches.		
nry cores, bond beams and lintels with grout conforming to ASTM C476. Fine and attain a minimum compressive strength of 3000 psi at 28 days. Grout shall attain 80% prior to application of service loads.		
and floor or finished grade, whichever is higher, shall be solid grouted. and coarse grouts and the maximum grout pour height shall be in conformance with		SHEET INFORMATION
uirements set forth in the Specification for Masonry Structures (ACI 530.1 / ASCE 6 /		SHEET ISSUED: 02/04/2022 DESIGNED BY: ZSP
not exceed 5'-0" unless inspection cleanouts are provided in the bottom course of the		DRAWN BY: KAS
iate grout lift 1-1/2" below the top of masonry at the top of the lift. olidated immediately after pouring and reconsolidated.		REVIEWED BY: WND SHEET TITLE:
positioners at 5'-0" on center minimum vertically. hapes, such as bond beam, open end, lintel and pilaster units, as required to cing.		
y to cut masonry, use an approved masonry saw. Use no units less than half size. at joist and beam bearing locations.		1
an at floor or roof diaphragms and at top of wall. Where diaphragms slope, step tie ired to follow slope and provide lap splice for tie bond beam reinforcing at each step.		STRUCTURAL NOTES
		SHEET NO.:
		S001
JK	L M	

GENERAL SPECIAL INSPECTION NOTES	STRUCTURAL STEEL CONSTRUCTION	MASONRY CONSTRUCTION - LEVEL B	
Special inspection is defined by the building code as "Inspection of construction requiring the expertise of an approved special inspector in order to ensure compliance with this code and the approved construction documents" (see 2012 IBC Chapter 17).		Prior to Construction (ACI 530-11: 1.5) Required Task Extent Description Service Voc 1 Device Voc Submitted partificated miture Description Submitted review	
Definitions of special inspection frequency: a) Continuous: Special inspection by the special inspector who is present when and where the work to be inspected is being	Yes 1. Verify welding procedure Perform Submittal review certificates	Yes 1. Review material certificates, mix designs, test results and construction procedures Periodic Verify that materials conform to the requirements of the approved construction documents.	
performed. b) Periodic: Special inspection by the special inspector who is intermittently present where the work to be inspected has been or is	Yes 2. Material identification (type/grade) Observe Shop and field inspection	As Construction Begins (ACI 530-11: Table 1.19.2)	
being performed.c) Perform: Tasks to be performed for each welded joint or member or for each bolted connection.d) Observe: Items to be observed on a random basis. Operations need not be delayed pending these inspection.	Yes 3. Welder identification system Observe A system shall be maintained by which a welder who has welded a joint or member can Submittal review	RequiredTaskExtentDescriptionServiceYes1.Proportions of site-prepared mortarPeriodicVerify that mortar is of the type and colorSubmittal review	
 e) Document: Create a report documenting that the work has been performed in accordance with the contract documents. The owner or the owner's agent shall employ one or more special inspectors to provide inspections during construction on the types of 	be identified. Stamps, if used, shall be the low-stress dye type.	specified on the construction documents, that it and field conforms to ASTM C270, and that it is mixed in verification	
work listed under 2012 IBC Section 1705. The special inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring special inspection. The	Yes 4. Fit-up of groove welds (including joint geometry) Observe Verify joint preparation, dimensions (alignment, inspection inspection) to the second secon	accordance with ACI 530.1: 2.6A.	
special inspector shall disclose all possible conflicts of interest so that objectivity can be confirmed by the building official and/or the design professional.	(condition of surface steel), tacking (tack weld quality and location), and backing type and fit (if applicable).	Yes 2. Construction of mortar joints Periodic Verify that mortar joints comply with ACI 530.1: Field inspection No 2. Crede and size of practicesping Periodic Verify that practicesping tendens comply with ACI 530.1: Field inspection	
Special inspectors are as defined in specification section 014500. All other testing falls under specification section 014000. Report requirements:	Yes 5. Configuration and finish of access holes Observe Shop and field inspection	No 3. Grade and size of prestressing tendons and anchorages Periodic Verify that prestressing tendons comply with ACI 530.1: 2.4B and that anchorages, couplers, and end blocks comply with 2.4H. Field inspection	
a) Special inspectors shall keep records of inspections. The special inspector shall furnish inspection reports to the building official, and to the registered design professional in responsible charge. Reports shall indicate that work inspected was done in conformance to the	Yes 6. Fit-up of fillet welds Observe Verify dimensions (alignment, gaps at root), cleanliness (condition of steel surfaces), and inspection Shop and field inspection	Yes 4. Location of reinforcement, Periodic Verify that reinforcement is placed in Field inspection	
approved construction documents. b) Discrepancies shall be brought to the immediate attention of the contractor for correction. If the discrepancies are not corrected, the	tacking (tack weld quality and location).	connectors, and prestressing tendons and anchorages tendons shall be placed per 3.6A.	
discrepancies shall be brought to the attention of the building official and to the registered design professional in responsible charge prior to the completion of that phase of the work.c) A final report documenting required special inspections and correction of any discrepancies noted in the inspections shall be	During Welding (AISC 360-10: Table N5.4-2; AISC 341-10: Table J6-2)	No 5. Prestressing technique Periodic Verify that prestressing technique complies with Field inspection	
submitted at a point in time agreed upon by the permit applicant and the building official prior to the start of the work. In the event that the project locale does not require a building official to be involved, the owner or owner's agent shall review the special	Required Task Extent Description Service Yes 1. Use of qualified welders Observe Shop and field	No 6. Properties of thin-bed mortar for AAC Continuous / Verify that mortar complies with ACI 530.1: Field inspection	
inspection requirements with the design professional to determine which items for special inspection are mandatory. Special inspection items listed in the following tables are required if the inspection item pertains to the project.	Yes 2. Control and handling of welding consumables Observe Verify packaging and exposure control. Shop and field inspection	masonry Periodic 2.1C. Continuous inspection for the first 5000 sf of wall and periodic for all following applications.	
STATEMENT OF SPECIAL INSPECTIONS	consumables inspection Yes 3. No welding over cracked tack welds Observe Shop and field inspection		
ject: AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL		Prior to Grouting (ACI 530-11: Table 1.19.2) Required Task Extent Description Service Yes 1. Grout space Periodic Verify that grout space is free of mortar Field inspection	
ation: 5 NORRIS SQUARE, NORRIS, TN 37828 ner:	Yes 5. WPS followed Observe Verify settings on weld equipment, travel Submittal review	droppings, debris, loose aggregate, and other deleterious materials and that cleanouts are	
sign Professional: W. Nicholas Deal, P.E., S.E.	speed, selecting welding materials, shielding with shop and field gas type/flow rate, preheat applied, interpass verification	provided per ACI 530.1: 3.2D and 3.2F.	
s Statement of Special Inspections is submitted in accordance with Section 1704.3 of the 2012 IBC. It includes a Schedule of Special pection Services applicable to the above referenced Project as well as the identity of the individuals, agencies, or firms intended to be a provide the sections. If applicable, it includes Bequirements for Seismic Besistance and/or Bequirements for Wind	temperature maintained (min./max.), proper position (F, V, H, OH), and intermix of filler metals avoided unless approved.	Yes 2. Grade, type, and size of Periodic Verify that reinforcement, joint reinforcement, Submittal review and field and field and field services and engline and engline and engline and field services and	
ained for conducting these inspections. If applicable, it includes Requirements for Seismic Resistance and/or Requirements for Wind sistance.		prestressing tendons and anchorages comply with the approved construction verification documents and ACI 530: 1.16.	
requirements for Seismic Resistance included in the Statement of Special Inspections? <u>No</u>	Yes 6. Welding techniques Observe Verify interpass and final cleaning, each pass Shop and field inspection Shop and field inspection	Yes 3. Placement of reinforcement, connectors, and prostrosping tendens Periodic Verify that reinforcement, joint reinforcement, wall tips, applied and upper a	
e Special Inspection reports to the Building Official and to the	After Wolding (AISC 260 10: Table N5 4 2: AISC 241 10: Table 16 2)	connectors, and prestressing tendons and anchorages wall ties, anchor bolts and veneer anchors are installed in accordance with the approved construction documents and ACI 530.1: 3.2E,	
gistered Design Professional in Responsible Charge at a frequency agreed upon by the Design Professional and the Building Official prior he start of work. Discrepancies shall be brought to the immediate attention of the Contractor for correction. If the discrepancies are not	After Welding (AISC 360-10: Table N5.4-3; AISC 341-10: Table J6-3) Required Task Extent Description Service Yes 1. Welds cleaned Observe Shop and field	3.4 and 3.6A.	
rected, the discrepancies shall be brought to the attention of the Building Official and the Registered Design Professional in Responsible arge prior to completion of that phase of work. A Final Report of Special Inspections documenting required special inspections and	Yes 1. Weids cleaned Observe Shop and field inspection Yes 2. Size, length and location of welds Perform Shop and field	Yes 4. Proportions of site-prepared grout and prestressing grout for bonded Periodic Verify that grout is proportioned per ASTM C476 and has a slump between 8" to 11". Field inspection	
rections of any discrepancies noted in the inspections shall be submitted to the Building Official and the Registered Design Professional in sponsible Charge at the conclusion of the project.	Yes 3. Welds meet visual acceptance criteria Perform Verify crack prohibition, weld/base-metal Shop and field	tendons Self-consolidated grout shall not be proportioned onsite.	
quency of interim report submittals to the Building Official and Registered Design Professional in Responsible Charge shall be as follows:	fusion, crater cross section, weld profiles, weld inspection size, undercut, and porosity.	Yes 5. Construction of mortar joints Periodic Verify that mortar joints are placed in accordance with ACI 530.1: 3.3B. Field inspection	
Iding Official: Monthly	Yes 4. Arc strikes Perform Shop and field inspection	During Construction (ACI 530-11: Table 1.19.2)	
Iding Official: <u>Monthly</u> sign Professional in Responsible Charge: <u>Bi-weekly</u>	Yes 5. k-area Perform When welding of doubler plates, continuity Shop and field plates or stiffeners has been performed in the inspection inspection k-area, visually inspect the web k-area for inspection inspection	Required Task Extent Description Service Yes 1. Size and location of structural elements Periodic Verify the locations of structural elements with respect to the approved construction Field inspection	
tement of Special Inspections Prepared by:	Yes 6. Backing removed and weld tabs Perform / Shop and field	elements respect to the approved construction documents and confirm that tolerances meet the requirements of ACI 530.1: 3.3F.	
	Yes 6. Backing removed and weld tabs Perform / Document Shop and field Yes 7. Backing removed, weld tabs removed Perform / Shop and field	Yes 2. Type, size, and location of anchors, including other details of anchorage Periodic Per	
be or print name	and finished, and fillet welds added (if Document inspection	of masonry to structural members, frames, or other construction.	
nature Date	Yes 8. Placement of reinforcing or contouring fillet welds (if required) Perform / Document Shop and field inspection	Yes 3. Welding of reinforcement Continuous Verify welded reinforcement meets the requirements of ACI 530: 2.1.7.7.2, 3.3.3.4(c), Field inspection	
Iding Official's Acceptance:	Yes 9. Repair activities Perform Shop and field inspection	Yes 4. Preparation, construction, and protection of memory during cold Periodic Verify that cold weather construction is protection of memory during cold Field inspection	
nature Date	Yes 10. Document acceptance or rejection of welded joint or member Perform Shop and field inspection	protection of masonry during cold weather (<40°F) or hot weather (>90°F) protection of masonry during cold and hot weather construction per ACI 530.1: 1.8D.	
CONCRETE CONSTRUCTION	STRUCTURAL STEEL CONSTRUCTION (CONT'D)	No 5. Application and measurement of prestressing force Continuous Verify the proper prestressing force is applied Field inspection	
CONCRETE CONSTRUCTION Concrete (2012 IBC: Table 1705.3, 1705.12.1) tequired Task Extent Description Service	STRUCTURAL STEEL CONSTRUCTION (CONTD) After Bolting (AISC 360-10: Table N5.6-3; AISC 341-10: Table J7-3) Required Task Extent Description Service	Yes 6. Placement of grout and prestressing grout for bonded tendons is in Continuous Werify placement of grout is done in accordance Field inspection with ACI 530.1: 3.5 and placement of grout for	
Yes 1. Reinforcing steel, including prestressing tendons Periodic Verify prior to placing concrete that reinforcing Field inspection is of specified type, grade and size; that it is	Yes 1. Document acceptance or rejection of bolted connections Perform Field inspection	compliance bonded tendons is in accordance with ACI 530.1: 3.6C.	
free of oil, dirt and rust; that it is located and spaced properly; that hooks, bends, ties,	Other Steel Inspections (AISC 360-10: N5.7)	No 7. Placement of AAC masonry units and construction of thin-bed mortar joints Continuous / Periodic Verify that mortar is placed in accordance with ACI 530.1: 3.3B.8. Continuous inspection for the first 5000 of of well and pariedic for all Field inspection	
stirrups and supplemental reinforcement are placed correctly; that lap lengths, stagger and offsets are provided; and that all mechanical	Required Task Extent Description Service Yes 1. Anchor rods and other embedments Perform Verify the diameter, grade, type and length of Field inspection	the first 5000 sf of wall and periodic for all following applications.	
connections are installed per the manufacturer's instructions and/or evaluation	supporting structural steel the anchor rod or embedded item, and the extent or depth of embedment prior to placement of concrete.	Yes 8. Observation of grout specimens, mortar specimens, and/or prisms Periodic Confirm that specimens/prisms are performed as required by ACI 530.1: 1.4. Field inspection	
report.	Yes 2. Fabricated steel or erected steel Observe Verify compliance with the details shown on Field inspection	Minimum Testing (ACI 530-11: Table 1.19.2) Required Task Extent Description Service	
Yes 2. Anchors cast in concrete Periodic Verify prior to placing concrete that cast in anchors have proper embedment, spacing and Field inspection	stiffeners, member locations and proper application of joint details at each connection.	Yes 1. Verification of Slump Flow and Visual Compressive strength tests should be Stability Index (VSI) for Field inspection	
Yes 3. Post-installed anchors or dowels Periodic Inspect all post-installed anchors/dowels as Field inspection		self-consolidating grout slump flow and ASTM C1611 for VSI.	
required by the approved ICC-ES report. and/or anchor capacity testing	Steel Elements of Composite Construction Prior to Concrete Placement (AISC 360-10: Table N6.1) Required Task Extent Description Service	Yes 2. Verification of f'm and f'AAC Determine the compressive strength for each wythe by the "unit strength method" or by the "bill inspection by the "unit strength method" or by the "bill inspection by the by the by the "bill inspection by the by the by the "bill inspection by the b	
Yes 4. Use of required mix design Periodic Verify that all mixes used comply with the approved construction documents. Submittal review and field	Yes 1. Placement and installation of steel Perform deck Field inspection	"prism test method" as specified in ACI 530:1 1.4B prior to construction.	
Yes 5. Concrete slump, air content, and tomporature Continuous At the time fresh concrete is sampled to fabricato speciments for strength test, vorify Field inspection	Yes 2. Placement and installation of steel headed stud anchors Perform Field inspection		
temperature fabricate specimens for strength test, verify these tests are performed. Ves 6 Continuous Verify proper application techniques are used	Yes 3. Document acceptance or rejection of Steel elements Perform Field inspection		
Yes 6. Concrete & shotcrete placement Continuous Verify proper application techniques are used during concrete conveyance and depositing avoids segregation or contamination. Verify	SOILS CONSTRUCTION Soil (2012 IBC: Table 1705 6)		
that concrete is properly consolidated.	Soil (2012 IBC: Table 1705.6) Required Task Extent Description Service YES 1. Foundation bearing capacity Periodic Verify the materials below foundations are Field inspection		
Yes 7. Curing temperature and techniques Periodic Inspect curing, cold weather protection and hot Field inspection weather protection procedures	adequate to achieve the design bearing capacity.		
No 8. Pre-stressed concrete Continuous Verify application of prestressing forces and grouting of bonded prestressing tendons in the coincidence resisting system	YES 2. Excavations Periodic Verify the excavations are extended to the proper depth and have reached proper Field inspection		
No. 9. Exection of process concrete Periodic Verify that all process concrete are lifted Field inspection	YES 3. Perform classification and testing of composited fill meterial. Periodic Field inspection		
No 9. Erection of precast concrete Periodic Verify that all precast elements are lifted, assembled and braced in accordance with the approved construction documents. Field inspection	compacted fill materials Compacted fill material Continuous Verify the use of proper materials, densities and lift thicknesses during placement and Field inspection		
Yes 10. In-situ concrete strength verification Periodic Prior to the removal of shores and forms or the stressing of post-tensioned tendons, verify that Field inspection	and lift thicknesses during placement and compaction of compacted fill.		
adequate strength has been achieved.	YES 5. Subgrade Periodic Prior to placement of compacted fill, observe sub-grade and verify that the site has been Field inspection		
Yes 11. Formwork Periodic Inspect the forms to ensure that they are placed plumb and conform to the shapes, lines, Field inspection	properly prepared.		
and dimensions of the members as required by the approved construction documents.			
No 12. Reinforcement complying with ASTM Periodic Verify that ASTM A615 reinforcing steel used in these same same line with ACI 240: 214.5.2 hu Field inspection			
A615 in special moment frames, special structural walls and coupling beams (only when Special			
Inspections for seismic resistance is required)			
No 13. Reinforcement placement within Continuous Visually inspect reinforcing steel placement Field inspection			
progressive collapse resisting system (only when Special Inspections for anchorages, laps and other details within the			
progressive collapse resisting system with a particular emphasis on reinforcing steel			

E	F	
AL STEEL CO	ONSTRUCTION	
	6.4-1; AISC 341-10: Table J6-1)	
Extent Perform	Description	Service Submittal review
Observe		Shop and field inspection
Observe	A system shall be maintained by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress dye type.	Submittal review
Observe	Verify joint preparation, dimensions (alignment, root opening, root face, bevel), cleanliness (condition of surface steel), tacking (tack weld quality and location), and backing type and fit (if applicable).	Shop and field inspection
Observe		Shop and field
Observe	Verify dimensions (alignment, gaps at root), cleanliness (condition of steel surfaces), and tacking (tack weld quality and location).	inspection Shop and field inspection
10: Table N5	.4-2; AISC 341-10: Table J6-2)	
Extent Observe	Description	Service Shop and field
		inspection
Observe Observe	Verify packaging and exposure control.	Shop and field inspection Shop and field
Observe	Verify wind speed within limits and precipitation	inspection Shop and field
	and temperature criteria being met.	inspection
Observe	Verify settings on weld equipment, travel speed, selecting welding materials, shielding gas type/flow rate, preheat applied, interpass temperature maintained (min./max.), proper position (F, V, H, OH), and intermix of filler metals avoided unless approved.	Submittal review with shop and fiel verification
Observe	Verify interpass and final cleaning, each pass within profile limitations, and each pass meets quality requirements.	Shop and field inspection
	4-3; AISC 341-10: Table J6-3)	
Extent Observe	Description	Service Shop and field
Perform		inspection Shop and field
Perform	Verify crack prohibition, weld/base-metal	inspection Shop and field
	fusion, crater cross section, weld profiles, weld size, undercut, and porosity.	inspection
Perform		Shop and field inspection
Perform	When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3" of the weld.	Shop and field inspection
Perform /		Shop and field
Perform /		inspection Shop and field
ocument		inspection
Perform / locument		Shop and field inspection
Perform		Shop and field inspection
Perform		Shop and field inspection
	RUCTION (CONT'D) -3; AISC 341-10: Table J7-3)	•
Extent	Description	Service
Perform		Field inspection
spections (Al Extent	SC 360-10: N5.7)	Service
Perform	Description Verify the diameter, grade, type and length of	Field inspection
	the anchor rod or embedded item, and the extent or depth of embedment prior to placement of concrete.	
Observe	Verify compliance with the details shown on	Field inspection
	the construction documents, such as braces, stiffeners, member locations and proper application of joint details at each connection.	

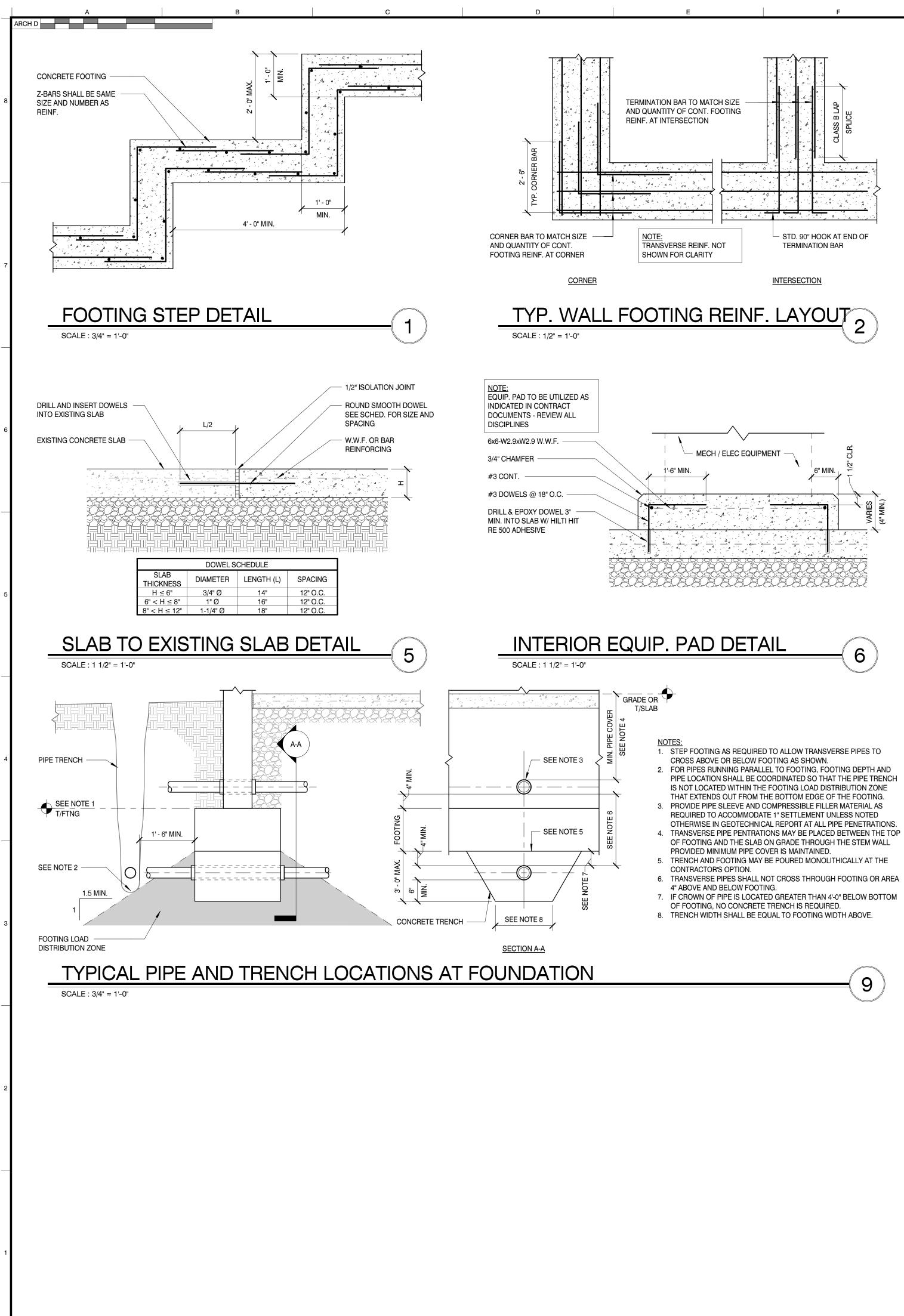
n Prior to Cor	ncrete Placement (AISC 360-10: Table N6.1)	
Extent	Description	Service
Perform		Field inspection
Perform		Field inspection
Perform		Field inspection

S CONSTRUCTION 12 IBC: Table 1705.6)

JIZIBU: Tab	ie 1705.6)	
Extent	Description	Service
Periodic	Verify the materials below foundations are adequate to achieve the design bearing capacity.	Field inspection
Periodic	Verify the excavations are extended to the proper depth and have reached proper material.	Field inspection
Periodic		Field inspection
ntinuous	Verify the use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	Field inspection
Periodic	Prior to placement of compacted fill, observe sub-grade and verify that the site has been properly prepared.	Field inspection

Required		Task	Extent	ACI 530-11: 1.5) Description	Service
Yes	1.	Review material certificates, mix designs, test results and construction procedures	Periodic	Verify that materials conform to the requirements of the approved construction documents.	Submittal rev
	1			530-11: Table 1.19.2)	
<u>Required</u> Yes	1.	Task Proportions of site-prepared mortar	Extent Periodic	Description Verify that mortar is of the type and color specified on the construction documents, that it conforms to ASTM C270, and that it is mixed in accordance with ACI 530.1: 2.6A.	Service Submittal rev and field verification
Yes	2.	Construction of mortar joints	Periodic	Verify that mortar joints comply with ACI 530.1: 3.3B.	Field inspect
No	3.	Grade and size of prestressing tendons and anchorages	Periodic	Verify that prestressing tendons comply with ACI 530.1: 2.4B and that anchorages, couplers, and end blocks comply with 2.4H.	Field inspect
Yes	4.	Location of reinforcement, connectors, and prestressing tendons and anchorages	Periodic	Verify that reinforcement is placed in accordance with ACI 530.1: 3.4. Prestressing tendons shall be placed per 3.6A.	Field inspec
No	5.	Prestressing technique	Periodic	Verify that prestressing technique complies with	Field inspect
No	6.	Properties of thin-bed mortar for AAC masonry	Continuous / Periodic	ACI 530.1: 3.6B. Verify that mortar complies with ACI 530.1: 2.1C. Continuous inspection for the first 5000 sf of wall and periodic for all following applications.	Field inspect
		Drior to) 11: Table 1 10 2)	
Required		Task Prior to	Extent	D-11: Table 1.19.2) Description	Service
Yes	1.	Grout space	Periodic	Verify that grout space is free of mortar droppings, debris, loose aggregate, and other deleterious materials and that cleanouts are provided per ACI 530.1: 3.2D and 3.2F.	Field inspec
Yes	2.	Grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorages	Periodic	Verify that reinforcement, joint reinforcement, wall ties, anchor bolts and veneer anchors comply with the approved construction documents and ACI 530: 1.16.	Submittal rev and field verification
Yes	3.	Placement of reinforcement, connectors, and prestressing tendons and anchorages	Periodic	Verify that reinforcement, joint reinforcement, wall ties, anchor bolts and veneer anchors are installed in accordance with the approved construction documents and ACI 530.1: 3.2E, 3.4 and 3.6A.	Field inspec
Yes	4.	Proportions of site-prepared grout and prestressing grout for bonded tendons	Periodic	Verify that grout is proportioned per ASTM C476 and has a slump between 8" to 11". Self-consolidated grout shall not be proportioned onsite.	Field inspec
Yes	5.	Construction of mortar joints	Periodic	Verify that mortar joints are placed in accordance with ACI 530.1: 3.3B.	Field inspec
		During Co	onstruction (ACI 5	30-11: Table 1.19.2)	
Required Yes	1.	Task Size and location of structural elements	Extent Periodic	Description Verify the locations of structural elements with respect to the approved construction documents and confirm that tolerances meet the requirements of ACI 530.1: 3.3F.	Service Field inspec
Yes	2.	Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction.	Periodic	Verify that correct anchorages and connections are provided per the approved construction documents and ACI 530: 1.16.4.3 and 1.17.1.	Field inspec
Yes	3.	Welding of reinforcement	Continuous	Verify welded reinforcement meets the requirements of ACI 530: 2.1.7.7.2, 3.3.3.4(c), and 8.3.3.4(b).	Field inspec
Yes	4.	Preparation, construction, and protection of masonry during cold weather (<40°F) or hot weather (>90°F)	Periodic	Verify that cold weather construction is performed in accordance with ACI 530.1: 1.8C and hot weather construction per ACI 530.1: 1.8D.	Field inspec
No	5.	Application and measurement of prestressing force	Continuous	Verify the proper prestressing force is applied per ACI 530.1: 3.6B.	Field inspec
Yes	6.	Placement of grout and prestressing grout for bonded tendons is in compliance	Continuous	Verify placement of grout is done in accordance with ACI 530.1: 3.5 and placement of grout for bonded tendons is in accordance with ACI 530.1: 3.6C.	Field inspec
No	7.	Placement of AAC masonry units and construction of thin-bed mortar joints	Continuous / Periodic	Verify that mortar is placed in accordance with ACI 530.1: 3.3B.8. Continuous inspection for the first 5000 sf of wall and periodic for all following applications.	Field inspec
Yes	8.	Observation of grout specimens, mortar specimens, and/or prisms	Periodic	Confirm that specimens/prisms are performed as required by ACI 530.1: 1.4.	Field inspec
				0-11: Table 1.19.2)	
Required Yes	1.	Task Verification of Slump Flow and Visual Stability Index (VSI) for self-consolidating grout	Extent 	Description Compressive strength tests should be performed in accordance with ASTM C1019 for slump flow and ASTM C1611 for VSI.	Service Field inspec
Yes	2.	Verification of f'm and f'AAC		Determine the compressive strength for each wythe by the "unit strength method" or by the "prism test method" as specified in ACI 530:1 1.4B prior to construction.	Field inspec

- 1	
3	MBI
7	MBI COMPANIES INC. 299 N. WEISGARBER ROAD KNOXVILLE, TN 37919 PHONE: (865) 584-0999 FAX: (865) 584-5213 WEB: mbicompanies.com CONSULTANT STRUCTURAL ENGINEER:
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4	AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL
_	5 NORRIS SQUARE, NORRIS, TN 37828 PROJECT NO.: 210042-04 ACTIVE DESIGN PHASE FOR REVIEW ONLY FOR PERMITTING ONLY SCHEMATIC DESIGN
3	DESIGN DEVELOPMENT CONSTRUCTION BIDDING CONSTRUCTION DOCUMENTS AS-BUILT RECORD SET REVISION INFORMATION NO. DATE DESCRIPTION
_	KEY PLAN
2	
	SHEET INFORMATIONSHEET ISSUED:02/04/2022DESIGNED BY:ZSPDRAWN BY:KASREVIEWED BY:WNDSHEET TITLE:
I	SPECIAL INSPECTIONS
	SHEET NO.: S002



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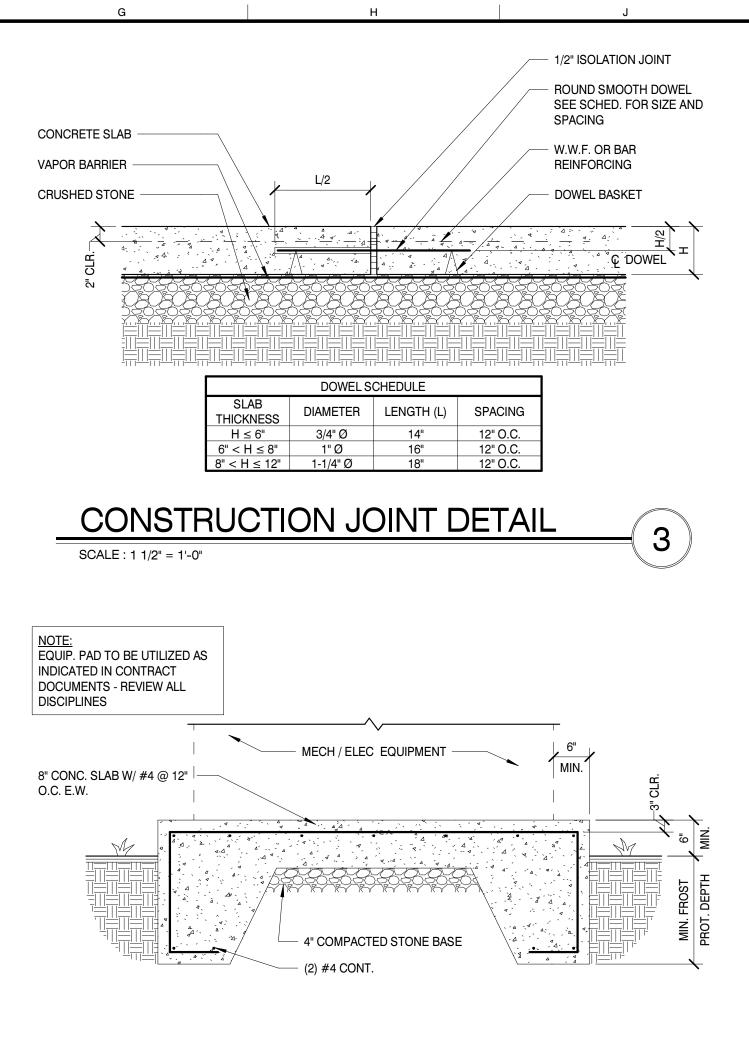
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PIPE LOCATION SHALL BE COORDINATED SO THAT THE PIPE TRENCH OTHERWISE IN GEOTECHNICAL REPORT AT ALL PIPE PENETRATIONS.

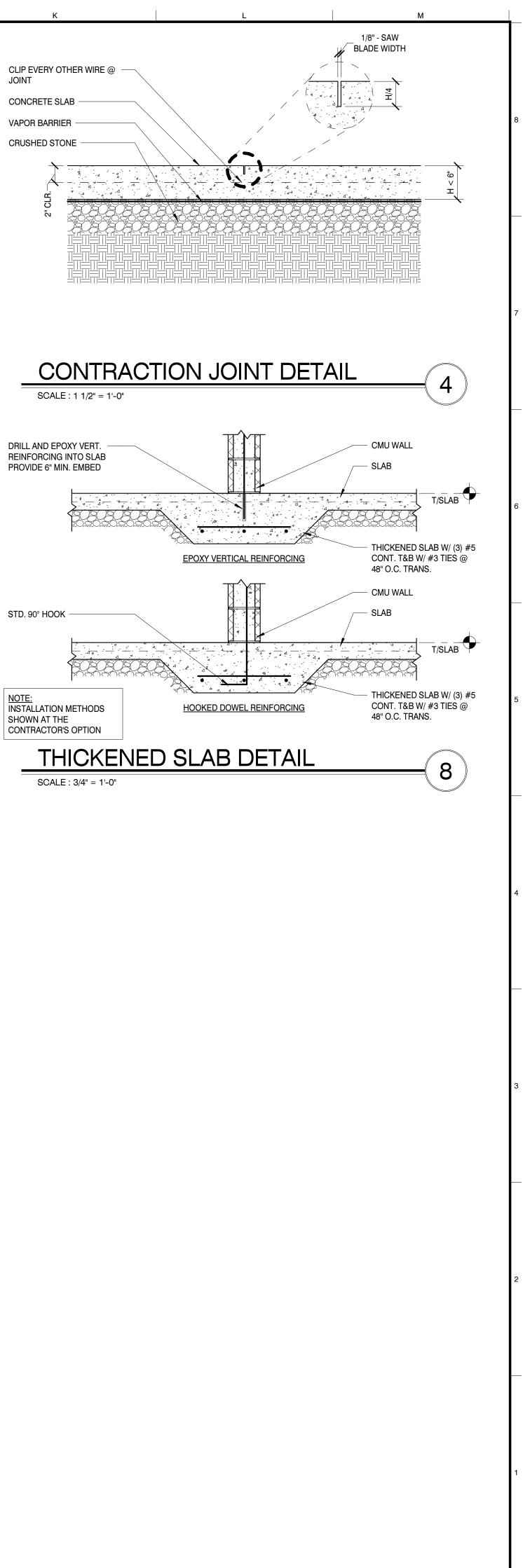
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EXTERIOR EQUIP. PAD DETAIL SCALE : 3/4" = 1'-0"

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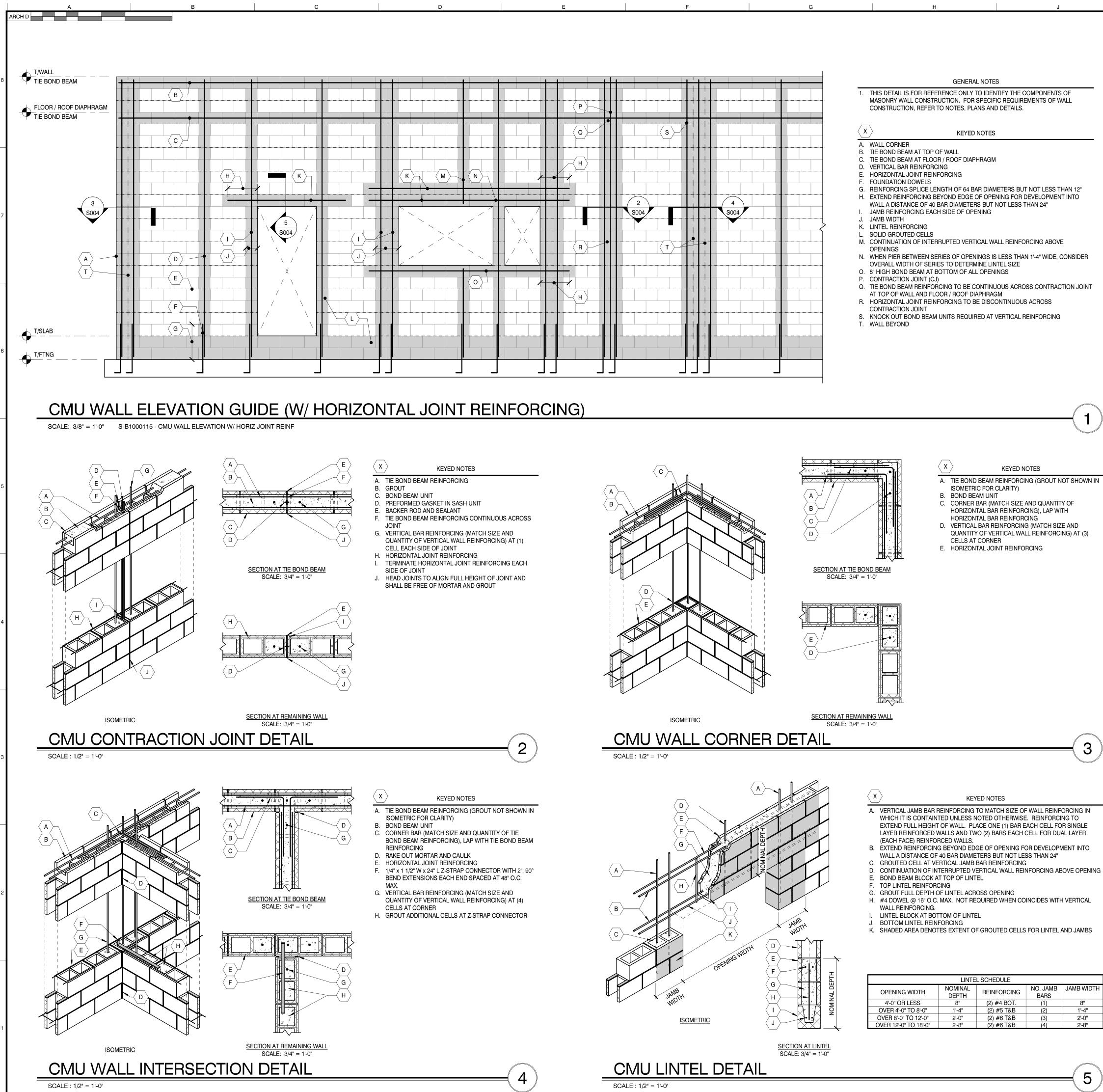


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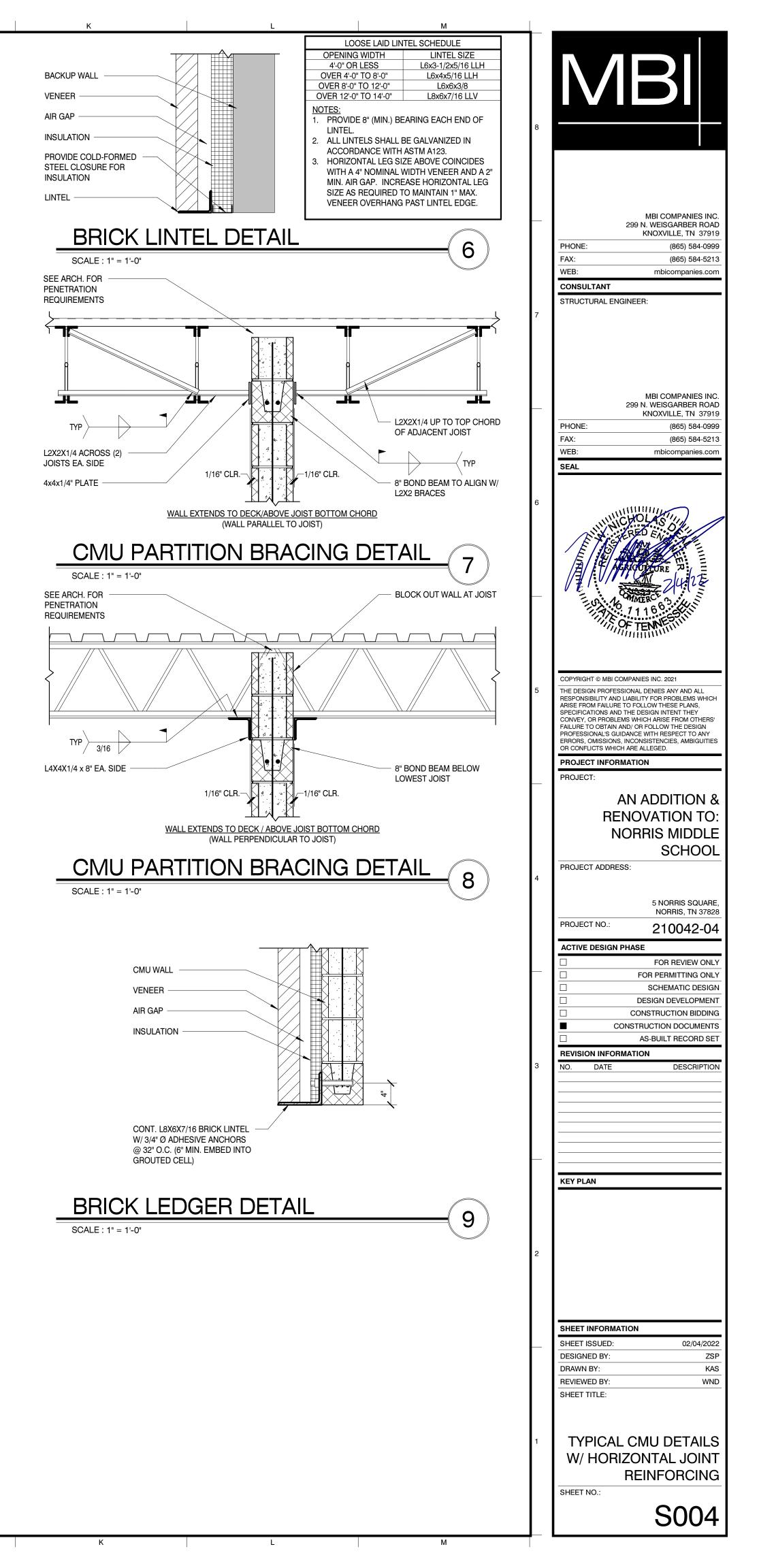
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	KEY PLAN
	SHEET INFORMATIONSHEET ISSUED:02/04/2022DESIGNED BY:ZSPDRAWN BY:KASREVIEWED BY:WNDSHEET TITLE:
	TYPICAL FOUNDATION AND SLAB ON GRADE DETAILS
	SHEET NO.: S003

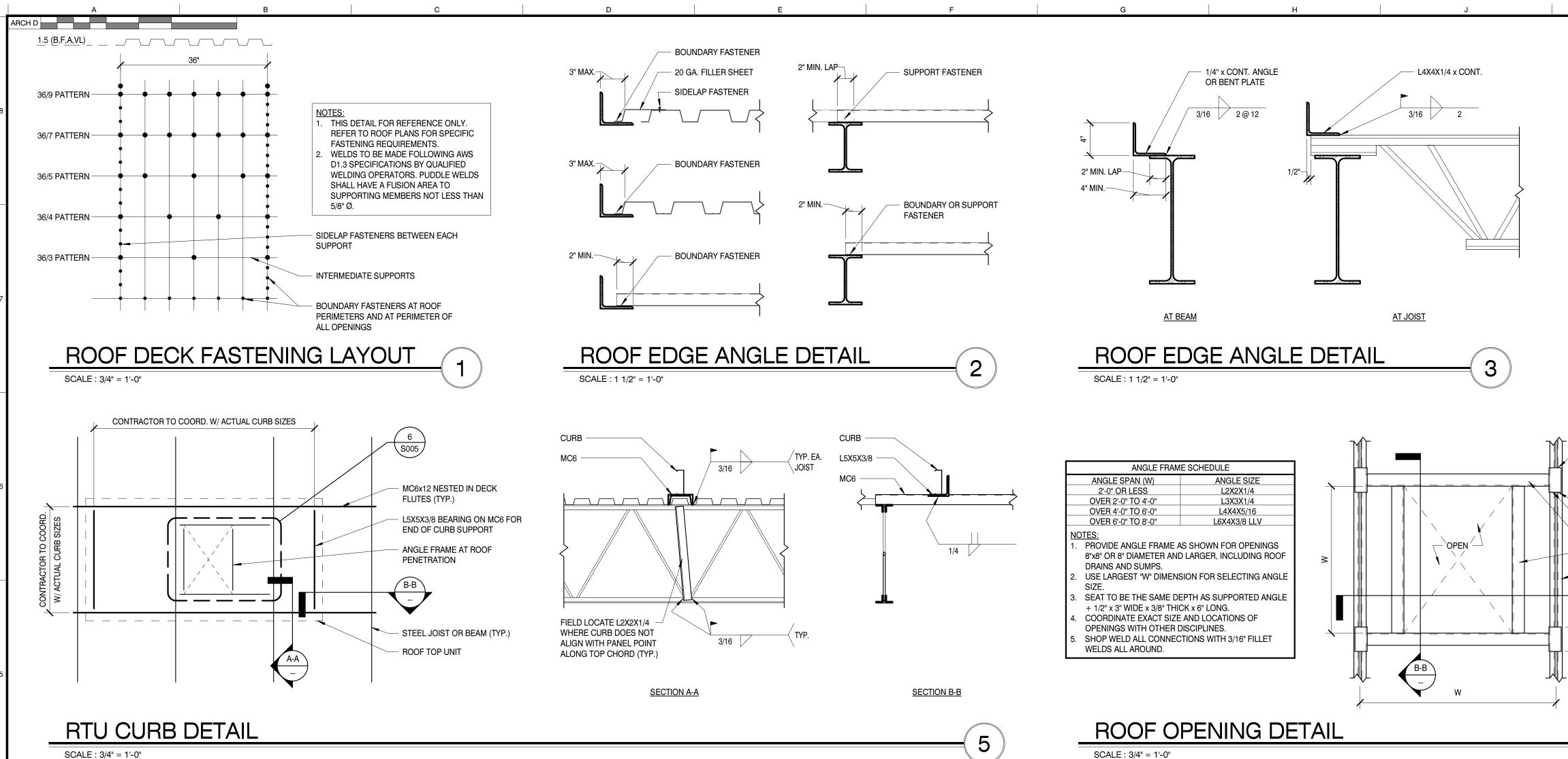


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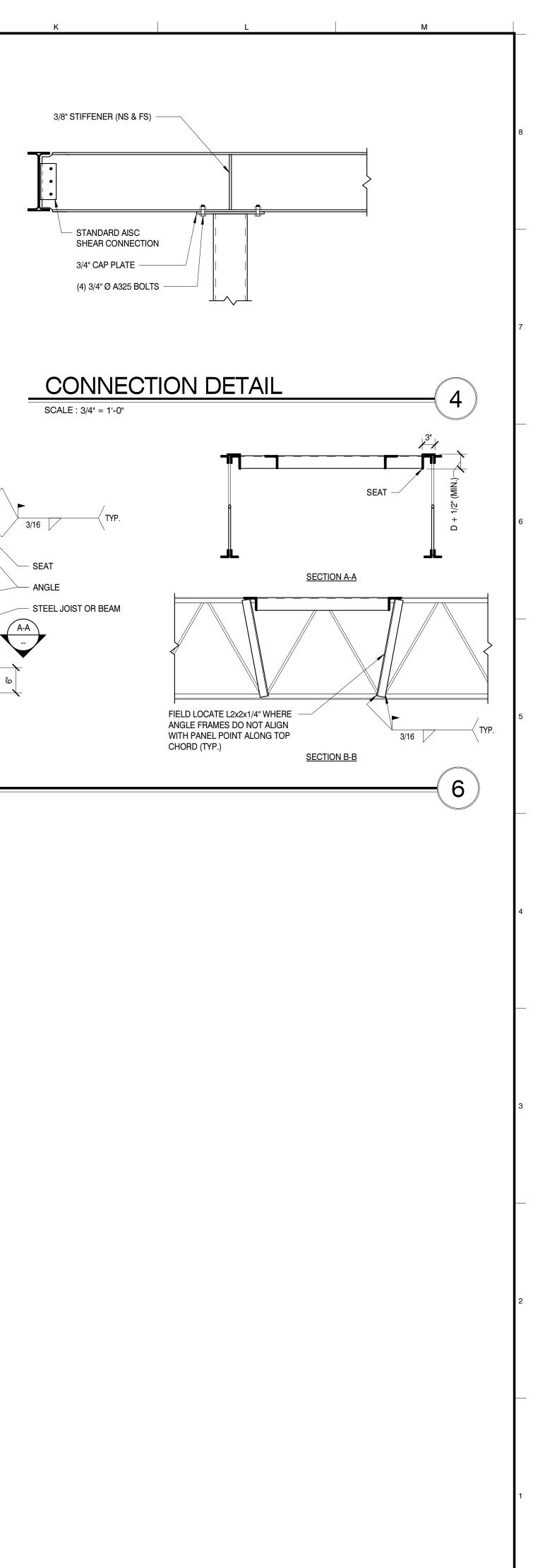
KEYED	NOT

LINTEL SCHEDULE				
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"

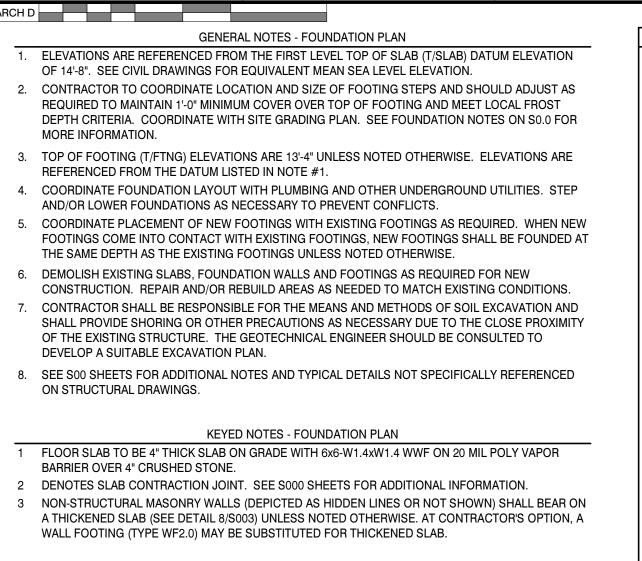




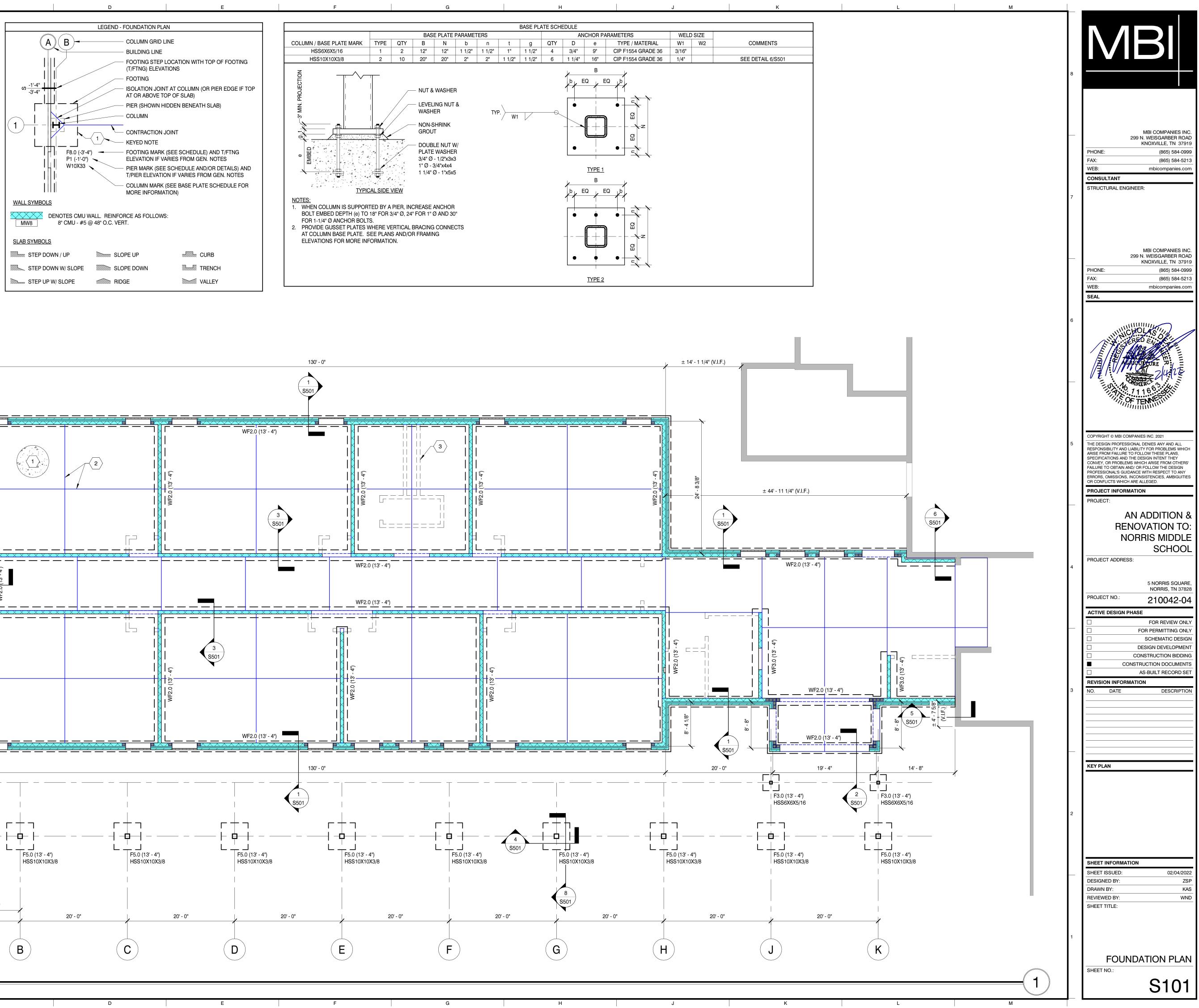
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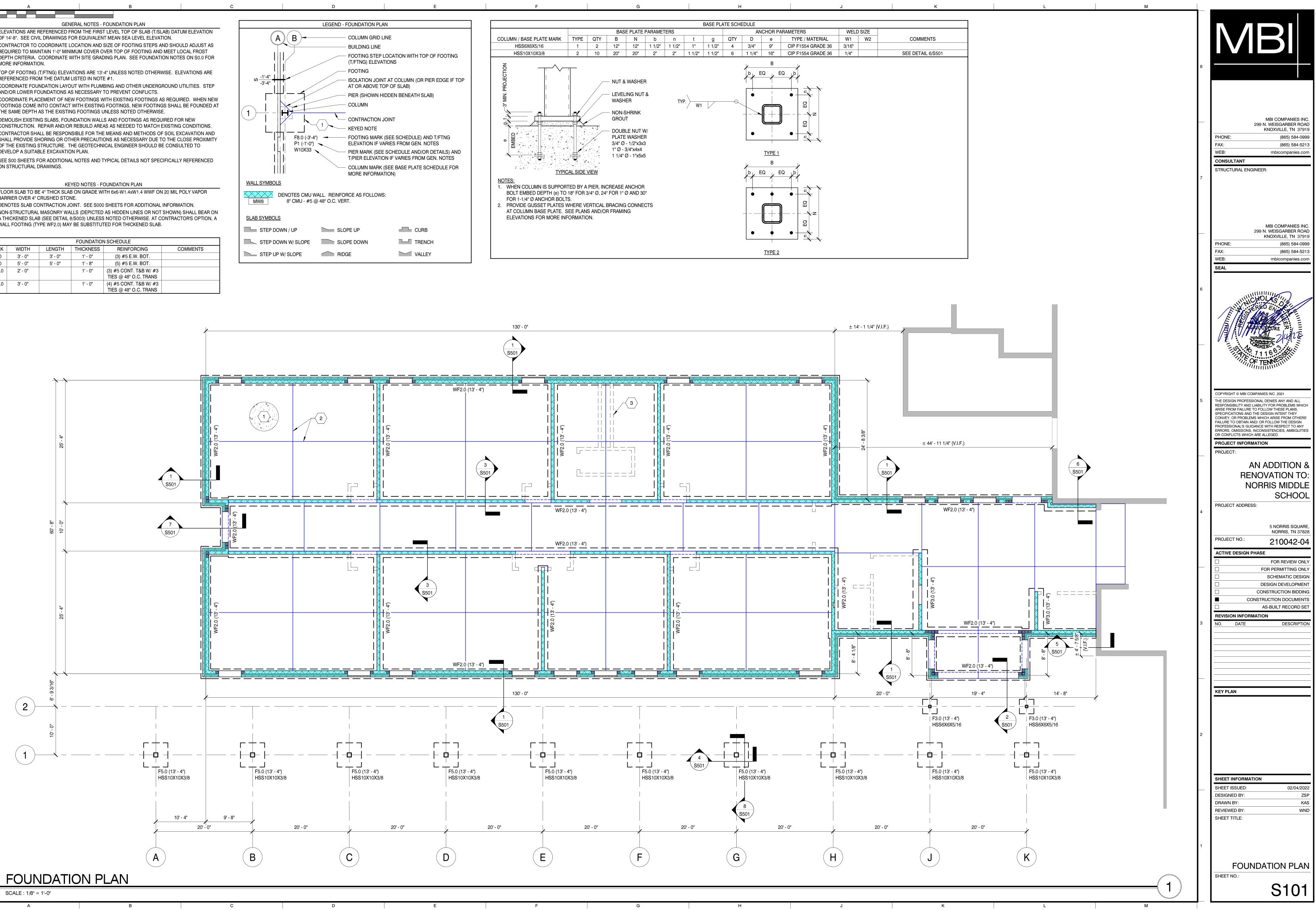
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	AN ADDITION &
	RENOVATION TO: NORRIS MIDDLE SCHOOL
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	NORRIS MIDDLE SCHOOL PROJECT ADDRESS: 5 NORRIS SQUARE, NORRIS, TN 37828
	NORRIS MIDDLE SCHOOL PROJECT ADDRESS: SNORRIS SQUARE, NORRIS, TN 37828 PROJECT NO.: 210042-04 ACTIVE DESIGN PHASE FOR REVIEW ONLY FOR PERMITTING ONLY FOR PERMITTING ONLY SCHEMATIC DESIGN DESIGN DEVELOPMENT CONSTRUCTION BIDDING CONSTRUCTION DOCUMENTS AS-BUILT RECORD SET REVISION INFORMATION
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4 	NORRIS MIDDLE PROJECT ADDRESS: SNORRIS SQUARE, NORRIS, TN 37828 PROJECT NO.: Q10042-04 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 Image: Description



FOUNDATION SCHEDULE					
MARK	WIDTH	LENGTH	THICKNESS	REINFORCING	COMMENTS
F3.0	3' - 0"	3' - 0"	1' - 0"	(3) #5 E.W. BOT.	
F5.0	5' - 0"	5' - 0"	1' - 8"	(5) #5 E.W. BOT.	
WF2.0	2' - 0"		1' - 0"	(3) #5 CONT. T&B W/ #3 TIES @ 48" O.C. TRANS	
WF3.0	3' - 0"		1' - 0"	(4) #5 CONT. T&B W/ #3 TIES @ 48" O.C. TRANS	



STEP DOWN / UP	SLOPE UP	
STEP DOWN W/ SLOPE	SLOPE DOWN	
STEP UP W/ SLOPE	RIDGE	VALI

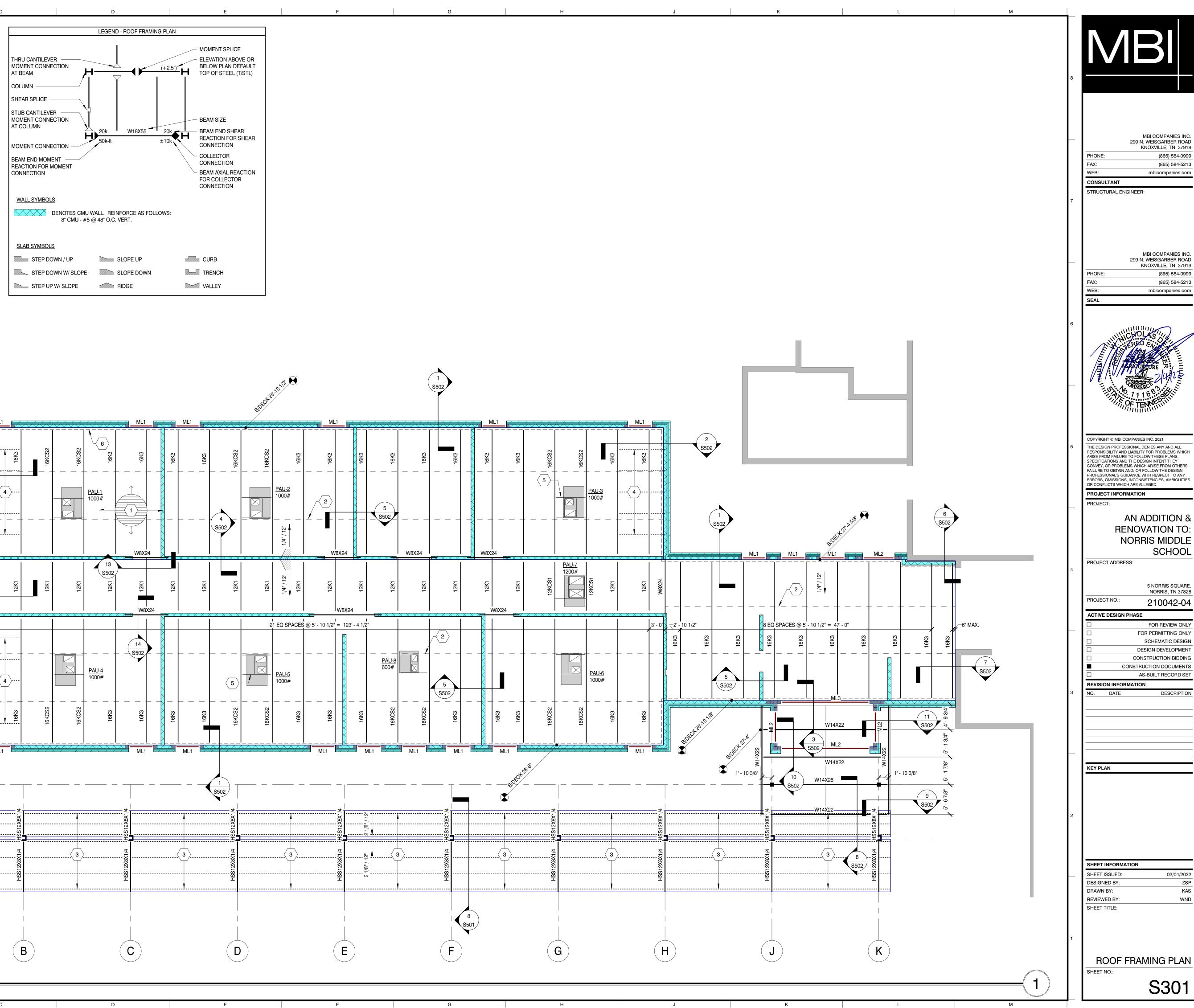


- 1. ELEVATIONS ARE REFERENCED FROM THE FIRST LEVEL TOP OF SLAB (T/SLAB) DATUM ELEVATION
- 3. TOP OF STEEL (T/STL) LOCATED AT UNDERSIDE OF ROOF DECK UNLESS NOTED OTHERWISE. 4. REFER TO ARCHITECTURAL DRAWINGS FOR STRUCTURAL MEMBERS THAT RECEIVE FIRE PROOFING. VERIFY WHETHER OR NOT THESE MEMBERS SHALL BE PAINTED WITH FIRE PROOFING
- 5. 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
- 6. COORDINATE JOIST AND TRUSS LAYOUT WITH MECHANICAL AND PLUMBING RUNS AND
- 7. SEE S00 SHEETS FOR ADDITIONAL NOTES AND TYPICAL DETAILS NOT SPECIFICALLY REFERENCED ON STRUCTURAL DRAWINGS.

- CONDITION. FASTEN DECKING WITH 5/8" PUDDLE WELDS ON A 36/4 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
- DOES NOT HINDER ROUTING OF DUCT WORK FROM ROOF TOP HVAC EQUIPMENT. 3 HSS6X6X1/4 PURLINS.

- 6 L4X4X5/16 x CONT. LEDGER. FASTEN TO CMU WALL WITH 5/8"Ø x 4" EMBED SCREW ANCHORS @ 32" 0.C.

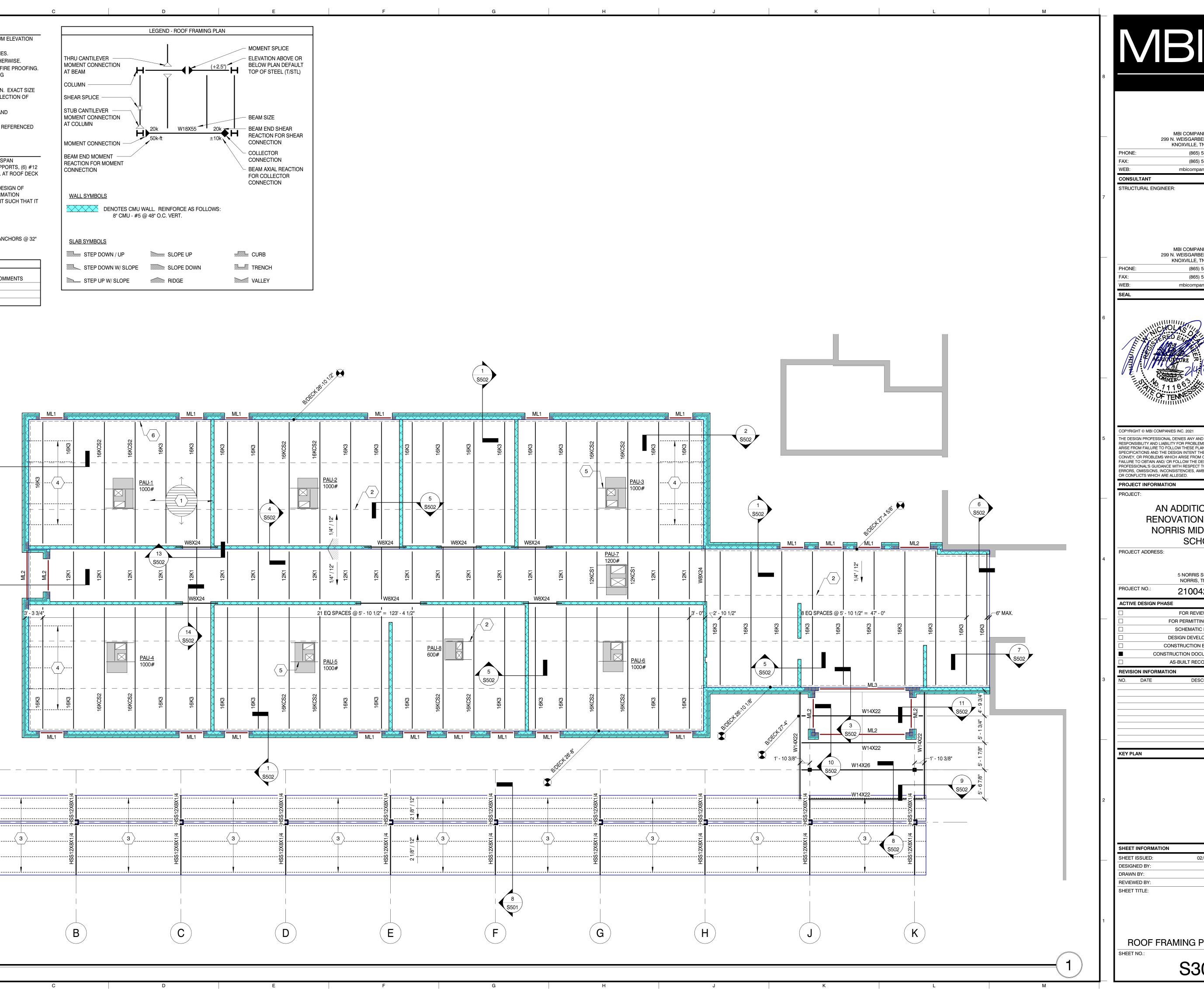
	LINTEL SCHEDULE										
					JAMB	MAX.					
MARK	TYPE	WIDTH	DEPTH	REINFORCING	QTY	SPAN	COMMENTS				
ML1	8X8	7 5/8"	8"	(2) #4 BOT.	1	5' - 0"					
ML2	8X16	7 5/8"	16"	(2) #5 T&B	2	8' - 0"					
ML3	8X32	7 5/8"	32"	(2) #5 T&B	4	18' - 0"					

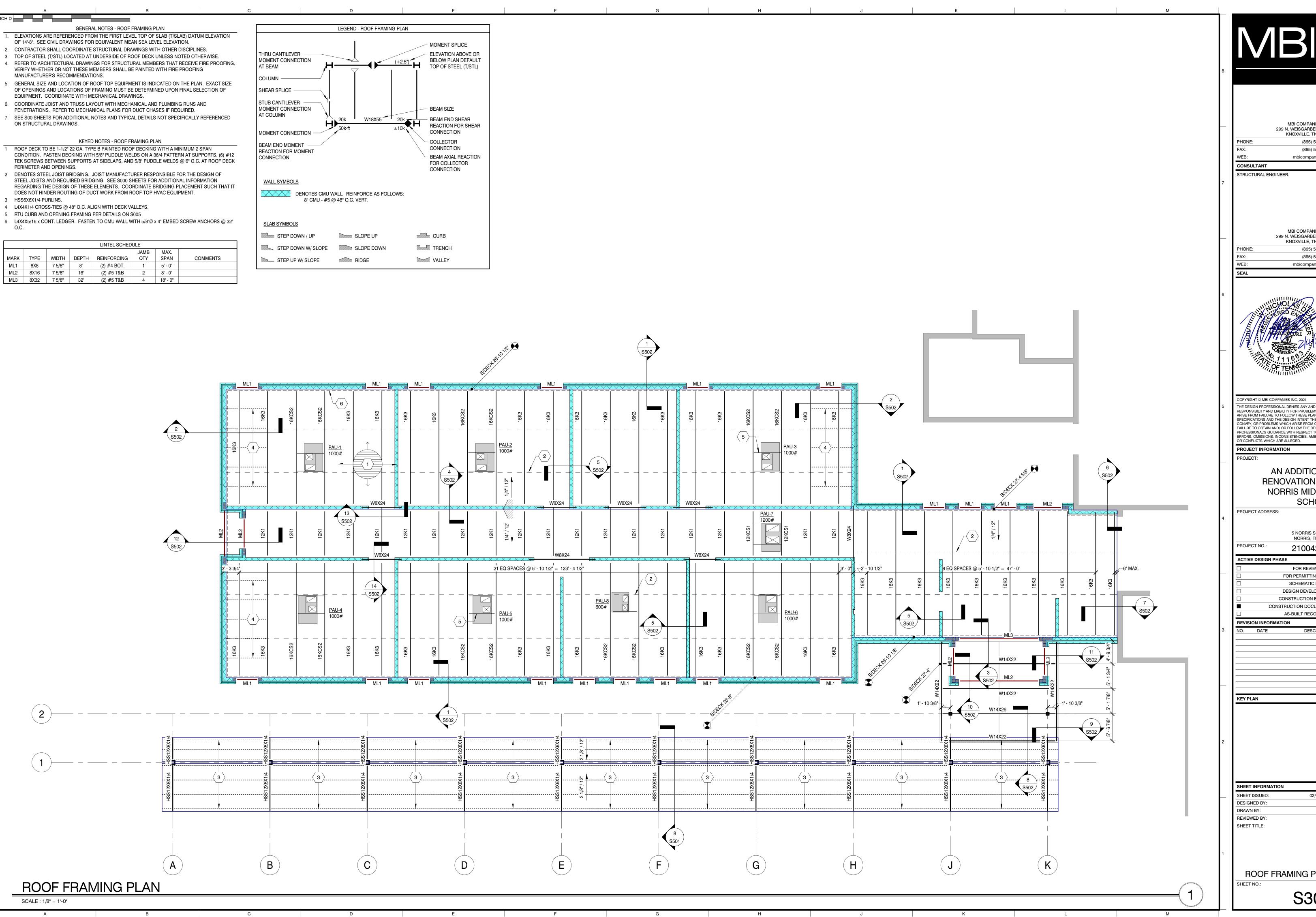


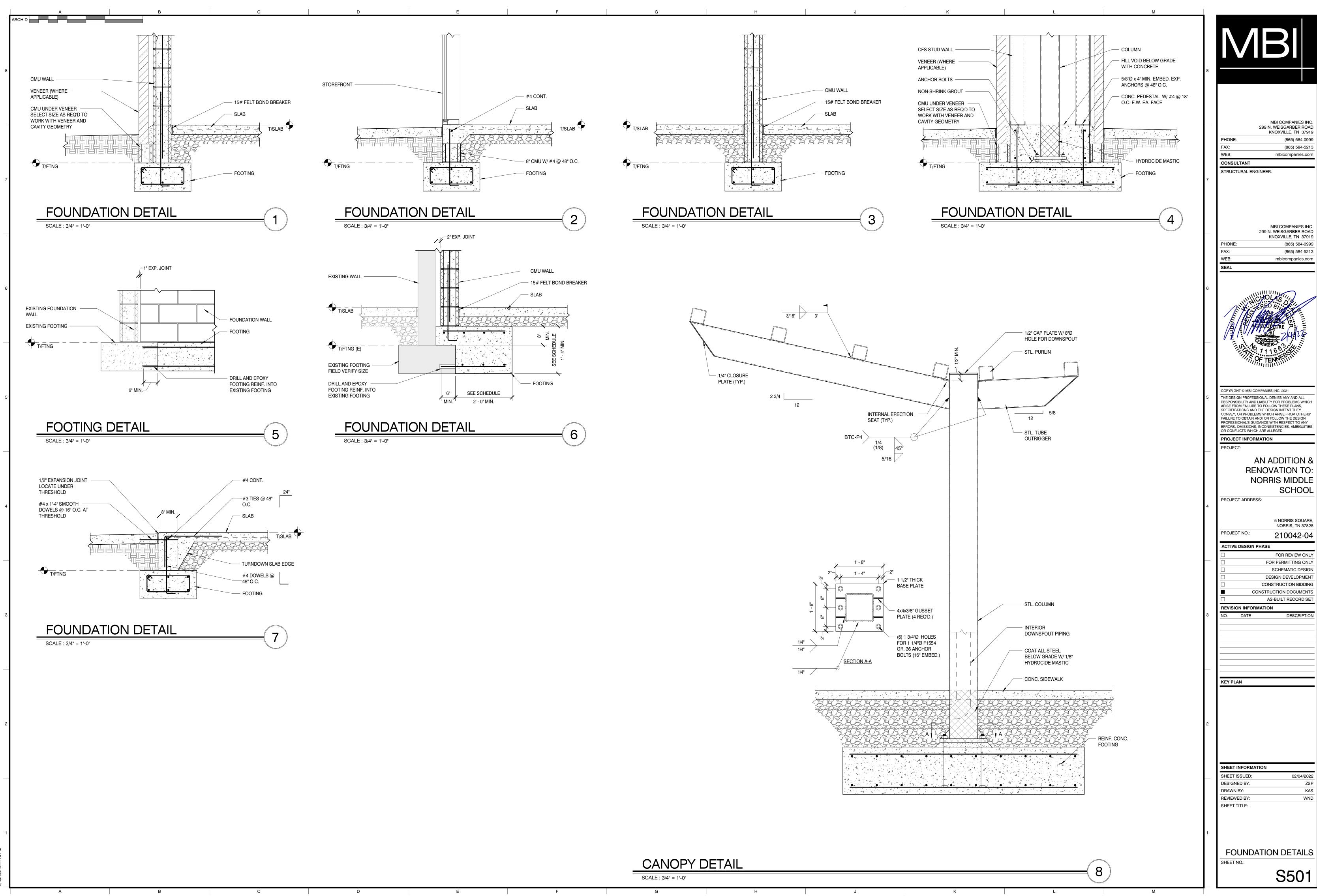
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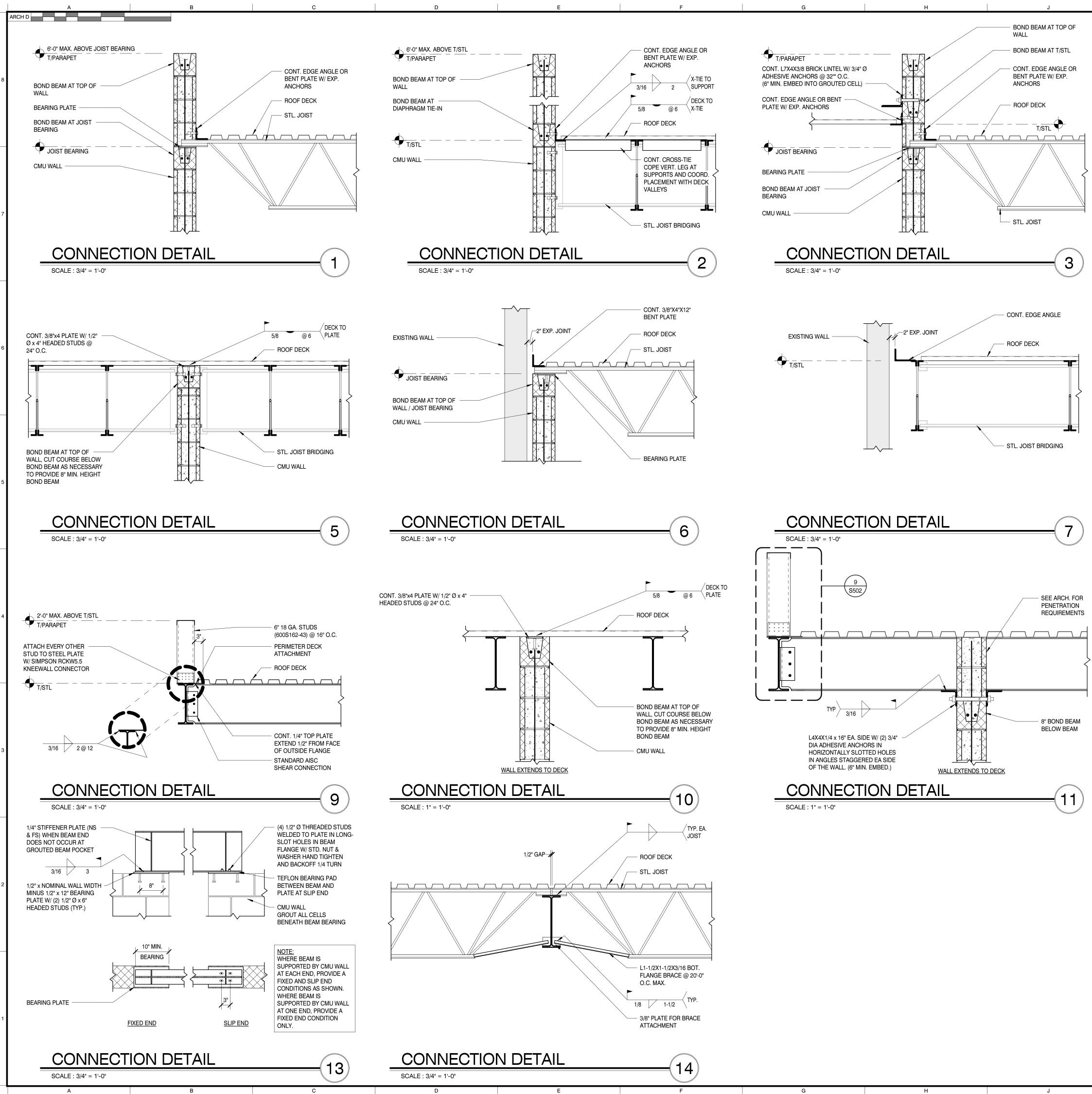




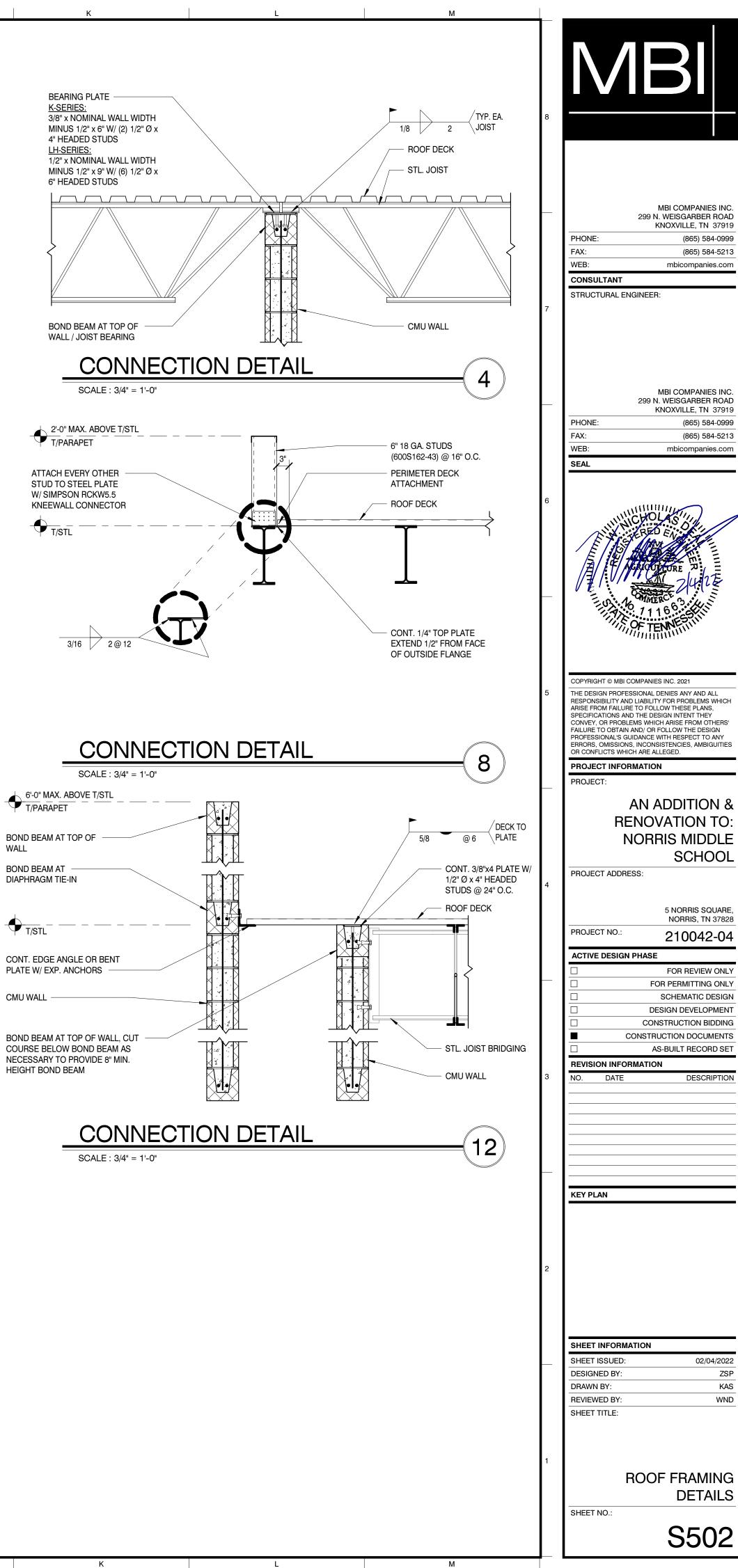
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WALL



ZSP

KAS

WND

	FIRE PRC		SPFCI	FICATIONS
SECTION 15300 - FIRE PROTECTION				
PART I GENERAL 1.01 DESCRIPTION OF WORK:			А.	GENERAL: PROVIDE AUTOLISTING. PROVIDE FUSIB
A. EXTENT OF FIRE PROTECTION WORK IS INDICATED ON DRAWINGS AND SCHE SECTION.	DULES, AND BY REQUIREMENTS OF THIS			INDICATED. 1. PENDENT
B. THE SYSTEM SHALL BE WET PIPE SYSTEM 1.02 QUALITY ASSURANCE:			В.	FINISH: WHITE APPPROVED SPRINKLER I
 A. CODES AND STANDARDS: 1. NFPA COMPLIANCE: INSTALL FIRE PROTECTION SYSTEM IN ACCORDANCE 				SPRINKLER CABINET AND SPRINKLERS AND WRENC
SPRINKLER SYSTEMS". NFPA 14, "STANDARDS FOR THE INSTALLATION OF "STANDARD FOR OUTSIDE PROTECTION."				IN AREAS SUBJECT TO PH SPRINKLERS.
2. UL COMPLIANCE: PROVIDE FIRE PROTECTION PRODUCTS IN ACCORDANC PRODUCT.				IN VARIOUS APPLICATION 1/2", 3/4", OR 1" SPRINKLE
3. FM COMPLIANCE: PROVIDE FIRE PROTECTION PRODUCTS AND INSTALLAT FM LABEL ON EACH PRODUCT.			А.	SIDEWALK SIAMESE CON GENERAL: PROVIDE Y-TY
4. FIRE DEPARTMENT/MARSHAL COMPLIANCE: INSTALL FIRE PROTECTION S FIRE DEPARTMENT OR FIRE MARSHAL.				2,900, 2-1/2" FIRE DEPAR THREAD, EQUIPPED WITH
 QUALIFICATIONS: HYDRAULIC CALCULATIONS AND PREPARATION OF SHO SUPERVISION OF A RESPONSIBLE MANAGING EMPLOYEE WHO HOLDS A N PERFORMED BY A LICENSED SPRINKLER CONTRACTOR. 				FEATURES AS INDICATED 1. FINISH: POLISHED BR 2. INLET STANDPIPE: 4"
1.03 SUBMITTALS: A. PRODUCT DATA: SUBMIT MANUFACTURER`S TECHNICAL PRODUCT DATA AN	ID INISTALL ATION INISTRUCTIONS FOR FIRI			 CAST LETTERING: "AU PROVIDE KNOX BOX.
MATERIALS AND PRODUCTS WITH A TABLE OF CONTENTS. IDENTIFY MATERIA B. SHOP DRAWINGS: SUBMIT SCALED LAYOUT DRAWINGS FOR FIRE PROTECTION	AL, SIZE , AND MODEL NUMBER OF EACH I	PRODUCT.		5. APPROVED MANUFAC WALL TYPE SIAMESE CON
PIPE AND TUBE SIZES, LOCATIONS, ELEVATIONS, AND SLOPES OF HORIZONTA CONNECTIONS. INDICATE INTERFACE AND SPATIAL RELATIONSHIPS BETWEE	AL RUNS, WALL AND FLOOR PENETRATION	NS, AND	А.	GENERAL: PROVIDE WAL DEPARTMENT INLETS WIT
C. APPROVAL DRAWINGS: PREPARE APPROVAL DRAWINGS OF FIRE PROTECTIO FITTINGS, SHUTOFFS, EQUIPMENT, ETC. SUBMIT TO AGENCY HAVING JURISD	N SYSTEMS INDICATING PIPE SIZES, PIPE	LOCATIONS,		EQUIPPED WITH INDIVIDU
BEARING STAMP AND/OR SIGNATURE OF AGENCY HAVING JURISDICTION, BEF D. APPROVAL CALCULATIONS: PREPARE HYDRAULIC CALCULATIONS OF FIRE PR	FORE PROCEEDING WITH INSTALLATION.			1. FINISH: POLISHED BR 2. INLET PIPE: 4" PIPE OF
THAT IS NO MORE THAN 6 MONTHS OLD. SUBMIT TO AGENCY HAVING JURISI APPROVED COPY, BEARING STAMP AND/OR SIGNATURE OF AGENCY HAVING	JURISDICTION, BEFORE PROCEEDING WIT	TH INSTALLATION.		3. CAST LETTERING: "AU 4. ESCUTCHEON: 12" DI
E. RECORD DRAWINGS: AT PROJECT CLOSEOUT, SUBMIT RECORD DRAWINGS	OF INSTALLED FIRE PROTECTION PIPING A	AND PRODUCTS.		5. SIAMESE CONNECTIO INFIGURATION; OR Y-TYPE
2.01 MATERIALS AND PRODUCTS: A. GENERAL: PROVIDE PIPING MATERIALS AND FACTORY-FABRICATED PIPING P		'		 PROVIDE KNOX BOX. APPROVED MANUFAC
TEMPERATURE RATINGS, AND CAPACITIES AS INDICATED. WHERE NOT INDIC INSTALLER TO COMPLY WITH INSTALLATION REQUIREMENTS. PROVIDE SIZES	S AND TYPES MATCHING PIPING AND EQU	IPMENT	3.01	II EXECUTION INSPECTION:
CONNECTIONS; PROVIDE FITTINGS OF MATERIALS WHICH MATCH PIPE MATER 2.02 BASIC IDENTIFICATION:	RIALS USED IN FIRE PROTECTION SYSTEM	l.		GENERAL: EXAMINE ARE DO NOT PROCEED WITH
 A. GENERAL: PROVIDE IDENTIFICATION AS FOLLOWS; 1. FIRE PROTECTION PIPING: PLASTIC PIPE MARKERS EVENTION VALUES: PLASTIC VALUE TAGO 			3.02	INSTALLER. INSTALLATION OF BASIC
2. FIRE PROTECTION VALVES: PLASTIC VALVE TAGS. 2.03 BASIC PIPES AND PIPE FITTINGS:			В.	GENERAL: INSTALL MECH INSTALL FIRE PROTECTIO
 A. GENERAL: PROVIDE PIPES AND PIPE FITTINGS AS FOLLOWS: B. BLACK STEEL PIPE: SCHEDULE 40 FOR ABOVE 6"; BLACK STEEL PIPE: SCHED 			А.	INSTALLATION OF OUTSIE GENERAL: INSTALL EXTE
PIPE COUPLINGS (VICTAULIC 009N/108 IGS SYSTEM OR EQUAL) AND FITTINGS GROOVE AND MECHANICAL LOCKING TYPE.				SPECIFIED. ARRANGE AN CONCRETE THRUST BLOO
C. DUCTILE IRON PRESSURE PIPE: AWWA C-106 WITH FITTINGS COMPLYING WIT AWWA C-111.				DUCTILE-IRON PIPE: INST ASSOCIATION.
 D. BRAIDED FLEXIBLE, SPRINKLER HOSE FITTINGS: BRAIDED, FLEXIBLE HOSE FO CONNECTION TO CEILING GRID. 1. APPROVED MANUFACTURERS: FLEXHEAD AND VICTAULIC [AH2, AH2CC, A 			D.	HYDRANTS: INSTALL IN A CONTROL VALVES: INSTA JOINT ADAPTERS: MAKE
 E. BRANCH OUTLET FITTINGS: 1. BODY MATERIAL: DUCTILE-IRON HOUSING WITH EPDM SEALS AND BOLTS 	•			IRON ADAPTERS AND FIT
 2. TYPE: MECHANICAL-T AND -CROSS FITTINGS. 3. BRANCH OUTLETS: GROOVED, PLAIN-END PIPE, OR THREADED. 	AND NOTO.			1. IF THE INSPECTION IN DEFECTS TO SATISFA
 APPROVED MANUFACTURERS: ANVIL, TYCO, AND VICTAULIC. BASIC PIPING SPECIALTIES: 				CLEANING CONDUIT: CLI MAINTAIN SWAB OR DRA
A. GENERAL: PROVIDE PIPING SPECIALTIE: 1. PIPE ESCUTCHEONS				CONDUIT AT END OF DAY OTHER FIRE PROTECTION
 DIELECTRIC UNIONS DRIP PANS 				REQUIRED BY LOCAL AUT INSTALLATION OF PIPES A
 PIPE SLEEVES SLEEVE SEALS 				GENERAL: INSTALL PIPES JURISDICTION. NOTE THAT
6. FIRE BARRIER PENETRATION SEALS 2.05 BASIC SUPPORTS AND ANCHORS:			В.	CONTRACTOR. COMPLY WITH REQUIREM
 A. GENERAL: PROVIDE SUPPORTS AND ANCHORS AS FOLLOWS: 1. ADJUSTABLE STEEL CLEVIS HANGERS, ADJUSTABLE STEEL BAND HANGEF 	RS, OR ADJUSTABLE BAND HANGERS, FO	R HORIZONTAL		PIPING PRODUCTS WHER WITH RECOGNIZED INDU
PIPING HANGERS AND SUPPORTS. 2. TWO-BOLT RISER CLAMPS FOR VERTICAL PIPING SUPPORTS.			C.	PURPOSES. COORDINATE WITH OTHE
 STEEL TURNBUCKLES AND MALLEABLE IRON SOCKETS FOR HANGER-ROE CONCRETE INSERTS, TOP-BEAM C-CLAMPS, SIDE BEAM OR CHANNEL CLAMPS, SIDE SIDE SIDE SIDE SIDE SIDE SIDE SIDE		JILDING	D.	PROTECTION PIPING PRO INSTALL DRAIN PIPING AT
ATTACHMENTS. B. ANCHORS: 1. GENERAL: PROVIDE ANCHORAGES FOR TEES, PLUGS, CAPS, BENDS, AND		N 04	F.	INSTALL SECTIONAL VALY INSTALL FIRE DEPARTME INSTALL WATER FLOW IN
 2. CLAMPS, STRAPS AND WASHERS: STEEL, ANSI/ASTM A-506 3. RODS: STEEL, ANSI/ASTM A-575 		∧ ∠4.		1. APPROVED MANUFAC MOUNT SUPERVISORY SV
 A. OD COUPLINGS: MALLEABLE IRON, ANSI/ASTM A-197 5. BOLTS: STEEL, ANSI/ASTM A-307 			Ι.	INSTALL PRESSURE GAGE
 CAST-IRON WASHERS: ANSI/ASTM A-126, CLASS A THRUST BLOCKS: 2500 PSI CONCRETE 			К.	INSTALL INSPECTOR'S TE
2.06 BASIC VALVES: A. GENERAL: PROVIDE VALVES AS FOLLOWS:				1. FINISH: RED-ENAMEL 2. APPROVED MANUFAC
 B. INTERIOR VALVES: 1. SECTIONAL: GATE VALVES OR BUTTERFLY VALVES; UL LISTED. 				INSTALLATION OF VALVES
2. CHECK: SWING CHECK VALVES; UL LISTED. C. EXTERIOR VALVES:			В.	DETECTOR CHECK VALVE BY-PASS METER WITH GL
 GATE VALVES: STANDARD SHUT-OFF VALVES CAST INTO BODY, OUTSIDE SIZES 2" AND SMALLER SHALL BE BRONZE, 175 PSI WG, RISING STEM, SCI 				INSTALL BACKFLOW PRE INSTALLATION OF FIRE PR
IRON BODY BRONZE MOUNTED, 175 PSI WG, SOLID WEDGE, REPLACEABL 2. CHECK VALVES: GRAVITY-OPERATED, REGULAR TYPE, IRON-BODIED, BRO	ONZE FITTED WITH METAL-TO-METAL OR F			GENERAL: INSTALL FIRE REQUIREMENTS TO ELEC
CHECKS, COMPLYING WITH ASTM A-12 (VICTAULIC SERIES 717, OR EQUA 3. BUTTERFLY VALVES: RUBBER SEATED, EQUIPPED WITH GEAR OR TRAVEL	LING NUT ACTUATOR TO MINIMIZE WATEF	R HAMMER,	А.	FIELD QUALITY CONTROL SPRINKLER PIPING FLUSH
COMPLYING WITH AWWA C-50 (VICTAULIC SERIES 705 FIRELOCK, OR EQU 4. INDICATOR POSTS: TELESCOPIC BARREL TYPE FOR USE WITH UNDERGRO				CONNECTIONS AND CON COMPLETED AND BEFOR
 2.07 SPECIAL VALVES: A. GENERAL: PROVIDE VALVES, UL LISTED, IN ACCORDANCE WITH THE FOLLOW 	VING LISTING. PROVIDE SIZES AND TYPES	S WHICH MATE		SUBSTANCES, UNDER PR THAT DEBRIS HAS NOT C
AND MATCH PIPING AND EQUIPMENT CONNECTIONS. B. ALARM CHECK VALVE: PROVIDE CAST-IRON WATER FLOW ALARM CHECK VA	LVE, 175 PSI WORKING PRESSURE. PRO	/IDE TRIM FOR		PERFORM HYDROSTATIC REQUIRED BY LOCAL AUT
BYPASS, DRAIN, ALARM, PRESSURE GAUGES AND FILL LINE. 1. APPPROVED ALARM CHECK VALVE MANUFACTURERS: BERMAD, RELIAE				HYDROSTATIC TESTING: NOT LESS THAN 200 PSI (
C. DRY PIPE VALVES: PROVIDE DIFFERENTIAL TYPE, 175 PSIG WORKING PRESSU SEAT WITH O-RING SEALS. TRIM SHALL INCLUDE AIR SUPPLY, DRAIN. PRIMIN 1. APPPROVED DRY VALVE MANUFACTURERS: RELIABLE, VICTAULIC, VIKING,	NG LEVEL, ALARM, PRESSURE GAUGES, AI			OF 150 PSI. CHECK SYST ZONE BEING TESTED. REPAIR OR REPLACE PIPII
 D. HOSE OUTLET VALVES: PROVIDE ANGLE HOSE VALVES, 2-L/2" SIZE WHERE NO. E. FIRE DEPARTMENT CONNECTION VALVE: PROVIDE FIRE DEPARTMENT CONNI 	OT OTHERWISE INDICATED.			OR NO LEAKAGE" AND RE ADJUSTING AND CLEANIN
WORKING PRESSURE, OF SIZE AND END TYPE INDICATED. F. DETECTOR CHECK VALVES: PROVIDE CAST-IRON BODY DETECTOR CHECK VA			А.	CLEANING AND INSPECTI AND DEFECTS. INSPECT
SIDE FOR BY-PASS METER, AIR VENT, AND COVER-MOUNTED EYEBOLT. 1. APPPROVED DETECTOR CHECK VALVE MANUFACTURERS: AMES, WATTS,				THE WEIGHT OF THE PIPE EXTRA STOCK:
 H. BACKFLOW PREVENTION VALVES 1. PROVIDE APPROVED DOUBLE VALVE ASSEMBLIES TO SEPARATE AUTOMA 		BLE WATER	А.	HEADS: FOR EACH STYLE UNIT FOR EVERY 100 INST
 SYSTEM. APPPROVED DOUBLE CHECK VALVE MANUFACTURERS: AMES, WATTS, W 		 .		WRENCHES: FURNISH 2
2.08 HYDRANTS: A. GENERAL: PROVIDE CAST-IRON SIDEWALK FIRE HYDRANTS WITH THREADED		CAN NATIONAL		
STANDARD FIRE HOSE CONNECTION SCREW THREADS" UNLESS OTHER HOSE B. PROVIDE DRY-BARREL FIRE HYDRANTS (BASE VALVE TYPE) COMPLYING WITH	E CONNECTION REQUIRED BY LOCAL FIRE			
 WORKING PRESSURE, L50 PSI UNLESS OTHERWISE INDICATED. VALVE OPENING DIRECTION, CLOCKWISE, INDICATED BY ARROW AND THE 				
 NOZZLES, TWO 2-1/2" HOSE CONNECTIONS AND ONE 4-1/2" PUMPER CON MATCH OPERATING STEM NUTS. PROVIDE NATIONAL STANDARD HOSE TH 	NECTION WITH CAPS AND CHAINS. NOZZ HREADS ON 2-1/2". HOSE THREADS ON 4-	-1/2" PUMPER		
CONNECTION SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS: O. PER INCH, GAUGE 2C.	D4.875", P.D4.777", ROOT DIAMETER 4,	653", 6 THREADS		

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MATIC SPRINKLERS OF TYPE INDICATED ON DRAWINGS, AND IN ACCORDANCE WITH THE FOLLOWING E LINKS FOR 135°F (57°C) AND SPRINKLERS WITH NOMINAL 1/2" DISCHARGE ORIFICE UNLESS OTHERWISE

EAD MANUFACTURERS: RELIABLE, VICTAULIC, VIKING, TYCO WRENCH: FURNISH STEEL, BAKED RED ENAMELED, SPRINKLER BOX WITH CAPACITY TO STORE 12 I SIZED TO SPRINKLERS.

YSICAL ABUSE SUCH AS GYMNASIUMS AND MECHANICAL ROOMS, PROVIDE STEEL WIRE GUARDS OVER , UL LISTED AND FM APPROVED VICTAULIC V9 INSTALLATION READY COUPLING MAY BE USED TO JOIN

HEADS ONTO THE 1" IGS OUTLET, OR APPROVED EQUAL. IECTIONS: E CAST BRASS SIDEWALK SIAMESE CONNECTIONS, ESCUTCHEON PLATE AND SLEEVE ASSEMBLY; WITH MENT INLETS WITH FEMALE HOSE CONNECTIONS, AMERICAN NATIONAL FIRE HOSE CONNECTION SCREW SELF-CLOSING BRASS DOUBLE CLAPPER VALVES, EQUIPPED WITH PLUGS AND CHAINS, CONSTRUCTION AND CONSTRUCTED WITH THE FOLLOWING ADDITIONAL CONSTRUCTION FEATURES:

PIPE OR 6" PIPE (PIPE SIZE).

URERS: CROKER AND GUARDIAN FIRE

NECTIONS:

TYPE CAST BRASS SIAMESE CONNECTIONS AND ESCUTCHEON PLATE ASSEMBLY, WITH 2, 2-1/2" FIRE I FEMALE HOSE CONNECTIONS, AMERICAN NATIONAL FIRE HOSE CONNECTION SCREW THREAD, L DROP CLAPPER VALVES, EQUIPPED WITH PLUGS AND CHAINS, CONSTRUCTION FEATURES AS JCTED WITH THE FOLLOWING ADDITIONAL CONSTRUCTION FEATURES:

6" PIPE (PIPE SIZE).

TO. SPKR." METER OF 7" X 14" RECTANGLE

: FLUSH, STACKED INLETS; FLUSH, ADJACENT INLETS; Y-TYPE, INLETS STRAIGHT, PROJECTING INLETS 45°, PROJECTING CONFIGURATION.

URERS: CROKER, GUARDIAN FIRE, POTTER ROEMER, AND VIKING

S AND CONDITIONS UNDER WHICH FIRE PROTECTION MATERIALS AND PRODUCTS ARE TO BE INSTALLED. /ORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN MANNER ACCEPTABLE TO

DENTIFICATION: ANICAL IDENTIFICATION SUCH THAT ALL FIRE PROTECTION PIPING AND EQUIPMENT CAN BE IDENTIFIED. I SIGNS ON PIPING IN ACCORDANCE WITH NFPA 13 AND NFPA 14 REQUIREMENTS.

E PIPING: RIOR FIRE WATER SYSTEM IN COMPLIANCE WITH APPLICABLE PROVISIONS OF NFPA 24 AND AS HEREIN D PAY FOR TAPS AND SERVICE BY LOCAL WATER UTILITY. FOR SLIP-JOINT PIPE, PROVIDE 3000 PSI KS AGAINST UNDISTURBED SOIL.

ALL IN ACCORDANCE WITH RECOMMENDED PROCEDURES OF THE CAST-IRON PIPE RESEARCH

CCORDANCE WITH AWWA M-17. LL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

IOINTS BETWEEN CAST-IRON PIPE AND OTHER TYPES OF PIPE WITH STANDARD MANUFACTURED CAST-INGS

SPECT CONDUIT TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED. ICATES POOR ALIGNMENT, DEBRIS, DISPLACED PIPE, INFILTRATION, OR OTHER DEFECTS, CORRECT SUCH TION OF ARCHITECT/ENGINEER.

AR INTERIOR OF CONDUIT OF DIRT AND OTHER SUPERFLUOUS MATERIALS AS WORK PROGRESSES. G IN LINE AND PULL PAST EACH JOINT AS IT IS COMPLETED. PLACE PLUGS IN END OF UNCOMPLETED OR WHENEVER WORK STOPS. FLUSH LINES TO REMOVE COLLECTED DEBRIS BEFORE CONNECTING TO SYSTEMS. FLUSH CONDUIT AT RATES OF FLOW RECOMMENDED BY NFPA 24 UNLESS HIGHER RATES HORITIES.

ND PIPE FITTINGS: AND PIPE FITTINGS IN ACCORDANCE WITH DRAWING AND REQUIREMENT OF AUTHORITY HAVING T ALL WORK INCLUDING UNDERGROUND LINES MUST BE INSTALLED BY A LICENSED SPRINKLER

ENTS OF NFPA 13 AND NFPA 14 FOR INSTALLATION OF FIRE PROTECTION PIPING MATERIALS. INSTALL INDICATED, IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS, AND IN ACCORDANCE TRY PRACTICES TO ENSURE THAT PIPING SYSTEMS COMPLY WITH REQUIREMENTS AND SERVE INTENDED

WORK, INCLUDING PLUMBING PIPING, AS NECESSARY, TO INTERFACE COMPONENTS OF FIRE ERLY WITH OTHER WORK.

LOW POINTS OF PIPING SYSTEMS. PROVIDE DRY DRUM DRIPS WHERE INDICATED.

ES IN INLET PIPING, AT BOTTOM OF EACH RISER, AND IN LOOPS. T CONNECTION VALVES IN PIPING WHERE FIRE DEPARTMENT CONNECTIONS ARE INDICATED.

DICATORS WHERE INDICATED. URERS: POTTER. VIKING. AND WATTS.

ITCHES ON EACH SECTIONAL VALVE.

S ON RISER OR MAIN FEED, AT EACH SPRINKLER TEST CONNECTION, AND AT TOP OF EACH STANDPIPE.

F AT EACH AUDIBLE ALARM STATION. CONNECTIONS WHERE INDICATED, OR AT MOST REMOTE POINT FROM RISER.

PERATED ALARM BELL NEAR FIRE DEPARTMENT CONNECTION.

ACTORY FINISH. SUITABLE FOR OUTDOOR USE. URERS: FIRE-LITE ALARMS, NOTIFIER, AND POTTER.

ANUFACTURES WRITTEN RECOMMENDATIONS.

INSTALL IN HORIZONTAL POSITION AS INDICATED, ORIENTED FOR PROPER FLOW DIRECTION. INSTALL DBE VALVE AND CHECK VALVE, IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION DIRECTIONS. ENTION VALVE TO SEPARATE SPRINKLER SYSTEM FROM POTABLE WATER SYSTEM.

OTECTION SPECIALTIES: PROTECTION SPECIALTIES AS INDICATED, AND IN ACCORDANCE WITH NFPA 13 AND 14. FURNISH WIRING FRICAL INSTALLER FOR ELECTRICAL WIRING OF SUPERVISORY SWITCHES.

ING: PRIOR TO CONNECTING SPRINKLER RISERS FOR FLUSHING, FLUSH WATER FEED MAINS, LEAD-IN TROL PORTIONS OF SPRINKLER PIPING. AFTER FIRE SPRINKLER PIPING INSTALLATION HAS BEEN PIPING IS PLACED IN SERVICE, FLUSH ENTIRE SPRINKLER SYSTEM, AS REQUIRED TO REMOVE FOREIGN ESSURE AS SPECIFIED IN NFPA 13. CONTINUE FLUSHING UNTIL WATER IS CLEAR, AND CHECK TO ENSURE OGGED SPRINKLERS.

ESTING OF COMPLETED OUTSIDE LINES IN ACCORDANCE WITH NFPA 24 UNLESS MORE STRINGENT TEST HORITIES HAVING JURISDICTION. FTER FLUSHING SYSTEM, TEST FIRE SPRINKLER PIPING HYDROSTATICALLY, FOR PERIOD OF 2 HOURS, AT

R AT 50 PSI IN EXCESS OF MAXIMUM STATIC PRESSURE WHEN MAXIMUM STATIC PRESSURE IS IN EXCESS IM FOR LEAKAGE OF JOINTS. MEASURE HYDROSTATIC PRESSURE AT LOW POINT OF EACH SYSTEM OR

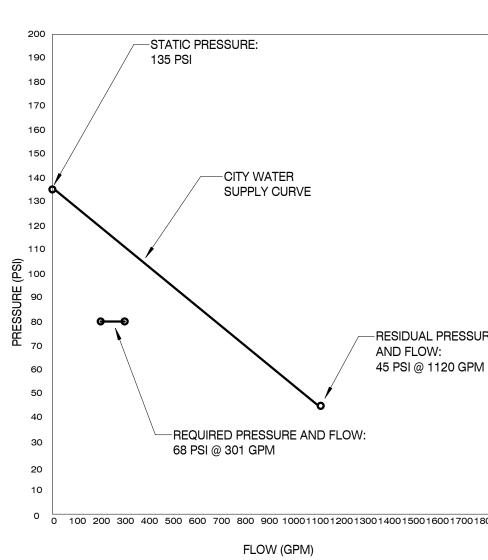
G SYSTEM AS REQUIRED TO ELIMINATE LEAKAGE IN ACCORDANCE WITH NFPA STANDARDS FOR "LITTLE TEST AS SPECIFIED TO DEMONSTRATE COMPLIANCE.

NG: CLEAN AND INSPECT FIRE PROTECTION SYSTEMS TO BE WIP-DOWN CLEAN AND FREE FROM LEAKS PIPE HANGERS TO INSURE SECURE STRUCTURAL CONNECTION AND THE HANGER IS TIGHT AND CARRYING

AND TEMPERATURE RANGE REQUIRED, FURNISH ADDITIONAL SPRINKLER HEADS, AMOUNTING TO ONE ALLED UNITS, BUT NOT LESS THAN 5 UNITS OF EACH. PANNER WRENCHES FOR EACH TYPE AND SIZE OF VALVE CONNECTION AND FIRE HOSE COUPLING.

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PRELIMINARY SPRINKLER CALC

Flow test Data Static Pressure:

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Static Pressure: Residual Pressure: Flow (GPM) :	135 45 1120	
Date taken: Time: Test taken by: Elevation of Hydrant:	12/29/21 AFTERNOON NORRIS WATER COMMISSON	
Design Density (NFP, Design Area (Square Overage Factor (1.2) Remote area GPM de Standpipe GPM dem after)	highest demand (Room Name) A 13 or supplied by Insurance Co.) footage)	N/ 0. 15 1. 20 0
Total GPM (Remote	Area + Standpipe + Hose)	30
Available Pressure		
Density Max Sprinkler Head o	coverage (As per NPFA 13 table 4-2.2)	0. 16
Square footage space	ing x Density = GPM sprinkler head (Q)	16
	head (K) equired at head=(Q / K)2 from test hydrant to base of riser x .433	5. 9 23
Elevation difference f	from base of riser to remote area x .433	15

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

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

Friction loss in pipe (psi/ft) (Based on Hazen William Equation) (HW1) $HR \times 1.30 \times HW1 =$

Length of run from riser to last sprinkler head (estimated.)

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

Friction loss in pipe (psi/ft) (Based on Hazen William Equation) (HW2) RS x 1.30 x HW2 = Estimated Required Flow Data for Building

Required GPM Required PSI

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SPRINKLER LEGEND

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SYM	DESCRIPTION	SPRAY	TYPE	TEMP.	ORIFICE
•	PENDENT	15' X 15'	QUICK RESPONSE	135°F	1/2"

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	FIRE PROTECTION GENERAL NOTES:		
	1. 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	8	
	13 & 24. 2. 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 FOR FREEZE PROTECTION. THE SPRINKLER CONTRACTOR SHALL COORDINATE LOCATIONS OF SPRINKLER 		
	 HEADS AND ASSOCIATED PIPING WITH ALL OTHER TRADES. 5. ALL SPRINKLER HEADS LOCATED IN 2'x2' TILES SHALL BE CENTERED. 		299 N. WEISGARBER ROAD KNOXVILLE, TN 37919 PHONE: (865) 584-0999
SSURE	6. SPRINKLER SYSTEM SHALL BE LIGHT HAZARD		FAX: (865) 584-5213 WEB: mbicompanies.com
GPM	7. 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.	7	CONSULTANT MECHANICAL ENGINEER:
	8. SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR FULL REPLACEMENT COST OF SURFACES DAMAGED BY DRAINAGE FROM THE SPRINKLER SYSTEM.		
700 1 8001 900 2000	9. THE CONTRACTOR MUST PROVIDE A CERTIFIED CALCULATION DEMONSTRATING THE CHARACTERISTICS OF THE PROPOSED SYSTEM AND SHOWING PIPE SIZE AND SYSTEM FLOW.		MBI COMPANIES INC.
	10. 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.		299 N. WEISGARBER ROAD KNOXVILLE, TN 37919 PHONE: (865) 584-0999 FAX: (865) 584-5213
	11. PROVIDE A "PUMPER" HYDRANT WITHIN 100' OF THE FIRE DEPARTMENT CONNECTION AS REQUIRED BY THE AHJ.		WEB: mbicompanies.com SEAL
CULATION	 12. THE NEW SPRINKLER SYSTEM IS AN NFPA (13-4.1) WET PIPE SYSTEM. 13. 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. 	6	BUCH
	14. ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE LOCAL CODES, RULES AND ORDINANCES.		CIERED ENGLA
	15. THE VELOCITY OF WATER FOR SPRINKLER PIPING SHALL NOT EXCEED 21 FPS (FEET PER SECOND).		Addichter Ready
NA 0.1	16. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR CONNECTIONS TO ALL UTILITY LINES AND PAY ALL FEES AND COSTS FOR CONNECTIONS TO THOSE SERVICES.		10435
1500 1.34 201 0	17. SEE MECHANICAL SHEETS FOR DIFFUSER LOCATIONS. 18. SEE ELECTRICAL LIGHTING SHEETS FOR LOCATION OF LIGHTS.		OF TENT
0 1) 100 301		5	COPYRIGHT © MBI COMPANIES INC. 2020 THE DESIGN PROFESSIONAL DENIES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR PROBLEMS WHICH ARISE FROM OTHERS'
0.1 168			FAILURE TO OBTAIN AND/ OR FOLLOW THE DESIGN PROFESSIONAL'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED. PROJECT INFORMATION
16.8 5.6		_	PROJECT: AN ADDITION &
9 23	9.959		RENOVATION TO: NORRIS MIDDLE
15 5	6.495		PROJECT ADDRESS:
5 35		4	
355 100 6			5 NORRIS SQUARE, NORRIS, TN 37828 PROJECT NO.: 210042-04 ACTIVE DESIGN PHASE
0.005635 3		-	FOR REVIEW ONLY FOR PERMITTING ONLY SCHEMATIC DESIGN
275			□ DESIGN DEVELOPMENT □ CONSTRUCTION BIDDING ■ CONSTRUCTION DOCUMENTS
120 3			AS-BUILT RECORD SET
0.117604 42		3	NO. DATE DESCRIPTION
301 80			
		_	KEY PLAN
ORIFICE K MODEL # 1/2" 5.6 V2708	FINISH WHITE		
.,		2	
			SHEET INFORMATION
		\vdash	SHEET ISSUED: 2/4/2022 DESIGNED BY: DF
			DRAWN BY: DF REVIEWED BY: JCB SHEET TITLE:

FP001

SPECIFICATIONS, AND

SHEET NO .:

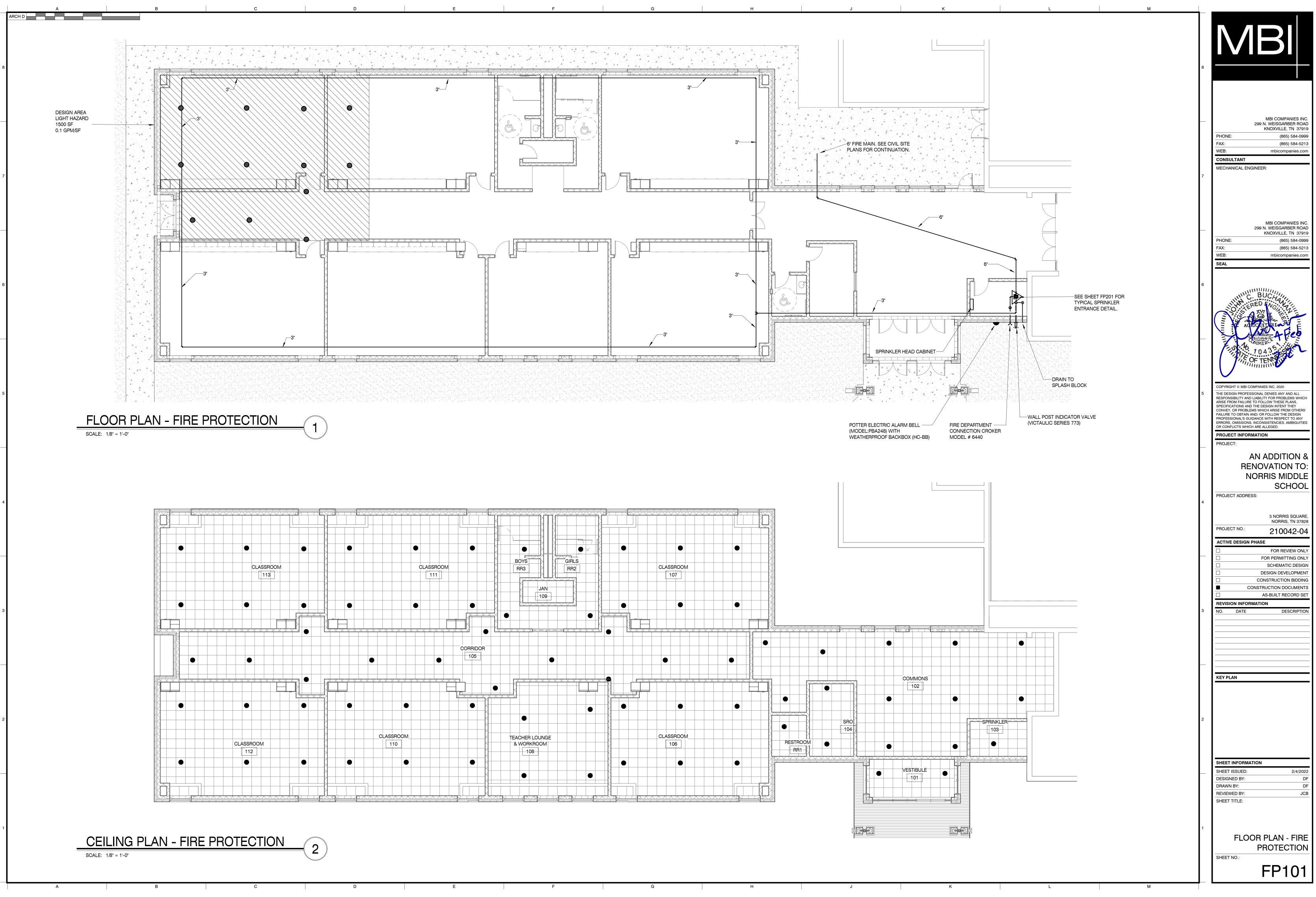
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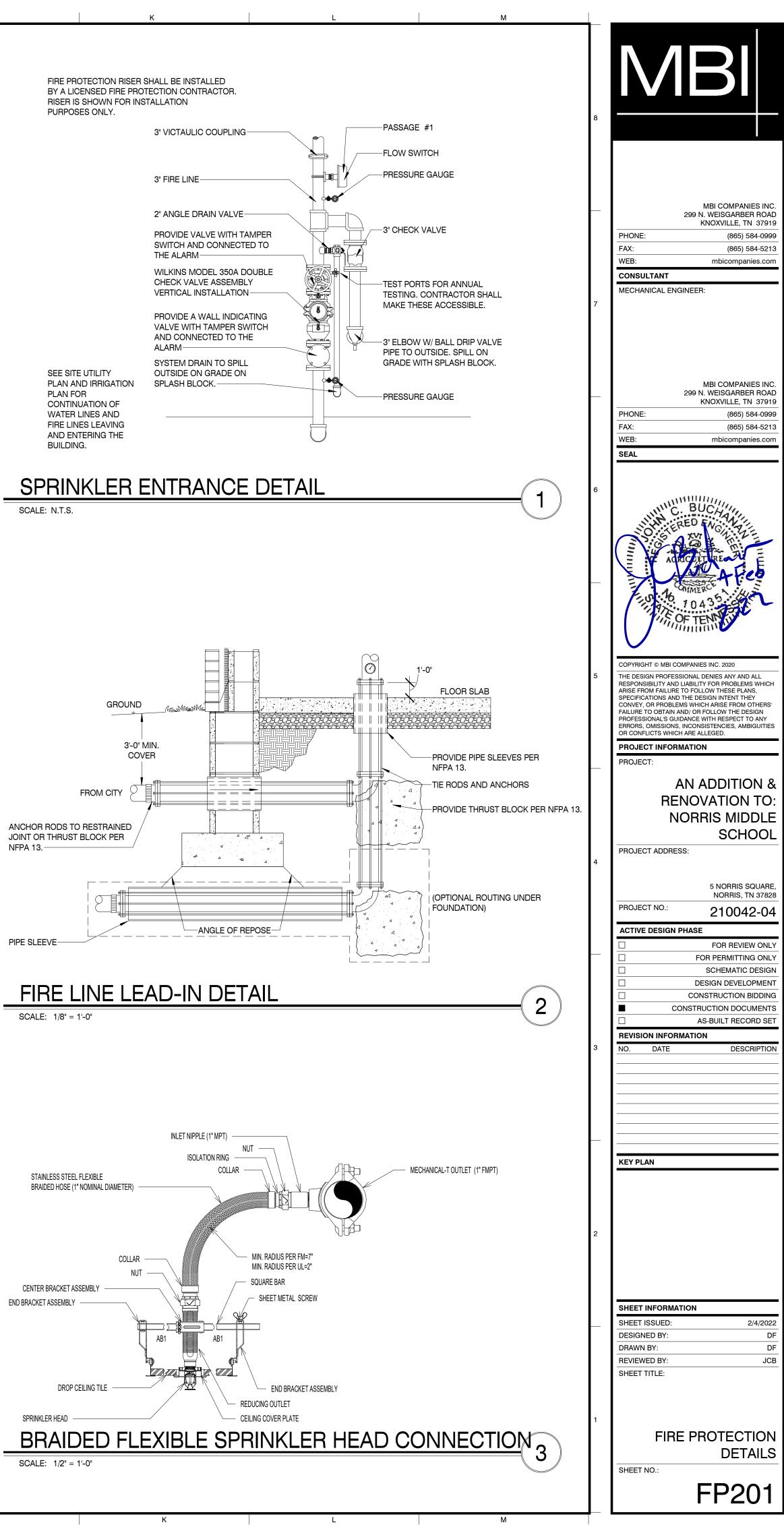
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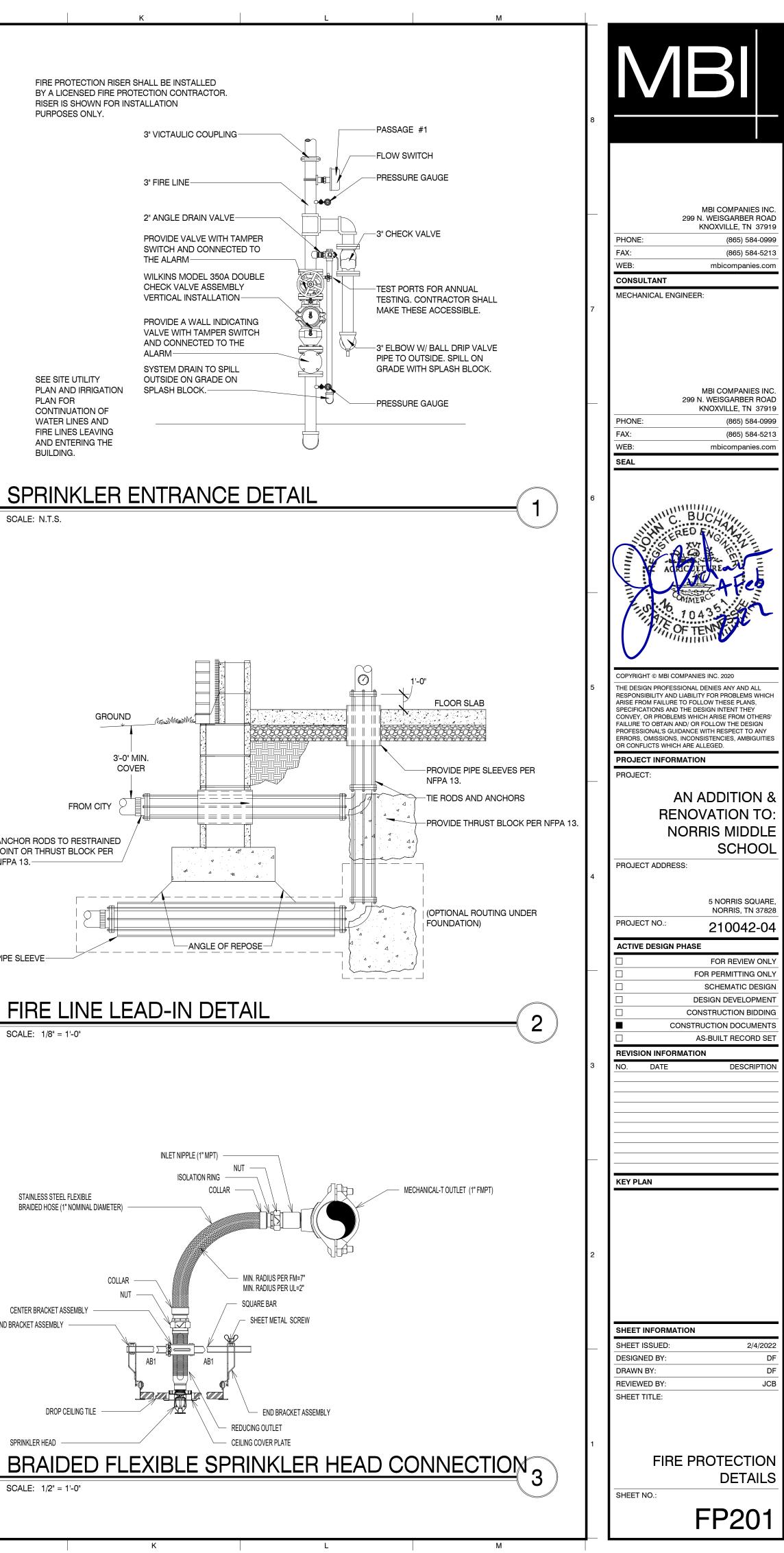


END BRACKET ASSEMBLY

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		AIR DIS	TRIBUTION EQUIF	Ϋ́Η				
DESIGN	ATION	SERVICE	DESCRIPTION	MATERIAL/FINISH	MANUFACTURER MODEL NUMBER	SIZIN CFM	G NECK	PART 1 - GENERAL
\boxtimes	0.01	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"Ø 8"Ø 10"Ø	1.01 SCOPE FURNISH ALL LABOR, MATERIALS, EQUIPMENT, CONTROL S ACCESS PANELS, PERMITS, AND SERVICES NECESSARY TO IN COMPLETE AND OPERABLE AIR CONDITIONING, HEATING, AND
	ODZ	SQUARE, 3- CONE, CEILING SUPPLY DIFFUSER	SURFACE MOUNTED, ADJUSTABLE PATTERN WITH O.B.D.	ALUMINUM WHITE ENAMEL	PRICE ASCDA	421-615 616-840		SYSTEM INDICATED ON THE DRAWINGS, AS SPECIFIED HEREIN ACCORDANCE WITH ALL CITY, STATE, AND NATIONAL CODES CONFLICT BETWEEN CODES AND OR THE CONTRACT DOCUM CONTRACTOR IS TO FOLLOW THE MORE STRINGENT OF THE F MATERIALS SHALL BE NEW AND ALL WORKMANSHIP AND MA
	RCD	ROUND CONE DIFFUSER	FOUR CONE, ADJUSTABLE PATTERN	ALUMINUM WHITE ENAMEL	PRICE RCDA	0-410	10"Ø	STRICT ACCORDANCE WITH APPLICABLE LOCAL CODES, PRO RULES AND ORDINANCES. ANY DAMAGED EQUIPMENT SHALL RESTORED TO ORIGINAL CONDITION. ALL MECHANICAL EQUIP
		LINEAR SLOT DIFFUSER	(_)" SLOTS 2-WAY PATTERN CONTROL	ALUMINUM WHITE ENAMEL	PRICE			& UL LISTED WHERE APPLICABLE AND RATED FOR THE REQUI PRESSURES, TEMPERATURES AND SHALL BE PROVIDED WITH TRANSFORMERS, SEALS, VALVES, CONNECTIONS, ETC. TO FU
7	CR1 CR2		1/2"x1/2"x1/2" CORE, PANEL MTD, T- BAR LAY-IN, BORDER TYPE 3, WITH ALUMINUM O.B.D. 1/2"x1/2"x1/2" CORE, PANEL MTD,	ALUMINUM CORE ALUMINUM FRAME WHITE ENAMEL	PRICE 80DAL-F	0-415 416-815 816-1300 1301-1680		ALL CONDUIT, ROUGH IN ELECTRICAL BOXES AND WIRING VOLTAGE CONTROL WIRING, SHALL BE INCLUDED UNDER THE SECTION OF THE CONTRACT DOCUMENTS, COORDINATE REQ
3			SURFACE MOUNT, BORDER TPE 1, WITH ALUMINUM O.B.D.	ALUMINUM CORE ALUMNIUM FRAME WHITE ENAMEL		0.050	10×10	ROUGH IN LOCATIONS FOR ALL EQUIPMENT. CONTROL WIRIN PROVIDED AND INSTALLED UNDER THE MECHANICAL SECTION DOCUMENTS.
	TG	TRANSFER GRILLE	1/2"x1/2"x1/2" CORE, PANEL MTD, SURFACE MOUNT OR T-BAR LAY-IN AS REQUIRED	ALUMINUM CORE ALUMNIUM FRAME WHITE ENAMEL	PRICE 80	0-350 351-680 681-1125 1126-1680	10x10 14x14 18x18 22x22	PRIOR TO ORDERING EQUIPMENT THE CONTRACTOR SHAL APPROVAL A MINIMUM OF THREE (3) COPIES OF THE EQUIPME TECHNICAL DATA AND/OR SHOP DRAWINGS. AS AN ALTERNAT
	SWR1 CE1	SIDEWALL RETURN GRILLE	O DEG. FIXED HORZONTAL FACE BARS 1/2"x1/2"x1/2" CORE, PANEL MTD, T-	ALUMINUM WHITE ENAMEL	PRICE 510ZD PRICE			SUBMITTAL IS ACCEPTABLE. CONTRACTOR IS INSTRUCTED TO INFORMATION WHEN SUBMITTING ELECTRONICALLY AND AVO COMMUNICATIONS.
☑	CE2	EGGCRATE FACE CEILING EXHAUST GRILLE	ALUMINUM O.B.D.	ALUMINUM CORE ALUMNIUM FRAME WHITE ENAMEL	80DAL-TB	0-415 416-815 816-1300		EQUIPMENT SHALL OPERATE QUIETLY. THE OPERATION OF SHALL CAUSE NO PERCEPTIVE VIBRATION NOR OBJECTIONAB
		CESSORIES:	1/2 X1/2 X1/2 CORE, PANEL MTD,SURFACE MOUNT, BODER TYPE 1 WITH ALUMINUM O.B.D.		PRICE 80DAL-F	1301-1680) 22x22	PORTION OF THE BUILDING OR STRUCTURE.
ALTI MEC PRIC CHA COL RES ORE FOR	ERNATE CHANIC, DR TO C RT FOF OR/FINI PONSIE DER DIF SIDEW	MANUFACTURER AL CONTRACTOR S RDERING DEVICES EACH DEVICE SC SH IS NOT COORD LE FOR PREPARIN FUSERS WITH VOL ALL DIFFUSERS AE ALL DIFFUSER, GR	INCLUDING SQUARE TO ROUND AS RE S: KRUEGER, METALAIRE, PRICE SHALL PROVIDE DIFFUSERS WITH APPF S MECHANICAL CONTRACTOR SHALL F HEDULED. SELECTIONS MAY DIFFER O INATED WITH ARCHITECT PRIOR TO OF G AND PAINTING TO MATCH INTERIOR. UME DAMPER. DJUST VERTICAL BLADES FOR A 45 DE ULLES, AND REGISTERS SIZES ARE SHO (ITH ARCHITECTURAL DRAWINGS AND	OPRIATE AIR PATTER PROVIDE TO ARCHITE N A SPACE BY SPACE IDERING MECHANICA GREE HORIZONTAL S WWN ON FLOOR PLAN	CT A COLOR/FINISH E BASIS PER ARCHIT AL CONTRACTOR SH PREAD.	SELECTION		 MANUALS COVERING HEATING, VENTILATING, AND AIR COND AS WELL AS EQUIPMENT WARRANTIES, CONTROL SEQUENCE MANUALS ARE TO BE BOUND AND COVERED. DELIVER MANU ARCHITECT. INCLUDE A COMPLETE DESORIPTION OF THE OPE CONTROL SYSTEM. THE CONTRACTOR SHALL INSTRUCT THE REPRESENTATIVE IN THE PROPER OPERATION OF ALL EQUIPM 1.06 WARRANTIES ALL WARRANTIES SHALL BEGIN UPON FINAL ACCEPTANCE NOT BENEFICIAL USE BY THE CONTRACTOR. FURNISH A FIVE (5) YEAR WARRANTY ON ALL COMPRESSO REFRIGERATION CIRCUIT AND A ONE (1) YEAR WARRANT AND OTHER EQUIPMENT. THE MC WILL WARRANTY ALL MECHANICAL SYSTEMS, DU THERMOSTATS, AND ALL OTHER EQUIPMENT, PARTS, AND THE MCOVILL WARRANTY ALL MECHANICAL SYSTEMS, DU THERMOSTATS, AND ALL OTHER EQUIPMENT, PARTS, AND THE MCCHANICAL DRAWINGS AND IN THE SPECIFICATION ONE (1) YEAR AFTER ISSUANCE OF THE CERTIFICATE OF (HVAC GENERAL NOTE 17. ANY REPAIRS REQUIRING SYSTEM SHUT DOWN WILL BE D OPERATIONAL PERIODS. THE MC SHALL COORDINATE WITH ALL OTHER TRADES PR PURCHASING ANY EQUIPMENT. AN INDEPENDENT CONTRACTOR SHALL TEST AND BALANN EQUIPMENT AIR DEVICES, EXTRACTORS, DAMPERS, AHUS PROVIDE THE DESIGN QUANTITIES (+/- 5%) AS SHOWN ON SCHEDULES. PROVIDE T & B REPORT IN ACCORDANCE WI BALANCE COUNCIL (ABC) STANDARDS, SIGNED AND SEA REGISTERED ENGINEER, PROVIDE FINAL BALANCING FOR SATISFACTION OF OWNER AND ENGINEER. T & B CONTRA THE JOB STIE DURING CONSTRUCTION TO ENSURE THAT AND QUIET AIR DELIVERY. PROVIDE ALL MATERIALS AND LABOR REQUIRED FOR EQU TO BUILDING STRUCTURE. 1.07 PERMITS, ORDINANCES, AND INSPECTION FEE TO THE ARCHITECT, ALL CERTIFICATES AND INSPECTION FEE TO THE ARCHITECT, ALL CERTIFICATES AND INSPECTION FEE TO MEET OR EXCEED REQUIREMENTS. THE CONTRA AND MINOR ADJUSTMENTS TO MEET THESE REQUIREMENT ADD TIONAL COST TO OWNER. PART 2 - PRODUCTS 2.01 DUCTWORK GENERAL A SEE HVAC GENERAL NOTES FOR ADDITIONAL REQUIRE B. DIMENSIONS TO ACCOMMODATE INSULATION T C. PROVI
								METHODS SHOWN IN THE ADC INSTALLATION MANUAL A STRAPS NOT LESS THAN 1-1/2" WIDE AT A MAXIMUM OF 5 DUCTS SHALL NOT DEFLECT MORE THAN 1/2" IN 5 FEET OR RESTRICTIONS TO FLOW. ELBOWS SHALL HAVE A MIN ONE DUCT DIAMETER WITH INTERIOR LINER FULLY EXTEN DUCTWORK <u>SHALL NOT</u> BE USED IN RETURN NOR EXHAU

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HVAC SPEC	CIFICATIONS	HVAC GENERAL NOTES	
ERAL	3. LOW PRESSURE DUCTWORK A. CONCEALED SYSTEMS. (DEFINED AS ANY DUCTWORK NOT VISIBLE TO	1. REFERENCE HVAC SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.	2 12
LL LABOR, MATERIALS, EQUIPMENT, CONTROL SYSTEMS, DEVICES,	OCCUPANTS OF A SPACE) PROVIDE MINIMUM 26 GAUGE RECTANGULAR AND/OR ROUND GALVANIZED STEEL SHEET METAL DUCTWORK	2. ALL WARRANTIES SHALL BEGIN UPON FINAL ACCEPTANCE BY THE OWNER, NOT BENEFICIAL USE BY THE CONTRACTOR.	- 20
ELS, PERMITS, AND SERVICES NECESSARY TO INSTALL THE ID OPERABLE AIR CONDITIONING, HEATING, AND VENTILATING CATED ON THE DRAWINGS, AS SPECIFIED HEREIN, AND IN	CONSTRUCTED AND INSTALLED IN THE VENTILATION SYSTEMS IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS. SEE HVAC GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.	3. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATE THE APPROXIMATE ROUTING OF PIPING AND DUCTWORK. THE CONTRACTOR SHALL	
E WITH ALL CITY, STATE, AND NATIONAL CODES, IF THERE IS A WEEN CODES AND OR THE CONTRACT DOCUMENTS, THE	 B. EXPOSED SYSTEMS. (DEFINED AS ANY DUCTWORK <u>VISIBLE</u> TO OCCUPANTS OF A SPACE) FOR ALL DUCTWORK SYSTEMS PROVIDE GALVANEALED 	COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS AND DELAYS MINOR OFFSETS AND ADJUSTMENTS SHALL BE PROVIDED WHERE REQUIRED AT NO	
IS TO FOLLOW THE MORE STRINGENT OF THE REQUIREMENTS. ALL HALL BE NEW AND ALL WORKMANSHIP AND MATERIALS SHALL BE IN		ADDITIONAL COST TO THE OWNER.	
RDANCE WITH APPLICABLE LOCAL CODES, PRODUCT APPROVAL, RDINANCES. ANY DAMAGED EQUIPMENT SHALL BE REPLACED OR ORIGINAL CONDITION. ALL MECHANICAL EQUIPMENT SHALL BE ARI	INDICATED ON PLANS) AS MANUFACTURED BY EASTERN SHEET METAL OR APPROVED EQUAL. ALL DUCTWORK IS TO BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS.	4. COORDINATE CEILING DIFFUSERS AND REGISTER LOCATIONS WITH THE ARCHITECTURAL REFLECTED CEILING. COORDINATE SIDE WALL GRILLES AND REGISTERS WITH STRUCTURAL AND ARCHITECTURAL ELEMENTS.	
/HERE APPLICABLE AND RATED FOR THE REQUIRED SERVICE, EMPERATURES AND SHALL BE PROVIDED WITH ALL NECESSARY	 I. PROVIDE 2" WG LEAKAGE CLASS FOR ALL SYSTEMS II. FOR SUPPLY AND OUTSIDE AIR INTAKE DUCTWORK PROVIDE DUAL 	5. DUCT DIMENSIONS INDICATED ON THE DRAWINGS ARE NET AIR SIDE	
RS, SEALS, VALVES, CONNECTIONS, ETC. TO FUNCTION PROPERLY.	WALL CONSTRUCTION WITH 2" FIBERGLASS INSULATION (MIN. K= 0.27). INNER WALL SHALL BE SOLID, PERFORATED INNER WALLS ARE	DIMENSIONS.	
RICAL WORK UIT, ROUGH IN ELECTRICAL BOXES AND WIRING, EXCLUDING LOW ITROL WIRING, SHALL BE INCLUDED UNDER THE ELECTRICAL	NOT ACCEPTABLE. III. FOR RETURN AND EXHAUST DUCTWORK PROVIDE SINGLE WALL CONSTRUCTION.	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	
HE CONTRACT DOCUMENTS, COORDINATE REQUIREMENTS AND CATIONS FOR ALL EQUIPMENT. CONTROL WIRING SHALL BE	IV. ALL DUCTWORK IS TO BE CLEANED OF GREASE, OIL, AND DIRT THEN PRIMED PRIOR TO APPLICATION OF A TOP COAT. CLEANING AND	THICKNESS TURNING VANES. SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK SHALL BE GALVANIZED STEEL WITH INSULATION AS NOTED. EXHAUST DUCTWORK	
D INSTALLED UNDER THE MECHANICAL SECTION OF THE CONTRACT	PRIMING ARE TO BE PERFORMED BY PAINTING CONTRACTOR PER THE PAINT MANUFACTURER'S RECOMMENDATION. PAINT COLOR	SHALL BE GALVANIZED STEEL.	
TAL DATA DRDERING EQUIPMENT THE CONTRACTOR SHALL SUBMIT FOR	SELECTION IS TO BE APPROVED BY THE ARCHITECT. 4. MEDIUM PRESSURE DUCTWORK. (DEFINED AS SUPPLY DUCTWORK	7. INSULATE SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK WITH A MINIMUM OF 2" THICK 3/4 PCF BLANKET INSULATION WITH FOIL VAPOR BARRIER. SEAL ALL JOINTS AND SEAMS IN THE VAPOR BARRIER. FOR ACCOUSTICAL REASONS, IN	2
/INIMUM OF THREE (3) COPIES OF THE EQUIPMENT BROCHURES, ATA AND/OR SHOP DRAWINGS. AS AN ALTERNATIVE, AN ELECTRONIC	DOWNSTREAM OF AIR HANDLER AND UPSTREAM OF VAV BOX) PROVIDE GALVANEALED STEEL (ASTM A875) SPIRAL ROUND AND/OR SPIRAL FLAT OVAL	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.	
ACCEPTABLE. CONTRACTOR IS INSTRUCTED TO CONSOLIDATE WHEN SUBMITTING ELECTRONICALLY AND AVOID MULTIPLE IONS.	CONSTRUCTED SHEET METAL DUCTWORK AND FITTINGS (SIZED AS INDICATED ON PLANS) AS MANUFACTURED BY EASTERN SHEET METAL OR APPROVED EQUAL. ALL DUCTWORK IS TO BE CONSTRUCTED AND INSTALLED	8. <u>DUCT SEALING</u> : PRESSURE SENSITIVE TAPE USED AS THE PRIMARY SEALANT IS TO BE CERTIFIED AND SHALL COMPLY WITH UL-181A OR UL-181B.	
AND VIBRATION	IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS. A. CONCEALED SYSTEMS. (DEFINED AS ANY DUCTWORK NOT VISIBLE TO	PROVIDE LONGITUDINAL SEAMS ON RIGID DUCT AND TRANSVERSE SEAMS ON ALL DUCTS. MECHANICAL FASTENERS AND SEALANTS SHALL BE USED TO CONNECT	
T SHALL OPERATE QUIETLY. THE OPERATION OF THE EQUIPMENT NO PERCEPTIVE VIBRATION NOR OBJECTIONABLE NOISE IN ANY	OCCUPANTS OF A SPACE) FOR ALL DUCTWORK SYSTEMS PROVIDE GALVANIZED (ASTM A653) OR GALVANEALED (ASTM A875) STEEL SPIRAL	DUCTS AND AIR DISTRIBUTION DEVICES.	
HE BUILDING OR STRUCTURE.	ROUND AND/OR SPIRAL FLAT OVAL CONSTRUCTED SHEET METAL DUCTWORK AND FITTINGS (SIZED AS INDICATED ON PLANS) AS MANUFACTURED BY EASTERN SHEET METAL OR APPROVED EQUAL, ALL	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-	
3) THREE SETS OF OPERATING INSTRUCTIONS AND MAINTENANCE VERING HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS	DUCTWORK IS TO BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS.	MOUTH OR SPIN-IN FITTINGS WITH DAMPERS IN THE BRANCH DOWNSTREAM. PROVIDE BACKDRAFT DAMPERS ON ALL EXHAUST FANS AND/OR INLINE FANS.	
QUIPMENT WARRANTIES, CONTROL SEQUENCES AND DIAGRAMS. TO BE BOUND AND COVERED. DELIVER MANUALS TO THE	I. PROVIDE 4" WG LEAKAGE CLASS FOR ALL SYSTEMSII. PROVIDE DUAL WALL CONSTRUCTION WITH 2" FIBERGLASS	10. ALL LOUVERS, ALL GRILLES, EXPOSED PIPING, EXPOSED EQUIPMENT, AND	
ICLUDE A COMPLETE DESCRIPTION OF THE OPERATION OF THE TEM. THE CONTRACTOR SHALL INSTRUCT THE OWNER'S IVE IN THE PROPER OPERATION OF ALL EQUIPMENT.	INSULATION (MIN. K=0.27). INNER WALL SHALL BE SOLID, PERFORATED INNER WALLS ARE NOT ACCEPTABLE. III. CONNECTIONS BETWEEN ALL DUCT SECTIONS AND FITTINGS TO BE	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	
INTIES	GASKET SEALED. B. EXPOSED SYSTEMS. (DEFINED AS ANY DUCTWORK <u>VISIBLE</u> TO OCCUPANTS	EQUIPMENT WITH BENJAMIN MOORE EPOXY ENAMEL 182 OR AS DIRECTED BY THE ARCHITECT.	
ANTIES SHALL BEGIN UPON FINAL ACCEPTANCE BY THE OWNER, FICIAL USE BY THE CONTRACTOR.	OF A SPACE) FOR ALL DUCTWORK SYSTEMS PROVIDE GALVANEALED STEEL (ASTM A875) SPIRAL ROUND AND/OR SPIRAL FLAT OVAL	11. THERMOSTATS AND SENSORS SHALL BE LOCATED 48" A.F.F. UNLESS	
. FIVE (5) YEAR WARRANTY ON ALL COMPRESSORS AND ATION CIRCUIT AND A ONE (1) YEAR WARRANTY ON ALL CONTROLS R EQUIPMENT.	CONSTRUCTED SHEET METAL DUCTWORK AND FITTINGS (SIZED AS INDICATED ON PLANS) AS MANUFACTURED BY EASTERN SHEET METAL OR APPROVED EQUAL, ALL DUCTWORK IS TO BE CONSTRUCTED AND	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	
ILL WARRANTY ALL MECHANICAL SYSTEMS, DUCTWORK, TATS, AND ALL OTHER EQUIPMENT, PARTS, AND LABOR SHOWN ON	INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS. I. PROVIDE 4" WG LEAKAGE CLASS FOR ALL SYSTEMS	REQUIREMENTS AND ROUGH IN LOCATIONS FOR ALL CONTROL DEVICES, ELECTRICAL CONNECTIONS TO EQUIPMENT, AND SWITCH LOCATION. CONTROL	
ANICAL DRAWINGS AND IN THE SPECIFICATIONS FOR A PERIOD OF AR AFTER ISSUANCE OF THE CERTIFICATE OF OCCUPANCY. SEE	II. PROVIDE DUAL WALL CONSTRUCTION WITH 2" FIBERGLASS INSULATION (MIN. K=0.27). INNER WALL SHALL BE SOLID,	WIRING SHALL BE PROVIDED AND INSTALLED UNDER THE MECHANICAL SECTION OF THE CONTRACT DOCUMENTS.	
ERAL NOTE 17. RS REQUIRING SYSTEM SHUT DOWN WILL BE DONE DURING NON- NAL PERIODS.	PERFORATED INNER WALLS ARE NOT ACCEPTABLE. III. ALL DUCTWORK IS TO BE CLEANED OF GREASE, OIL, AND DIRT THEN PRIMED PRIOR TO APPLICATION OF A TOP COAT. CLEANING AND	12. PROVIDE A 12/12 (MINIMUM) ACCESS DOOR FOR ACCESS TO ALL DAMPERS, CONTROL DAMPERS, EXTRACTORS, PLENUMS, OR ANY OTHER DEVICE MOUNTED	
ALL COORDINATE WITH ALL OTHER TRADES PRIOR TO BIDDING AND NG ANY EQUIPMENT.	PRIMING ARE TO BE PERFORMED BY PAINTING CONTRACTOR PER THE PAINT MANUFACTURER'S RECOMMENDATION. PAINT COLOR	IN THE DUCT SYSTEM.	
NDENT CONTRACTOR SHALL TEST AND BALANCE ALL MECHANICAL T AIR DEVICES, EXTRACTORS, DAMPERS, AHU'S AND FANS, ETC. TO	SELECTION IS TO BE APPROVED BY THE ARCHITECT. IV. CONNECTIONS BETWEEN ALL DUCT SECTIONS AND FITTINGS TO BE	13. INSTALL ALL EQUIPMENT ACCORDING TO THE MANUFACTURERS' INSTRUCTIONS.	CD-1 100
HE DESIGN QUANTITIES (+/- 5%) AS SHOWN ON THE PLANS OR S. PROVIDE T & B REPORT IN ACCORDANCE WITH THE AIR COUNCIL (ABC) STANDARDS, SIGNED AND SEALED BY A	GASKET SEALED. 2.02 DAMPERS.	14. REFRIGERANT PIPING SHALL BE PRE-CHARGED TUBING PACKAGES OR TYPE ACR COPPER TUBING IN ACCORDANCE WITH MANUFACTURES	
ED ENGINEER. PROVIDE FINAL BALANCING FOR ALL SYSTEMS TO ION OF OWNER AND ENGINEER. T & B CONTRACTOR SHALL VISIT	PROVIDE APPROVED MANUAL BALANCE DAMPERS WHERE SHOWN ON THE PLANS FOR THE PROPER REGULATION OF THE AIR HANDLING SYSTEM AND SO	RECOMMENDATIONS.	— CV
ITE DURING CONSTRUCTION TO ENSURE THAT ALL DUCTS, AND OTHER AIR CONTROL DEVICES ARE INSTALLED FOR PROPER AIR DELIVERY.	LOCATE AS TO BE ACCESSIBLE. 2.03 GRILLES, REGISTERS, AND DIFFUSERS	15. PROVIDE A MINIMUM OF 10' CLEARANCE BETWEEN FRESH AIR INTAKES AND EXHAUST OUTLETS, RELIEF OUTLETS, PLUMBING VENTS, ETC.	ک— Cv
LL MATERIALS AND LABOR REQUIRED FOR EQUIPMENT ANCHORAGE	1. FURNISH AND INSTALL WHERE INDICATED RETURN AND SUPPLY GRILLES,	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	HV —ے HV —ے
S, ORDINANCES, AND INSPECTIONS	COMPLETE WITH BAKED ENAMEL FINISH AND OPPOSED BLADE DAMPERS. 2. ALL DUCTWORK AND DIFFUSERS SHALL BE RATED FOR THE USE, PRESSURE		<u> </u>
ID PAY FOR ALL PERMITS AND INSPECTION FEES REQUIRED. DELIVER CHITECT, ALL CERTIFICATES AND INSPECTION REPORTS. SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CITY.	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.	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	ک— R⊦
TATE, OR NATIONAL ORDINANCES AND CODES. EFFORT HAS BEEN MEET OR EXCEED REQUIREMENTS. THE CONTRACTOR SHALL MAKE	INCLUDING DUCT AND DIFFUSERS, IN THE MEMBRANE EXCEED AN AGGREGATE AREA OF 100 SQUARE INCHES IN ANY 100 SQUARE FEET OF CEILING AREA.	AS ALLOWED TO REDUCE AIRFLOW RATES FOR INTERMITTENT USE.	<u></u>
R ADJUSTMENTS TO MEET THESE REQUIREMENTS AT NO AL COST TO OWNER.	3. DUCT INSULATION: INSULATE ALL SUPPLY, RETURN AND OUTDOOR AIR DUCTWORK WITH A MINIMUM OF 2" THICK 3/4# DENSITY DUCTWRAP	18. AFTER THE CONSTRUCTION OF THE BUILDING HAS REACHED A POINT WHERE THE PERMANENT HEATING AND COOLING SYSTEMS ARE OPERABLE, THE	2
DUCTS	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.	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	
/ORK	2.04 EXHAUST FANS	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	
AC GENERAL NOTES FOR ADDITIONAL REQUIREMENTS. SIONS INDICATED ON THE DRAWINGS ARE INSIDE AREAS. WHERE E TO BE INTERNALLY INSULATED OR LINED INCREASE SHEET METAL	FANS SHALL BE AS INDICATED ON DRAWINGS.	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	
DIMENSIONS TO ACCOMMODATE INSULATION THICKNESS.	CONTROLS SHALL BE ELECTRIC/ELECTRONIC TYPE, PROVIDE ALL WIRING, ACTUATORS, AND CONTROL DEVICES. FURNISH ALL THERMOSTATS AND SENSORS	EQUIPMENT SHALL BE INTERNALLY CLEANED AND ALL FILTERS SHALL BE REPLACED WITH NEW FILTERS.	
E CONNECTIONS WITH GALVANIZED CHANNELS. PROVIDE A BRAIDEE R BRIDGE STRAP ACROSS FLEXIBLE CONNECTIONS.		19. ALL OF THE COSTS ASSOCIATED WITH PROVIDING TEMPORARY HEATING AND	
DUCTWORK. THE CONTRACTOR MAY INSTALL SUPPLY DIFFUSERS XIMUM OF A 5 FOOT RUN OF INSULATED FLEXIBLE DUCTWORK	 CONSTANT VOLUME SYSTEMS MOUNT THERMOSTATS AS INDICATED ON DRAWINGS. INSTALL TEMPERATURE AND HUMIDITY SENSORS IN MAIN RETURN TRUNK 	COOLING SHALL BE BORNE SOLELY BY THE CONTRACTOR, INCLUDING BUT NOT LIMITED POWER CONSUMPTION, ADDITIONAL ACCESS DOORS FOR CLEANING, FILTERS, DUCT AND EQUIPMENT CLEANING, ENGINEER'S TIME, TEST AND BALANCE	<u>}</u>
FLEXMASTER TYPE 1M, MINIMUM R=8. ALL FLEXIBLE DUCTWORK NSTALLED AND ENDS TERMINATED IN COMPLIANCE WITH THE	DUCT CLOSEST TO UNIT, IF SHOWN ON DRAWINGS. 2. VARIABLE AIR VOLUME (VAV) SYSTEMS	AGENT TIME TO SUPPORT THE ENGINEER'S INSPECTION, ETC.	
SHOWN IN THE ADC INSTALLATION MANUAL AND USE METAL DT LESS THAN 1-1/2" WIDE AT A MAXIMUM OF 5 FEET ON CENTER. ALL NOT DEFLECT MORE THAN 1/2" IN 5 FEET NOR HAVE ANY KINKS	 A. MOUNT THERMOSTATS AS INDICATED ON DRAWINGS. B. THERMOSTAT SHALL COMMUNICATE WITH WEB-BASED CONTROLLER. C. CONTROL PANELS TO BE LOCATED AS REQUIRED. FOR CONTROLS SYSTEM 	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	
CTIONS TO FLOW. ELBOWS SHALL HAVE A MINIMUM RADIUS OF DIAMETER WITH INTERIOR LINER FULLY EXTENDED. FLEXIBLE	TO OPERATE, IT SHALL BE ENERGIZED BY 120/1Ø, COORDINATED WITH ELECTRICAL CONTRACTOR AT NO COST TO PROJECT.	BUT IS NOT LIMITED TO, REQUIRED VOLTAGE, PHASE, AMP CAPACITY, WIRE SIZE, CONDUIT SIZE AND LOCATION, DISCONNECT SIZE AND LOCATION, FUSE SIZE, ETC.	G
K <u>SHALL NOT</u> BE USED IN RETURN NOR EXHAUST SYSTEMS.	2.06 PROTECTIVE DEVICES	IN THE EVENT OF A CONFLICT, THE MC IS TO NOTIFY THE ENGINEER PRIOR TO MECHANICAL AND ELECTRICAL EQUIPMENT BEING ORDERED.	
	 FIRE DAMPERS A. INSTALL NFPA APPROVED, FUSIBLE LINK OPERATED TYPE "B" FIRE DAMPERS 	21. ALL CUTTING, PATCHING, STRUCTURAL STEEL, WEATHER PROOFING, PAINTING, AND WALL OPENINGS REQUIRED FOR THE INSTALLATION OF MECHANICAL WORK	
	OF SUITABLE RATING IN ALL DUCTWORK PENETRATIONS OF RATED WALLS AND FLOORS IN LOCATIONS REQUIRED BY LOCAL AND STATE	SHALL BE PROVIDED BY THE CONTRACTOR AT NO COST TO THE OWNER. COORDINATE WITH OTHER TRADES.	
	ORDINANCES. B. PROVIDE ACCESS IN BOTH CEILING CONSTRUCTION AND DUCTWORK FOR	22. PROVIDE VIBRATION ISOLATORS ON ALL MECHANICAL EQUIPMENT. IF NOT	~
	MAINTENANCE OF ALL FIRE DAMPERS.	SPECIFICALLY CALLED OUT, PROVIDE AS RECOMMENDED BY MANUFACTURER FOR QUIET OPERATION.	<u>ک</u>
		23. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING, ORDERING, FABRICATION OR INSTALLATION OF MATERIALS OR EQUIPMENT.	G
		24. <u>SUBMITTALS AND ACCEPTANCE</u> : THE CONTRACTOR SHALL SUBMIT A MINIMUM OF THREE (3) SETS OF HVAC SHOP	
		DRAWINGS TO THE PROJECT MANAGER WHO SHALL THEN RELAY THEM TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO THE PURCHASE OF	
		EQUIPMENT. AT THE COMPLETION OF THE PROJECT THE CONTRACTOR SHALL SUBMIT OPERATION AND MAINTENANCE MANUALS FOR ALL MECHANICAL	
		EQUIPMENT INCLUDED IN THE PROJECT. THE MANUALS SHALL BE COMPILED INTO	

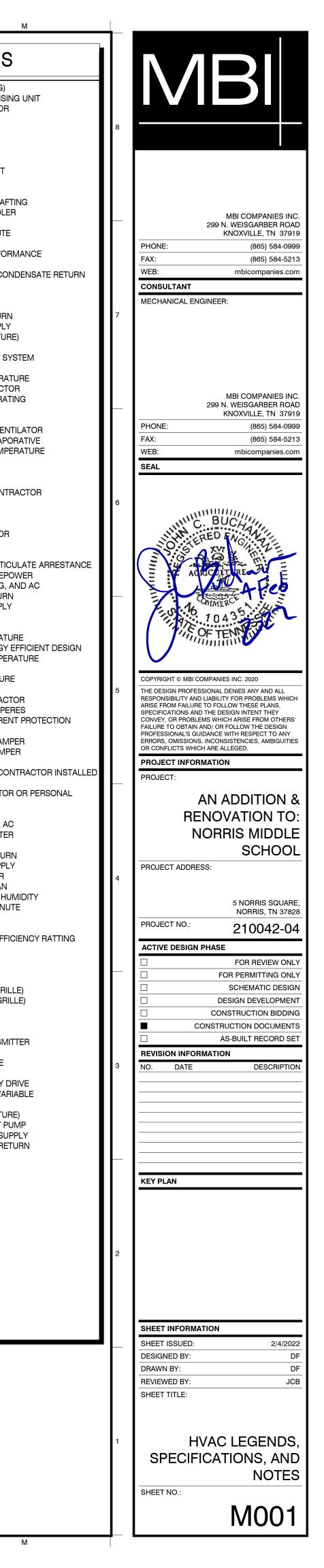
2 12"Ø	ROUND DUCTWORK. DIAMETER INDICATED IN INCHES	AC ACCU	AIR CONDITIONER (ING) AIR COOLED CONDENSING UNIT
20x12	RECTANGULAR SUPPLY AND RETURN DUCTWORK. SIZE INDICATED IN INCHES, FIRST NUMBER IS SIDE SHOWN	AFF AHU BALV BF	ABOVE FINISHED FLOOR AIR HANDLING UNIT BALANCING VALVE BUTTERFLY VALVE
	FLEXIBLE DUCT	BHP BOD	BRAKE HORSEPOWER BOTTOM OF DUCT
	SUPPLY OR OUTSIDE AIR DUCT UP	BTU BTUH	BRITISH THERMAL UNIT BTU/HOUR BALL VALVE
	SUPPLY OR OUTSIDE AIR DUCT DOWN	BV CAD CCC	BALL VALVE COMPUTER AIDED DRAFTING CLOSED CIRCUIT COOLER
	RETURN AIR DUCT UP	CD CFM	CEILING DIFFUSER CUBIC FEET PER MINUTE
	RETURN AIR DUCT DOWN	CH COP	CHILLER COEFFICIENT OF PERFORMANCE
	EXISTING DUCTWORK TO REMAIN	CP CR CS	CONTROL PANEL CEILING RETURN OR CONDENSATE RETURN CIRCUIT SETTER
$\begin{array}{c c} F & - & - & - \\ \hline F & X^{-} & - & -X \\ \hline F & 20X12 \\ \hline F & Y \\ \end{array}$	EXISTING DUCTWORK TO BE REMOVED	CT CU	COOLING TOWER CONDENSING UNIT
	90 DEGREE DUCTWORK ELBOW.	CWR CWS	
	RADIUS DUCTWORK ELBOW -	DB DG DMS	DRY BULB (TEMPERATURE) DOOR GRILLE DUCTLESS MINI-SPLIT SYSTEM
	ROUND OR RECTANGULAR FLARED SPIN-IN WITH DAMPER AND FLEX DUCT	EA	EXHAUST AIR ENTERING AIR TEMPERATURE
	(DIFFUSER CONNECTION) ROUND AND RECTANGULAR DUCT BRANCH	EC EER EF	ELECTRICAL CONTRACTOR ENERGY EFFICIENCY RATING EXHAUST FAN
	TAKE-OFF FROM RECTANGULAR MAIN WITH CONICAL TAP	ELEV ERV	ELEVATION ENERGY RECOVERY VENTILATOR
	DUCTWORK SIZE TRANSITION	EVAP EWT	EVAPORATION OR EVAPORATIVE ENTERING WATER TEMPERATURE
	DUCTWORK SQUARE TO ROUND TRANSITION	FC FD FP	FAN COIL FLOOR DRAIN FIRE PROTECTION
\bullet	POINT OF CONNECTION TO EXISTING	FPC FPM	FIRE PROTECTION CONTRACTOR FEET PER MINUTE
T EQUIP-#	THERMOSTAT	FS FZ	FLOOR SINK FREEZE
S _{EQUIP-#}	SENSOR	GC GV HD	GENERAL CONTRACTOR GATE VALVE HUB DRAIN
\$ EQUIP-#	SWITCH	HEPA HP	HIGH EFFICIENCY PARTICULATE ARRESTANCE HEAT PUMP OR HORSEPOWER
M		HVAC HWR HWS	HEATING, VENTILATING, AND AC HEATING WATER RETURN
	SMOKE DETECTOR - FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR	MBH KW	HEATING WATER SUPPLY 1,000 BTU/HOUR KILOWATT
•	FIRE DAMPER	LAT LEED	LEAVING AIR TEMPERATURE LEADERSHIP IN ENERGY EFFICIENT DESIGN
•	SECURITY BAR	LWT M MAT	LEAVING WATER TEMPERATURE MOTOR MIXED AIR TEMPERATURE
	PROVIDE AND INSTALL A U.L. LISTED FIRE RATED CEILING DAMPER IN ACCORDANCE WITH FIRE	MAU MC	MAKE UP AIR UNIT MECHANICAL CONTRACTOR
$\langle c \rangle$	RATING. DAMPER SHALL BE RUSKIN CFD TYPE OR APPROVED SUBSTITUTE	MCA MOCP	MINIMUM CIRCUIT AMPERES MAXIMUM OVER CURRENT PROTECTION
CD-1 100		MOD MVD	(AMPERES) MOTOR OPERATED DAMPER MANUAL VOLUME DAMPER
AIRFLO W (CFM)	DIFFUSER/GRILLE LABEL	OA OFCI	OUTSIDE AIR OWNER FURNISHED, CONTRACTOR INSTALLE
- L	VOLUME CONTROL DAMPER	PA PC	PRESSURIZATION AIR PLUMBING CONTRACTOR OR PERSONAL
		PL PTAC	COMPUTER PRIMARY LOOP PACKAGED TERMINAL AC
$ \begin{array}{c} \leftarrow CWR \rightarrow \\ \leftarrow HWS \rightarrow \end{array} $	CHILLED WATER RETURN PIPE HOT WATER SUPPLY PIPE	PT PU	PRESSURE TRANSMITTER PACKAGED UNIT
کـــــ HWR> ۲E(NAME)>	HOT WATER RETURN PIPE EXISTING PIPING TO REMAIN	PWR PWS	PROCESS WATER RETURN PROCESS WATER SUPPLY
<u>E(NAME) で</u> (NAME - X-E) -X-		RA RF	RETURN OR RELIEF AIR RETURN OR RELIEF FAN
	REFRIG. HOT GAS LINE	RH RPM	REHEAT OR RELATIVE HUMIDITY REVOLUTIONS PER MINUTE
<u> </u>	REFRIG. LIQUID LINE REFRIG SUCTION LINE	RTU SA	ROOFTOP UNIT SUPPLY AIR
} 	STRAINER	SEER SF	SEASONAL ENERGY EFFICIENCY RATTING SUPPLY FAN
<u>ک</u>	GAS COCK	SL SS	SECONDARY LOOP STAINLESS STEEL
$\sim \qquad \qquad$	BALANCING VALVE	ST SWS	STEAM SIDE WALL SUPPLY (GRILLE)
$\overset{\top}{\longrightarrow}$	PLUG VALVE	SWR TDV	SIDE WALL RETURN (GRILLE) TRIPLE DUTY VALVE
	GATE VALVE	TG TOD	TRANSFER GRILLE TOP OF DUCT
	BUTTERFLY VALVE	TT UV VAV	TEMPERATURE TRANSMITTER ULTRAVIOLET LIGHT VARIABLE AIR VOLUME
	BALL VALVE	VEL VFD	VELOCITY VARIABLE FREQUENCY DRIVE
		VVT WB	VARIABLE (VOLUME) VARIABLE (TEMPERATURE) WET BULB (TEMPERATURE)
× 		WSHP XWS	WATER SOURCE HEAT PUMP CONDENSER WATER SUPPLY
	PRESSURE RELIEF VALVE	XWR #	CONDENSER WATER RETURN POUNDS
	PIPE TURNING DOWN PIPE TURNING UP	-	
TW	THERMOMETER		
	GAUGE	-	
	PIPE SLEEVE OR GUIDE	-	
∠x	PIPE ANCHOR	-	
\sim \sim \sim		-	
GC	GAUGE COCK		

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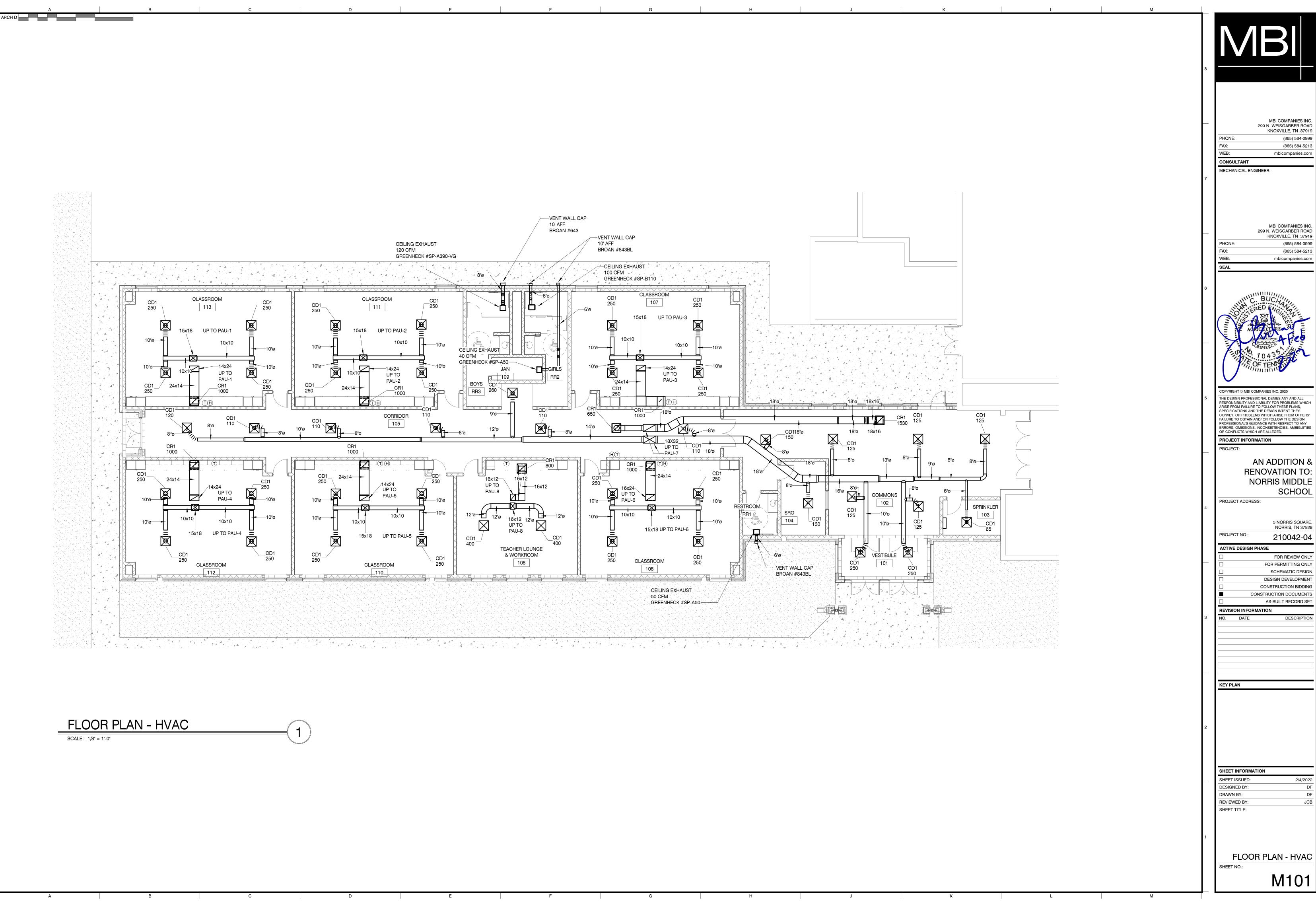
A THREE RING BINDER AND TURNED OVER TO BUILDING OWNER.

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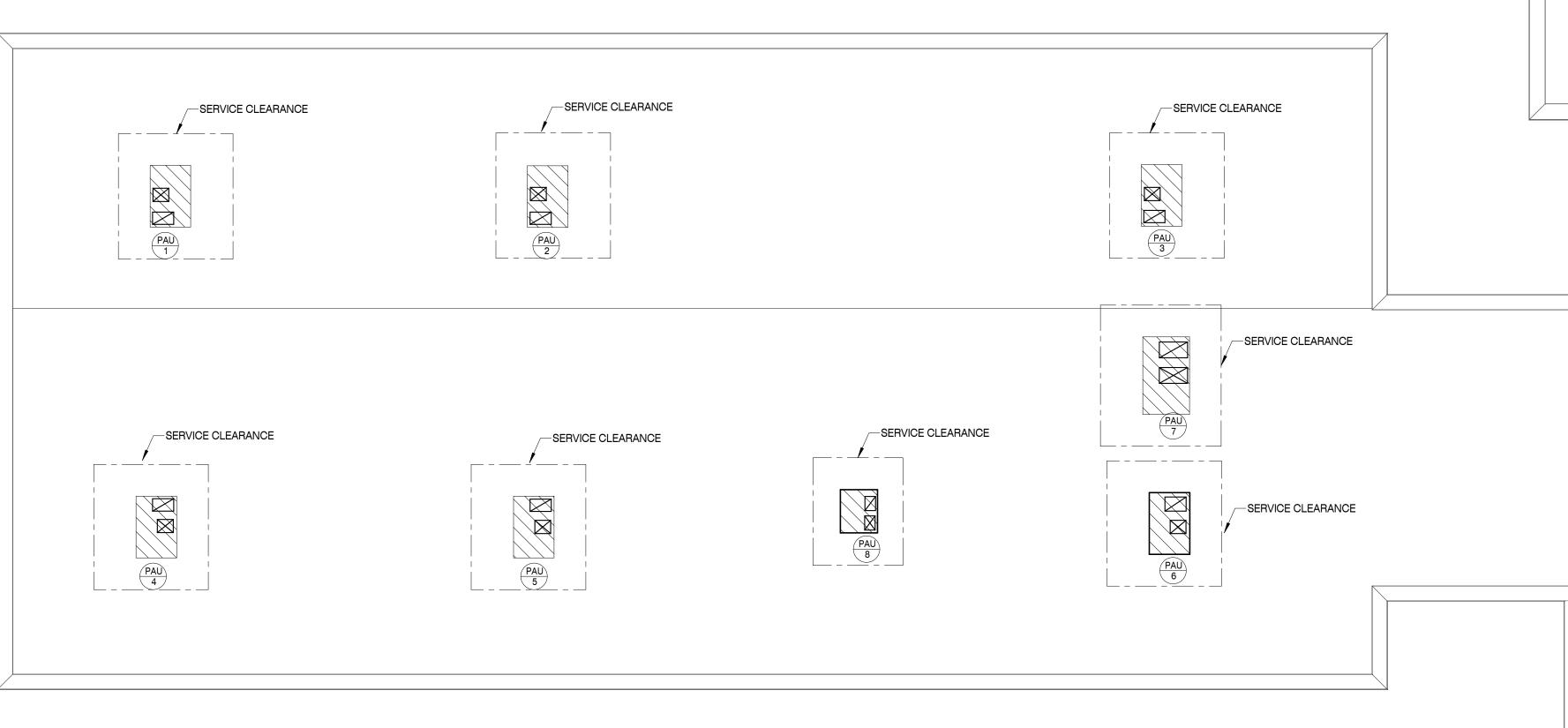


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GAS FIRED PACKAGED UNIT WITH DX COOLING SCHEDULE																													
DRAWING SYMBOL	SUPPLY AIR TOTAL EXT. SP FAN				IG				G						TEMPS (°F) @	COOLING TEMPS (°F) @ 95°F AMBIENT CAPACITIES (MBH		IES (MBH)	HEATING CAPACITIES (MBH)		SMOKE DETECTORS		EFFICIENCIES		SINGLE POINT ELECTRICAL			WEIGHT	VEIGHT MFR MODEL
STWIDOL	CFM	(IN. WG)		AIR CFM	UNIT ENT AIR	COIL LVG AIR	TOTAL	SENS	INPUT	OUTPUT	SUPPLY	RETURN	EER	SEER	AFUE	MCA	MOCP	VOLTAGE		NUMBER									
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 00B000000000000000000000									
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**D0C100 00B0000000000000000000000000000000									
PAU	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 4YCZ6024A1									

ACCESSORIES AND FEATURES: - 5 YEAR COMPRESSOR WARRANTY.

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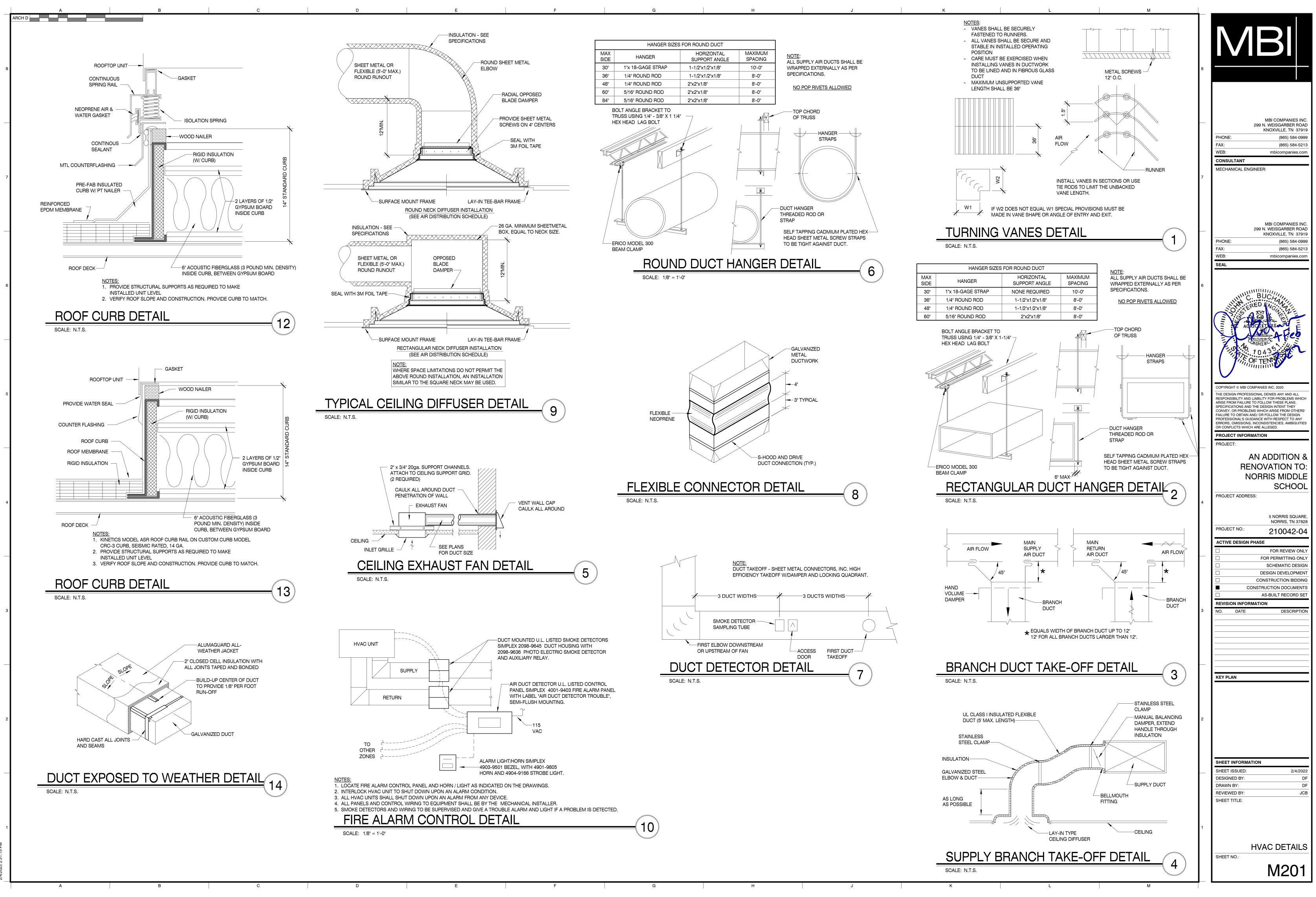
- FILTER RACK AND THROW-AWAY 2" THICK FILTER FURNISHED WITH UNIT.

- 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)
- SINGLÉ ZONE VAV. HOT GAS REHEAT.
- POWERED EXHAUST.
- PAU-7 - HOT GAS REHEAT.
- POWERED EXHAUST.
- PAU-8
- 2 STAGE COMPRESSOR. VAIRABLE SPEED FAN.
- 2 POSITION MOTORIZED OA DAMPER

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MBI	8				
MBI COMPANIES INC 299 N. WEISGARBER ROAI KNOXVILLE, TN 3791 PHONE: (865) 584-099 FAX: (865) 584-521					
WEB: mbicompanies.com	7				
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AN ADDITION & RENOVATION TO NORRIS MIDDLE SCHOOL	4				Ø
5 NORRIS SQUARE NORRIS, TN 3782 PROJECT NO.: ACTIVE DESIGN PHASE FOR REVIEW ONL FOR PERMITTING ONL SCHEMATIC DESIGN DESIGN DEVELOPMENT					
CONSTRUCTION BIDDING CONSTRUCTION DOCUMENTS AS-BUILT RECORD SE REVISION INFORMATION NO. DATE DESCRIPTION	3				
KEY PLAN					
SHEET INFORMATION SHEET ISSUED: 2/4/202	2				
DESIGNED BY: D DRAWN BY: D REVIEWED BY: JCI SHEET TITLE:	1				
ROOF PLAN - HVAC SHEET NO.: M102					
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PLUMBING	
	COLD WATER (CW)
	HOT WATER (HW)
	HOT WATER RETURN (HWR)
110°	HOT WATER 110°
	HOT WATER 140°
———— F ————	FILTERED WATER
	SANITARY DRAIN (W)
G	VENT (V)
	GAS LINE LIQUID PROPANE
A	AIR
C	CONDENSATE DRAIN
O2	OXYGEN
NO	NITROUS OXIDE
V	VACUUM
GI	GREASE INTERCEPTOR
	WASTE LINE
AW AV	
SD	ACID VENT STORM DRAIN
	ROOF DRAIN
	RAIN WATER LEADER
FS G	FLOOR SINK
FD D	FLOOR DRAIN
HD CG	HUB DRAIN
N	VENT THRU ROOF
	CLEAN OUT IN FLOOR
	CLEAN OUT IN EXPOSED OR ABOVE CEILING LINE
	CLEAN OUT IN STACK
нв н	WATER HAMMER ARRESTER HOSE BIBB
	SUPPLY STOP ZURN Z-8808-XL
	PIPE TURNING DOWN
<u> </u>	PIPE TURNING UP
	BALL VALVE BALANCING VALVE
	PRESSURE REDUCING VALVE
^ ^ ^	REDUCED PRESSURE
	BACKFLOW PREVENTER
—————————————————————————————————————	STRAINER
	THERMOMETER
	GAUGE COCK
	GATE VALVE
	CHECK VALVE
· · · · · · · · · · · · · · · · · · ·	UNION
	VACUUM BREAKER
	CONNECT TO EXISTING
¢	GAS COCK
	AIR CONNECTION
	LP CONNECTION
	CIRCULATING PUMP

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PLUMBING SPECIFICATIONS **GENERAL PLUM** 1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ST GENERAL LOCAL CODES, RULES AND ORDINANCES. A. SCOPE: FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF 2. THE CONTRACTOR SHALL VISIT THE JOB SITE AND TH ALL PLUMBING WORK REQUIRED ON THE DRAWINGS AND AS SPECIFIED HEREIN. ALL EXISTING CONDITIONS. B. WORK REQUIRED: IN GENERAL, THE WORK CONSISTS OF, BUT IS NOT LIMITED TO THE 3. ALL WORK SHALL BE PERFORMED BY A LICENSED PL FOLLOWING: AND WORKMANLIKE MANNER. THE COMPLETE SYSTI 1. DOMESTIC WATER SYSTEM CONNECTING TO EXISTING UTILITY 4. ALL EXCAVATION AND BACKFILL, AS REQUIRED, FOR 2. SANITARY SEWER SYSTEM CONNECTING TO EXISTING UTILITY A PART OF THIS CONTRACT. 3. HOT WATER PIPING SYSTEM 5. PROOF OF INSURANCE SHALL BE PROVIDED BY THE 4. PLUMBING FIXTURES PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE I 5. CONNECTION TO KITCHEN EQUIPMENT 6. VERIFY LOCATION, SIZE, INVERTS AND ALL EXISTING C. PERMITS, ORDINANCES, AND INSPECTIONS: CONSTRUCTION. ADVISE ENGINEER OF ANY DISCREF 1. OBTAIN AND PAY FOR ALL PERMITS AND INSPECTION FEES REQUIRED. DELIVER TO ARCHITECT, 7. WATER PIPING SHALL BE TYPE "L" COPPER FOR 2 1/2" CERTIFICATES. WATER PIPING SHALL BE TYPE "K" COPPER WITH NO J 2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CITY, COUNTY, STATE, 8. SOIL, WASTE, VENT AND RAINWATER PIPING SHALL OR NATIONAL ORDINANCES AND CODES. EFFORT HAS BEEN MADE TO MEET OR EXCEED MEETING ASTM A 888 or CISPI 301 STANDARDS. BEL REQUIREMENTS. THE CONTRACTOR SHALL MAKE ANY MINOR ADJUSTMENTS TO MEET THESE WALL SCHEDULE 40 PVC MEETING ASTM D 2665 STA REQUIREMENTS AT NO ADDITIONAL COST TO OWNER. 9. AIR CONDITIONING CONDENSATE DRAIN PIPING SHA D.INSTRUCTIONS AND INSTRUCTION BOOKLETS: THE CONTRACTOR SHALL INSTRUCT THE OWNER INSULATE ALL CONDENSATE PIPING ABOVE GRADE. REPRESENTATIVE IN THE PROPER OPERATION OF ALL EQUIPMENT AND SYSTEMS. FURNISH 10. INSULATE ALL HOT WATER SUPPLY, HOT WATER RET LITERATURE PROVIDED BY THE MANUFACTURER. PRINTED INSTRUCTIONS AND MAINTENANCE DATA LINES ABOVE GRADE AS FOLLOWS: HOT WATER SUP SHALL BE BOUND WITH COVER IN DUPLICATE AND DELIVERED TO THE ARCHITECT. RAINWATER LEADERS 1 1/2" THICK FIBERGLASS BLAN E. SUBMITTAL DATA: SUBMIT FOR APPROVAL, FIVE (5) COPIES, OF THE EQUIPMENT BROCHURES, RWL. CONCEALED CONDENSATE PIPING 1/2" ARMAFL TECHNICAL DATA AND/OR SHOP DRAWINGS. 11. ALL FIXTURES MUST BE PROVIDED WITH READILY AC PRODUCTS PANELS. A. ALL MATERIALS SHALL BE NEW, FIRST CLASS, AND COMPLY WITH LATEST ASTM SPECIFICATIONS 12. FURNISH AND INSTALL APPROVED AIR CHAMBERS A AND STANDARDS RELATING TO SUCH MATERIALS. P.D.I. APPROVED SHOCK ARRESTERS ON MAIN LINES B. WATER PIPING: 13. DIELECTRIC COUPLINGS ARE REQUIRED BETWEEN A 1. FURNISH AND INSTALL DIELECTRIC OR ISOLATION FITTINGS AT ALL POINTS WHERE EQUIPMENT CONNECTIONS. COPPER PIPE CONNECTS TO WROUGHT IRON OR STEEL PIPE. 14. ISOLATE COPPER PIPE FROM HANGER OR SUPPORTS 2. EXPOSED PIPE IN TOILET ROOMS: CHROME PLATED BRASS, AMERICAN BRASS COMPANY, SUPER STRUT MODEL C/15/16. FILL VOIDS BETWEEN OR EQUIVALENT. FURNISH AND INSTALL CHROME WALL PLATES. FIRE-RATED FOAM SIMILAR TO CHASE TECHNOLOGY 3. PIPING UNDER FLOOR SLAB SHALL BE TYPE K SOFT TEMPER COPPER TUBING ASTM B-88 15. CONTRACTOR SHALL GUARANTEE ALL MATERIALS A NO JOINTS SHALL BE PERMITTED UNDER FLOOR SLAB. FOR A PERIOD OF ONE (1) YEAR FROM DATE OF C.O. 4. PIPING ABOVE FLOOR SLAB SHALL BE TYPE L HARD DRAWN COPPER TUBING ASTM B-88 COMPLETED WITHOUT ADDITIONAL CHARGE AND SH USE WROUGHT COPPER SWEAT FITTINGS. OF ANY OTHER PHASE OF THE INSTALLATION WHICH C. SANITARY WASTE, AND VENT PIPING: PIPING SHALL BE CAST IRON NO HUB DWV PIPE AND 16. PROVIDE 1/4" TRAP PRIMER LINE FOR ALL FLOOR DR/ FITTINGS ABOVE GRADE MEETING ASTM A 888 or CISPI 301 STANDARDS. BELOW GRADE FIXTURE. PROVIDE MINIMUM 3' RADIUS, 1/4" PER FOC PIPING SHALL BE SOLID WALL SCHEDULE 40 PVC MEETING ASTM D 2665 STANDARDS. 17. PROVIDE ACCESS PANELS FOR ALL CONCEALED VAL D. PIPE HANGERS: ADJUSTABLE WROUGHT CLEVIS TYPE HANGER AND RODS; GRINNELL ARRESTORS. ACCESS PANELS IN RATED WALLS MUS COMPANY OR EQUIVALENT. PANELS MUST MATCH THE FINISH OF THE WALL IN W E. CLEANOUTS: 18. PROVIDE CHROME-PLATED COMBINATION COVER PL 1. FLOOR CLEANOUTS FOR SOIL AND WASTE LINES SHALL HAVE BODIES OF STANDARD PIPE CLEANOUTS - JOSAM 58890 SERIES OR EQUAL. SIZES AS MANUFACTURED BY ZURN OR EQUIVALENT. 19. PROVIDE EACH FIXTURE GROUP WITH ISOLATION VAL 2. WALL CLEANOUTS FOR SOIL AND WASTE LINES SHALL HAVE BODIES OF STANDARD PIPE 20. NO COMBUSTIBLE MATERIALS CAN BE USED IN MECH SIZES AS MANUFACTURED BY ZURN OR EQUIVALENT. WHERE USED AS RETURN AIR PLENUMS. F. VALVES: 21. PROVIDE BACKFLOW PREVENTER - WILKINS MOD. # 1. BUTTERFLY VALVES 2 1/2" AND LARGER. 22. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AN 2. BALL VALVES 2" AND SMALLER. OF PIPING AND LOCATION OF FIXTURES. THE CONTR 3. UNIONS SHALL HAVE BRASS TO METAL GROUND JOINT SEAL. OTHER TRADES AND MAKE MINOR OFFSETS AND ADJ G. ESCUTCHEON PLATES: PROVIDE CHROME PLATED ESCUTCHEON PLATES WHERE EXPOSED ADDITIONAL COST TO THE OWNER. PIPE PASSES THROUGH WALLS, FLOORS, OR CEILING IN FINISHED AREAS. SEAL ALL PIPE 23. COORDINATE FIXTURES LOCATIONS WITH ARCHITEC PENETRATIONS WITH FIRE STOP AS REQUIRED, DRYWALL MUD OR GROUT TO MATCH ADJACENT 24. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR CO WALL. PAY ALL FEES AND COSTS FOR CONNECTIONS TO TH H. PIPE INSULATION: 25. ALL PIPING SHALL BE RUN IN CONCEALED LOCATION 1. ALL HOT WATER PIPE ABOVE GRADE SHALL BE INSULATED WITH 1" FIBERGLASS, LOW 26. PLUMBING FIXTURES SHALL BE FIRST QUALITY VITRE PRESSURE INSULATION WITH WHITE UNIVERSAL JACKET. APPLY IN ACCORDANCE WITH AS NOTED ON FIXTURE SCHEDULE. ALL FIXTURES SH MANUFACTURER'S INSTRUCTIONS BUILDING AND SHALL BE CLEANED AND FUNCTIONA 2. ALL COLD WATER PIPE ABOVE GRADE SHALL BE INSULATED WITH 1/2" FIBERGLASS AS 27. REFER TO ARCHITECTURAL DRAWINGS FOR FINISHEI ABOVE. 28. CONTRACTOR SHALL PROVIDE PRESSURE REDUCING I. WALL HYDRANT: "FROST PROOF" TYPE WITH VACUUM BREAKER ON ALL HOSE BIBS BACKFLOW PREVENTION VALVE INSIDE BUILDING WH J. FIXTURES: THE SITE PLAN. 1. FURNISH AND INSTALL ALL PLUMBING FIXTURES INDICATED ON DRAWINGS. FIXTURES 29. EXPOSED PIPING BELOW FIXTURES SHALL BE CHROM HANDICAPPED ACCESSIBLE AREAS SHALL BE INSULA

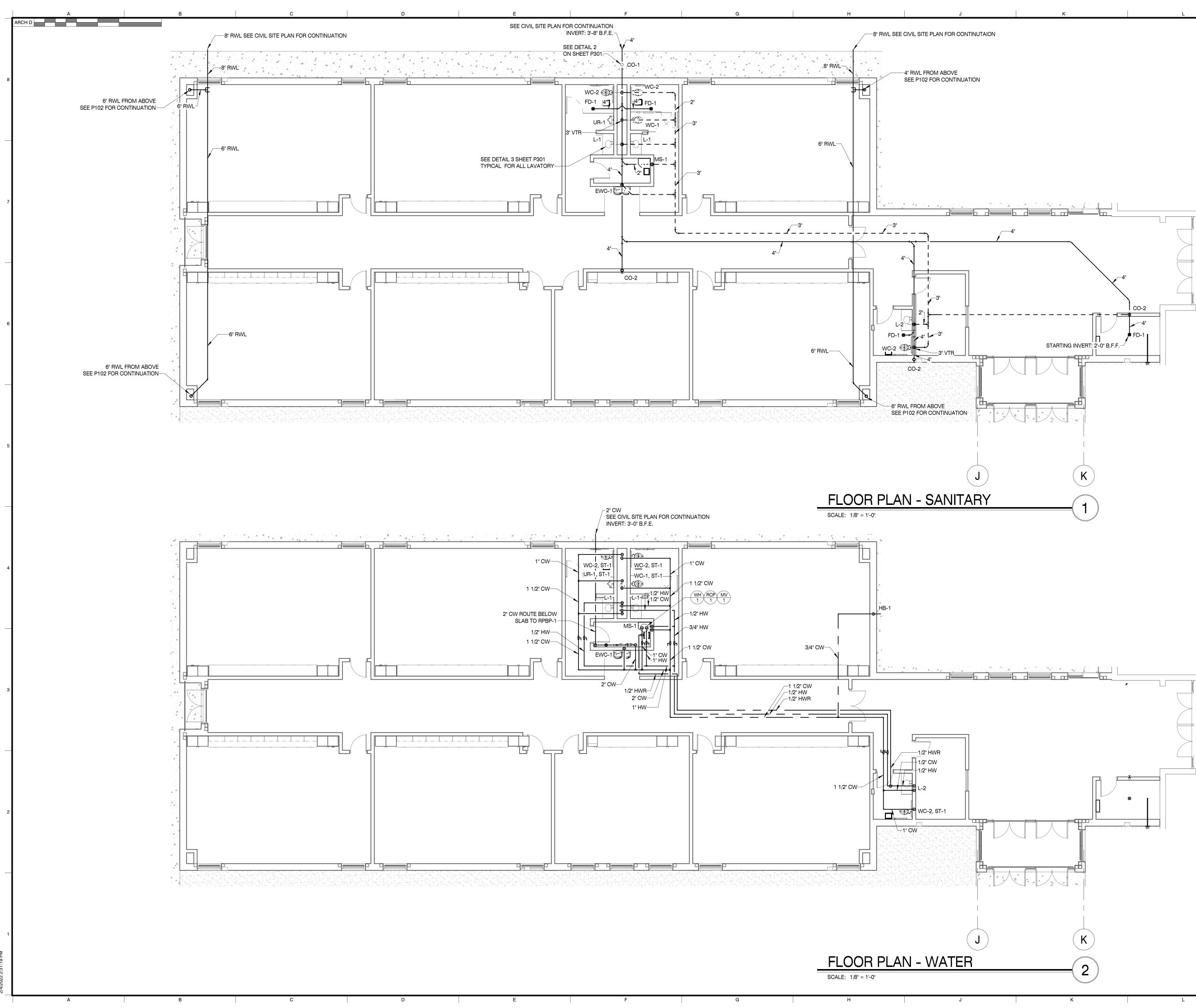
J K L

- SHALL BE AMERICAN STANDARD, KOHLER, ELJER, OR AS SPECIFIED IN THE PLUMBING FIXTURE SCHEDULE. 2. TRAPS: FOR LAVATORIES AND SINKS: BRASS, CHROME PLATED.
- 3. PROVIDE DEEP SEAL TRAPS AND TRAP PRIMERS FOR ALL FLOOR DRAINS AND HUB DRAINS.
- K. HOT WATER HEATERS: 1. 99.000 BTUH INPUT AND LESS:
- CONTRACTOR SHALL MAKE PROVISIONS TO KEEP 18" CLEAR AROUND HEATER.
- 2. 100,000 BTUH TO 199,000 BTUH INPUT: CONTRACTOR SHALL MAKE PROVISIONS TO KEEP 18" CLEAR AROUND HEATER, AND SUBMIT A "APPLICATION FOR PERMISSION TO INSTALL" TO THE BOILER UNIT OF THE TENNESSEE DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT'S WORKPLACE REGULATIONS AND COMPLIANCE DIVISION (REGISTRATION AND INSPECTION).
- 3. 200,000 BTUH TO 399,000 BTUH INPUT: CONTRACTOR SHALL MAKE PROVISIONS TO KEEP 18" CLEAR AROUND HEATER, THE HEATER MUST BE ASME CODE COMPLIANT, AND MUST BE FILED FOR REGISTRATION AND INSPECTION.
- 4. 400,000 BTUH AND MORE: CONTRACTOR SHALL MAKE PROVISIONS TO KEEP 36" CLEAR AROUND HEATER, THE HEATER MUST BE ASME CODE COMPLIANT, AND MUST BE FILED FOR REGISTRATION AND INSPECTION.

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	MBI COMPANIES INC. 299 N. WEISGARBER ROAD KNOXVILLE, TN 37919 PHONE: (865) 584-0999 FAX: (865) 584-5213
7	WEB: mbicompanies.com CONSULTANT MECHANICAL ENGINEER:
	MBI COMPANIES INC. 299 N. WEISGARBER ROAD KNOXVILLE, TN 37919 PHONE: (865) 584-0999
	FAX: (865) 584-5213 WEB: mbicompanies.com SEAL Comparison
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	PROJECT INFORMATION PROJECT: AN ADDITION &
	RENOVATION TO: NORRIS MIDDLE SCHOOL
4	PROJECT ADDRESS: 5 NORRIS SQUARE,
	PROJECT NO.: 210042-04
	ACTIVE DESIGN PHASE
3	FOR REVIEW ONLY FOR PERMITTING ONLY SCHEMATIC DESIGN DESIGN DEVELOPMENT
3	FOR REVIEW ONLY FOR PERMITTING ONLY SCHEMATIC DESIGN DESIGN DEVELOPMENT CONSTRUCTION BIDDING CONSTRUCTION DOCUMENTS AS-BUILT RECORD SET
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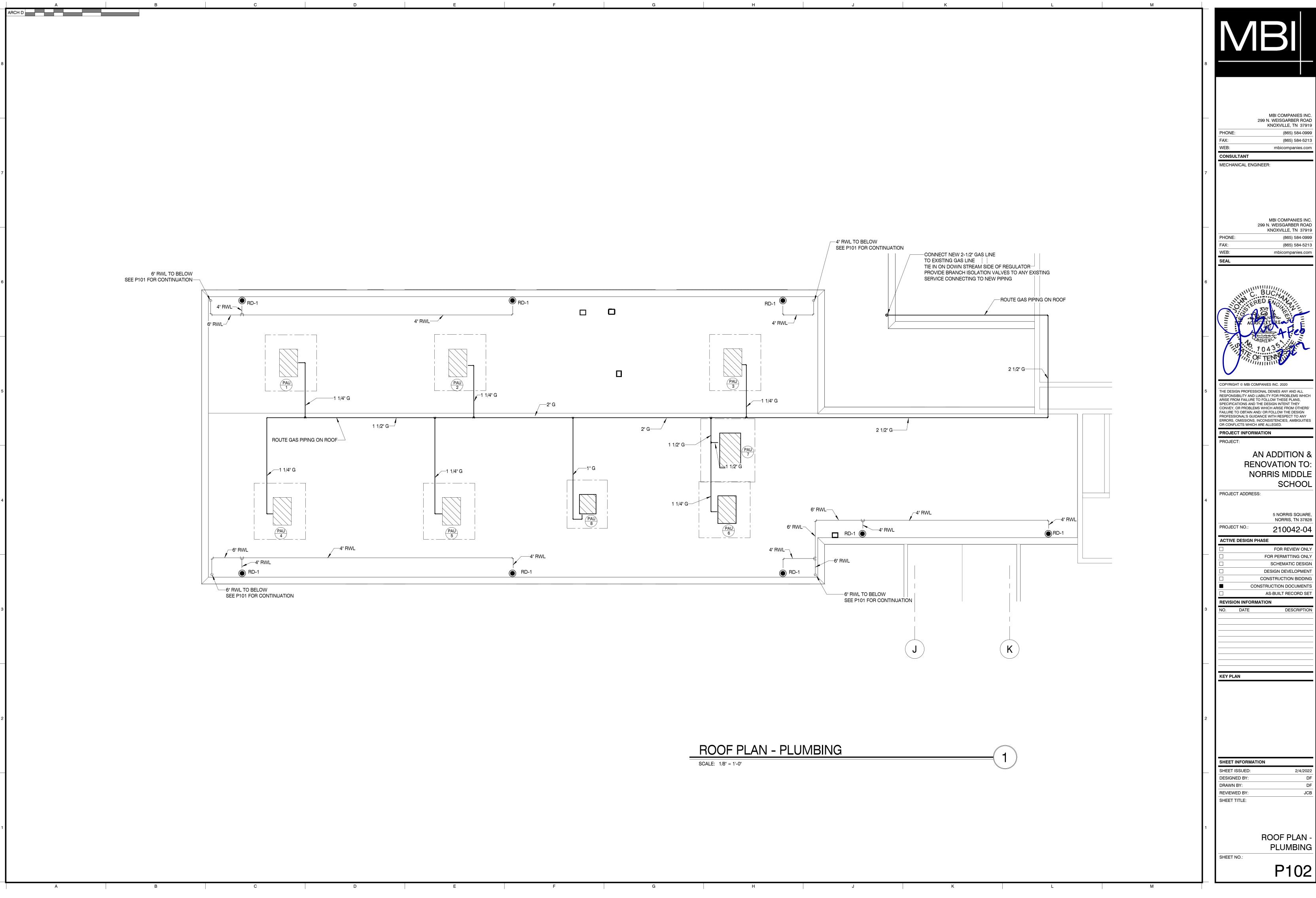
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MBI COMPANIES INC. 299 N. WEISGARBER ROAD KNOXVILLE, TN 37919 PHONE: (865) 584-0999 (865) 584-521 WEB: mbicompanies.cor CONSULTANT MECHANICAL ENGINEER: MBI COMPANIES INC. 299 N. WEISGARBER ROAD KNOXVILLE, TN 37919 PHONE: (865) 584-0999 (865) 584-5213 FAX WEB: mbicompanies.cor SEAL COPYRIGHT © MBI COMPANIES INC. 2020 THE DESIGN PROFESSIONAL DENIES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/ OR FOLLOW THE DESIGN PROFESSIONAL'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED. **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** DESCRIPTIO NO. DATE 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 .:

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DRAWING SYMBOL	STORAGE CAPACITY	NUMBER OF ELEMENTS	KILOWA ELEN
WH 1	28 GALLON	2	4.
CCESSORIES AND FEAT	<u>'URES:</u> CTURER'S: AO SMITH, LOCH	HINVAR, BRADFORD WHITE	

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					ELECTRIC)	CHEDULE	R HEATER SO	WATEF		
SUPPLIES ETC.) SHALL BE FROM SAME MANUFACT (3) DAYS BEFORE BID DATE. CONTRACTOR SHALL F			DIMENSIONS	MANUFACTURER & MODEL #	RECOVERY GPH @ 100° RISE	VOLTAGE	KILOWATT PER ELEMENT	NUMBER OF ELEMENTS	STORAGE CAPACITY	DRAWING SYMBOL
MANUFACTURERS LISTED SHALL ALSO BE CONSIDE	PRODUCTS AND ALTERNATE	EQUAI	31-1/4" x 24"	STATE	21	208/1/60	4.5	2	28 GALLON	(WH) 1
SPECIFICATION	DESCRIPTION	ITEM		EN6-30-DOLS						\bigcirc
ZURN, Z1400-BP DURA-COAT CAST IRON ADJUSTABLE CLEANO	CLEANOUT	CO-1					:	HINVAR, BRADFORD WHITE	TURER'S: AO SMITH, LOCH	CCESSORIES AND FEAT ALTERNATE MANUFAC UNIT SHALL BE ASME
ZURN LC, MODEL #CO2413-PVC-ST 3' X 4" WALL CLEANOUT BODY AND PLUG	CLEANOUT	CO-2						10° F	017 DEVICE SET AT MAX 1	
ZURN LC, MODEL #CO2530-SS7	WALL PLATE									
7" ROUND STAINLESS STEEL AQCCESS COVER ZURN, ZN415-S-P-Y	FLOOR DRAIN	FD-1				PUMP SC	RCULATION	BECIE		
SERVICE DRAIN WITH 6" SQUARE STRAINER & S ZURN, Z1072 ZSHIELD TRAP GUARD	TRAP GUARD	_			I					
			SYSTEM	MANUFACTURER & MODEL #	WEIGHT (LBS.)	R RPM	E MOTO	VOLTAGI	HP	DRAWING SYMBOL
ZURN, Z-1000-P DEEP SEAL TRAP	TRAP		HW-RECIRC	B&G	11.6	550	2,6	115	1/12	
ZURN, MODEL #Z-1320-CXL ENCASED, ECOLOTROLTM, LEAD-FREE, NON-F	ENCASED HOSE BIBB	HB-1		PL-30B	11.0					
INSTALLATION. HYDRANT FEATURES INTEGRAL COPPER CASING, BRONZE AND STAINLESS STE ROD WITH FREE-FLOATING COMPRESSION CLO									TOR PUMP	CCESSORIES AND FEAT ALL BRONZE CIRCULA
3/4" MALE PIPE THREAD INLET CONNECTION, A WITH CHROME-PLATED ROUGH CAST BRONZE									ED BALL VALVES ON INLE FOR OTHER PERTINENT INI	
"WATER" AND INCLUDES OPERATING KEY. ZURN, Z5114 OVAL 20"X17" 4"CC VITREOUS CH	LAVATORY									
SYMMONS, S-20-0-1.5 SYMMETRIX SINGLE HA	FAUCET									
SYMMONS, 7-210-CK MAXLINE 3/8" THERMOST										
ZURN, Z8743-PC 1-1/4" CHROME PLATED CAST	VALVE DRAIN									
ZURN, Z8700-PC 1-1/4" CAST BRASS 17GA P-TF	P-TRAP									
ZURN, Z8804-XL-LRLKQ-PC 1/2" X 3/8" COMP X 1/4 TURN CHROME PLATED STOPS AND CHROM	SUPPLY									
ZURN, Z5344 20"X18" WALL HUNG 4"CC VITREC	LAVATORY	L-2								
SYMMONS, S-20-0-1.5 SYMMETRIX SINGLE HAI AERATOR AND CERAMIC DISC CARTRIDGE	FAUCET									
SYMMONS, 7-210-CK MAXLINE 3/8" THERMOST	THERMOSTATIC MIXING VALVE									
ZURN, Z8743-PC 1-1/4" CHROME PLATED CAST	DRAIN									
	P-TRAP									
ZURN, Z8700-PC 1-1/4" CAST BRASS 17GA P-TF										
ZURN, Z8700-PC 1-1/4" CAST BRASS 17GA P-TF ZURN, Z8804-XL-LRLKQ-PC 1/2" X 3/8" COMP X 1/4 TURN CHROME PLATED STOPS AND CHROM	SUPPLY									
ZURN, Z8804-XL-LRLKQ-PC 1/2" X 3/8" COMP X	SUPPLY TRAP WRAP									
ZURN, Z8804-XL-LRLKQ-PC 1/2" X 3/8" COMP X 1/4 TURN CHROME PLATED STOPS AND CHROM ZURN, Z8946-1-NT COMBINATION TRAP WRAP										
ZURN, Z8804-XL-LRLKQ-PC 1/2" X 3/8" COMP X 1/4 TURN CHROME PLATED STOPS AND CHROM ZURN, Z8946-1-NT COMBINATION TRAP WRAP WRAPS PROVIDE WITH APPROPRIATE APPROVED ZURN STERN WILLIAMS, MODEL # HL-1800-T35-T40-I 24" X 24" X 12" TERRAZZO "HILOW" SQUARE SE STEEL BACK SPLASH, CAULK EDGES FOR WAT	TRAP WRAP	MS-1								
ZURN, Z8804-XL-LRLKQ-PC 1/2" X 3/8" COMP X 1/4 TURN CHROME PLATED STOPS AND CHROM ZURN, Z8946-1-NT COMBINATION TRAP WRAP WRAPS PROVIDE WITH APPROPRIATE APPROVED ZURN STERN WILLIAMS, MODEL # HL-1800-T35-T40-1 24" X 24" X 12" TERRAZZO "HILOW" SQUARE SE	TRAP WRAP CARRIER	MS-1								
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ZURN, Z8804-XL-LRLKQ-PC 1/2" X 3/8" COMP X 1/4 TURN CHROME PLATED STOPS AND CHROM ZURN, Z8946-1-NT COMBINATION TRAP WRAP WRAPS PROVIDE WITH APPROPRIATE APPROVED ZURN STERN WILLIAMS, MODEL # HL-1800-T35-T40-1 24" X 24" X 12" TERRAZZO "HILOW" SQUARE SE STEEL BACK SPLASH, CAULK EDGES FOR WAT BRACKET, S.S. MOP HANGER 24" LENGTH WITH ZURN, MODEL # Z841M1-RC SERVICE SINK FAUCET W/VACUUM BREAKER S PAIL HOOK AND WALL BRACE. ZURN, MODEL # Z-1000,	TRAP WRAP CARRIER MOP SINK FAUCET TRAP	MS-1 MV-1								
ZURN, Z8804-XL-LRLKQ-PC 1/2" X 3/8" COMP X 1/4 TURN CHROME PLATED STOPS AND CHROM ZURN, Z8946-1-NT COMBINATION TRAP WRAP WRAPS PROVIDE WITH APPROPRIATE APPROVED ZURN STERN WILLIAMS, MODEL # HL-1800-T35-T40-1 24" X 24" X 12" TERRAZZO "HILOW" SQUARE SE STEEL BACK SPLASH, CAULK EDGES FOR WAT BRACKET, S.S. MOP HANGER 24" LENGTH WITH ZURN, MODEL # Z841M1-RC SERVICE SINK FAUCET W/VACUUM BREAKER S PAIL HOOK AND WALL BRACE. ZURN, MODEL # Z-1000, 3" DEEP SEAL TRAP W/TRAP PRIMER Z-1022 BRADLEY, MODEL # S59-3045 THERMOSTATIC MIXING VALVE ALL BRONZE AN	TRAP WRAP CARRIER MOP SINK FAUCET TRAP MIXING VALVE									

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ISIDERED: SLOAN, JOSAM, LEONARD, GUARDIAN, DURA-TRENCH, OASIS, HALSEY-TAYLOR, WILLOUGHBY CW HW W V REMARKS (inch) (inch) (inch) (inch) ANOUT WITH HEAVY DUTY CAST IRON TOP AND BRASS PLUG OVER W/ SECURING SCREW. 3" 1-1/2" 1/2" R & SEDIMENT BUCKET 3/4" DN-FREEZE AUTOMATIC DRAINING WALL HYDRANT FOR FLUSH RAL BACKFLOW PREVENTER WITH ANTI-SIPHON TECHNOLOGY, S STEEL INTERIOR COMPONENTS, NON-TURNING OPERATING VI CLOSURE VALVE, COMBINATION 3/4" FEMALE SOLDER AND N, AND 3/4" MALE HOSE CONNECTION. HYDRANT FURNISHED DNZE HOUSING WITH LOCKING HINGED COVER STAMPED S CHINA DROP IN LAVATORY 1/2" 1/2" 1-1/4" 1-1/4" E HANDLE 4CC LAVATORY FAUCET WITH 1.5GPM IOSTATIC ASSE 1017/1070 MIXING VALVE CAST BRASS 17GA GRID DRAIN P-TRAP WITH CLEANOUT IP X COMP LAVATORY SUPPLY KIT WITH ESCUTCHEONS, HROME PLATED COPPER TUBE SUPPLY LINES TREOUS CHINA CONCEALED ARM LAVATORY 1/2" 1/2" 1-1/4" 1-1/4" E HANDLE 4CC LAVATORY FAUCET WITH 1.5GPM IOSTATIC ASSE 1017/1070 MIXING VALVE CAST BRASS 17GA GRID DRAIN P-TRAP WITH CLEANOUT IP X COMP LAVATORY SUPPLY KIT WITH ESCUTCHEONS, HROME PLATED COPPER TUBE SUPPLY LINES RAP KIT WITH ONE TRAP AND TWO SUPPLY PROTECTION URN CARRIER 1/2" 1/2" 3" 1-1/2" 40-D E SERVICE SINK W/SS CAP. PROVIDE 18" HIGH STAINLESS WATER TIGHT SEAL. PROVIDE WITH HOSE AND WALL WITH 3 SPRING LOADED RUBBER GRIPS ER SPOUT AND INTEGRAL ³/₄" HOSE THREADED OUTLET, E AND STAINLESS STEEL CONSTRUCTION. PROVIDE WITH WITH STRAINER, BIMETALDIAL THERMOMETER. W PREVENTER "Y" PATTERN BODY. PROVIDED WITH "Y" ROVIDED WITH AIRGAP AND TEST COCKS FACING UP FOR ⁻. MAX 7'-0" A.F.F. ABLE INLINE, CAN BE INSTALLED IN ANY BACKFLOW DEVICE. WILKINS, MODEL # 2004-25-300, 0-300 POUND GUAGE TO BE INSTALLED ON INLET AND OUTLET SIDE OF PRV. ZURN, MODEL #Z-1700-100 PLUMBING DRAINAGE INSTITUTE RATING "A" (1-11 FU) 2" 1-1/2" ZURN, Z5755-U 3/4" OMNI-FLOW .125 TO 1GPF WALL MOUNTED TOP SPUD ASYMMETRIC BACK WALL URINAL WITH INTEGRAL P-TRAP AND VANDAL RESISTANT OUTLET STRAINER ZURN, Z6003AV-WS1 AQUAVANTAGE MANUAL OPERATED FLUSH VALVE 1GPF CLOG RESISTANT TRIPLE FILTERED BY-PASS, DUAL SEAL AND CHLORAMINE RESISTANT INTERNAL PARTS ZURN, MODEL # ZR-1222 SUPPORT W/BEARING PLATE. 4" 2" 1" OUNTED STANDARD HEIGHT WATER CLOSET TH INTEGRAL TEST CAP ALVE 1.6 GPF CLOG RESISTANT TRIPLE FILTERED BY-ANT INTERNAL PARTS. AT LESS COVER WITH SELF SUSTAINING STAINLESS 4" 2" R MOUNTED ADA HEIGHT WATER CLOSET WITH TH INTEGRAL TEST CAP ALVE 1.6 GPF CLOG RESISTANT TRIPLE FILTERED BY-ANT INTERNAL PARTS. AT LESS COVER WITH SELF SUSTAINING STAINLESS SILHOUETTE DOME

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	WC-1	WATER CLOSET	ZURN, Z5655-BWL1 1.6GPF SIPHON JET FLUSH ACTION FLOOR MOU WITH 2-1/8" FULLY GLAZED TRAPWAY
		CLOSET FLANGE	ZURN MODEL # CF2982 CAST IRON TORQUE SET CLOSET FLANGE WITH
		VALVE	ZURN, Z6000AV-WS1 AQUAVANTAGE MANUAL OPERATED FLUSH VAL PASS, DUAL SEAL AND CHLORAMINE RESISTAN
		SEAT	ZURN, Z5955SS-EL-STS ELONGATED WHITE OPEN FRONT TOILET SEAT L STEEL CHECK HINGE
	WC-2	WATER CLOSET	ZURN, Z5665-BWL1 1.6GPF ADA SIPHON JET FLUSH ACTION FLOOR 2-1/8" FULLY GLAZED TRAPWAY
		CLOSET FLANGE	ZURN MODEL # CF2982 CAST IRON TORQUE SET CLOSET FLANGE WITH
		VALVE	ZURN, Z6000AV-WS1 AQUAVANTAGE MANUAL OPERATED FLUSH VAL PASS, DUAL SEAL AND CHLORAMINE RESISTAN
		SEAT	ZURN, Z5955SS-EL-STS ELONGATED WHITE OPEN FRONT TOILET SEAT L STEEL CHECK HINGE
	RD-1	ROOF DRAIN	ZURN, MODEL # ZA100-DP-EA, DRAIN W/LOW S

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PRESSURE GUAGE

ST-1 HAMMER ARRESTOR

UR-1 URINAL - HC

VALVE

CARRIER

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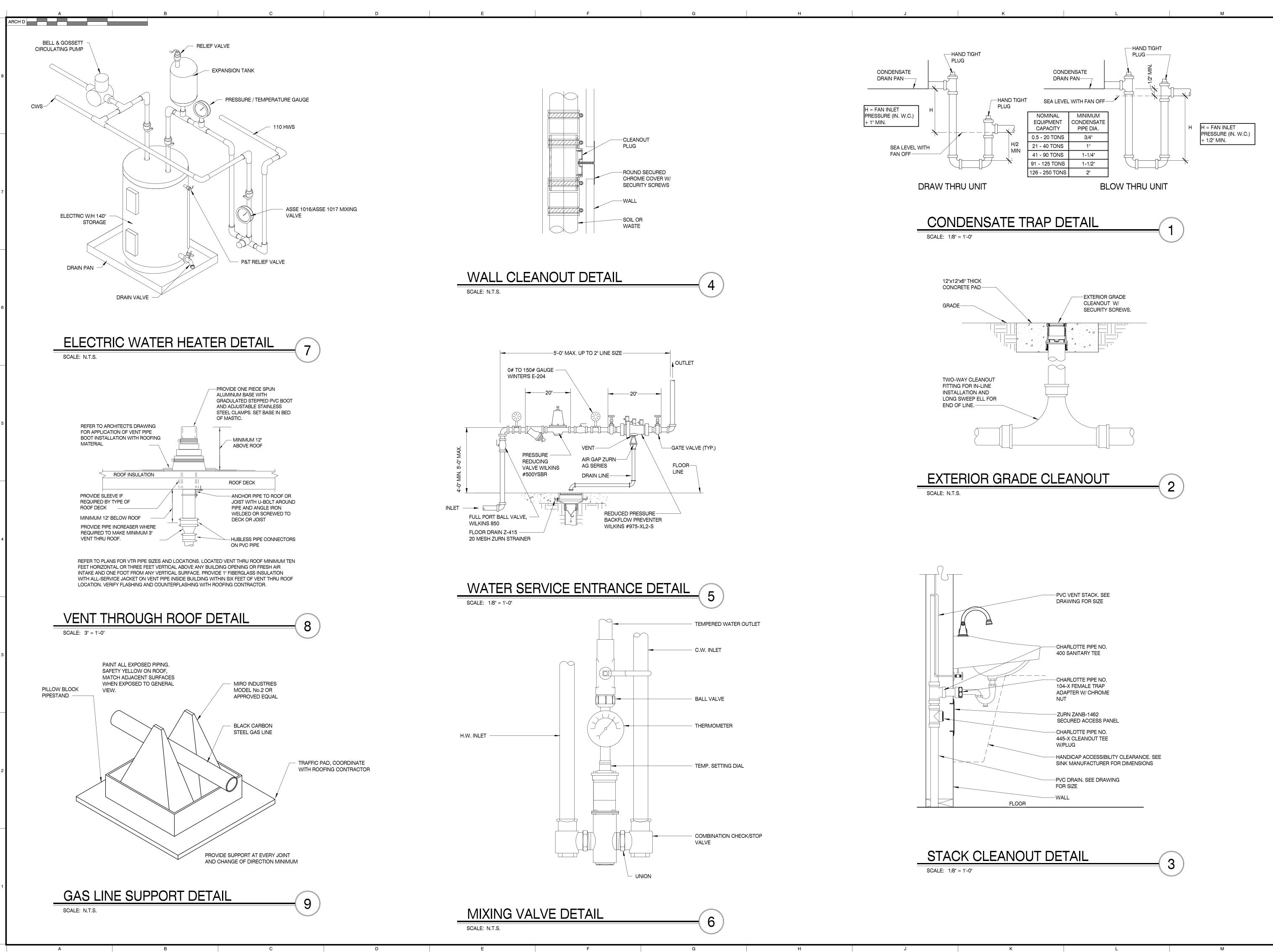
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NG FIXTURE SCHEDULE

ACTURER. ANY CONFLICTS WITH THE SCHEDULE AND THE CONSTRUCTION DOCUMENTS SHALL BE DIRECTED TO THE ALL PROVIDE A MIN OF THREE (3) COPIES OF SHOP DRAWINGS FOR APPROVAL. SEE SPECIFICATIONS

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	RENOVATION TO: NORRIS MIDDLE SCHOOL
4	PROJECT ADDRESS:
	5 NORRIS SQUARE, NORRIS, TN 37828 PROJECT NO.: 210042-04
	ACTIVE DESIGN PHASE
	SCHEMATIC DESIGN DESIGN DEVELOPMENT CONSTRUCTION BIDDING CONSTRUCTION DOCUMENTS
3	AS-BUILT RECORD SET REVISION INFORMATION NO. DATE DESCRIPTION
	KEY PLAN
2	
	SHEET INFORMATION SHEET ISSUED: 2/4/2022
	DESIGNED BY:KASDRAWN BY:KASREVIEWED BY:JCB
	SHEET TITLE:
1	PLUMBING SCHEDULES
	SHEET NO.: P201



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_	NORRIS, TN 37828 PROJECT NO.: 210042-04 ACTIVE DESIGN PHASE ACTIVE DESIGN PHASE FOR REVIEW ONLY FOR PERMITTING ONLY SCHEMATIC DESIGN DESIGN DEVELOPMENT
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EPI-1.3.5 FOR ADDITIONAL INFORMATION. Image: State and S		POWER PANELBOARD "LP1" MOUNT TOP 6'-0" ABOVE FINISHED FLOOR. SEE PANELBOARD SCHEDULE FOR
ECCEPT DIAL DECISION DE LOCALE DE LOCALE DE LOCALE DE LOCAL D	_	JUNCTION BOX, SIZE AND USE AS REQUIRED; COVERPLATE SHALL OVERLAP THE BOX EDGE BY 1/2" WHERE REC
WITCH ALL ANALYST CULLES BE ALARS TO READ CONSTRUCTION WITCH ALL ANALYST CULLES BE ALARS TO READ CONSTRUCTION WITCH ALL ANALYST CULLES BE ALARS TO READ CONSTRUCTION WITCH ALL ANALYST CULLES BE ALARS TO READ CONSTRUCTION WITCH ALL ANALYST CULLES BE ALARS TO READ CONSTRUCTION WITCH ALL ANALYST CULLES BE ALARS TO READ CONSTRUCTION WITCH ALL ANALYST CULLES BE ALARS TO READ CONSTRUCTION WITCH ALL ANALYST CULLES BE ALARS TO READ CONSTRUCTION WITCH ALL ANALYST CULLES BE ALARS TO READ CONSTRUCTION WITCH ALL ANALYST CULLES BE ALARS TO READ CONSTRUCTION WITCH ALL ANALYST CULLES BE ALARS TO READ CONSTRUCTION WITCH ALL ANALYST CONST		RECESSED FOUR GANG FLOOR BOX. TWO GANGS FOR POWER AND TWO GANGS FOR DATA. PROVIDE TWO
 Hender Percentation - Link of an exception of a sector and a construction of an exception of a sector and a construction of a sector and a s		
 Interfact Transmission (Control of the Control of the	-	SIMPLEX RECEPTACLE - 125V, 20A MOUNT 3" ABOVE BACKSPLASH AT WORK COUNTERS OR LAVATORIES AND +1
Image: Subject Additional Control of the Control of the Control of Control	GFI	DUPLEX RECEPTACLE - 125V, 20A MOUNT 3" ABOVE BACKSPLASH AT WORK COUNTERS AND LAVATORIES AND + ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. "GFI" INDICATES GROUND FAULT CIRCUIT INTERRUPTER T "WPC" INDICATES WEATHERPROOF COVER SHALL BE "CLOSED WHILE IN USE". "IG" INDICATES ISOLATED GROUN
 YOTEL PERVICE COMMERCIAL SECTION CALLS CALL AND SECTION OF ALL COMPACTS IN CONTROL TO ALL COMPACTS IN CONTROL FOR COMPACTS IN CONTROL FOR	\bigcirc	MISCELLANEOUS MECHANICAL EQUIPMENT, WH=WATER HEATER, UH=UNIT HEATER
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SHOWL Description SHOWLOHT, WILST HE PROTUDE TYPE IN THE PROTUDE SCHEDULE, ST NOIGATES WHICH SWITCH CONTROLS THE REFUERE MAY ST NOIGATES WHICH PROVED EXCENTING THE PROTUDE LICHTIC WHICH CONTROL TO STATEMENT ON THE PROTUDE SWITCH CONTROLS THE REFUERE MAY ST NOIGATES WHICH CONTROLS LICHTING WHEN CONTROL TO STATEMENT ADDRESS SHOWLOHT WHICH WHITE WHIT	-	
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AVALABLE PROVIDE UNSWITCHED HOT CONDUCTOR FIRCH SAME ORCUT PRIVER IS USING TO BATTERY PAC. ANY PRIVE THE PACING ALLOW CONSUMED HIS PACE AND ALLOW TRAVELOW DOWNLOW BATTERY PAC. ANY PRIVE THE PACING ALLOW CONSUMED HIS PACE AND ALLOW TRAVELOW DOWNLOW BATTERY PAC. ANY PRIVE THE PACING ALLOW CONSUMED HIS PACE AND ALLOW TRAVELOW DOWNLOW AND ALL TIMES. THE OWNLOW TO REPORT AND ALLOW TRAVELOW DOWNLOW THE ALLOW TRAVELED STATE ON ALL TIMES. THE OWNLOW TO REPORT AND ALLOW TRAVELOW DOWNLOW THE ALLOW DOWNLOW THAT THE ADD CONSUMED THE ADD THAT AND ALLOW THAT ADD THE ADD THE MIDICATE 2 AND ALLOW THAT ADD THE ADD TH		
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Q CATV OUTLET MOUNT 19' ABOVE PRISHED FLOOR UNLESS NOTED OTHERWISE EXTEND 1' EMPTY CONDUIT FROM OUTLET BOX ABOVE CELING AND TERMINATE WITH BUSINES PROVED INC. P CONDUIT FORM OUTLET MOUNT 15' ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE EXTEND 1'' EMPTY CONDUIT FORM OUTLET NOT AND/E CELING ON TO FORD STEEL AM TERMINATE WITH BUSING. PROVIDE INC. CONDUIT FORM OUTLET MOUNT 15' ABOVE FINISHED FLOOR 1'' BUSING FROM BUSING. PROVIDE INC. CONDUIT FORM OUTLET NOT AND/E CELING ON TO FORD STEEL AM TERMINATE WITH BUSING. PROVIDE INC. CONDUIT FORM OUTLET NOT AND/E CELING ON TO FORD STEEL AM TERMINATE WITH BUSING. PROVIDE INC. CONDUCT FORM OUTLET NOT AND/E CELING ON TO FORD STEEL AM TERMINATE WITH BUSING. PROVIDE INC. CALID 2077/23W MALL SWITCH SINCE POLE MOUNT 4''' ABOVE FINISHED FLOOR 3'' NICKATES 3-WAY. 'D' INDICATES DWART SWITCH 'D' INDICATES VACANCY SENSOR WALL SWITCHES MAY WORK IN CONJUNCTION WITH CELING STEED BUSING OF CONTROL 5'' WILL SWITCH MOUTT 4''' ABOVE FINISHED FLOOR 3'' NICKATES 3-WAY. 'D' INDICATES DWART SWITCH 'D' INDICATES VACANCY SENSOR WITH 'MAULAL-ON' AND 'AUTO-OFF' ALOUTY HIM FLOOR OLOGY CORFIDENCE SUCON CONTROL WITH 'AUTO-ON' AND 'AUTO-OFF' ALOUTY HIM FLOOR OUTLED SENSOR FOR LIGHTING CONTROL 'D' HIM AUTO-OFF' AND 'AUTO-OFF' AND 'AUTO-OFF' AND 'AUTO-OFF' AND 'AUTO-OFF' AND 'AUTO-OFF' 'N' NICKATES SUTTOR 5'' SELES DESCONNECT SWITCH 'S'' SELES DUECONNECT SWITCH 'S'' SELES DUECONNECT SWITCH 'S'' SELES DUECONNECT SWITCH 'S'' SUTOR SELES SUTTOR SUTOR S	LP1-1,3,5	HOMERUN - LP1 INDICATES PANELBOARD 1,3,5 INDICATE CIRCUIT NUMBERS. SEE PANELBOARD DESIGNATION SC FOR ADDITIONAL INFORMATION.
 FROM OUTLET BOX AROVE CELING AND TERMINATE WITH BUSINED, PROVIDE MICON PULL CORD IN EACH CONDUCT PROVIDE SQUARE BOX WITH SANCE CAN DEVICE NING. TELEPHONEDATA OUTLET MOUNT 18 AGOVE PINISHED FLOOR WILESS NOTED OTHERWISE, EXTEND 1* EMPTY CULL CORD IN EACH CONDUIT. PROVIDE 4'S GULARE BOX WITH SINGLE CAN DEVICE NING. JUCAL LOND IN EACH CONDUIT. PROVIDE 4'S GULARE BOX WITH SINGLE CAN DEVICE NING. JUCAL LOND VOLTAGE 1' WALL SWITCH. MOUNT 44' ABOVE FINISHED FLOOR. 'I MICATES 3 WAY, 'D' NINGATES SWAY, 'D' NINGATES SWAY, 'D' NINGATES SWAY, 'D' NINGATES WACANO'Y SENSOR. WITH 4''' ABOVE FINISHED FLOOR. 'I MICATES SWAY, 'D' NINGATES SWAY, 'D' NINGATES WACANO'Y SENSOR. WILL SWITCH SINGL Y D' NINGATES YACANO'Y SENSOR. WILL SWITCH SINGL YOUR YOR NI NOUNCHTON WITH DIADUSTAL SENSORS MIDEATED BELOW. SPECIFICATION GRADE. JUDAL TECHNICLOY CORRIDOR SENSOR POR LICHTING CONTROL WITH 'MANUAL ON' AND 'AUTO-OFF'. YS' NINGATES VACANO'Y SENSOR WITH 'MANUAL ON' AND 'AUTO-OFF'. YS' NINGATES WACANO'Y SENSOR WITH 'MANUAL ON' AND 'AUTO-OFF'. ACUTY HUR DIADUSTALL OUTLO'RE'. 'YS' NINGATES WACANO'Y SENSOR' WITH 'MANUAL ON' AND 'AUTO-OFF'. ACUTY HUR DIADUSTALL ON CONTROL WITH 'AUTO-OFF'. ACUTY HUR DIADUSTALL ON CONTROLOW CORRIDON SENSOR FOR LICHTING CONTROL WITH 'AUTO-OFF' AND 'AUTO-OFF'. 'AG'''' NORCATES WACANO'Y SENSOR''''' HUR AUTO-OFF'. ACUTY HUR TATE O'R ONDER''''''''''''''''''''''''''''''''''''		INDICATE 2 #12, #12 GROUND. WHEN TWO OR MORE CIRCUITS SHARE A COMMON NEUTRAL THE HOT CONDUCTO
CONDUTE TROM OUTLET BOX TO ABOVE CELLING OR TO PROF STELL AND TERMINATE WITH BUSINER, PROVIDE PRUCORD IN EACH CONDUIT. FROVIDE 4' SOUARE BOX WITH SINGLE AND GENCE AND GENCE TOCAL 120277/ 20A WALL SWITCH, SINGLE POLE, MOUNT 44' RAOVE FINISHED FLOOR, 3' INDICATES 3'WAY, 10' INDICATES LOCAL LOW VOLTAGE 1' WALL SWITCH, SINGLE POLE, MOUNT 44' RAOVE FINISHED FLOOR, 3' INDICATES 3'WAY, 10' INDICATES LOCAL LOW VOLTAGE 1' WALL SWITCH, MOUNT 44' RAOVE FINISHED FLOOR, 3' INDICATES 3'WAY, 10' INDICATES SINGLE AND MICH, 1'' INDICATES VACANCY SENSOR WITH WALLOW' AND WORK IN CONJUNCTION WITH GELINK SINGLE AND TO LOW VOLTAGE 1'' WALL SWITCH, SUNGLE DES COLUPANCY SENSOR WITH AUDIT DIMMER SWITCH, 1'' INDICATES VACANCY SENSOR WITH WALLOW' AND 'AUTO-OFF' WITH ADJUSTABLI DELAY UP 10 IS NINUTES. DIAL TECHNOLOGY CORIDOR SENSOR FOR LIGHTING CONTROL, WITH 'AUTO-ON' AND 'AUTO-OFF' WITH ADJUSTABLI DELAY UP 10 IS NINUTES. INDICATES SUNCH '30' INDICATES SWITCH SIZE, '30' INDICATES FUSE SIZE. HEAVY DUTY 'HP' HATED, PROVDE DISCONNECT SWITCH, '30' INDICATES SWITCH SIZE, '30' INDICATES FUSE SIZE. HEAVY DUTY 'HP' HATED, PROVDE MAS RENCIOSINGS SWITCH SIZE, '30' INDICATES FUSE SIZE. HEAVY DUTY 'HP' HATED, PROVDE NEWS AND RENCI SWITCH SIZE, '30' INDICATES FUSE SIZE. HEAVY DUTY 'HP' HATED, PROVDE NEWS AND RENCI SWITCH '30' INDICATES SWITCH SIZE, HEAVY DUTY 'HP' HATED, PROVDE NEWS AND RENCI SWITCH '30' INDICATES SWITCH SIZE HEAVY DUTY 'HP' HATED, PROVDE NEWS AND RENCI SWITCH SIZE, '30' INDICATES FUSE SIZE. HEAVY DUTY 'HP' HATED, PROVDE NEWS AND RECTOR INCOMES DUTORS TO SIZE HEAVY DUTY 'HP' HATED, PROVDE NEWS AND RENCI SWITCH SIZE 'HEAVY DUTY 'HP' HATED, PROVDE NEWS AND RENCI SWITCH SIZE HEAVY DUTY 'HP' HATED, PROVDE SIZE AND NO. (CONTRACTORS SIZE SUZE AND NO. (CONTRACTORS SIZE AND NO. (CONTRACTORS SIZE AND NO. (CONTRACTORS AND AND AND SIZE SWITCH SIZE AND HATE AND NOVE THE NEW AND CONTRACTORS TO AND AND ACCESSENCE AND NO. (CONTRACTORS TO AND AND ACCESSENCE AND NO. (CONTRACTORS AND AND AND ACCESSENCE AND NO. (CONTRACTORS AND AND ACCESSENCE AND AND AN	Ы	FROM OUTLET BOX ABOVE CEILING AND TERMINATE WITH BUSHING. PROVIDE NYLON PULL CORD IN EACH
 LOCAL 128277V.20A WALL SWITCH, SINGLE POLE, MOUNT 149' AROVE FINISHED FLOOR. "9' INDICATES 3-WAY, "D' INDICATES MUTCH, "I' INDICATES WACANCY SENSOR, SPECIFICATION GRADE. LOCAL LOW WOLTAGE, "I' WALL SWITCH MOUNT 144' AROVE FINISHED FLOOR. "9' INDICATES 3-WAY, "D' INDICATES SWITCH, "I' INDICATES VECANCY SENSOR WALL SWITCHES MAY WORK IN CONJUNCTION WITH GELING SENSORS INDICATED BLOW. SPECIFICATION GRADE. DUAL TECHNOLOGY CELLING SENSOR FOR LIGHTING CONTROL. "OS' INDICATES OCCUPANCY SENSOR WITH "MANUAL-ON" AND "AUTO-OFF." WITH ADJUSTABLI DOLATED FULUE TO IS INDICATES VECANCY SENSOR WITH "MANUAL-ON" AND "AUTO-OFF." ACUITY WITH ADJUSTABLI DOLATED FULUE TO ISINICATES SUCCESSION SENSOR WITH "MANUAL-ON" AND "AUTO-OFF." ACUITY WITH ADJUSTABLI DOLATED FULUE TO SUNDLET. MOUNT AS "O' A SF. PIR TECHNOLOGY CORRIDOR SENSOR FOR LIGHTING CONTROL WITH "AUTO-ON" AND "AUTO-OFF." ACUITY WITH ADJUSTABLI DOLATES TO A SF. PIR TECHNOLOGY CORRIDOR SENSOR FOR LIGHTING CONTROL WITH "AUTO-ON" AND "AUTO-OFF." ACUITY WITH ADJUSTABLI DOLATES TO A SF. PIR TECHNOLOGY CORRIDOR SENSOR FOR LIGHTING CONTROL WITH "AUTO-ON" AND "AUTO-OFF." ACUITY WITH THEO INTO MUSE TO A SENSOR WITH SIZE HEAVY DUTY "HP" RATED. PROVIDE NEMA 3R ENCLOSURES OUTDOORS. TUSE CERT NAMEPLATE OF EQUIPMENT. "SENSOR SINDLECT SWITCH." 30" INDICATES SWITCH SIZE HEAVY DUTY "HP" RATED. PROVIDE NEMA 3R ENCLOSURE OUTDOORS. TELEPHONE BACKBOARD. DUCT TRATORO ALL SUBJECT TO A SENSOR FOR LIGHTING ADJUST SINCE DETECTOR TO SHUT DOWN THE HEAVEN THERE THE THE DUCT SINCE DETECTOR TO SHUT DOWN THE HEAVEN DUCT SINCE DETECTOR TO SHUT DOWN THE HEAVEN DUCT THE PLEAD THERE THE DUCT SINCE DETECTOR TO SHUT DOWN THE HEAVEN DUCT SINCE DETECTOR TO SHUT DOWN THE HEAVEN DUCT THE PLEAD STALED SY CAN DEAL SESSIEL LOCATON, MOUNTED SHOT DA SHUT DOWN THE HEAVEN DUCT SINCE DETECTOR TO SHUT DOWN THE STALED SY CAN DERINT THE DUCT SINCE DETECTOR TO SHUT DOWN THE STATEME DUCT SIZE THERE ALARM YON A DETE	M	CONDUIT FROM OUTLET BOX TO ABOVE CEILING OR TO ROOF STEEL AND TERMINATE WITH BUSHING. PROVIDE
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Image: Second	-	CEILING MOUNTED FIRE ALARM HEAT DETECTOR.
Fire Alarm Flow Switch. FACP Fire Alarm Control Panel. Mount top 6'-0" AFF. PROVIDE TWO DEDICATED PHONE LINES TO PANEL. WAP Ceiling Mounted Wireless Access Point. PROVIDE 4" SQUARE BOX WITH SINGLE GANG DEVICE RING. WIV WALL INDICATOR VALVE LCP NEMA 1, SURFACE MOUNTED LIGHTING CONTROL PANEL, MVOLT. PROVIDE SINGLE POLE RELAYS AS SHOWN IN SCHEDULES ON SHEET ES01. PROVIDE 365 DAY ASTRONOMICAL PROGRAMMABLE TIMECLOCK AND PHOTOCELL (MOUNTED ON ROOF FACING NORTH). OVR LOW-VOLTAGE OVERRIDE LIGHT SWITCH. COMPATIBLE WITH LIGHTING CONTROL PANEL. MTD 48" AFF. CO CEILING MOUNTED FIRE ALARM CARBON MONOXIDE DETECTOR. OVR DOOR HOLDER - OPERATED THROUGH FIRE ALARM SYSTEM. DOORS REMAIN OPEN UNTIL SMOKE IS DETECTED SMOKE DETECTORS ADJACENT TO THE DOORS OR LOSS OF POWER. CFI SECURITY SYSTEM CARDREADER. DOUBLE DOOR ELECTRIC STRIKE ACCESS CONTROL. REFER TO DETAIL 4/E501 FOR ADDITIONAL INFORMATION. N PA SPEAKER. CM EXTERIOR PA SPEAKER.	~	CEILING MOUNTED FIRE ALARM VISUAL ONLY STROBE DEVICE. 15cd INDICATES 15 CANDELAS.
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ES2 DOUBLE DOOR ELECTRIC STRIKE ACCESS CONTROL. REFER TO DETAIL 4/E501 FOR ADDITIONAL INFORMATION. Image: Second strike access control information and information and information and information. Image: Second strike access control information and information and information. Image: Second strike access control information and information. Image: Second strike access control information and information. Image: Second strike access control information. Image: Secon		SMOKE DETECTORS ADJACENT TO THE DOORS OR LOSS OF POWER.
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EXTERIOR PA SPEAKER.		

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ELECTRICAL ABBREVIATIONS AMPERES FURNISHED WITH EQUIPMENT N.C. NORMALLY CLOSED FWE Α NOT IN CONTRACT AC ALTERNATING CURRENT N.I.C. GROUNDING CONDUCTOR G AF ARC FAULT GROUND FAULT INTERRUPTER N.O. NORMALLY OPEN GFI NATIONAL ELECTRIC CODE A.F.F. ABOVE FINISHED FLOOR ΗP HORSEPOWER NEC NEMA NATIONAL ELECTRICAL AWG AMERICAN WIRE GAUGE JB JUNCTION BOX CKT CIRCUIT KCM THOUSANDS OF CIRCULAR MILS PH PHASE DC DIRECT CURRENT ΚV KILOVOLTS TYPICAL TYP. DISC DISCONNECT KILOVOLT-AMPERES KVA

KILOWATTS

NEUTRAL CONDUCTOR

LIGHTING

KW

LTG

N

MANUFACTURERS ASSOCIATION VOLT WATT WEATHERPROOF WPC "CLOSED WHILE IN USE" TYPE WEATHERPROOF COVER

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WP

FIRE ALARM SYSTEM NOTES

- 1. A) FURNISH AND INSTALL A COMPLETE ADDRESSABLE FIRE DETECTION AND EVACUATION SYSTEM. THE ENTIRE INSTALLATION SHALL CONFORM TO THE APPLICABLE SECTIONS OF NFPA-72, NATIONAL FIRE ALARM CODE, NFPA-101 LIFE SAFETY CODE, N.E.C. ARTICLE 760, THE AMERICANS WITH DISABILITIES ACT, AND LOCAL AUTHORITIES HAVING JURISDICTION. SUBSTITUTES FOR APPROVAL MUST MEET THE COMPLETE FUNCTIONALITY REQUIREMENTS AS SET FORTH IN THESE SPECIFICATIONS.
- B) DUE TO THE NATURE OF FIRE MARSHAL ACTIONS, INCLUDE AN ALLOWANCE OF AN ADDITIONAL 10% OF THE ORIGINAL JOB A/V DEVICE QUANTITIES TO BE INSTALLED AT THE DISCRETION OF THE LOCAL FIRE MARSHAL.
- 2. THE FIRE ALARM EQUIPMENT SUPPLIER SHALL BE AN ALARM SYSTEMS CONTRACTOR LICENSED BY THE STATE OF TENNESSEE AND SHALL INCLUDE A COPY OF THE LICENSE IN THE EQUIPMENT SUBMISSIONS. THE CONTRACTOR SHALL HAVE NICET CERTIFIED EMPLOYEES FOR THE SALE, SUPERVISION AND FINAL TESTING OF THE EQUIPMENT AND SHALL INCLUDE A COPY OF THE CERTIFICATE OF AT LEAST ONE EMPLOYEE IN THE EQUIPMENT SUBMISSIONS.
- THE FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE NEED FOR ADDITIONAL CABINETS, 3 BATTERIES, POWER SUPPLIES, PROGRAMMING, AND ANY ADDITIONAL HARDWARE OR SOFTWARE FOR A COMPLETE INSTALLATION AND EXPANSION. INCLUDE ALL COST IN ORIGINAL BID.

4. SUBMISSIONS

DWG.

ELEC.

EWC

DRAWING

ELECTRICAL/ELECTRIC

ELECTRIC WATER COOLER

- A) COMPLETE DESCRIPTIVE DATA INCLUDING U.L. LISTING FOR ALL COMPONENTS.
- B) COMPLETE CAD DRAWINGS OF THE PROPOSED SYSTEM SHOWING CONDUIT LAYOUT, WIRE COUNT AND DEVICE LOCATIONS.
- ALL FIRE ALARM SYSTEM WIRING SHALL REMAIN SEPARATE FROM OTHER BUILDING SYSTEMS WIRING AND SHALL BE IN CONDUIT. ALL JUNCTION BOXES SHALL BE SPRAYED RED AND LABELED "FIRE ALARM". WIRING COLOR SHALL BE MAINTAINED THROUGHOUT THE INSTALLATION.
- 6. TESTING:

A) THE COMPLETED SYSTEM SHALL BE FULLY TESTED BY THE FIRE ALARM CONTRACTOR AND THE MANUFACTURER'S NICET CERTIFIED TECHNICAL REPRESENTATIVE IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. UPON COMPLETION OF A SUCCESSFUL TEST, THE FIRE ALARM CONTRACTOR SHALL VERIFY IN WRITING TO THE OWNER, ARCHITECT, AND GENERAL CONTRACTOR.

^{B)} THE FOLLOWING TEST SHALL BE PERFORMED BY THE FIRE ALARM MANUFACTURER'S AUTHORIZED REPRESENTATIVE. EACH AND EVERY NEW DEVICE SHALL BE TESTED FOR IT'S INTENDED FUNCTION. VERIFY THAT EACH NEW DEVICE IS LOCATED IN ITS APPROPRIATE LOCATION. WRITTEN VERIFICATION OF THIS TEST SHALL BE PROVIDED TO THE OWNER, ARCHITECT, AND GENERAL CONTRACTOR. THIS TEST SHALL BE PERFORMED IN ACCORDANCE WITH NFPA 72.

WARRANTY: THE NEW EQUIPMENT AND WIRING SHALL BE WARRANTED TO BE FREE FROM ELECTRICAL AND MECHANICAL DEFECTS FOR A PERIOD OF ONE (1) YEAR COMMENCING WITH START-UP AND OWNERS BENEFICIAL USE OF THE COMPLETED SYSTEM. WARRANTY SHALL INCLUDE ALL LABOR/TRAVEL TIME AND PARTS

MONITORING: 8.

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D

INCLUDE IN THE BID THE COST OF ONE YEAR OF MONITORING OF THE NEW FIRE ALARM SYSTEM BY A U.L. APPROVED MONITORING COMPANY.

EMERGENCY RADIO RESPONDER COVERAGE NOTES

- EMERGENCY RADIO COMMUNICATION SIGNAL ENHANCEMENT SYSTEM TESTING, DESIGN, & ROUGH-IN:
- A. CONTRACTOR SHALL INCLUDE IN BASE BID PRICE TESTING OF EMERGENCY RESPONDER RADIO COMMUNICATIONS SIGNALS AND CELLULAR SIGNALS FOR THE NEW ADDITION ONLY. TEST RESULTS SHALL BE DOCUMENTED FOR BOTH THE OUTSIDE AND INTERIOR OF THE NEW ADDITION FOR DETERMINATION OF NEED FOR A BI-DIRECTIONAL AMPLIFIER SYSTEM TO BOOST THESE SIGNALS WITHIN THE FACILITY.
- B. ALL TESTS SHALL BE CONDUCTED, DOCUMENTED, AND SIGNED BY A PERSON IN POSSESSION OF AN FCC GENERAL RADIO TELEPHONE OPERATORS LICENSE. ALL TESTING PERSONNEL SHALL BE CERTIFIED AND AUTHORIZED BY THE SIGNAL BOOSTER MANUFACTURER IN THE INSTALLATION AND OPERATION OF THEIR EQUIPMENT. PERSONNEL QUALIFICATIONS MUST BE ACCEPTABLE TO THE AHJ.
- C. THE TESTING SHALL BE IN ACCORDANCE WITH APPLICABLE EDITION OF UL2524, NFPA-72, NFPA 1221, IFC AND FCC COMPLIANT TO ESTABLISH STANDARDS OF QUALITY FOR MATERIALS AND PERFORMANCE. D. EC SHALL SUB-CONTRACT AN APPROVED MANUFACTURER OR A QUALIFIED AND APPROVED VENDOR TO PERFORM THE TESTS AND SHOULD THE TEST RESULTS SHOW THE NEED FOR A SIGNAL ENHANCEMENT SYSTEM(S) THAT VENDOR SHALL TEST AND DETERMINE RECOMMENDED LOCATIONS OF COMPONENTS AND EQUIPMENT WHICH ARE REQUIRED FOR PROPER COVERAGE TO MEET THE AFOREMENTIONED CODE
- REQUIREMENTS. CRITICAL AREAS SUCH AS EXIT STAIRS, EXIT PASSAGEWAYS, ELEVATOR LOBBIES, SPRINKLER SECTIONAL VALVE LOCATIONS AND SIMILAR CRITICAL AREAS SHALL BE PROVIDED WITH 100% FLOOR AREA RADIO COVERAGE. GENERAL BUILDING AREAS SHALL BE PROVIDED WITH 95% RADIO COVERAGE, OR AS
- SPECIFIED BY AHJ. F. THE IN-BUILDING EMERGENCY RADIO COMMUNICATION ENHANCEMENT SYSTEMS MUST PROVIDE THE FOLLOWING SIGNAL STRENGTHS: a. DOWNLINK - MINIMUM SIGNAL STRENGTH OF -95 DBM THROUGHOUT THE COVERAGE AREA.
- b. UPLINK MINIMUM SIGNAL STRENGTH OF -95 DBM RECEIVED AT THE AHJ RADIO SYSTEM. G. CONDUIT SLEEVES SHALL BE INSTALLED AS REQUIRED AND ONE 2"C SHALL BE INCLUDED FROM DAS LOCATION TO ROOF FOR DONOR ANTENNA. WHERE INACCESSIBLE CEILINGS (GYP, ETC) ARE ENCOUNTERED, CONTRACTOR SHALL INCLUDE IN BASE BID PRICE DESIGN OF EMERGENCY RADIO RESPONDER COVERAGE SYSTEM. INDIVIDUAL UNIT ANTENNA LOCATIONS SHALL BE IDENTIFIED AND ROUGH-IN BOX INSTALLED AT EACH ANTENNA LOCATION. 3/4"C SHALL BE INSTALLED FROM EACH ANTENNA BACK BOX TO ACCESSIBLE LOCATION, TTB SERVING SAME AREA, OR DAS LOCATION AS REQUIRED FOR UNINHIBITED PATH OF DAS SYSTEM CABLING IF COMPLETE DAS SYSTEM IS REQUIRED UPON TESTING COMPLETION.
- EMERGENCY RADIO COMMUNICATION SIGNAL ENHANCEMENT SYSTEM INSTALLATION: 2.

F

A. IF TESTING DETERMINES THAT AN EMERGENCY RADIO COMMUNICATION SIGNAL ENHANCEMENT SYSTEM IS REQUIRED FOR THE ADDITION, FURNISH AND INSTALL THE SYSTEM PER THE REQUIREMENTS OF SPEC SECTION 27 00 00.

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GENERAL E

- ELECTRICAL DRAW OR THERE ARE ITEI ENGINEER FOR CL DRAWINGS FOR GL STRUCTURAL AND INSTALL THE ELEC OTHER SYSTEMS. WHERE DIMENSION
- 2. SCOPE: FURNISH A INDICATED ON DRA THE NATIONAL ELE
- PROVIDE ADDITION 3. TRAYS AND OTHER DIRECT MOUNTING.
- A NUMERAL BESIDE 4. CIRCUIT CONNECTI CONNECTION WHE
- SYMBOLS IN THE LE 5. SCHEDULES, LAYO IN THE LEGEND DO
- 6. MOUNT GROUPED BETWEEN EXPOSE
- 7. VERIFY CEILING SUS ACCESSORIES, TRI

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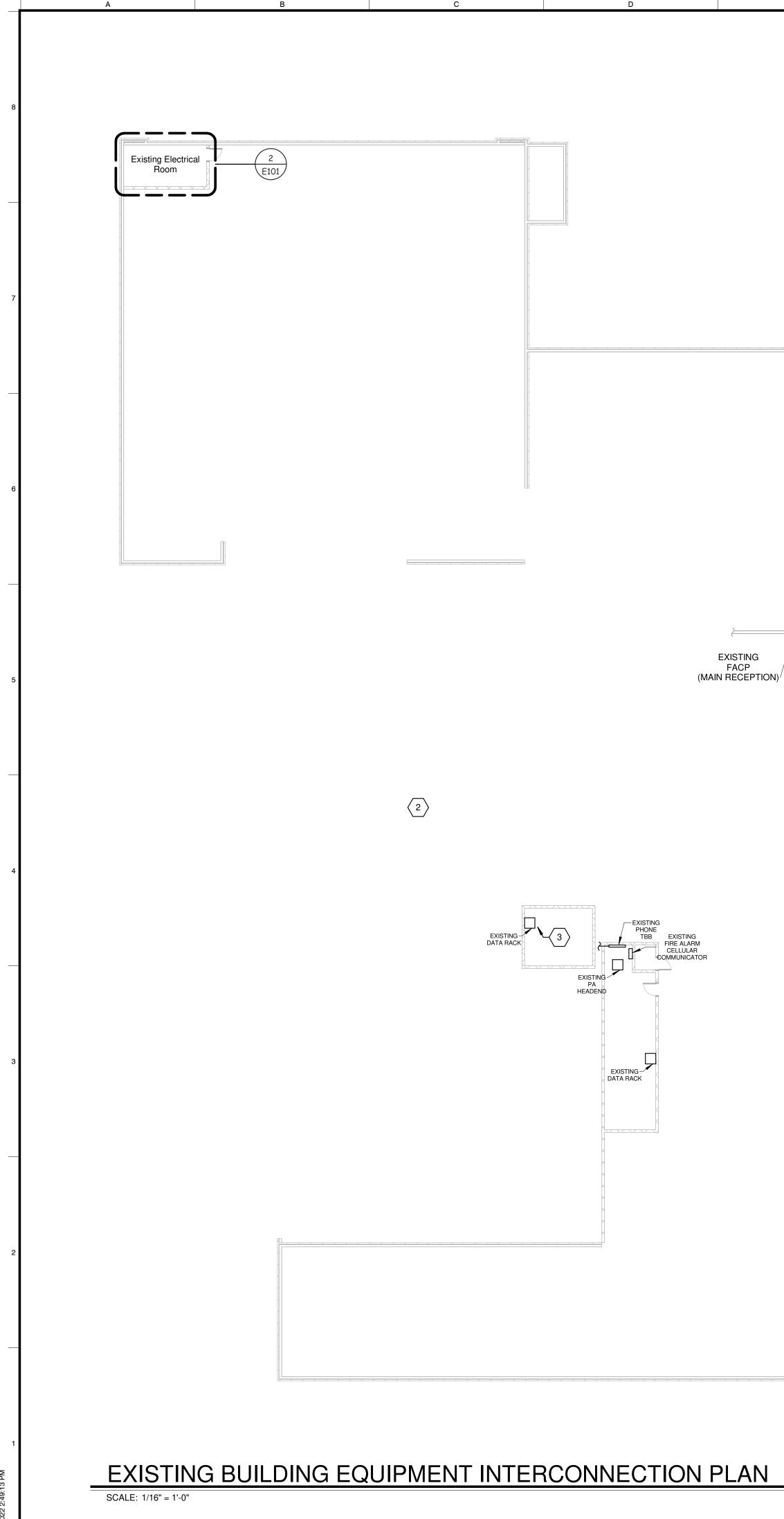
- PROVIDE SEAL FITT AREAS.
- ANY CONDUIT AND MECHANICAL PLAN
- 10. ALL CONDUCTORS SIZES #10 AWG AND IS #12 AWG. CONDU MC CABLE IS ALLOV
- 11. MAINTENANCE MAN FOR ANY ELECTRIC
- 12. ALL ELECTRICAL EC FURNISH WARRANT REPAIRED/REPLACE OF THE WARRANT
- 13. ANY CONDUIT AND/ FIRESTOP EQUAL TO THROUGH. USE ON SIDES OF A FIRE BA
- 14. PERMITS: OBTAIN A COMPANY AID TO C
- 15. CONDUCTOR COLOR CONDUCTORS THR PHASE
 - NEUTRAL GROUND
- 16. CUTTING AND PATC STRUCTURAL ELEM APPEARANCE OF EX
- 17. GROUNDING: AS RE
- 18. WIRING DEVICES AN SPECIFICATION GRA UNFINISHED AREAS
- 19. SAFETY SWITCHES: INDOORS AND NEM WHERE SHOWN OF
- 20. FUSES: USE DUAL SUPPLIER.
- 21. PANELBOARDS: US SEPARATE NEUTRA DIRECTORY CARDS
- 22. COORDINATION: CO COMPANY. COORD
- 23. EQUIPMENT: CONNE DEVICES OUTDOOF BREAKERS, DISCON ACCORDING TO TH EQUIPMENT SUPPL **RESPONSIBLE FOR** DRAWINGS IN ORDI **REQUIREMENTS. TH** THE INSTALLATION.
- 24. RECORD DRAWINGS CHANGES ON A CLE THE OWNER UPON
- 25. IDENTIFICATION: IDE PROJECT. EXAMPL IDENTIFY WITH PER
- 26. SUBMITTALS: UNLES SUBMITTING FOUR EQUIPMENT INCLUE CONTROLS, ETC. AI AND INSTALLATION
- 27. TEMPORARY POWE ENTIRE PROJECT D 500 SQUARE FEET (TRANSFER BETWEE AND LAMP GUARDS
 - MINIMUM TEMPORA ONE LAMP HOLDER ONE LAMP HOLDER ONE LAMP HOLDER
- 28. 20A/1P RECEPTACL MAXIMUM LENGTH 150FT IN LENGTH. C LENGTH. CABLE SIZ FOR CIRCUITS WITH

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NERAL ELECTRICAL NOTES		
ELECTRICAL DRAWINGS ARE PARTIALLY DIAGRAMMATIC. IN THE EVENT THAT THERE IS A DISCREPANCY OR THERE ARE ITEMS THAT ARE UNCLEAR, IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT THE ENGINEER FOR CLARIFICATION. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL AND HVAC DRAWINGS FOR GUIDANCE ON DIMENSIONS, CEILING HEIGHTS, DOOR SWINGS, ROOM FINISHES, STRUCTURAL AND ARCHITECTURAL DETAILS, LOCATIONS OF DUCTS, PIPES AND STRUCTURAL STEEL. INSTALL THE ELECTRICAL SYSTEMS WITHOUT INTERFERING WITH DUCTS, PIPES, STRUCTURAL STEEL OR OTHER SYSTEMS. LOCATE LIGHTING SYMMETRICALLY IN PROPER RELATION TO FINISHED AREAS EXCEPT WHERE DIMENSIONED ON THE DRAWINGS OR LOCATED ON REFLECTED CEILING PLANS.	8	ARCHITECT:
SCOPE: FURNISH ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO INSTALL ALL ELECTRICAL WORK INDICATED ON DRAWINGS, AS SPECIFIED HEREIN, AND IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), AND ALL STATE, AND CITY CODES.		MBI COMPANIES INC.
PROVIDE ADDITIONAL SUPPORTS FOR SWITCHES, PANELBOARDS, RACEWAYS TRANSFORMERS, CABLE TRAYS AND OTHER ELECTRICAL EQUIPMENT WHERE THE BUILDING STRUCTURE IS NOT SUITABLE FOR DIRECT MOUNTING. ALL OTHER SUPPORTS AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.		299 N. WEISGARBER ROAD KNOXVILLE, TN 37919 PHONE: (865) 584-0999 FAX: (865) 584-5213
A NUMERAL BESIDE A BRANCH CIRCUIT OUTLET ON WIRING PLANS INDICATES PANELBOARD BRANCH CIRCUIT CONNECTION. A LOWER CASE LETTER BESIDE AN OUTLET INDICATES THE SWITCH LEG		WEB: mbicompanies.com CONSULTANT
CONNECTION WHERE OUTLETS ARE LOCALLY SWITCHED. SYMBOLS IN THE LEGENDS ARE APPLICABLE GENERALLY. FOR EXACT REQUIREMENTS REFER TO THE SCHEDULES, LAYOUTS, DETAILS AND SPECIFICATIONS SINCE THE APPEARANCE OF A PARTICULAR SYMBOL	7	ELECTRICAL ENGINEER: STEPHEN M. NEWLIN JR.
IN THE LEGEND DOES NOT NECESSARILY IMPLY THAT THE ITEM IS INCLUDED IN THE CONTRACT. MOUNT GROUPED DEVICES IN A SINGLE CONTINUOUS GANG BOX. USE PARTITIONS WHERE VOLTAGE BETWEEN EXPOSED LIVE PARTS OF ADJACENT SWITCHES MAY EXCEED 300 VOLTS.		
VERIFY CEILING SUSPENSION SYSTEMS IN THE VARIOUS AREAS AND PROVIDE THE PROPER MOUNTING ACCESSORIES, TRIMS, ETC. TO SUIT THE PARTICULAR AREA.		MBI COMPANIES 299 N. WEISGARBER RD.
PROVIDE SEAL FITTINGS IN CONDUITS THAT ENTER CONDITIONED AREA FROM NON-CONDITIONED AREAS.		KNOXVILLE, TN. 37919 PHONE: (865) 584-0999 FAX: (865) 584-5213
ANY CONDUIT AND BOXES FOR HVAC CONTROL WIRING IS INCLUDED IN THIS SCOPE OF WORK. SEE MECHANICAL PLANS FOR LOCATIONS, TYPE AND QUANTITY OF CONTROL DEVICES.		WEB: mbicompanies.com
ALL CONDUCTORS ARE COPPER. THHN/THWN 600 VOLT INSULATION. USE SOLID CONDUCTORS FOR WIRE SIZES #10 AWG AND SMALLER. USE STRANDED FOR WIRE NO. 8 AWG AND LARGER. MINIMUM WIRE SIZE IS #12 AWG. CONDUIT IS EMT (1/2" MINIMUM) WITH COMPRESSION FITTINGS UNLESS OTHERWISE NOTED. TYPE MC CABLE IS ALLOWED IN CONCEALED INTERIOR DRY LOCATIONS. MAINTENANCE MANUALS AND INSTRUCTIONS: FURNISH THREE (3) SETS OF OPERATING INSTRUCTIONS	6	MARK NEW
FOR ANY ELECTRICAL EQUIPMENT INSTALLED. ALL ELECTRICAL EQUIPMENT AND INSTALLATION WORK SHALL HAVE A ONE YEAR (1) WARRANTY.		STERO ENCINE
FURNISH WARRANTY SO THE DEFECTIVE MATERIALS AND/OR WORKMANSHIP SHALL BE REPAIRED/REPLACED IMMEDIATELY UPON NOTIFICATION AT NO COST TO THE OWNER FOR THE PERIOD OF THE WARRANTY.		ZOS CAGRICADINE R
ANY CONDUIT AND/OR CABLE TRAY PENETRATIONS THROUGH ANY FIRE WALL OR FLOOR SHALL BE FIRESTOP EQUAL TO OR GREATER THAN THE RATING OF THE FIRE WALL OR FLOOR THAT THEY PASS THROUGH. USE ONLY UL APPROVED METHODS AND ASSEMBLIES. RECEPTACLES LOCATED ON OPPOSITE SIDES OF A FIRE BARRIER SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 2'0".		OF TENNE
PERMITS: OBTAIN AND PAY FOR ALL REQUIRED PERMITS, LICENSES, FEES INSPECTIONS, AND POWER COMPANY AID TO COMPLETE WORK SHOWN. INCLUDE ALL POWER COMPANY COSTS IN BID.	5	COPYRIGHT © MBI COMPANIES INC. THE DESIGN PROFESSIONAL DENIES ANY AND ALL
CONDUCTOR COLOR CODING: PROVIDE COLOR CODING FOR ALL BRANCH CIRCUIT CONDUCTORS THROUGHOUT THE PROJECT AS FOLLOWS: PHASE 120/208 VOLT		RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR PROBLEMS WHICH ARISE FROM OTHERS'
A BLACK B RED C BLUE		FAILURE TO OBTAIN AND/ OR FOLLOW THE DESIGN PROFESSIONAL'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.
NEUTRAL WHITE GROUND GREEN	_	PROJECT INFORMATION PROJECT:
CUTTING AND PATCHING: PROVIDE ALL CUTTING REQUIRED TO DO THE WORK. DO NOT CUT ANY STRUCTURAL ELEMENT WITHOUT APPROVAL. PATCHING SHALL BE OF QUALITY EQUAL TO AND MATCHING APPEARANCE OF EXISTING CONSTRUCTION. DO NOT CUT ANY STRUCTURAL ELEMENT WITHOUT APPROVAL. GROUNDING: AS REQUIRED BY THE NATIONAL ELECTRICAL CODE SECTION 250.		AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL
WIRING DEVICES AND PLATES: SWITCHES SHALL BE HUBBELL OR LEVITON 20A 125VOLT AC COMMERCIAL SPECIFICATION GRADE. COLOR PER ARCHITECT. USE STEEL COVER PLATES IN UNFINISHED AREAS AND MATCHING NYLON COVER PLATES IN FINISHED AREAS.	4	PROJECT ADDRESS:
SAFETY SWITCHES: USE HEAVY DUTY TYPE FUSIBLE OR NON-FUSIBLE AS REQUIRED. NEMA TYPE 1 INDOORS AND NEMA TYPE 3R FOR OUTDOORS. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL WHERE SHOWN OR REQUIRED BY CODE.		5 NORRIS SQUARE, NORRIS, TN 37828
FUSES: USE DUAL ELEMENT, CURRENT LIMITING, TIME DELAY TYPE OR AS SPECIFIED BY EQUIPMENT SUPPLIER.		PROJECT NO.: 210042-04 ACTIVE DESIGN PHASE Image: Design phase FOR REVIEW ONLY
PANELBOARDS: USE PANELBOARDS WITH BOLT ON TYPE BREAKERS ONLY. PANELBOARDS SHALL HAVE SEPARATE NEUTRAL AND GROUND BUSSES. PANELBOARDS SHALL BE 20" WIDE. PROVIDE TYPED DIRECTORY CARDS FOR EACH PANELBOARD INSTALLED.		FOR PERMITTING ONLY FOR PERMITTING ONLY SCHEMATIC DESIGN DESIGN DEVELOPMENT CONSTRUCTION BIDDING
COORDINATION: COORDINATE ALL ELECTRICAL WORK WITH OTHER TRADES AND LOCAL UTILITY COMPANY. COORDINATE METERING REQUIREMENTS WITH LOCAL ELECTRICAL UTILITY COMPANY.		CONSTRUCTION DOCUMENTS
EQUIPMENT: CONNECT ALL ELECTRICALLY OPERATED EQUIPMENT INCLUDING HVAC. USE NEMA 3R DEVICES OUTDOORS. VERIFY LOADS AND LOCATIONS OF EQUIPMENT BEFORE CONNECTION. SIZE BREAKERS, DISCONNECTS, AND FUSES ACCORDING TO THE EQUIPMENT NAMEPLATE. SIZE WIRE ACCORDING TO THE NEC. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE EQUIPMENT SUPPLIED BY THE MECHANICAL CONTRACTOR AND OTHER TRADES AND SHALL BE RESPONSIBLE FOR MODIFYING THE CONNECTIONS WIRE, DISCONNECTS, BREAKERS, ETC. SHOWN ON THE DRAWINGS IN ORDER TO MAKE A COMPLETE INSTALLATION AND TO SATISFY THE MANUFACTURER'S REQUIREMENTS. THE ELECTRICAL CONTRACTOR SHALL SUPPLY ALL LABOR AND MATERIALS TO COMPLETE THE INSTALLATION.	3	REVISION INFORMATION NO. DATE DESCRIPTION
RECORD DRAWINGS: MAINTAIN A RECORD SET OF ALL CHANGES DURING CONSTRUCTION. RECORD CHANGES ON A CLEAN SET OF CONTRACT CONSTRUCTION DOCUMENTS WHICH SHALL BE TURNED OVER TO THE OWNER UPON COMPLETION OF THE PROJECT.		KEY PLAN
IDENTIFICATION: IDENTIFY ALL MAJOR PIECES OF ELECTRICAL EQUIPMENT INSTALLED ON THE PROJECT. EXAMPLES INCLUDE PANELBOARDS, MOTOR STARTERS, DISCONNECTS, AND CONTROL PANELS. IDENTIFY WITH PERMANENT PLASTIC NAMEPLATES.		
SUBMITTALS: UNLESS INSTRUCTED OTHERWISE THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR SUBMITTING FOUR (4) SETS OF SHOP DRAWINGS ON MAJOR PIECES OF ELECTRICAL EQUIPMENT. SUCH EQUIPMENT INCLUDES PANELBOARDS, LIGHTING, SWITCHGEAR, SECONDARY SYSTEMS, MOTOR CONTROLS, ETC. APPROVAL FROM THE ENGINEER OF EQUIPMENT MUST BE OBTAINED BEFORE PURCHASE AND INSTALLATION OF ELECTRICAL EQUIPMENT.	2	
TEMPORARY POWER AND LIGHTING: ARRANGE FOR TEMPORARY ELECTRIC SERVICE AS REQUIRED FOR THE ENTIRE PROJECT DURING CONSTRUCTION. PROVIDE A MINIMUM OF ONE DUPLEX GFCI OUTLET FOR EACH 500 SQUARE FEET OF FLOOR AREA. ARRANGE FOR PERMANENT ELECTRICAL SERVICE AND FOR ORDERLY TRANSFER BETWEEN TEMPORARY AND PERMANENT ELECTRICAL SERVICES. PROVIDE GFCI PROTECTION AND LAMP GUARDS AS REQUIRED BY THE NEC.		SHEET INFORMATION SHEET ISSUED: 02/04/2022 DESIGNED BY: WAH
MINIMUM TEMPORARY LIGHTING LEVELS: ONE LAMP HOLDER FOR EACH 150 SQUARE FEET OF FLOOR SPACE. MINIMUM ONE PER ROOM. ONE LAMP HOLDER AT EACH STAIR LANDING AND FLOOR.		DRAWN BY: WAH REVIEWED BY: SMN SHEET TITLE:
ONE LAMP HOLDER AT 20" CENTERS IN INTERIOR CORRIDORS. MINIMUM ONE PER CORRIDOR. 20A/1P RECEPTACLE AND J-BOX CIRCUIT CABLE SIZES SHALL BE #12 AWG UNLESS CIRCUIT LENGTH EXCEEDS MAXIMUM LENGTH OF 100FT. CABLE SIZE SHALL BE INCREASED TO #10 AWG FOR CIRCUITS BETWEEN 100FT AND		
150FT IN LENGTH OF 100FT. CABLE SIZE SHALL BE INCREASED TO #10 AWG FOR CIRCUITS BETWEEN 100FT AND 150FT IN LENGTH. CABLE SIZES SHALL BE INCREASED TO #8 AWG FOR CIRCUITS BETWEEN 150FT AND 250FT IN LENGTH. CABLE SIZES SHALL BE INCREASED TO #6 AWG FOR CIRCUITS BETWEEN 250FT AND 400FT IN LENGTH. FOR CIRCUITS WITH CABLE SIZES GREATER THAN #10 AWG, DOWNSIZE CONDUCTORS AT DEVICE BOXES VIA WIRENUT SPLICE TO #12 FOR FINAL TERMINATION TO WIRING DEVICE.	1	ELECTRICAL LEGEND AND GENERAL NOTES
		E001



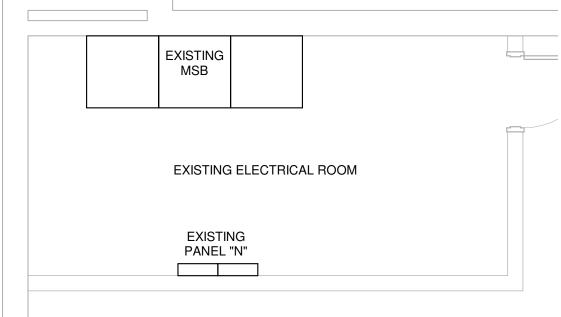
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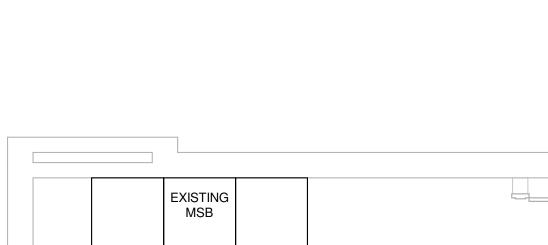
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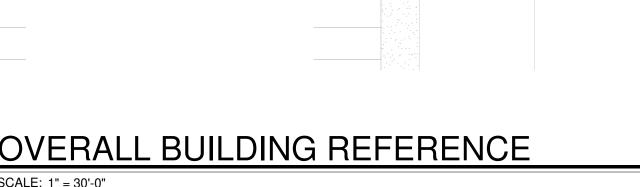
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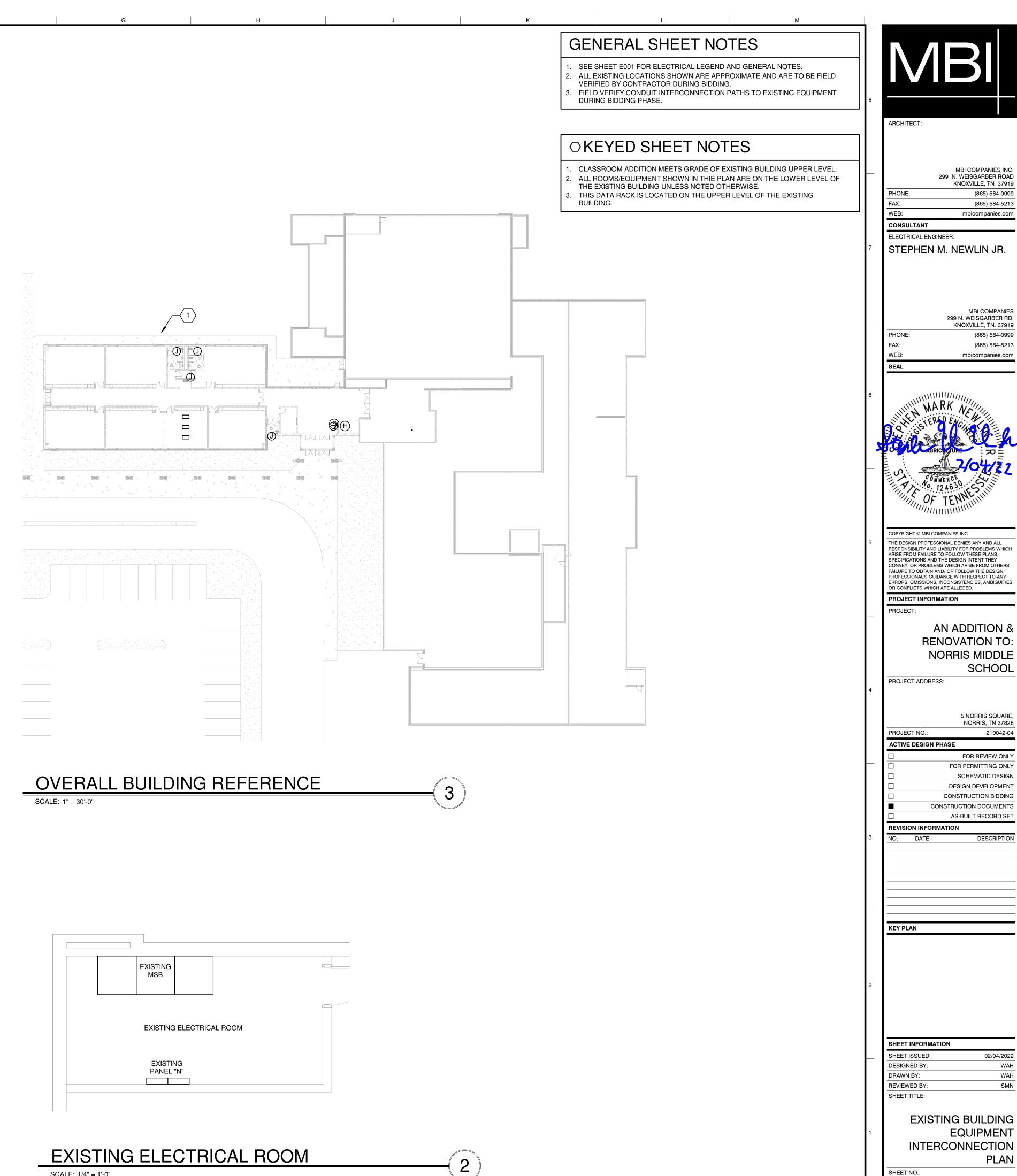




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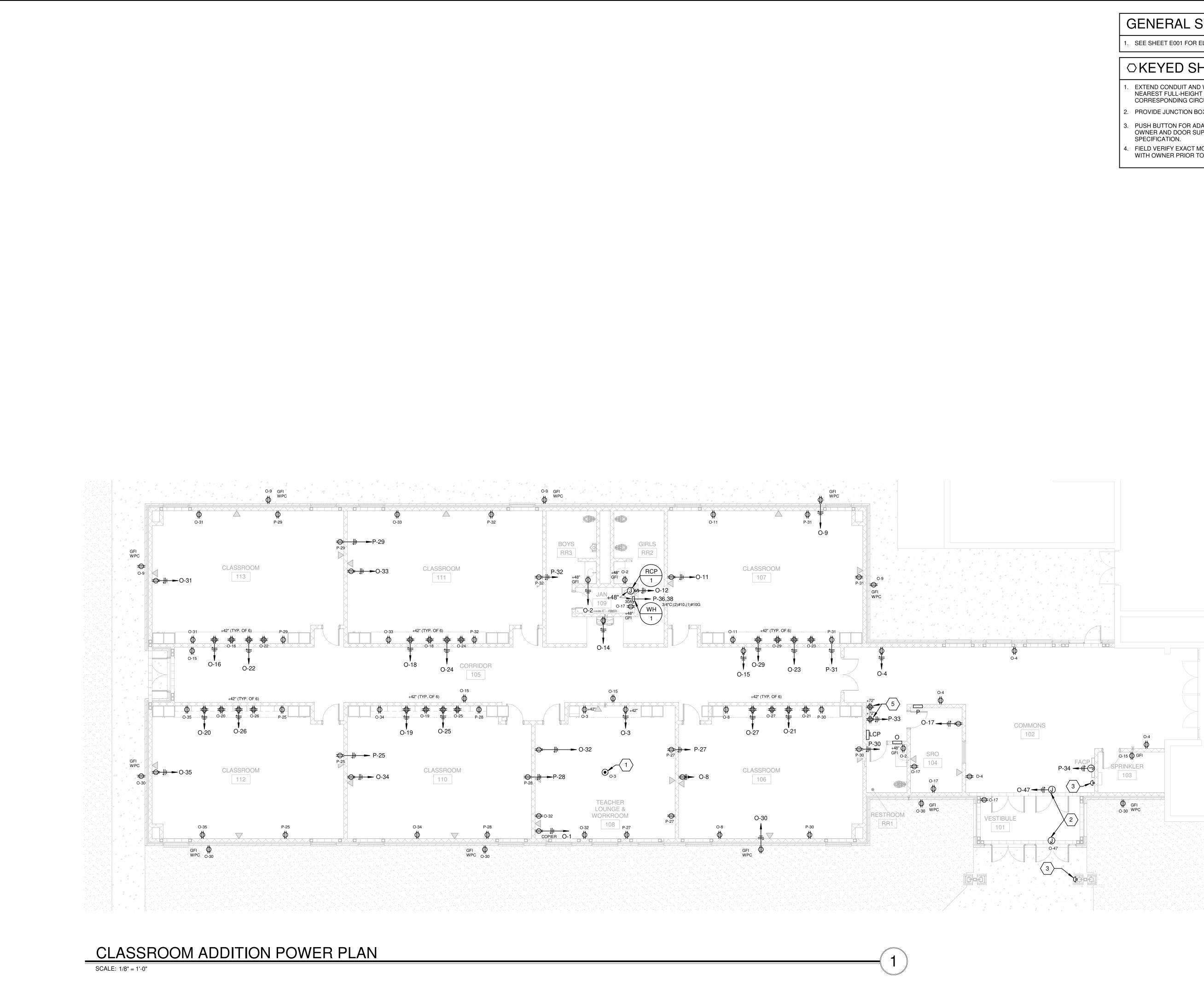
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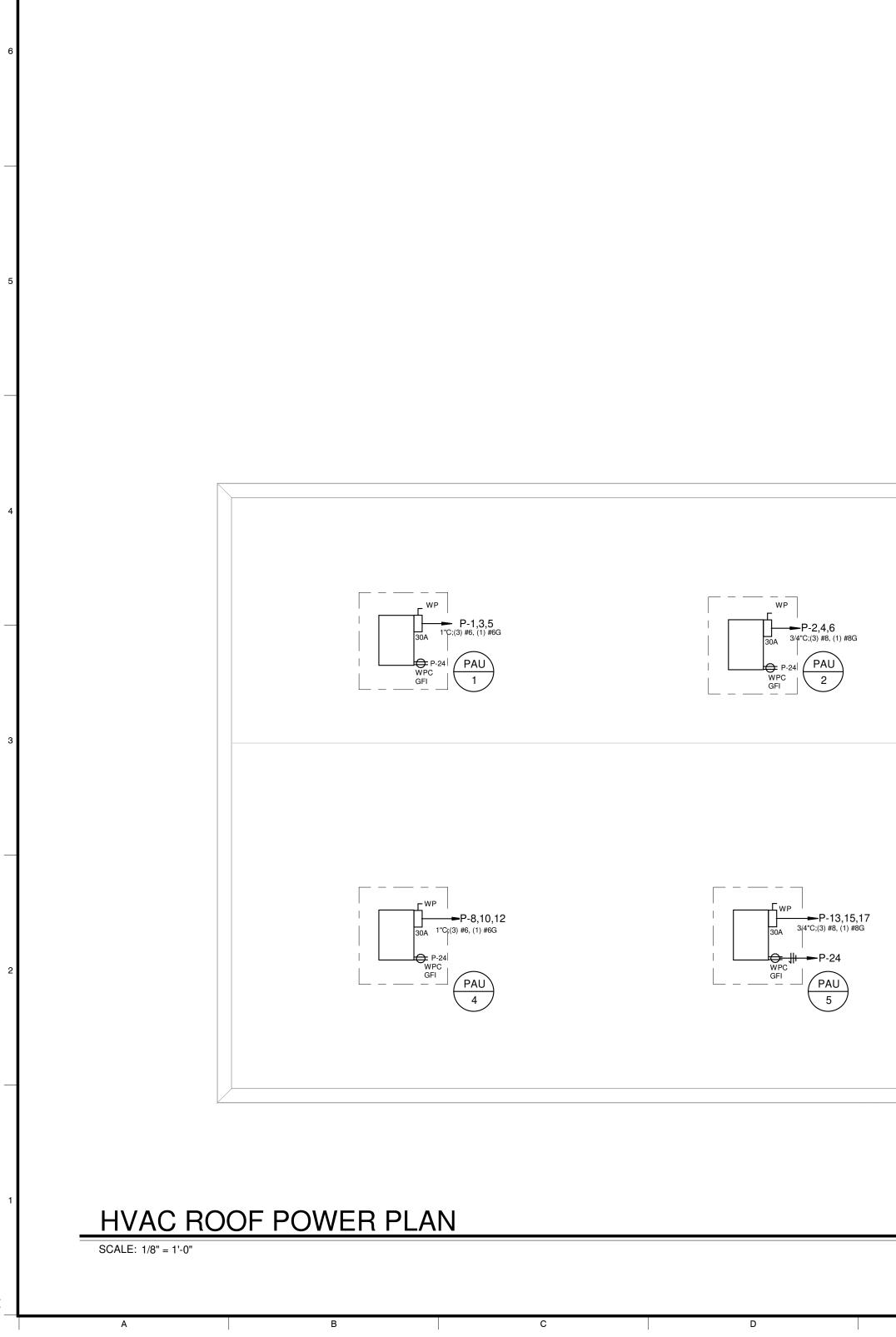
SEE SHEET E001 FOR ELECTRICAL LEGEND AND GENERAL NOTES.

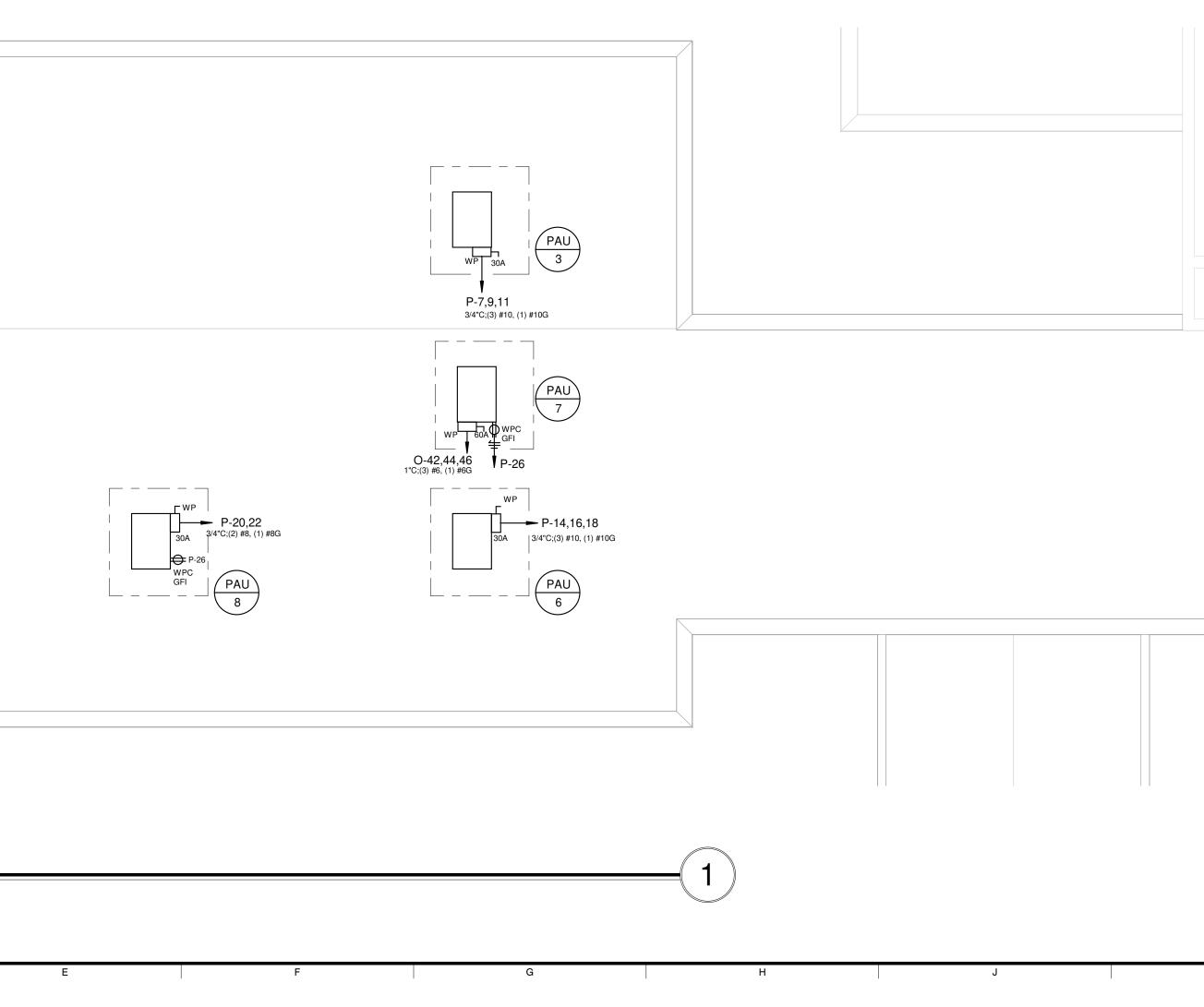
○ KEYED SHEET NOTES

. 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.

	MBI
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	ARCHITECT:
_	MBI COMPANIES INC. 299 N. WEISGARBER ROAD KNOXVILLE, TN 37919
	PHONE: (865) 584-0999 FAX: (865) 584-5213 WEB: mbicompanies.com
7	CONSULTANT ELECTRICAL ENGINEER: STEPHEN M. NEWLIN JR.
	MBI COMPANIES 299 N. WEISGARBER RD. KNOXVILLE, TN. 37919 PHONE: (865) 584-0999
	FAX: (865) 584-5213 WEB: mbicompanies.com SEAL Companies.com
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	PROJECT INFORMATION
—	PROJECT:
	AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL
4	AN ADDITION & RENOVATION TO: NORRIS MIDDLE
4	AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL
4	AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL PROJECT ADDRESS: SNORRIS SQUARE, NORRIS, TN 37828 PROJECT NO.: 210042-04 ACTIVE DESIGN PHASE SCHEMATIC DESIGN SCHEMATIC DESIGN DESIGN DEVELOPMENT
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	AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL PROJECT ADDRESS: PROJECT ADDRESS: PROJECT NO.: 5 NORRIS SQUARE, NORRIS, TN 37828 PROJECT NO.: 210042-04 ACTIVE DESIGN PHASE FOR REVIEW ONLY FOR PERMITTING ONLY FOR PERMITTING ONLY FOR PERMITTING ONLY SCHEMATIC DESIGN DESIGN DEVELOPMENT CONSTRUCTION BIDDING CONSTRUCTION BIDDING AS-BUILT RECORD SET REVISION INFORMATION
3	AN ADDITION & RENOVATION TC: NORRIS MIDDLE SCHOOL PROJECT ADDRESS: PROJECT ADDRESS: PROJECT NO: SINORRIS SQUARE, NORRIS, TN 37828 PROJECT NO: 210042-04 ACTIVE DESIGN PHASE FOR REVIEW ONLY FOR PERMITTING ONLY FOR PERMITTING ONLY SCHEMATIC DESIGN DESIGN DEVELOPMENT CONSTRUCTION BIDDING CONSTRUCTION DOCUMENTS AS-BUILT RECORD SET REVISION INFORMATION NO. DATE DESCRIPTION Image: Description
4 2 2	AN ADDITION & RENOVATION TO: NORRIS MIDDLE NORRIS MIDDLE SCHOOL PROJECT ADDRESS: SNORRIS SQUARE, NORRIS SQUARE, SQUARE, NOLDECT NO: YOP PERMITTING ONLY SCHEMATIC DESIGN PROJECT NO: YOP PERMITTING ONLY SCHEMATIC DESIGN DESIGN DEVELOPMENT CONSTRUCTION BIDDING CONSTRUCTION DOCUMENTS AS-BUILT RECORD SET REVISION INFORMATION NO. DATE DESCRIPTION MOL DATE DESCRIPTION KEY PLAN
3	AN ADDITION & RENOVATION TO: NORRIS MIDDLE NORRIS MIDDLE SCHOOL PROJECT ADDRESS: SNORRIS SQUARE, NORRIS SQUARE, SQUARE, NOLDECT NO: YOP PERMITTING ONLY SCHEMATIC DESIGN PROJECT NO: YOP PERMITTING ONLY SCHEMATIC DESIGN DESIGN DEVELOPMENT CONSTRUCTION BIDDING CONSTRUCTION DOCUMENTS AS-BUILT RECORD SET REVISION INFORMATION NO. DATE DESCRIPTION MO DATE DESCRIPTION KEY PLAN
3	AN ADDITION & RENOVATION TC: NORRIS MIDDLE SCHOOL PROJECT ADDRESS: SNORRIS 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





GENERAL SHEET NOTES

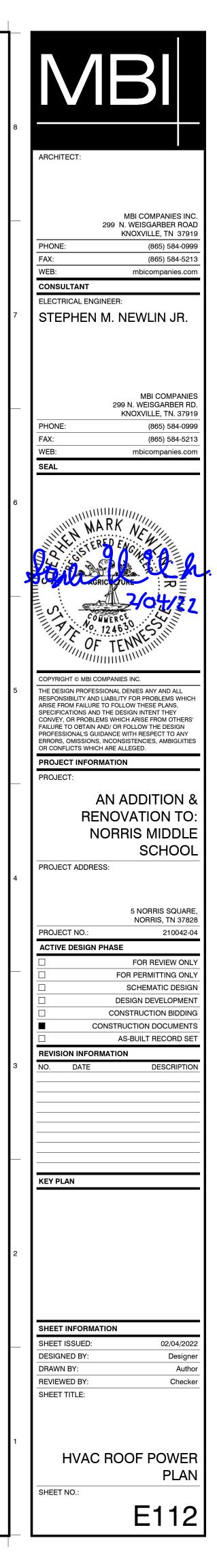
. SEE SHEET E001 FOR ELECTRICAL LEGEND AND GENERAL NOTES. LOCATIONS SHOWN ARE APPROXIMATE TO BE FIELD COORDINATED WITH MECHANICAL AND HVAC EQUIPMENT SUPPLIERS PRIOR TO ROUGH-IN AND INSTALLATION.

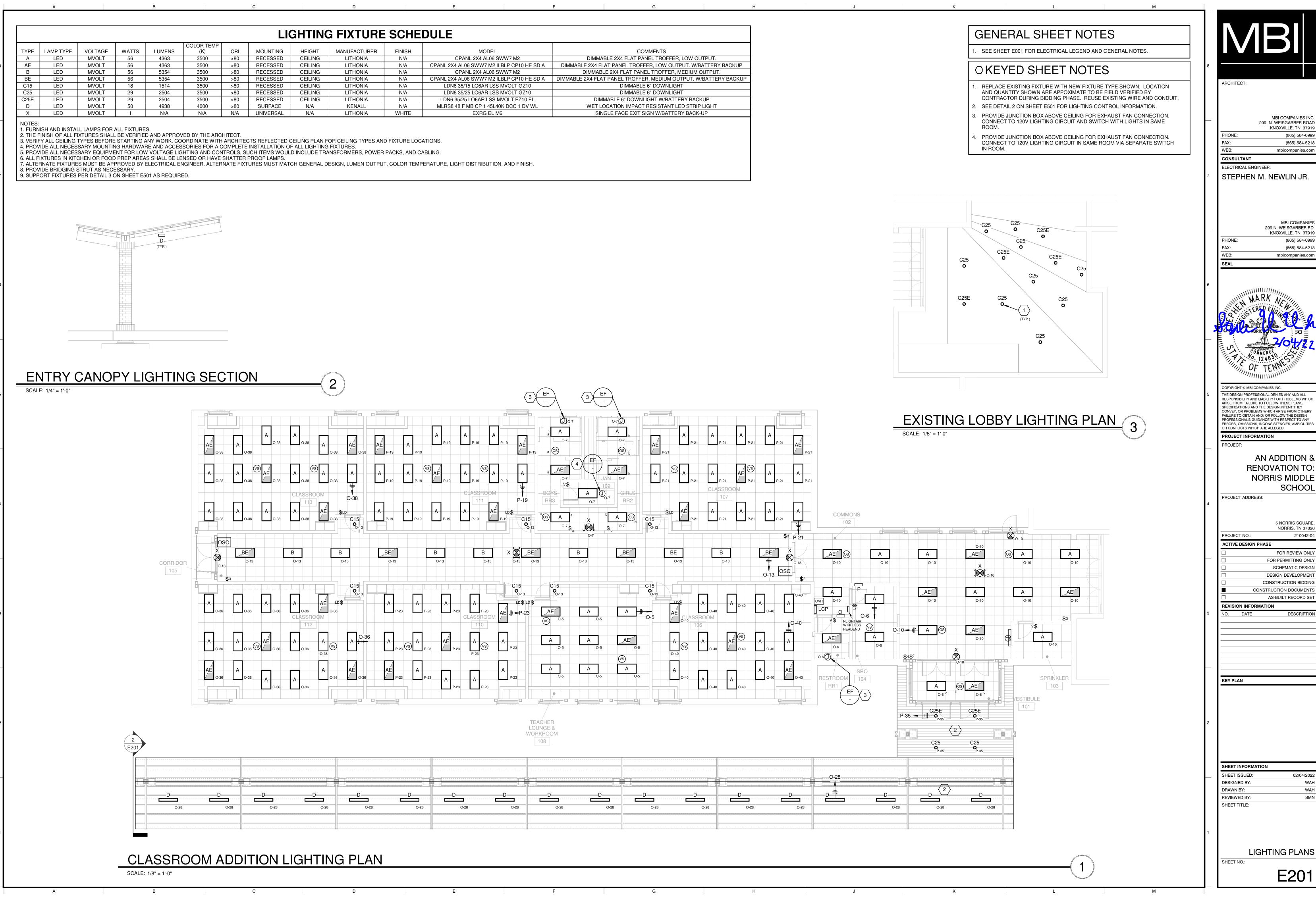
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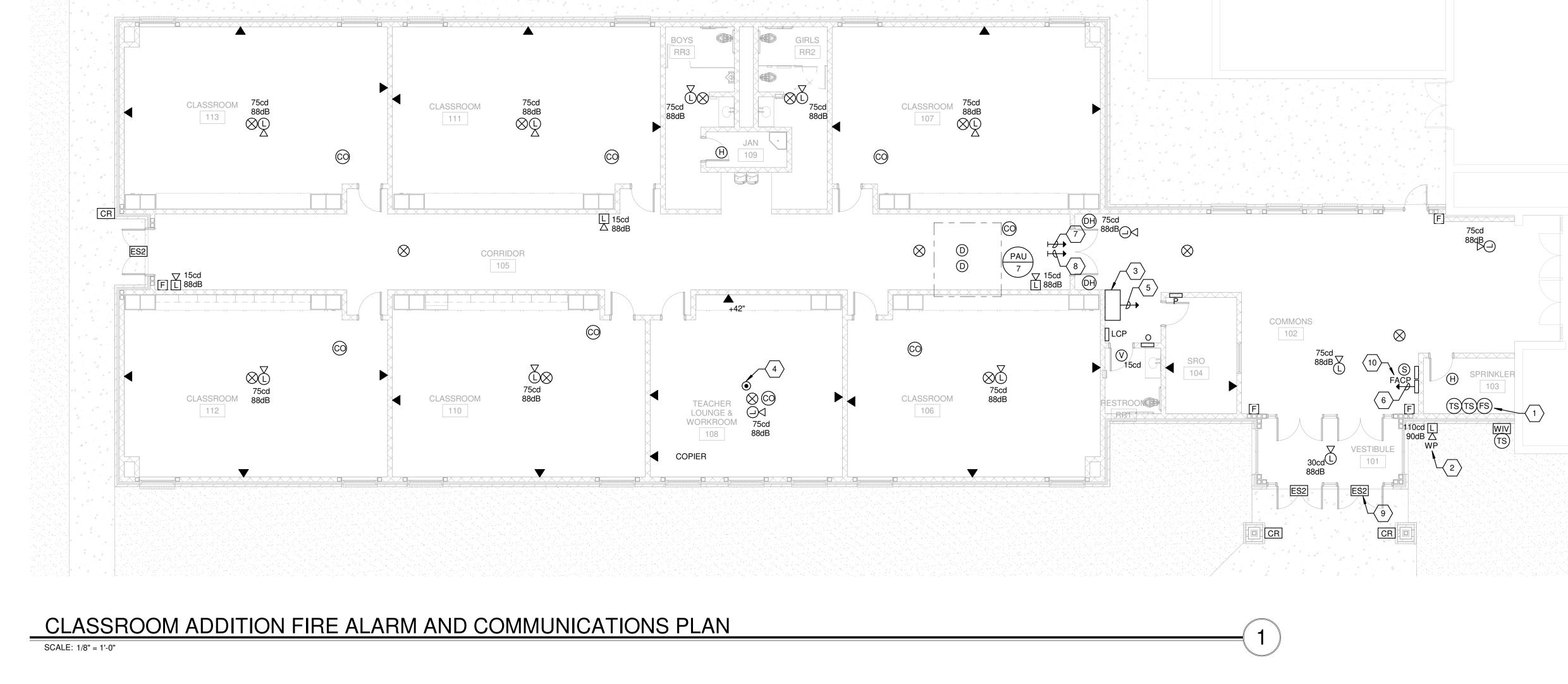
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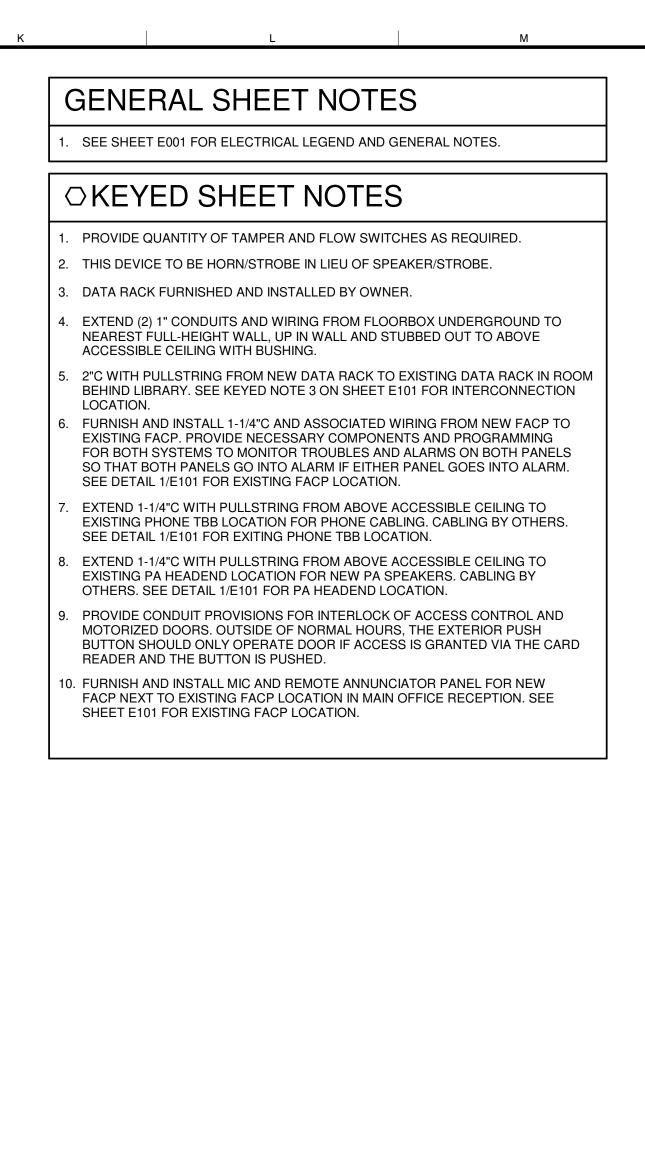
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MODEL	COMMENTS
CPANL 2X4 AL06 SWW7 M2	DIMMABLE 2X4 FLAT PANEL TROFFER, LOW OUTPUT.
ANL 2X4 AL06 SWW7 M2 ILBLP CP10 HE SD A	DIMMABLE 2X4 FLAT PANEL TROFFER, LOW OUTPUT. W/BATTERY BACKUP
CPANL 2X4 AL06 SWW7 M2	DIMMABLE 2X4 FLAT PANEL TROFFER, MEDIUM OUTPUT.
ANL 2X4 AL06 SWW7 M2 ILBLP CP10 HE SD A	DIMMABLE 2X4 FLAT PANEL TROFFER, MEDIUM OUTPUT. W/BATTERY BACKUP
LDN6 35/15 LO6AR LSS MVOLT GZ10	DIMMABLE 6" DOWNLIGHT
LDN6 35/25 LO6AR LSS MVOLT GZ10	DIMMABLE 6" DOWNLIGHT
LDN6 35/25 LO6AR LSS MVOLT EZ10 EL	DIMMABLE 6" DOWNLIGHT W/BATTERY BACKUP
MLRS8 48 F MB CP 1 45L40K DCC 1 DV WL	WET LOCATION IMPACT RESISTANT LED STRIP LIGHT
EXRG EL M6	SINGLE FACE EXIT SIGN W/BATTERY BACK-UP
	Single FAGE EATI SIGN W/DATTENT BACK-UP

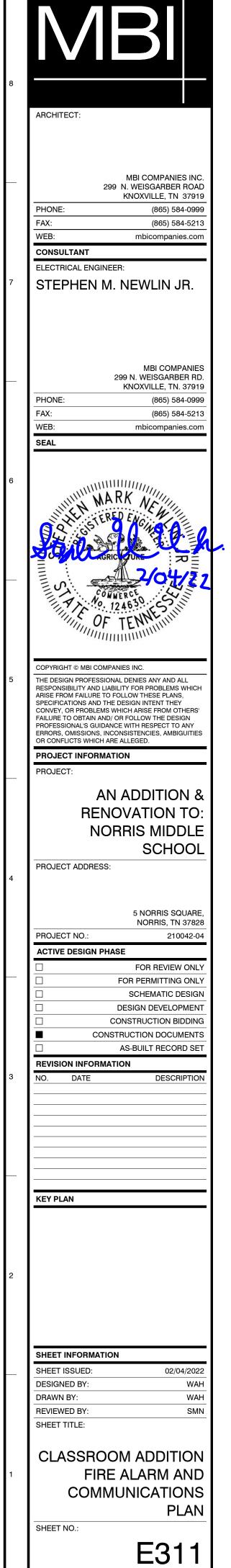


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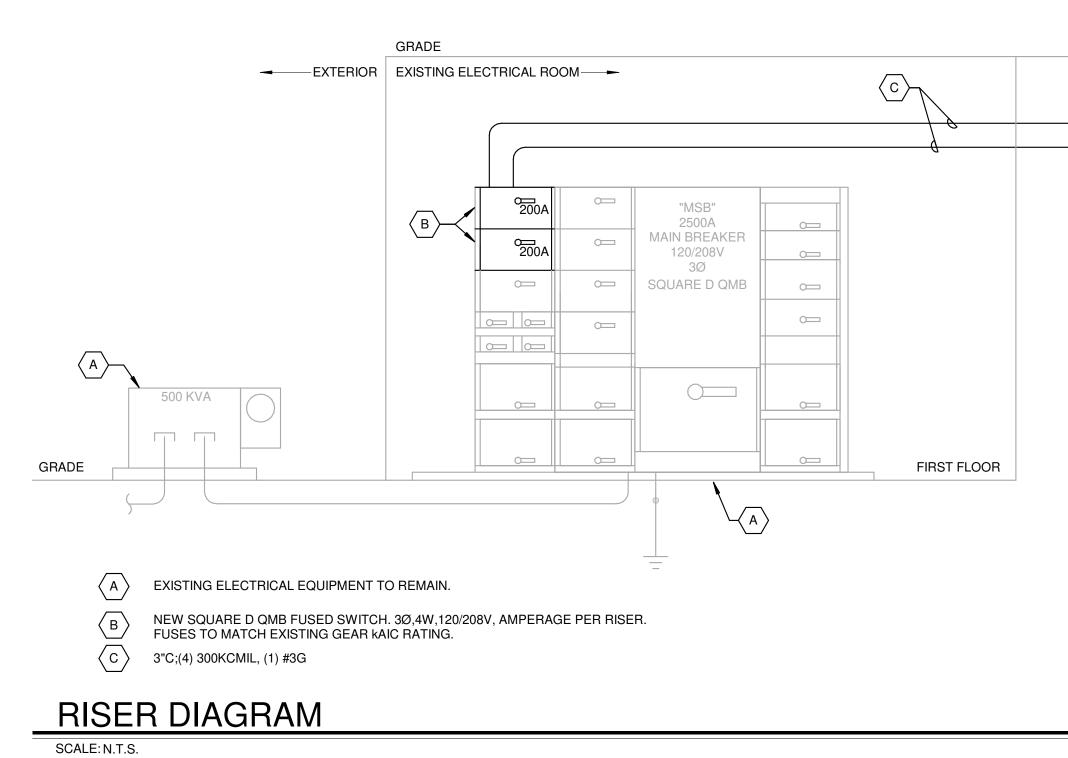


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	Location: RESTROOM Supply From: Mounting: RECESSED Enclosure: TYPE 1		Volts: 120/208 3P Phases: 3 Wires: 4						A.I.C. Rating: 35,000 Mains Type: BREAKER Mains Rating: 200 A MCB Rating: 200 A					
скт	Circuit Description	Trip	Poles		4	В			С		Trip	Circuit Description		скт
1	R - COPIER 108	20 A	1	1500	540 VA					1	20 A	R - BATHROOMS RR1,R	R2,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 C/	ANOPY, 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, SPF	IKLER 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 - CHRG. 2 - CLASSRC	OM 113	16
17	R - JANITOR 109, SRO 104, VEST. 101	20 A	1					900 VA	1500	1	20 A	R - CHRG. 2 - CLASSRC	OM 111	18
19	R - CHRG. 2 - CLASSROOM 110	20 A	1	1500	1500					1	20 A	R - CHRG. 2 - CLASSRC	OM 112	20
21	R - CHRG. 2 - CLASSROOM 106	20 A	1			1500	1500			1	20 A	R - CHRG. 1 - CLASSRC	OM 113	22
23	R - CHRG. 2 - CLASSROOM 107	20 A	1					1500	1500	1	20 A	R - CHRG. 1 - CLASSRC	OM 111	24
25	R - CHRG. 1 - CLASSROOM 110	20 A	1	1500	1500					1	20 A	R - CHRG. 1 - CLASSRC	OM 112	26
27	R - CHRG. 1 - CLASSROOM 106	20 A	1			1500	720 VA			1	20 A	L - DROP-OFF CANOPY		28
29	R - CHRG. 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					0 VA	3000	3	45 A	H - PAU-7		42
43	L - WALL PACKS	20 A	1	360 VA	3000									44
45	L - WALL PACKS	20 A	1			250 VA	3000							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									50
51						0 VA	226 VA			2	20 A	L - SITE LIGHTING		52
53								0 VA	226 VA					54
			al Load: I Amps:		3 VA 5 A	1594 133	6 VA 3 A		7 VA 3 A					1
oad C	lassification	Con	nected	Load	Den	nand Fa	ctor	Estin	nated Der	mand		Panel	Totals	
I - HVA	AC		9000 V	4		100.00%	>		9000 VA					
- LIGł	HTING		6257 V/	4		100.00%	>		6257 VA			Total Conn. Load:	49276 VA	
- REC	CEPTACLE	1	27540 V	A		68.16%			18770 VA	١		Total Est. Demand:	39502 VA	
- EQI	JIPMENT		2515 V	4		75.00%			1886 VA			Total Conn. Current:	137 A	
- APF	PLIANCE		1500 V/	4		75.00%			1125 VA		Tot	al Est. Demand Current:	110 A	
	: 1) FURNISH AND INSTALL TVSS EXTERNAL													



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В

	Branch Panel: P Location: COMMONS 10 Supply From: Mounting: RECESSED Enclosure: TYPE 1	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					
СКТ	Circuit Description	Trin	Poles				В			Poles	Trip	Circuit De	acriation	СК
1	H - PAU-1	Trip 30 A	3		A 2307				,	3		H - PAU-2	escription	2
3				2007	2307	2307	2307							4
5						2007	2007	2307	2307					6
7	H - PAU-3	30 A	3	2307	2307			2007	2007	3	30 A	 H - PAU-4		8
9				2007	2007	2307	2307				30 A			10
11						2307	2307	2307	2307					10
13	H - PAU-5	30 A	3	2307	2307			2007	2007	3	30 A	 H - PAU-6		14
15				2007	2307	2307	2307							14
17						2307	2307	2307	2307					10
19	L - CLASSROOM 111	20 A	1	935 VA	1625			2007	2007	2	30 A	 H - PAU-8		20
21	L - CLASSROOM 107	20 A	1	933 VA	1025	935 VA	1625					11-FA0-0		20
23	L - CLASSROOM 107	20 A	1			333 VA	1025	825 V/A	720 VA	1	20 A	R - ROOFTOP		24
25	R - CLASSROOM 112	20 A	1	540 VA	360 \/A			023 VA	720 VA	1	20 A	R - ROOFTOP		24
27	R - WORKROOM 108	20 A	1	J40 VA	300 VA		540 VA			1	20 A	R - CLASSROOM 110		20
29	R - CLASSROOM 113	20 A	1			J40 VA	J40 VA	540 VA	540 VA	1	20 A	R - CLASSROOM 110		30
31	R - CLASSROOM 107	20 A	1	540 VA	540 VA			J40 VA	J40 VA	1	20 A	R - CLASSROOM 111		30
33	R - DATA RACK	20 A	1	J40 VA	340 VA	720 \/A	500 VA			1	-	E - FACP - NOTE 2		34
35	L - ENTRY CANOPY AND VESTIBULE 101	20 A	1			720 VA	500 VA	120 VA	2250	2	20 A	H - WH-1		36
37	TVSS - NOTE 1	30 A	3	0 VA	2250			120 17	2200					38
39				0 1/1	2200	0 VA	0 VA			1		SPARE		40
41						0 1/1	0 1/1	0 VA	0 V A	1		SPARE		40
			al Load:	2063	0 VA	1870	0 VA	1883		•	2071	or / me		
			al Amps:		2 A		6 A		7 A					
.oad C	Classification	Cor	nected I	_oad	Der	nand Fa	ctor	Estim	ated De	mand		Panel	Totals	
H - HVA	AC		44770 V	4		100.00%	þ	4	4770 VA	\				
- LIGI	HTING		2815 VA	1		100.00%	, D		2815 VA			Total Conn. Load:	58165 VA	
R - RECEPTACLE			5580 VA	1		100.00%	, D		5580 VA			Total Est. Demand:	56915 VA	
E - EQI	JIPMENT		5000 VA	۱		75.00%			3750 VA			Total Conn. Current:	161 A	
											Tot	al Est. Demand Current:	158 A	
	S: 1) FURNISH AND INSTALL TVSS EXTERNAL T 1 CIRCUIT".	O PANEL,	RATING	IS PER S	PECIFIC	CATIONS	6. 2) CIR(CUIT SH	ALL BE F	RED, PRO	OVIDED	WITH LOCK-ON DEVICE	AND LABELED A	S "FIRE

COMMONS /	ALCOVE		SRO 104-				
	PAN "C				NEL >"		
	200A	MB		2004	A MB		
	120/20	80 30		120/20	08V 3Ø		
						SE	ECOND FLOOF
)		

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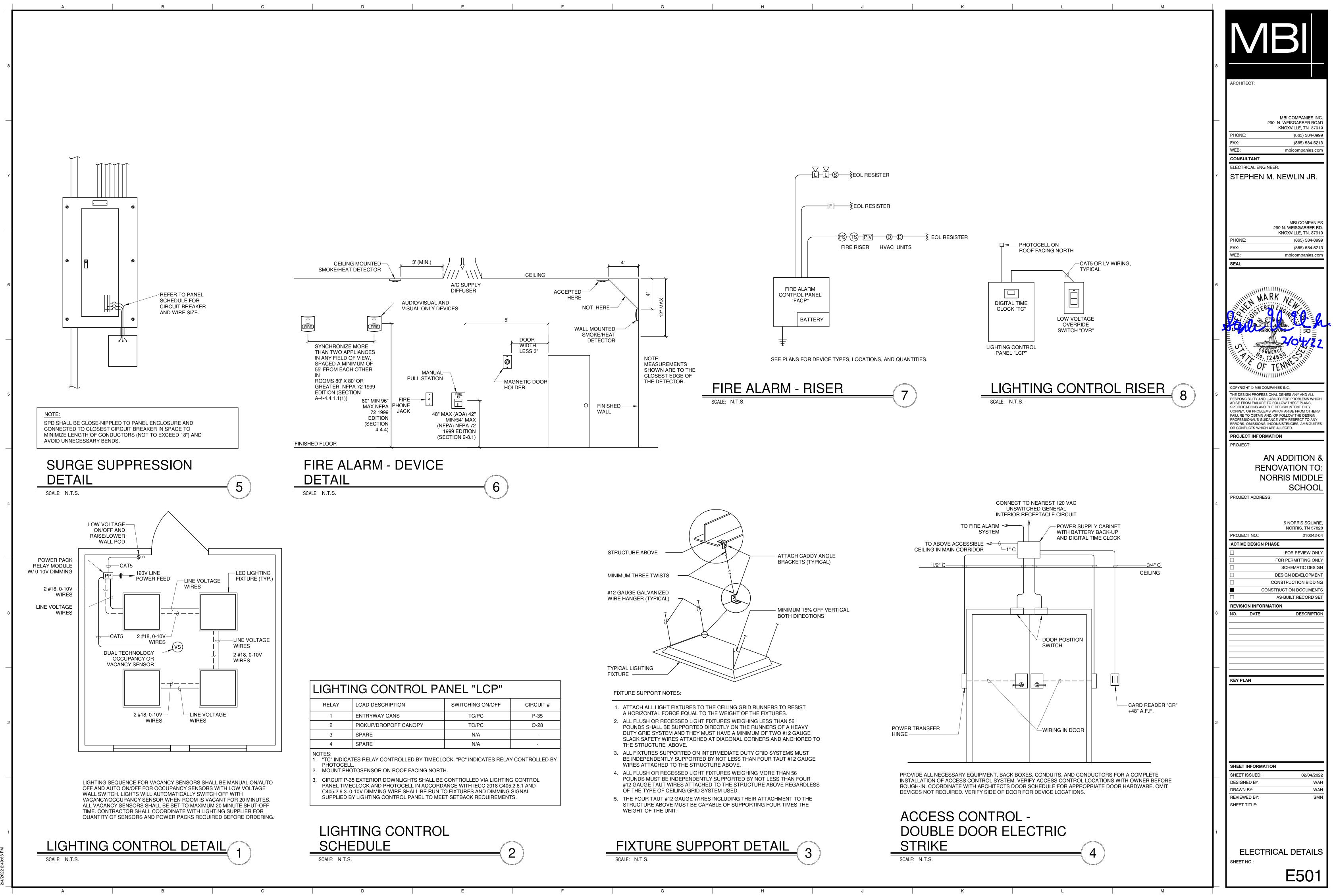
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	Branch Panel: O			Branch Panel: P				8
				Supply From:	Phases: 3			ARCHITECT:
	Circuit Description Trip Poles	A B C Po	oles Trip Circuit Description	CKT CKT Circuit Description	Trip Poles A B C	Poles Trip Circuit Description	скт	
	R - COPIER 108 20 A 1 R - WORKROOM 108 FLOOR 20 A 1	1500 540 VA 360 VA 900 VA	1 20 A R - BATHROOMS RR1,RR2,RR3 1 20 A R - COMMONS 102	2 1 H - PAU-1 4 3	30 A 3 2307 2307 E Image: Constraint of the state of the sta	3 30 A H - PAU-2	2 4	· · · · · · · · · · · · · · · · · · ·
	RR2, RR3, JANITOR 109 20 A 1 4	420 VA 540 VA	1 20 A R - CLASSROOM 106	8 7 H - PAU-3	30 A 3 2307 2307	3 30 A H - PAU-4	8	WEB:
	R - CLASSROOM 107 20 A 1 CORRIDOR 105 20 A 1 8	540 VA 675 VA	1 20 A E - RECIRC. PUMP	12 11 14 13 H - PAU-5	2307 2307		12	ELECTRICAL EN
	R - JANITOR 109, SRO 104, VEST. 101 20 A 1	900 VA 1500	1 20 A R - CHRG. 2 - CLASSROOM 111	18 17	2307 2307		18	
	R - CHRG. 2 - CLASSROOM 106 20 A 1	1500 1500	1 20 A R - CHRG. 1 - CLASSROOM 113	22 21 L - CLASSROOM 107	20 A 1 935 VA 1625		22	
	R - CHRG. 1 - CLASSROOM 110 20 A 1 R - CHRG. 1 - CLASSROOM 106 20 A 1	1500 1500	1 20 A R - CHRG. 1 - CLASSROOM 112	26 25 R - CLASSROOM 112	20 A 1 540 VA 360 VA	1 20 A R - ROOFTOP	26	
	R - CHRG. 1 - CLASSROOM 107 20 A 1 R - CLASSROOM 113 20 A 1 5	540 VA 540 VA	1 20 A R - WORKROOM 108	30 29 R - CLASSROOM 113 32 31 R - CLASSROOM 107	20 A 1 540 VA 540 VA	1 20 A R - CLASSROOM 111	32	PHONE:
	R - CLASSROOM 112 20 A 1	540 VA 935 VA	1 20 A L - CLASSROOM 112	36 35 L - ENTRY CANOPY AND VESTIBULE 101	20 A 1 720 VA 500 VA 20 A 1 120 VA 120 VA 2250	2 20 A H - WH-1	36	
	SPARE 20 A 1	0 VA 825 VA	1 20 A L - CLASSROOM 106	40 39	0 VA 0 VA	1 20 A SPARE	40	SEAL
	L - WALL PACKS 20 A 1 3 L - WALL PACKS 20 A 1 3	250 VA 3000						6
	TVSS - NOTE 1 30 A 3	0 VA 701 VA		50 Load Classification				
		0 VA 226 VA		54 L - LIGHTING	2815 VA 100.00% 2815 VA	A Total Conn. Load: 58165 VA		
				E - EQUIPMENT	5000 VA 75.00% 3750 VA			
	C 9000 VA	100.00% 9000 VA		NOTES: 1) FURNISH AND INSTALL TVSS EXTERN) AS "FIRE	
	EPTACLE 27540 VA	68.16% 18770 VA	Total Est. Demand: 39502 VA	ALARM CIRCUIT".				
	IANCE 1500 VA	75.00% 1125 VA	Total Est. Demand Current: 110 A					COPYRIGHT © MBI
								PROJECT:
			C					
				PANEL "O" 200A MB PANEL "P" 200A MB				PROJECT ADDR
				PANEL "O" 200A MB PANEL "P" 200A MB				PROJECT ADDR
				PANEL "O" 200A MB 120/208V 3Ø PANEL "P" 200A MB 120/208V 3Ø				4 RI PROJECT ADDR
				PANEL "O" 200A MB 120/208V 3Ø PANEL "P" 200A MB 120/208V 3Ø				4 PROJECT ADDR 4 PROJECT NO.: ACTIVE DESIGN Image: Control of the second s
SO KVA		AL BOOM		PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø	<u>OR</u>			
SO KVA		AL ROOM		PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø	<u>OR</u>			A PROJECT ADDF 4 PROJECT NO.: ACTIVE DESIGN I <td< td=""></td<>
		AL ROOM		PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø	<u>OR</u>			
SOUTION DURING DURIN				PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø	<u>OR</u>			
EXISTING ELECTRICAL EQUIPMENT TO REMAIN. NEW SQUARE D CUMP FUSSION AMPERAGE PER RISER. PUSSION TO ALL RAVING CAVING.		200A "MSB" 2500A 2500A C		PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø	<u>OR</u>			
SOUNT INFORM FIRST FLOOR FIRST FLOOR SHEET NUMBER FIRST FLOOR SHEET NUMER FIRST FLOOR		200A C "MSB" 2500A C MAIN BREAKER 120/208V C 3Ø		PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø	<u>OR</u>			A RI 4 PROJECT ADDF 4 PROJECT NO.: ACTIVE DESIGN
Skett NFOR		200A C "MSB" 2500A C 200A C MAIN BREAKER 120/208V 3Ø C 200A C SQUARE D QMB C		PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø	<u>OR</u>			A RI 4 PROJECT ADDF 4 PROJECT NO.: ACTIVE DESIGN
SHEET INFOR SHEET INFOR <td></td> <td>200A C "MSB" 2500A C 200A C MAIN BREAKER 120/208V 3Ø C 200A C SQUARE D QMB C</td> <td></td> <td>PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø</td> <td><u>OR</u></td> <td></td> <td></td> <td>A RI 4 PROJECT ADDF 4 PROJECT NO.: ACTIVE DESIGN </td>		200A C "MSB" 2500A C 200A C MAIN BREAKER 120/208V 3Ø C 200A C SQUARE D QMB C		PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø	<u>OR</u>			A RI 4 PROJECT ADDF 4 PROJECT NO.: ACTIVE DESIGN
SHEET INFORM SHEET INSUE SHEET INSUE DESIGNED BY: DESIGNED BY: REVIEWED BY: SHEET TITLE: NEW SQUARE D OMB FUSED SWITCH. 30,4W, 120/208V, AMPERAGE PER RISER. FUSES TO MATCH EXISTING GEAR KAIC RATING.		200A ° "MSB" 2500A ° 200A ° MAIN BREAKER 120/208V 3Ø ° 200A ° SQUARE D QMB ° ° ° ° °		PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø	<u>OR</u>			A RI 4 PROJECT ADDF 4 PROJECT NO.: ACTIVE DESIGN
EXISTING ELECTRICAL EQUIPMENT TO REMAIN. NEW SQUARE D QMB FUSED SWITCH. 3Ø,4W,120/208V, AMPERAGE PER RISER. FUSES TO MATCH EXISTING GEAR KAIC RATING. 1 RISE!		200A C "MSB" 2500A C 200A C MAIN BREAKER 120/208V 3Ø C 200A C C C 200A C 3Ø C 200A C C C 2		PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø	<u>OR</u>			A RI 4 PROJECT ADDF 4 PROJECT NO.: ACTIVE DESIGN
EXISTING ELECTRICAL EQUIPMENT TO REMAIN. NEW SQUARE D QMB FUSED SWITCH. 3Ø,4W,120/208V, AMPERAGE PER RISER. FUSES TO MATCH EXISTING GEAR KAIC RATING.		200A C "MSB" 2500A C 200A C MAIN BREAKER 120/208V 3Ø C 200A C C C 200A C 3Ø C 200A C C C 2		PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø	<u>OR</u>			4 PROJECT ADDR 4 PROJECT NO:: ACTIVE DESIGN
NEW SQUARE D QMB FUSED SWITCH. 3Ø,4W,120/208V, AMPERAGE PER RISER. FUSES TO MATCH EXISTING GEAR KAIC RATING.		200A 0 "MSB" 2500A 0 200A 0 MAIN BREAKER 120/208V 3Ø 0 200A 0 3Ø 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø	<u>OR</u>			4 PROJECT ADDR 4 PROJECT NO.: ACTIVE DESIGN ACTIVE DESIGN I I I
		200A 0 "MSB" 2500A 0 200A 0 MAIN BREAKER 120/208V 3Ø 0 200A 0 3Ø 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø				4 PROJECT ADDR 4 PROJECT NO:: ACTIVE DESIGN - <td< td=""></td<>
	EXISTING ELECTRICAL EQUIPMENT TO REMAIN.	200A 0 "MSB" 2500A 0 MAIN BREAKER 120/208V 3Ø 3Ø SQUARE D QMB		PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø	<u>OR</u>			4 PROJECT ADDR 4 PROJECT NO.: ACTIVE DESIGI </td
	EXISTING ELECTRICAL EQUIPMENT TO REMAIN. NEW SQUARE D QMB FUSED SWITCH. 3Ø,4W, 120/208V, AMP FUSES TO MATCH EXISTING GEAR KAIC RATING.	200A 0 "MSB" 2500A 0 MAIN BREAKER 120/208V 3Ø 3Ø SQUARE D QMB		PANEL "O" 200A MB 120/208V 3Ø 120/208V 3Ø	<u>OR</u>			PROJECT ADD A PROJECT NO.: ACTIVE DESIG ACTIVE DESIGNED ACTIVE DESIGNED ACTIV

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	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 NLTAIR2 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 NLTAIR2 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 NLTAIR2 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 NLTAIR2 PIR DBLXD	MOTION/AMBIENT SENSOR, WIRELESS ENABLED, TYPE R2 OPTIC, 7649 LUMENS, 4000K, 70CRI, W/BATTERY BACKUP		
P1	-	-	-	-	22'	LITHONIA	RSA-22-5G-DDBXD	STRAIGHT, ROUND, ALUMINUM POLE FOR FIXTURES "SA" AND "SB"		
							LES AND LIGHTING FIXTURES.			

PANEL

O - 43

NEW BUILDING: CLASSROOM

ADDITION

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O - 45 🖌

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. LIGHTING SUBMITTALS ARE REQUIRED, INCLUDING FIXTURE MODEL NUMBER AND ACCESSORIES, LAMP CUT SHEET ETC. PARTIAL SUBMITTALS WILL NOT BE ACCEPTED. PROVIDE FIXTURES WITH APPROPRIATE MOUNTING HARDWARE TO FIT POLES. ALL MOUNTING HARDWARE SHALL MATCH FIXTURE COLOR.

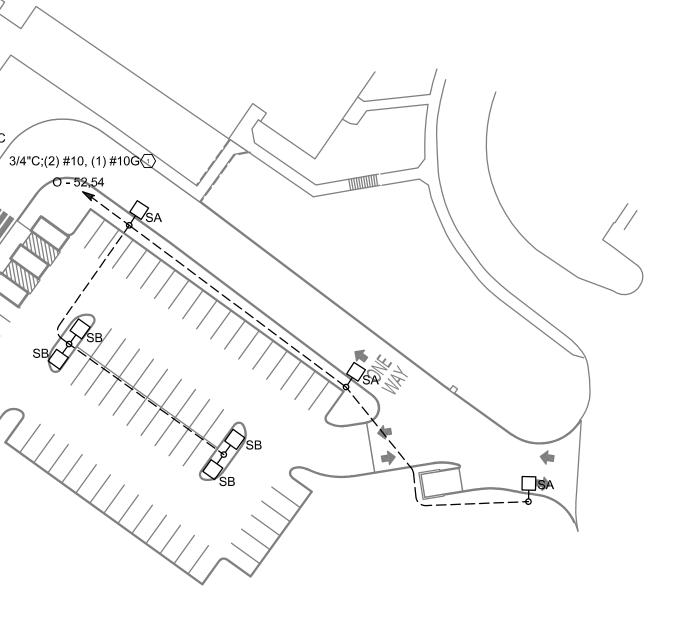
ELECTRICAL SITE PLAN

В

SCALE: 1" = 50'

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POLE HT.	D1	
22'	3'-0"	

SCALE: N.T.S.

