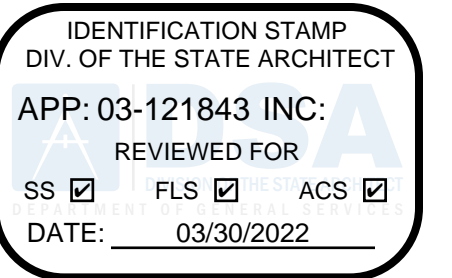


CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

for ROWLAND UNIFIED SCHOOL DISTRICT

CO-AR PROJECT NO. : 202016
PTN : 73452-159

DSA APPLICATION: A# 03-121843



ARCHITECT:
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GENERAL ABBREVIATIONS AND SYMBOLS

&	AND	GA.	GAGE	S.	SOUTH
/	ANGLE	GALV.	GALVANIZED	S.C.	SOLID CORE
@	AT	G.B.	GRAB BAR	S.C.D.	SEAT COVER DISPENSER
∅	CENTERLINE	GL.	GALVANIZED IRON	S.D.	SOAP DISPENSER
∅	DIAMETER OR ROUND	GL.	GLASS	SECT.	SECTION
⊥	PERPENDICULAR	GND.	GRADE	S.F.	SQUARE FOOT/FEET
#	POUND OR NUMBER	GR.	GROUND	SH.	SHelf
A.B.	ANCHOR BOLT	GYP.	GYPsum	SHR.	SHOWER
A/C	AIR CONDITIONING	GYP. WBD.	GYPsum WALLBOARD	SHT.	SHEET
A.C.	ASPHALTIC CONCRETE	H.B.	HOSE BIBB	SIM.	SIMILAR
ACOUS.	ACOUSTICAL	H.C.	HOLLOW CORE	S.J.	SAWED (CONTROL) JOINT
A.D.	AREA DRAIN	HDW.	HARDWARE	S.M.S.	SHEET METAL SCREW
ADDN.	ADDITION	HDWD.	HARDWOOD	S.N.D.	SANITARY NAPKIN DISPENSER
ADJ.	ADJUSTABLE	H.M.	HOLLOW METAL	S.N.R.	SANITARY NAPKIN RECEPTACLE
AGGR.	AGGREGATE	HORIZ.	HORIZONTAL	SP.	SPECIFICATION
AL.	ALUMINUM	HR.	HOUR	SQ.	SQUARE
ALT.	ALTERNATE	HT.	HEIGHT	S.S.K.	SERVICE SINK
APPROX.	APPROXIMATE	I.C.	INTERCOM	S.S.T.	STAINLESS STEEL
ARCH	ARCHITECTURAL	I.D.	INSIDE DIAMETER (DIM.)	STA.	STATION
ASPH.	ASPHALT	INSUL.	INSULATION	STD.	STANDARD
AVE.	AVENUE	INT.	INTERIOR	STL.	STEEL
		INV.	INVERT	STOR.	STORAGE
		JAN.	JANITOR	STRUC.	STRUCTURAL
BD.	BOARD	JOINT.	JOINT	SUSP.	SUSPENDED
BLDG.	BUILDING	JT.	JOINT	SYM.	SYMMETRICAL
BLK.	BLOCK				
BLKG.	BLOCKING	KIT.	KITCHEN	T.B.	TOWEL BAR
B.M.	BENCH MARK	KO.	KNOCKOUT	T.C.	TOP OF CURB
BM.	BEAM			TCB	TOP OF CATCH BASIN
BOT.	BOTTOM	LAB.	LABORATORY	TEL.	TELEPHONE
BTHNL.	BETWEEN BOTH WAYS	LAM.	LAMINATE	TER.	TERRAZZO
B.W.	BOTH WAYS	LAV.	LAVATORY	T&G	TONGUE AND GROOVE
CAB.	CABINET	LB.	LOADING	TRD.	TREAD
C.B.	CATCH BASIN	L.F.	LINEAR FOOT/FEET	T.S.	TOP OF SHEATHING
CBA	CONCRETE BLOCK	LIB.	LIBRARY	T.V.	TELEVISION
	ANCHORAGE	LKR.	LOCKER	T.W.	TOP OF WALL
CEM.	CEMENT	MACH.	MACHINE	T.P.	TOP OF PAVEMENT
CEB.	CERAMIC	MATL.	MATERIAL	T.P.D.	TOILET PAPER DISPENSER
CHBD.	CHALKBOARD	MAX.	MAXIMUM	TRD.	TREAD
C.I.	CAST IRON	MEZZ.	MEZZANINE	T.S.	TOP OF SHEATHING
C.J.	CONTROL JOINT	M.C.	MEDICINE CABINET	T.V.	TELEVISION
CLG.	CEILING	M.D.O.	MEDIUM DENSITY OVERLAY	T.W.	TOP OF WALL
CLR.	CLEAR	M.E.	MECHANICAL	TYP.	TYPICAL
C.M.U.	CONCRETE MASONRY UNIT	MEMB.	MEMBRANE	U.C.	UNDER CUT
CNTR.	COUNTER	MFG.	MANUFACTURING	UG.	UNDERGROUND
COL.	COLUMN	MFR.	MANUFACTURER	UNF.	UNFINISHED
CONC.	CONCRETE	MH.	MANHOLE	U.N.O.	UNLESS NOTED OTHERWISE
CONN.	CONNECTION	MIN.	MINIMUM	UR.	URINAL
CONST.	CONSTRUCTION	MIR.	MIRROR	V.C.T.	VINYL COMPOSITION TILES
CONT.	CONTINUOUS	MISC.	MISCELLANEOUS	VENT.	VENTILATE(R)
CORR.	CORRIDOR	MTD.	MOUNTED	VERT.	VERTICAL
C.T.	CERAMIC TILE	MUL.	MULLION	VEST.	VESTIBULE
CPT.	CARPET	MTL.	METAL	V.G.D.F.	VERTICAL GRAIN DOUGLAS FIR
CTR.	CENTER	(N)	NEW	VOL.	VOLUME
CR.	CORNER	N	NORTH	W.	WEST
CTS.K.	COUNTERSINK	NAT.	NATURAL	W.	WITH
		N.I.C.	NOT IN CONTRACT	W.C.	WATER CLOSET
		N.O.	NUMBER	WD.	WOOD
		NOM.	NOMINAL	WOD.	WINDOW
		N.T.S.	NOT TO SCALE	W.H.	WATER HEATER
DBL.	DOUBLE	OA.	OVERALL	W/O	WITHOUT
DEPT.	DEPARTMENT	OB.	OBSCURE	WP.	WATERPROOFING
DET.	DETAIL	OC.	ON CENTER	WR.	WATER RESISTANT
D.F.	DRINKING FOUNTAIN	O.D.	OUTSIDE DIAMETER (DIM.)	WSCT.	WAINSCOT
DIA.	DIAMETER	O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED	WT.	WEIGHT
DIA.G.	DIAGONAL	O.F.O.I.	OWNER FURNISHED CONTRACTOR INSTALLED	W.W.F.	WELED WIRE FABRIC
DIM.	DIMENSION	OFF.	OFFICE		
DISP.	DISPENSER	OPNG.	OPENING		
DISPOS.	DISPOSAL	OPP.	OPPOSITE		
DN.	DOWN	ORIG.	ORIGINAL		
D.O.	DOOR OPENING	PL.	PLATE		
DR.	DOOR	P.LAM.	PLASTIC LAMINATE		
DS.	DOWNSPOUT	PLAS.	PLASTER		
D.S.P.	DRY STANDPIPE	PLYWD.	PLYWOOD		
D.T.J.	DEEP TOOLED JOINT	PNL.	PANEL		
DWG.	DRAWING	POL.	POLISH		
DWR.	DRAWER	PR.	PAIR		
(E)	EXISTING	PR.CST.	PRE-CAST		
E.	EAST	P.S.F.	PRE-FINISHED STEEL FRAME		
EA.	EACH	P.S.I.	POUNDS PER SQUARE INCH		
E.C.W.	EXISTING COLD WATER	P.T.	POINT		
E.I.	EXPANSION JOINT	P.T.D.	PAPER TOWEL DISPENSER		
EL.	ELEVATION	P.T.D./R.	COMBINATION PAPER TOWEL DISPENSER & RECEPTACLE		
ELEC.	ELECTRICAL	PTN.	PARTITION		
EMER.	EMERGENCY	P.T.R.	PAPER TOWEL RECEPTACLE		
ENCL.	ENCLOSURE	Q.T.	QUARRY TILE		
EP.	ELECTRICAL PANELBOARD	R.	RISER		
EQ.	EQUAL	RAD.	RADIUS		
EQPT.	EQUIPMENT	R.D.	ROOF DRAIN		
E.S.	EXISTING SEWER	REF.	REFERENCE		
EXP.	EXPANSION	REFR.	REFRIGERATOR		
EXP.O.	EXPOSED	REG.	REGISTER		
EXT.	EXTERIOR	REIN.F.	REINFORCED		
E.W.C.	ELECTRIC WATER COOLER	REQ.D.	REQUIRED		
F.A.	FIRE ALARM	RESIL.	RESILIENT		
F.D.	FLOOR DRAIN	REV.	REVIS		
FDN.	FOUNDATION	R.H.M.B.	ROUND HEAD MACHINE BOLT		
F.E.	FIRE EXTINGUISHER	R.H.W.S.	ROUND HEAD WOOD SCREW		
F.E.C.	FIRE EXTINGUISHER CABINET	RM.	ROOM		
F.F.	FINISH FLOOR	RND.	ROUND		
F.H.	FIRE HYDRANT	R.O.	ROUND OPENING		
F.H.C.	FIRE HOSE CABINET	RWD.	REDWOOD		
F.H.M.S.	FLAT HEAD WOOD SCREW				
F.H.W.S.	FLAT HEAD WOOD SCREW				
FIN.	FINISH				
FX.	FIXTURE				
FL.	FLOW LINE				
FLASH.	FLASHING				
FLR.	FLOOR				
FLDR.	FLUORESCENT				
F.O.C.	FACE OF CONCRETE				
F.O.F.	FACE OF FINISH				
F.O.M.	FACE OF MASONRY				
F.O.S.	FACE OF STUDS				
FRF.	FIREPROOF				
F.R.	FIRE RATED				
F.S.	FLOOR SINK				
FT.	FOOT OR FEET				
FTG.	FOOTING				
FURR.	FURRING				
FUT.	FUTURE				

APPLICABLE CODES

ALL WORK PERTAINING TO AND ALL MATERIALS SUPPLIED FOR EXECUTING AND COMPLETING THIS CONTRACT SHALL COMPLY WITH PROVISIONS SPECIFIED IN THE CONTRACT DOCUMENTS AND WITH ALL APPLICABLE LAWS, REGULATIONS AND ORDINANCES GOVERNING WORK INCLUDING, BUT NOT NECESSARILY LIMITED TO THOSE OF:

PARTIAL LIST OF APPLICABLE CODES AS OF January 1, 2020*

2019 California Administrative Code (CAC), Part 1, Title 24 CCR*
2019 California Building Code (CBC), Part 2, Title 24 CCR
(2018 International Building Code, Vol. 1 & 2, and 2016 California amendments)
2019 California Electrical Code (CEC), Part 3, Title 24 CCR
(2017 National Electrical Code and 2019 California Amendments)
2019 California Mechanical Code (CMC), Part 4, Title 24 CCR
(2018 IPMPO Uniform Mechanical Code and 2019 California amendments)
2019 California Plumbing Code (CPC), Part 5, Title 24 CCR
(2018 IPMPO Uniform Plumbing Code and 2019 California amendments)
2019 California Energy Code (CEC), Part 6, Title 24 CCR
2019 California Fire Code (CFC), Part 9, Title 24 CCR
(2018 International Fire Code and 2019 California Amendments)
2019 California Existing Building Code (CEBC), Part 10, Title 24 CCR
(2018 International Existing Building Code and 2019 California Amendments)
2019 California Green Building Standards Code (CALGreen), Part 11, Title 24 CCR
2019 California Referenced Standards Code, Part 12, Title 24 CCR
Title 19 CCR, Public Safety, State Fire Marshal Regulations
2016 ASME A17.1/CSA B44-13 Safety Code for Elevators and Escalators (per 2019 CBC Part 2 Ch 35)
Note: Cal/OSHA Elevator Unit enforces CCR Title 8 and uses the 2004 ASME A17.1 by adoption

PARTIAL LIST OF APPLICABLE STANDARDS

NFPA 72 - National Fire Alarm and Signaling Code (CA amended)..... 2016 Edition
UL 464 - Audible Signaling Devices for Fire Alarm and Signaling Systems..... 2003 Edition
Including Accessories..... 2003 Edition
UL 521 - Standard for Heat Detectors for Fire Protective Signaling Systems..... 1999 Edition
UL 1971 - Standard for Signaling Devices for the Hearing Impaired..... 2002 (R2010)

For a complete list of applicable NFPA standards refer to 2016 CBC (SFM) Chapter 35 and California Fire Code Chapter 80.

See California Building Code Chapter 35 for State of California amendments to the NFPA Standards and an overall listing of referenced standards.

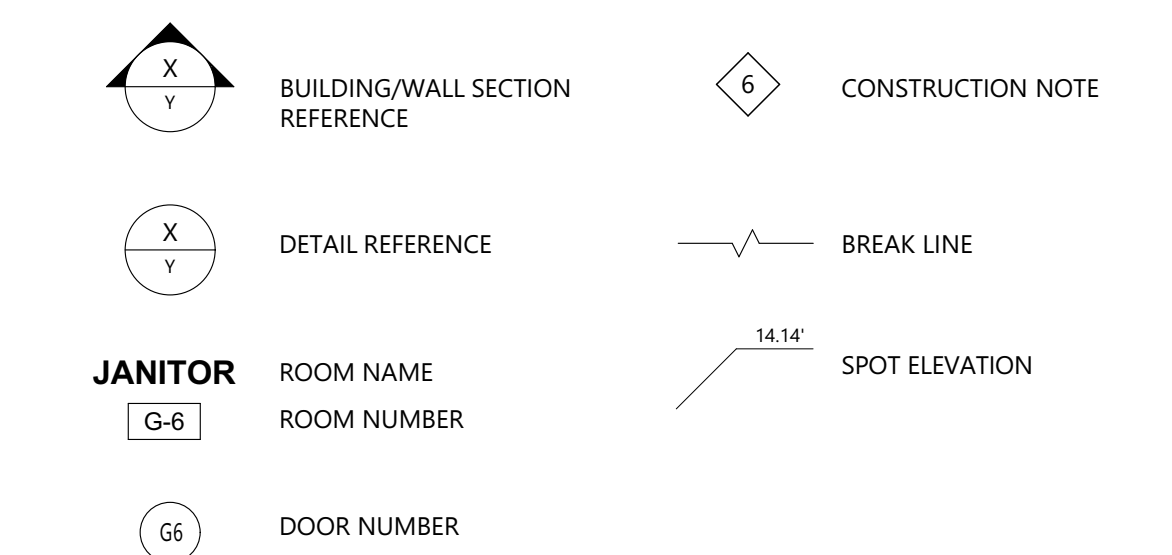
SPECIAL NOTES

- CONTRACTOR SHALL COORDINATE WITH DISTRICT MAINTENANCE DIRECTOR OR SCHOOL PRINCIPAL FOR ALL HOURS OF OPERATION ALLOWED. EXACT AREA OF CONSTRUCTION AND FENCING REQUIREMENT SHALL BE AS DIRECTED BY DISTRICT.
- ALL KEY NOTES APPLY ONLY TO THE SHEET IT IS ON AND SHOULD NOT BE CROSS REFERENCED WITH ANY OTHER SHEETS.

PROJECT TEAM

ARCHITECT CO-AR DESIGN, INC. 680 BREA CANYON RD., STE. 178, DIAMOND BAR, CA 91789 CONTACT: DENNIS J. LEE, R.A. PH. (909) 598-0186	STRUCTURAL ENGINEER HORNBEACH LEWIN, INC. 511 MISSION ST., SOUTH PASADENA, CA 91030 CONTACT: LESLIE TSO, S.E. PH. (626) 441-1211
MECH / PLUMB ENGINEER JHP ENGINEERING AND DESIGN SERVICES, INC. 3115 CENTRAL PARKWAY, DUBLIN, CA 94568 CONTACT: JIA PAN, P.E. PH. (510) 788-6029	ELECTRICAL ENGINEER PACIFIC ENGINEERS GROUP 3611 CAHUENGA BLVD W, FIRST FLOOR, LOS ANGELES, CA 90068 CONTACT: JIMMY FONG, P.E. PH. (323) 536-9058

GRAPHIC SYMBOLS



GENERAL NOTES

- THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO THE SUBMISSION OF BID AND THOROUGHLY FAMILIARIZE HIMSELF WITH THE WORKING CONDITIONS AND THE EXACT NATURE AND EXTENT OF THE WORK. HE SHALL VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON DRAWINGS AND SHALL NOTIFY THE ARCHITECT OF ANY OMISSION AND/OR DISCREPANCIES AND OBTAIN A WRITTEN DECISION. SUBMISSION OF A BID ACKNOWLEDGES FULL RESPONSIBILITY FOR FURNISHING A COMPLETE AND FUNCTIONAL SYSTEM. NO CHANGES IN THE CONTRACT WILL BE ENTERTAINED TO ACCOMMODATE OR ALLOW EXTRA FUNDS FOR ANY OMISSION RESULTED FROM FAILURE TO THOROUGHLY EXAMINE THE SCOPE OF WORK.
- CONTRACTOR SHALL CONFIRM ALL SUBSTRATE CONDITIONS IN FIELD AT COMPLETION OF DEMOLITION, AND NOTIFY THE ARCHITECT, IN WRITING, OF ANY DEVIATION FROM THE CONDITIONS SHOWN IN THE DRAWINGS.
- THE CONTRACTOR SHALL ARRANGE FOR TIMELY INSPECTIONS AT EACH STAGE OF WORK AS REQUIRED.
- ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS AND SPECIFICATIONS OF THE MANUFACTURER OF THE PRODUCT BEING USED FOR A COMPLETE AND PROPER INSTALLATION.
- DO NOT SCALE THE DRAWINGS. USE REFERENCED OR NOTED DIMENSIONS ONLY. LARGE SCALE DETAILS OVER SMALLER SCALE DETAILS. WHERE NO SPECIFIC DETAIL IS SHOWN, THE CONSTRUCTION SHALL BE THE SAME AS THAT WHICH ALREADY EXISTS IN THE BUILDING.
- CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL WORK BETWEEN THE DIFFERENT TRADES TO INSURE PROPER SEQUENCE OF WORK WHEREVER O.F.C.I. OR O.F.O.I. WORK IS SHOWN.
- ALL EQUIPMENT USED IN THIS PROJECT SHALL BEAR THE APPROVAL LABEL OF U.L. OR OTHER AGENCY-APPROVED TESTING LABORATORY ACCEPTABLE TO THE ARCHITECT.
- CONTRACTOR SHALL MAINTAIN A COMPLETE AND UPDATED SET OF BIDDING DOCUMENTS (i.e. DRAWINGS AND SPECIFICATIONS) INCLUDING ALL APPROVED SHOP DRAWINGS, SUBMITTALS, CHANGE DIRECTIVES, AND RFI RESPONSES AT JOB SITE.
- UNLESS NOTED OTHERWISE, CONTRACTOR SHALL FURNISH SHOP DRAWINGS, EQUIPMENT OR MATERIAL, SUBMITTAL, AND SPECIFICATIONS FOR REVIEW BY THE ARCHITECT, PRIOR TO FABRICATION OR DELIVERY OF SUCH EQUIPMENT OR MATERIAL.
- THE EQUIPMENT MANUFACTURER OR PRODUCT BRAND SPECIFIED IS USED AS THE MINIMUM QUALITY AND STANDARD REQUIRED BY OWNER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE PROOF THAT THE SUBSTITUTION IS OF EQUAL OR BETTER QUALITY IF SUBSTITUTION IS PROPOSED. THE ARCHITECT'S REVIEW OF SUBSTITUTION REQUEST, BASED ON THE INFORMATION SUBMITTED, SHALL BE FINAL.
- NO EQUIPMENT OR MATERIAL CONTAINING HAZARDOUS MATERIAL AS DEFINED BY STATE OF CALIFORNIA SHALL BE USED IN THIS PROJECT.
- THE CONTRACTOR SHALL TAKE ALL MEASURES TO PROTECT AND SAFEGUARD ALL EXISTING BUILDING ELEMENTS AGAINST DAMAGE FROM INCLEMENT WEATHER CONDITIONS AND BY CONSTRUCTION OPERATIONS BOTH DURING JOB HOURS AND NON WORKING HOURS. IF DAMAGE SHOULD OCCUR TO THE EXISTING BUILDING AS A RESULT OF THE ABOVE, THE CONTRACTOR SHALL REPAIR, REPLACE AND CLEAN AT NO COST TO THE SCHOOL DISTRICT.
- IF ANY EQUIPMENT OR UTILITY SHUTDOWN IS REQUIRED, THE CONTRACTOR SHALL GIVE NOTICE IN WRITING THE SCHOOL DISTRICT COORDINATOR NOT LESS THAN FIVE (5) WORKING DAYS PRIOR TO THE SHUTDOWN, U.N.O.
- THE CONTRACTOR SHALL LEAVE THE WORK AREA CLEAN AND FREE OF DEBRIS AT THE END OF EACH WORK DAY. UPON COMPLETION OF THE WORK HE SHALL REMOVE ALL SURPLUS MATERIALS, EQUIPMENT, AND DEBRIS INCIDENTAL TO THIS CONTRACT AND LEAVE THE PREMISES CLEAN AND ORDERLY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY SAFETY BARRIERS AND SHALL NOT BLOCK FIRE EXITS WITHOUT APPROVAL OF/AND COORDINATION BY THE SCHOOL DISTRICT AND FIRE AUTHORITIES.
- PRIOR TO ANY NEW FIRE PROTECTION WORK AND/OR ALTERATIONS TO ANY EXISTING FIRE PROTECTION SYSTEM, THE CONTRACTOR MUST NOTIFY THE DISTRICT AT LEAST 72 HOURS IN ADVANCE.
- AS A CONDITION OF FINAL ACCEPTANCE AND FINAL PAYMENT, THE CONTRACTOR SHALL SUBMIT TO THE SCHOOL DISTRICT A SET OF DRAWINGS INDICATING ALL CHANGES OR DEVIATIONS FROM THE CONTRACT SET OF DRAWINGS. THEY SHALL BE IDENTIFIED AS "RECORD" DRAWINGS AND SIGNED AND DATED BY THE CONTRACTOR. IN ADDITION, THE CONTRACTOR SHALL ALSO FURNISH (1) COMPLETE SET OF OPERATING AND MAINTENANCE INSTRUCTIONS INCLUDING PARTS MANUALS FOR ALL EQUIPMENT OF ALL TYPES BOUND IN A HARDBOARD BINDER AND INDEXED, AND AS NOTED IN SPECIFICATIONS.
- CONTRACTOR SHALL NOT SAWCUT OR CORE DRILL A CONC. FLOOR, WALL, ROOF, OR CEILING WITHOUT FIRST SECURING THE APPROVAL FROM THE OWNER, ARCHITECT, CONSTRUCTION MANAGER AND DSA. ALL PENETRATIONS CAUSED BY THIS WORK SHALL BE TREATED FOR A TIGHT SEAL BY THIS CONTRACTOR USING A MATERIAL OF THE SAME INTEGRITY AS THE EXISTING WALLS OR FLOOR BEFORE PENETRATION.
- CONTRACTOR SHALL CONDUCT AT LEAST ONE WEEKLY SAFETY MEETING WITH HIS WORKERS, AND SHALL DILIGENTLY USE ANY OR ALL OTHER SAFEGUARDS TO PREVENT JOB RELATED HAZARDOUS CONDITIONS TO SCHOOL OCCUPANTS.
- ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION IN ACCORDANCE WITH CALIFORNIA BUILDING CODE. WHERE THE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE MECHANICAL OR ELECTRICAL ENGINEER AND THE FIELD REPRESENTATIVE OF THE DIVISION OF STATE ARCHITECT.
- CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND IRRIGATION AND UTILITY LINES WITHIN CONSTRUCTION AREA PRIOR TO COMMENCING WORK. CONTRACTOR SHALL BE RESPONSIBLE TO RE-ROUTE AND/OR CAP (E) IRRIGATION AND UTILITY LINES IN THE PROJECT AREA AS DIRECTED BY OWNER.
- SEE CALIFORNIA FIRE CODE, CHAPTER 33 FOR FIRE SAFETY DURING CONSTRUCTION
- ALL WORK SHALL CONFORM TO 2019 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
- FABRICATION AND INSTALLATION OF DEFERRED SUBMITTAL ITEMS SHALL NOT BE STARTED UNTIL CONTRACTOR'S DRAWINGS, SPECIFICATIONS, AND ENGINEERING CALCULATIONS FOR THE ACTUAL SYSTEMS TO BE INSTALLED HAVE BEEN ACCEPTED AND SIGNED BY THE ARCHITECT OR STRUCTURAL ENGINEER AND APPROVED BY THE DSA. LIST DEFERRED SUBMITTAL ITEMS FOR THIS PROJECT.
- CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGED DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
- A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.
- INSPECTOR CLASS 2
- A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.

SCOPE OF WORK

- UPGRADES TO EXISTING AUTO SHOP CLASSROOM IN SHOP BUILDING 'M' - INCLUDING ACCESSIBILITY UPGRADE OF EXISTING RESTROOM, NEW WALLS FOR A NEW CLASSROOM WITHIN THE SHOP, ELECTRICAL AND PLUMBING WORK FOR SHOP & CLASSROOM EQUIPMENT, FLOOR & WALL FINISHES.
- REPLACE EXISTING STORAGE SHED W/ NEW STORAGE STRUCTURE (333 S.F.)

SITE DATA

FOUNDATIONS:
BASED ON GEOTECHNICAL AND GEOHAZARD REPORTS BY HARRINGTON GEOTECHNICAL ENGINEERING, INC. DATED: JUNE 1, 2021
PROJECT NO. 21-01-4178
TERRA GEOSCIENTES
DATED: APRIL 29, 2021
PROJECT NO. 152781-3
ALLOWABLE BEARING PRESSURE = 2,500 PSF
ALLOWABLE LATERAL BEARING = 250 PCF

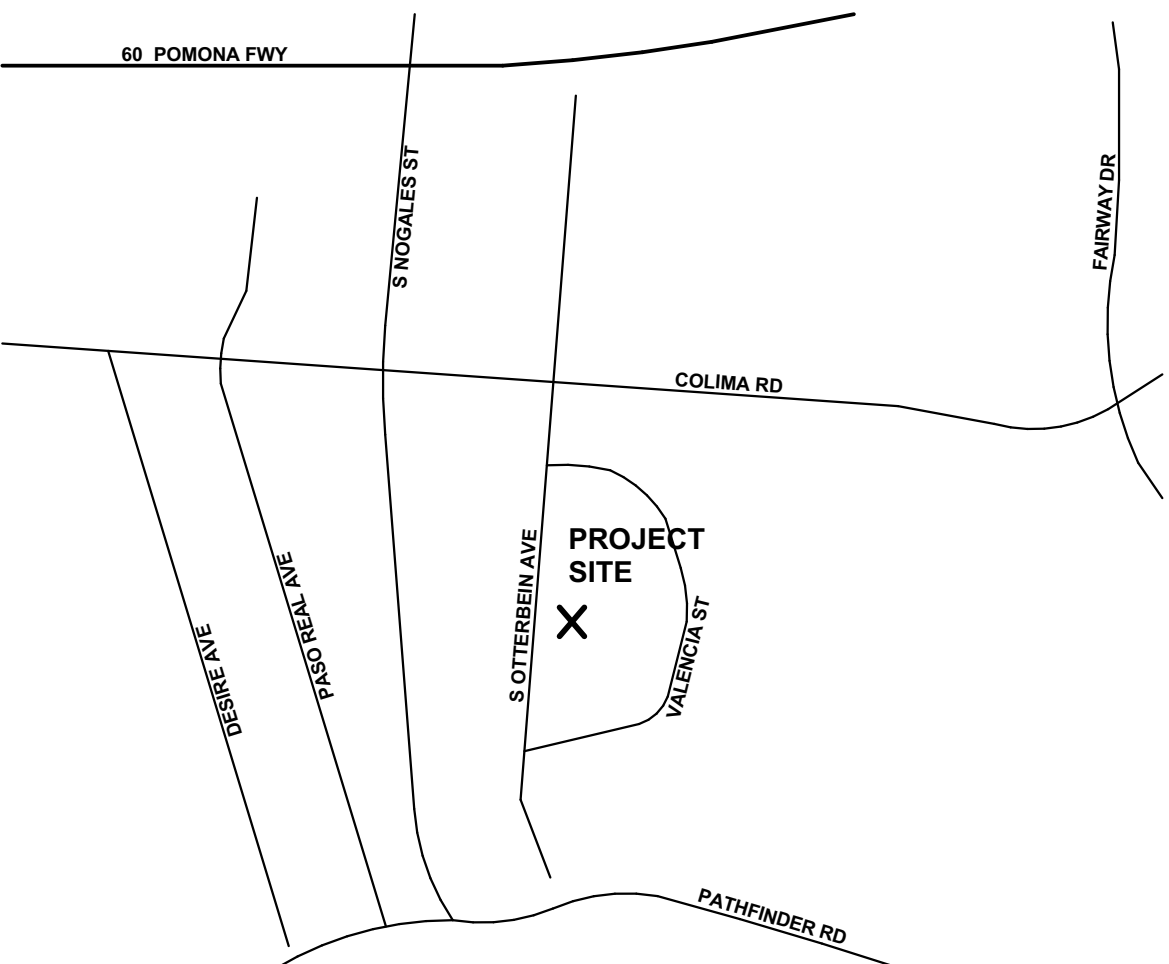
WIND CRITERIA:
i BASIC WIND SPEED: 115 MPH
ii RISK CATEGORY III
iii EXPOSURE C

SEISMIC CRITERIA:
i RISK CATEGORY III
ii SITE CLASS D
iii S₁=1.847g S₀=0.649g
iv S_{0.2}=1.240g S_{0.5}=0.87g
v SEISMIC DESIGN CATEGORY D
vi (E) AUTO SHOP L.F.R.S.: ORDINARY MASONRY SHEAR WALLS
(N) STORAGE BLDG. L.F.R.S.: ORDINARY STEEL MOMENT FRAMES AND SPECIAL MASONRY SHEAR WALL

BUILDING DATA

EXISTING SHOP BLDG "M" - A# 23564, A# 106426, A# 112895	
OCCUPANCY:	E
CONSTRUCTION TYPE:	III-B
FIRE SPRINKLER SYSTEM:	NO
BASIC ALLOWABLE BLDG AREA:	14,500 SF
ACTUAL BUILDING AREA:	12,781 SF
BASIC ALLOWABLE BLDG HEIGHT:	5' 2 STORIES
ACTUAL BUILDING HEIGHT:	15' 1 STORY
OCCUPANT LOAD:	CLASSROOM: 12,781 / 20 = 640
NEW STORAGE BUILDING	
OCCUPANCY:	S-2
CONSTRUCTION TYPE:	V-B
FIRE SPRINKLER SYSTEM:	NO
BASIC ALLOWABLE BLDG AREA:	13,500 SF
ACTUAL BUILDING AREA:	333 SF
BASIC ALLOWABLE BLDG HEIGHT:	40' 2 STORIES
ACTUAL BUILDING HEIGHT:	12' 1 STORY
OCCUPANT LOAD:	STORAGE: 333 / 300 = 2

VICINITY MAP

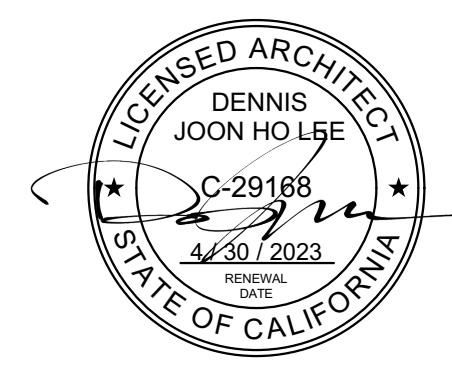


GENERAL NOTES CONT'D

- THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR. A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(C), PART 1, TITLE 24, CCR)
- GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

SHEET INDEX

GENERAL DRAWINGS	
T-1.1	TITLE SHEET
ARCHITECTURAL	
A-1.1	SITE PLAN
A-1.2	FIRE ACCESS SITE PLAN
A-2.1	DEMO & PROPOSED FLOOR PLANS, GATE ELEVATION
A-2.2	DEMO & PROPOSED REF. CLING PLANS, ROOF PLAN, SECTIONS
A-3.1	SECTIONS / EXTERIOR ELEVATIONS
A-4.1	INTERIOR ELEVATIONS
A-5.1	ARCHITECTURAL DETAILS
A-5.2	ARCHITECTURAL DETAILS
A-6.1	TYPICAL SUSPENDED CEILING DETAILS
A-6.1	SCHEDULES
STRUCTURAL DRAWINGS	
S-1.1	GENERAL NOTES & TYPICAL DETAILS
S-2.1	BUILDING M PARTIAL FOUNDATION & ROOF FRAMING PLANS
S-3.0	STRUCTURAL ELEVATIONS
S-3.1	SECTIONS & DETAILS
S-3.2	SECTIONS & DETAILS
S-4.1	DETAILS
MECHANICAL DRAWINGS	
M-0.1	MECHANICAL GENERAL NOTES
M-0.2	MECHANICAL SCHEDULES
M-0.3	MECHANICAL DETAILS
M-0.4	MECHANICAL PRESCRIPTIVE TITLE 24 COMPLIANCE
M-0.5	MECHANICAL PRESCRIPTIVE TITLE 24 COMPLIANCE
M-0.6	MECHANICAL DETAILS
M-1.0	PARTIAL GROUND FL. MECHANICAL REFLECTED CEILING PLAN - DEMO
M-1.1	PARTIAL GROUND FL. MECHANICAL REFLECTED CEILING PLAN - NEW
M-2.0	PARTIAL ROOF MECHANICAL PLAN - DEMO
M-2.1	PARTIAL ROOF MECHANICAL PLAN - NEW
PLUMBING DRAWINGS	
P-0.1	PLUMBING GENERAL NOTES AND INFORMATION
P-0.2	PLUMBING SCHEDULES
P-0.3	PLUMBING DETAILS
P-1.0	PARTIAL GROUND FL. DOMESTIC WATER PIPING PLAN - DEMO
P-1.1	PARTIAL GROUND FL. DOMESTIC WATER PIPING PLAN - NEW
P-2.0	PARTIAL GROUND FL. WASTE AND VENT PIPING PLAN - DEMO
P-2.1	PARTIAL GROUND FL. WASTE AND VENT PIPING PLAN - NEW
P-3.0	PARTIAL GROUND FL. NATURAL GAS AND CA PIPING PLAN - DEMO
P-3.1	PARTIAL GROUND FL. NATURAL GAS AND CA PIPING PLAN - NEW
P-4.0	PARTIAL ROOF PLUMBING PLAN
ELECTRICAL DRAWINGS	
E-1.1	SYMBOL LIST, CODES, GENERAL NOTES, AND DETAIL
E-1.2	PANEL SCHEDULES & DETAILS
E-1.3	TITLE 24 FORMS
E-2.1	DEMOLITION PLAN
E-2.2	LIGHTING PLAN
E-2.3	POWER PLAN
E-2.4	SIGNAL PLAN
E-2.5	PHOTOMETRIC PLAN
FA-1.0	FIRE ALARM SYMBOL LIST, NOTES & CALCULATION
FA-1.1	FIRE ALARM DETAILS AND RISER DIAGRAM
FA-2.0	FIRE ALARM SITE PLAN
FA-2.1	FIRE ALARM PLAN
TOTAL: 49 SHEETS	



BlMachof - CONGR. CONFERENCE - BlMachof - Base for ARCHICAD 25(2020)16 - BLDG - Rowland High - 5/24/2022 - Tuesday, January 11, 2023, 10:27 AM



SITE PLAN KEYNOTES:

- 01. CONCRETE WALKWAY
- 02. AC PAVING
- 03. 4" STRIPING, 3'-0" O.C.
- 04. CHAIN LINK FENCE
- 05. CHAIN LINK FENCE GATE
- 06. METAL FENCE
- 07. PROPERTY LINE
- 09. VAN ACCESSIBLE PARKING
- 10. VAN ACCESSIBLE PARKING SIGN POST
- 11. ACCESSIBLE PARKING
- 12. ACCESSIBLE PARKING SIGN POST
- 13. PASSENGER LOADING ZONE
- 14. PASSENGER LOADING ZONE SIGN POST
- 15. CONC. RAMP, 1:12 SLOPE MAX
- 16. CURB RAMP, 1:12 SLOPE MAX
- 17. CONTINUOUS DETECTABLE WARNING 36" WIDE
- 18. (E) TOW AWAY SIGN
- 19. (E) TRAFFIC ARROWS, TYP.

LEGEND:

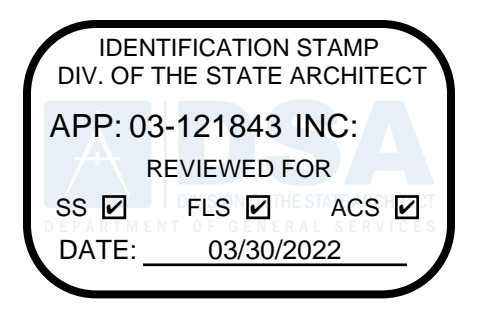
→→→→→○ ACCESSIBLE PATH OF TRAVEL AS INDICATED ON PLAN IS A BARRIER-FREE ACCESS ROUTE WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2" IF BEVELED AT 1:2 MAX SLOPE OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/2" MAX, AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE FIRM, AND SLIP RESISTANT. CROSS SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. ACCESSIBLE PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM, AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL AND ABOVE 27" AND LESS THAN 80". ARCHITECT SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:

THE PATH OF TRAVEL IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS MEETS THE REQUIREMENTS OF THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE (CBC) ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS, AS PART OF THE DESIGN OF THIS PROJECT. THE P.O.T. WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE P.O.T. THAT WERE DETERMINED TO BE NONCOMPLIANT WITH THE CBC HAVE BEEN IDENTIFIED AND THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS.

ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE INDICATED IN THESE CONSTRUCTION DOCUMENTS.

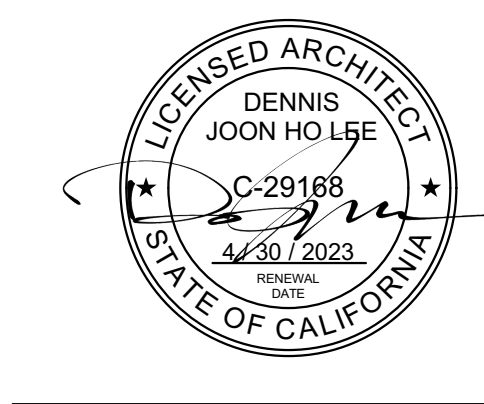
DURING CONSTRUCTION, IF P.O.T. ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CBC COMPLIANT ARE FOUND TO BE NONCOMPLYING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THE ITEMS SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.



ARCHITECT:
CO-AR DESIGN, INC.
 680 Brea Canyon Road, Suite 178
 Diamond Bar, California 91789
 Office: 909-599-0186
 Dennis J. Lee, NCARB dennisl@coar-design.com

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 NOTES:



CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

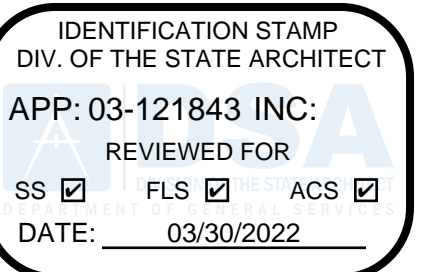
2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748

CLIENT:
 ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTAL NO.	REVISIONS	DATE
1	DESIGN DEVELOPMENT	4/22/2021
2	CONSTRUCTION DOCUMENTATION	7/22/2021
3	DSA SUBMITTAL	10/8/2021

PROJECT NO: 202016
 SCALE: AS SHOWN
 DATE: 1/11/2022
 DRAWN BY: ED / FW
 CHECKED BY: DL
 SHEET TYPE:
SITE PLAN

SITE PLAN 1
SCALE: 1" = 50'



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GENERAL NOTES:

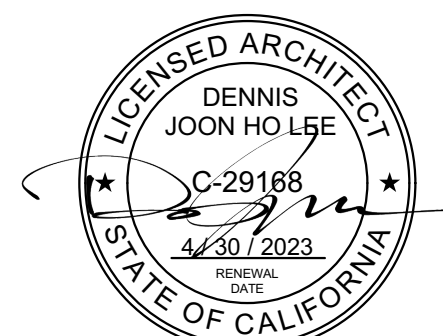
1. THE DEMOLITION PLAN IS INTENDED TO SHOW A GENERAL SCOPE OF DEMOLITION WORK. CONTRACTOR SHALL INCLUDE ALL OTHER DEMOLITION NOT SPECIFICALLY INDICATED ON THIS PLAN BUT REQUIRED TO ACCOMPLISH NEW WORK.
2. SEE PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
3. CONTRACTORS SHALL VERIFY IN FIELD ALL EXISTING DIMENSIONS AND CONDITIONS.
4. VERIFY WITH DISTRICT ALL ITEMS THAT ARE TO BE SALVAGED AND RETURNED TO DISTRICT PRIOR TO DEMOLITION.
5. REMOVE A PORTION OF (E) SLAB ON GRADE OR WALL SURFACES AS REQUIRED FOR ALL NEW PLUMBING WORK.
6. CONTRACTOR SHALL PATCH AND REPAIR ALL FLOOR OR CEILING SURFACES TO MATCH ADJACENT IN EACH ROOM AFFECTED BY NEW WORK.
7. (E) DOORS TO RECEIVE NEW HARDWARE SHALL BE FULLY PATCHED AND PAINTED.

FLOOR PLAN KEYNOTES:

01. REMOVE (E) GARAGE DOORS, TYP. OF (5)
02. REMOVE PORTION OF (E) MASONRY WALL FOR NEW DOOR OPENING, PROVIDE REINFORCEMENT PER STRUCTURAL DRAWINGS.
03. REMOVE (E) STUD WALL, TYP.
04. REMOVE LOW WALL, SINKS & CAP PLUMBING. SEE PLUMBING DWGS FOR MORE INFO.
05. REMOVE (E) CASEWORK
06. REMOVE (E) SHELVES IN ROOM
07. REMOVE (E) TOILET, SINK & CAP PLUMBING, SEE PLUMBING DWGS FOR MORE INFO.
08. (E) FURNITURE / EQUIPMENT TO REMAIN, TYP., COORDINATE WITH DISTRICT.
09. (E) FURNITURE / EQUIPMENT TO BE RELOCATED, TYP., COORDINATE WITH DISTRICT.
10. REMOVE (E) CAR LIFT, COORDINATE WITH AND RETURN TO DISTRICT.
11. DEMO (E) STORAGE SHED, REMOVE PORTION OF (E) CONC. SLAB AND EXCAVATE AS REQUIRED FOR NEW FOUNDATION. SEE STRUCTURAL DWGS.
12. (E) MASONRY WALL TO REMAIN
13. (E) CONCRETE SLAB TO REMAIN, TYP.
14. PROVIDE TRENCH PER LIFT MANUFACTURER'S REQUIREMENTS, TYP. OF (2). SEE STRUCTURAL DRAWINGS FOR MORE INFO.
15. REMOVE (E) WINDOWS & LOUVER
16. REMOVE (E) DOOR & FRAME
17. REMOVE (E) CONCRETE SLAB AS REQUIRED FOR NEW WORK
101. PROVIDE NEW AUTOMATIC ROLL UP DOORS, TYP. OF (6), CORNELL SERVICE DOOR ESD10 OR EQUAL. SEE DOOR SCHEDULE. SEE DETAILS 1-8/A-5.2 FOR MORE INFORMATION.
102. PROVIDE NEW HOLLOW METAL DOOR & FRAME, SEE DOOR SCHEDULE & 6/A-5.1 (WOOD STUD) & 16/A-5.2 (MASONRY)
103. PROVIDE NEW INTERIOR WALLS, TYP., 2x6 @ 16" O.C. SEE STRUCTURAL DWGS.
104. PROVIDE NEW SINK & WASH STATION, KOHLER K-3202, CHICAGO 928-369CP FAUCET, K-820 STRAINER OR EQ., SEE PLUMBING DRAWINGS FOR MORE INFO.
105. PROVIDE NEW TOILET, SINK & ACCESSORIES, SEE ENLARGED PLAN 1/A-4.1 & PLUMBING DRAWINGS FOR MORE INFO.
106. PROVIDE NEW ALUM. WINDOWS, TYP., SEE WINDOW SCHEDULE & INTERIOR ELEVATIONS ON A-4.1 FOR DETAIL REFERENCES.
107. NEW FOUNDATION BELOW, SEE STRUCTURAL DRAWINGS, TYP.
108. PROVIDE NEW CHEMICAL-RESISTANT COATING OVER (E) CONCRETES SLAB PER SPECS.
109. RELOCATE (E) FURNITURE / EQUIPMENT, TYP., COORDINATE WITH DISTRICT.
110. PROVIDE (N) 5" CONCRETE SLAB TO MATCH AUTO SHOP ELEVATION W/ CHEMICAL RESISTANT COATING PER SPECS, SEE 1/S-2.1 FOR MORE INFO.
111. NEW PROJECTOR (SEE 20/A-5.3) & INTERACTIVE WHITE BOARD PER DISTRICT STANDARDS.
112. NEW CMU BLOCK WALL, ORCO "LADERA RED MW SPILT FACE", SEE STRUCTURAL DWGS FOR MORE INFO, TYP.
113. NEW METAL ROOF ABOVE, 2:12 SLOPE
114. NEW ROUSSEAU TECHNICIAN STATION 60"W x 30"D x 34"H (SKU: GT-C1075P). PROVIDE 34" MAX. COUNTER HEIGHT) W/ ELEC. OUTLETS AND STAINLESS STEEL TOP, TYP. OF (4).
- 114A. NEW ROUSSEAU WORKBENCH WITH L CABINET 60"W x 30"D x 34"H (SKU: LGJ131L3C), TYP. OF (1). PROVIDE 30" MIN. CLEAR WIDTH W/ 27"H KNEE SPACE & 19" TOE DEPTH).
115. NEW LOCKERS, SEE 9/A-5.2. PROVIDE ACCESSIBLE LOCKERS AT LOCATIONS MARKED WITH ISA SYMBOL.
116. REPLACE (E) COMPRESSOR WITH NEW COMPRESSOR, 7.5 HP, CHICAGO PNEUMATIC 11105A, SEE 10/A-9.2 FOR ANCHORAGE.
117. NEW FENCE & GATE
118. NEW MOBILE WORK BENCHES TYP. OF (2), COORDINATE WITH DISTRICT FOR LOCATION.
119. NEW ROTARY SL210I-FA ROTARY LIFT, TYP. OF (2). PROVIDE BACK FILL & CONCRETE SLAB PER LIFT MANUFACTURER'S REQUIREMENTS. SEE 1/S-2.1 FOR MORE INFORMATION.
120. NEW ALUMINUM STOREFRONT WINDOWS WITH DUAL PANE INSULATED GLAZING, TYP., SEE WINDOW SCHEDULE.
121. NEW STEEL COLUMN, SEE STRUCTURAL DWGS, TYP.
122. NEW CONCRETE SLAB, SEE STRUCTURAL DWGS.
123. NEW 8x8 POST, SEE STRUCTURAL DWGS.
124. PROVIDE NEW ROOM SIGNS, SEE DETAILS 18 & 19/A-5.1
125. PROVIDE NEW ACORN 3424 ADA WASH STATION, SEE PLUMBING DRAWINGS
126. PROVIDE NEW HAWS 7656WCSM EYE WASH STATION, SEE PLUMBING DRAWINGS

LEGEND:

- EXISTING BRICK WALL TO REMAIN, TYP. 9" THK, TYP., U.N.O.
- EXISTING WALL, 2x6 @ 16" O.C., TO REMAIN, TYP.
- DEMO (E) PARTITION WALL
- INFILL WALL, SEE 3/S-3.1 FOR MORE INFO.
- NEW WALL, 2x6 @ 16" O.C., MAX. 14' H., SEE STRUCTURAL DWGS FOR MORE INFO.
- NEW (1) HOUR RATED WALL (UL U305, 2x6 @ 16" O.C., W/ 5/8" TYPE 'X' GYP. BD. ON BOTH SIDE, MAX. 14' H., SEE STRUCTURAL DWGS FOR MORE INFO.
- PROVIDE ASSISTIVE LISTENING SYSTEM SIGN, SEE 20/A-5.1



CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
ROWLAND HEIGHTS CA 91748

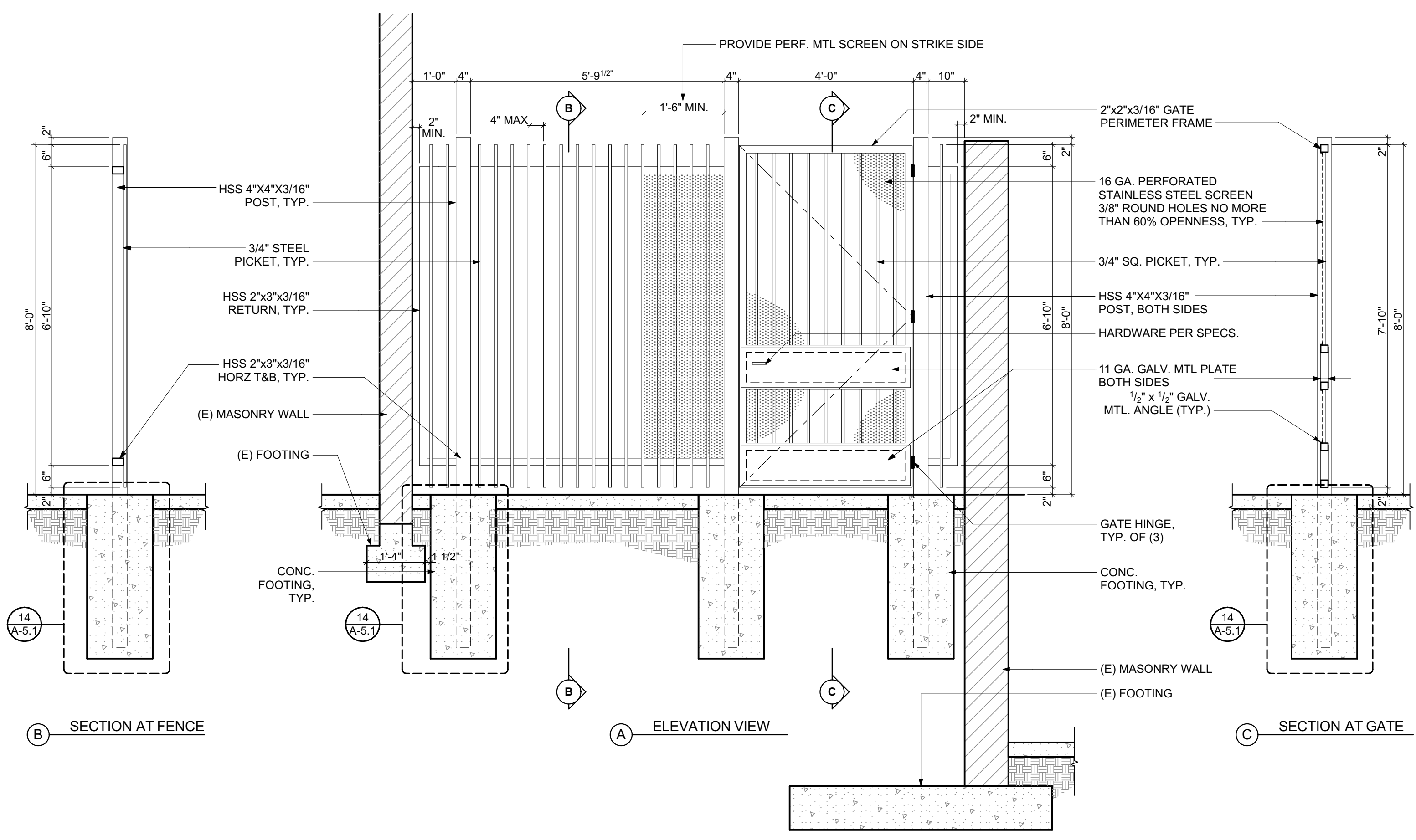
ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

SUBMITTAL REVISIONS:
1. DESIGN DEVELOPMENT 4/22/2021
2. CONSTRUCTION DOCUMENTATION 7/22/2021
3. DSA SUBMITTAL 10/8/2021

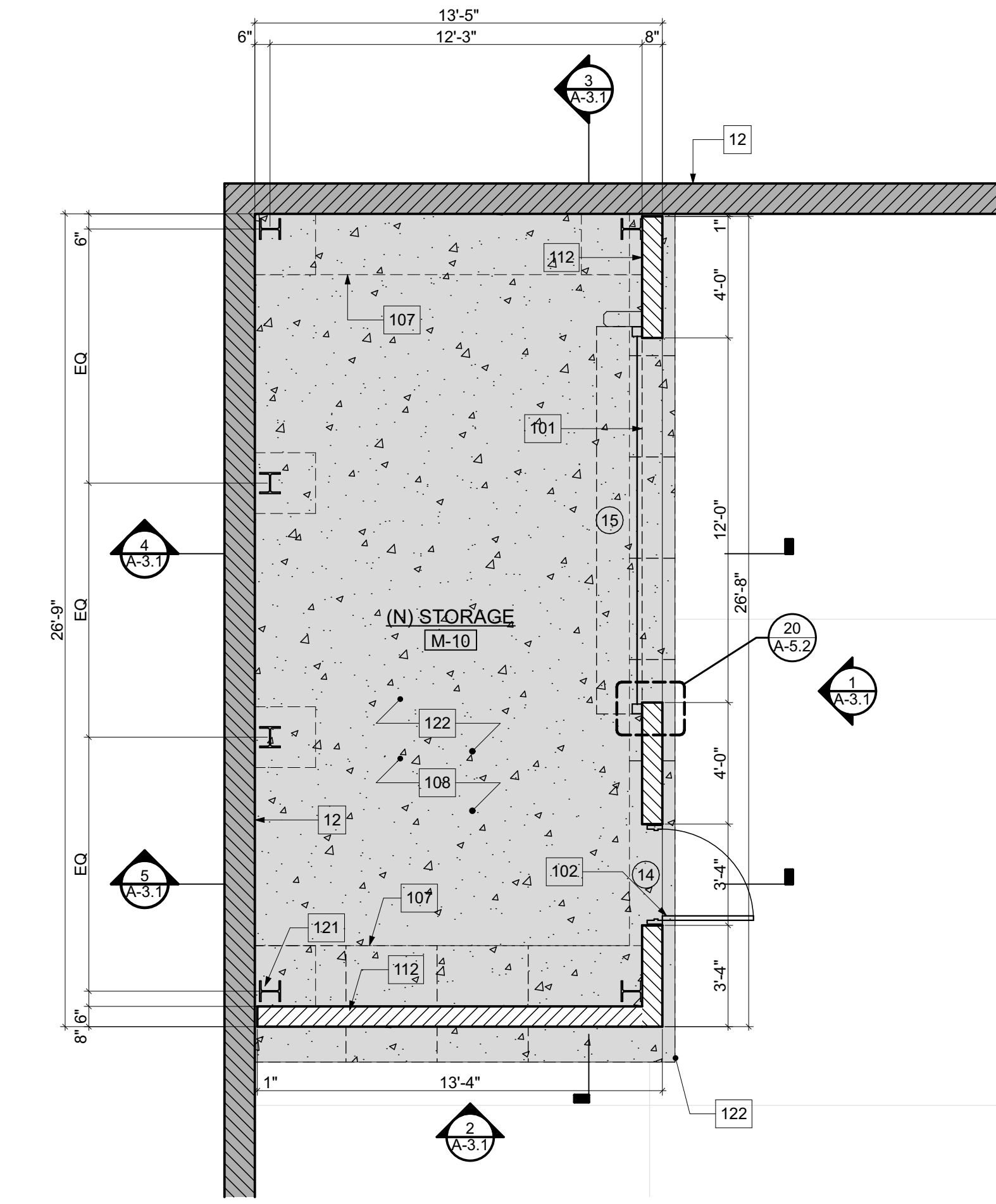
PROJECT NO: 202016
SCALE: AS SHOWN
DATE: 2/7/2022
DRAWN BY: ED / FW
CHECKED BY: DL

DEMO & PROPOSED FLOOR PLANS, GATE ELEVATION

SHEET NO:



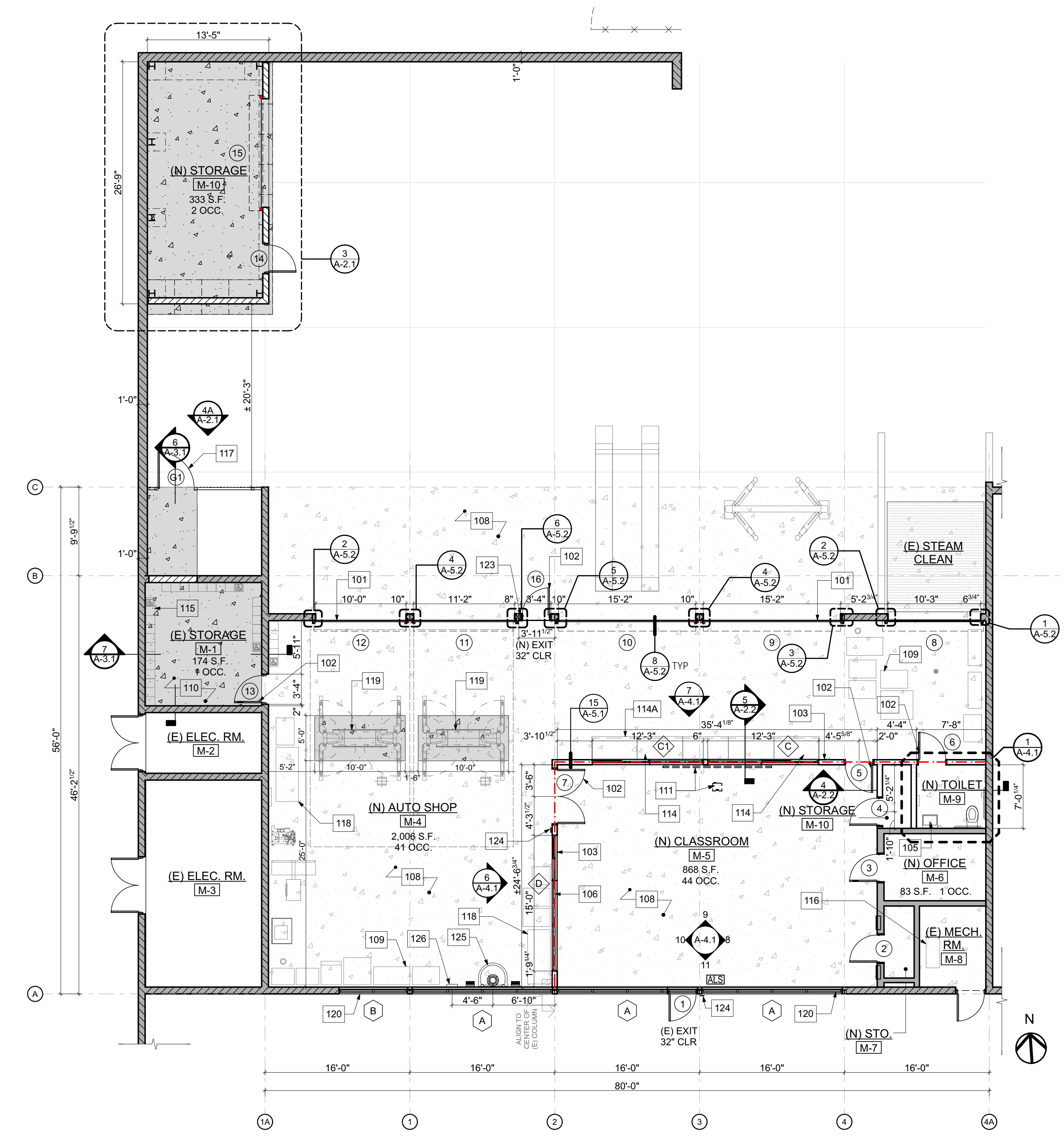
GATE ELEVATION / SECTIONS 4
SCALE: 1/2" = 1'-0"



STORAGE ENLARGED FLOOR PLAN 3
SCALE: 1/4" = 1'-0"

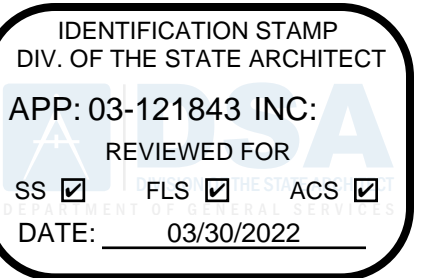


DEMOLITION FLOOR PLAN 2
SCALE: 1/8" = 1'-0"



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

B:\Projects\2020\16\202016 - CTE Auto Shop - Rowland High School - Main.dwg, February 7, 2022, 5:46 PM



ARCHITECT:
CLO CO-AR DESIGN, INC.
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 DENNIS J. LEE, NCARB dennisl@coar-design.com

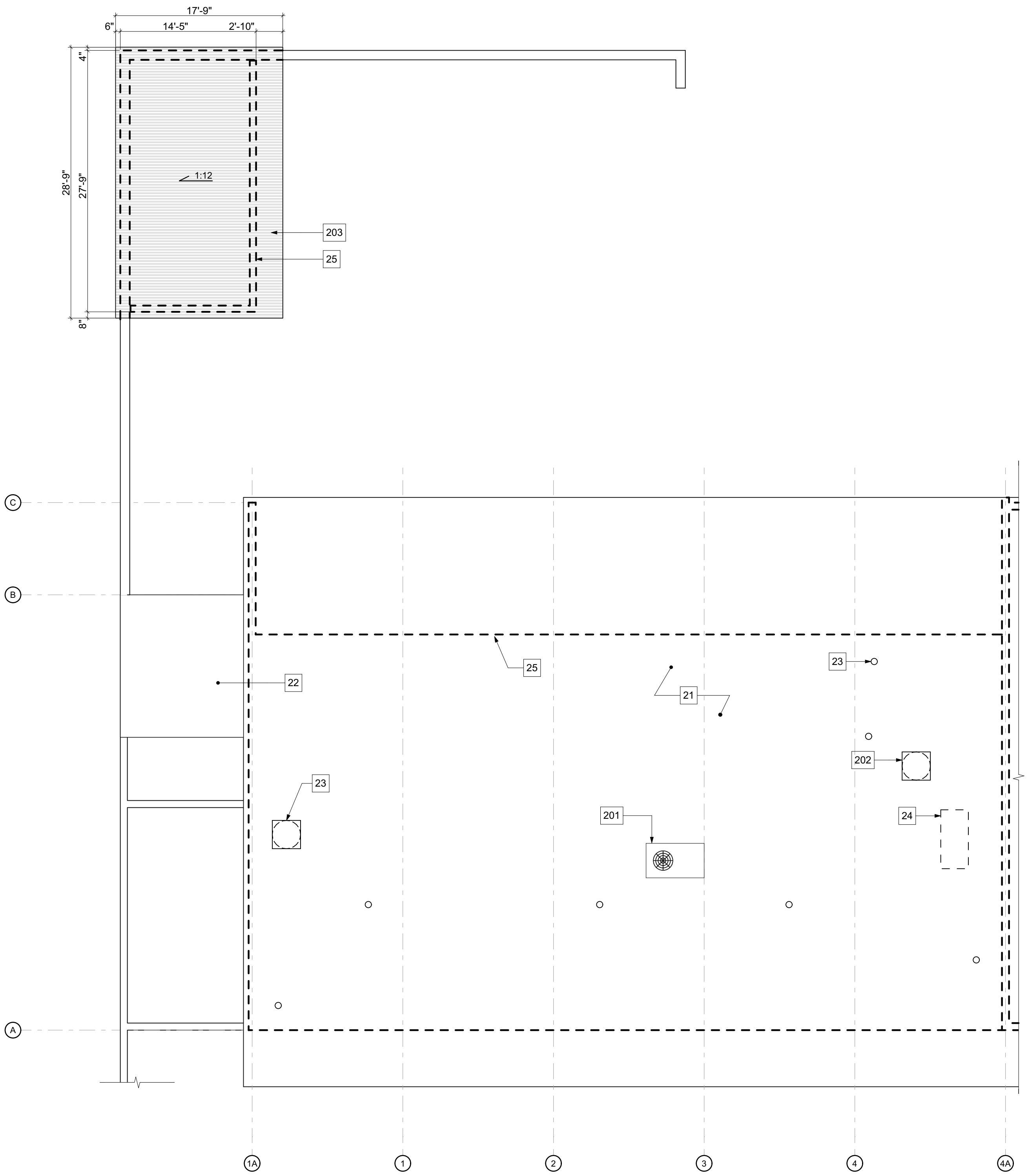
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 NOTES:

CEILING PLAN KEYNOTES:

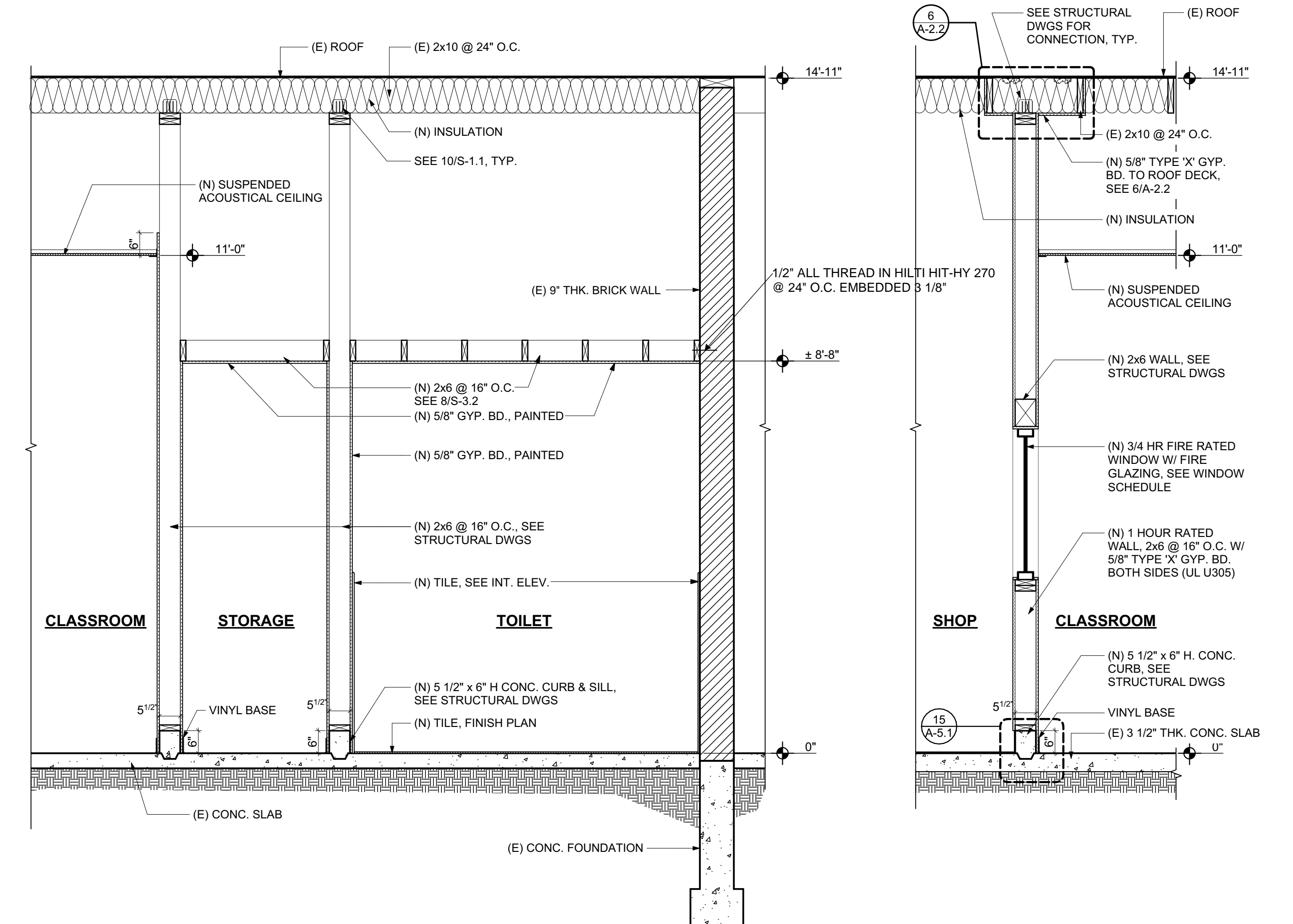
01. REMOVE (E) ACOUSTICAL CEILING TILES & INSULATION, TYP.
02. REMOVE (E) HEATERS & DUCTWORK. PATCH & SEAL BUILDING OPENINGS TO MATCH ADJ. SURFACE, TYP. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION.
03. REMOVE (E) HOOD, DUCT & EXHAUST FAN ON ROOF. PATCH & SEAL BUILDING OPENINGS TO MATCH ADJ. SURFACE, TYP.
04. REMOVE (E) LIGHT FIXTURES, TYP. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.
05. (E) EXTERIOR SOFFIT TO REMAIN, TYP.
06. (E) EXPOSED BEAMS TO REMAIN, TYP.
07. (E) BRIDGE CRANE/ HOIST BEAM TO REMAIN
08. (E) MECHANICAL DUCTWORK, TYP. SEE MECH. DWGS FOR MORE INFORMATION.
101. NEW ROLL UP DOOR HOUSING, TYP. OF (6), SEE 8/A-5.2
102. PROVIDE (N) LIGHT FIXTURES THROUGHOUT, TYP. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.
103. PROVIDE (N) R30 INSULATION WITH VAPOR BARRIER FACING, TYP., THROUGHOUT
104. PROVIDE (N) SUSPENDED ACOUSTICAL CEILING, SEE DETAIL 3/A-5.3.
105. EXPOSED CEILING IN STORAGE
106. PROVIDE (N) RADIANT HEATERS, TYP. OF (4), SEE MECHANICAL DWGS FOR MORE INFORMATION.
107. PROVIDE (N) GYP. BD. CEILING, PAINTED.
108. PAINT (E) BEAM, CEILING, SOFFIT
109. PROVIDE (N) BIGSASSFANS "YELLOW JACKET" W/ SWIVEL & OSCILLATOR, TYP. OF (3), MOUNT TO (E) 18 WF 50 BEAMS, TYP., PER MANUFACTURER'S RECOMMENDATIONS. SEE 15/A-5.2.
110. PAINT (N) & (E) DUCTWORK & PIPES, TYP.
111. (O.F.C.I.) PROJECTOR, SEE DETAIL 20/A-5.3.

ROOF PLAN KEYNOTES:

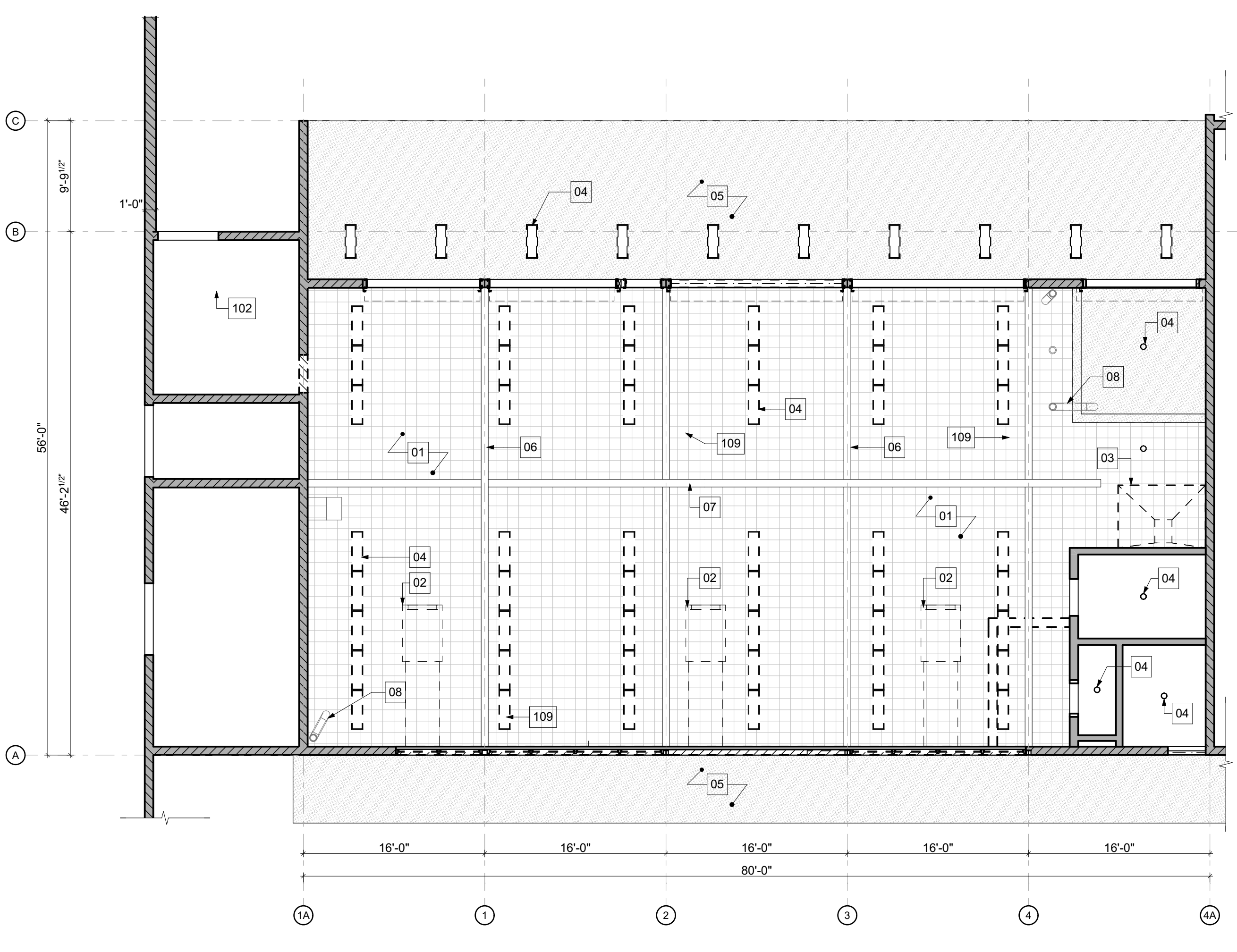
21. EXISTING ROOF TO REMAIN, PATCH & REPAIR AS REQUIRED FOR NEW WORK, TYP.
22. EXISTING LOWER ROOF TO REMAIN, TYP.
23. (E) MECH. EQMT., SEE MECH. DWGS FOR MORE INFORMATION, TYP.
24. (E) EXHAUST & HOOD BELOW, TO BE REMOVED. SEE MECH. DWGS FOR MORE INFORMATION. PATCH & SEAL BUILDING OPENINGS TO MATCH ADJ. SURFACE, TYP.
25. LINE OF WALL BELOW
201. NEW RTU, SEE MECHANICAL DRAWINGS FOR MORE INFO. SEE STRUCTURAL DWGS FOR FRAMING.
202. NEW EXHAUST FAN PER MECHANICAL DRAWINGS.
203. NEW CLASS 'A' METAL PANEL ROOF, AEP SPAN HR-36, 18 GA., 1:12 SLOPE. 512 S.F. x 2.36 LBS / S.F. = 1,209 LBS.



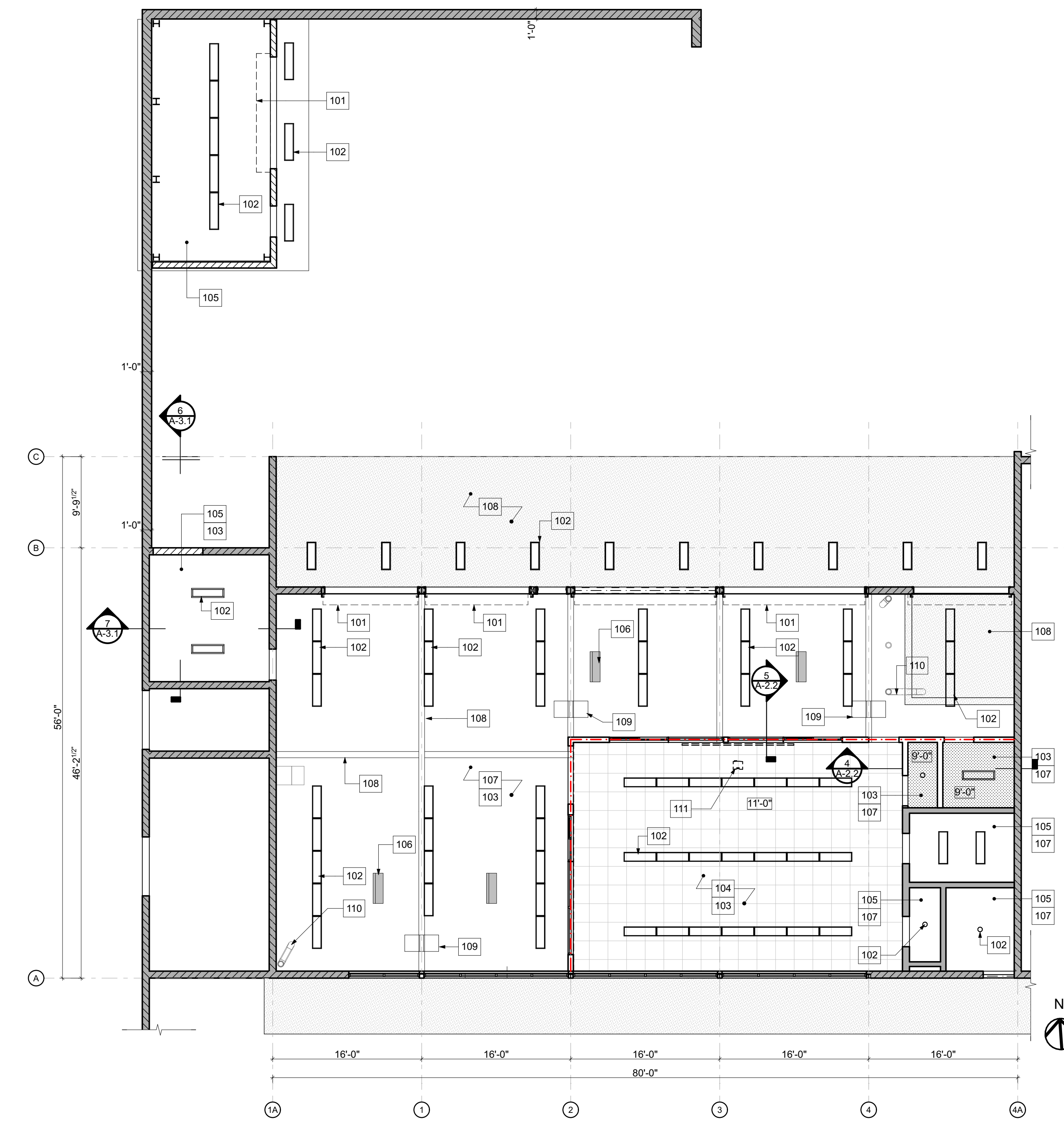
ROOF PLAN
 SCALE: 1/8" = 1'-0"
3



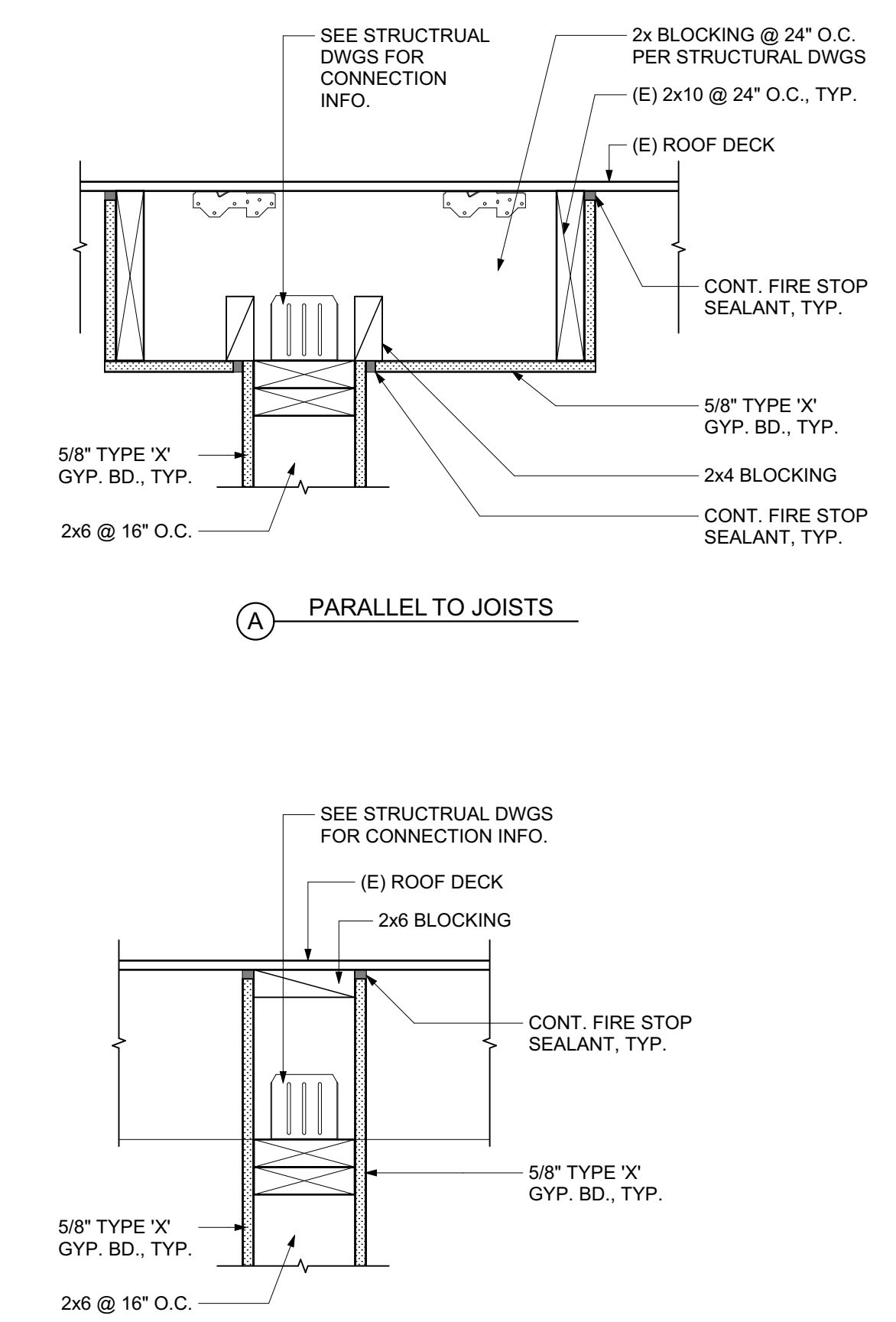
RESTROOM WALL SECTION 4
 SCALE: 1/2" = 1'-0"
(N) CLASSROOM WALL 5
 SCALE: 1/2" = 1'-0"



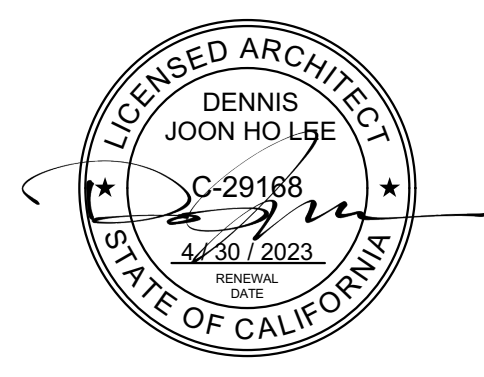
EXISTING / DEMO REFLECTED CEILING PLAN
 SCALE: 1/8" = 1'-0"
2



REFLECTED CEILING PLAN
 SCALE: 1/8" = 1'-0"
1



1 HR. FIRE RATING AT TOP CONNECTION
 SCALE: 1 1/2" = 1'-0"
6



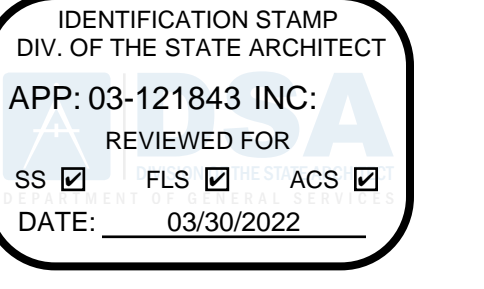
PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL
 2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748
 CLIENT:
 ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTAL REVISIONS:
 1. DESIGN DEVELOPMENT 4/23/2021
 2. CONSTRUCTION DOCUMENTATION 7/22/2021
 3. DSA SUBMITTAL 10/8/2021

PROJECT NO: 202016
 SCALE: AS SHOWN
 DATE: 2/7/2022
 DRAWN BY: ED / FW
 CHECKED BY: DL
 SHEET TITLE:
DEMO & PROPOSED REF. CLNG. PLANS, ROOF PLAN, SECTIONS

SHEET NO:
A-2.2

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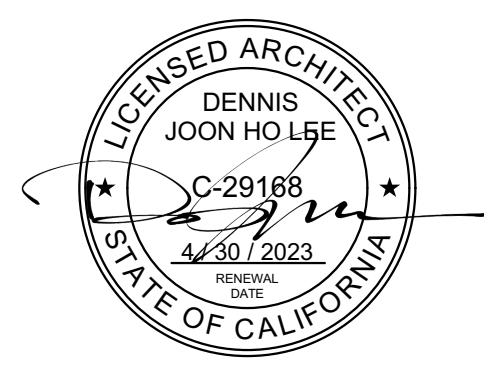
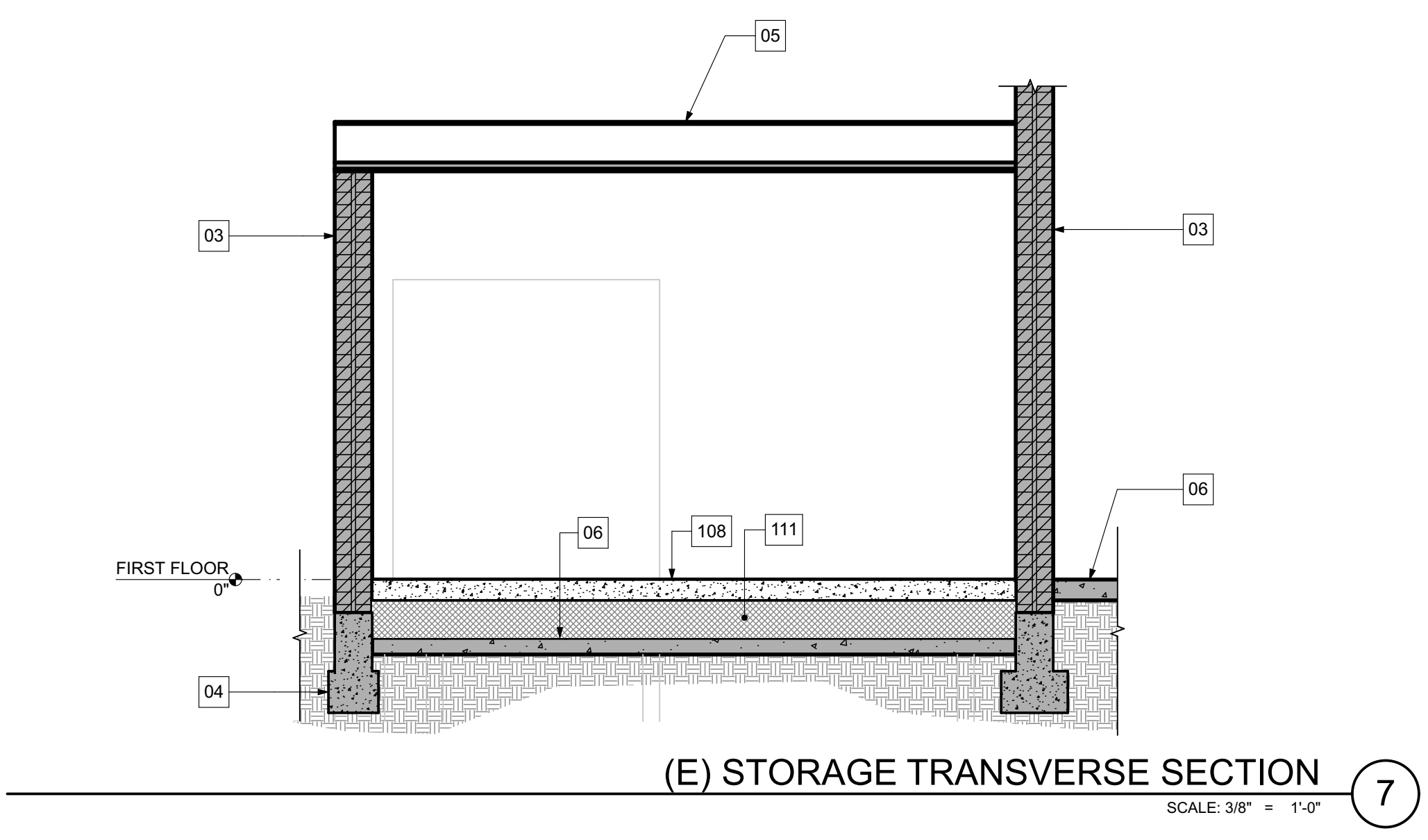
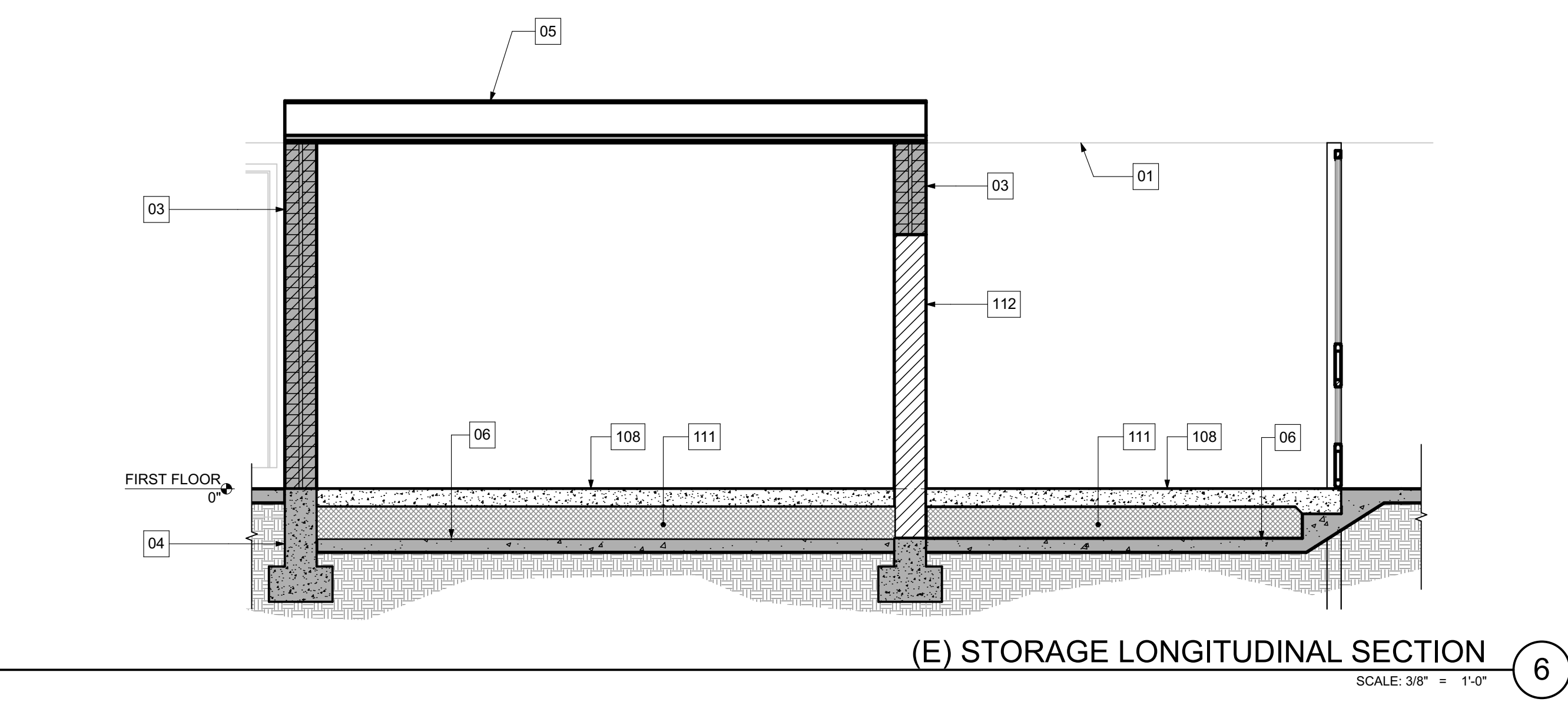
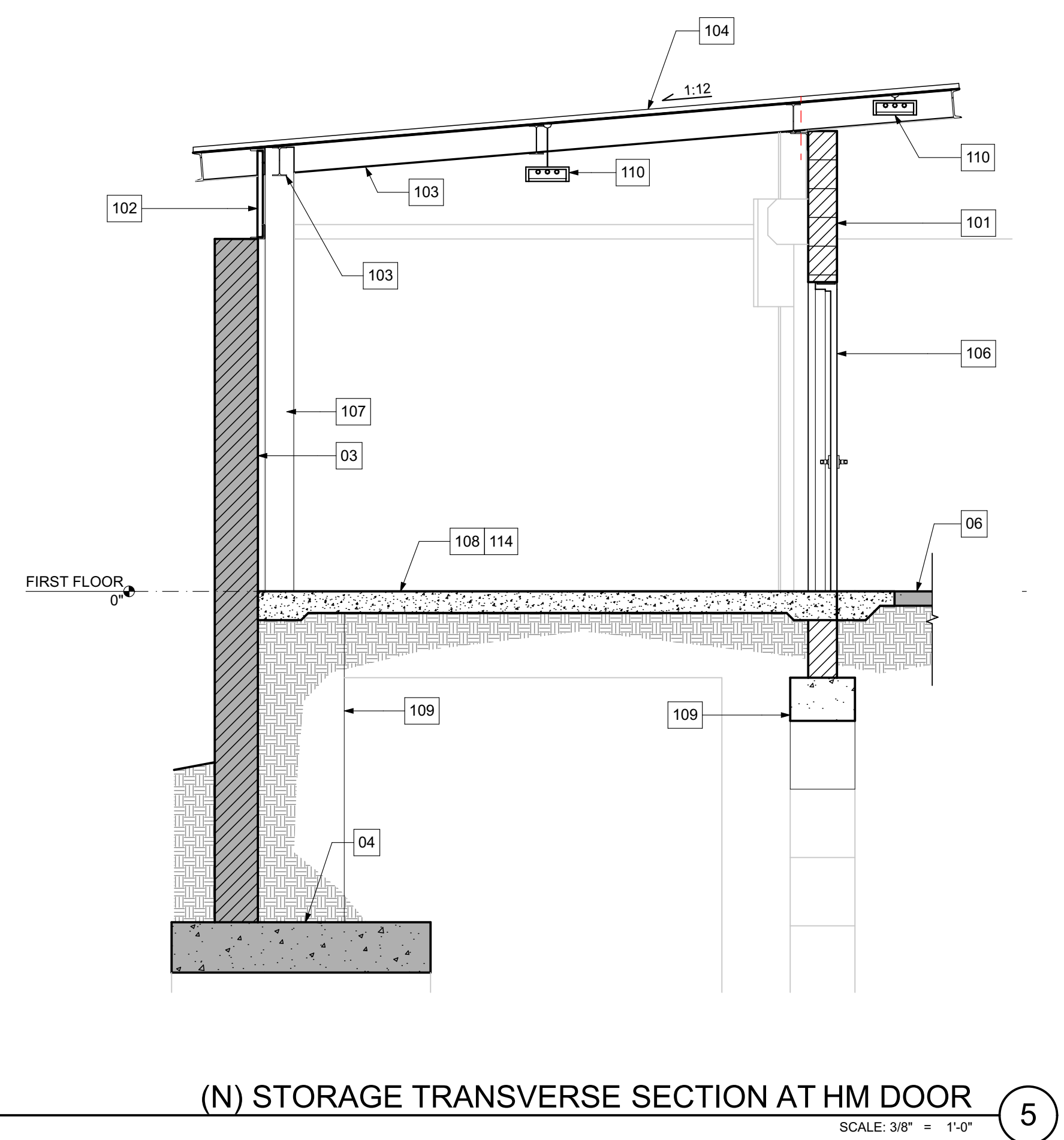
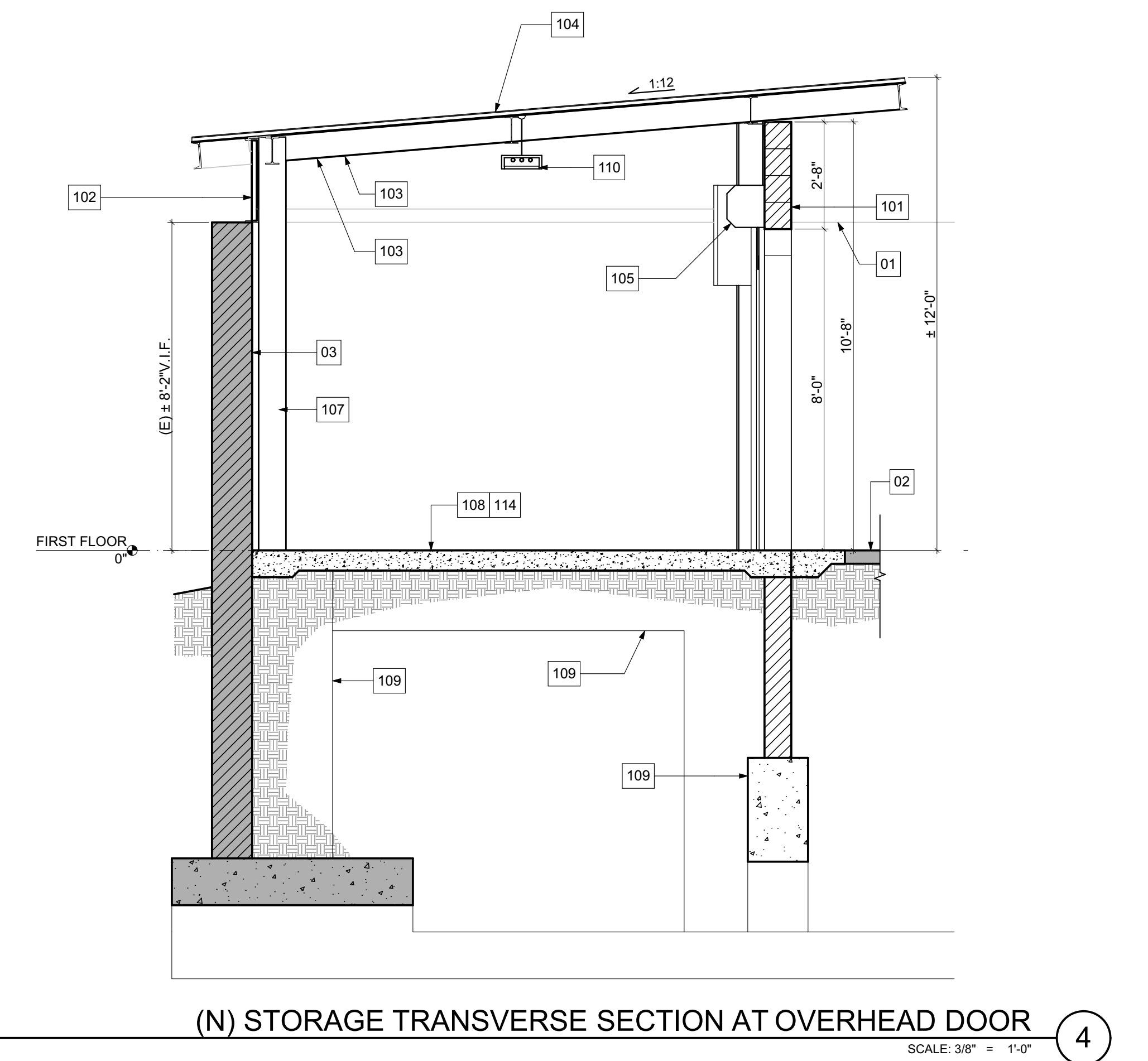
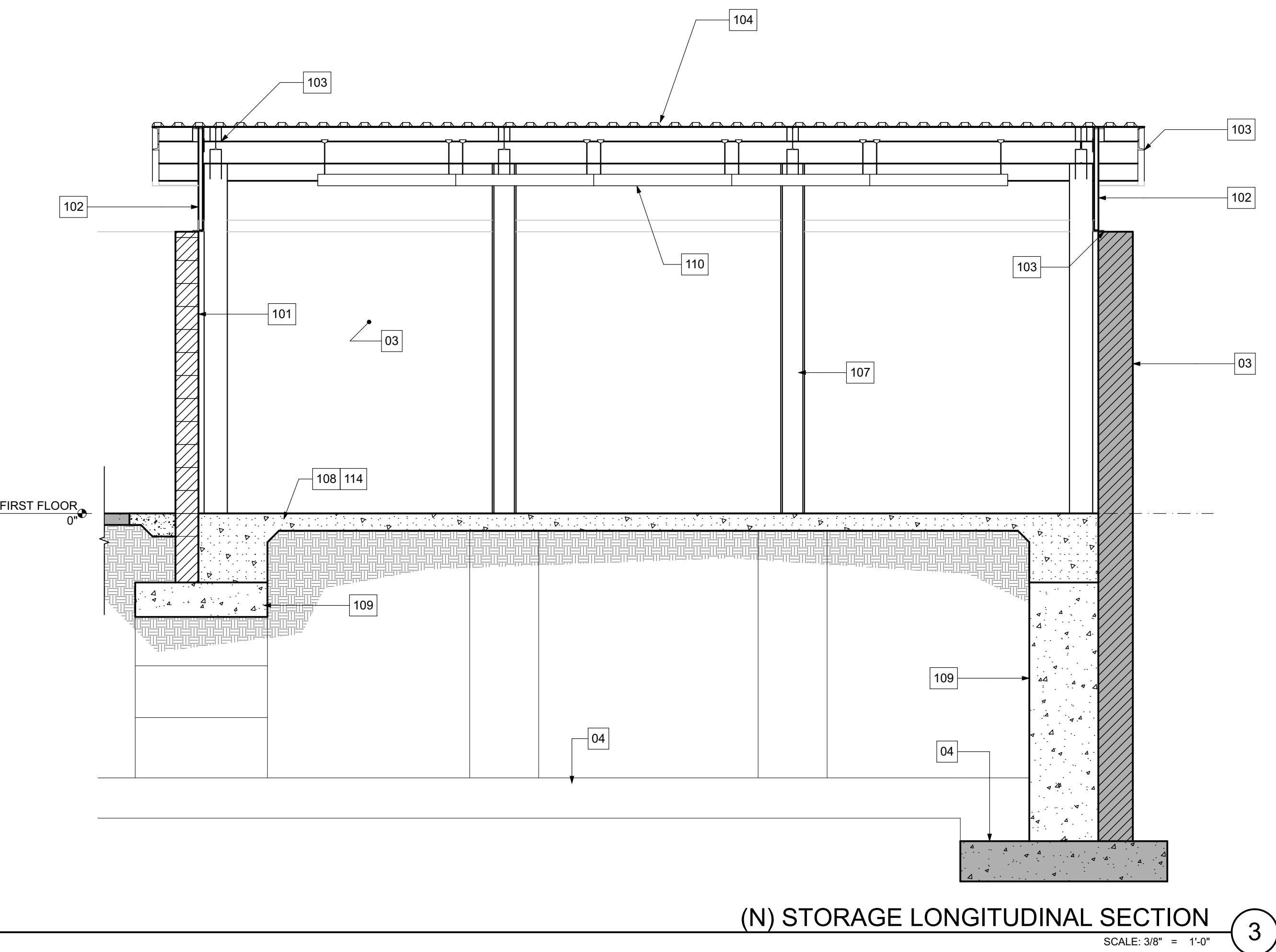
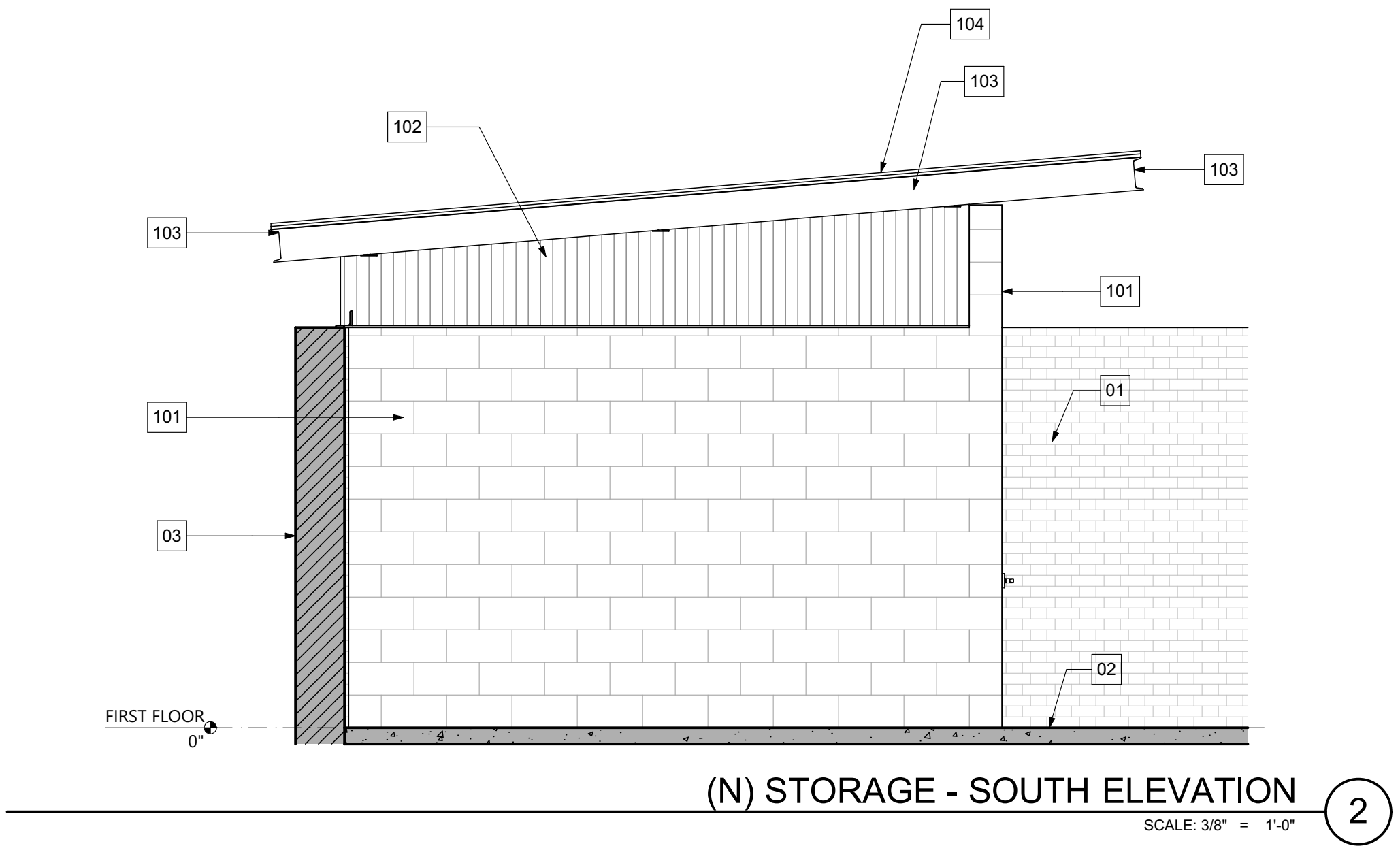
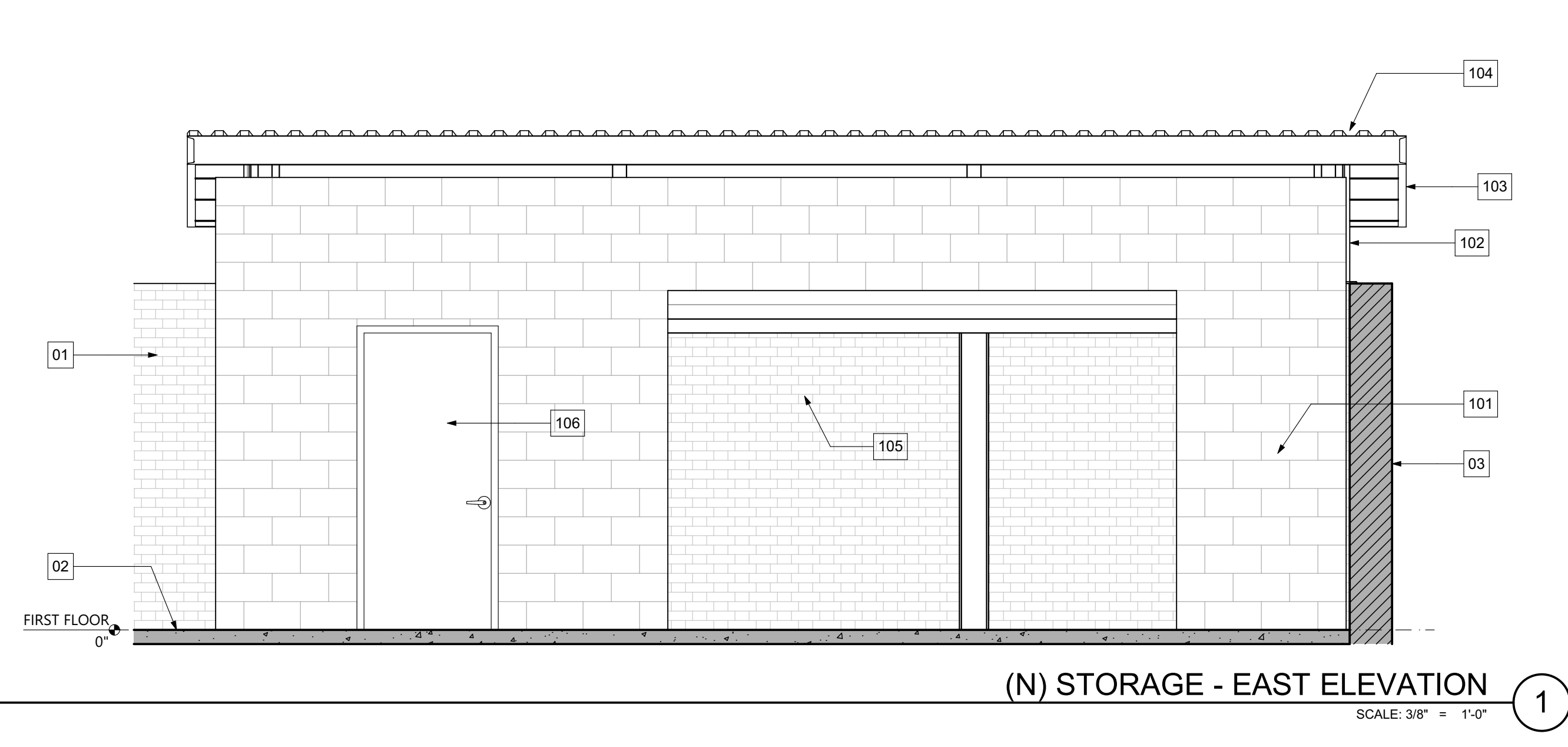
ARCHITECT:
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 680 Brea Canyon Road, Suite 178
 Diamond Bar, California 91789
 Office: 909-598-0186
 Dennis J. Lee, NCARB dennis@coar.design.com

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 NOTES:

SECTION/ ELEVATION KEYNOTES:

01. EXISTING MASONRY WALL BEYOND
02. EXISTING FINISH GRADE
03. EXISTING REINFORCED MASONRY WALL
04. EXISTING FOOTING
05. EXISTING ROOF & FRAMING TO REMAIN
06. EXISTING SLAB TO REMAIN

101. NEW CMU WALL, ORCO "LADERA RED MW SPLIT FACE", SEE STRUCTURAL DWGS FOR MORE INFO.
102. NEW METAL PANEL, AEP SPAN HR-36. SEE DETAIL 5/S-2.1
103. NEW STEEL FRAMING, SEE STRUCTURAL DWGS, TYP.
104. NEW METAL PANEL ROOF, AEP SPAN HR-36. SEE DETAIL 5/S-2.1
105. PROVIDE NEW AUTOMATIC ROLL UP DOORS, TYP. OF (6), CORNELL SERVICE DOOR ESD10 OR EQUAL. SEE DOOR SCHEDULE. SEE DETAILS 1-8/A-5.2 FOR MORE INFORMATION.
106. NEW HOLLOW METAL DOOR & FRAME, SEE 16/A-5.2
107. NEW STEEL COLUMN, SEE STRUCTURAL DWGS, TYP.
108. NEW CONCRETE SLAB, SEE STRUCTURAL DWGS.
109. NEW CONCRETE FOUNDATION, TYP. SEE STRUCTURAL DWGS.
110. NEW LIGHT FIXTURE, TYP. SEE ELEC. DWGS.
111. NEW EPS FOAM, SEE STRUCTURAL DRAWINGS.
112. NEW CMU IN-FILL WALL, SEE 8/S-3.1. PROVIDE BRICK VENEER ON EXTERIOR TO MATCH (E) BRICK MASONRY WALL.
113. NEW GATE, SEE 4/A-2.1
114. PROVIDE NEW CHEMICAL-RESISTANT COATING PER SPECS.



PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748

CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTAL REVISIONS:


1. DESIGN DEVELOPMENT	4/22/2021
2. CONSTRUCTION DOCUMENTATION	7/22/2021
3. DSA SUBMITTAL	10/8/2021

PROJECT NO: 202016
 SCALE: AS SHOWN
 DATE: 1/11/2022
 DRAWN BY: ED /FW
 CHECKED BY: DL

SECTIONS / EXTERIOR ELEVATIONS

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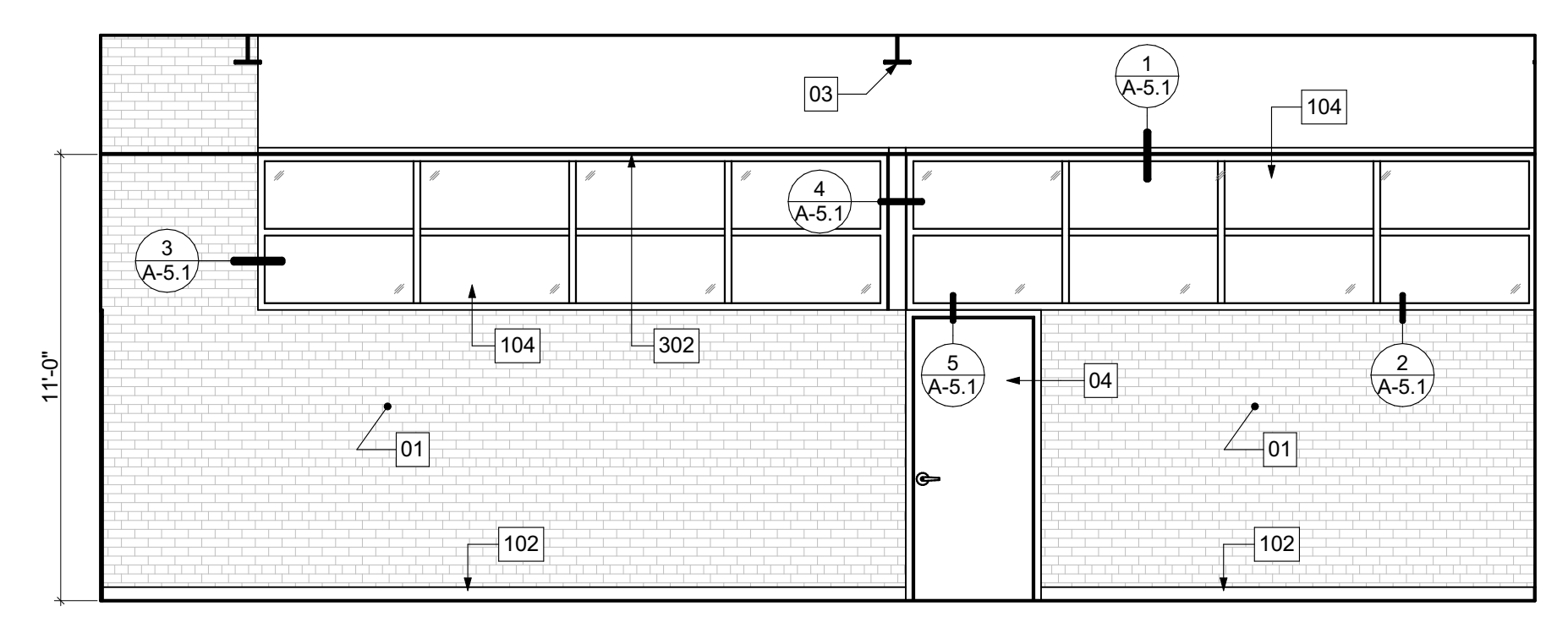
IDENTIFICATION STAMP
 DIV. OF THE STATE ARCHITECT
 APP: 03-121843 INC.
 REVIEWED FOR
 SS FLS ACS
 DATE: 03/30/2022

ARCHITECT:
 **CO-AR DESIGN, INC.**
 680 Brea Canyon Road, Suite 178
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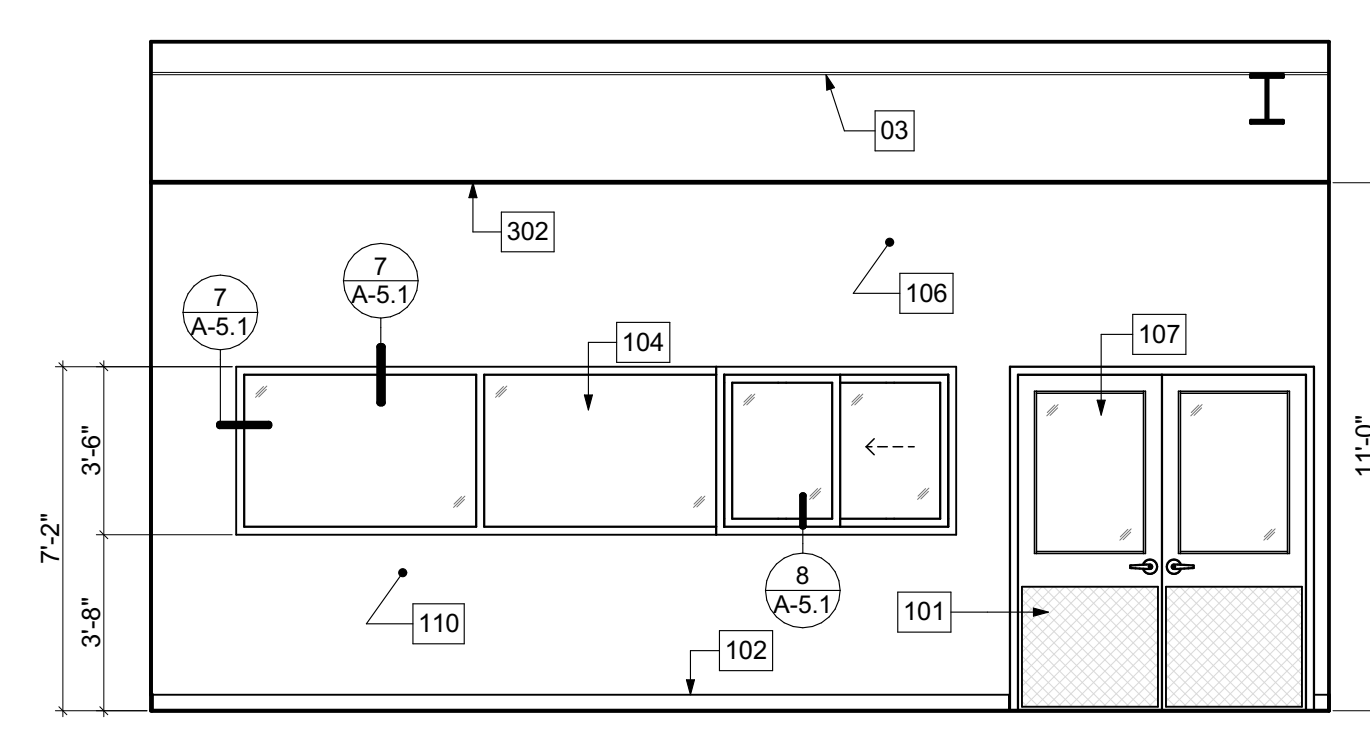
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 NOTES:

ENL. PLAN / INT. ELEV. KEYNOTES:

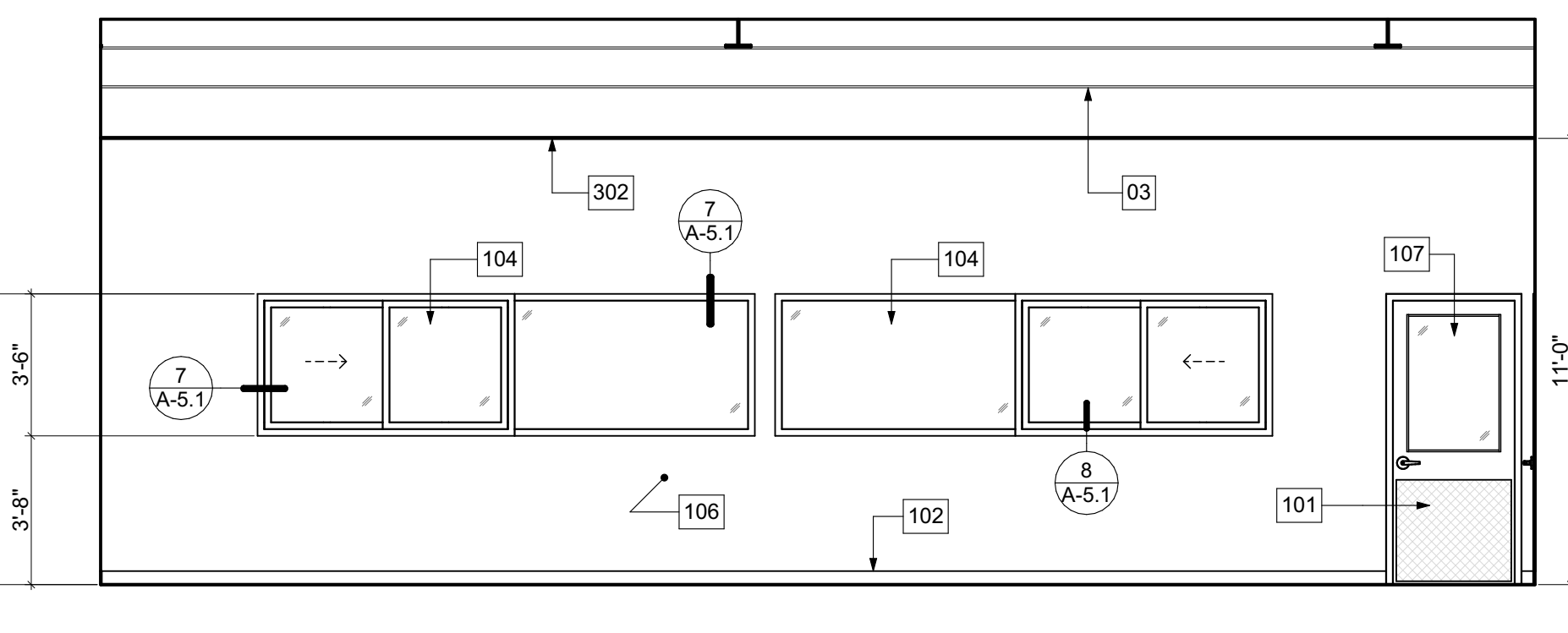
- 01 (E) BRICK WALL, PAINTED
- 02 (E) PLYWOOD FINISH, STAINED
- 03 (E) STRUCTURE, TYP. PAINTED
- 04 (E) DOOR, PAINTED
- 101 NEW STAINLESS STEEL DIAMOND PLATE WAINSCOT / KICK PLATE, 125" THK TYPE 304 S.S., PROVIDE TOP & CORNER TRIMS. (TYP.)
- 102 VINYL BASE, (TYP.)
- 103 EPOXY BASE OVER CONCRETE CURB
- 104 NEW WINDOW, SEE WINDOW SCHEDULE, TYP.
- 105 NEW 5/8" GYP. BD., PAINTED (ACCENT COLOR)
- 106. NEW 5/8" GYP. BD., PAINTED
- 107. NEW DOOR, FRAME & HARDWARE PER SCHEDULE, SEE 6/A-5.1.
- 201. PROVIDE NEW ACORN 3424 ADA WASH STATION, SEE PLUMBING DRAWINGS.
- 202. PROVIDE (N) WALL HUNG LAVATORY, SEE PLUMBING DRAWINGS AND 12/A-5.1.
- 203. PROVIDE (N) ACCESSIBLE WATER CLOSET, SEE PLUMBING DRAWINGS FOR MORE INFORMATION. SEE 12/A-5.1.
- 204. NOT USED
- 205. PROVIDE (N) GLASS MIRROR WITH S.S. ANGLE FRAME, BOBRICK B-290 1836 OR EQ., SEE 12/A-5.1.
- 206. PROVIDE (N) WALL MOUNTED SEAT COVER DISPENSER, BOBRICK B-221 OR EQ., SEE 12/A-5.1.
- 207. PROVIDE (N) GRAB BARS, BOBRICK B-6806 OR EQ., SEE 12 & 13/A-5.1
- 208. PROVIDE (N) SOAP DISPENSER, PER DISTRICT STANDARDS.
- 209. PROVIDE (N) PAPER TOWEL DISPENSER, PER DISTRICT STANDARDS. SEE 12/A-5.1.
- 210. PROVIDE (N) HAND DRYER PER DISTRICT STANDARDS. SEE 12/A-5.1.
- 211. PROVIDE (N) TOILET TISSUE DISPENSER, PER DISTRICT STANDARDS. SEE 12/A-5.1.
- 212. PROVIDE (N) ACCESSIBLE RESTROOM WALL SIGN, SEE 9/A-5.1
- 213. PROVIDE (N) ACCESSIBLE RESTROOM DOOR SYMBOLS, SEE 10/A-5.1
- 214. NEW FLOOR TILE THROUGHOUT, TYP. DAL TILE, HAUTE MONDE, COLOR: GLITTERATI GRANITE HMO3, UNPOLISHED, 2"X2" MOSAIC.
- 215. NEW 6" FLAT TOP COVE BASE TILE, TYP. DAL TILE, WALL CLASSIC, COLOR: WHITE 0100, SEMI-GLOSS, 6"X6" A3601
- 216. NEW WALL TILE, TYP. DAL TILE, WALL CLASSIC, COLOR: WHITE 0100, SEMI-GLOSS, 6"X6"
- 217. NEW WALL ACCENT TILE, TYP. DAL TILE, WALL CLASSIC, COLOR: WATERFALL 0169, SEMI-GLOSS, 6"X6"
- 218. WALL TILE (SURFACE BULL NOSE), DAL TILE, WALL CLASSIC, COLOR: WHITE 0100, SEMI-GLOSS, 2"X6" S4269
- 219. PROVIDE NEW HAWS 7656WCSM EYE WASH STATION, SEE PLUMBING DRAWINGS
- 301. (N) CEILING JOISTS & GYP. BD. CEILING, PAINTED, SEE 10/S-3.1 & 8/S.2 FOR MORE INFO.
- 302. (N) T-BAR CEILING, SEE A-5.3 FOR DETAILS.



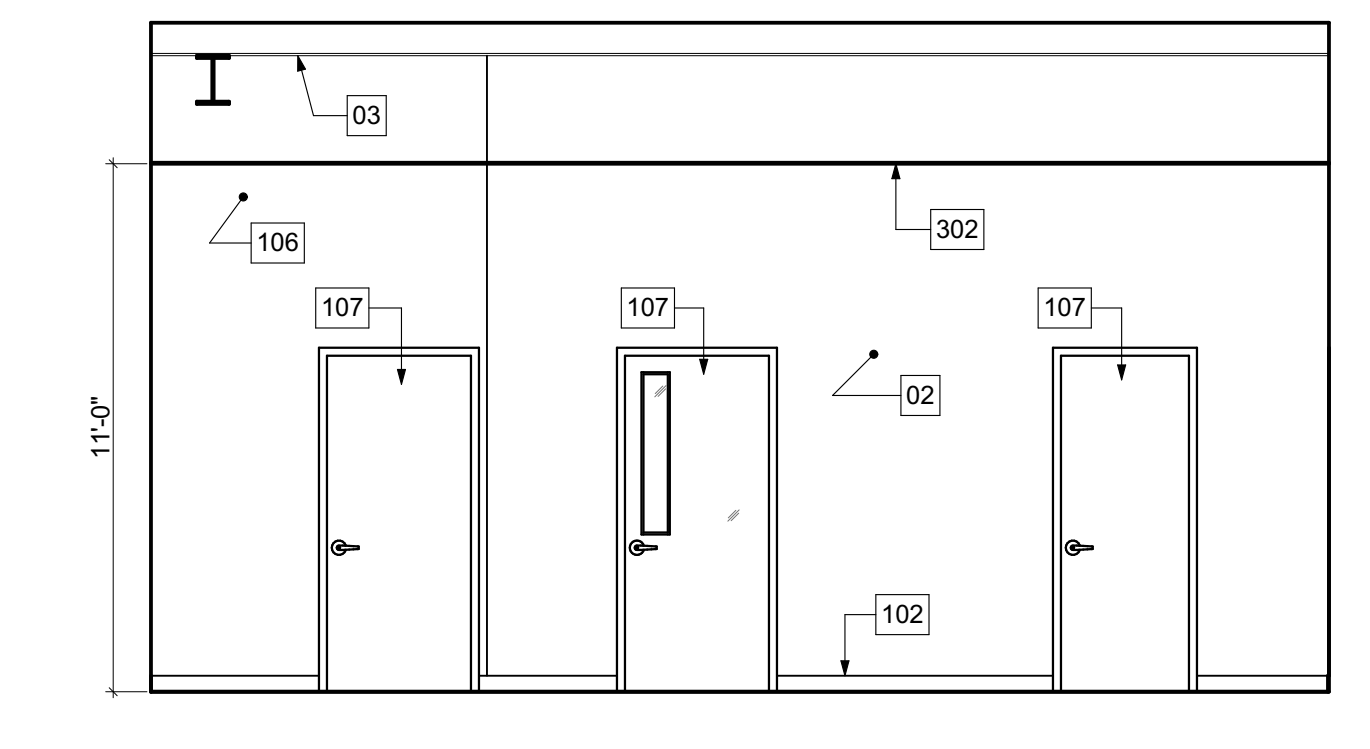
(N) CLASSROOM South 11
 SCALE: 1/4" = 1'-0"



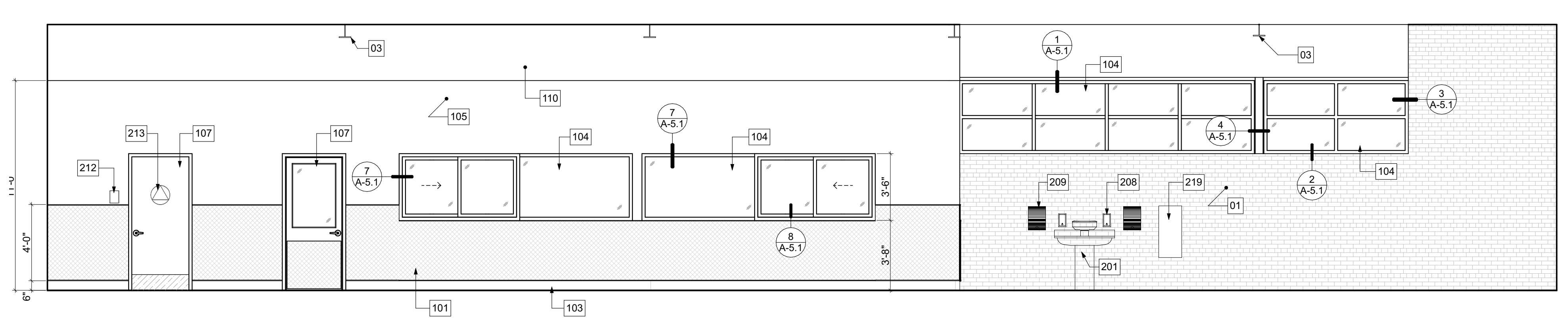
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 SCALE: 1/4" = 1'-0"



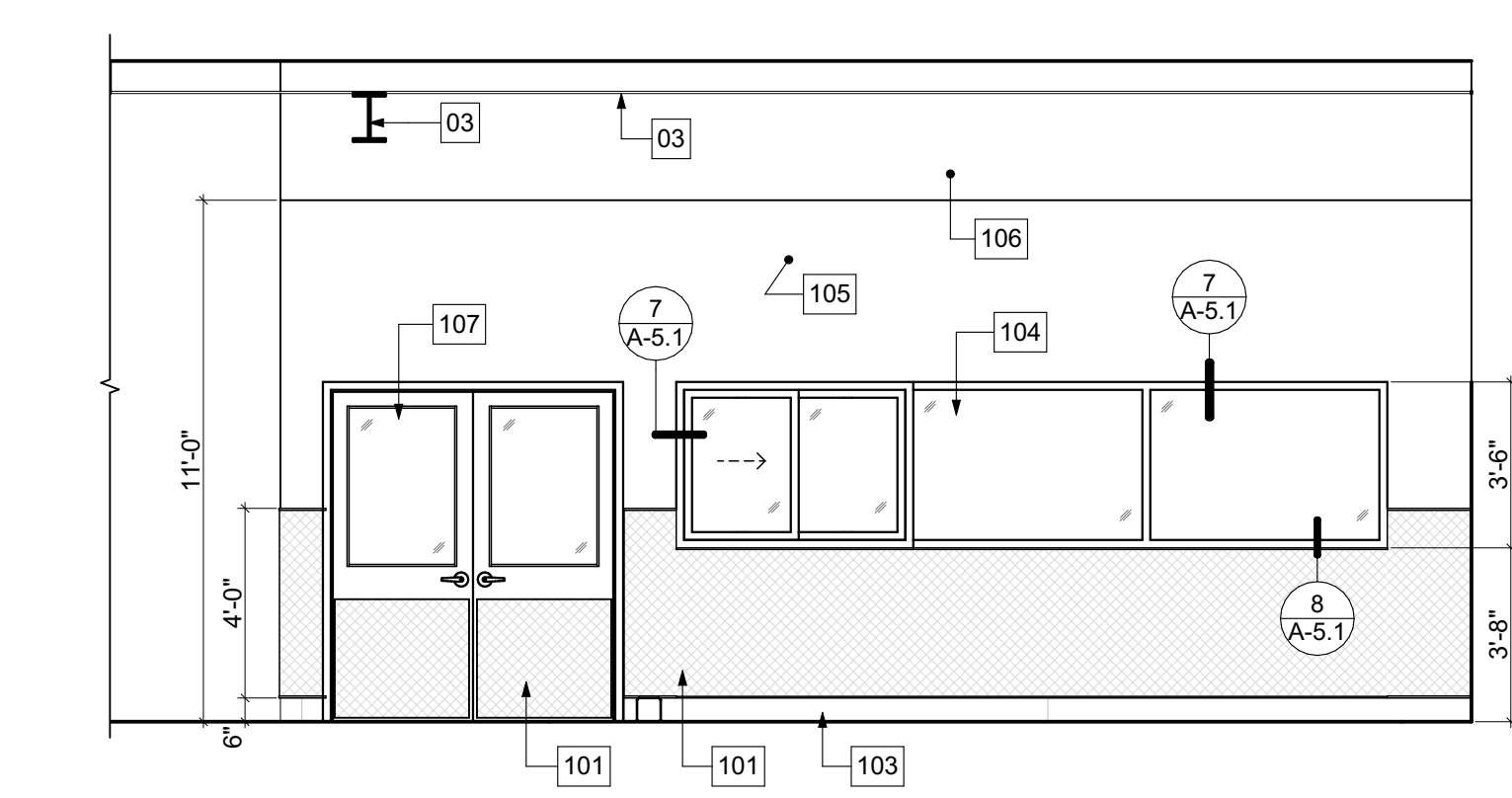
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 SCALE: 1/4" = 1'-0"



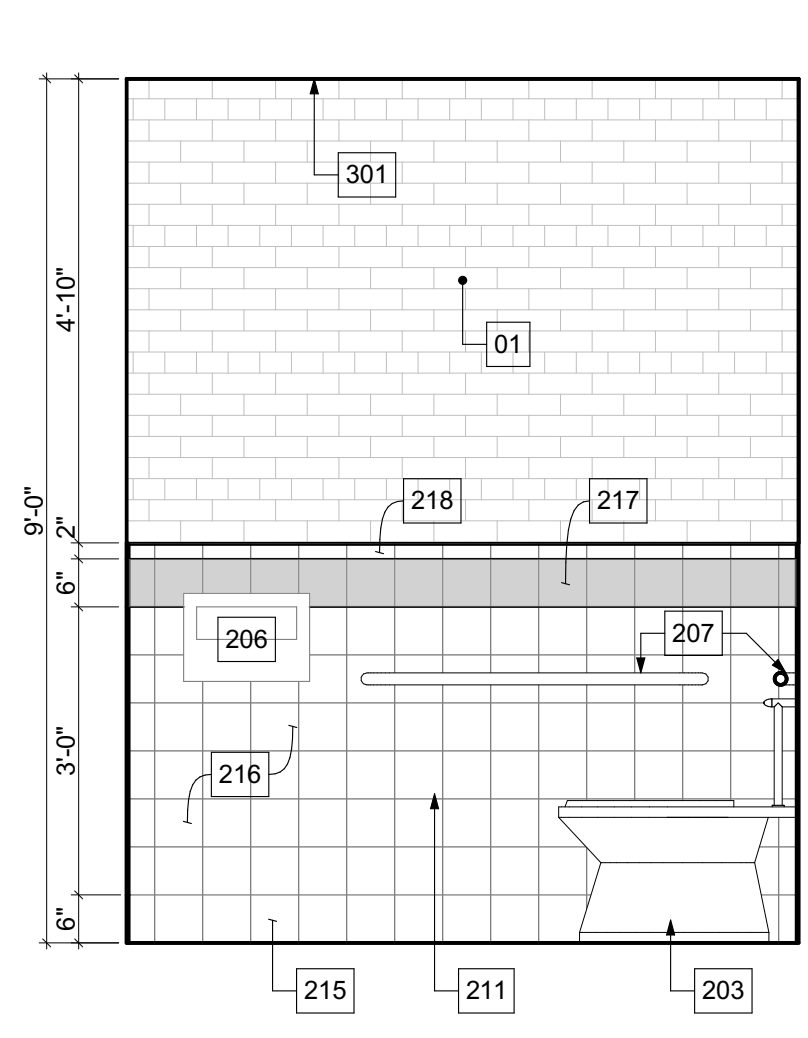
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 SCALE: 1/4" = 1'-0"



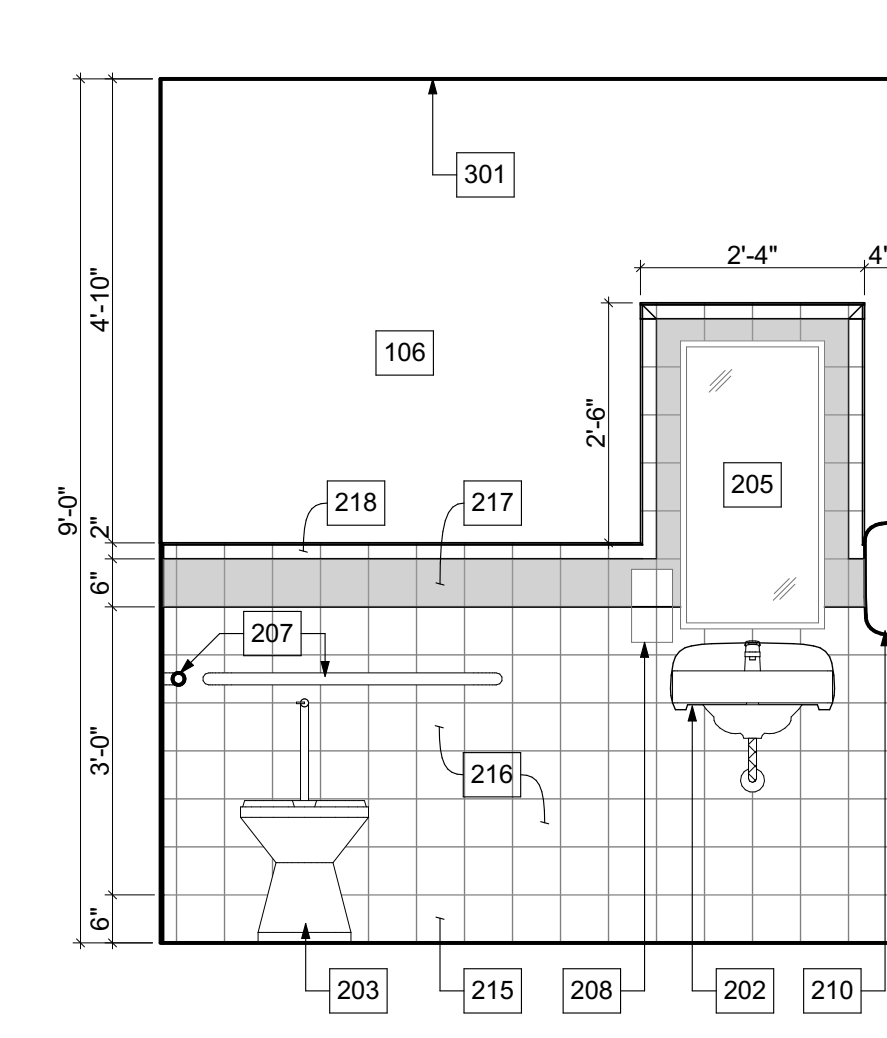
(N) AUTO SHOP South 7
 SCALE: 1/4" = 1'-0"



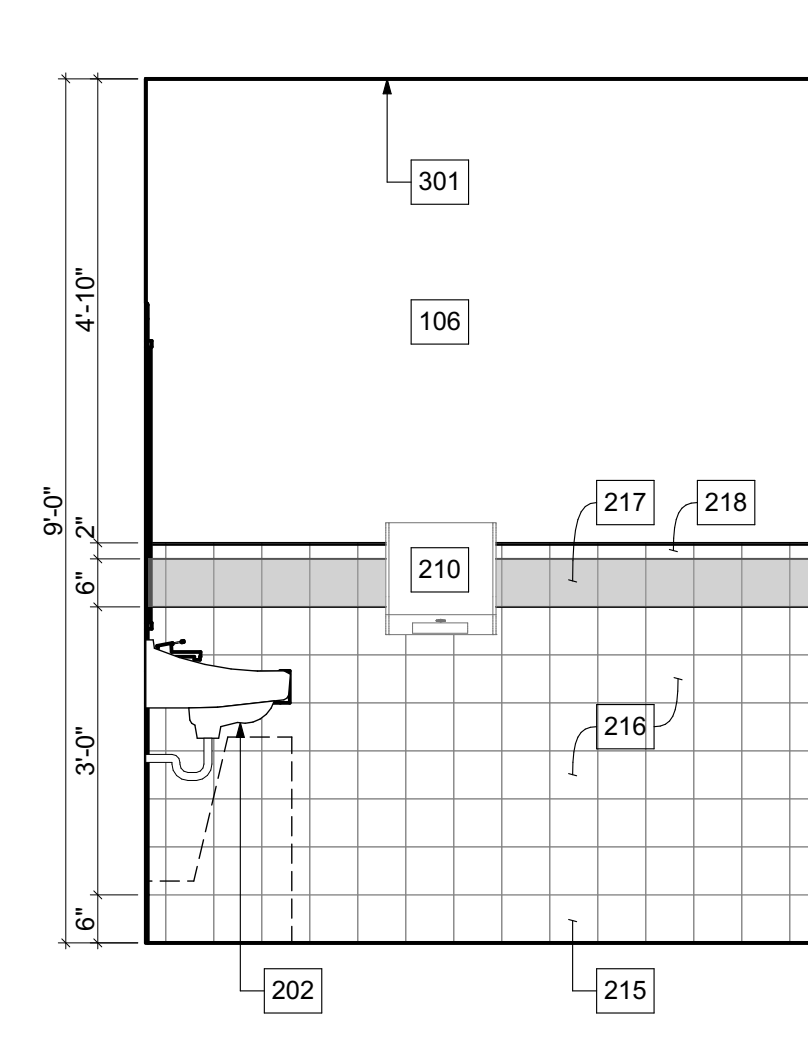
(N) AUTO SHOP East 6
 SCALE: 1/4" = 1'-0"



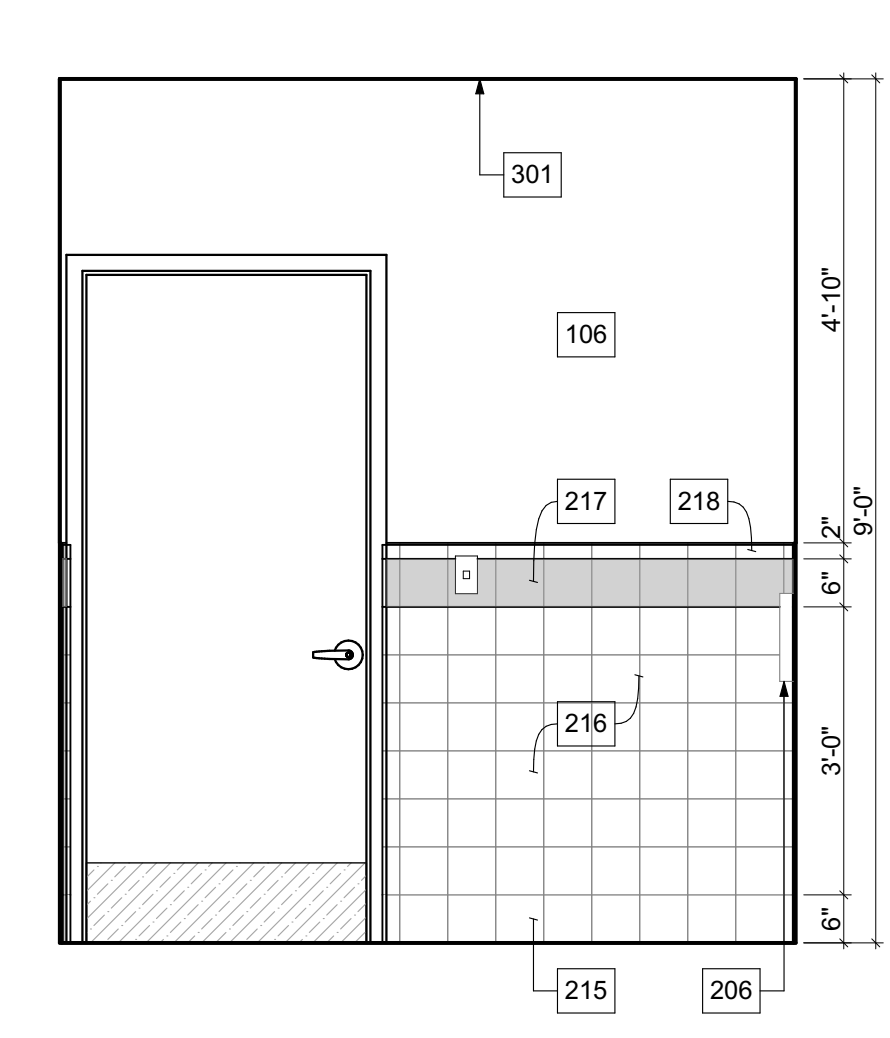
(N) TOILET East 5
 SCALE: 1/2" = 1'-0"



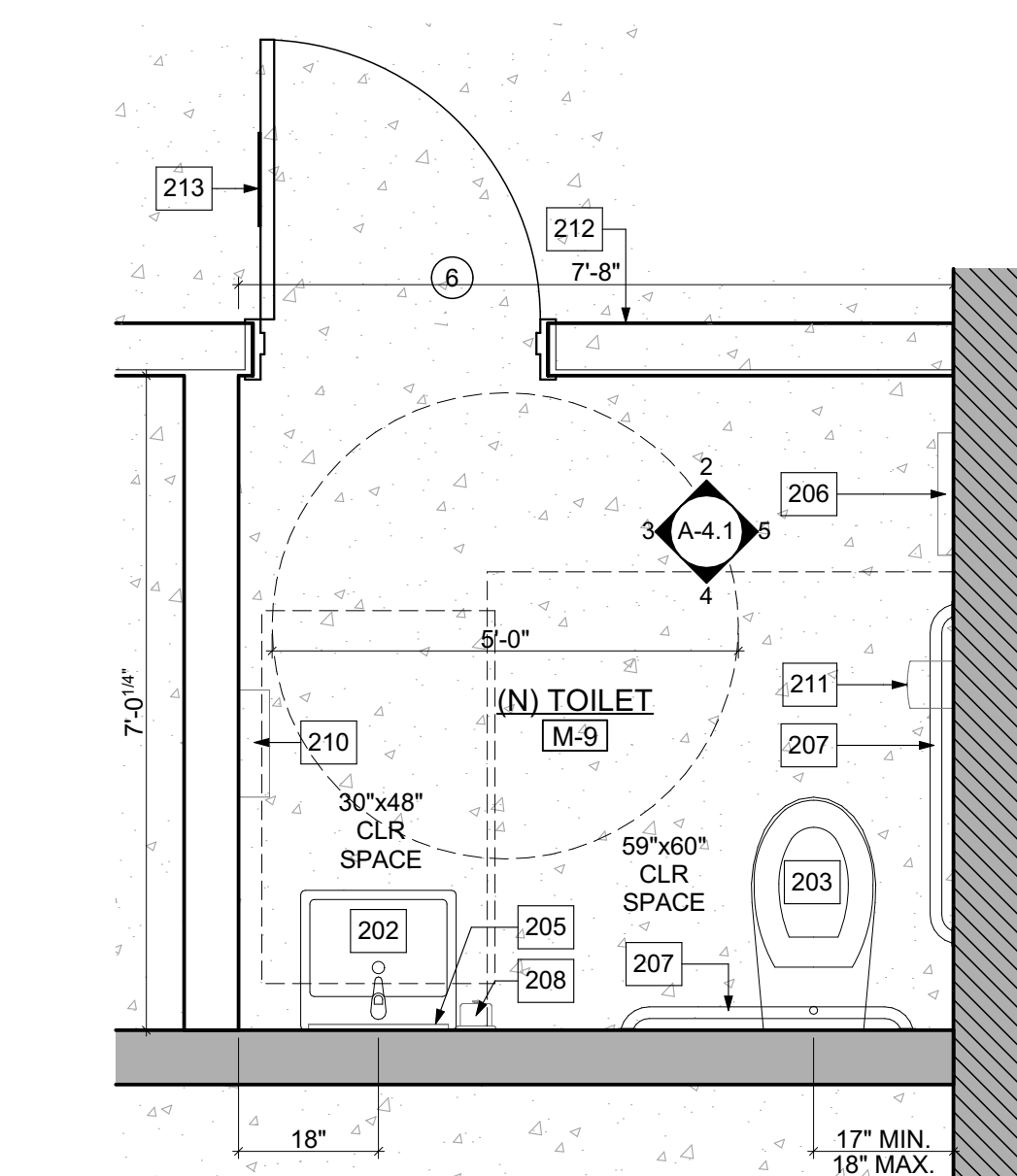
(N) TOILET South 4
 SCALE: 1/2" = 1'-0"



(N) TOILET West 3
 SCALE: 1/2" = 1'-0"



(N) TOILET North 2
 SCALE: 1/2" = 1'-0"



ENLARGED FLOOR PLAN 1
 SCALE: 1/2" = 1'-0"

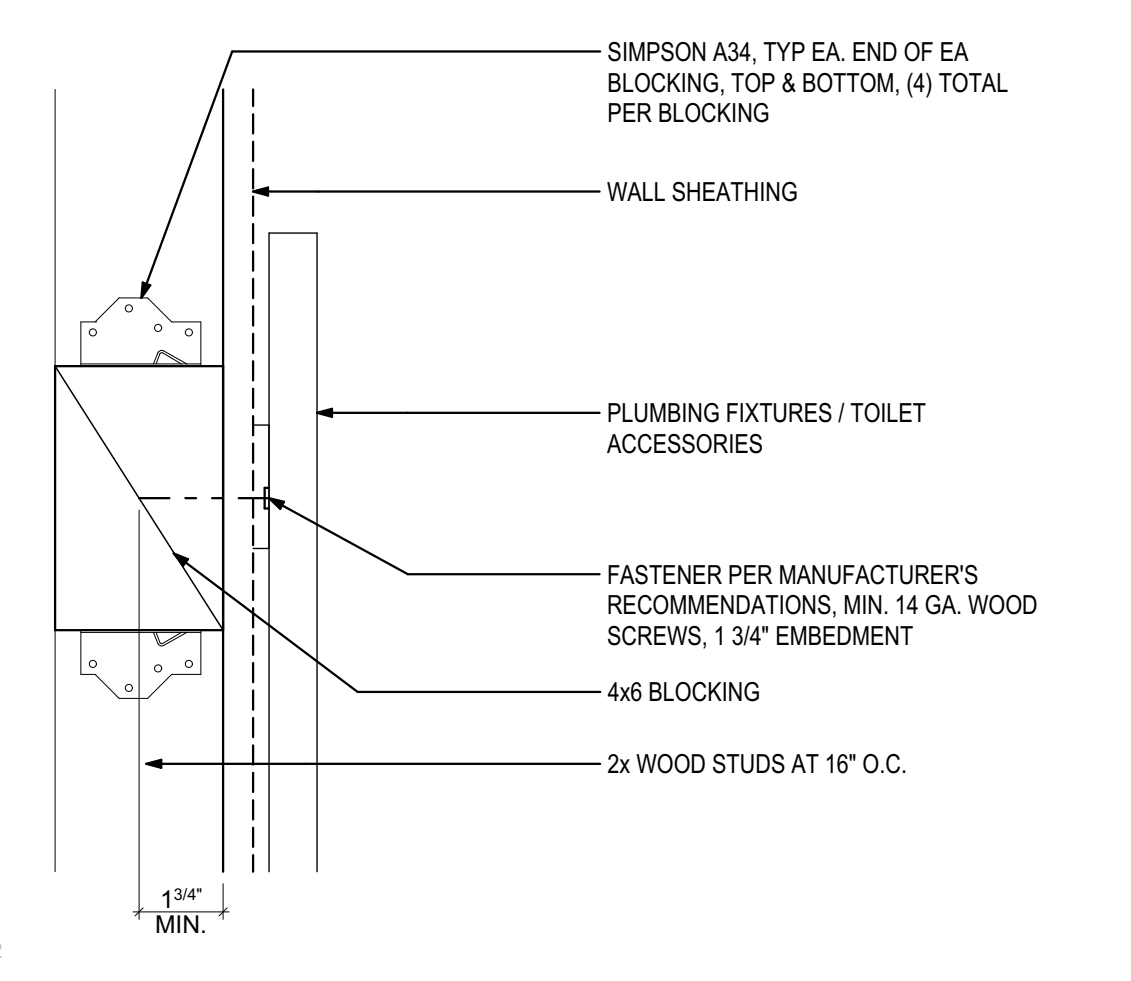
LICENSED ARCHITECT
 DENNIS JOON HO LEE
 C-29166
 4/30/2022
 STATE OF CALIFORNIA

PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL
 2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748
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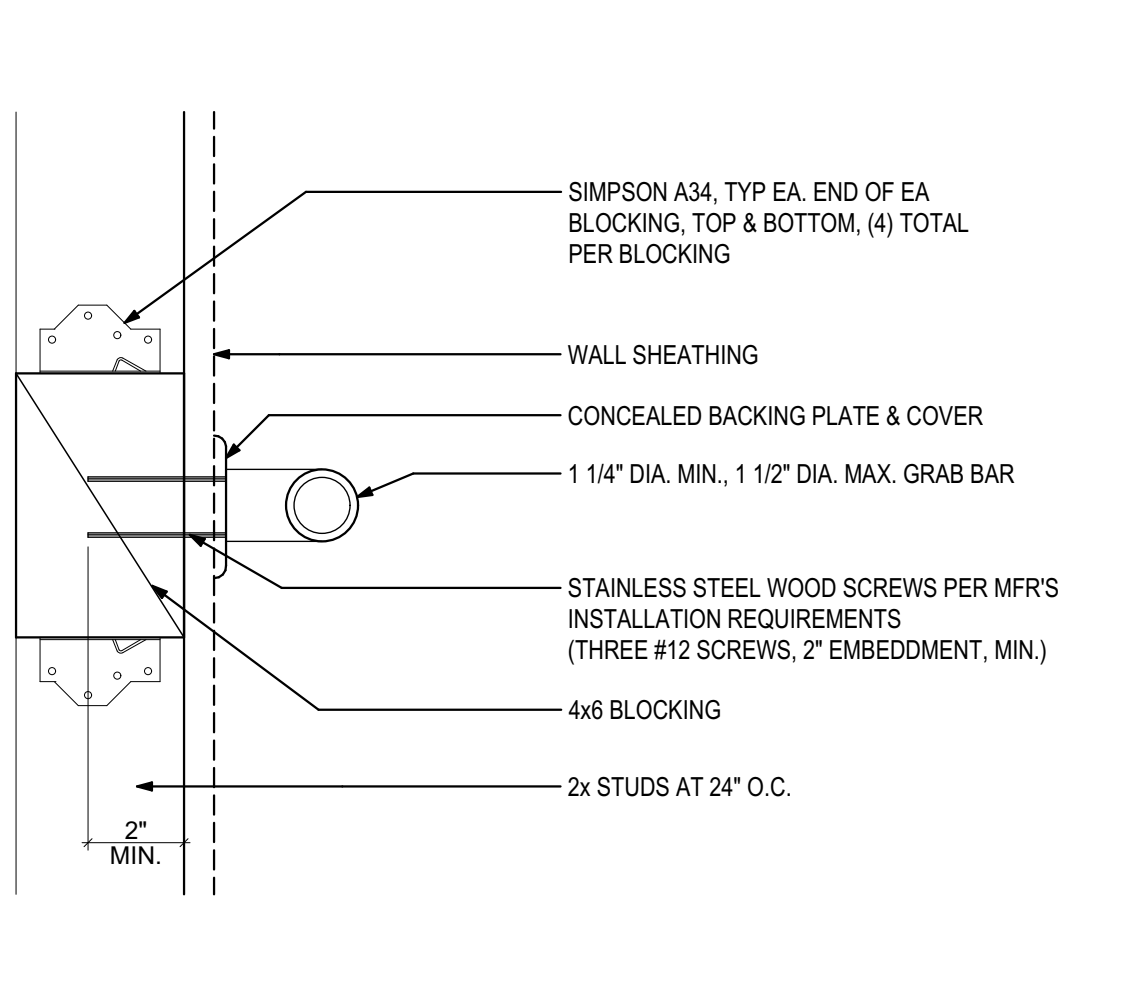
SUBMITTAL REVISIONS:
 1 DESIGN DEVELOPMENT 4/22/2021
 2 CONSTRUCTION DOCUMENTATION 7/22/2021
 3 DSA SUBMITTAL 10/8/2021

PROJECT NO: 202016
 SCALE: AS SHOWN
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 CHECKED BY: DL

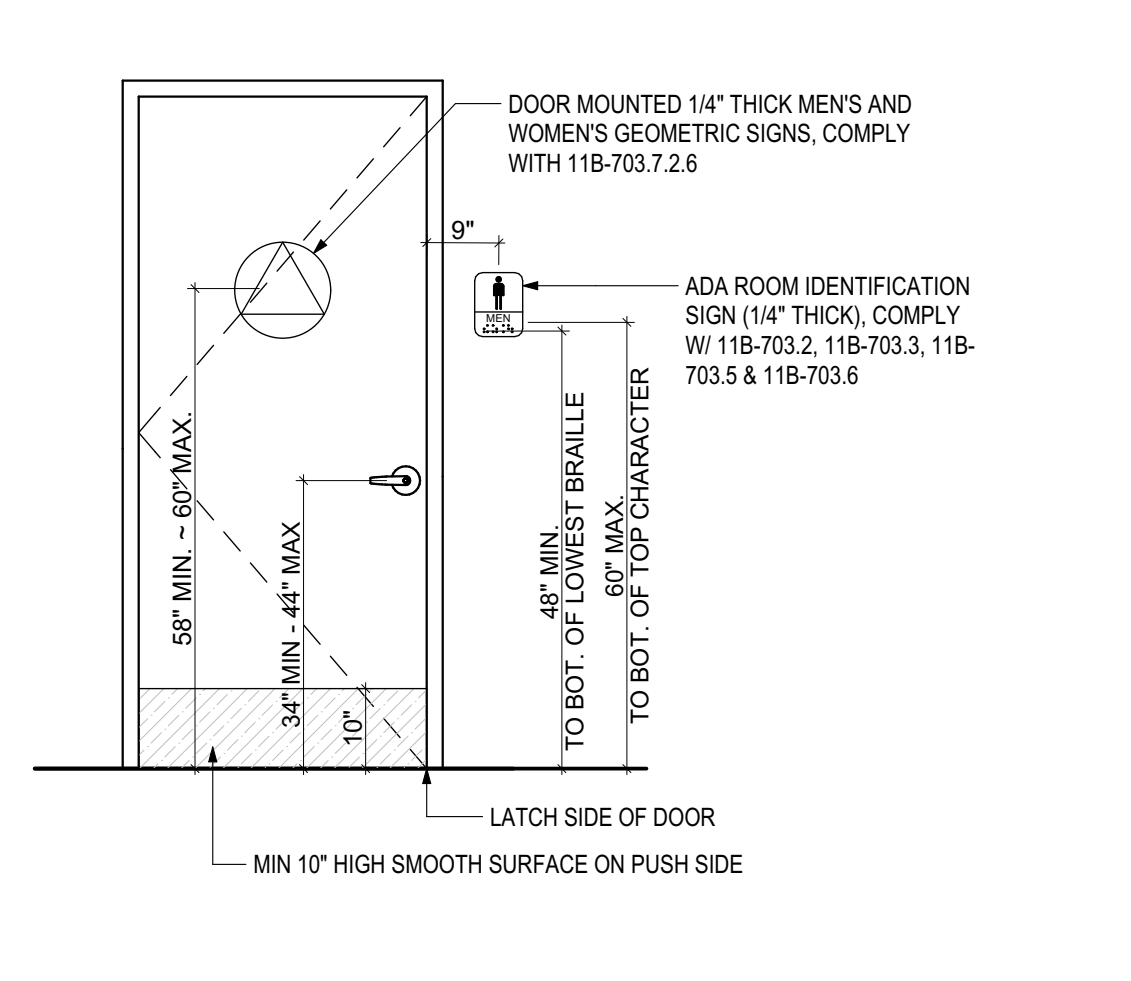
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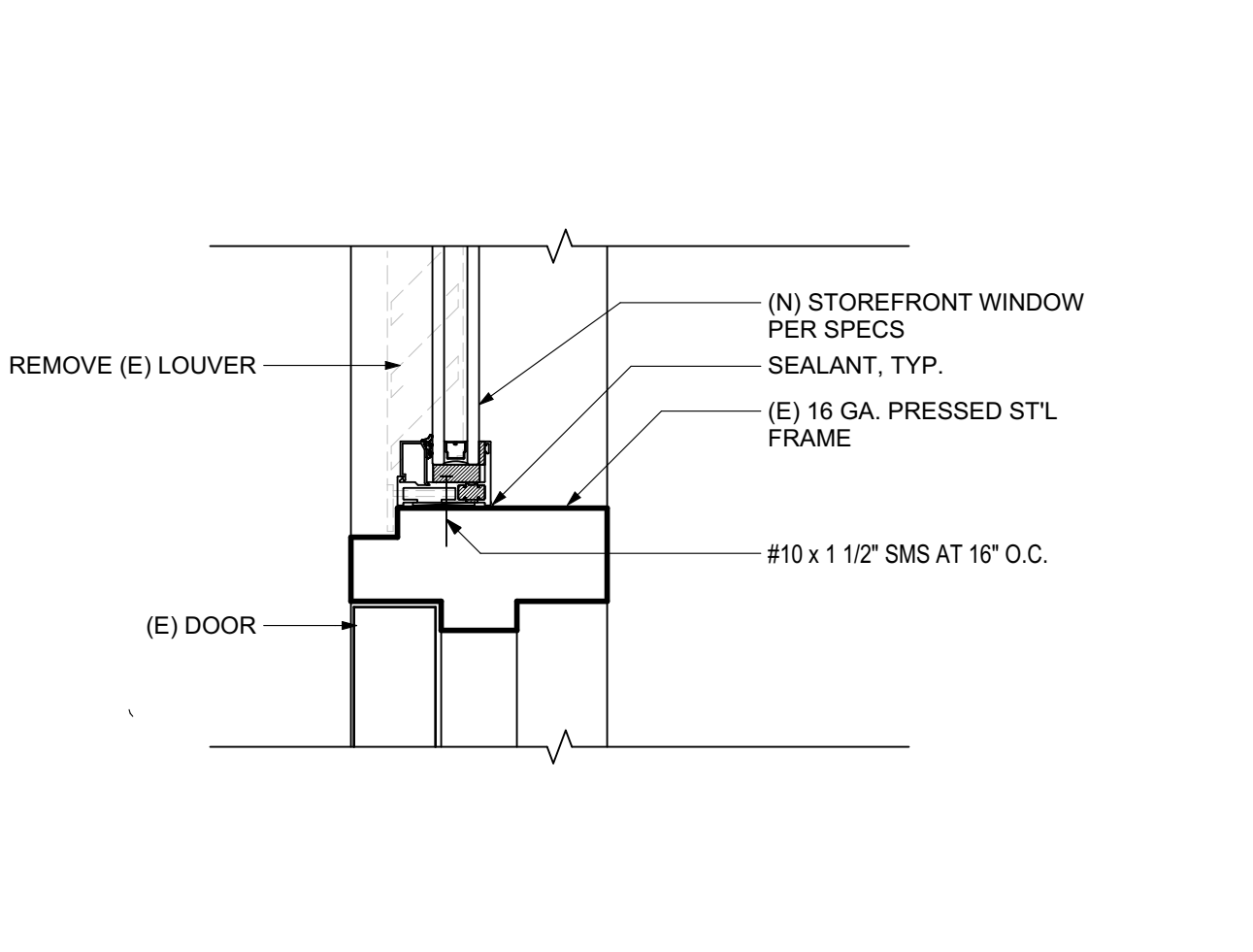
TYPICAL WALL MOUNT BACKING
 SCALE: 3" = 1'-0" **17**



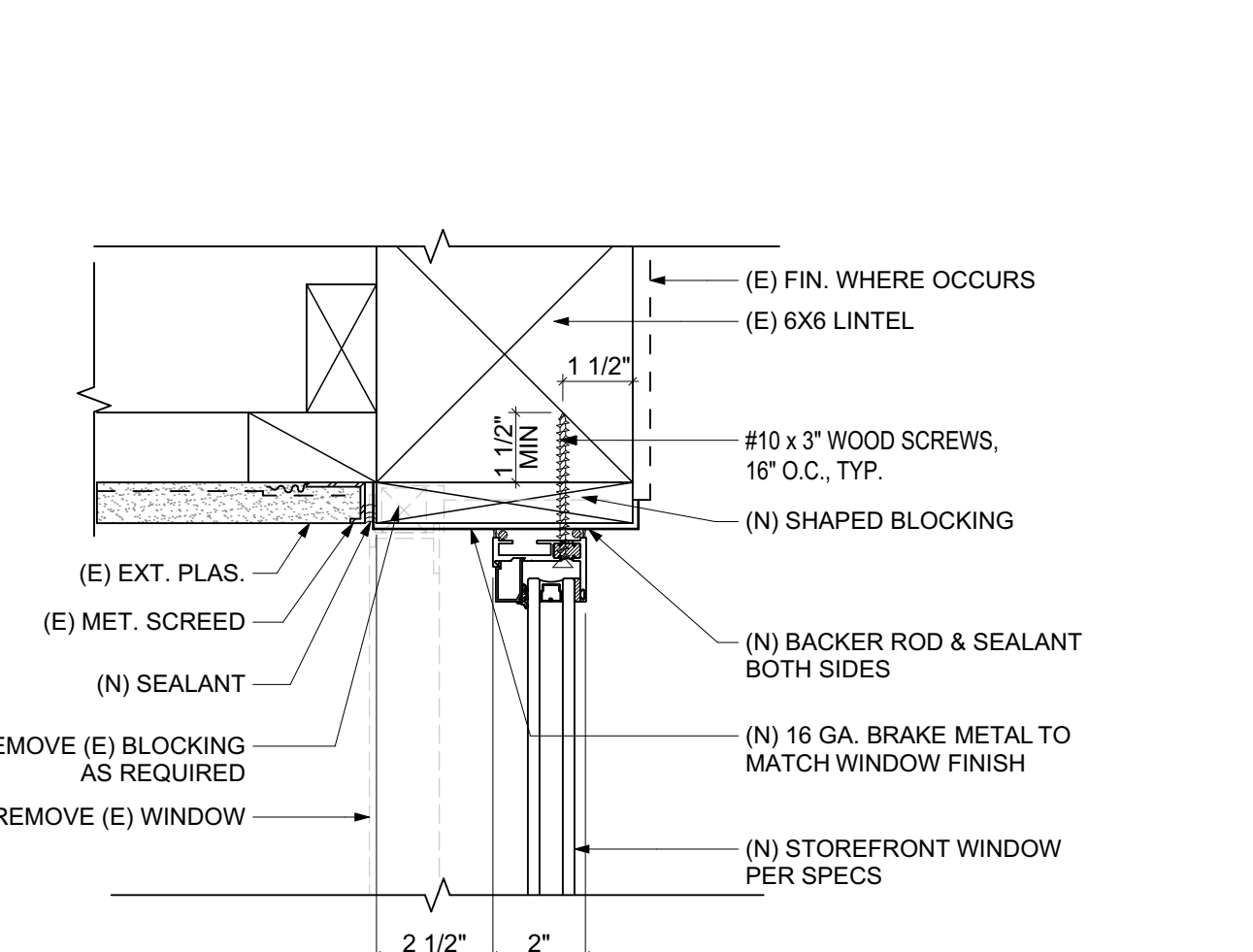
GRAB BAR ANCHORAGE
 SCALE: 3" = 1'-0" **13**



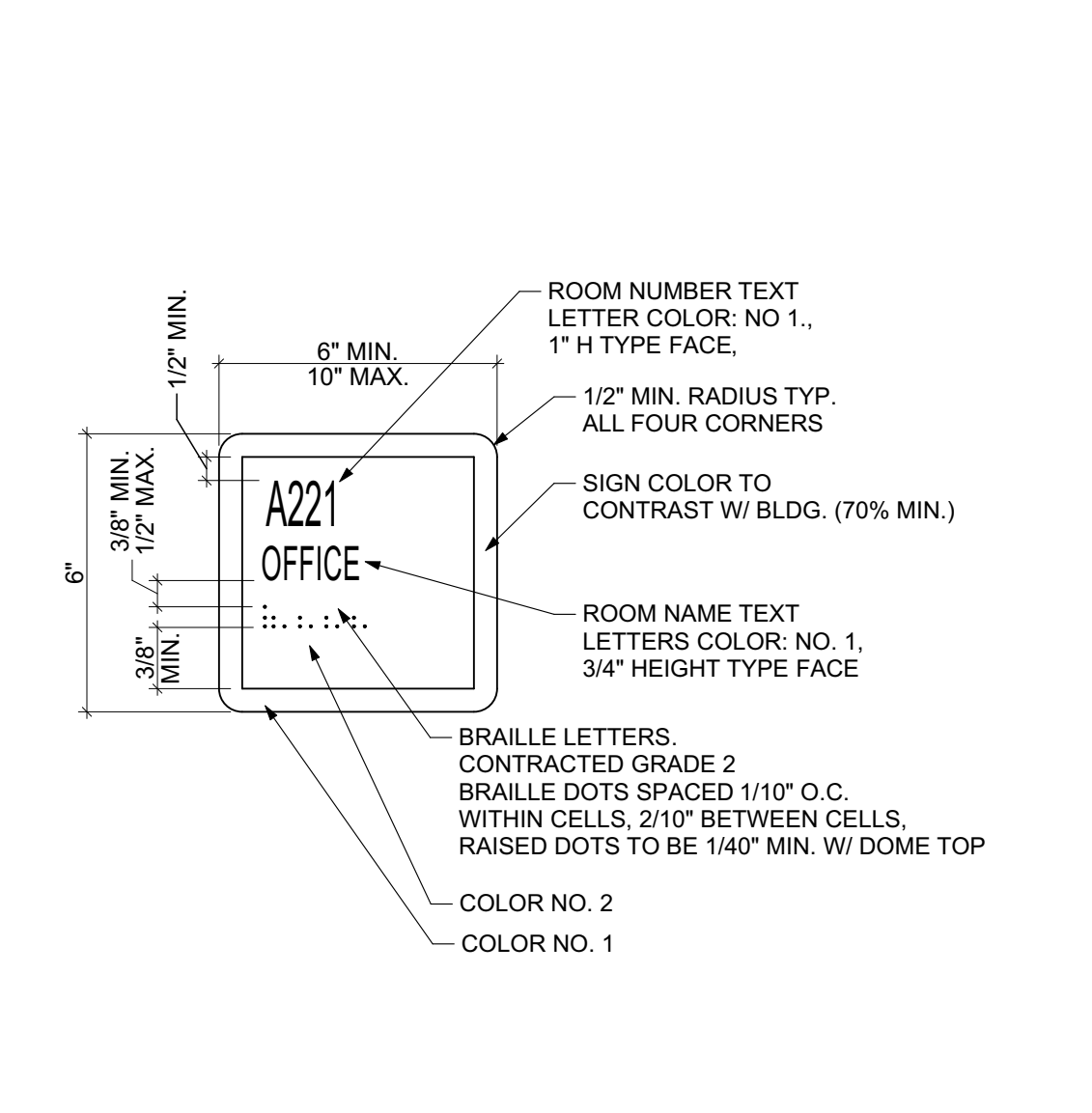
ACCESSIBLE RESTROOM SIGN MOUNTING
 SCALE: 1/2" = 1'-0" **9**



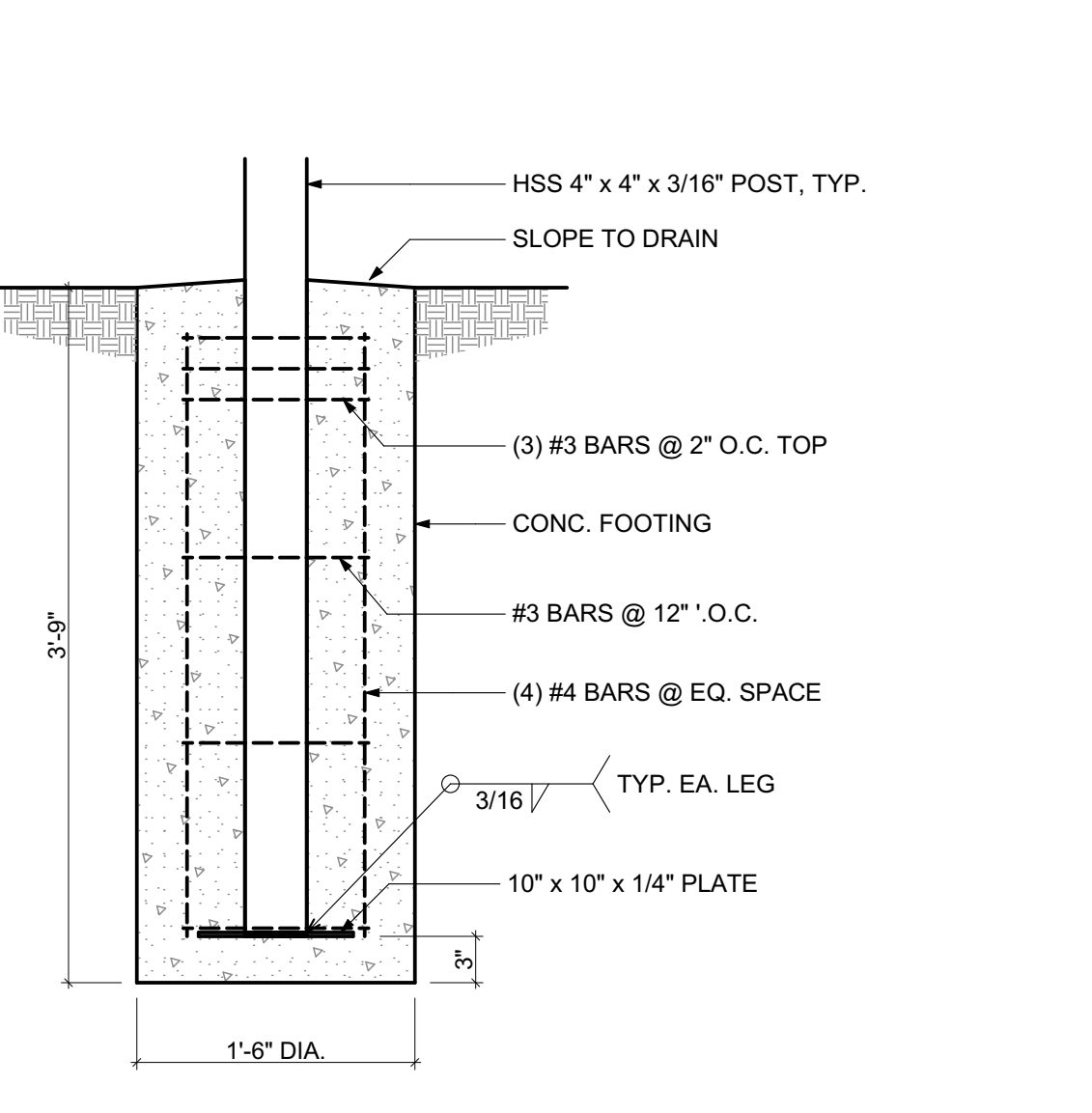
ALUM WINDOW SILL @ (E) LOUVER / DOOR
 SCALE: 3" = 1'-0" **5**



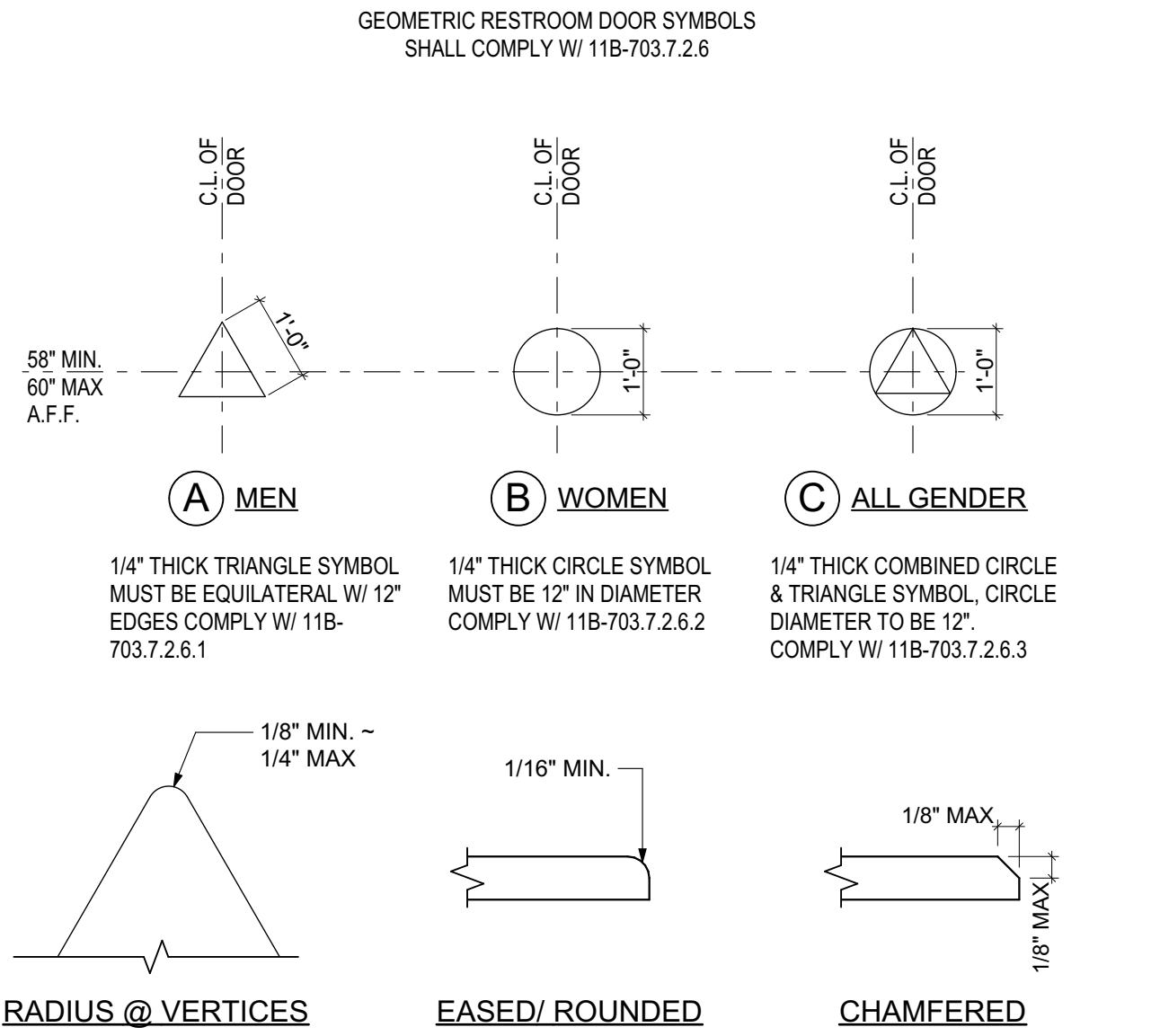
ALUM WINDOW HEAD
 SCALE: 3" = 1'-0" **1**



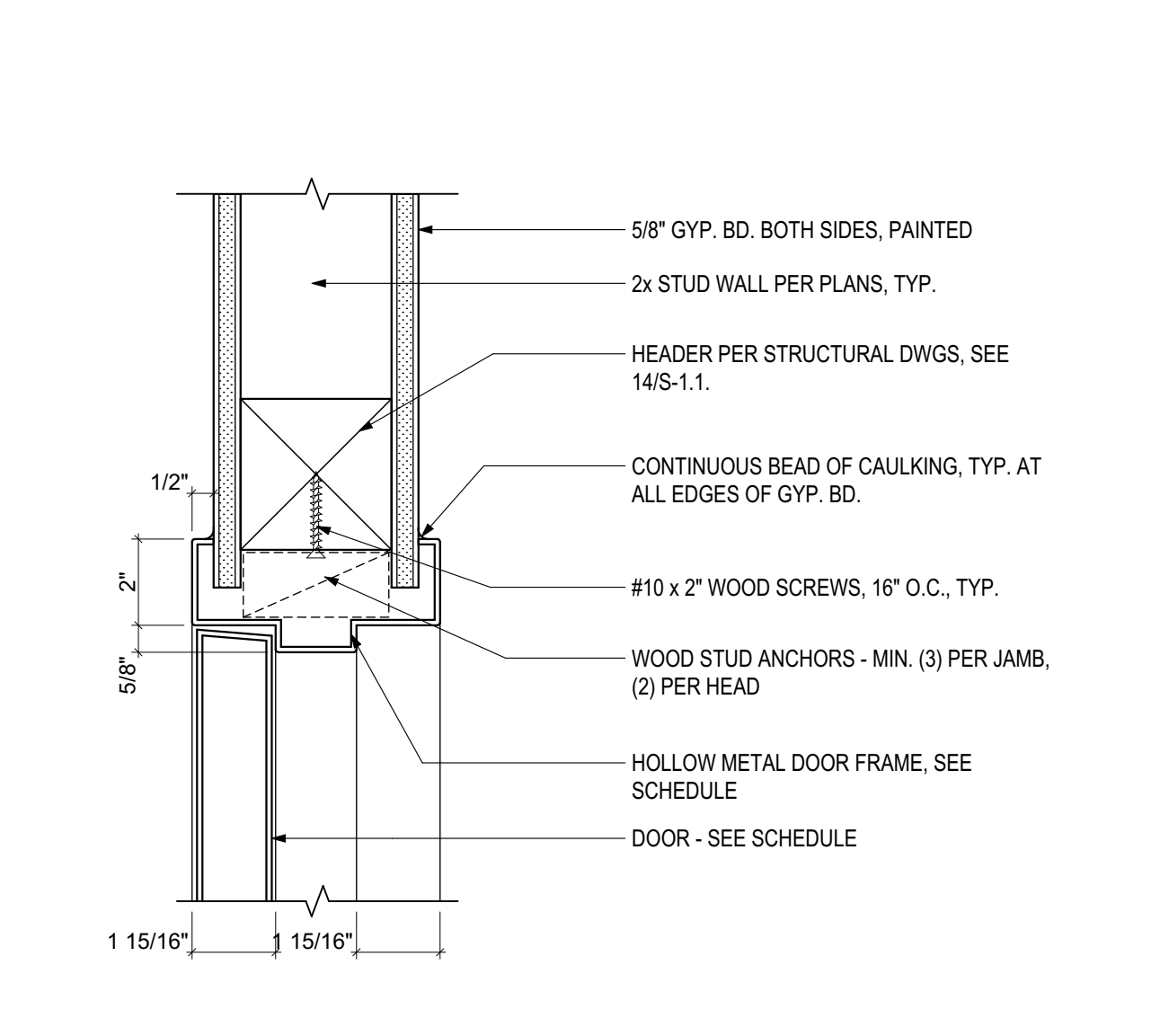
TYP. ROOM SIGN
 SCALE: 3" = 1'-0" **18**



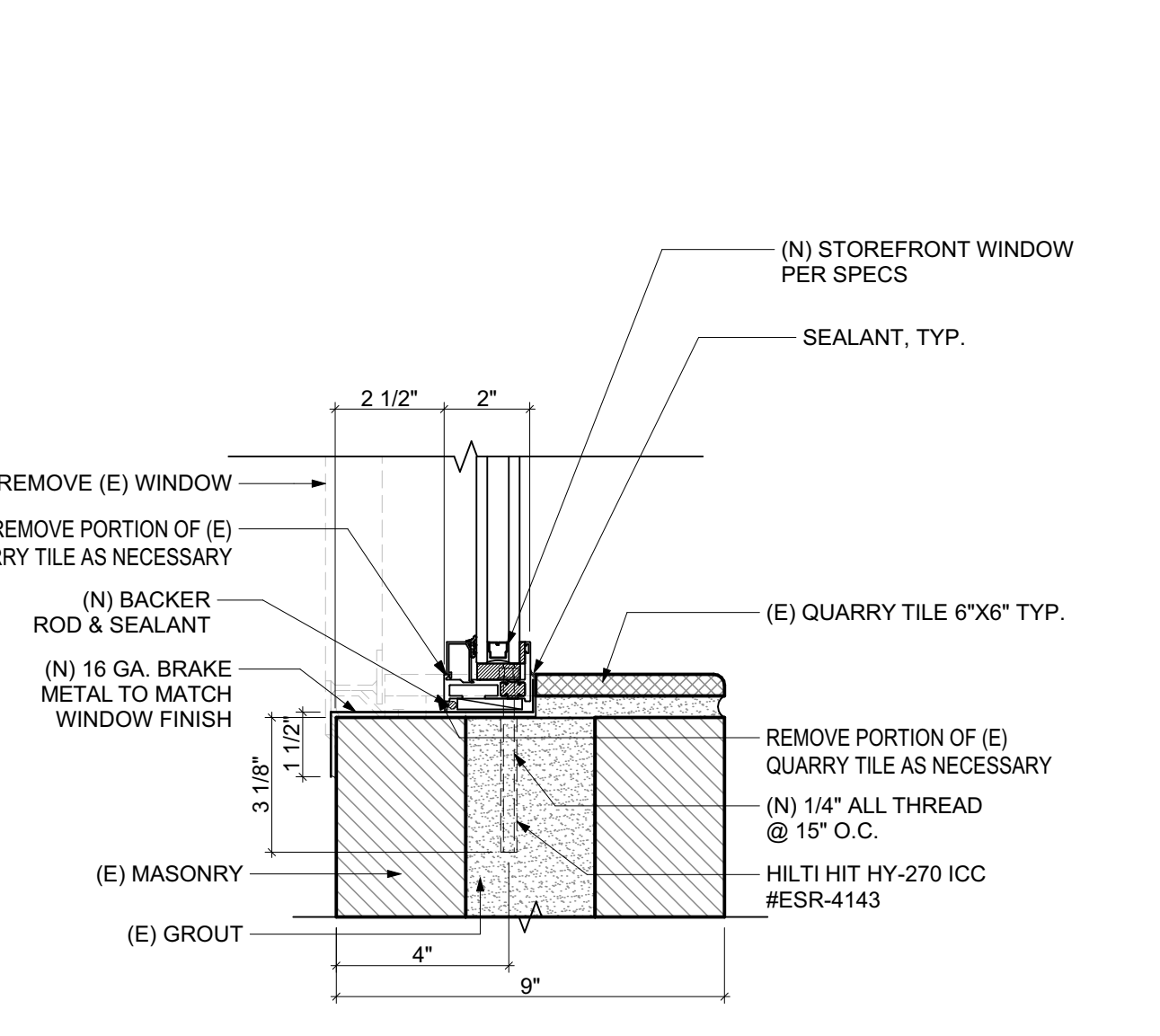
STEEL FENCE/ GATE FOOTING
 SCALE: 1" = 1'-0" **14**



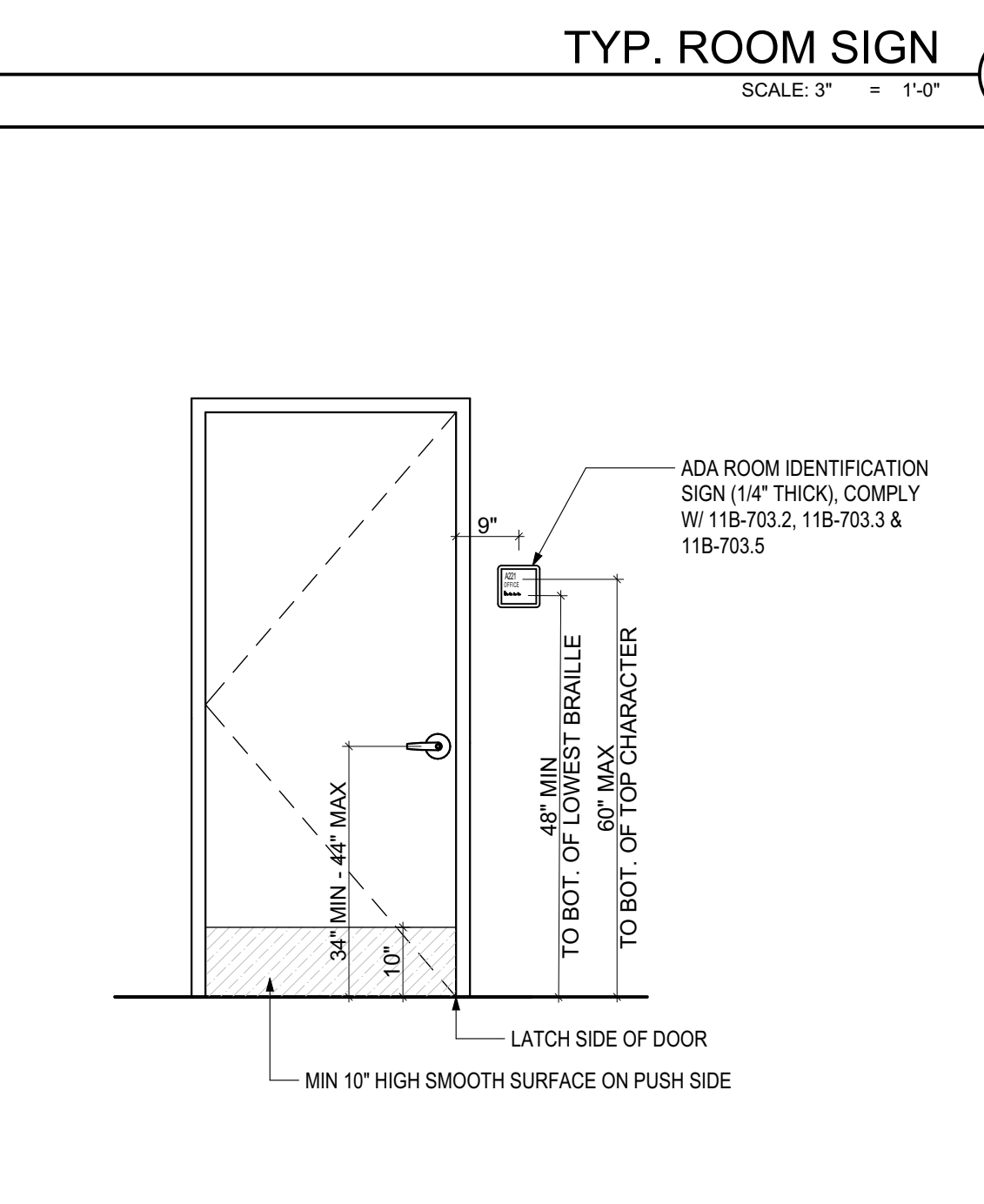
RESTROOM GEOMETRIC SYMBOLS
 SCALE: 1/2" = 1'-0" **10**



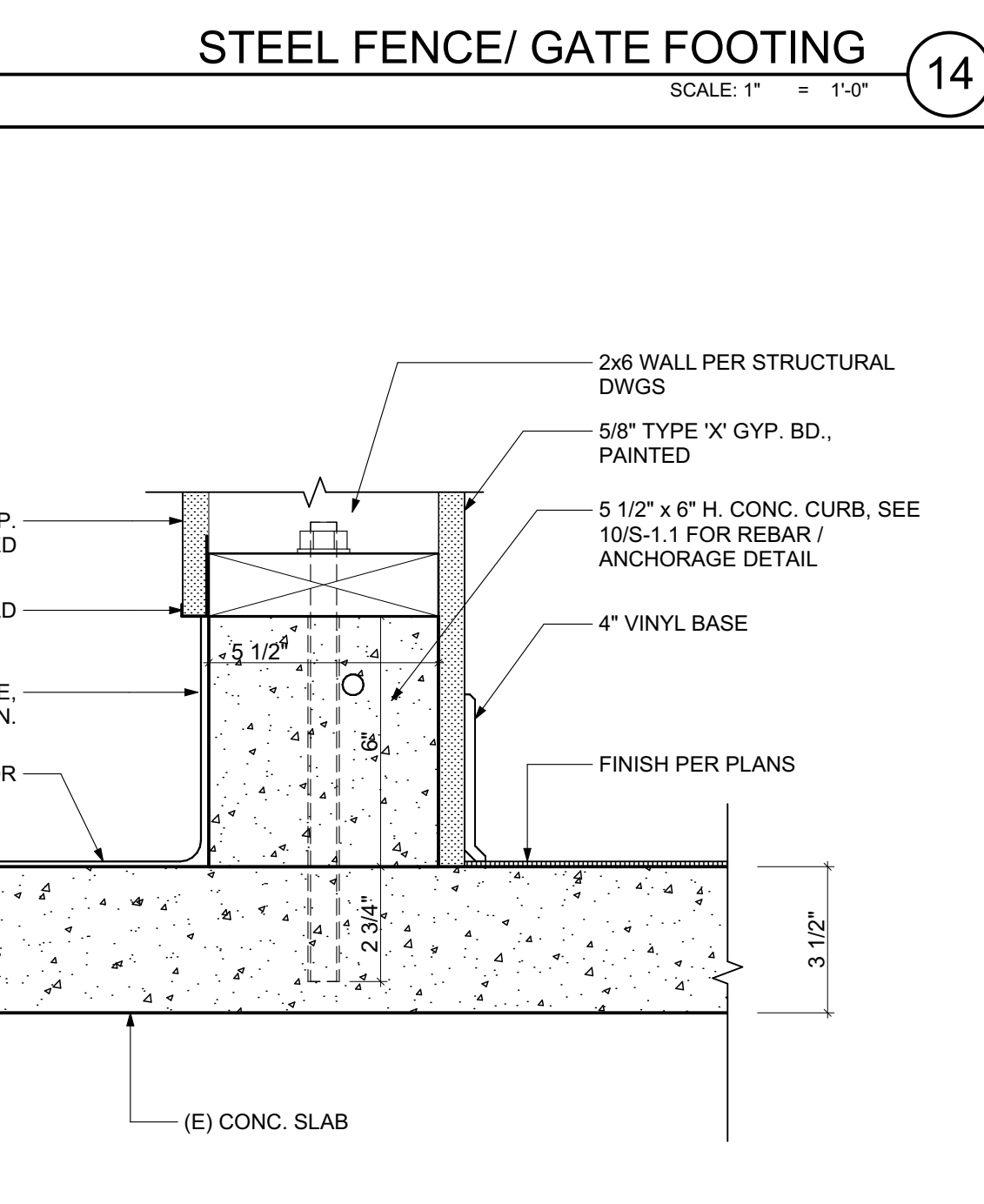
H.M. DOOR HEAD / JAMB (WOOD STUD)
 SCALE: 3" = 1'-0" **6**



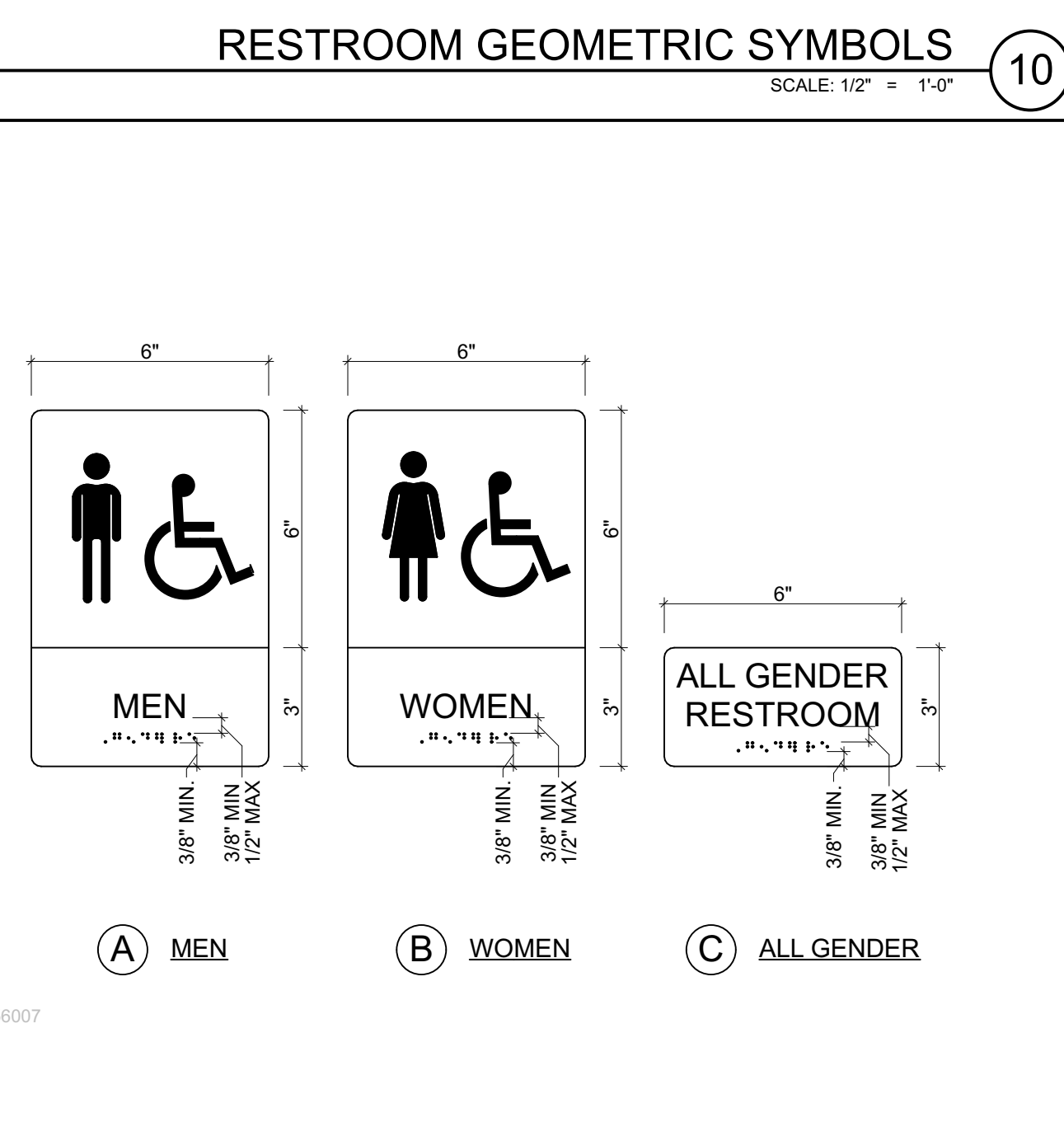
ALUM WINDOW SILL
 SCALE: 3" = 1'-0" **2**



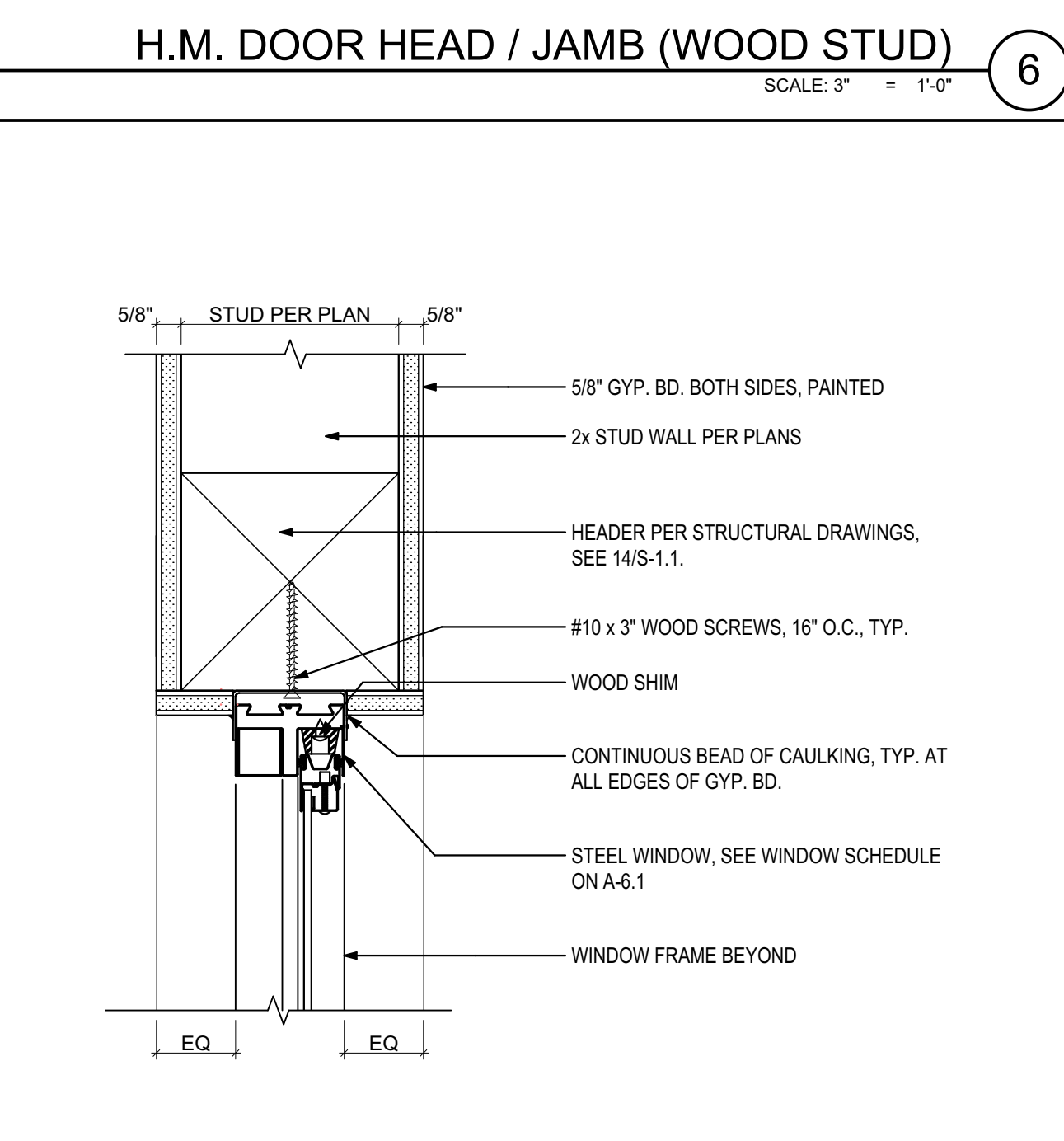
TYP. ROOM SIGN MOUNTING
 SCALE: 1/2" = 1'-0" **19**



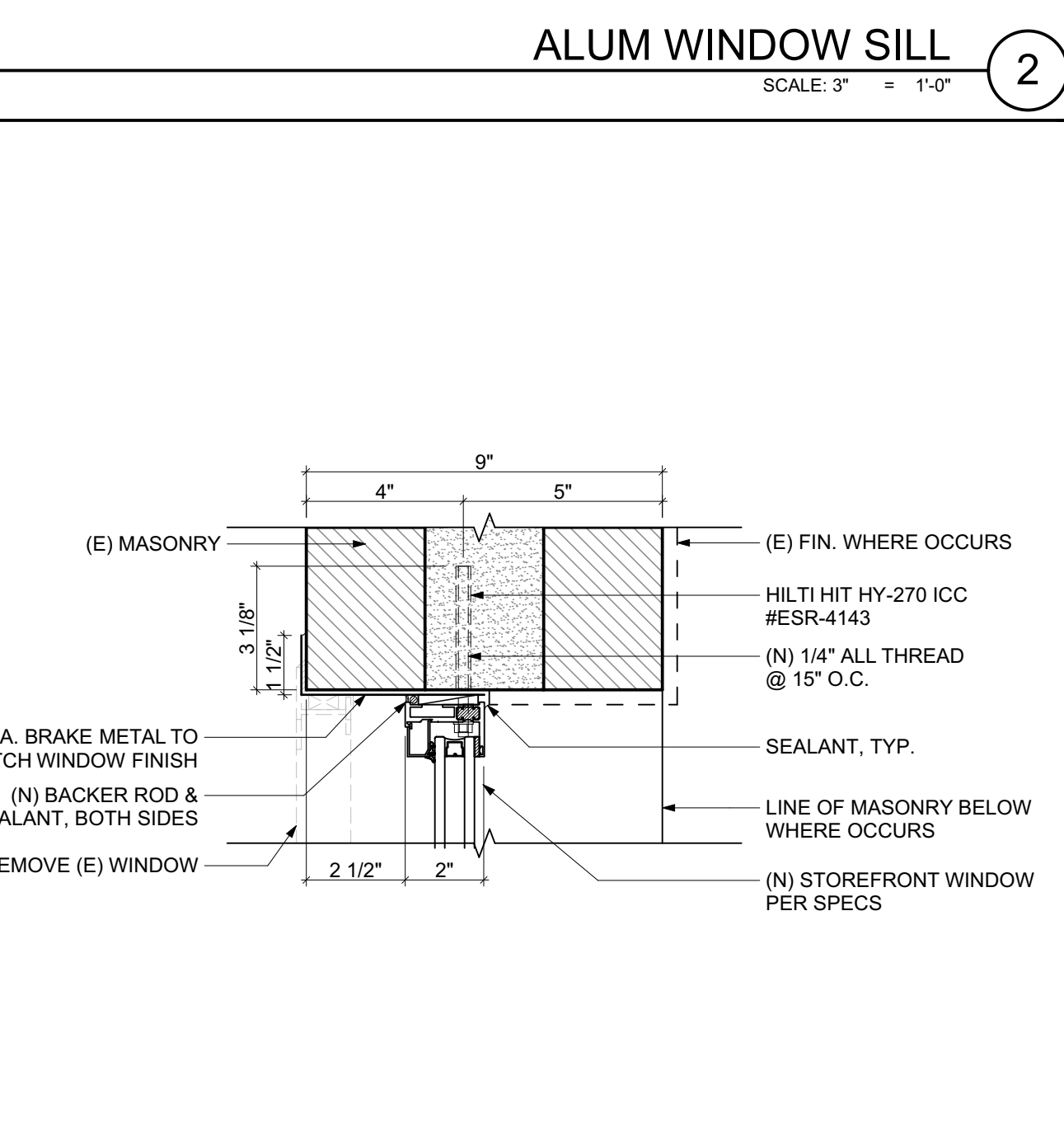
CONCRETE CURB AT SHOP / CLASSROOM
 SCALE: 3" = 1'-0" **15**



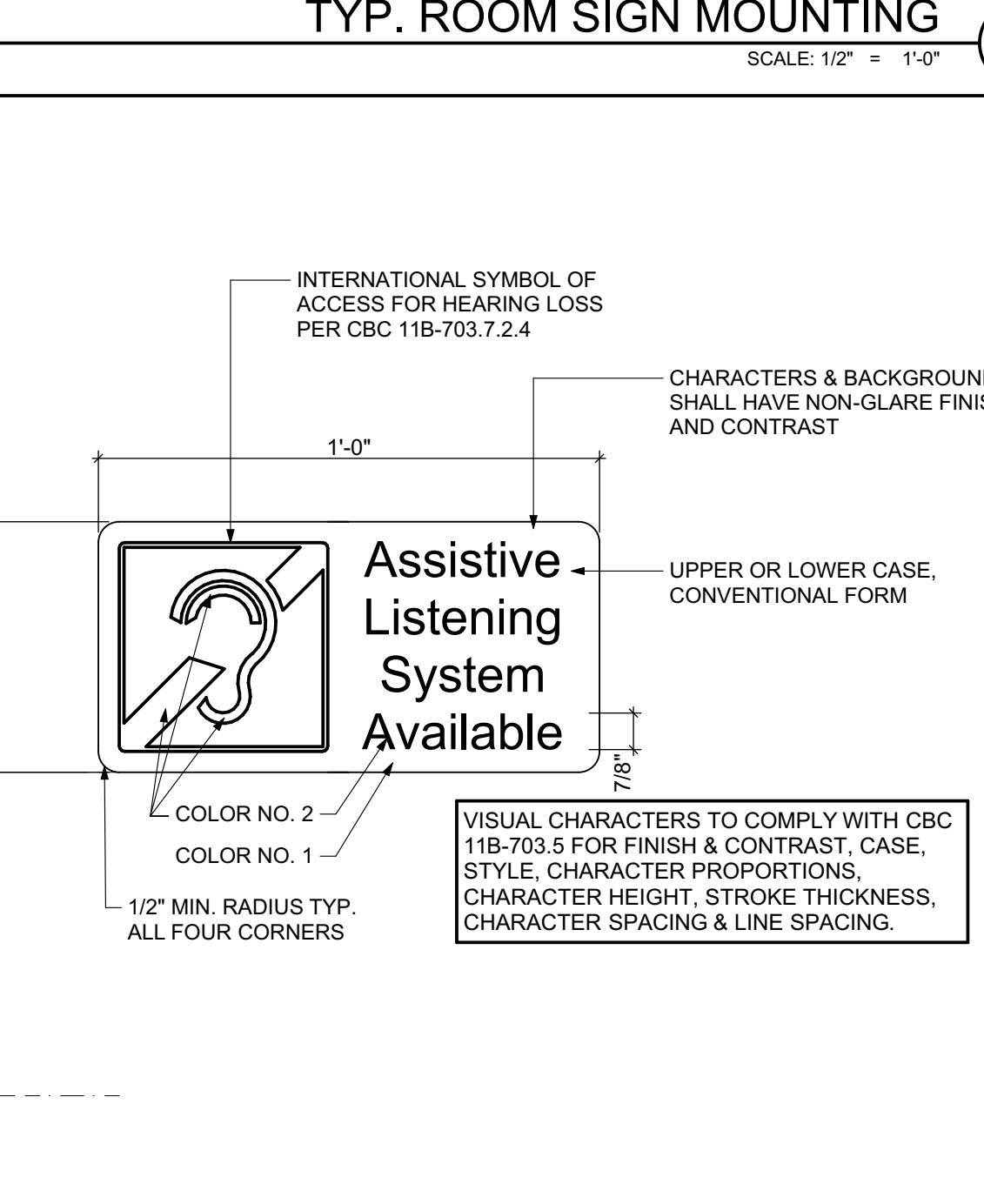
RESTROOM PICTOGRAM SIGN
 SCALE: 3" = 1'-0" **11**



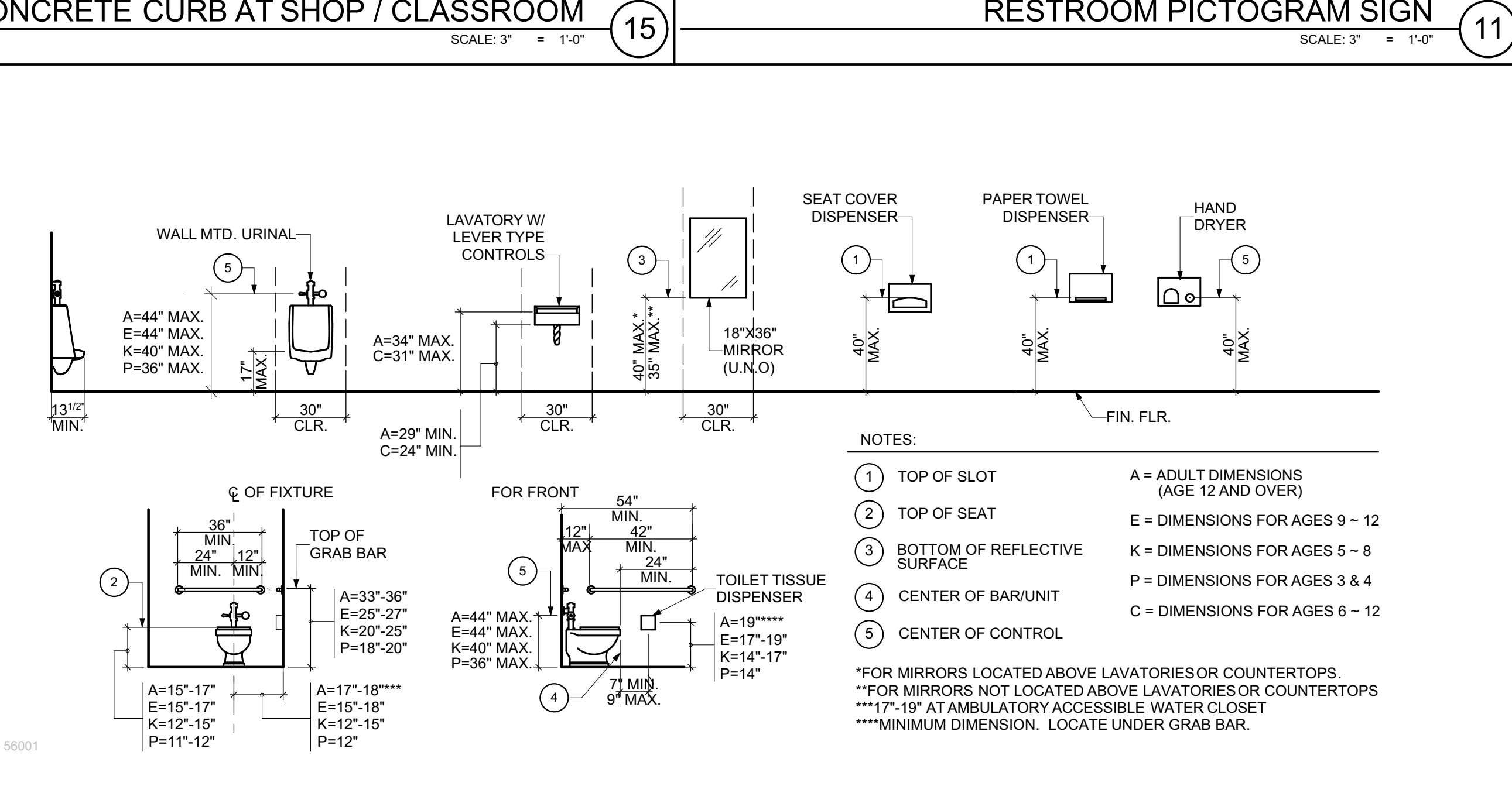
STEEL WINDOW HEAD/ JAMB
 SCALE: 3" = 1'-0" **7**



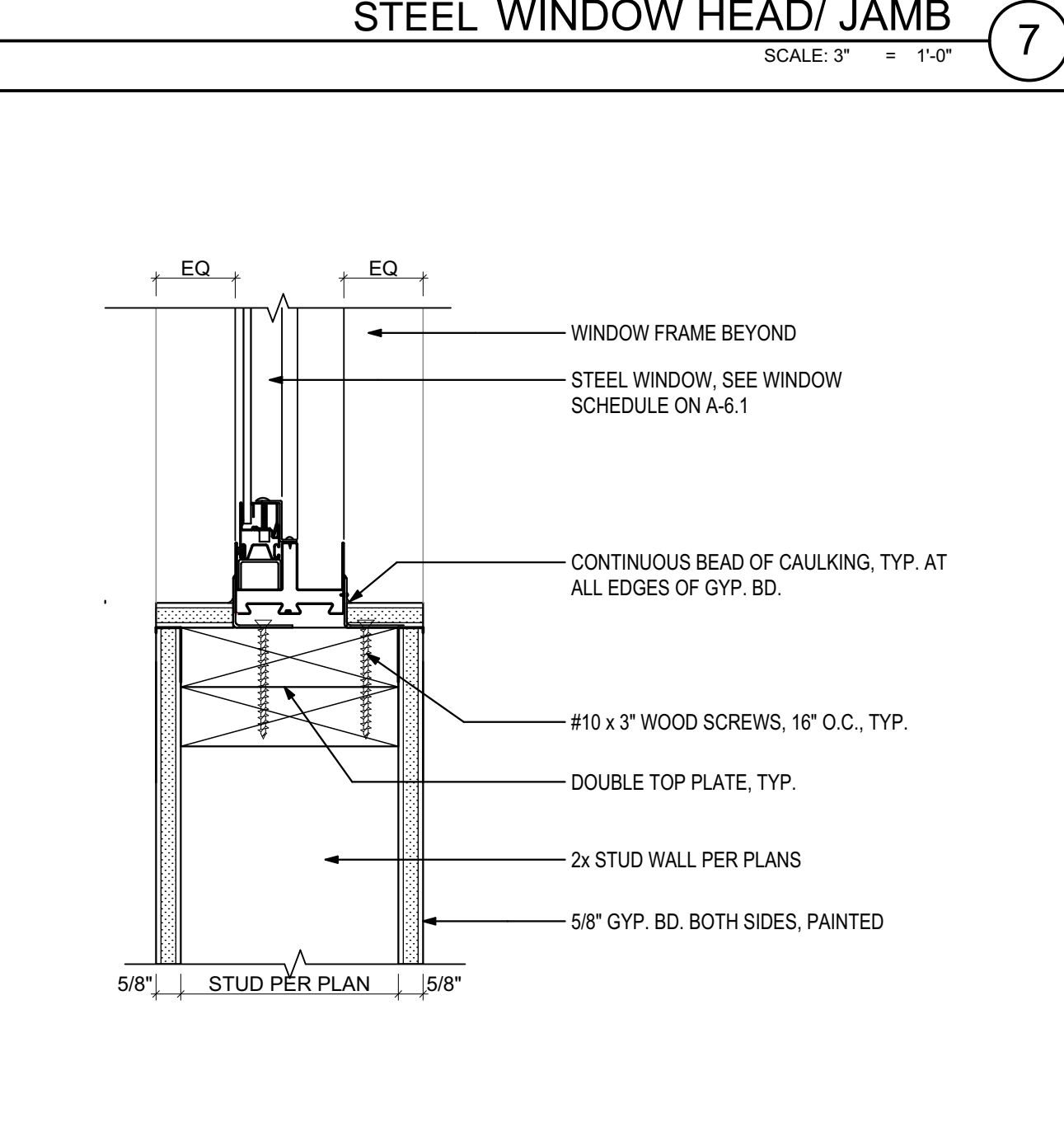
ALUM WINDOW JAMB
 SCALE: 3" = 1'-0" **3**



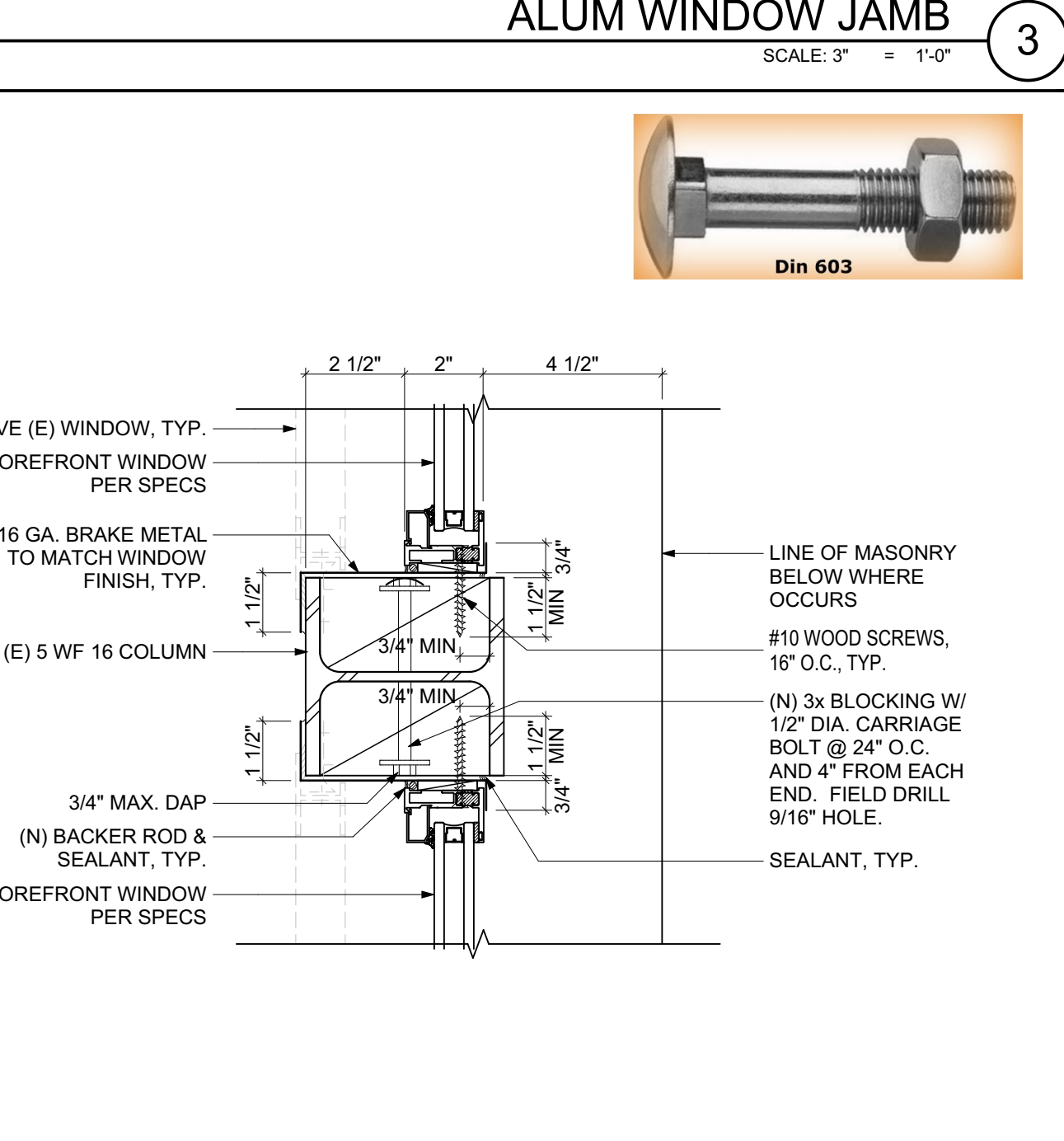
ASSISTIVE LISTENING SYSTEM SIGN
 SCALE: 3" = 1'-0" **20**



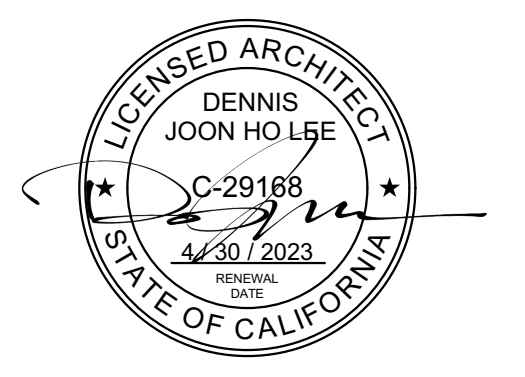
TYP. RESTROOM FIXTURE MOUNTING HEIGHTS
 SCALE: 1/4" = 1'-0" **12**



STEEL WINDOW SILL (WOOD STUD)
 SCALE: 3" = 1'-0" **8**



ALUM WINDOW JAMB AT COLUMN
 SCALE: 3" = 1'-0" **4**



PROJECT:
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2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748

CLIENT:
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 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTAL REVISIONS:
 1 DESIGN DEVELOPMENT 4/22/2021

PROJECT NO: 202016
 SCALE: AS SHOWN
 DATE: 1/11/2022
 DRAWN BY: ED / FW
 CHECKED BY: DL
 SHEET TITLE:
ARCHITECTURAL DETAILS

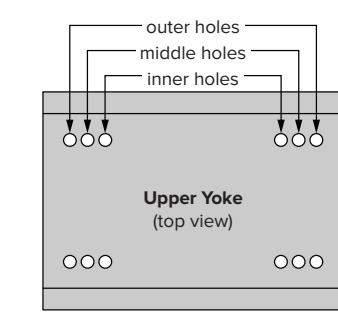
SHEET NO:
A-5.1

1. Attach upper yoke (to I-beam)

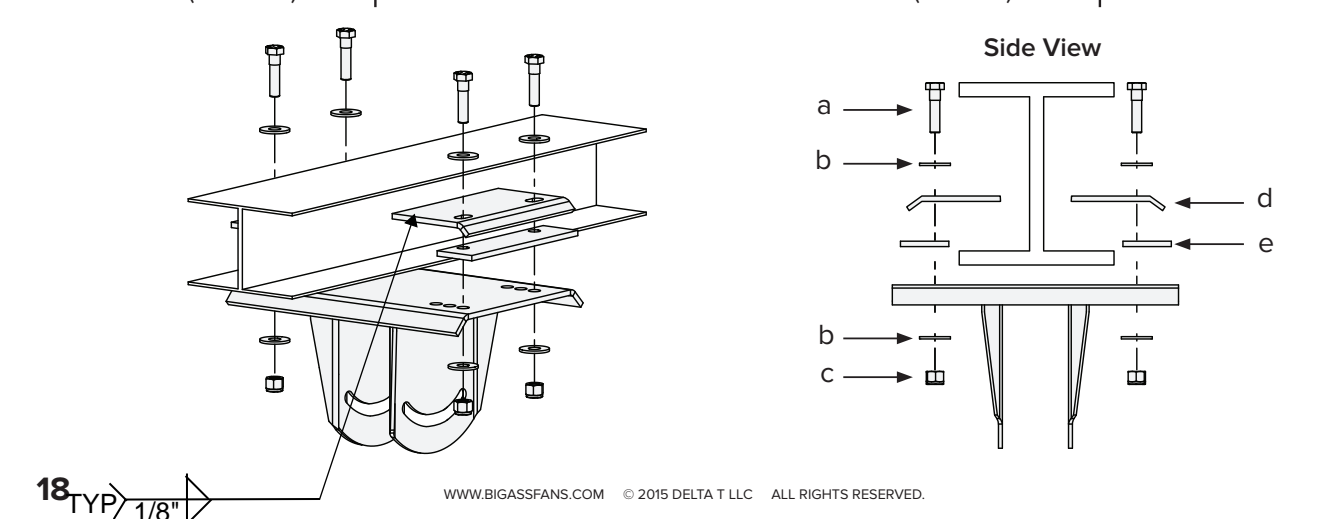
Measure the flange width of the I-beam. Consult the tables and diagram below. Select the upper yoke mounting holes that match the flange width of the I-beam. Secure the upper yoke to the I-beam with the Yoke Hardware. Tighten the bolts to 40 ft-lb (54.2 N-m).

Upper Yoke Hardware:
 a. (4) 1/2-13 x 2" Bolt
 b. (8) 1/2" Flat Washer
 c. (8) 1/2-13 Nylock Nut
 d. (2) Beam Clamp
 e. (2) Spacer

MAX. OPERATING WEIGHT: 105 LBS



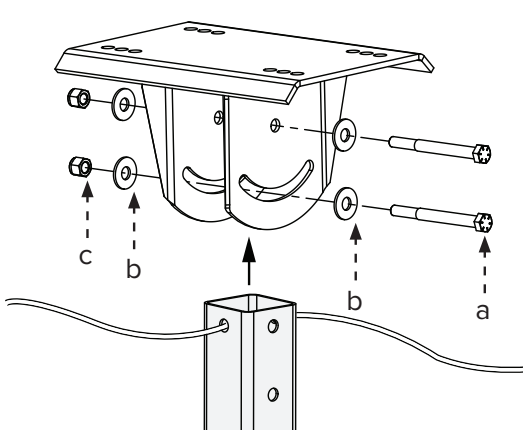
Small Upper Yoke 13-3/4" (349 mm) x 10" (258 mm)		Large Upper Yoke 18-1/2" (470 mm) x 10" (258 mm)	
I-beam flange width	Upper yoke mounting holes	I-beam flange width	Upper yoke mounting holes
5" (127 mm) to 5-5/8" (168 mm)	Inner holes	9-7/8" (250 mm) to 11-3/8" (289 mm)	Inner holes
> 5-5/8" (168 mm) to 8-1/4" (210 mm)	Middle holes	> 11-3/8" (289 mm) to 13" (330 mm)	Middle holes
> 8-1/4" (210 mm) to 9-7/8" (250 mm)	Outer holes	> 13" (330 mm) to 14-5/8" (371 mm)	Outer holes



2. Attach extension tube (to upper yoke)

Fasten the extension tube to the upper yoke with the Extension Tube Hardware. Before tightening the bolts, allow the extension tube to hang freely and balance itself. Tighten the bolts to 40 ft-lb (54.2 N-m).

Extension Tube Hardware:
 a. (2) 1/2-13 x 4-1/2" Bolt
 b. (4) 1/2" Flat Washer
 c. (2) 1/2-13 Nylock Nut

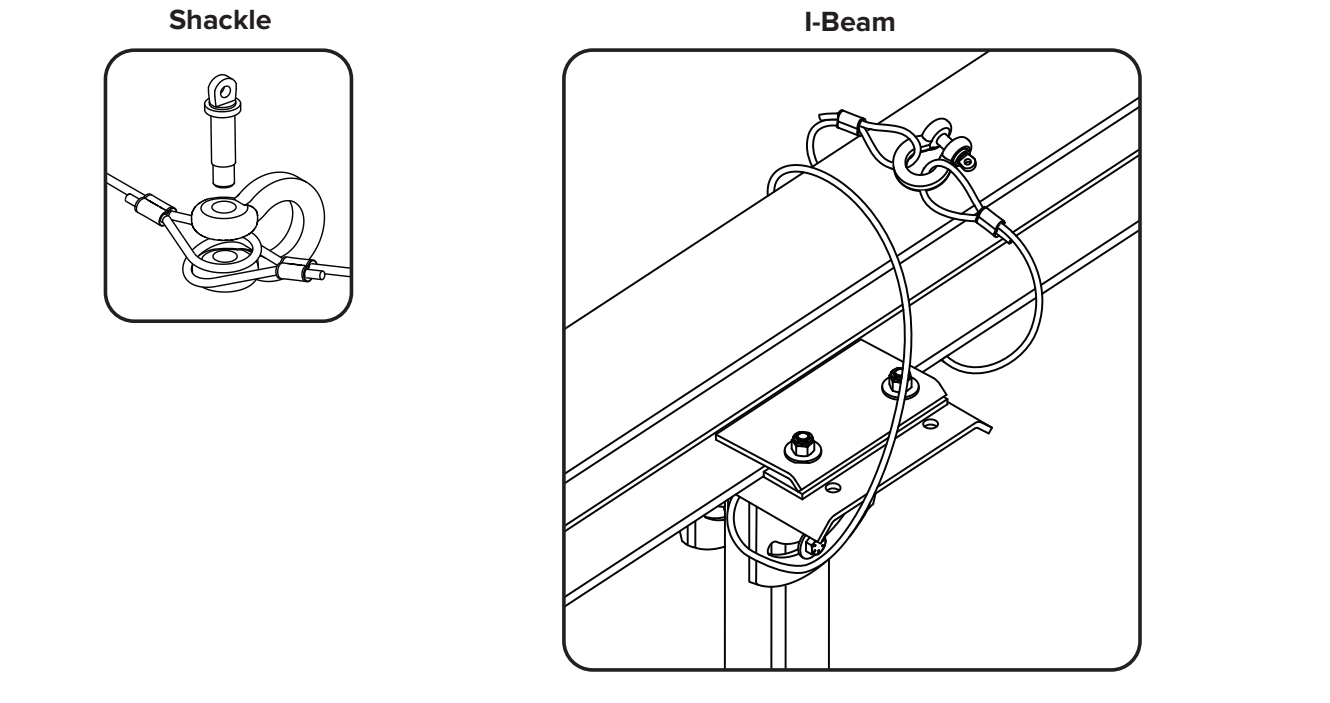


3. Secure safety cable

WARNING: The safety cable is a crucial part of the fan and must be installed correctly. If you have any questions, please contact Big Ass Fans Customer Service.

ATTENTION
 The safety cable is already attached to the extension tube.

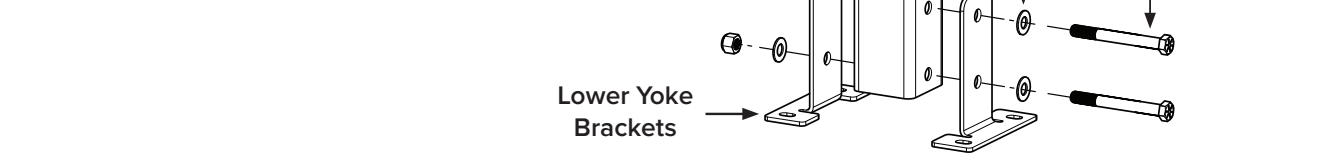
Secure the safety cable by wrapping it around the I-beam and connecting the looped ends with the shackle. The cable must be drawn tightly around the I-beam, leaving as little slack as possible. If possible, the shackle should be on the outside of the I-beam. Securely tighten the shackle.



4a. Attach lower yoke brackets (to extension tube, 3 ft or shorter)

Secure the lower yoke brackets to the lower portion of the extension tube with the remaining Extension Tube Hardware. Tighten the bolts until snug, but do not fully tighten.

Proceed to step 6.
Extension Tube Hardware:
 a. (2) 1/2-13 x 4-1/2" GR 8 Bolt
 b. (4) 1/2" Flat Washer
 c. (2) 1/2-13 Nylock Nut



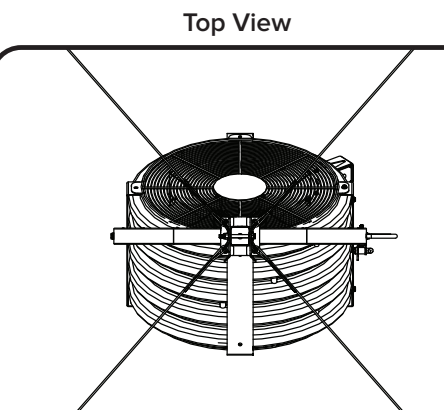
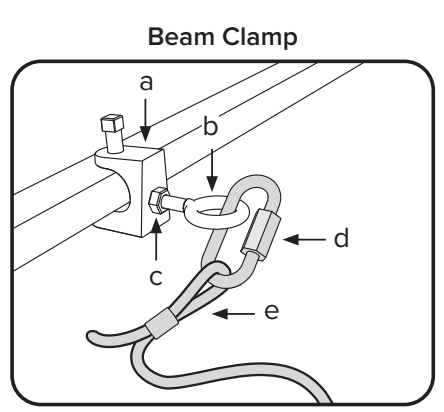
5. Attach beam clamp

Attach the beam clamp to the I-beam. The guy wire should be at a 30°-45° angle from the roof to the Yellow Jacket® extension tube. Place the beam clamp accordingly. Fully tighten the set screw to secure the clamp.

Fasten the small eyebolt and nut onto the beam clamp. The nut will be on the outside of the beam clamp.

Loop the crimped end of the guy wire into the locking carabiner and secure to the eyebolt. Securely tighten the carabiner.

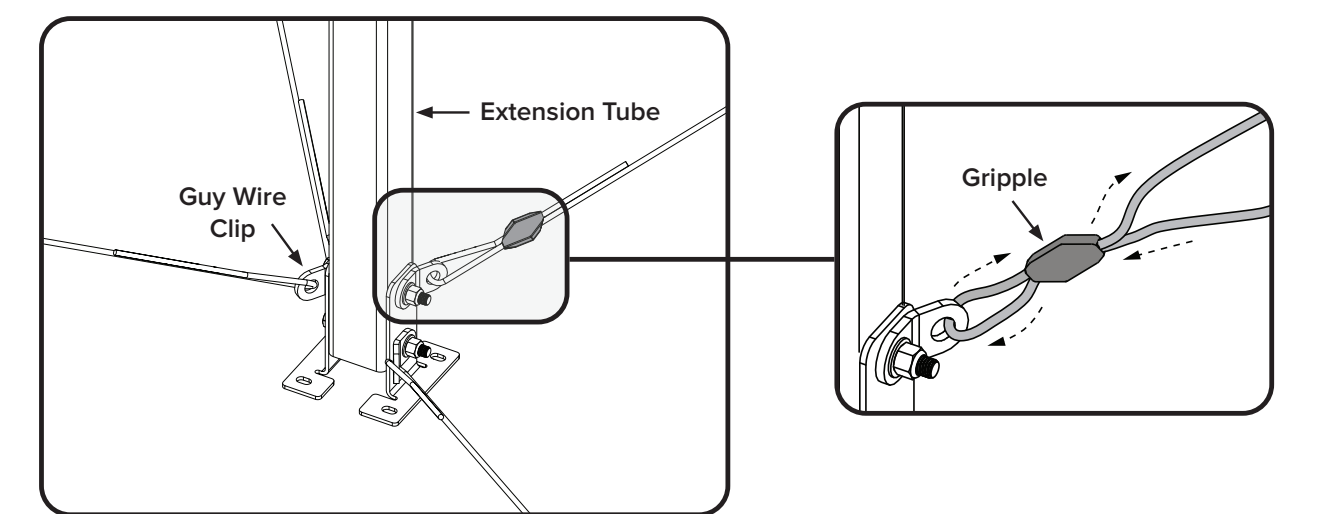
Guy Wire Hardware:
 a. (4) 1/4" Beam Clamp
 b. (4) 1/4-20 x 1" Eyebolt
 c. (4) 1/4-20 Hex Nut
 d. (4) Locking Carabiner W/ 1/8" x 2" FILLET WELD TO STEEL BEAM EA. SIDE
 e. (4) Guy Wire



6. Route guy wire through Gripple®

Route the guy wire through the Gripple, the guy wire clip at the bottom of the extension tube, and back through the Gripple. Do not tighten the Gripple until the remaining guy wires have been installed.

Note: To back the guy wire out of the Gripple, insert a 1/16 (1.5 mm) Allen wrench into the small hole on the Gripple.



REFER TO 7/A-5.3 FOR GUY WIRE ATTACHMENT TO ROOF FRAMING ABOVE

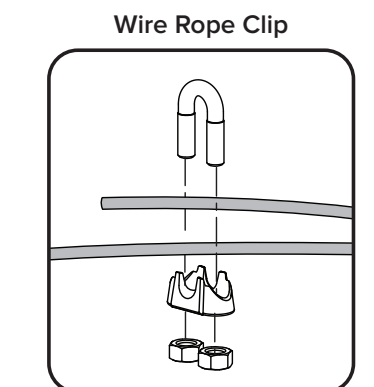
7. Install remaining guy wires

CAUTION: Over-tightening the guy wires could throw the fan off balance.

Repeat steps 5-6 to install the three remaining guy wires.

Evenly cinch all four guy wires into place using the Gripples®. The guy wires should be taut and evenly spaced around the extension tube.

Once all of the guy wires are taut, secure their loose ends with the wire rope clips and torque to 4.5 ft-lb (6.1 N-m). Ensure all electrical cords/cables are unobstructed by the guy wire system.



8. Attach fan (to lower yoke)

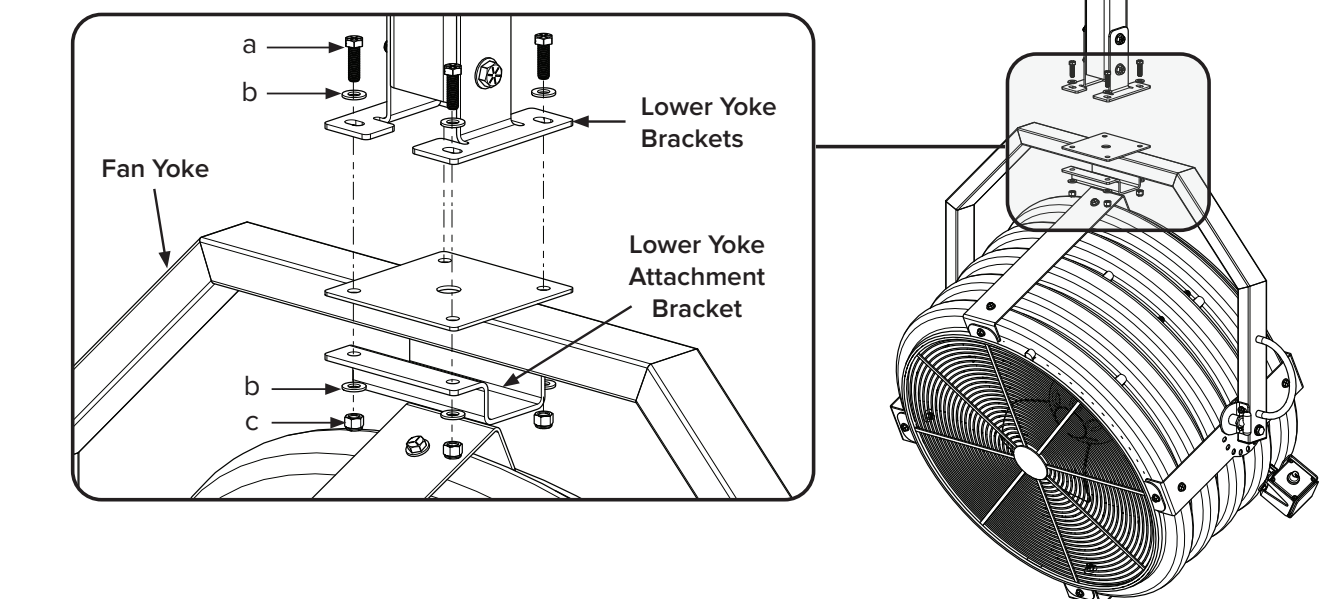
CAUTION: Ensure the position locking pin is secured prior to attaching the fan to the lower yoke attachment bracket!

Secure the fan yoke to the lower yoke brackets with the lower yoke attachment bracket and Lower Yoke Hardware as shown below. Fully tighten the bolts to 40 ft-lb (54.2 N-m). Allow the fan to hang and balance itself, and then fully tighten the Extension Tube Hardware (securing the lower yoke brackets) to 40 ft-lb (54.2 N-m).

Note: Guy wires and Guy Wire Hardware (if used) are not shown in the illustration below. The procedure for attaching the fan to the lower yoke is the same with or without guy wires installed.

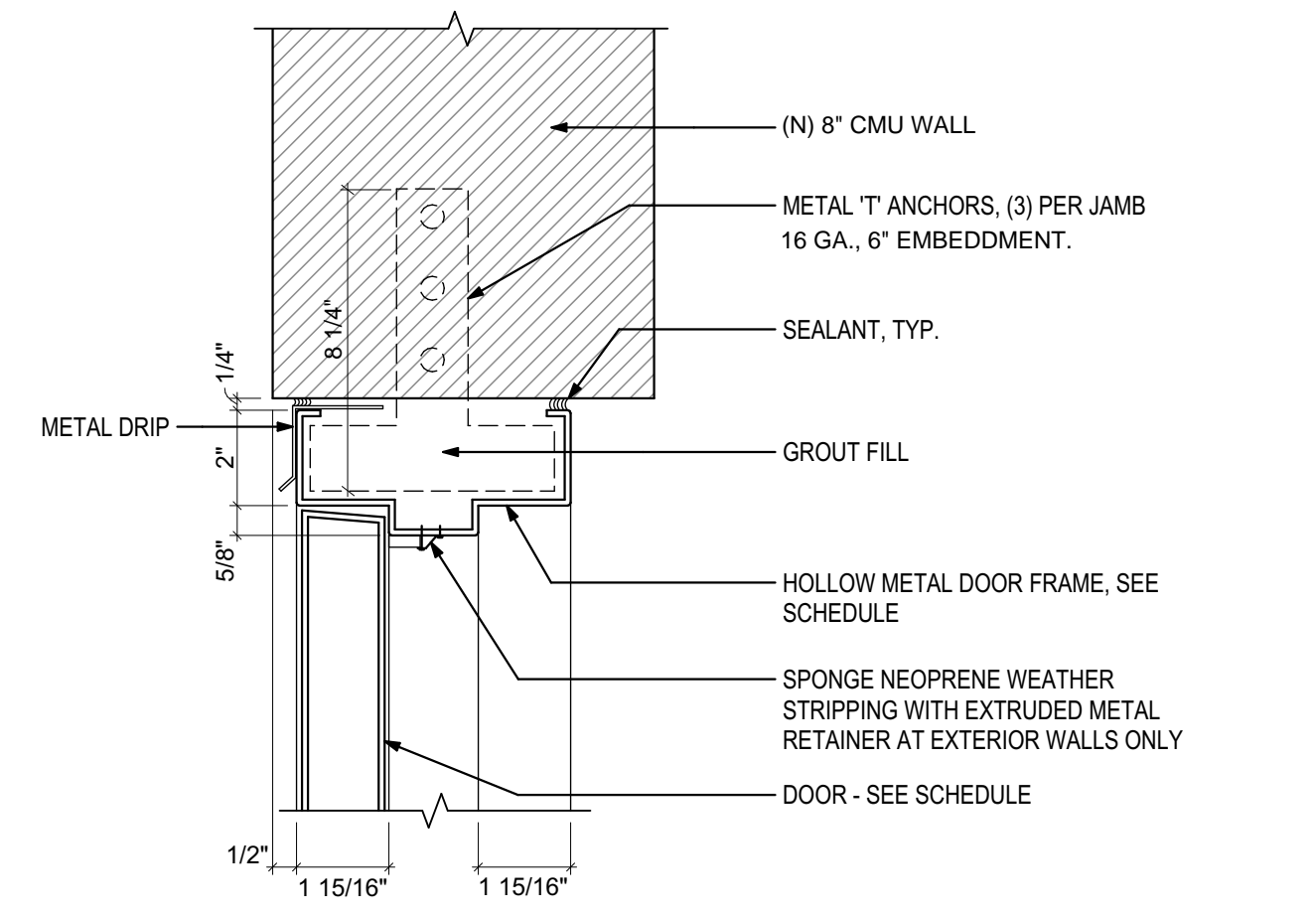
Proceed to "Electrical Installation."

Lower Yoke Hardware:
 a. (4) 3/8-16 x 1-1/4" GR 8 Bolt
 b. (8) 3/8" Flat Washer
 c. (4) 3/8-16 Nylock Nut



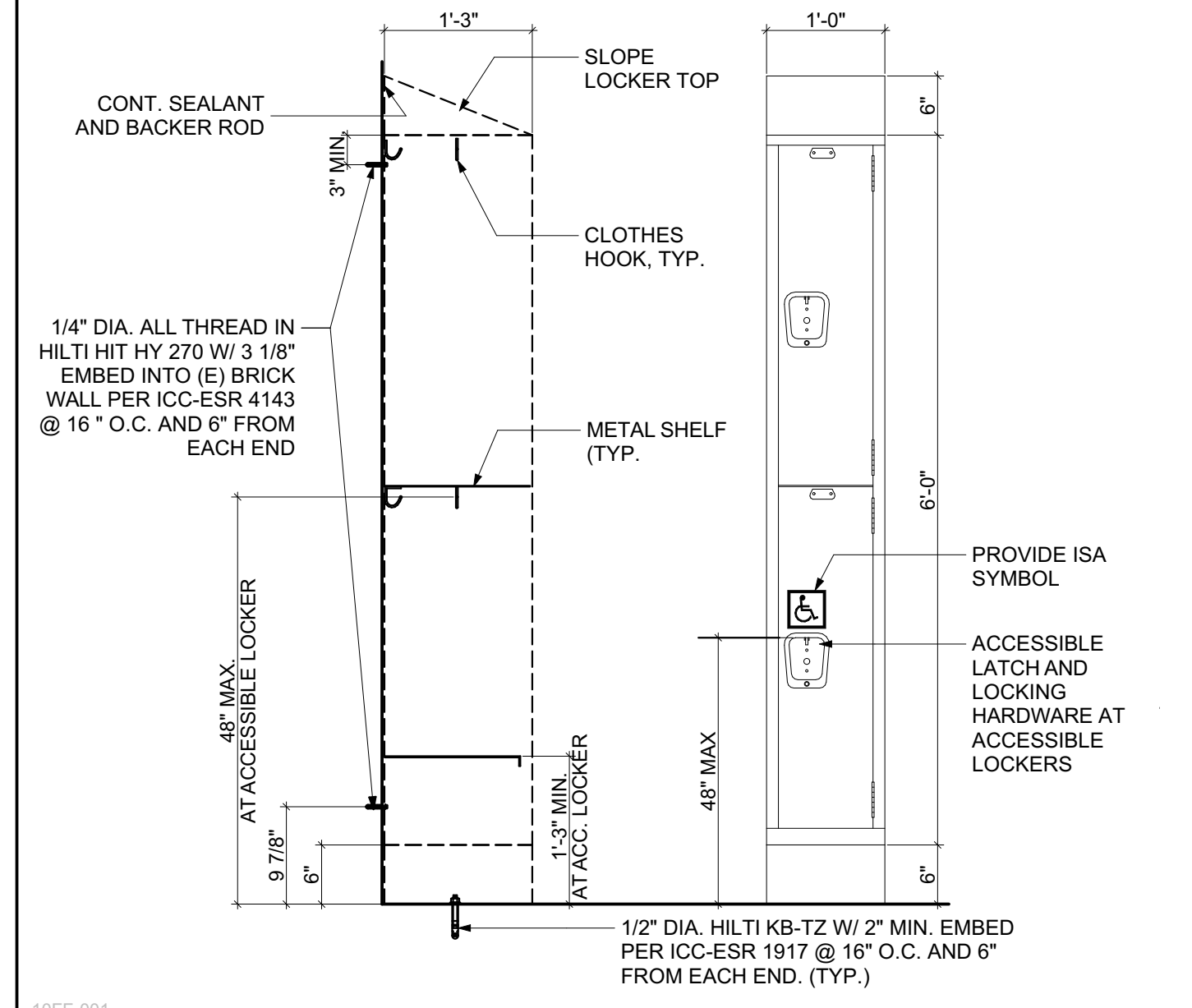
B.A.F. MOUNTING DETAIL

SCALE: 1:1.11



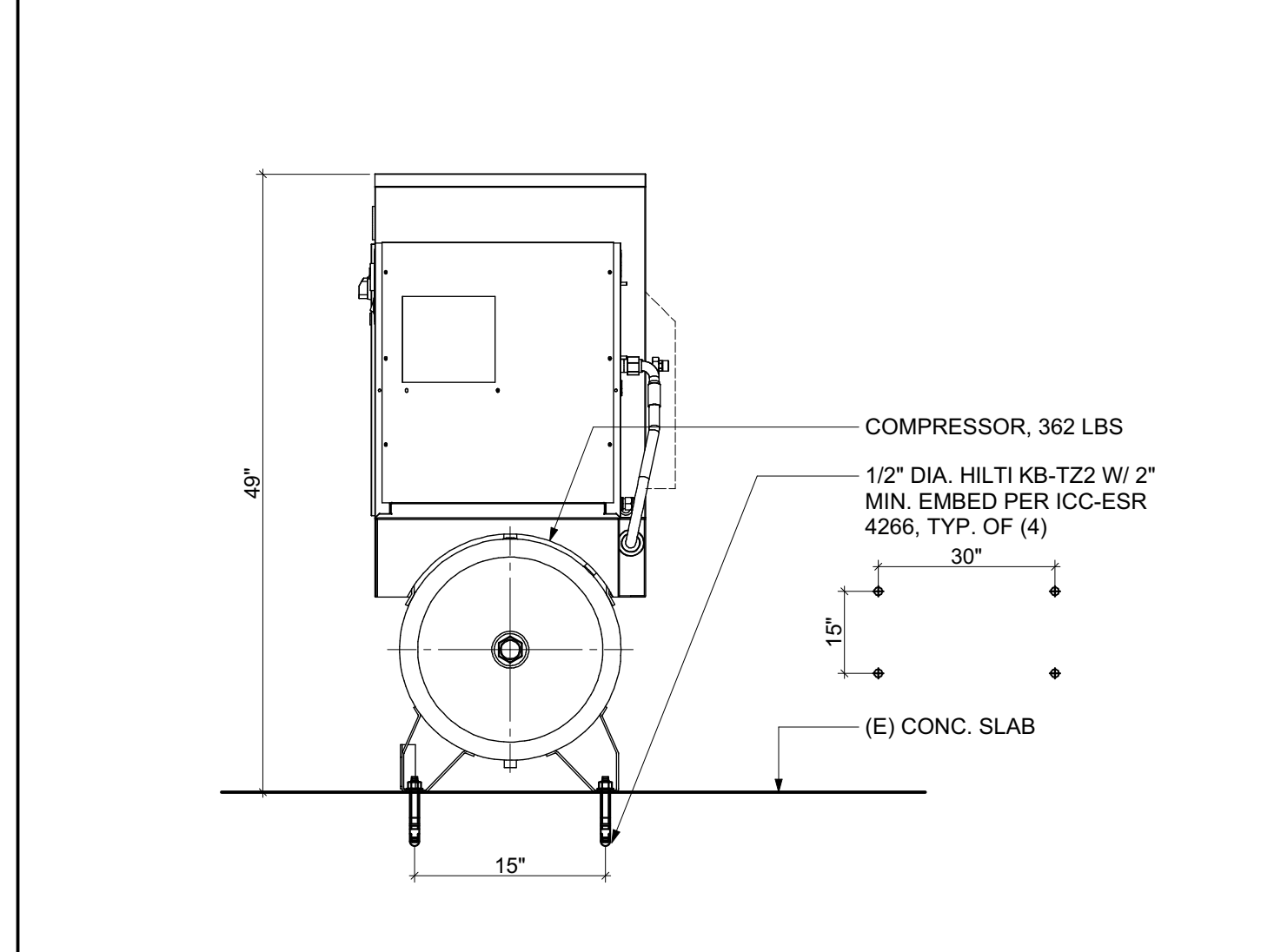
H.M. DOOR HEAD/ JAMB (MASONRY)

SCALE: 3" = 1'-0"



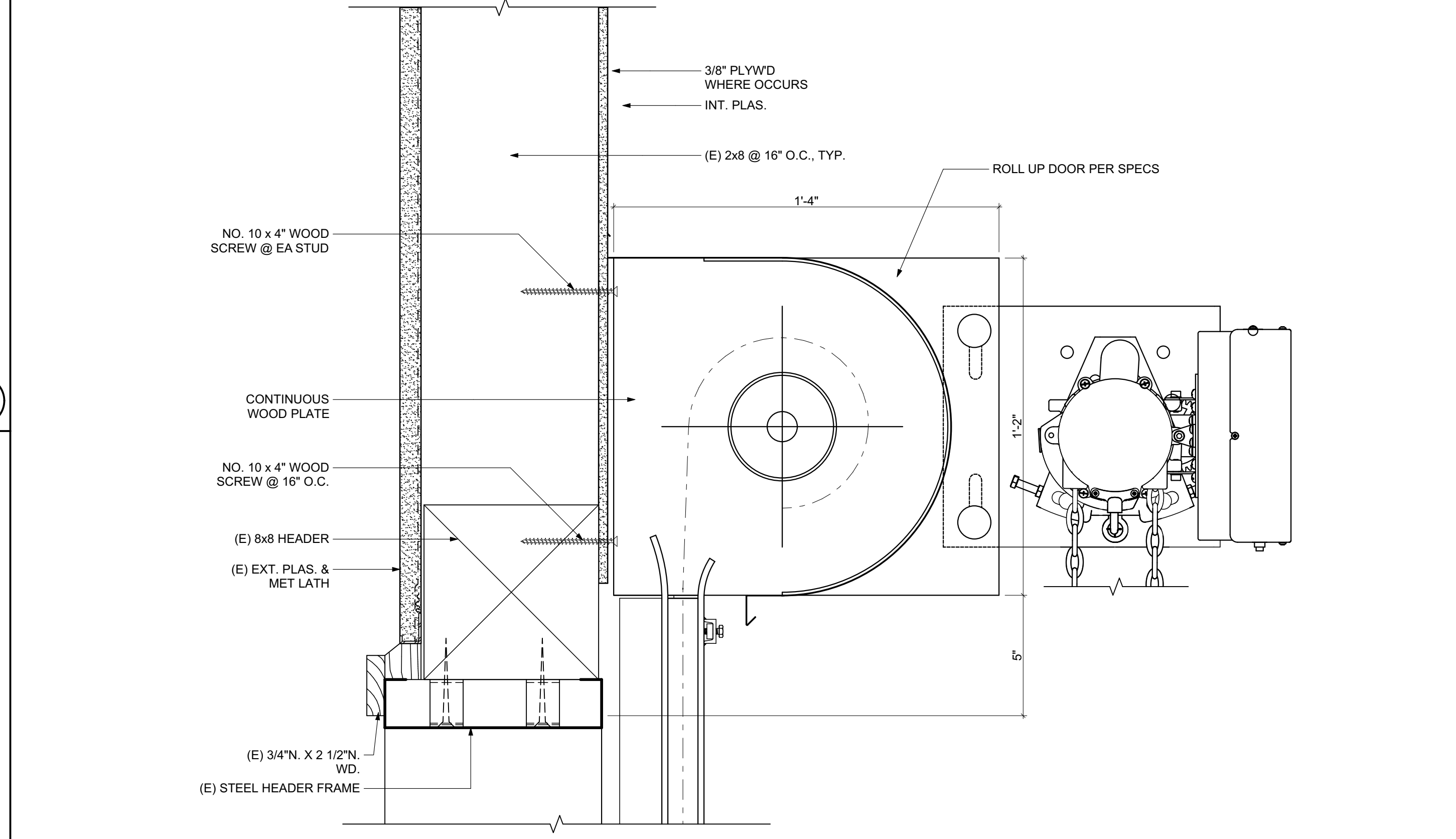
TYP. LOCKER

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



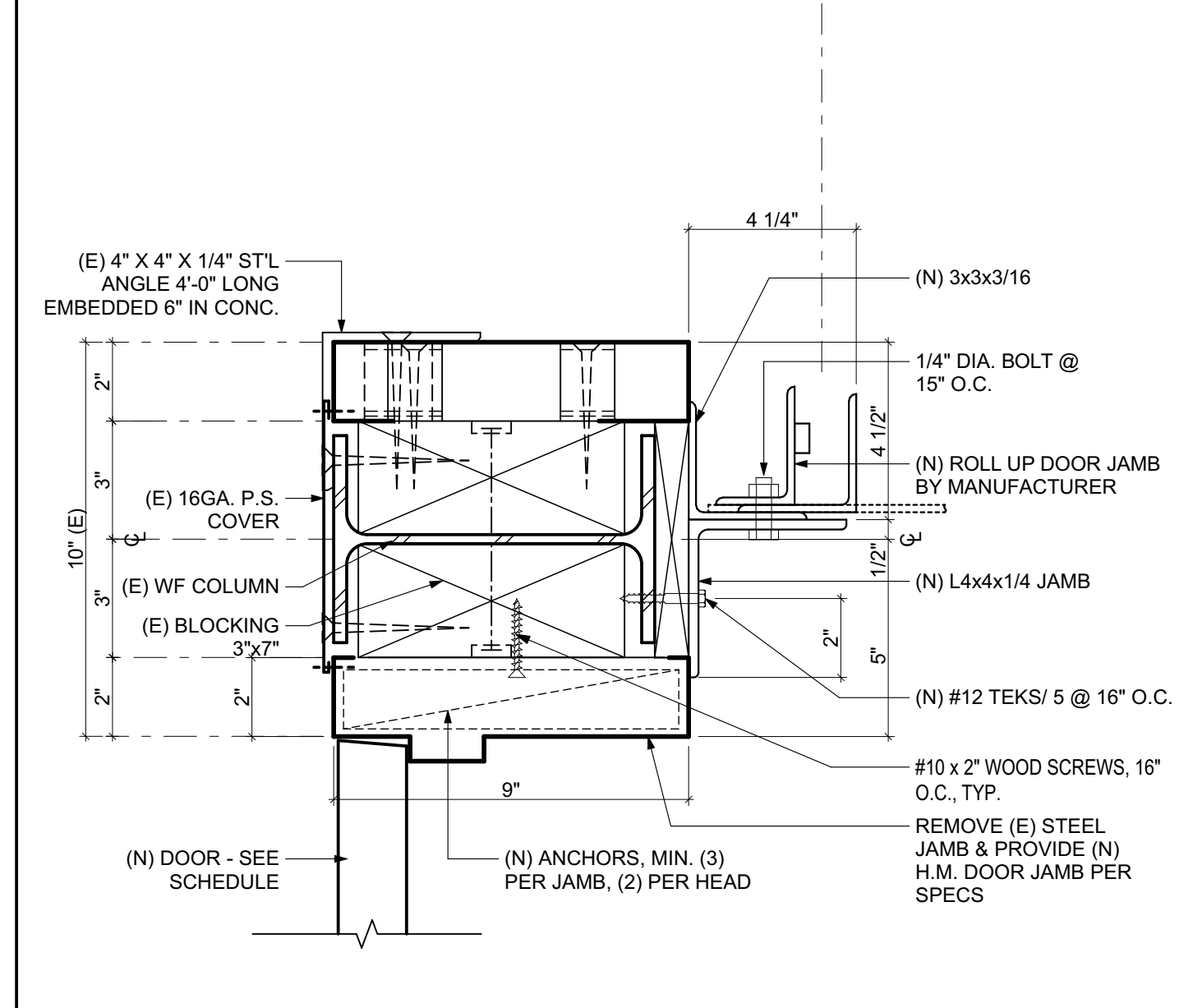
COMPRESSOR ANCHOR

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



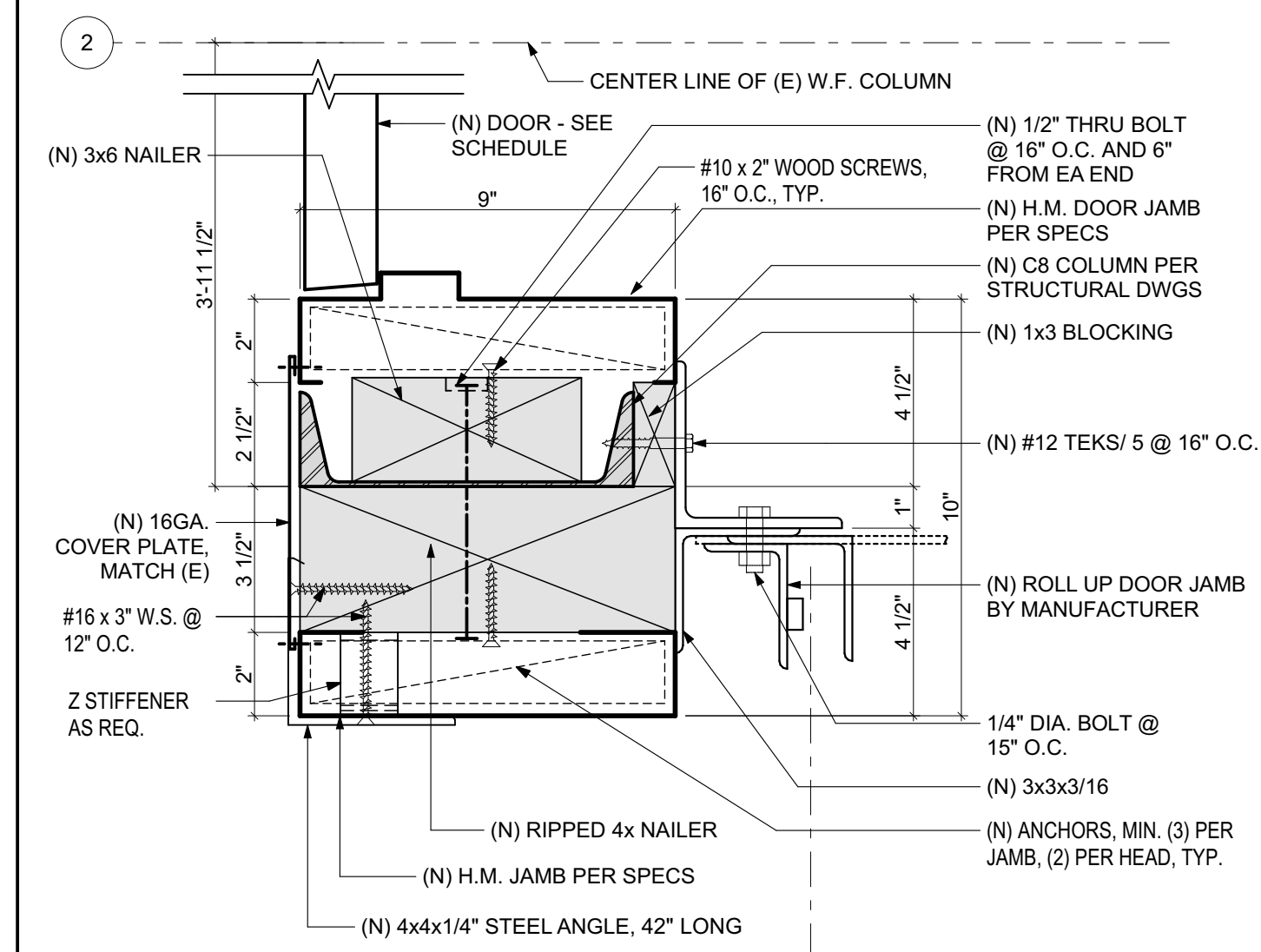
ROLL UP DOOR HEAD

SCALE: 3" = 1'-0"



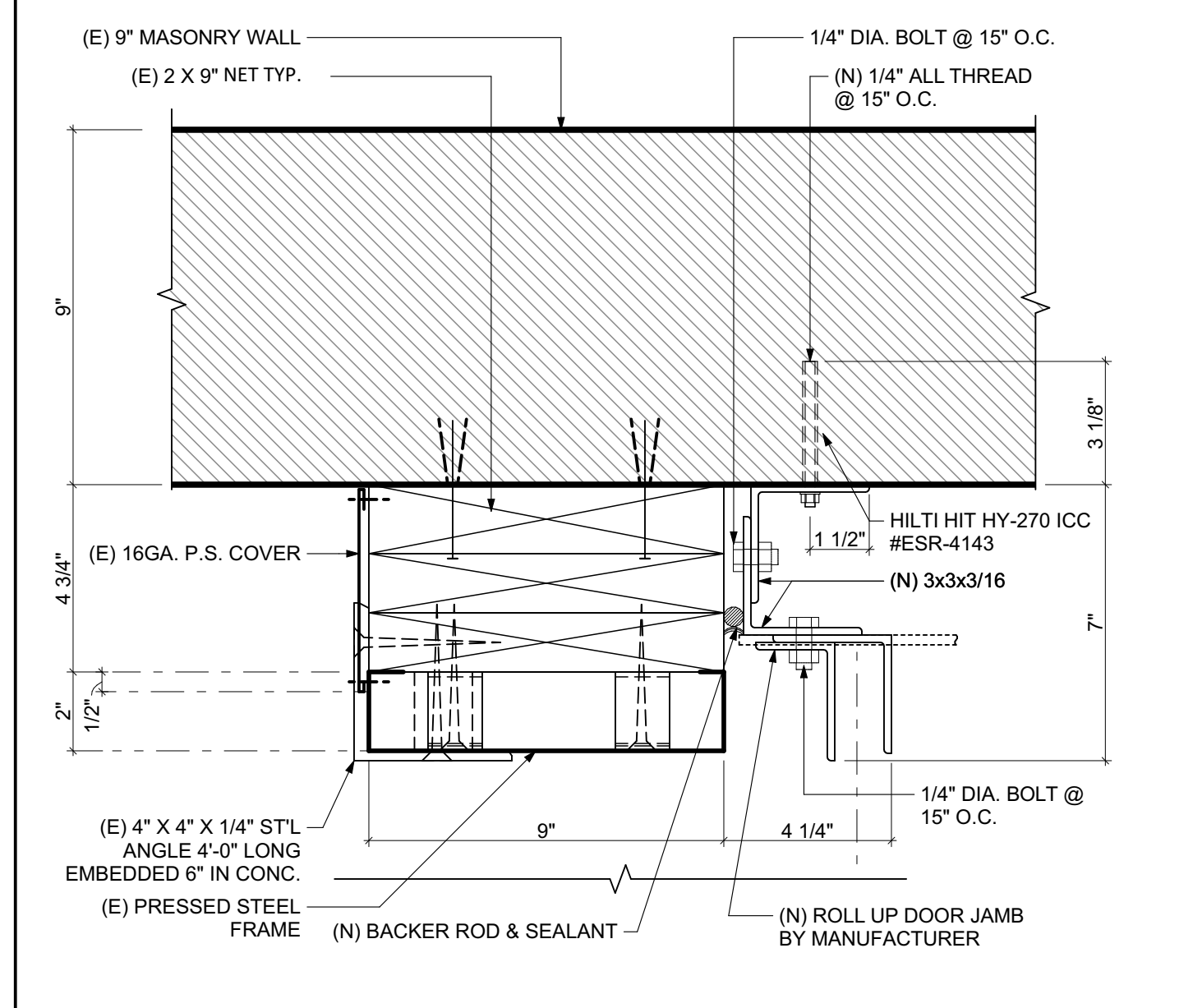
ROLL UP / H.M. DOOR JAMB

SCALE: 3" = 1'-0"



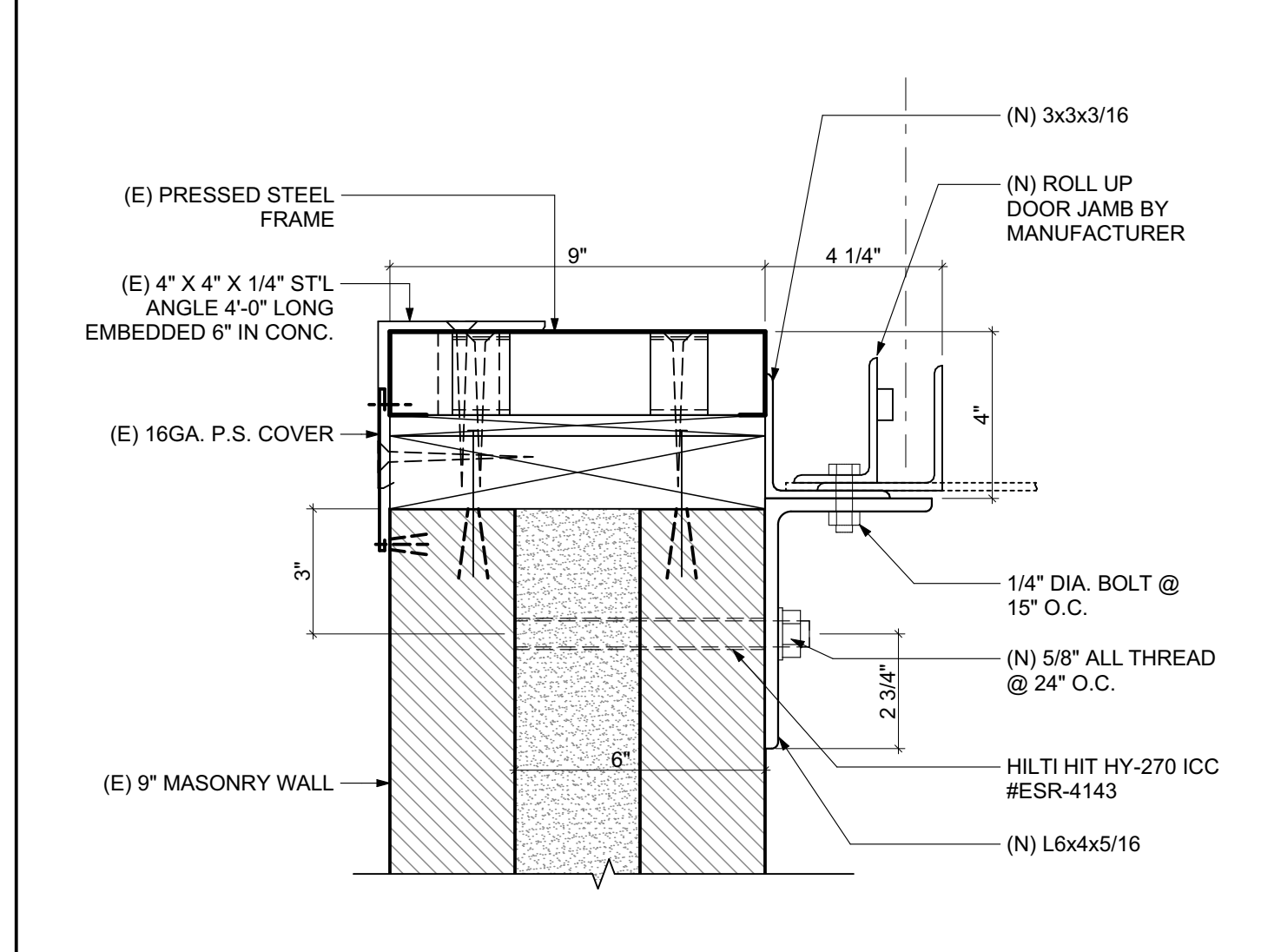
H.M. / ROLL UP DOOR JAMB

SCALE: 3" = 1'-0"



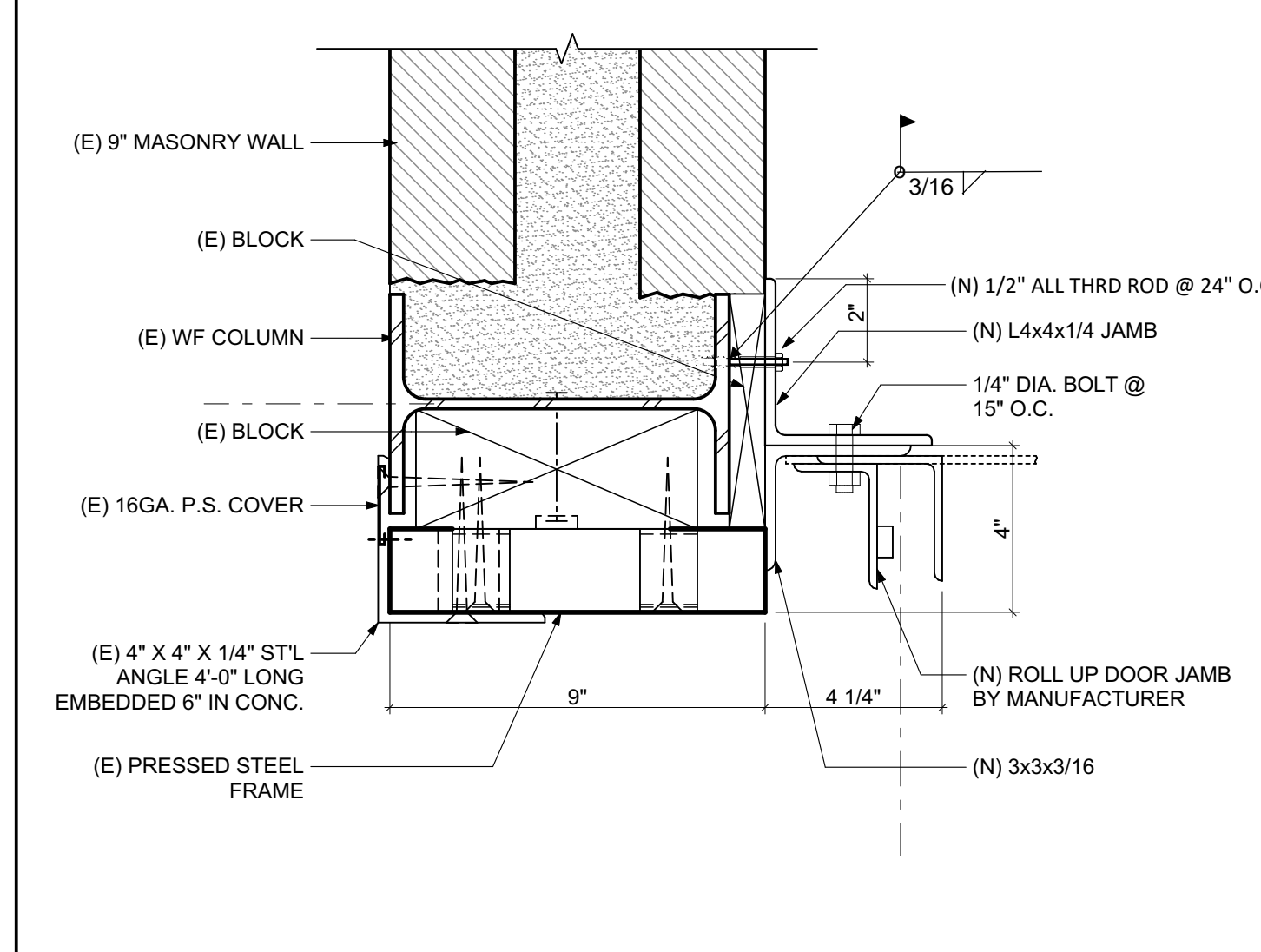
ROLL UP DOOR JAMB

SCALE: 3" = 1'-0"



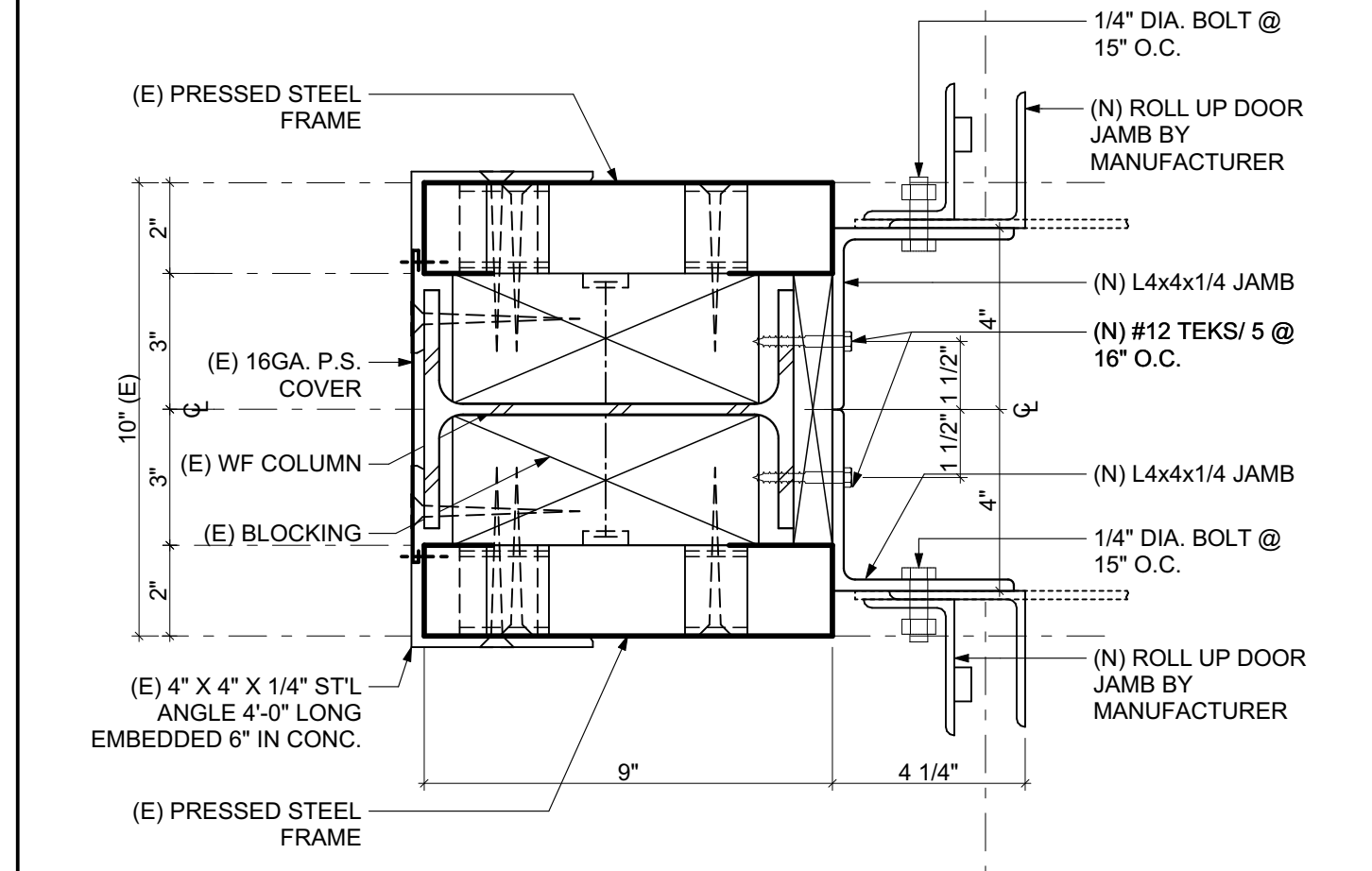
ROLL UP DOOR JAMB

SCALE: 3" = 1'-0"



ROLL UP DOOR JAMB

SCALE: 3" = 1'-0"



ROLL UP DOOR JAMB

SCALE: 3" = 1'-0"

IDENTIFICATION STAMP
 DIV. OF THE STATE ARCHITECT
 APP: 03-121843 INC.
 REVIEWED FOR
 SS FLS ACS
 DATE: 03/30/2022

ARCHITECT:
CO-AR DESIGN, INC.
 680 Brea Canyon Road, Suite 178
 Diamond Bar, California 91789
 Office: 909-598-0186
 Dennis J. Lee, NCARB dennisl@coar-design.com

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 NOTES:

REGISTERED ARCHITECT
DENNIS JOON HOLJE
 C-29166
 4/30/2022
 STATE OF CALIFORNIA

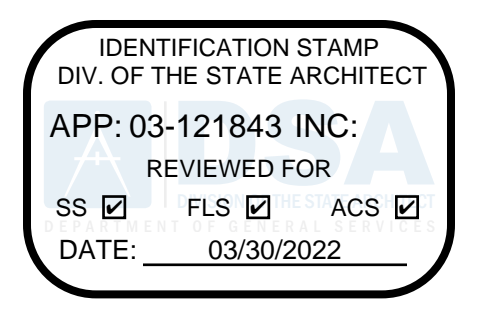
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748
 CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTAL REVISIONS:

NO.	DESCRIPTION	DATE
1	DESIGN DEVELOPMENT	4/22/2021

PROJECT NO: 202016
 SCALE: AS SHOWN
 DATE: 1/11/2022
 DRAWN BY: ED / FW
 CHECKED BY: DL
 SHEET TITLE:
ARCHITECTURAL DETAILS



ARCHITECT: CO-AR DESIGN, INC. 680 Brea Canyon Road, Suite 178 Diamond Bar, California 91789 Office: 909-598-0186

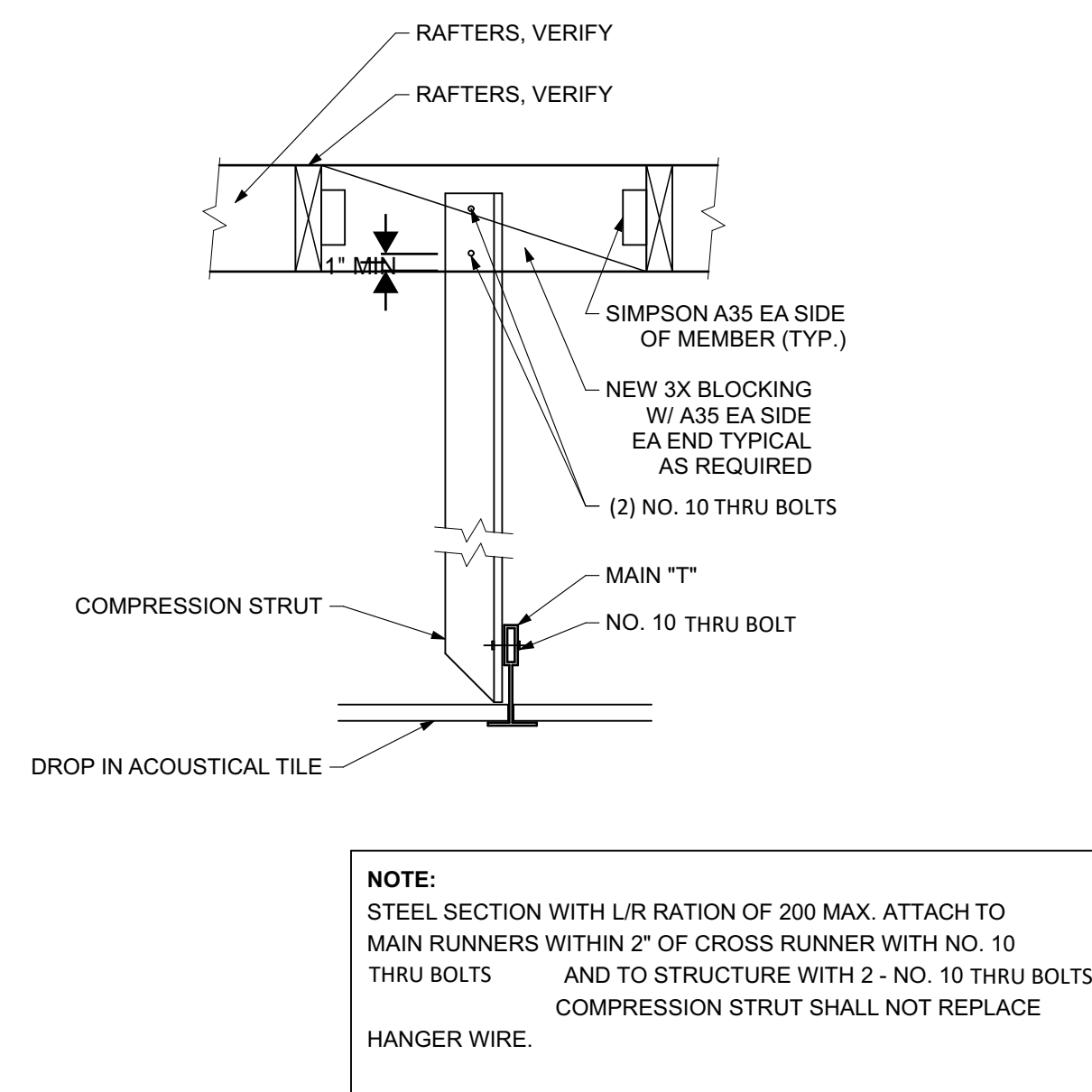
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CLASSIFICATION OF CEILING GRID
 CLASSIFICATION OF CEILING GRID IS HEAVY DUTY
 A. SUSPENSION SYSTEM: CHICAGO METALLIC CORPORATION (PA-026)
 220 - MAIN RUNNERS 15/16" - LO GLOSS WHITE
 226 - CROSS TEES 15/16" - LO GLOSS WHITE
 228 - 2" CROSS TEES 15/16" - LO GLOSS WHITE
 B. ACOUSTICAL PANELS: BY ARMSTRONG OR APPROVED EQUAL CORTEGA PATTERN - WHITE

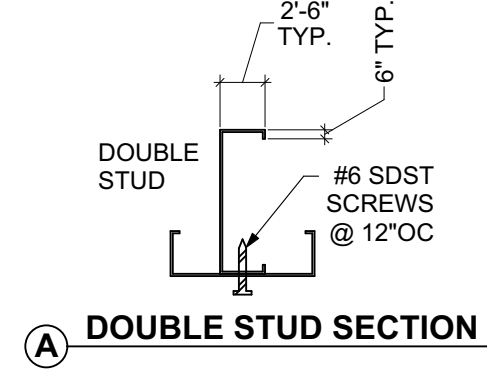
MATERIAL SUSPENSION SYSTEM FOR LAY-IN PANEL CEILING NOTES:

- 12 GA. (MIN.) HANGER WIRES MAY BE USED FOR UP TO AND INCLUDING 4'-0" GRID SPACING ALONG MAIN RUNNERS. SPLICES WILL NOT BE PERMITTED IN ANY HANGER WIRES UNLESS SPECIFICALLY APPROVED BY DSA/SSS
- PROVIDE 12 GA. HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS 8" FROM THE SUPPORT OR WITHIN 1/4 OF THE LENGTH OF THE END CONNECTIONS FOR RUNNERS WHICH ARE DESIGNED AND DETAILED TO RESIST THE APPLIED HORIZONTAL FORCES MAY BE USED IN LIEU OF THE 12 GA. HANGER WIRES SUBJECT TO DSA/SSS REVIEW AND APPROVAL.
- PROVIDE TRAPEZE OR OTHER SUPPLEMENTARY MEMBERS AT OBSTRUCTION TO MAIN HANGER SPACING. PROVIDE ADDITIONAL HANGERS, STRUTS OR BRACES AS REQUIRED AT ALL CEILING BREAKS, SOFFITS OR DISCONTINUOUS AREA. HANGER WIRES THAT ARE MORE THAN 1 IN 8 OUT OF PLUMB ARE TO HAVE COUNTER SLOPING WIRES.
- CEILING GRID MEMBERS MAY BE ATTACHED TO NOT MORE THAN 2 ADJACENT WALLS. CEILING GRID MEMBERS SHOULD BE AT LEAST 1/2" FREE OF OTHER WALLS. IF WALLS RUN DIAGONALLY TO CEILING GRID SYSTEM RUNNERS, ONE END OF MAIN AND CROSS RUNNERS SHOULD BE FREE A MINIMUM OF 3/4" CLEAR OF WALL.
- AT THE PERIMETER OF THE CEILING AREA WHERE MAIN OR CROSS RUNNERS ARE NOT CONNECTED TO THE ADJACENT WALL, PROVIDE INTERCONNECTION BETWEEN THE RUNNERS AT THE FREE END TO PREVENT LATERAL SPREADING. A METAL STRUT OF 10 GA. WIRE WITH A POSITIVE MECHANICAL CONNECTION TO THE RUNNER MAY BE USED WHERE PERPENDICULAR DISTANCE FROM THE WALL TO THE FIRST PARALLEL RUNNER IS 12" OR LESS, THIS INTERLOCK IS NOT REQUIRED.
- PROVIDE SETS OF FOUR 12 GA. SPAYED WIRES ORIENTED 90° FROM EACH OTHER AT THE FOLLOWING SPACING NOT MORE THAN 12X12 ON CENTERS. PROVIDE BRACING WIRES AT LOCATIONS NOT MORE THAN 1/2 THE SPACING GIVEN ABOVE FROM EACH PERIMETER WALL AND AT THE EDGE OF VERTICAL CEILING OFFSETS. THE SLOPE OF THESE WIRES SHOULD NOT EXCEED 45° FROM THE PLANE OF THE CEILING AND SHOULD BE TAUT WITHOUT CAUSING THE CEILING TO LIFT. SPLICES IN BRACING WIRES ARE NOT TO BE PERMITTED.
- FASTEN HANGER WIRES NOT LESS THAN 3 TIGHT TURNS. FASTEN BRACING WIRES WITH 4 TIGHT TURNS. HANGER OR BRACING WIRE ANCHOR TO STRUCTURE SHOULD BE INSTALLED IN SUCH A MANNER THAT THE DIRECTION OF THE WIRE ALIGNS AS CLOSELY AS POSSIBLE WITH THE DIRECTION OF THE FORCE ACTING ON THE WIRE.
- SEPARATE ALL CEILING HANGERS AND BRACING WIRES AT LEAST 6" FROM THE UNBRACED DUCTS, PIPES CONDUITS, ETC. IT IS ACCEPTABLE TO ATTACH LIGHTWEIGHT ITEMS, SUCH AS SINGLE ELECTRICAL CONDUIT NOT EXCEEDING 3/4" NOMINAL DIA., TO HANGER WIRES USING CONNECTORS ACCEPTABLE TO DSA/SSS
- ATTACH ALL LIGHT FIXTURES TO THE CEILING GRID RUNNERS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURES.
- FLUSH OR RECESSED LIGHT FIXTURES AND AIR TERMINALS OR SERVICES WEIGHING LESS THAN 56 LBS. MAY BE SUPPORTED DIRECTLY ON THE RUNNERS OF THE HEAVY DUTY GRID. BUT, IN ADDITION, THEY MUST HAVE A MINIMUM OF 12 GA. SLACK SAFETY WIRE ATTACHED TO THE FIXTURE AT DIAGONAL CORNERS AND ANCHORED TO THE STRUCTURE ABOVE. ALL 2'X4' LIGHT FIXTURES MUST HAVE SLACK SAFETY WIRES AT EACH CORNER. FLUSH OR RECESSED LIGHT FIXTURE AND AIR TERMINALS OR SERVICES WEIGHING 56 LBS. OR MORE MUST BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN 4 TAIT 12 GA. WIRES EACH ATTACHED TO FIXTURES AND TO THE STRUCTURE ABOVE REGARDLESS OF THE TYPE OF CEILING GRID SYSTEM USED.
- SUPPORT SURFACE MOUNTED LIGHT FIXTURES BY AT LEAST TWO POSITIVE DEVICES WHICH SURROUND THE CEILING RUNNER AND WHICH ARE EACH SUPPORTED FROM THE STRUCTURE BY A 12 GA. WIRE. SPRING CLIPS OR CLAMPS THAT CONNECT ONLY TO THE RUNNER ARE NOT ACCEPTABLE. PROVIDE ADDITIONAL SUPPORTS WHEN LIGHT FIXTURES ARE 6" OR LONGER.

METAL STUD COMPRESSION STRUT
 USE 1/2" DIA. EMT FOR MAXIMUM LENGTH 2'-6"
 USE 3/4" DIA. EMT FOR MAXIMUM LENGTH 4'-0"
 USE 1" DIA. EMT FOR MAXIMUM LENGTH 8'-6"
 USE 1-1/2" DIA. EMT FOR MAXIMUM LENGTH 8'-6"
 USE 1 5/8" X 20 GA SS METAL STUDS FOR MAXIMUM LENGTH 7'-2"
 USE DOUBLE 1 5/8" X 20 GA SS METAL STUDS (SEE DETAIL BELOW) MAXIMUM LENGTH 12'-0"
 USE DOUBLE 2-1/2" X 20 GA SS METAL STUDS (SEE DETAIL BELOW) MAXIMUM LENGTH 17'-0"
 USE DOUBLE 3-1/2" X 20 GA SS METAL STUDS (SEE DETAIL BELOW) MAXIMUM LENGTH 22'-8"



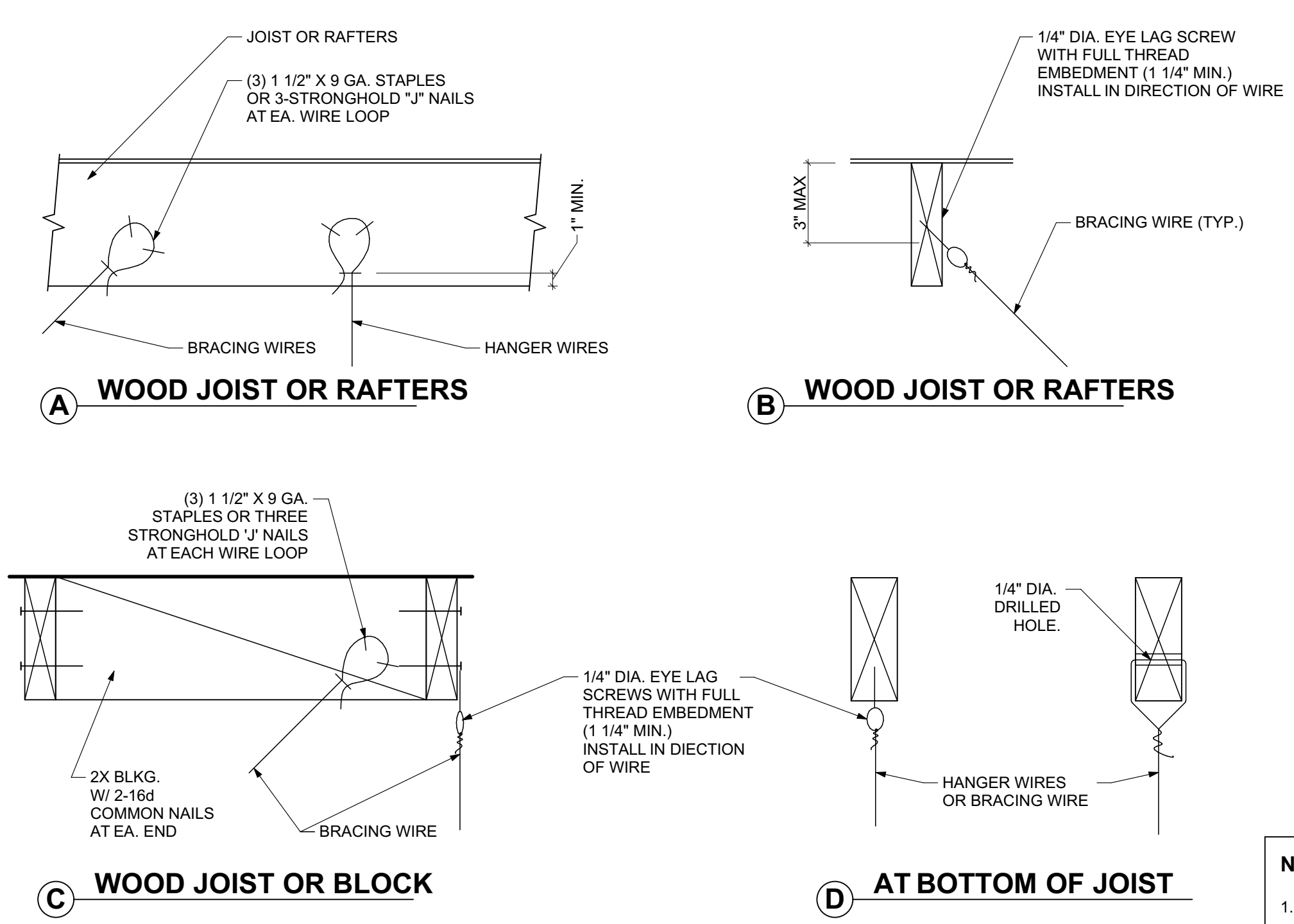
NOTE:
 STEEL SECTION WITH L/R RATION OF 200 MAX. ATTACH TO MAIN RUNNERS WITHIN 2" OF CROSS RUNNER WITH NO. 10 THRU BOLTS AND TO STRUCTURE WITH 2 - NO. 10 THRU BOLTS. COMPRESSION STRUT SHALL NOT REPLACE HANGER WIRE.



A DOUBLE STUD SECTION

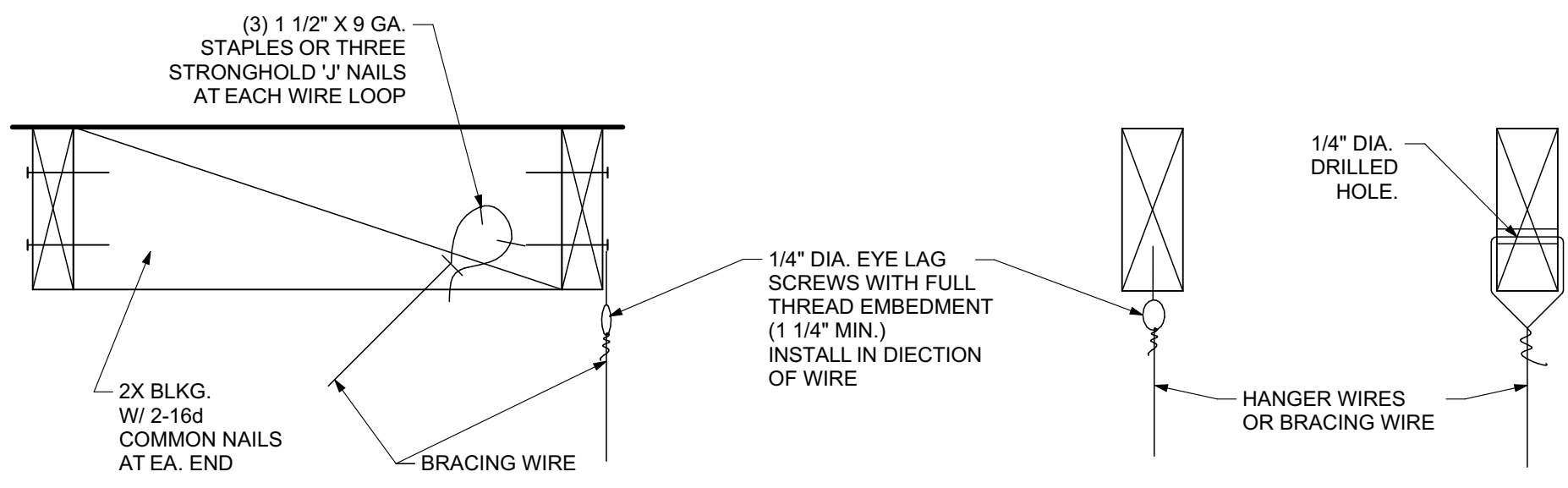
TYP. COMPRESSION STRUT (6) NOT TO SCALE

TYP. CEILING NOTES (1)



A WOOD JOIST OR RAFTERS

B WOOD JOIST OR RAFTERS

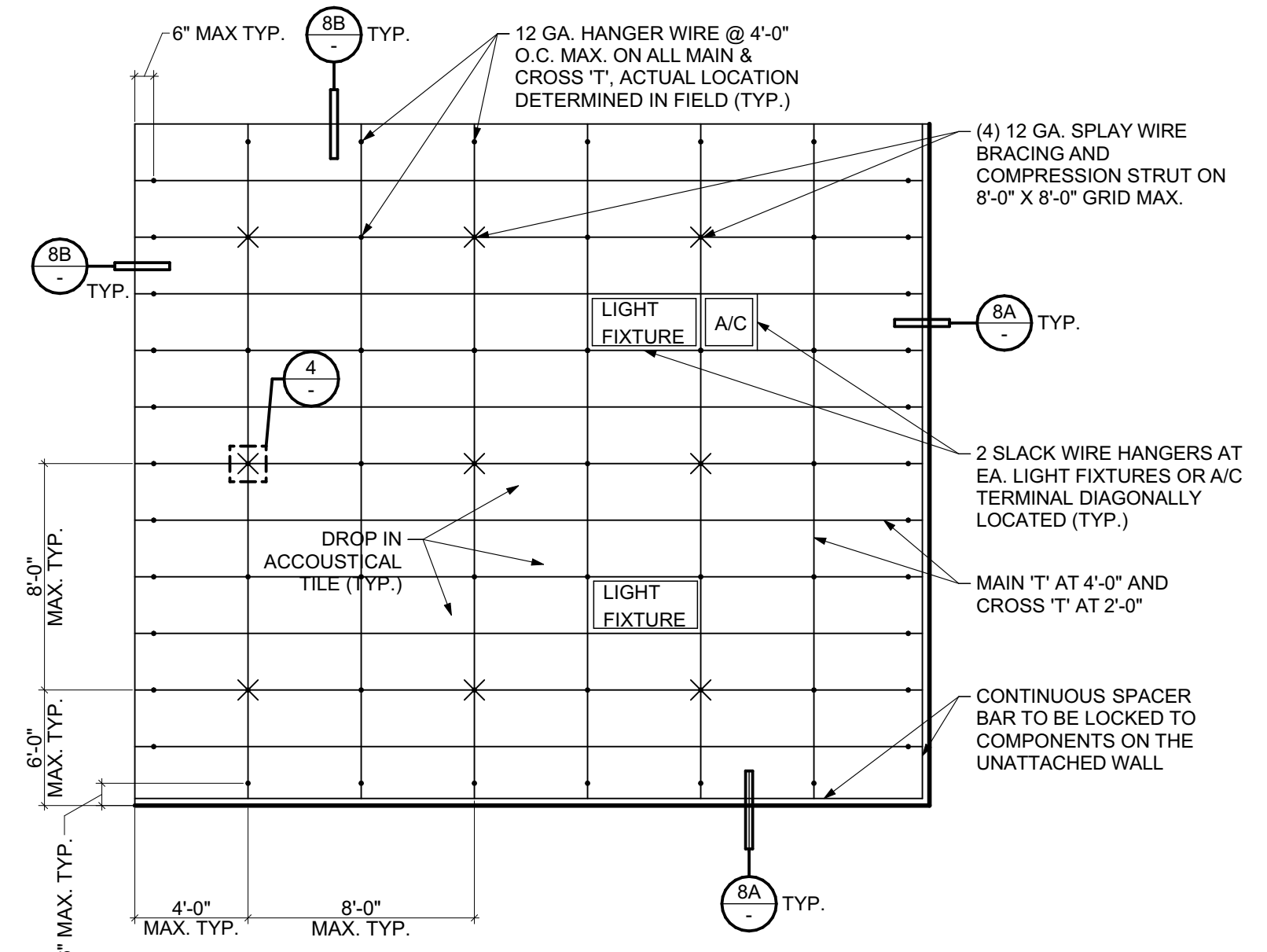


C WOOD JOIST OR BLOCK

D AT BOTTOM OF JOIST

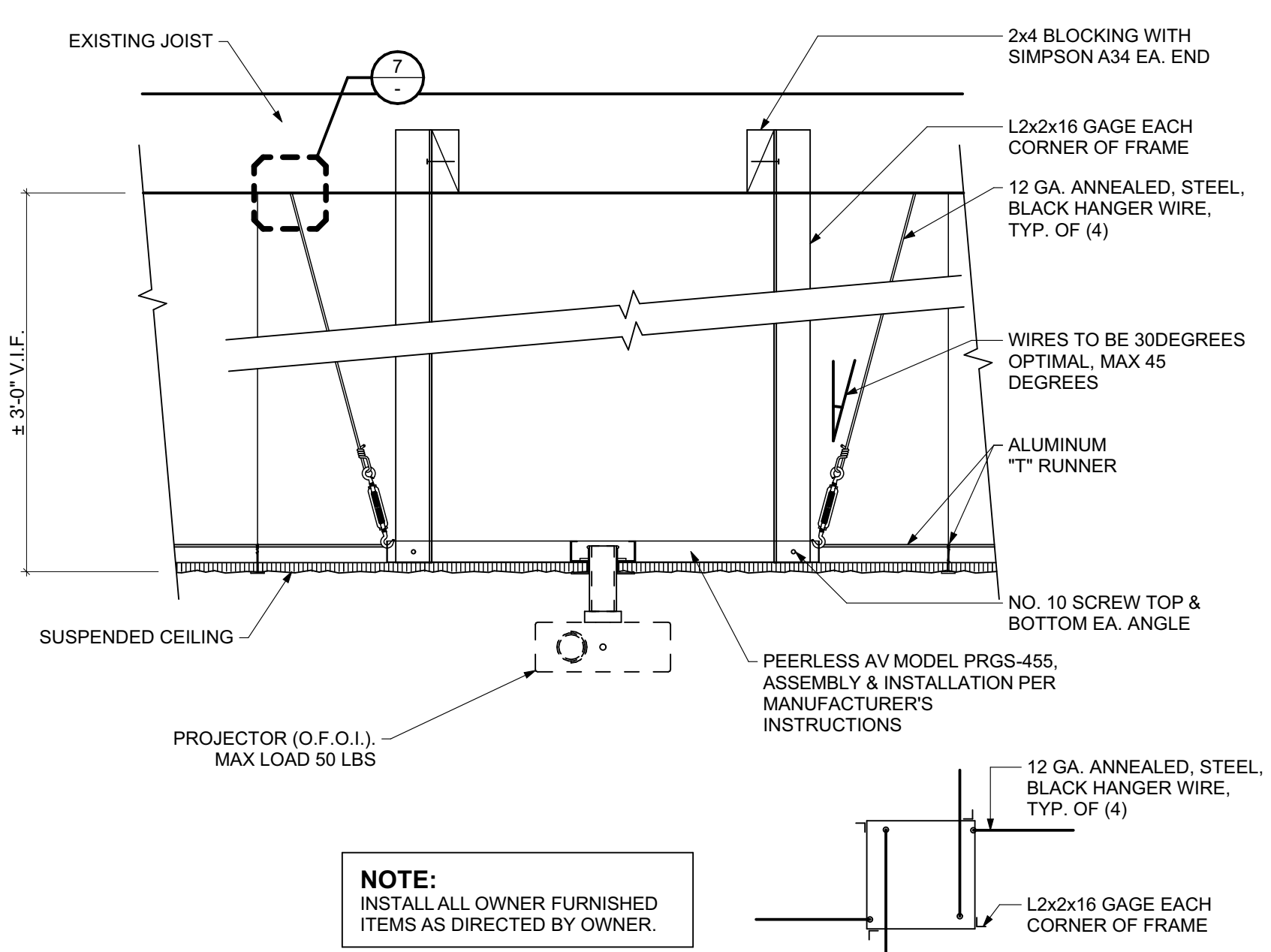
NOTE:
 1. HANGER WIRES - (3) TIGHT TURNS IN 1 1/2" MAX. (TYP. ALL HANGER WIRES BOTH ENDS)
 2. BRACING WIRES - (4) TIGHT TURNS IN 1 1/2" MAX. (TYP. ALL BRACING WIRES BOTH ENDS)
 3. FOR BRACING WIRES FULLY EMBED SCREW EYE THREADS IN DIRECTION OF WIRE

TYP. WIRE CONNECTION TO ROOF STRUCTURE (7) NOT TO SCALE



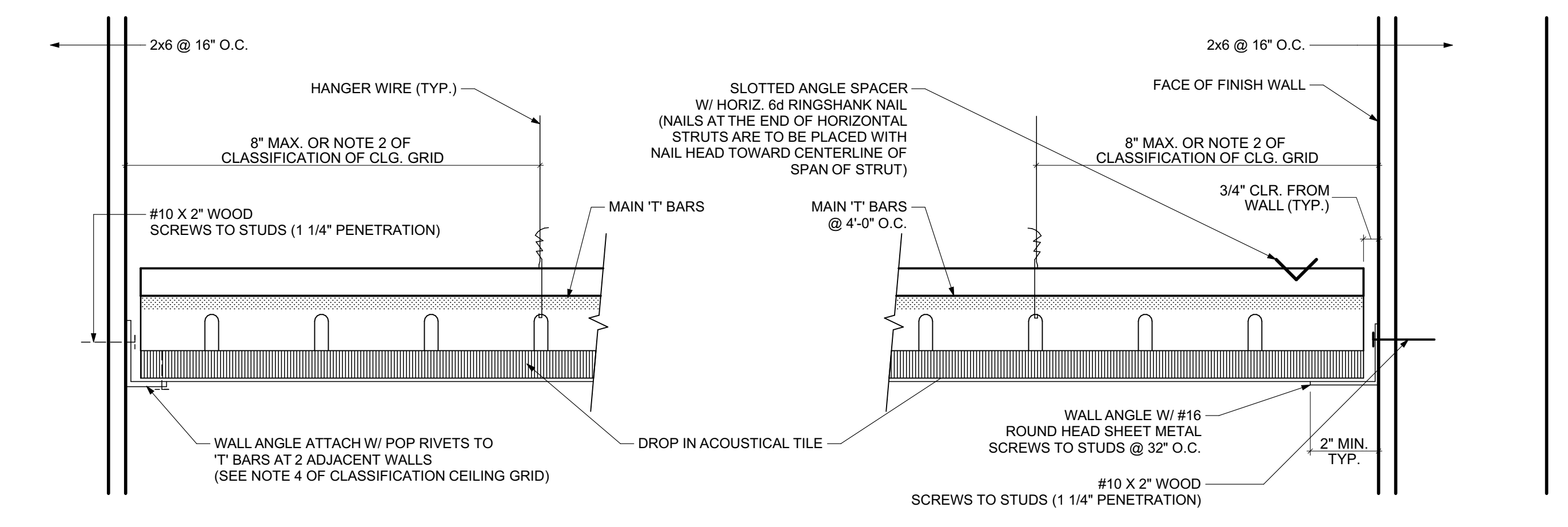
NOTE:
 1. FOR ACTUAL CEILING LAYOUT REFER TO REFLECTED CEILING PLAN
 2. ALL INSTALLATION TO COMPLY W/ CBC
 3. LIGHT FIXTURES AND A/C TERMINALS OR SERVICES WEIGHING LESS THAN 56 POUNDS MAY BE SUPPORTED DIRECTLY ON RUNNERS OF HEAVY DUTY GRID SYSTEM.

TYP. SUSPENDED ACOUSTICAL CEILING PLAN (3) NOT TO SCALE



NOTE:
 INSTALL ALL OWNER FURNISHED ITEMS AS DIRECTED BY OWNER.

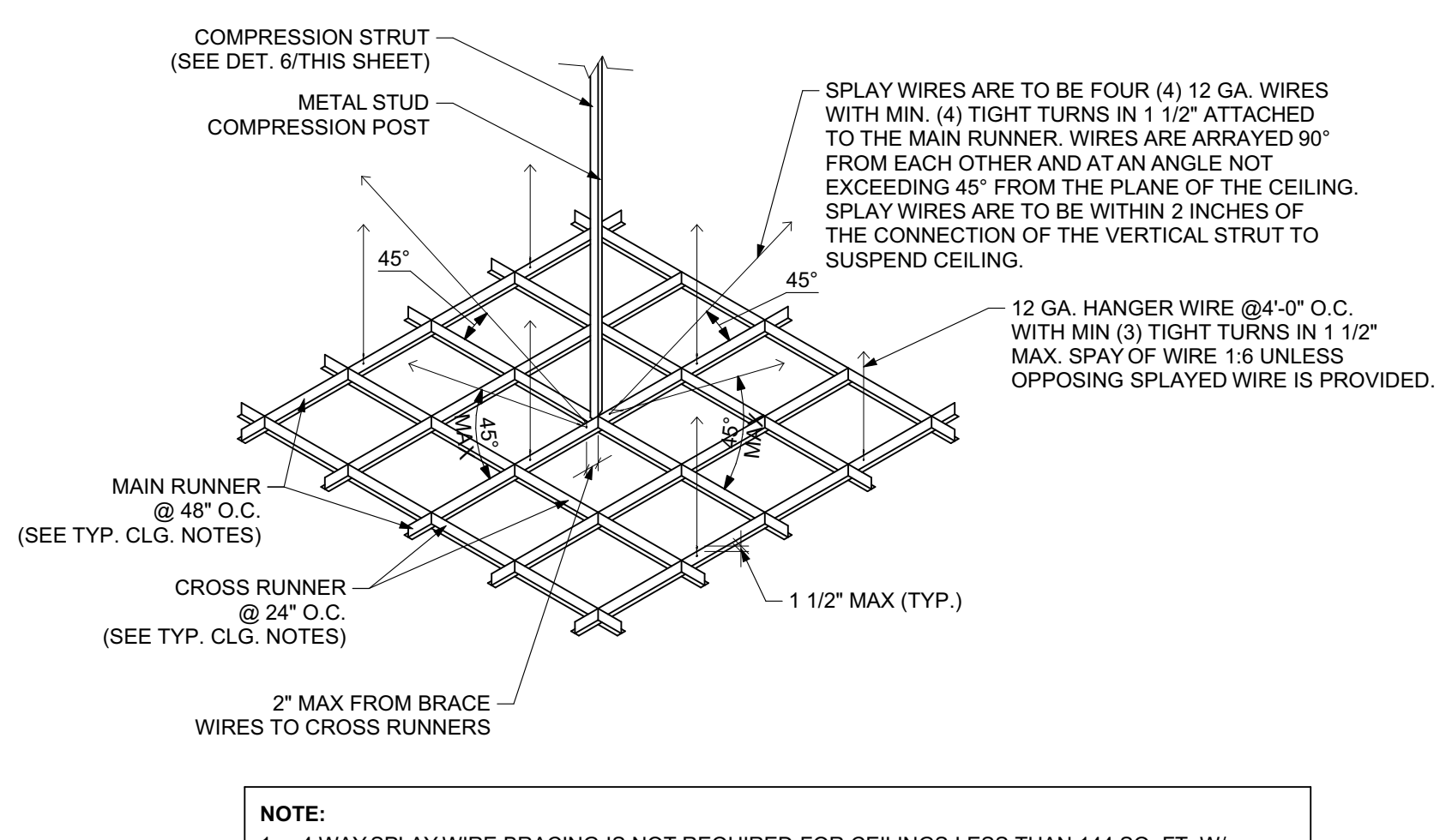
TYP. PROJECTOR MOUNTING (20) NOT TO SCALE



A FIXED END

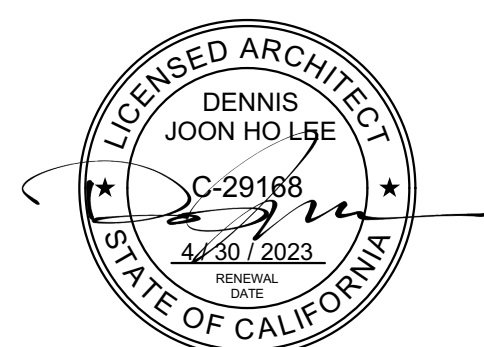
B LOOSE END

TYP. PERIMETER ATTACHMENT (8) SCALE: 3/8" = 1'-0"



NOTE:
 1. 4 WAY SPLOY WIRE BRACING IS NOT REQUIRED FOR CEILINGS LESS THAN 144 SQ. FT. W/ PARTITIONS TO STRUCTURE. ALL CEILINGS MUST HAVE PERIMETER AND VERTICAL WIRE HANGERS.
 2. LAG SCREWS OR FASTENERS FOR SPLOY WIRE BRACING SHOULD BE EMBEDDED IN TO THE STRUCTURE AT LEAST 1 1/2".

TYP. SPLOY WIRE (4) NOT TO SCALE



CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748

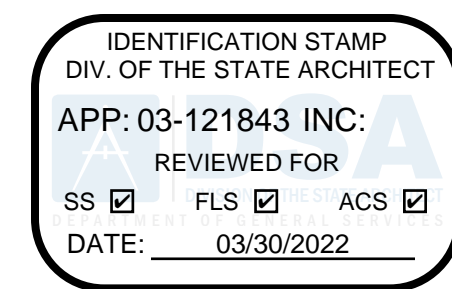
ROWLAND UNIFIED SCHOOL DISTRICT 1830 NOGALES STREET ROWLAND HEIGHTS, CA 91748

1 DESIGN DEVELOPMENT 4/22/2021

PROJECT NO: 202016
 SCALE: AS SHOWN
 DATE: 1/18/2022
 DRAWN BY: ED / FW
 CHECKED BY: DL

TYPICAL SUSPENDED CEILING DETAILS

SHEET NO:



ARCHITECT:
CO-AR CO-AR DESIGN, INC.
 680 Brea Canyon Road, Suite 178
 Diamond Bar, California 91789
 Office: 909-598-0186
 DENNIS J. LEE, NCARB dennisl@coar-design.com

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NOTES

ABBREVIATIONS:

ALUM	ALUMINUM
ANOD	ANODIZED
B.ANOD	BRONZE ANODIZED
C.ANOD	CLEAR ANODIZED
GL	GLASS
HC	HOLLOW CORE
HWWD	HARDWOOD
HM	HOLLOW METAL
F.F.	FACTORY FINISH
FOAM	FOAM CORE
MTL	METAL
PCC	POLYMER CELL CORE
P.LAM	PLASTIC LAMINATE
P.MTL	PRESSED METAL
P.NICK	POLISHED NICKEL
PTD	PAINTED
S.ANOD	SATIN ANODIZED
SC	SOLID CORE
SGPT	SEMI-GLOSS PAINT
S.S.	STAINLESS STEEL
STL	STEEL
STN	STAIN
WD	WOOD

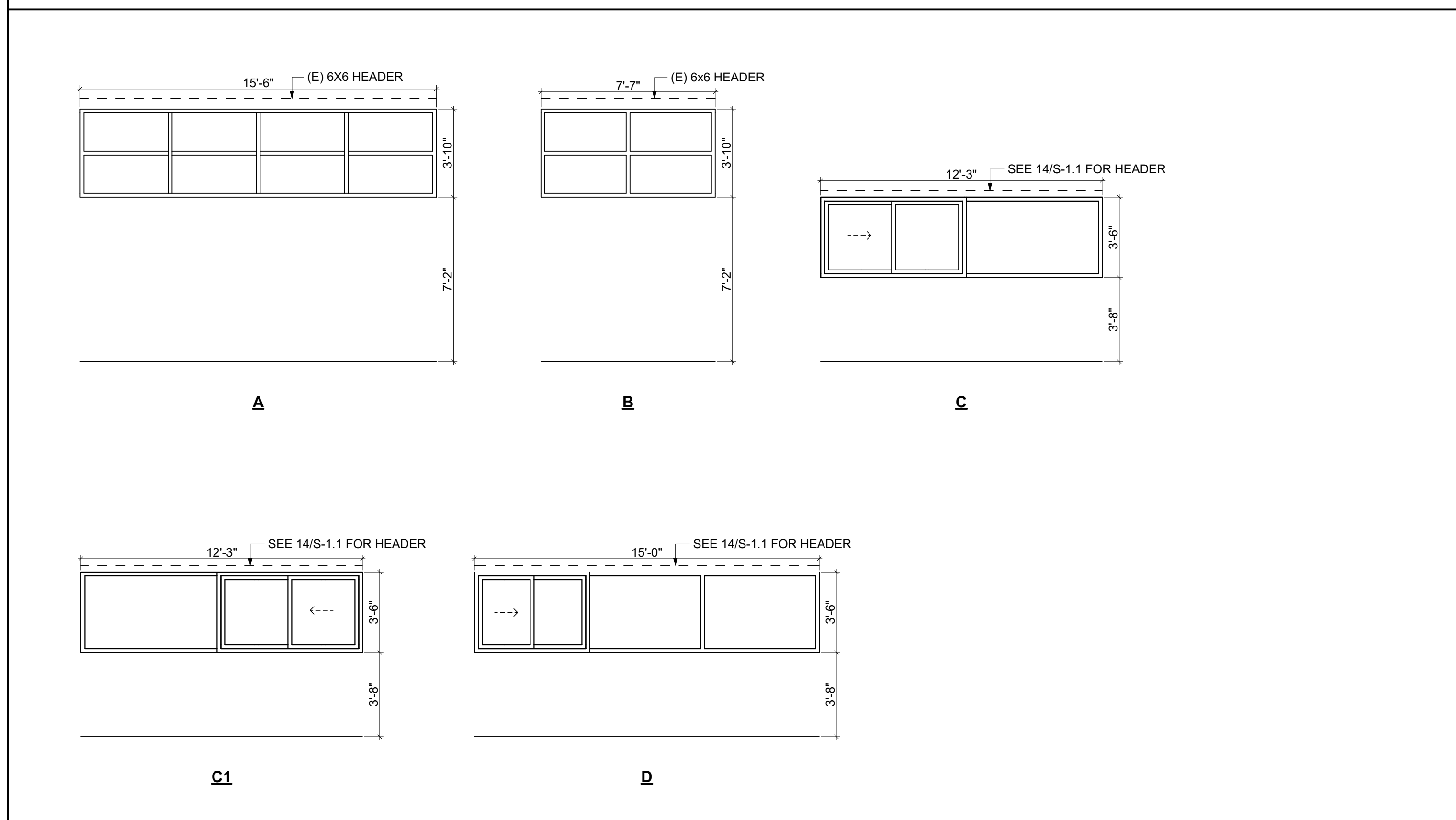
GLAZING TYPE:

CGL	CLEAR GLASS
OSL	OBSCURE GLASS
TGL	TINTED GLASS
-IN	INSULATED, DOUBLE PANE
-T	TEMPERED

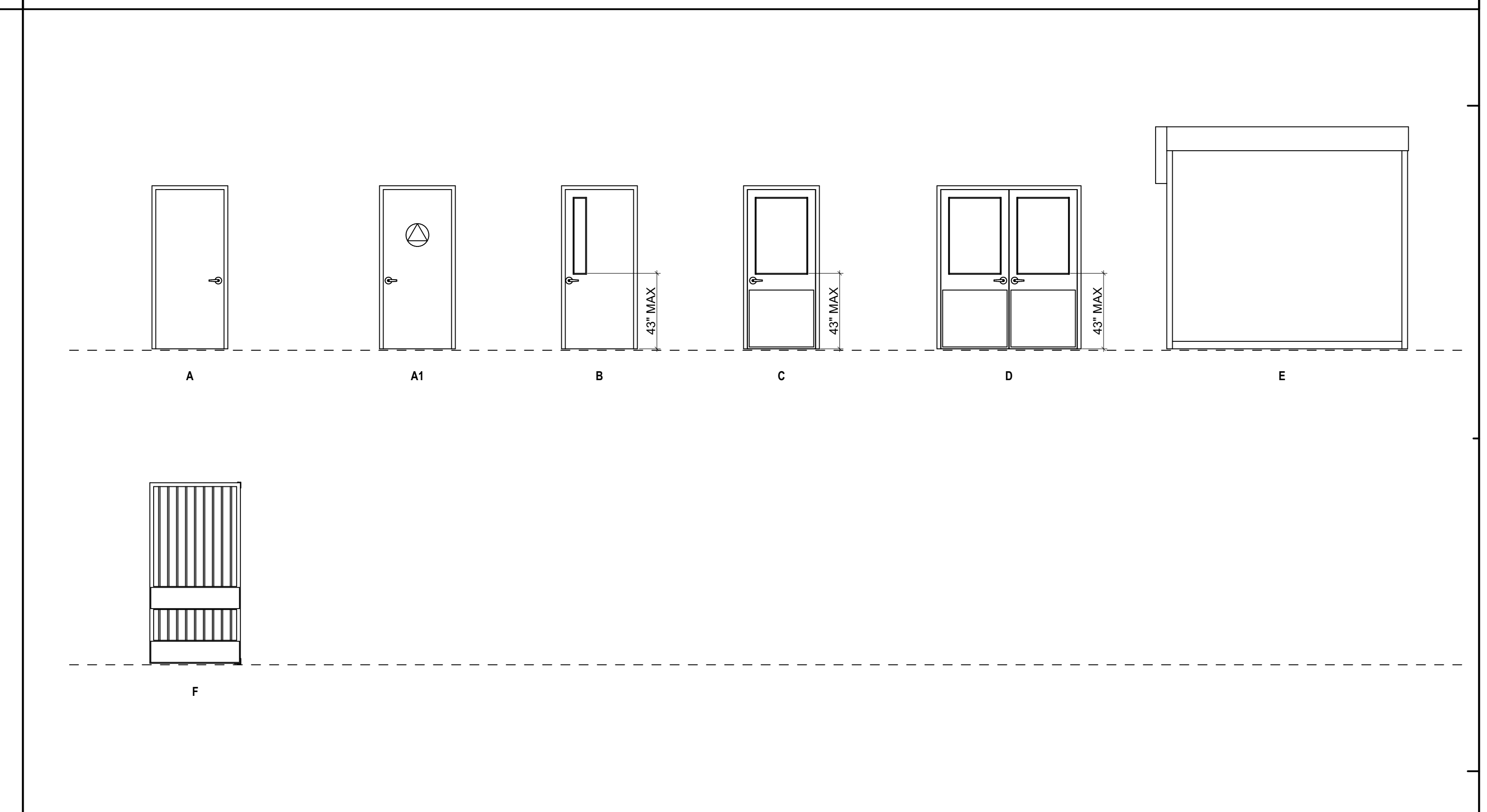
NO.	NEW / EX	OPERATION	WIDTH	HEIGHT	SILL HEIGHT	AREA	QNTY	GLAZING			FRAME			DETAILS			U VALUE	SHGC	FIRE RATING	NOTES / REMARKS
								THK	TYPE	MAT	FINISH	HEAD	JAMB	SILL						
A	New	FIXED		3'-10"	7'-2"	59	3	1"	TGL-IN-T	ALUM	ANOD	1/A-5.1	3,4/A-5.1	2,5/A-5.1						
B	New	FIXED		3'-10"	7'-2"	29	1	1"	TGL-IN-T	ALUM	ANOD	1/A-5.1	3,4/A-5.1	2/A-5.1						
C	New	X / O / O		3'-6"	3'-8"	43	1	1"	CGL-IN-T	STEEL	F.F.	7/A-5.1	7/A-5.1	8/A-5.1			45 MIN	FIRE RATED GLAZING OH-45 OR W-60		
C1	New	O / O / X		3'-6"	3'-8"	43	1	1"	CGL-IN-T	STEEL	F.F.	7/A-5.1	7/A-5.1	8/A-5.1			45 MIN	FIRE RATED GLAZING OH-45 OR W-60		
D	New	X / O / O / O		3'-6"	3'-8"	53	1	1"	CGL-IN-T	STEEL	F.F.	7/A-5.1	7/A-5.1	8/A-5.1			45 MIN	FIRE RATED GLAZING OH-45 OR W-60		
							7													

NO.	NEW / EX	TYPE	WIDTH	HEIGHT	THK	DOOR				FRAME		HWDR GROUP	FIRE RATING	REMARKS
						MATERIAL	FINISH	GLAZING	UNDERCUT / LOUVER	MATERIAL	FINISH			
1	Existing	A	3'-0"	7'-0"	1 3/4"	HM	SGPT			HM	SGPT	07		
2	New	A	3'-0"	7'-0"	1 3/4"	HM	SGPT			HM	SGPT	03		PROVIDE 30" CLEAR OPENING
3	New	B	3'-0"	7'-0"	1 3/4"	HM	SGPT	CGL-T		HM	SGPT	04		
4	New	A	3'-0"	7'-0"	1 3/4"	HM	SGPT			HM	SGPT	03		
5	New	C	3'-0"	7'-0"	1 3/4"	HM	SGPT	CGL-T		HM	SGPT	04	45 MIN	FIRE RATED GLAZING D-H
6	New	A1	3'-0"	7'-0"	1 3/4"	HM	SGPT		1/2" UC	HM	SGPT	05	45 MIN	
7	New	D	6'-0"	7'-0"	1 3/4"	HM	SGPT	CGL-T		HM	SGPT	06	45 MIN	FIRE RATED GLAZING D-H
8	New	E	10'-3"	8'-8"	-	STL	F.F.			STL	F.F.	09		VERIFY OPENING DIMENSIONS IN FIELD
9	New	E	15'-2"	8'-8"	-	STL	F.F.			STL	F.F.	09		VERIFY OPENING DIMENSIONS IN FIELD
10	New	E	15'-2"	8'-8"	-	STL	F.F.			STL	F.F.	09		VERIFY OPENING DIMENSIONS IN FIELD
11	New	E	11'-2"	8'-8"	-	STL	F.F.			STL	F.F.	09		VERIFY OPENING DIMENSIONS IN FIELD
12	New	E	10'-0"	8'-8"	-	STL	F.F.			STL	F.F.	09		VERIFY OPENING DIMENSIONS IN FIELD
13	New	B	3'-0"	7'-0"	1 3/4"	HM	SGPT	CGL-T		HM	SGPT	03		
14	New	A	3'-0"	7'-0"	1 3/4"	HM	SGPT			HM	SGPT	02		
15	New	E	12'-0"	8'-0"	0 10/16"	STL	F.F.			STL	F.F.	09		VERIFY OPENING DIMENSIONS IN FIELD
16	New	A	3'-0"	8'-6"	1 3/4"	HM	SGPT			HM	SGPT	01		
G1	New	F	4'-0"	8'-0"	-	STL	SGPT			STL	SGPT	08		

WINDOW TYPES



DOOR TYPES



NOTES

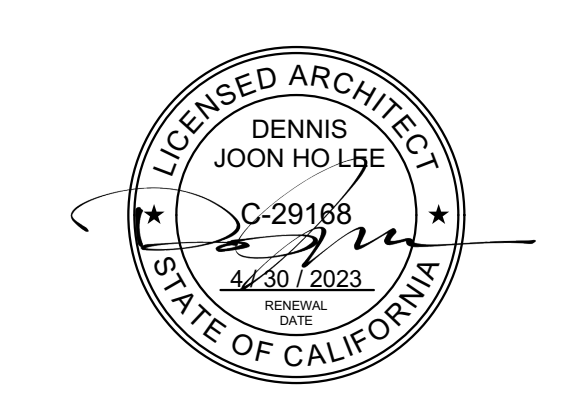
WINDOW GENERAL NOTES

- OVERALL DIMENSIONS SHOWN ARE NOMINAL DESIGN DIMENSIONS. SEE DETAILS AND FIELD VERIFY ROUGH OPENING / EXISTING OPENING DIMENSIONS TO DETERMINE OVERALL FABRICATION DIMENSIONS.
- ALL GLAZING IN DOORS AND ALL SIDELITE/ TRANSOM GLAZING TO BE TEMPERED OR LAMINATED GLASS U.O.N.
- ALL OPERABLE PARTS OF WINDOWS SHALL BE 48" MAX FROM FINISHED FLOOR.
- OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAXIMUM.

NOTES

DOOR GENERAL NOTES

- THE FORCE FOR PUSHING OR PULLING OPEN A DOOR OR GATE SHALL BE AS FOLLOWS:
 - INTERIOR HINGED DOORS AND GATES: 5 LBS MAX.
 - SLIDING OR FOLDING DOORS: 5 LBS MAX.
 - REQUIRED FIRE DOORS: THE MINIMUM OPENING FORCE ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY, NOT TO EXCEED 15 LBS.
 - EXTERIOR HINGED DOORS: 5 LBS MAX.
 THESE FORCES DO NOT APPLY TO THE FORCE REQUIRED TO RETRACT LATCH BOLTS OR DISENGAGE OTHER DEVICES THAT HOLD THE DOOR OR GATE IN A CLOSED POSITION. (CBC 11B-404.2.9)
- EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT. (CBC 1010.1.9)
- REFER TO FLOOR PLANS FOR PAIRS OF DOORS AND DIRECTIONS OF SWING.
- HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERABLE PARTS ON DOORS AND GATES SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAXIMUM. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34" MIN. AND 44" MAX. ABOVE THE FINISH FLOOR OR GROUND. WHERE SLIDING DOORS ARE IN THE FULLY OPEN POSITION, OPERATING HARDWARE SHALL BE EXPOSED AND USABLE FROM BOTH SIDES. (CBC 11B-404.2.7)
- FLOOR STOPS SHALL NOT BE LOCATED IN THE PATH OF TRAVEL AND 4" MAXIMUM FROM WALLS. POLICY 99-08
- SWINGING DOOR AND GATE SURFACES WITHIN 10 INCHES OF THE FINISH FLOOR OR GROUND MEASURED VERTICALLY SHALL HAVE A SMOOTH SURFACE ON THE PUSH SIDE EXTENDING THE FULL WIDTH OF THE DOOR OR GATE. PARTS CREATING HORIZONTAL OR VERTICAL JOINTS IN THESE SURFACES SHALL BE WITHIN 1/16 INCH OF THE SAME PLANE AS THE OTHER AND BE FREE OF SHARP OR ABRASIVE EDGES. CAVITIES CREATED BY ADDED KICKPLATES SHALL BE CAPPED. (CBC 11B-404.2.10)
- FIRE-RATED DOOR FRAMES SHALL BE INSTALLED STRICTLY PER MANUFACTURER'S PRINTED INSTRUCTIONS. MANUFACTURER'S PRINTED INSTRUCTION SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITIES.
- ALL RATED DOORS ARE TO BE POSITIVE LATCHING AND SELF-CLOSING.
- ALL RATED DOORS ARE TO BE LABELED PER CBC 715.4.5.
- ALL HARDWARE SHALL COMPLY WITH CBC SECTION 11B-404.2.7 AND 1010.1.9. THRESHOLDS SHALL COMPLY WITH CBC 11B-404.2.5.
- DOOR CLOSERS AND GATE CLOSERS SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12 DEGREES FROM THE LATCH IS 5 SECONDS MINIMUM. (CBC 11B-404.2.8.1.)
- PANIC HARDWARE SHALL COMPLY WITH SECTION CBC 1010.1.9 & 1010.1.10.
- ALL NEW DOORS AND WINDOWS SHALL BE FITTED ON EXISTING WALL OPENINGS WITHOUT TRIMMING OR ENLARGING UNLESS EACH LOCATION AND REFERENCE DETAILS ARE SHOWN ON STRUCTURAL DRAWINGS.
- THE MINIMUM WIDTH OF EACH DOOR OPENING SHALL BE SUFFICIENT FOR THE OCCUPANT LOAD THEREOF AND SHALL PROVIDE A CLEAR WIDTH OF NOT LESS THAN 32 INCHES. THE HEIGHT OF DOORS SHALL NOT BE LESS THAN 80 INCHES PER CBC SECTION 1008.1.9.



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 2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748

CLIENT:
 ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTAL REVISIONS:

1	DESIGN DEVELOPMENT	4/23/2021
2	CONSTRUCTION DOCUMENTATION	7/22/2021
3	DSA SUBMITTAL	10/8/2021

PROJECT NO: 202016
 SCALE: AS SHOWN
 DATE: 2/7/2022
 DRAWN BY: ED / FW
 CHECKED BY: DL
SCHEDULES

SHEET NO: **A-6.1**

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IDENTIFICATION STAMP
 DIV. OF THE STATE ARCHITECT
 APP: 03-121843 INC.
 REVIEWED FOR
 SS FLS ACS
 DATE: 03/30/2022

ARCHITECT:
CO-AR DESIGN, INC.
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 Dennis J. Lee, NCARB dennisl@coar-design.com

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HOBBSCH-LEWIN, INC.
 STRUCTURAL & CIVIL ENGINEERS
 211 Mission Street
 South Pasadena, CA 91080
 (626) 441-1214



GENERAL NOTES AND STRUCTURAL MATERIALS:

- VERIFY ALL DIMENSIONS AND CONDITIONS ON THE SITE.
- COORDINATE STRUCTURAL DETAILS AND DIMENSIONS WITH RELATED REQUIREMENTS ON ALL DRAWINGS.
- THE ARCHITECT WILL INTERPRET THE INTENT OF THE DOCUMENTS IN CASE OF POSSIBLE CONFLICT OR DISCREPANCY BETWEEN STRUCTURAL AND OTHER DISCIPLINES.
- DETAILS SHOWN ON SHEETS S-1.1, AND DETAILS NOTED AS "TYPICAL" OR "TYP." APPLY IN ALL CASES WHETHER OR NOT SPECIFICALLY REFERENCED.
- WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF CALIFORNIA BUILDING CODE (2019).
- STRUCTURAL PLANS INDICATE ONLY THE APPROXIMATE LOCATION OF MECHANICAL, ELECTRICAL, AND OTHER EQUIPMENT, AS WELL AS RELATED AUXILIARY FRAMING NECESSARY TO SUPPORT SUCH GEAR. THE FINAL POSITIONING OF THESE ITEMS IS DEPENDENT UPON THE EQUIPMENT SELECTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK BETWEEN SUBCONTRACTORS AND GRAFFTS IN THIS REGARD, AND PROVIDING NECESSARY DIMENSIONS IN A TIMELY MANNER TO ALL PARTIES AND DETAILERS INVOLVED.
- REFER TO ARCHITECTURAL PLANS AND SECTIONS FOR THE EXTENT, DEPTH AND SLOPES OF ALL DEPRESSIONS OR IRREGULARITIES IN FLOORS. STRUCTURAL PLANS MAY NOT INDICATE ALL SUCH SPECIAL FEATURES.

DESIGN CRITERIA:

FOUNDATIONS:
 BASED ON GEOTECHNICAL AND GECHAZARD REPORTS BY: HARRINGTON GEOTECHNICAL ENGINEERING, INC.
 DATED: JUNE 1, 2021
 PROJECT NO. 21-01-4178
TERRA GEOSCIENCES
 DATED: APRIL 24, 2021
 PROJECT NO. 152781-3
 ALLOWABLE BEARING PRESSURE = 2,500 PSF
 ALLOWABLE LATERAL BEARING = 250 PCF

WIND CRITERIA:
 I BASIC WIND SPEED: 115 MPH
 II RISK CATEGORY: III
 III EXPOSURE: C

SEISMIC CRITERIA:
 I RISK CATEGORY: III
 II SITE CLASS: D
 III S_s = 1.847g S₁ = 0.644g
 IV S_{0.5} = 1.240g S_{0.2} = 0.87g
 V SEISMIC DESIGN CATEGORY: D
 VI (E) AUTO SHOP FRMS; ORDINARY MASONRY SHEAR WALLS
 (N) STORAGE BLDG; LRFD; ORDINARY STEEL MOMENT FRAMES AND SPECIAL MASONRY SHEAR WALL
 R = 3.5 FOR BOTH SYSTEMS

MATERIAL REQUIREMENTS:

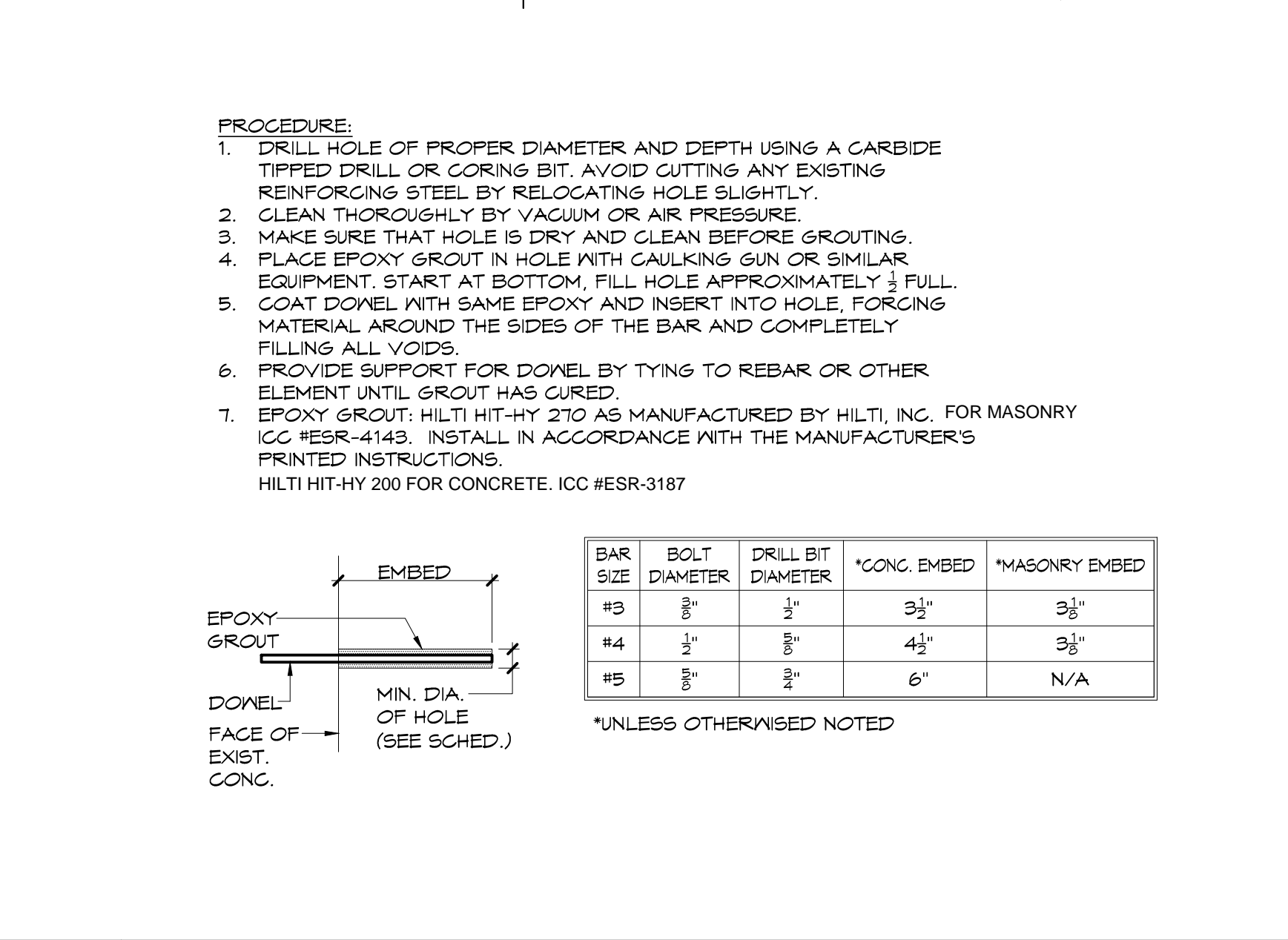
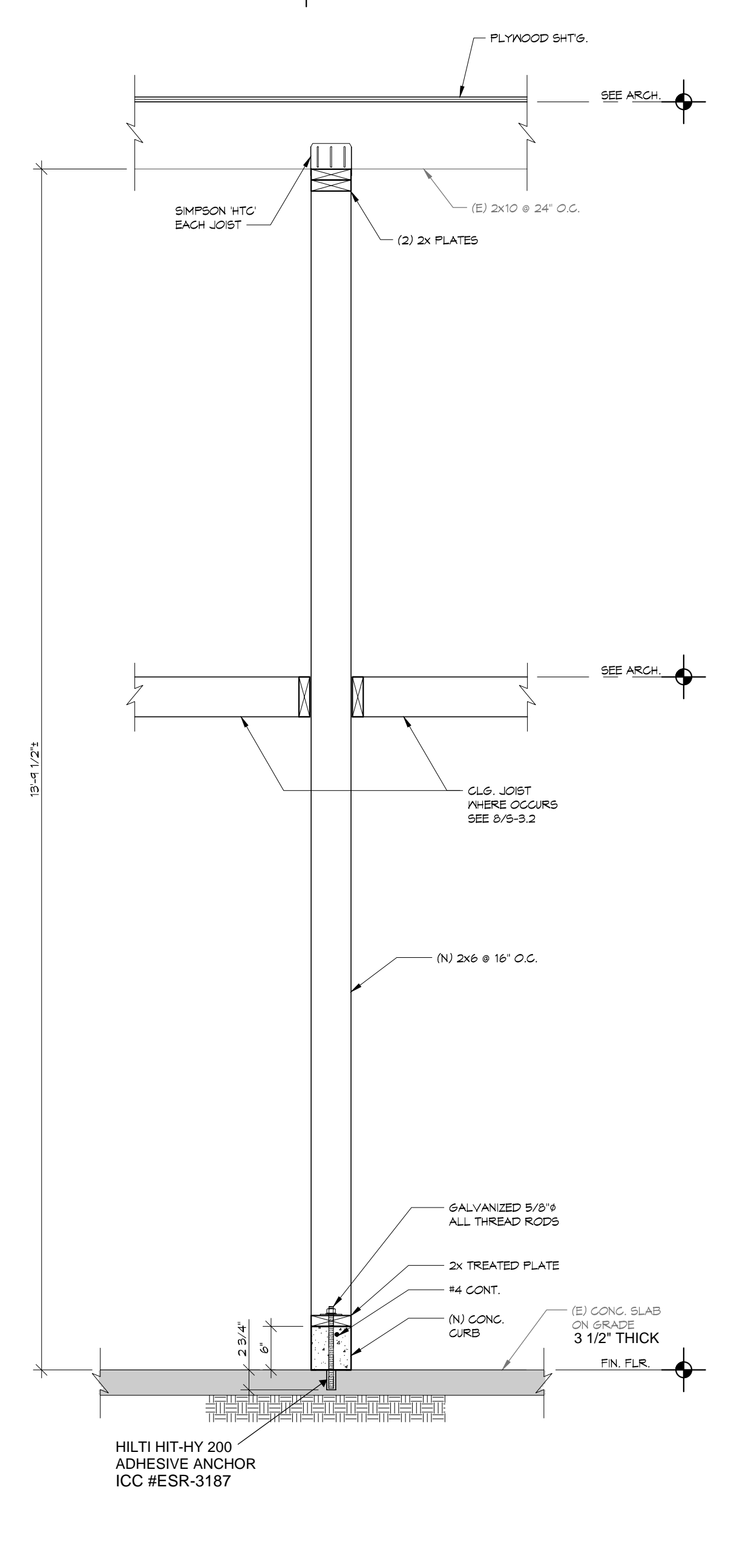
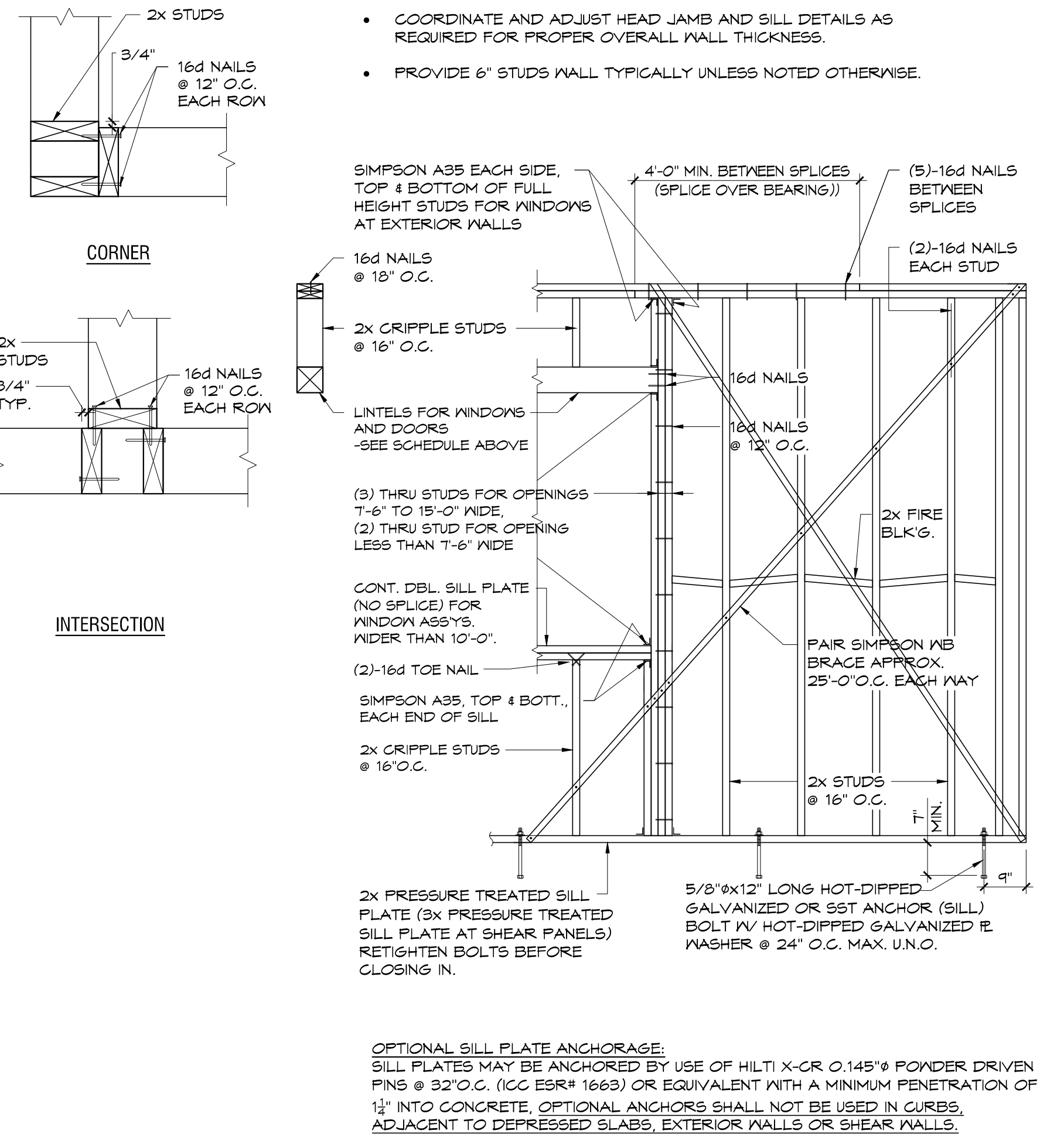
CONCRETE:	STRENGTH	UNIT WEIGHT	MIN. CEMENT CONTENT	MAX. WATER/CEMENT RATIO
SLAB ON GRADE	3,000 PSI	150 PCF	5.5 SACKS/C.Y.	0.45
ALL OTHER CONCRETE	3,000 PSI	150 PCF	5.5 SACKS/C.Y.	0.60
CEMENT:	ASTM C150 TYPE I			
AGGREGATE:	ASTM C89, NORMAL WEIGHT, 1" MAX. SIZE			
CONCRETE BLOCK:	ASTM C90, TYPE N, GRADE 1, MEDIUM WEIGHT, Fm = 2000 PSI			
GROUT:	FC = 2000 PSI			
MORTAR:	TYPE S, Fc = 1800 PSI			
REINFORCING STEEL:	ASTM 615, GRADE 40 FOR #3 GRADE 60 FOR ALL OTHERS.			
STRUCTURAL STEEL:	A992 FOR W SECTIONS, A36 FOR PLATES AND OTHER SHAPES			
BOLT AND NUTS:	ASTM A 307, UNLESS NOTED OTHERWISE			
WELDING:	ET0XX ELECTRODES			
SAWN TIMBER:	DOUGLAS FIR LARCH No. 1 AND BETTER FOR ALL SIZE U.N.O. No. 2 FOR BLK'S. SELECT STRUCTURAL FOR 6X POSTS. MAXIMUM MOISTURE CONTENT AT THE TIME OF PLACING SHALL BE 19% FOR BOTH TREATED AND UNTREATED LUMBER.			

WOOD FRAMING CONNECTIONS: BY SIMPSON STRONG TIE CO.

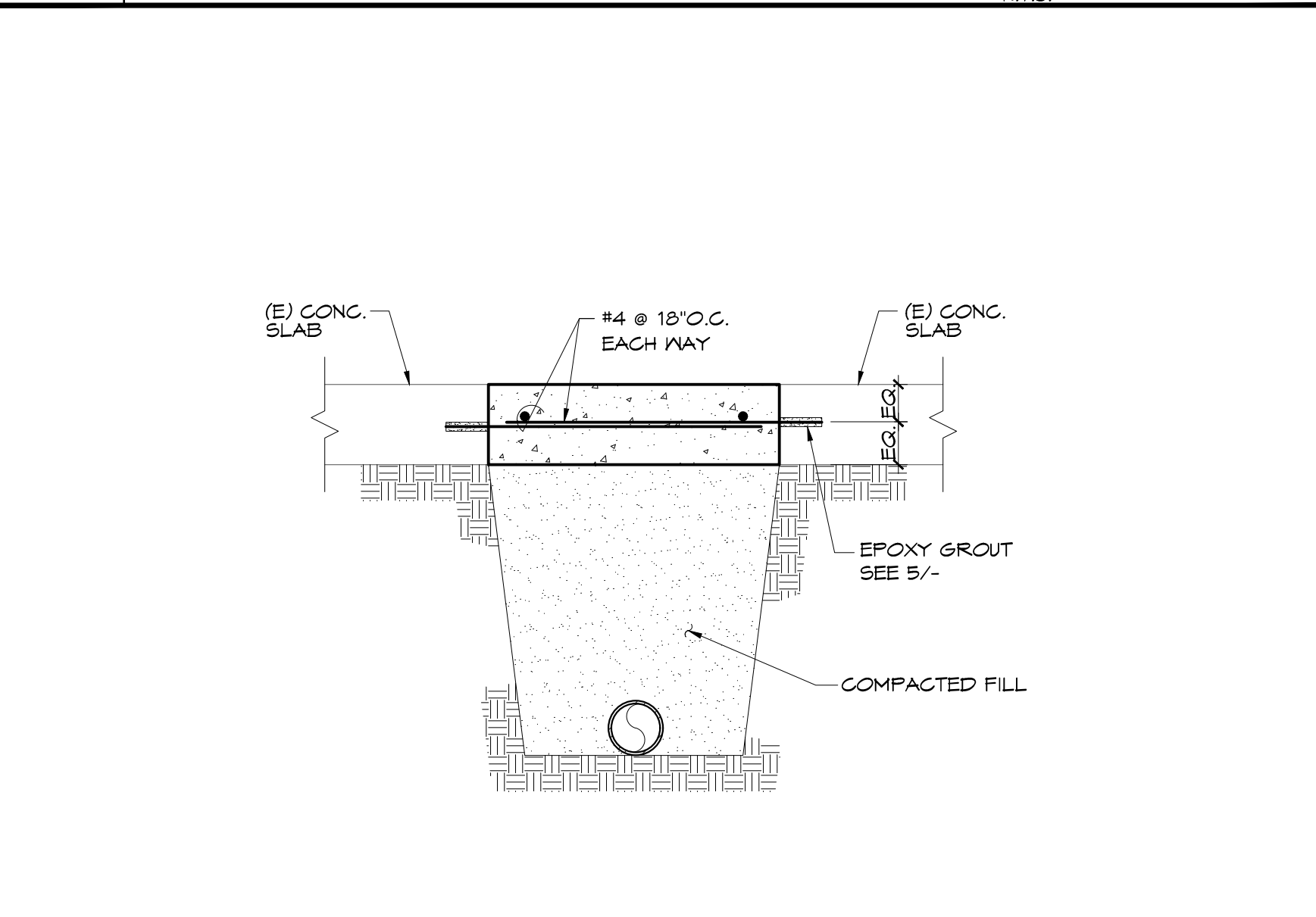
* NOTE: STRUCTURAL DRAWINGS AND SPECIFICATIONS DO NOT INCLUDE NECESSARY COMPONENTS OR PROCEDURES FOR CONSTRUCTION SAFETY.

MAXIMUM ROUGH OPENING	LINTEL SIZE	
	4" WALL	6" WALL
UP TO 4'-0"	4x4	6x4
4'-1" TO 5'-0"	4x6	6x6
5'-1" TO 10'-0"	4x8	6x8
10'-1" TO 12'-0"	4x10	6x10
12'-1" TO 15'-0"	4x12	6x12

- NOTE:**
- COORDINATE AND ADJUST HEAD JAMB AND SILL DETAILS AS REQUIRED FOR PROPER OVERALL WALL THICKNESS.
 - PROVIDE 6" STUDS WALL TYPICALLY UNLESS NOTED OTHERWISE.



5 EPOXY GROUT DETAIL N.T.S.



6 SLAB PATCH N.T.S.

14 STUD WALL CONSTRUCTION N.T.S.

REINFORCING BAR SPLICE SCHEDULE (INCHES)

BAR SIZE	BAR LOCATION	F _c (NORMAL WEIGHT CONCRETE), psi			
		2500	3000	3500	4000
#3	TOP	20	20	20	20
	OTHER	16	16	16	16
#4	TOP	41	31	34	32
	OTHER	31	29	26	25
#5	TOP	51	45	43	42
	OTHER	34	36	33	31
#6	TOP	67	56	57	42
	OTHER	47	43	40	37
#7	TOP	84	61	75	70
	OTHER	58	62	54	54
#8	TOP	101	69	86	80
	OTHER	74	71	66	62
#9	TOP	114	104	86	80
	OTHER	83	82	74	64
#10	TOP	121	118	107	100
	OTHER	89	84	82	71
#11	TOP	134	127	115	110
	OTHER	101	98	81	80

NOTES:

- ABOVE SCHEDULE IS BASED ON CALIFORNIA BUILDING CODE, 2019 EDITION, CLASS B SPLICE.
- TOP REINFORCEMENT IS DEFINED AS HORIZONTAL REINFORCEMENT WHERE MORE THAN 12 IN. OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE SPLICE.
- CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED SHALL NOT BE LESS THAN 2 BAR DIAMETERS.
- CLEAR COVER SHALL NOT BE LESS THAN 1 BAR DIAMETER.
- WHERE SPLICES OCCUR IN LIGHTWEIGHT CONCRETE, SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.3.

TYPICAL HOOK
 R = 3D FOR #3 BARS AND SMALLER
 R = 4D FOR #4, #10, #11 BARS

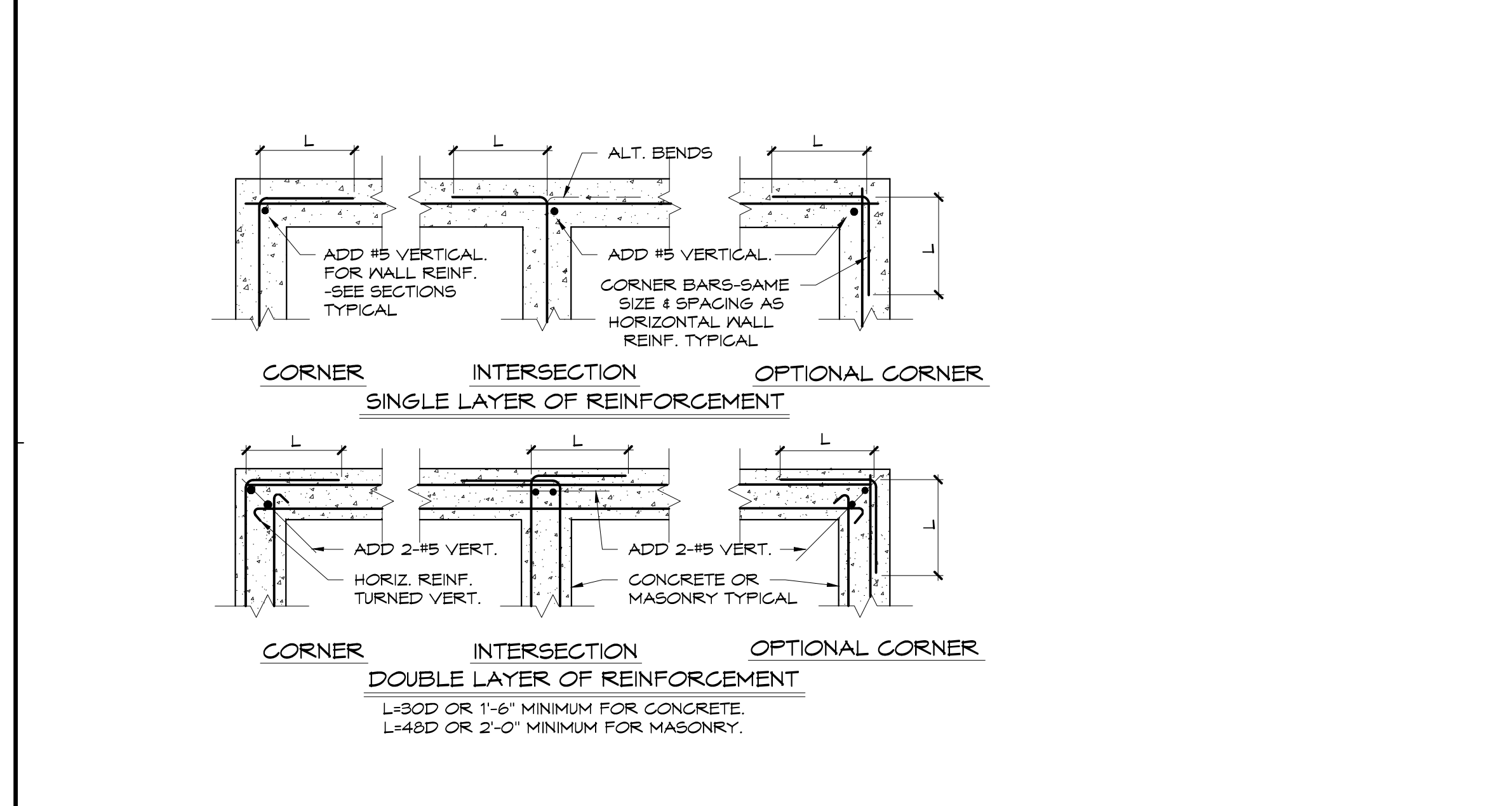
TYPICAL 90° BEND
 12D (1'-0" MIN.) UNLESS OTHERWISE NOTED.

BEAM STIRRUP
 CAP TO USE OFFSET ONLY WHERE SPECIFICALLY DETAILED MATCH STIRRUPS AND AT COLUMNS.

COLUMN OR BEAM TIES
 R=1" FOR #3 & #4
 R=1 1/2" FOR #5

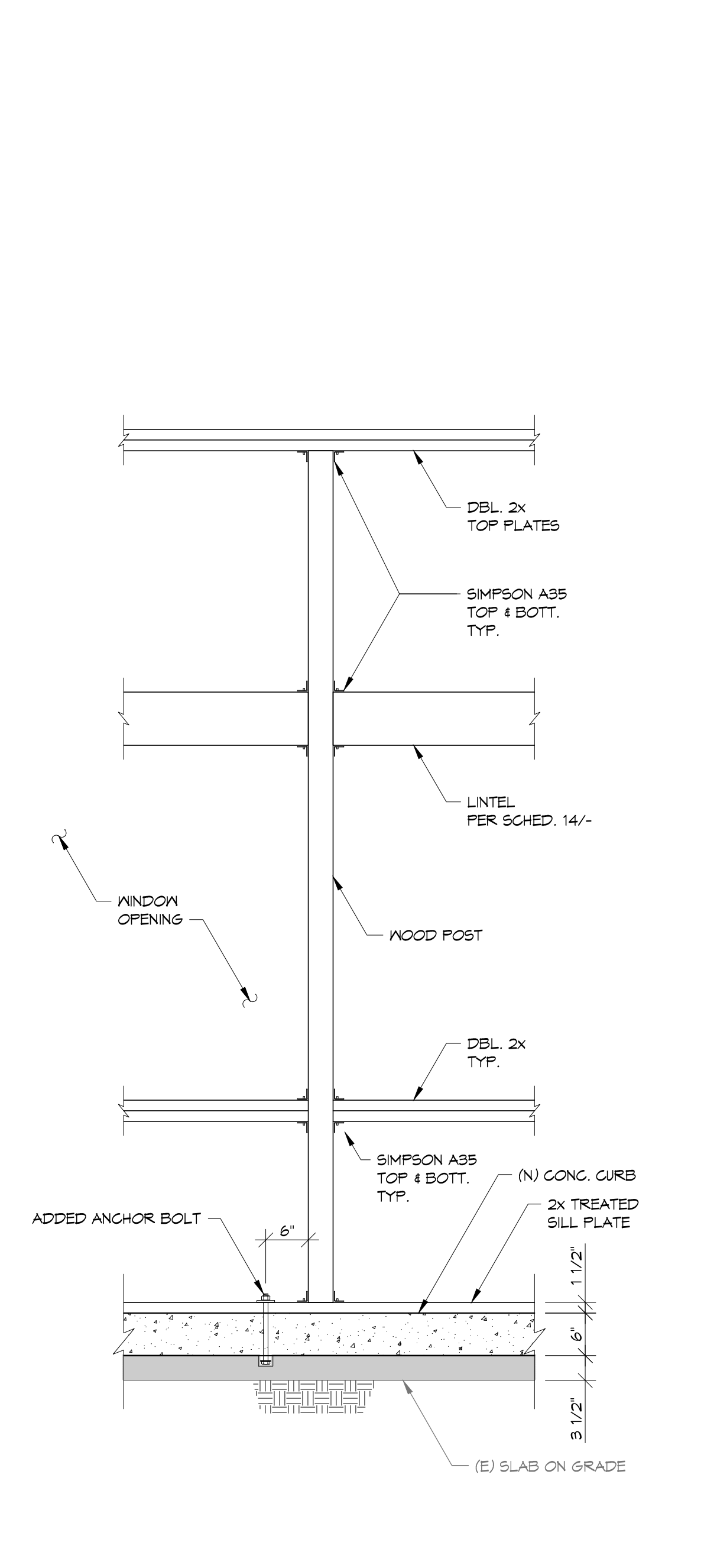
SPLICES
 CONCRETE MASONRY 16D (2'-0" MIN.)
 CONTACT SPLICE

15 REBAR BEND & REBAR SPLICE N.T.S.



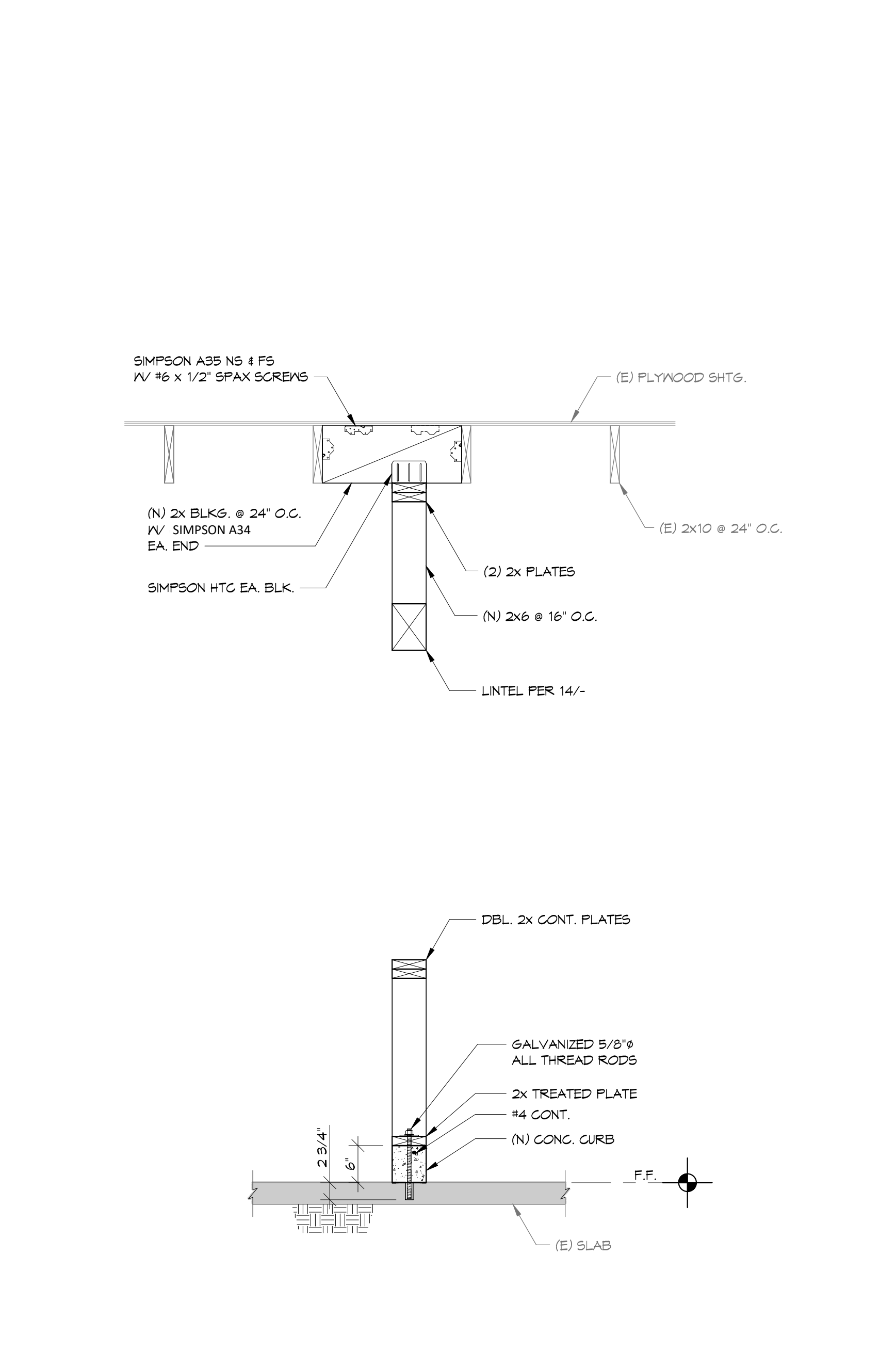
16 CORNERS & INTERSECTIONS N.T.S.

10 SECTION 3/4"x1'-0"



12 POST ELEVATION 3/4"x1'-0"

8 SECTION 3/4"x1'-0"



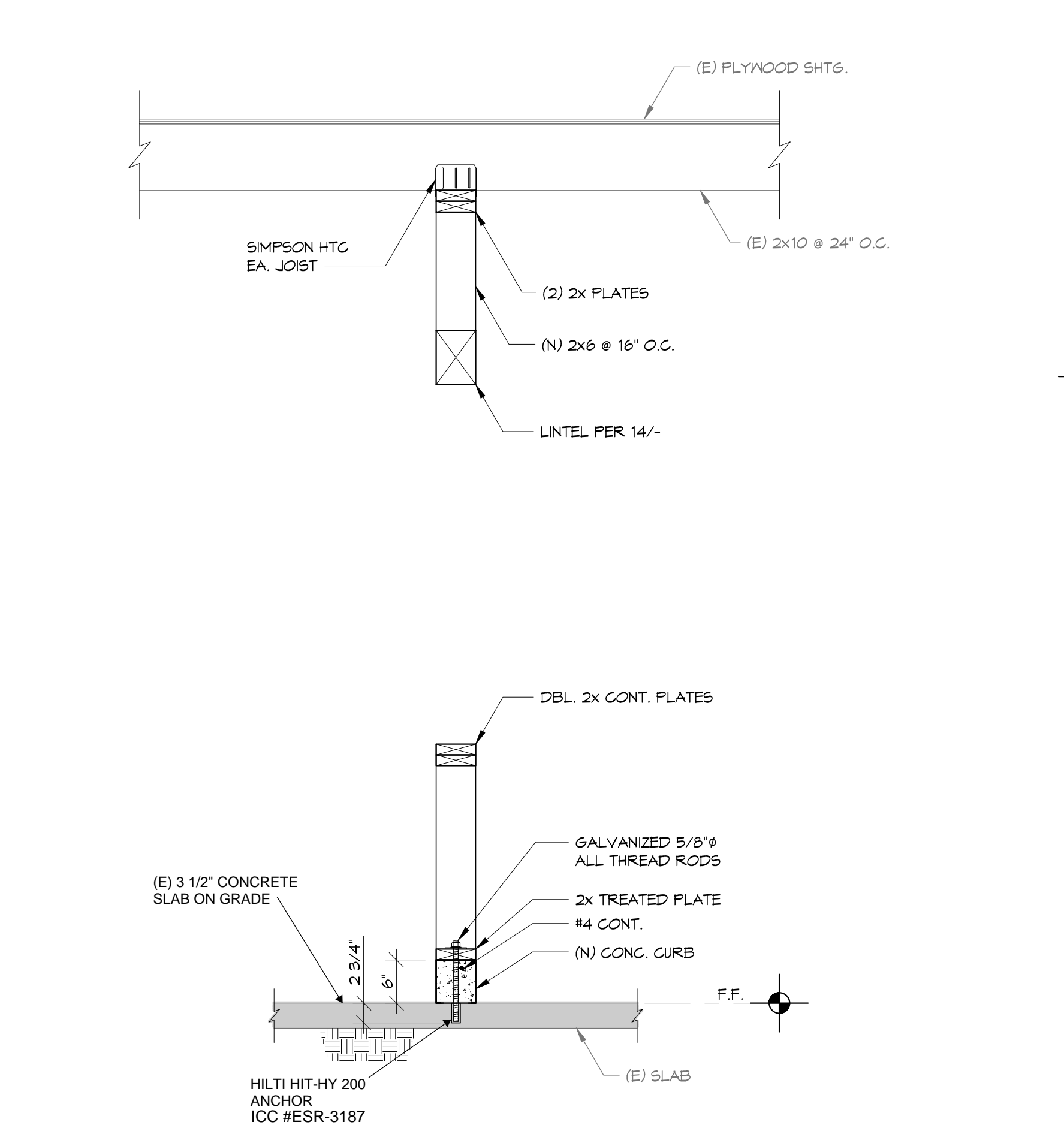
4 SECTION 3/4"x1'-0"

2 GENERAL NOTES & MATERIAL REQUIREMENTS

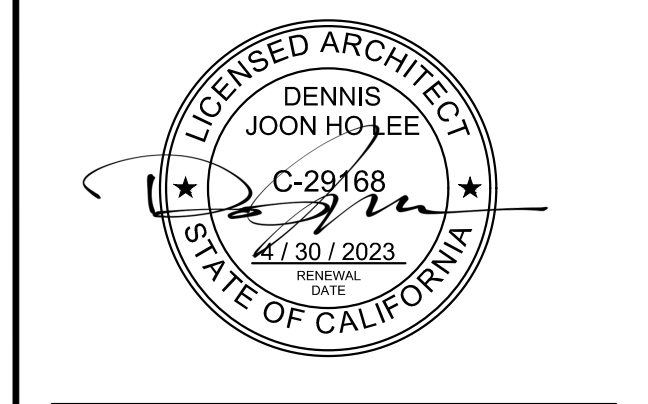
STRUCTURAL SHEET INDEX

S-1.1	GENERAL NOTES AND TYPICAL DETAILS
S-2.1	BUILDING M - PARTIAL FOUNDATION & ROOF FRAMING PLANS
S-3.0	STRUCTURAL ELEVATIONS
S-3.1	SECTIONS AND DETAILS
S-3.2	SECTIONS AND DETAILS
S-4.1	DETAILS

3 STRUCTURAL SHEET INDEX



4 SECTION 3/4"x1'-0"



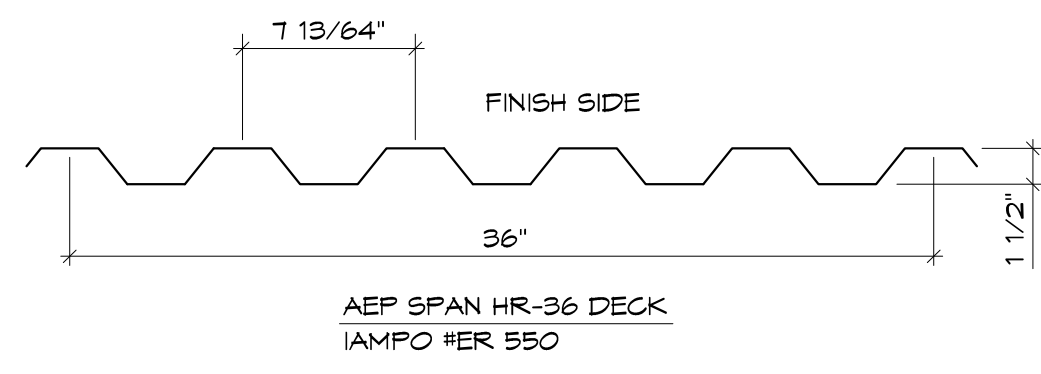
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL
 2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748
 CLIENT:
 ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS:

1. DESIGN DEVELOPMENT	4/22/2021
2. CONSTRUCTION DOCUMENTATION	7/30/2021
3. DSA SUBMITTAL	10/9/2021

GENERAL NOTES & TYPICAL DETAILS

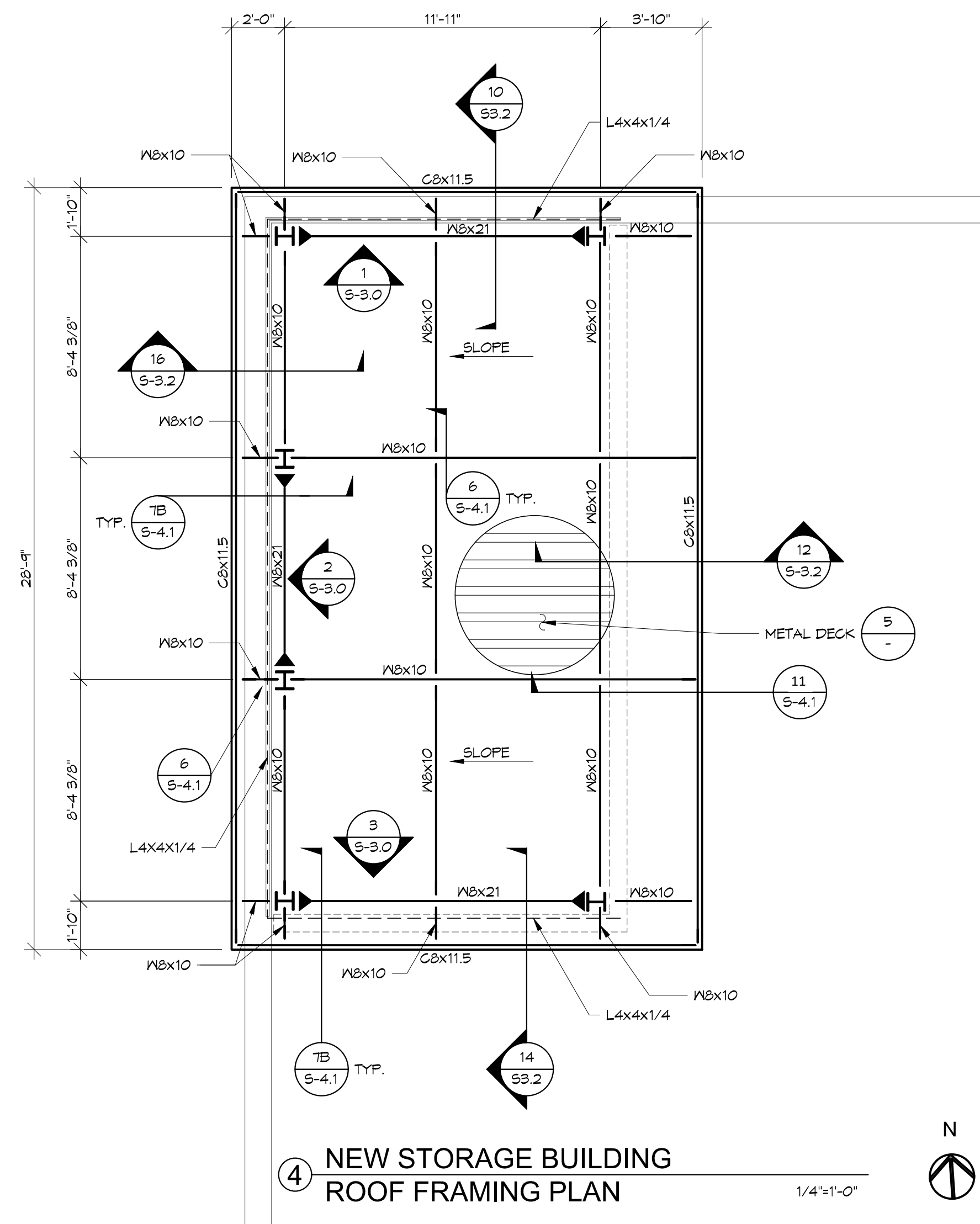
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SCALE:	AS SHOWN
DATE:	9/22/2021
DRAWN BY:	KMAC / HAV
CHECKED BY:	LT
SHEET TITLE:	
GENERAL NOTES & TYPICAL DETAILS	
SHEET NO:	



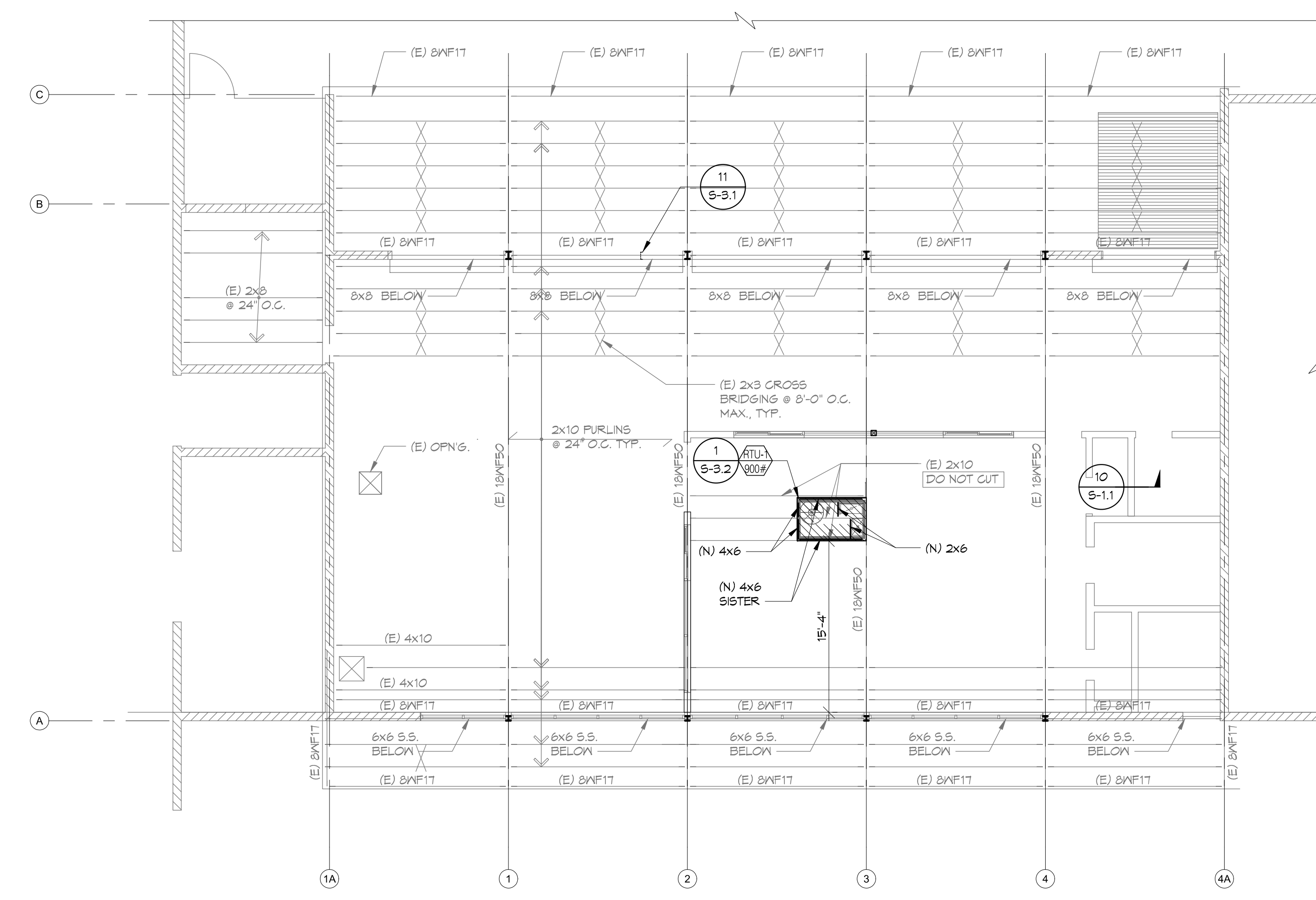
SECTION PROPERTIES				
ASTM A653, G90, Fy=40,000 PSI				
GAUGE	WEIGHT (lbs./ft.)	S (in. ² /ft.)	I (in. ⁴ /ft.)	T (in. ³ /ft.)
16	2.36	.3160	.2600	.2487
			.2600	

- ATTACHMENTS:
- NO. 12 TKS/ 5 SCREW WITH NEOPRENE WASHER AT EA. LOWER CORRUGATION.
 - NO. 12 TKS/ 5 SCREW WITH NEOPRENE WASHER AT 12" O.C. PARALLEL TO SUPPORT.
 - BLIND RIVET WITH DON 500 CLEAR SEALANT AT 12" O.C. ALONG SEAMS

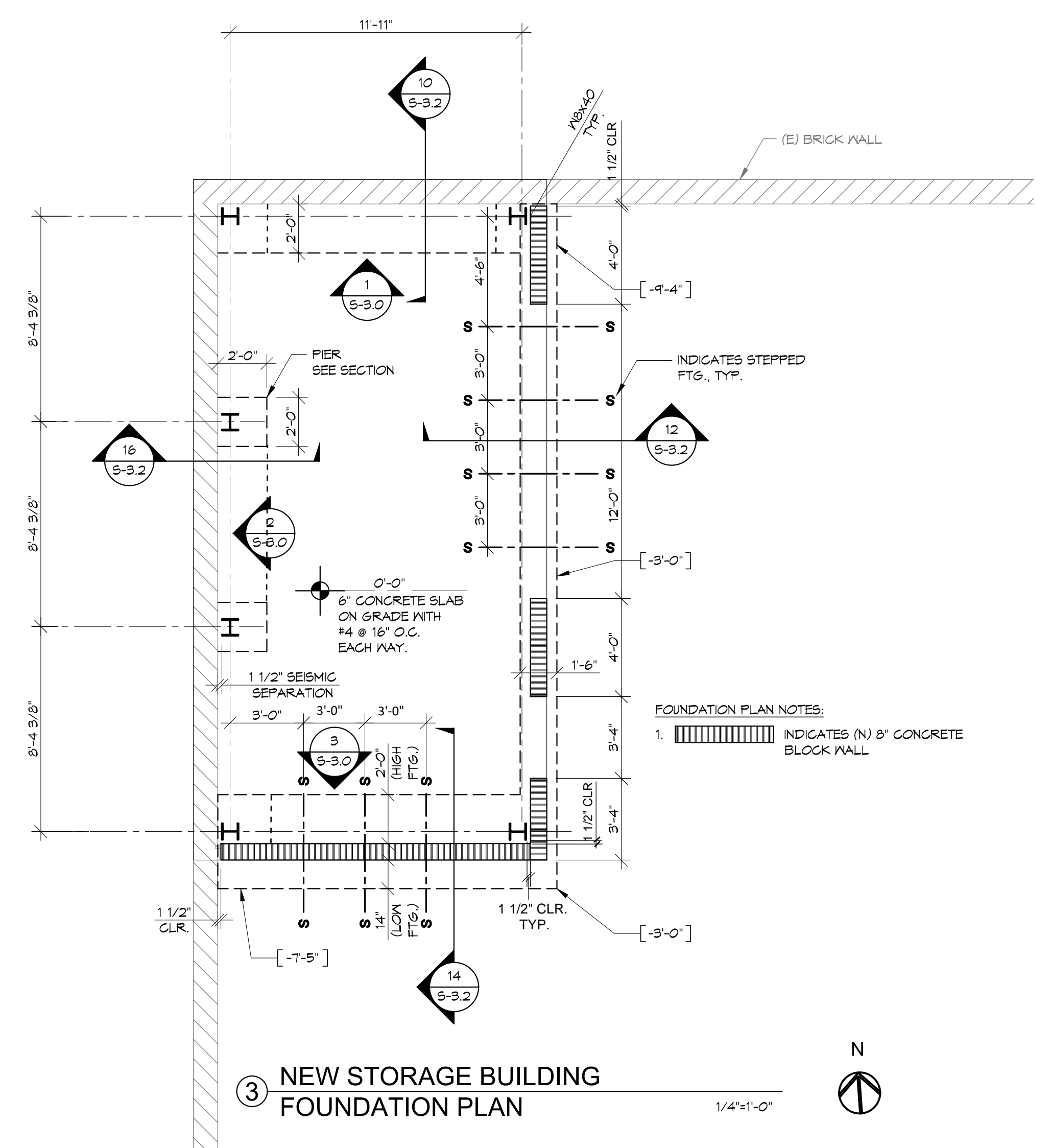
5 METAL DECK AND WALL PANEL



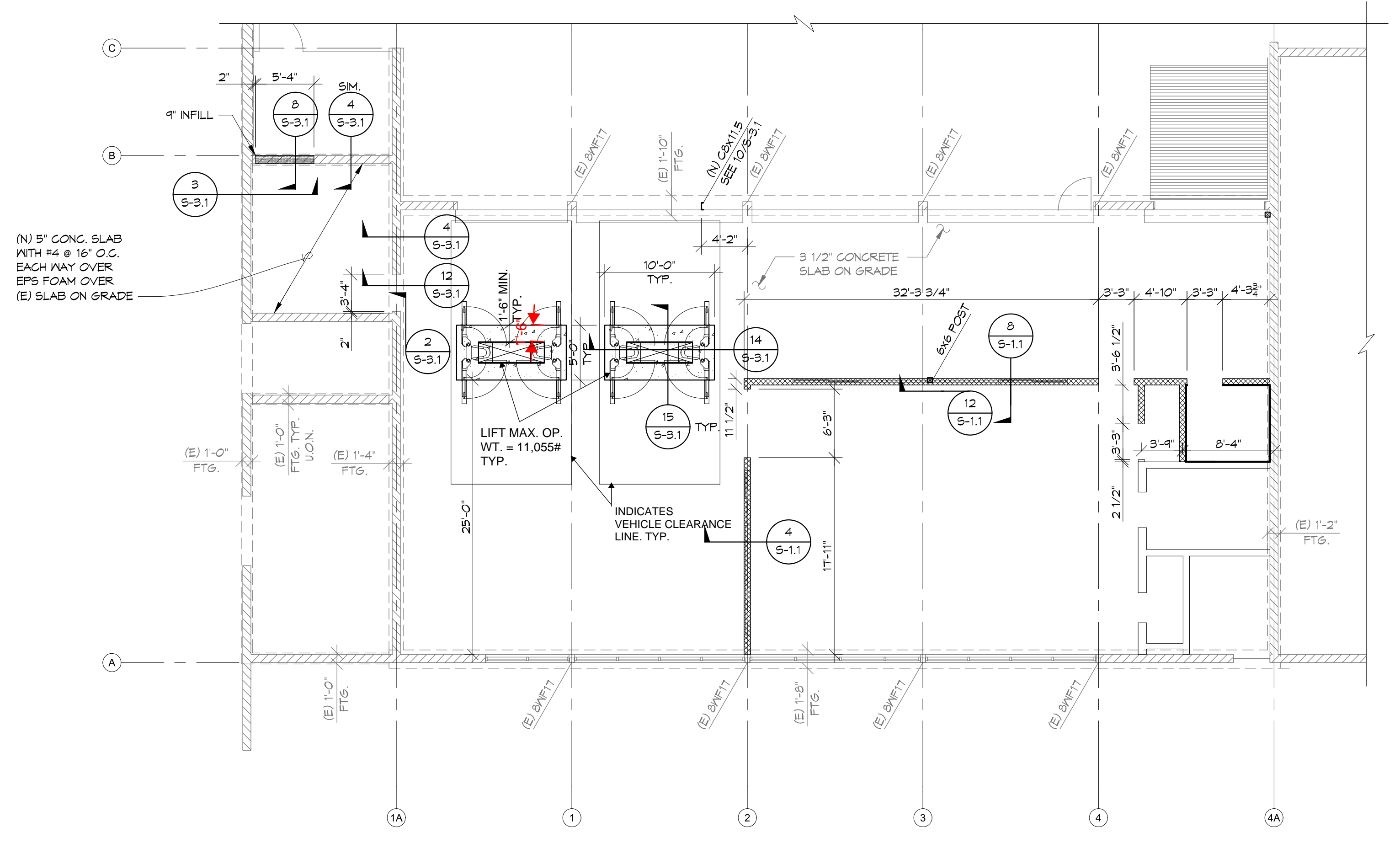
4 NEW STORAGE BUILDING ROOF FRAMING PLAN 1/4"=1'-0"



2 BUILDING M PARTIAL ROOF FRAMING PLAN 1/8"=1'-0"



3 NEW STORAGE BUILDING FOUNDATION PLAN 1/4"=1'-0"



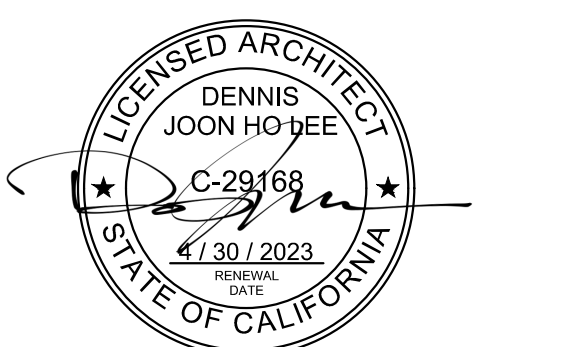
1 BUILDING M PARTIAL FOUNDATION PLAN 1/8"=1'-0"

IDENTIFICATION STAMP
 DIV. OF THE STATE ARCHITECT
 APP: 03-121843 INC.
 REVIEWED FOR: SS, FLS, ACS
 DATE: 03/30/2022

ARCHITECT: CO-AR DESIGN, INC.
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 Dennis J. Lee, NCARB dennis@coar-design.com

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 511 Mission Street
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 (626) 441-1214



PROJECT: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL
 2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748

CLIENT: ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

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3	DSA SUBMITTAL	10/8/2021

PROJECT NO: 202016
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 DRAWN BY: KMC / HAV
 CHECKED BY: LT

SHEET TITLE: BUILDING M PARTIAL FOUNDATION & ROOF FRAMING PLANS

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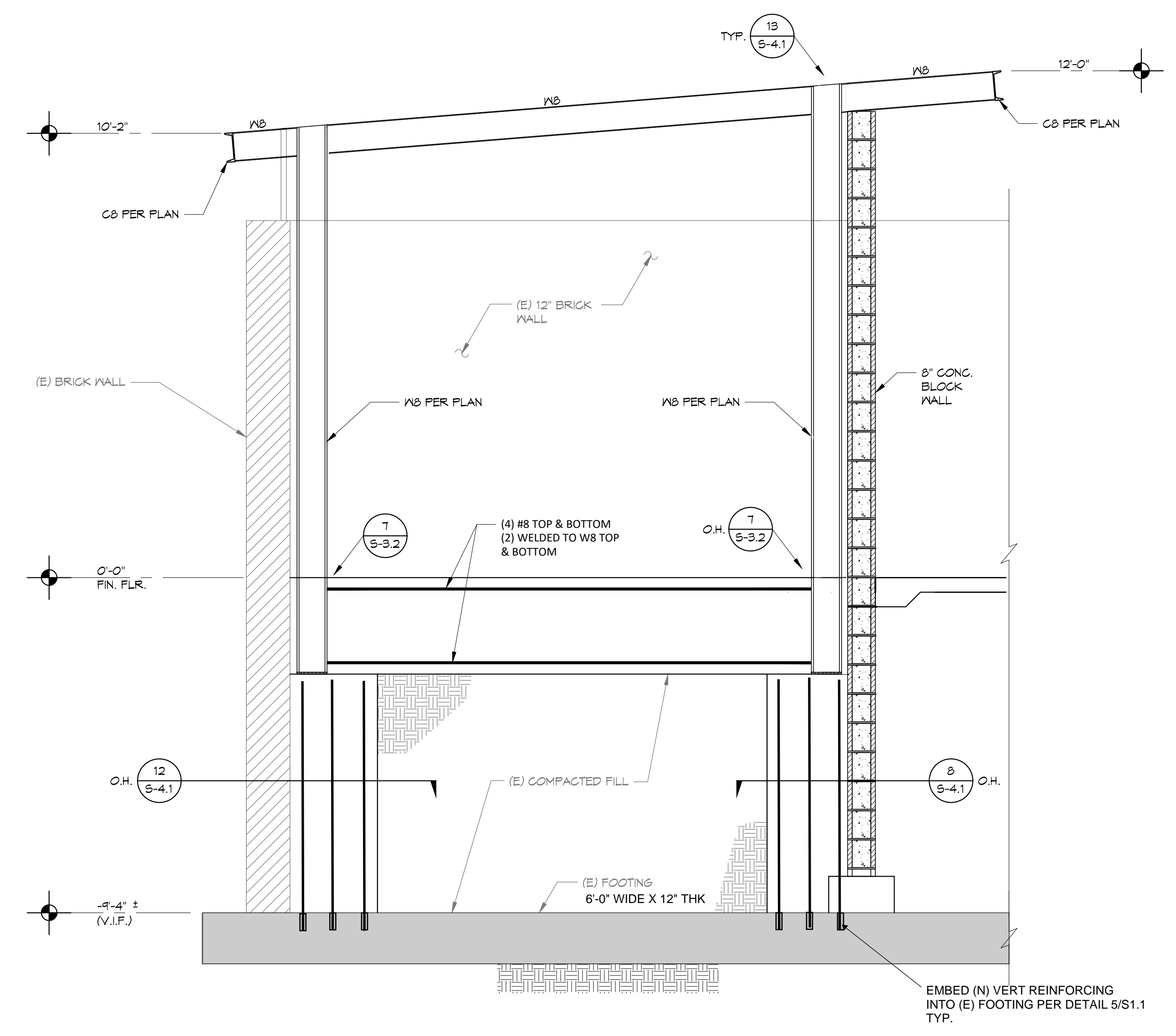
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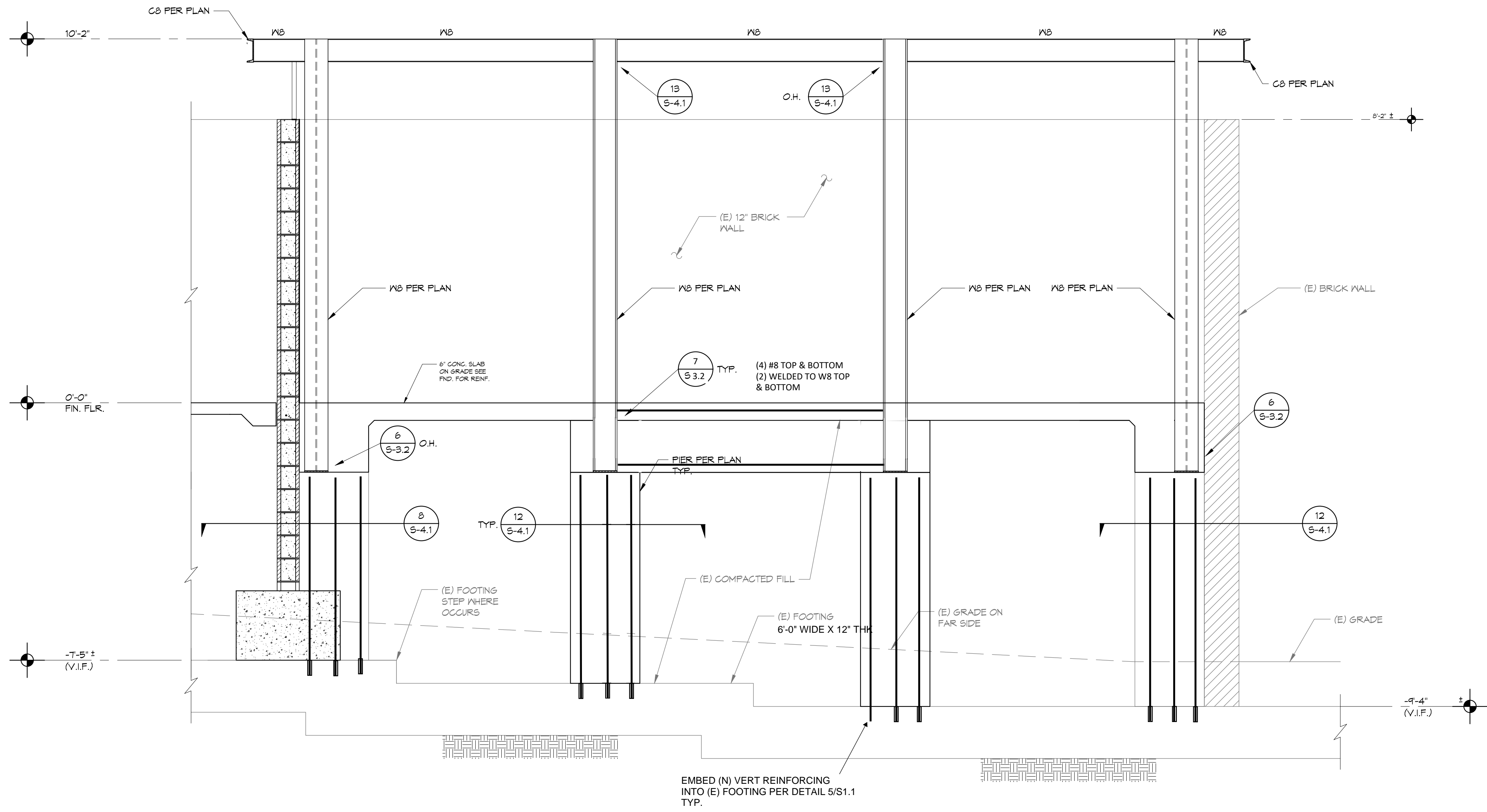
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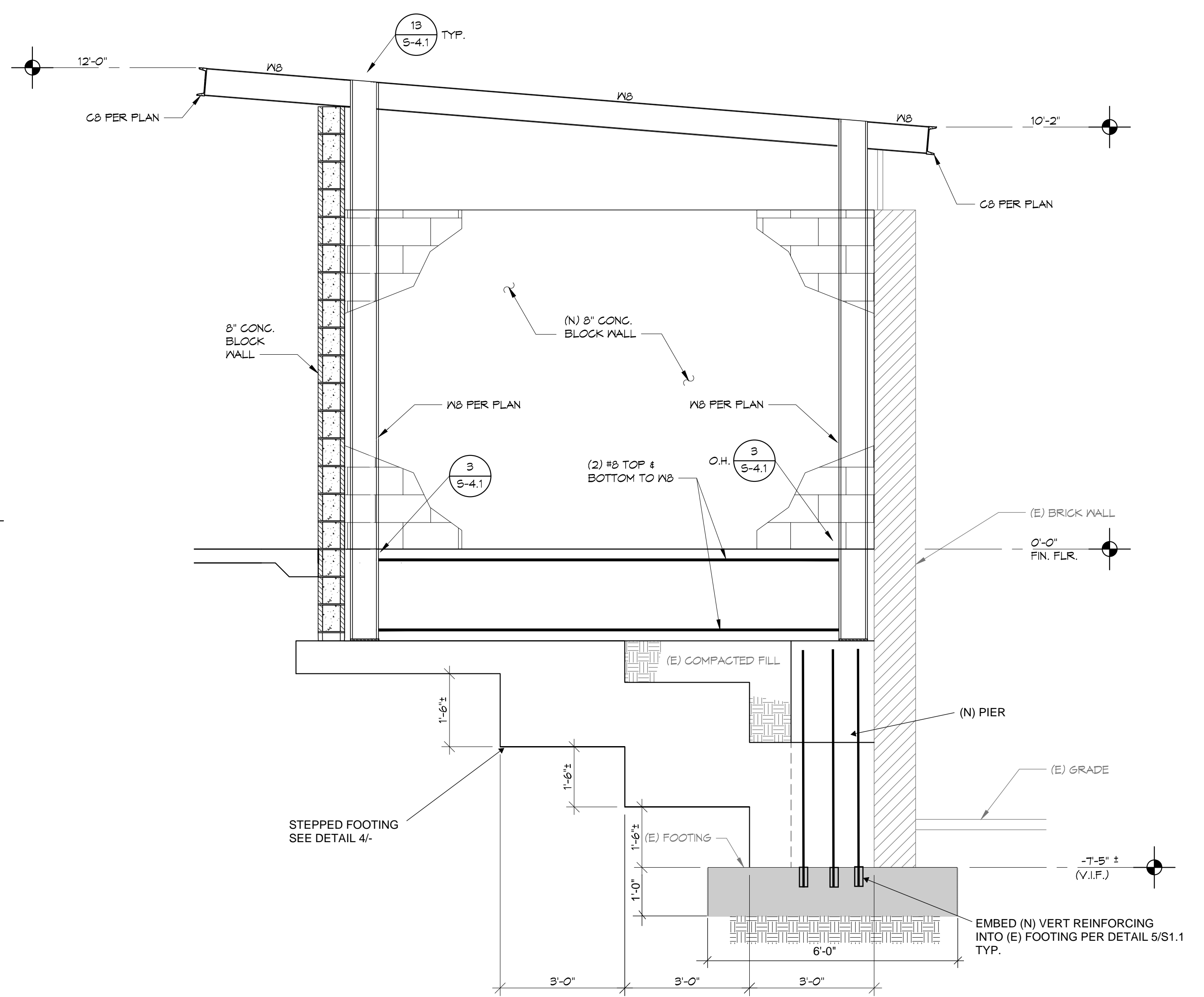
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 S 3078
 Exp. 3/31/23
 STATE OF CALIFORNIA
 CIVIL ENGINEER



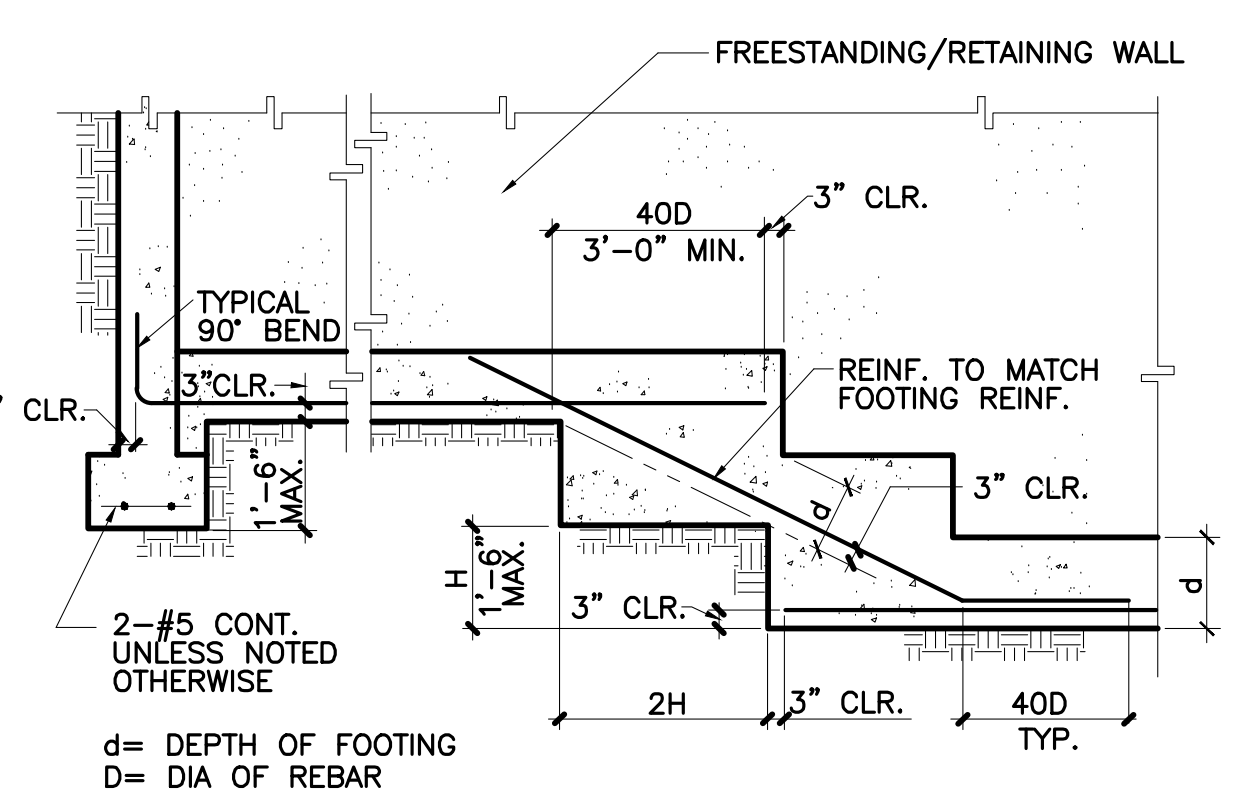
1 STRUCTURAL ELEVATION 1/2"=1'-0"



2 STRUCTURAL ELEVATION 1/2"=1'-0"



3 STRUCTURAL ELEVATION 1/2"=1'-0"



4 STEPPED FOOTING FOR FREE-STANDING/RETAINING WALLS

PROJECT:
**CTE AUTO SHOP
 PROGRAM - ROWLAND
 HIGH SCHOOL**

2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748

CLIENT:
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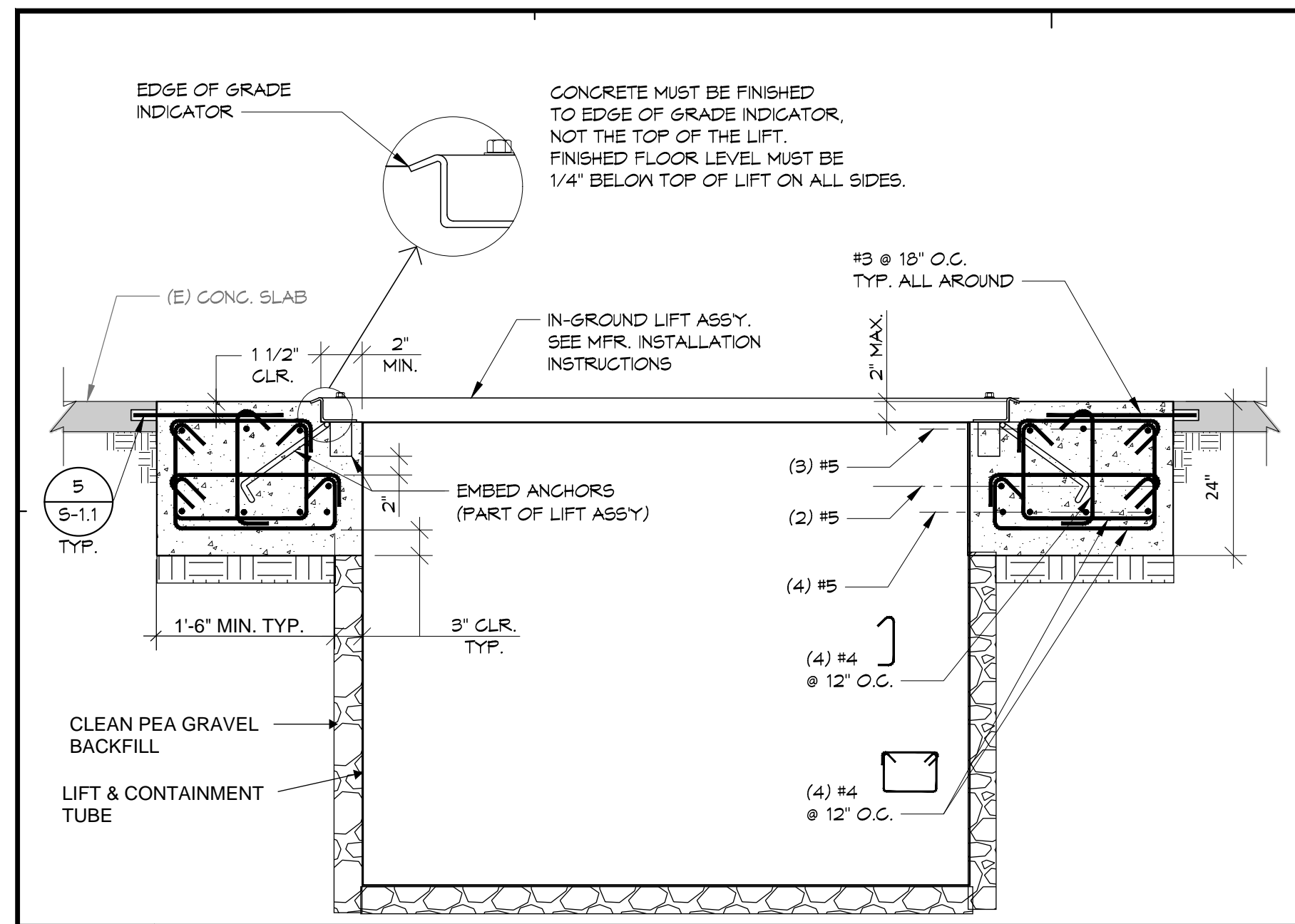
SUBMITTALS REVIEWED:

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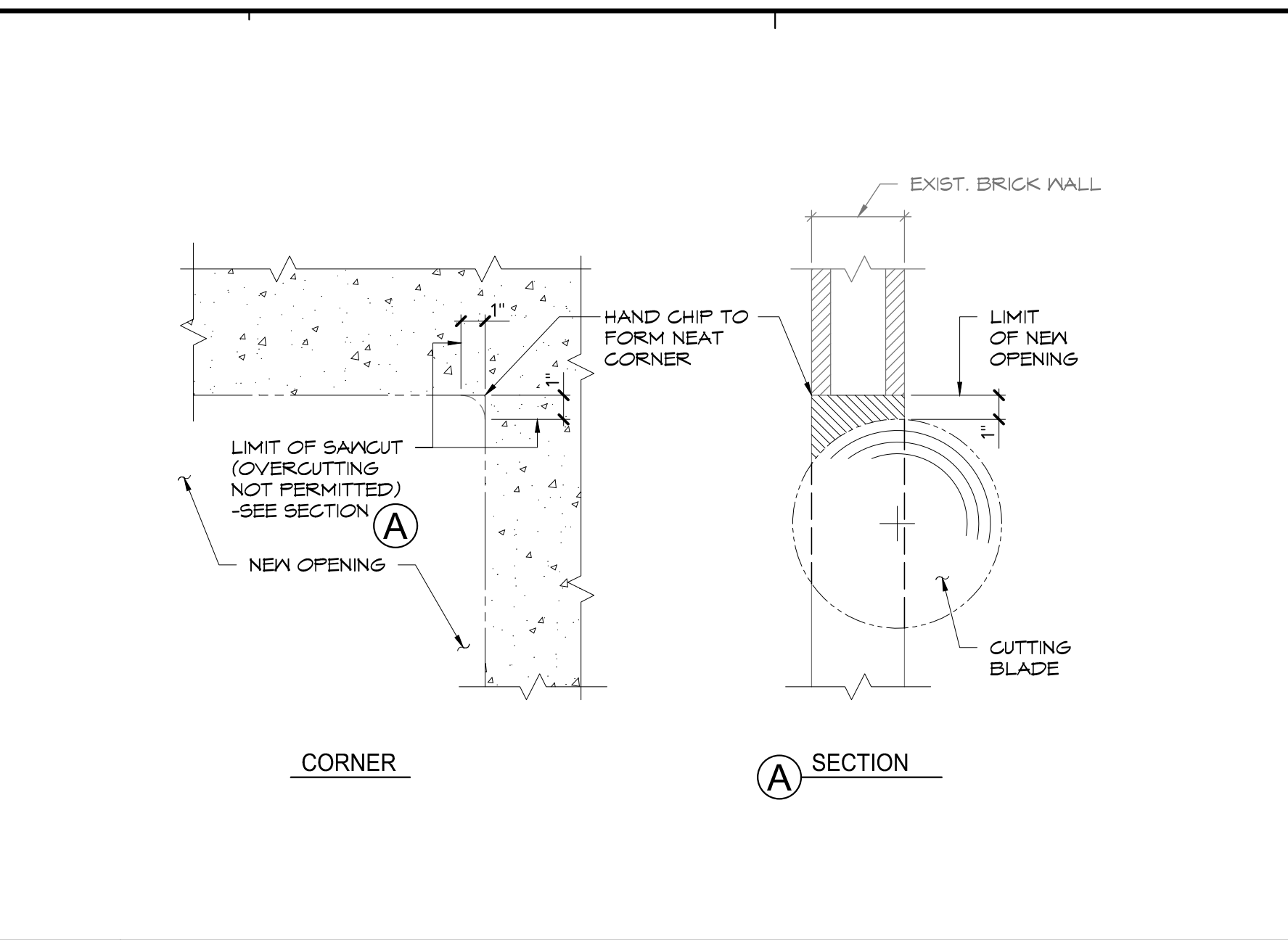
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 SCALE: AS SHOWN
 DATE: 9/22/2021
 DRAWN BY: KM/C / HAV
 CHECKED BY: LT

SHEET TITLE:
STRUCTURAL ELEVATIONS

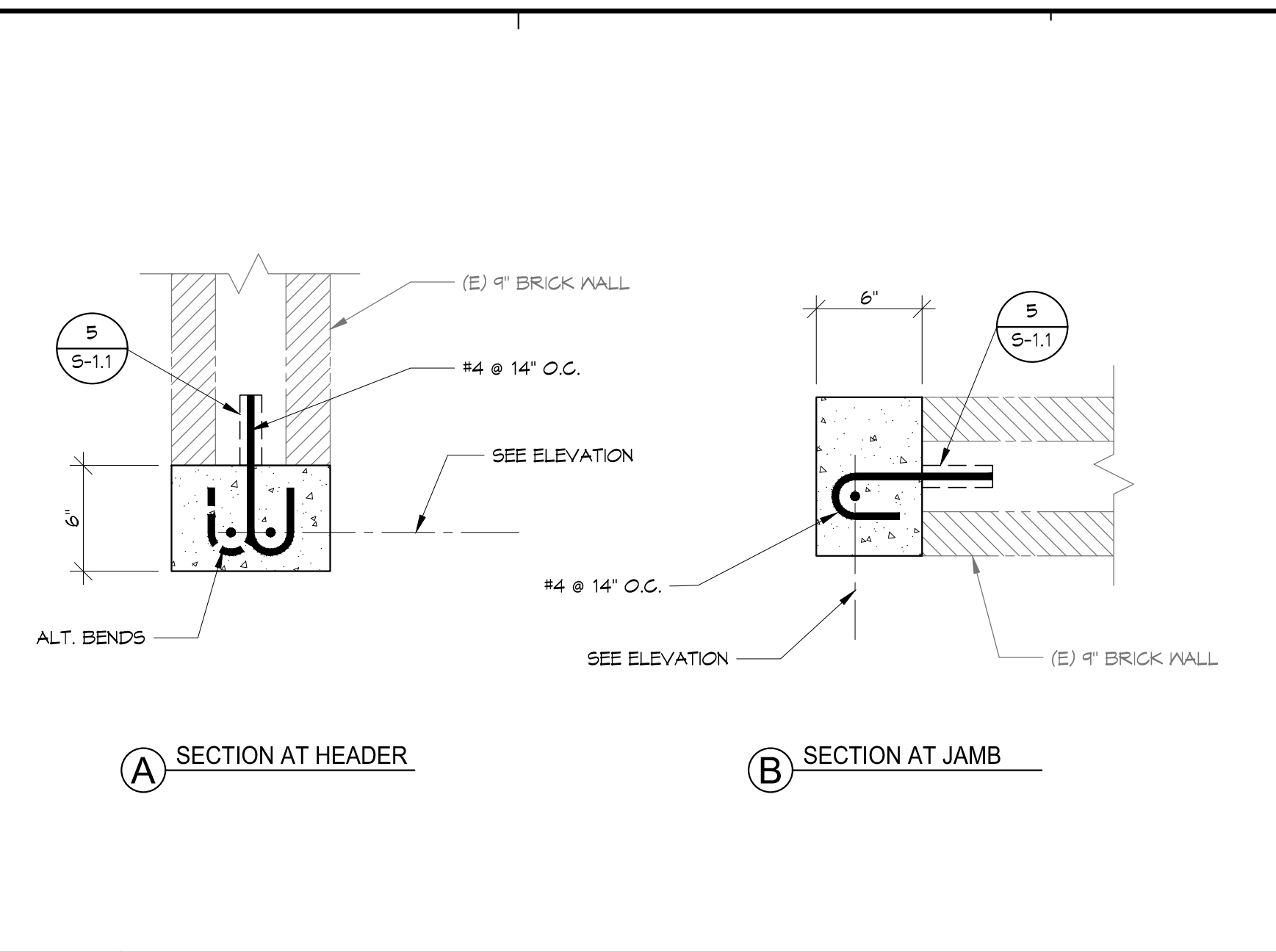
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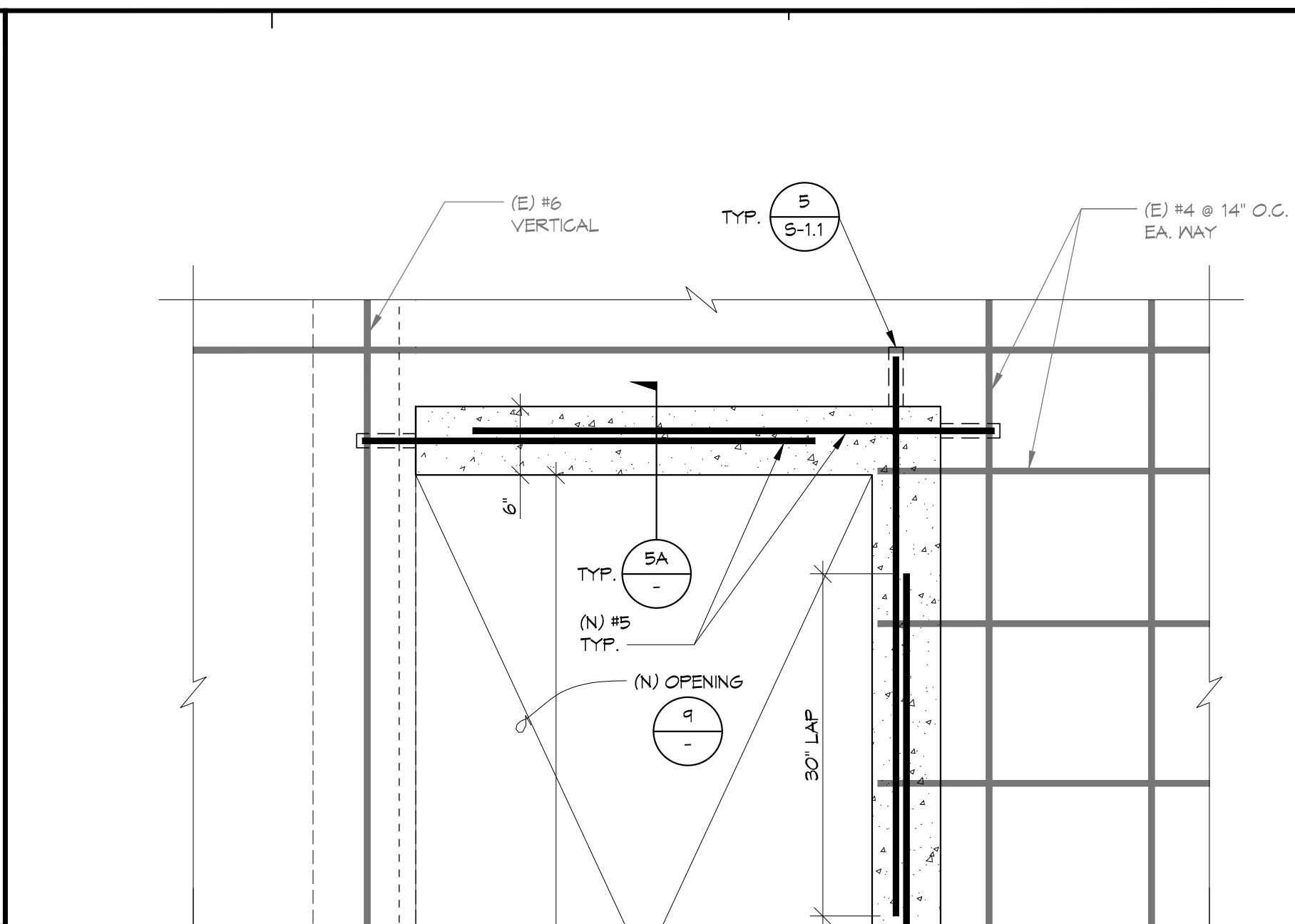
13 DETAIL



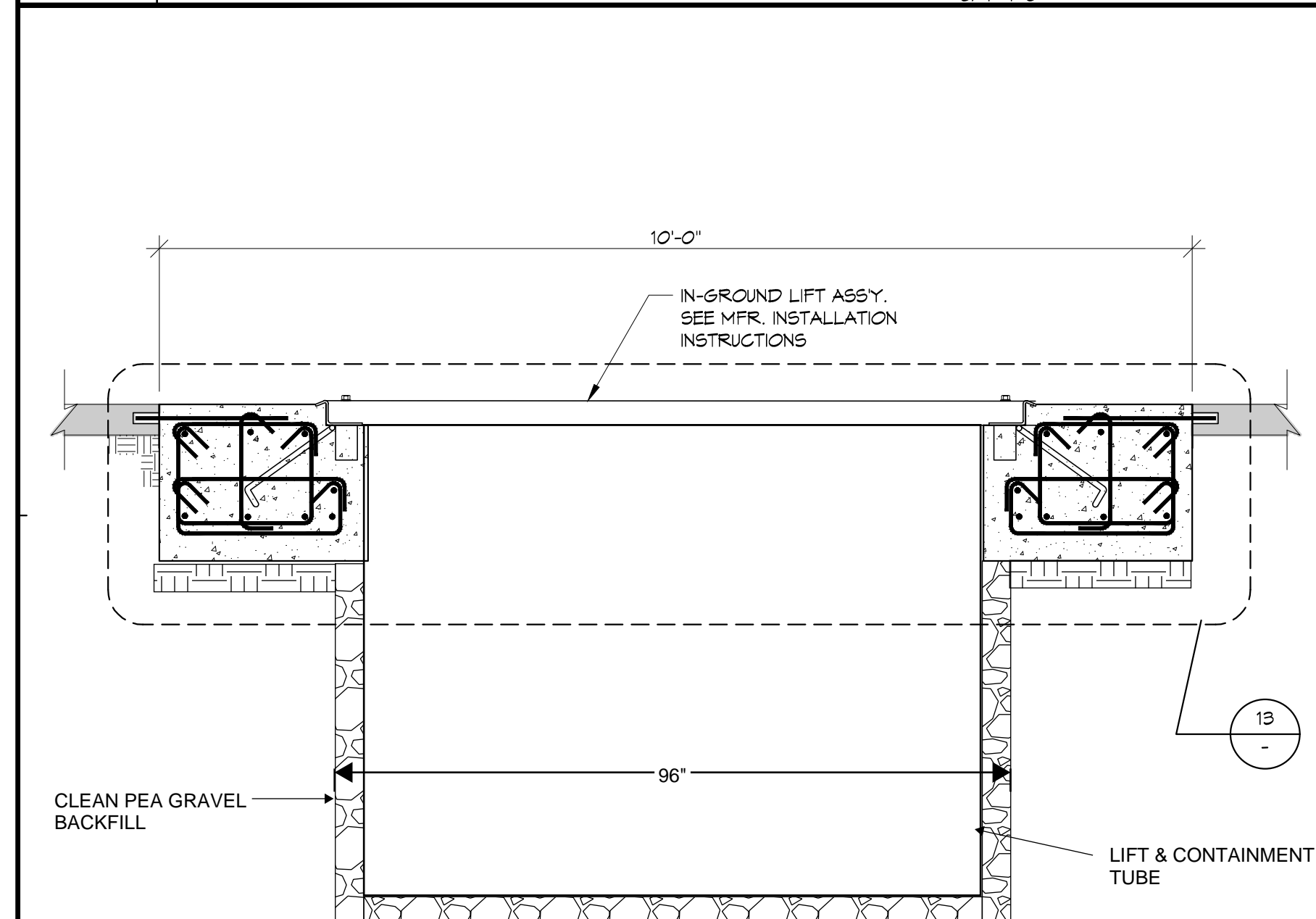
9 SAW CUT DETAIL



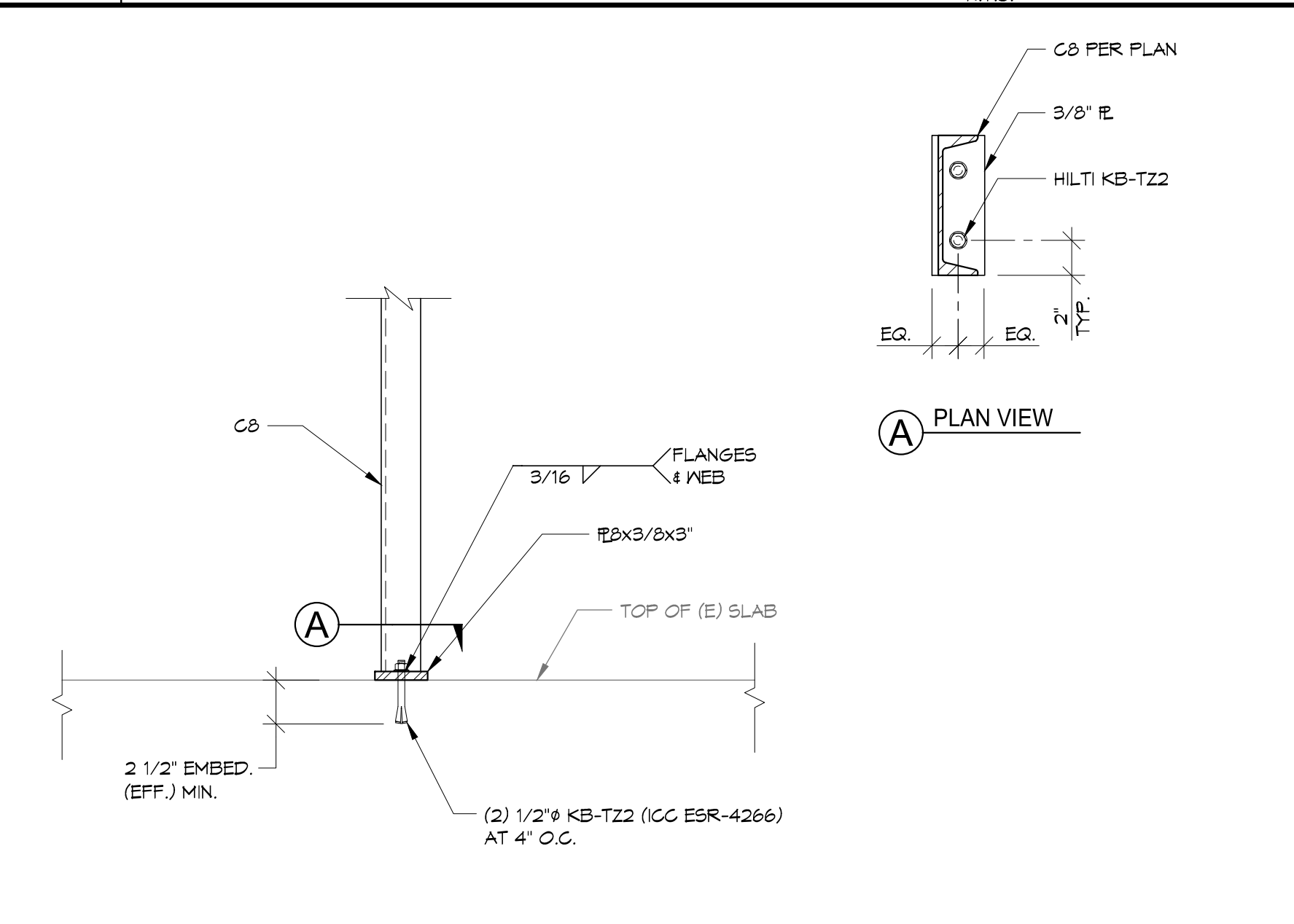
5 SECTIONS



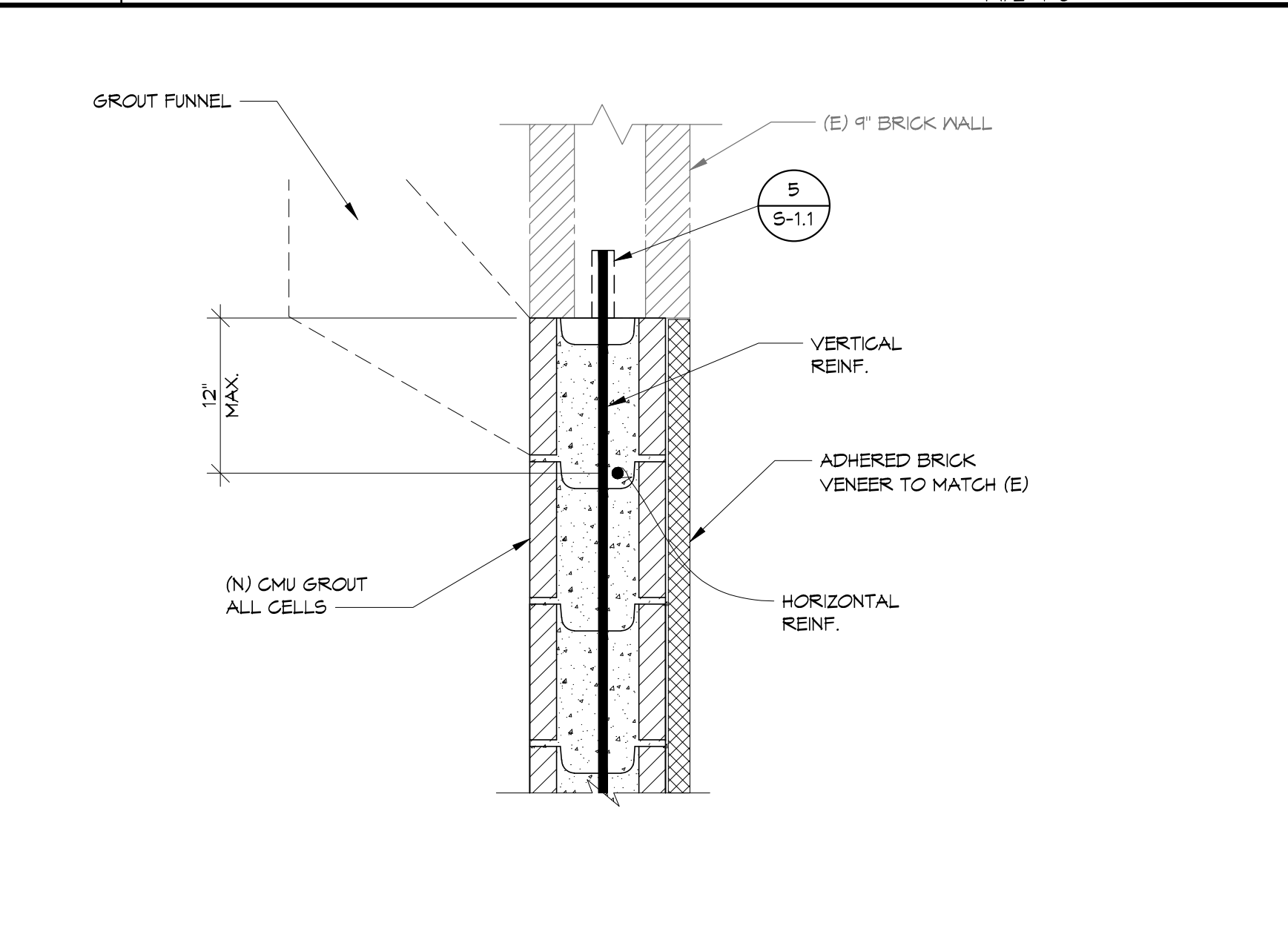
2 ELEVATION



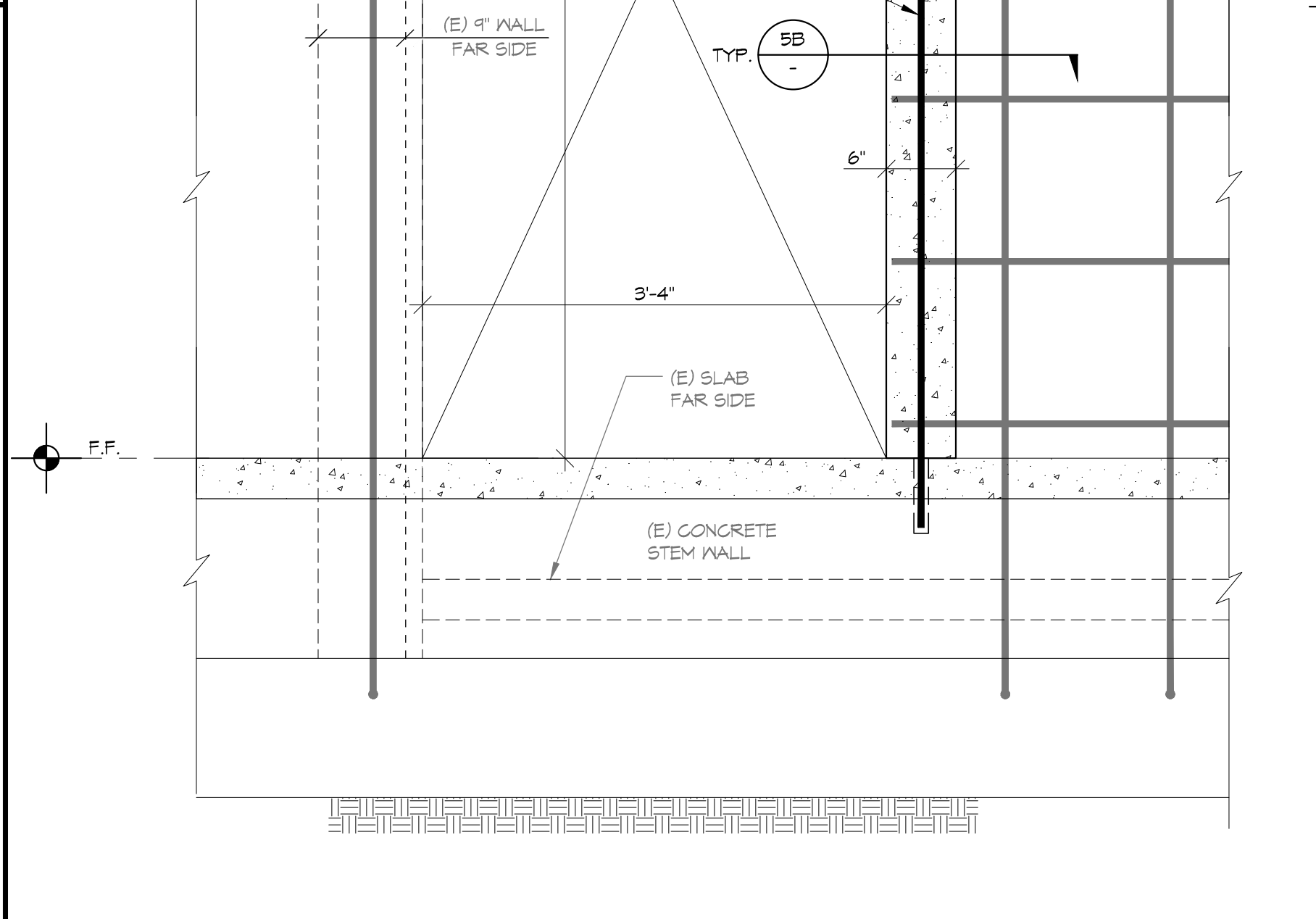
14 SECTION



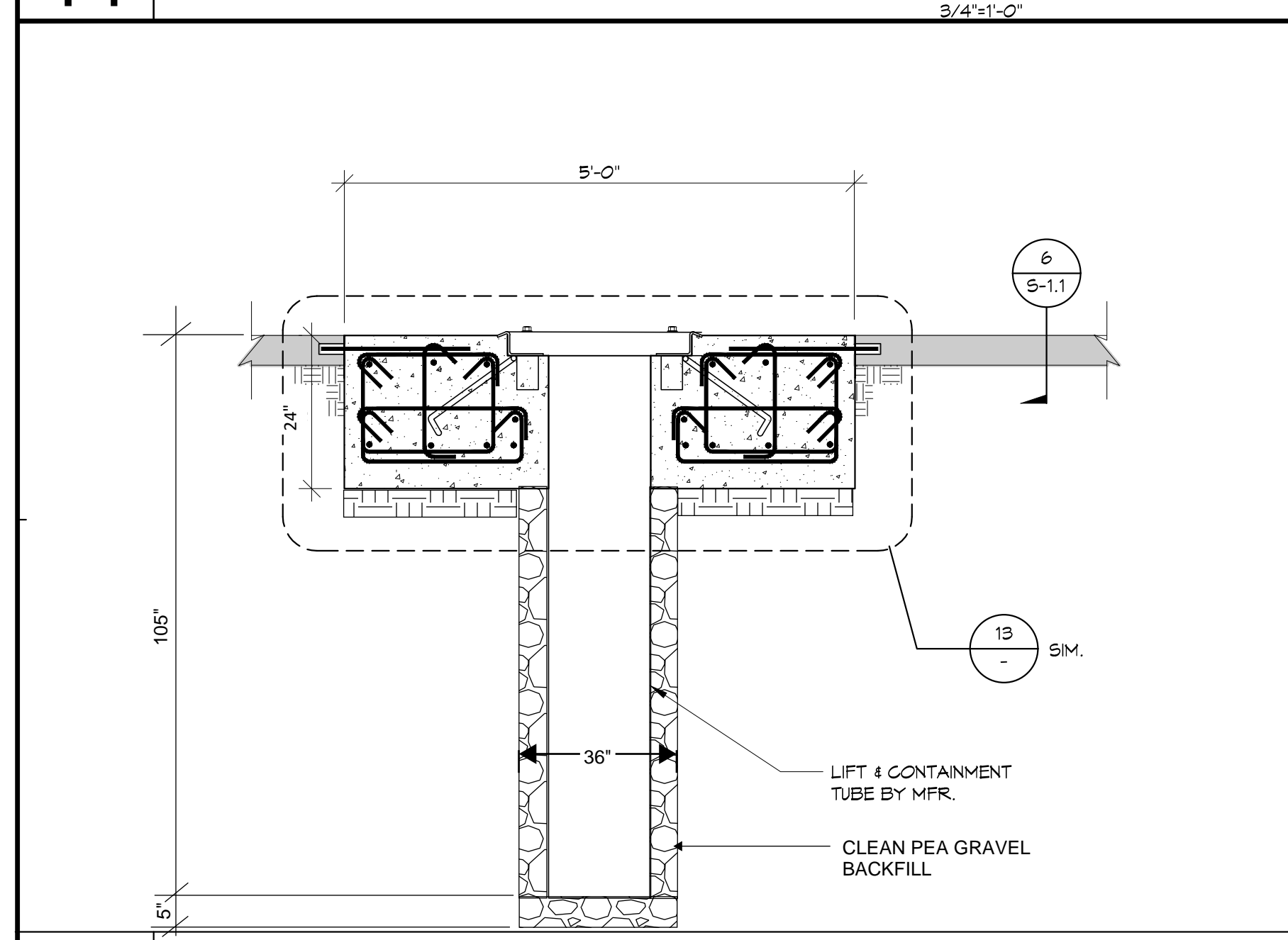
10 DETAIL



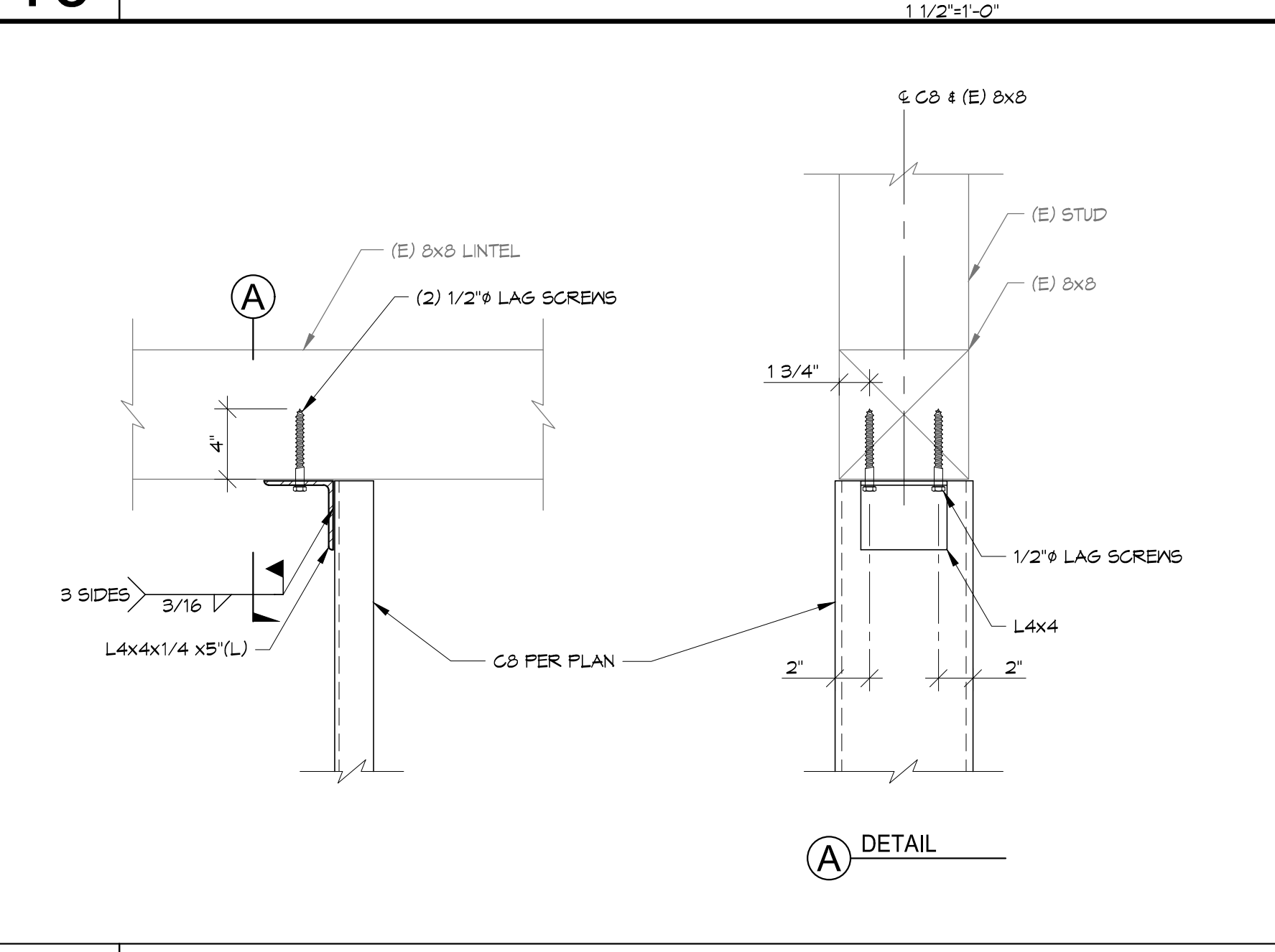
6 SECTION



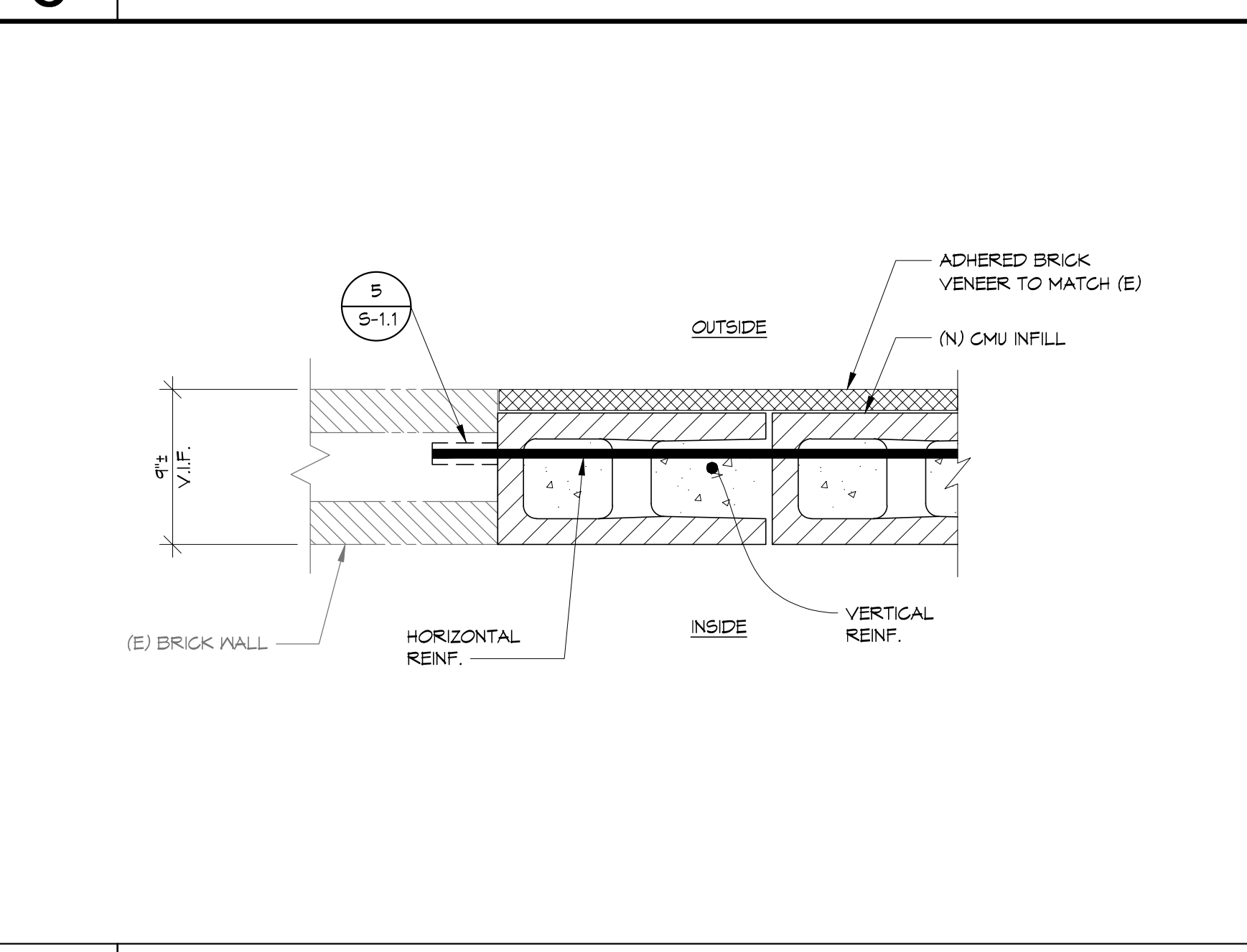
3 INFILL DETAIL



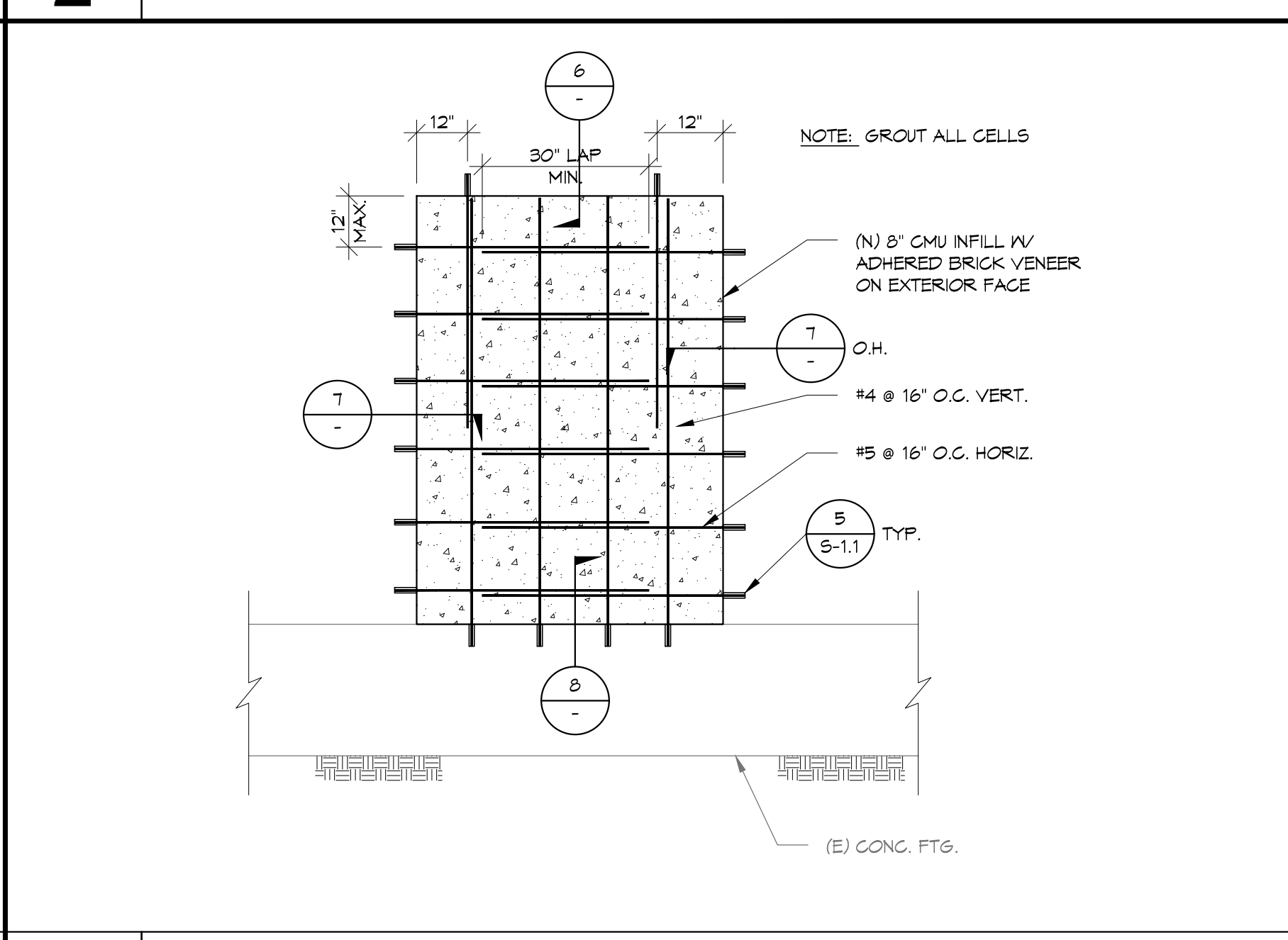
15 SECTION



11 DETAILS



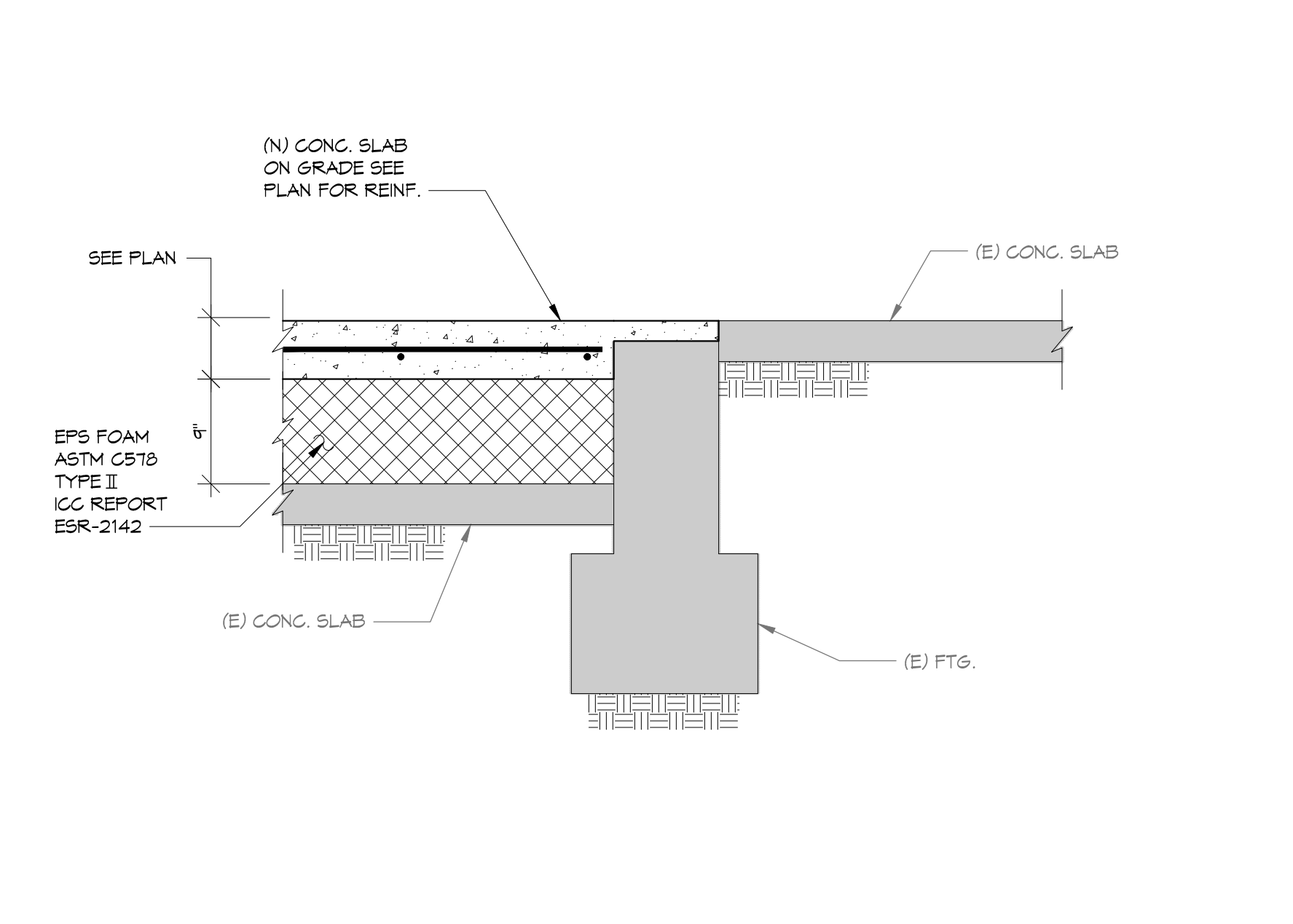
7 PLAN SECTION



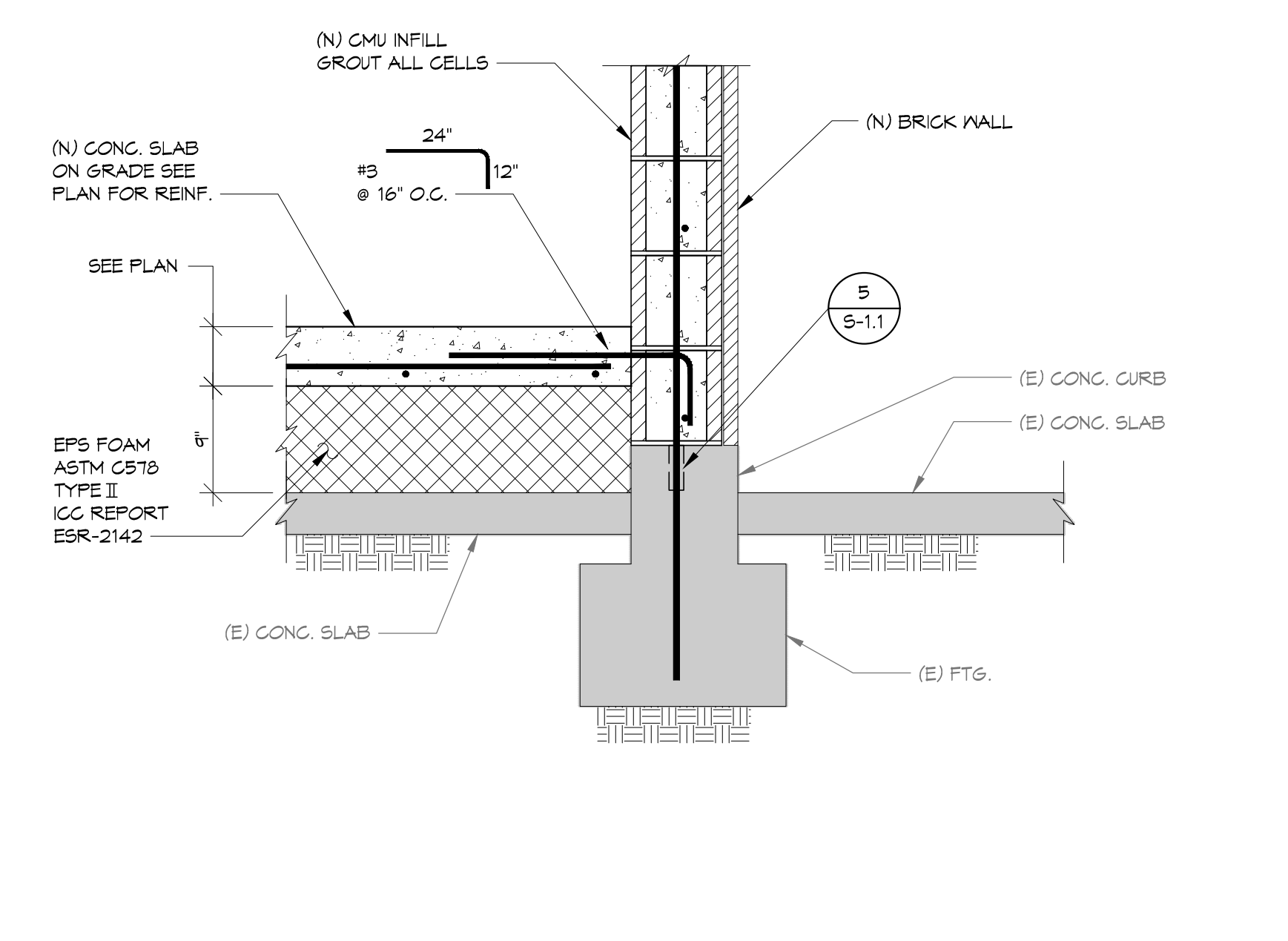
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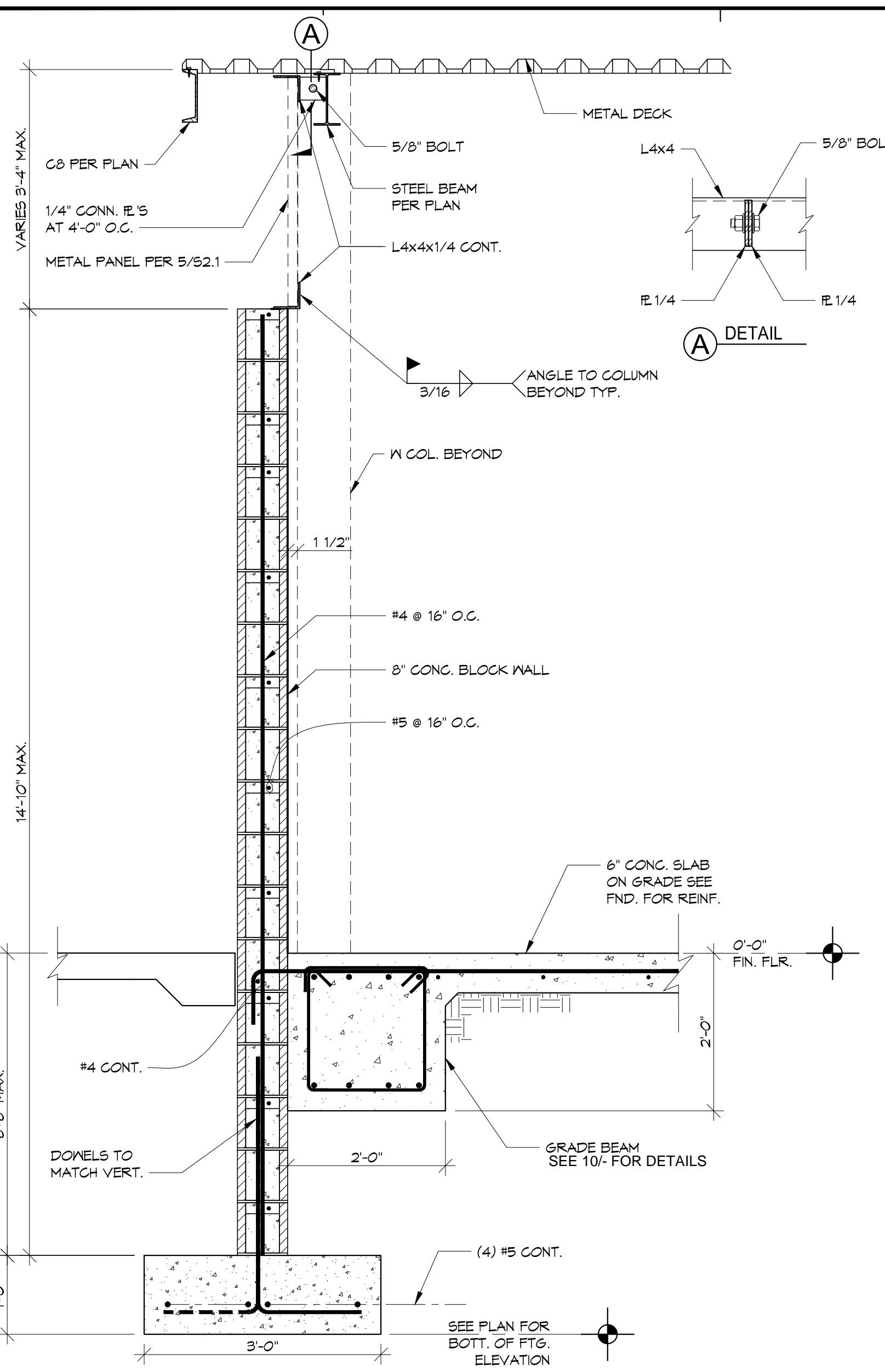
16 SECTION



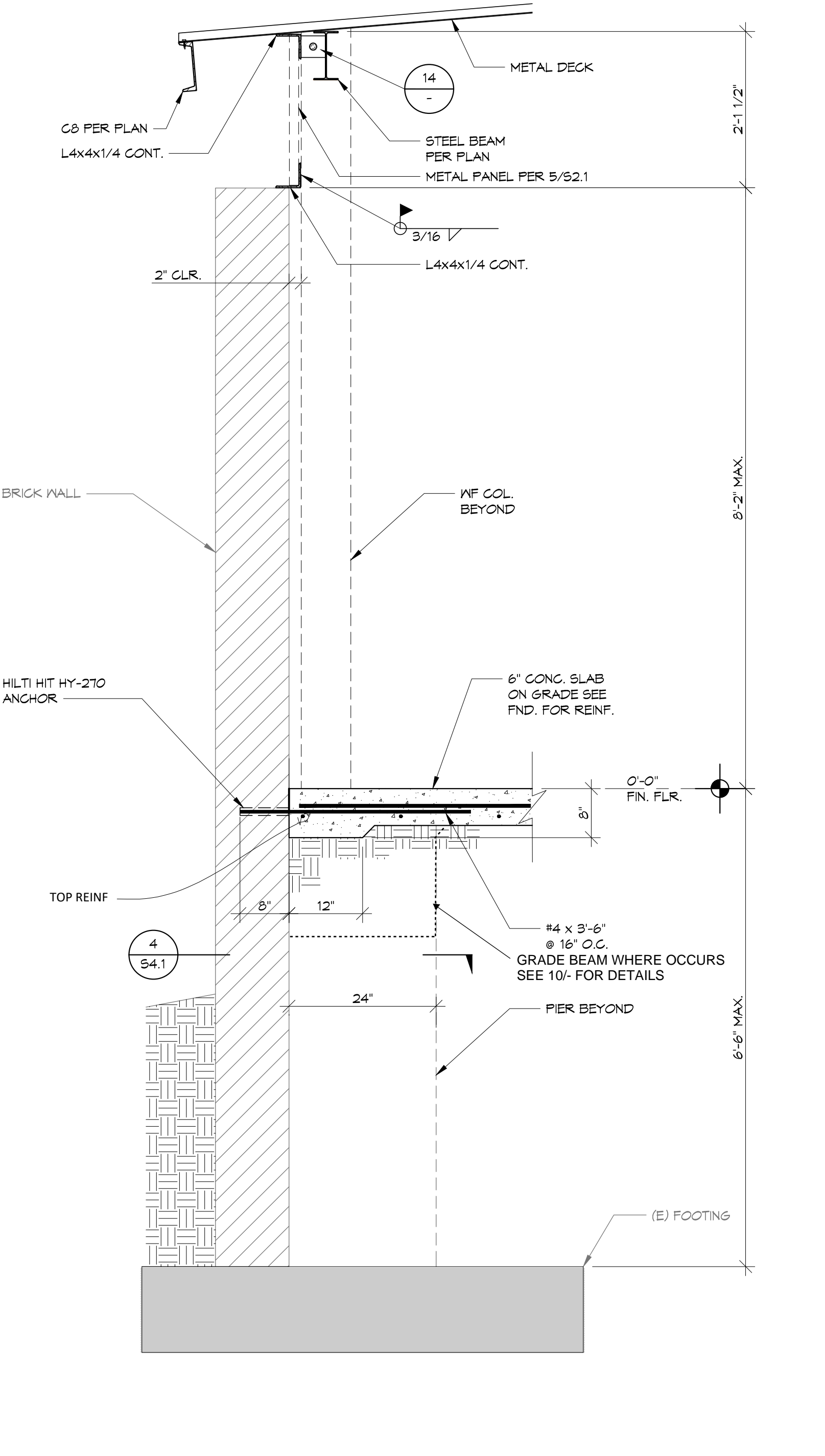
8 SECTION



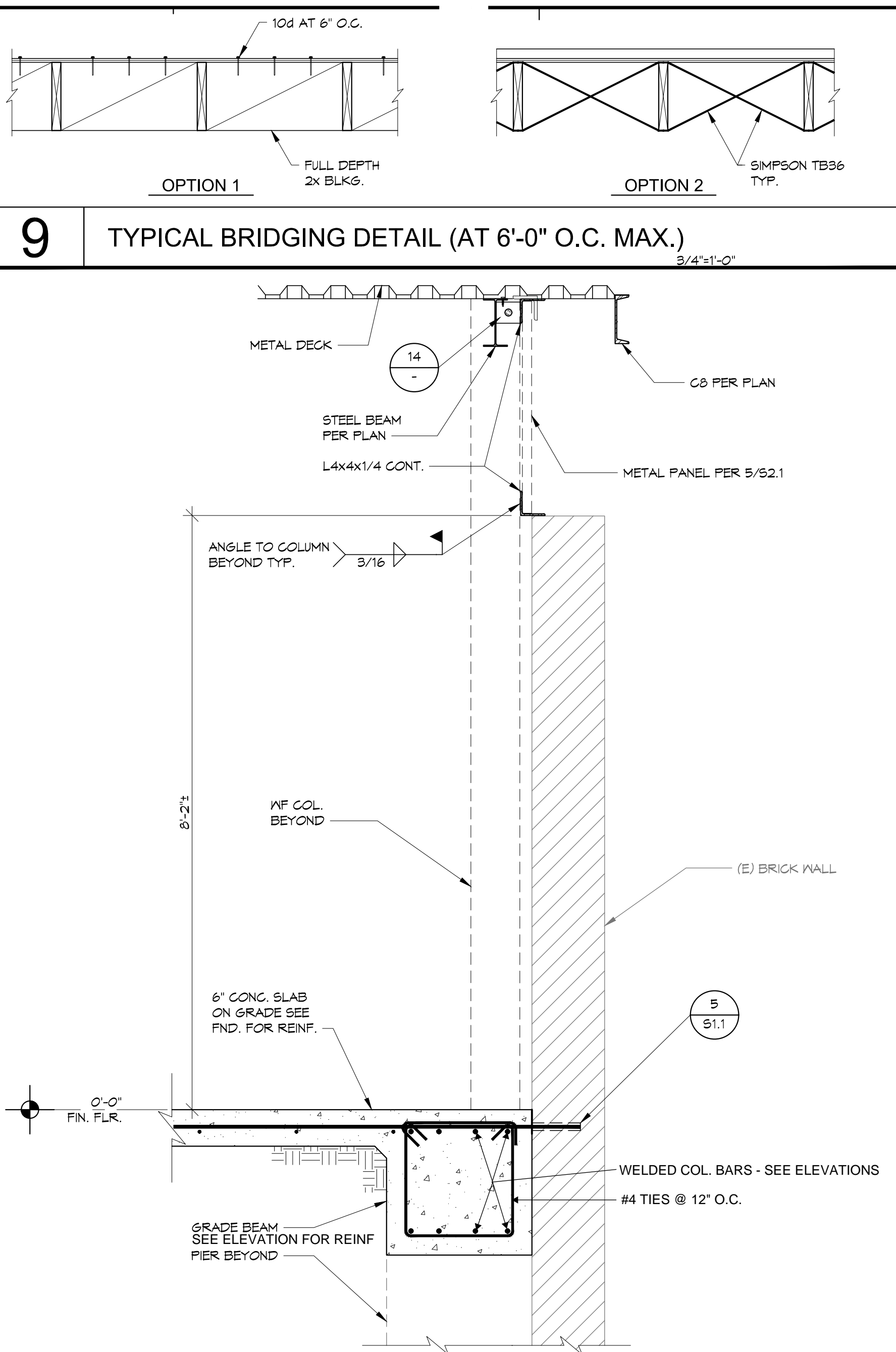
4 SECTION



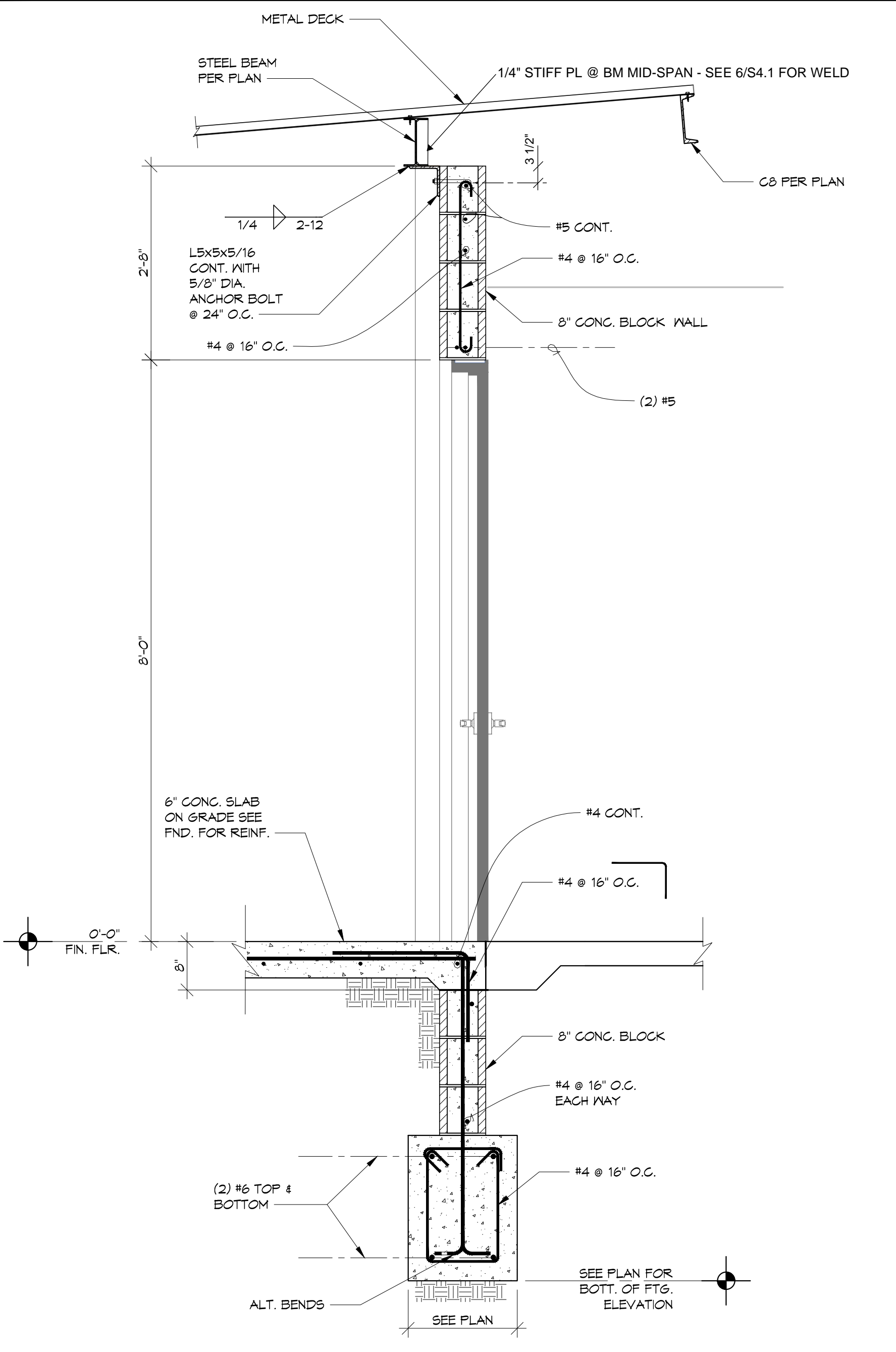
14 WALL SECTION 3/4"x1'-0"



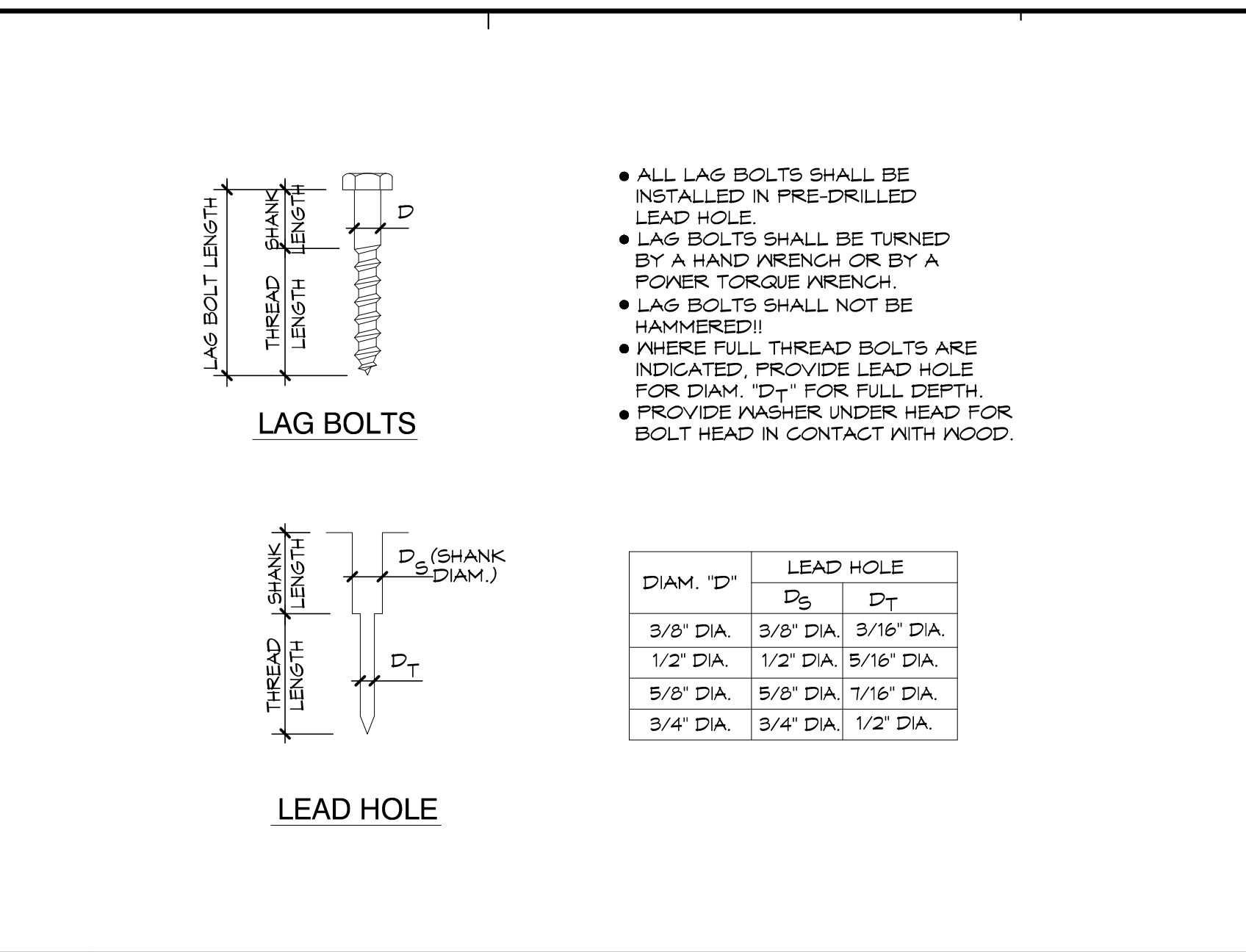
16 WALL SECTION 3/4"x1'-0"



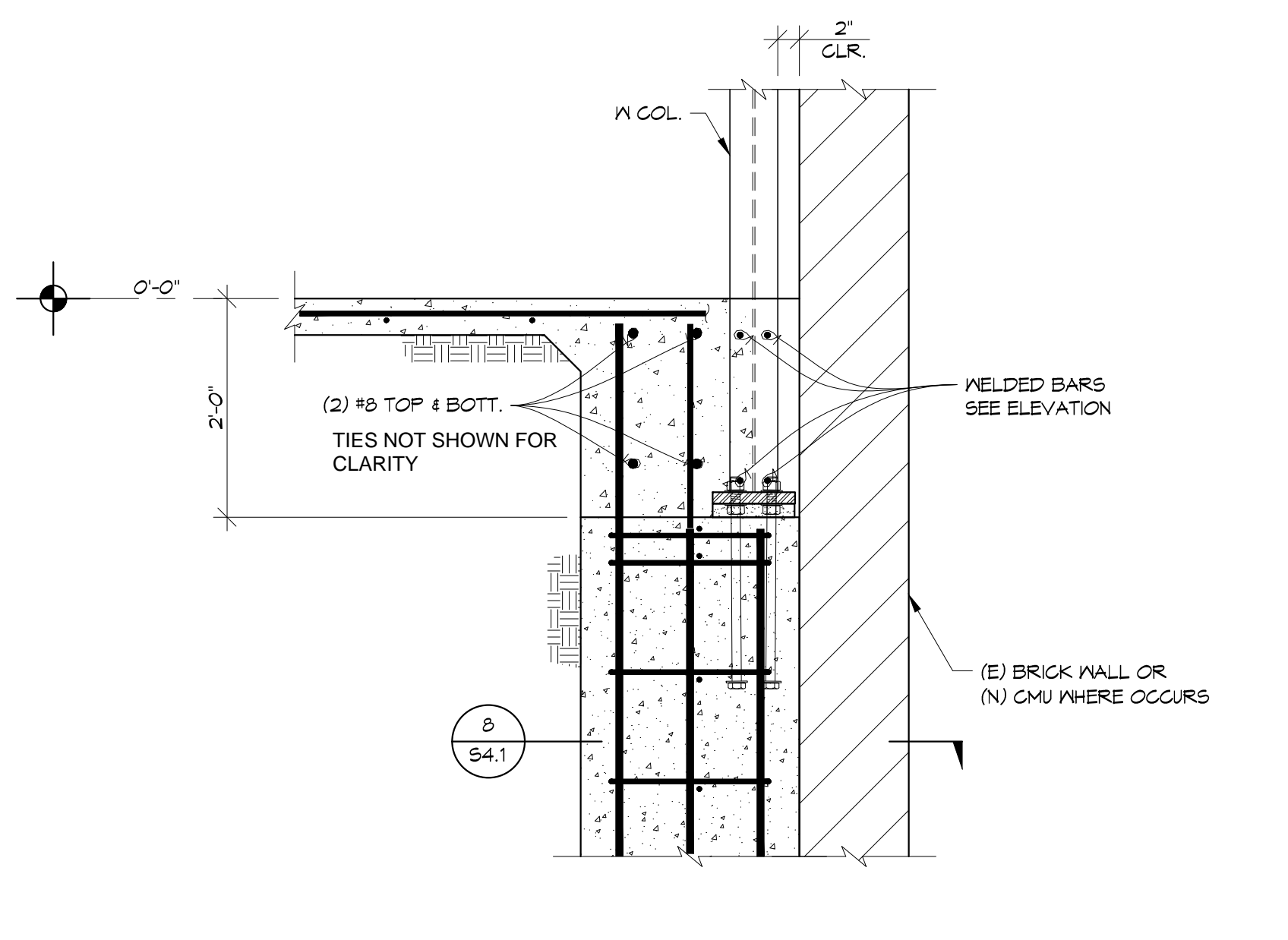
9 TYPICAL BRIDGING DETAIL (AT 6'-0" O.C. MAX.) 3/4"x1'-0"



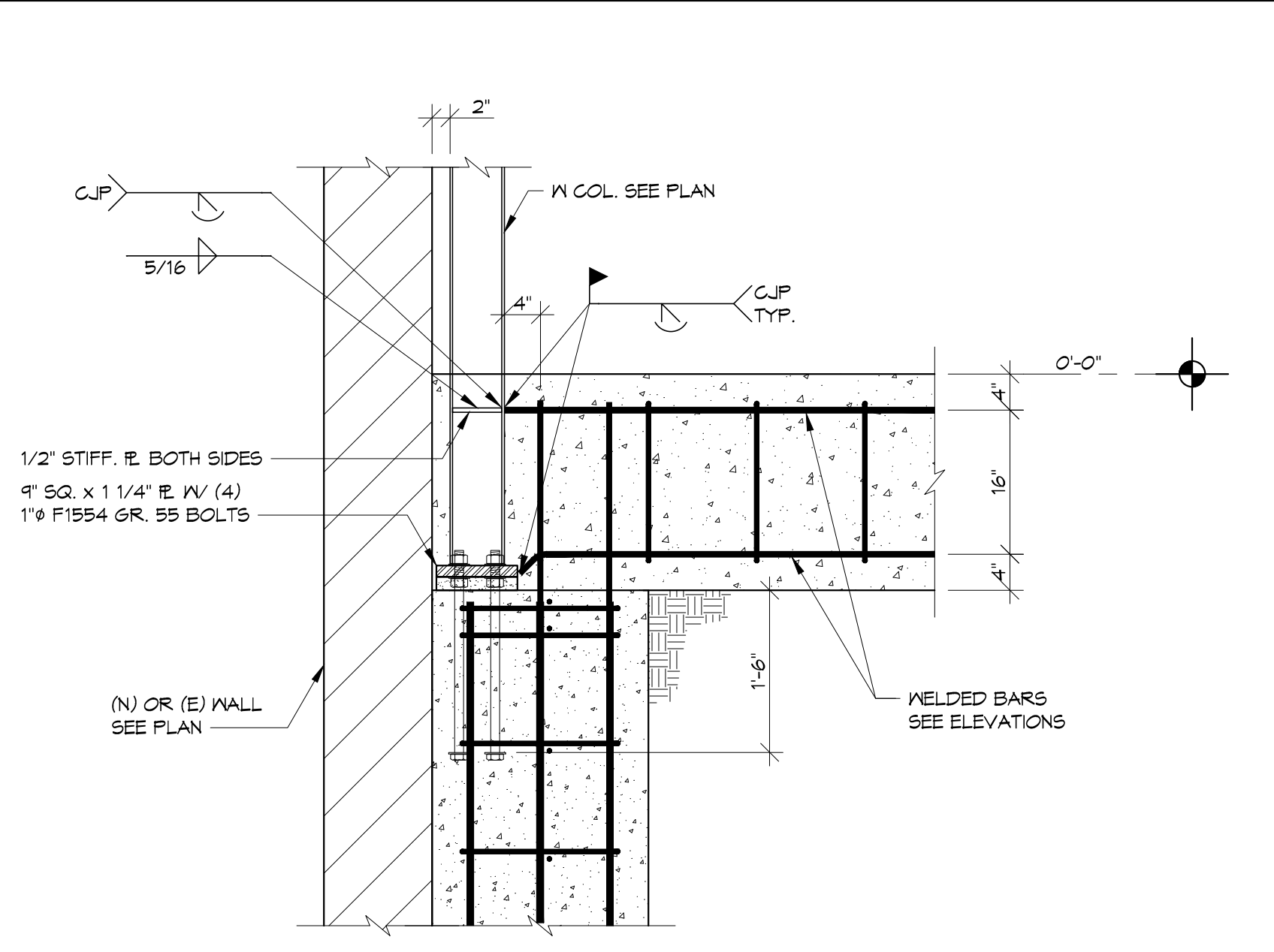
10 WALL SECTION 3/4"x1'-0"



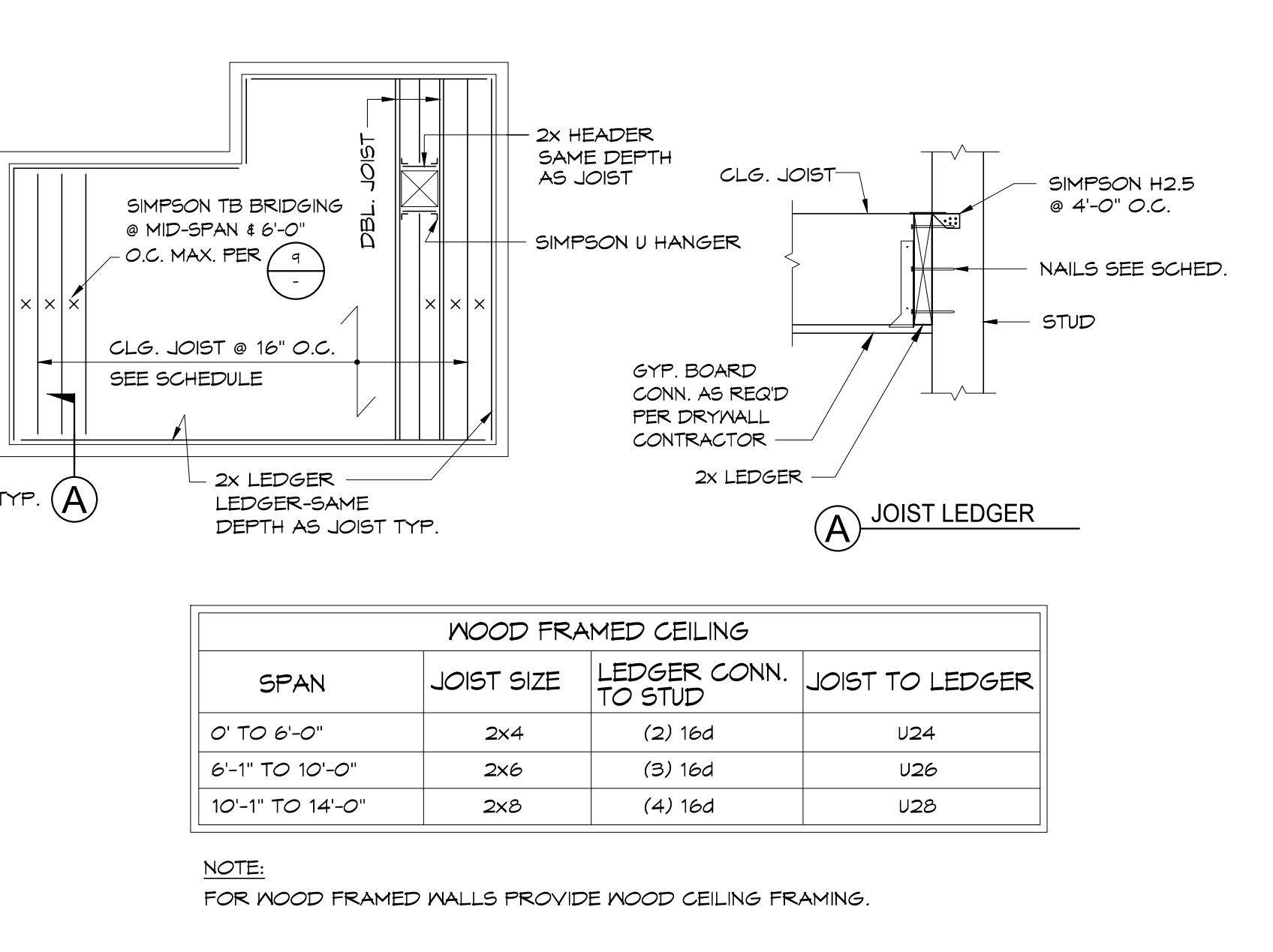
5 TYPICAL LAG BOLT INSTALLATION N.T.S.



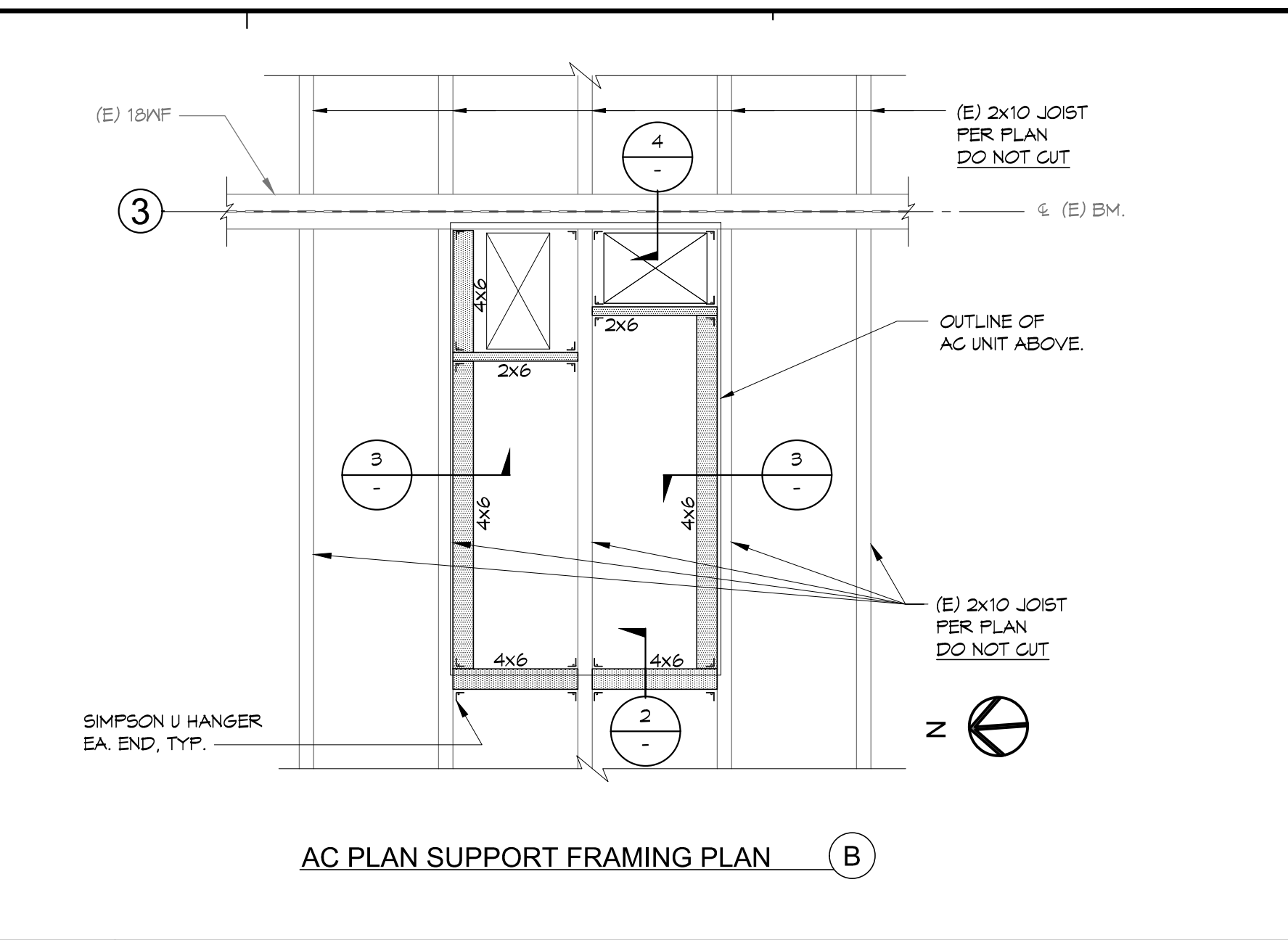
6 DETAIL 3/4"x1'-0"



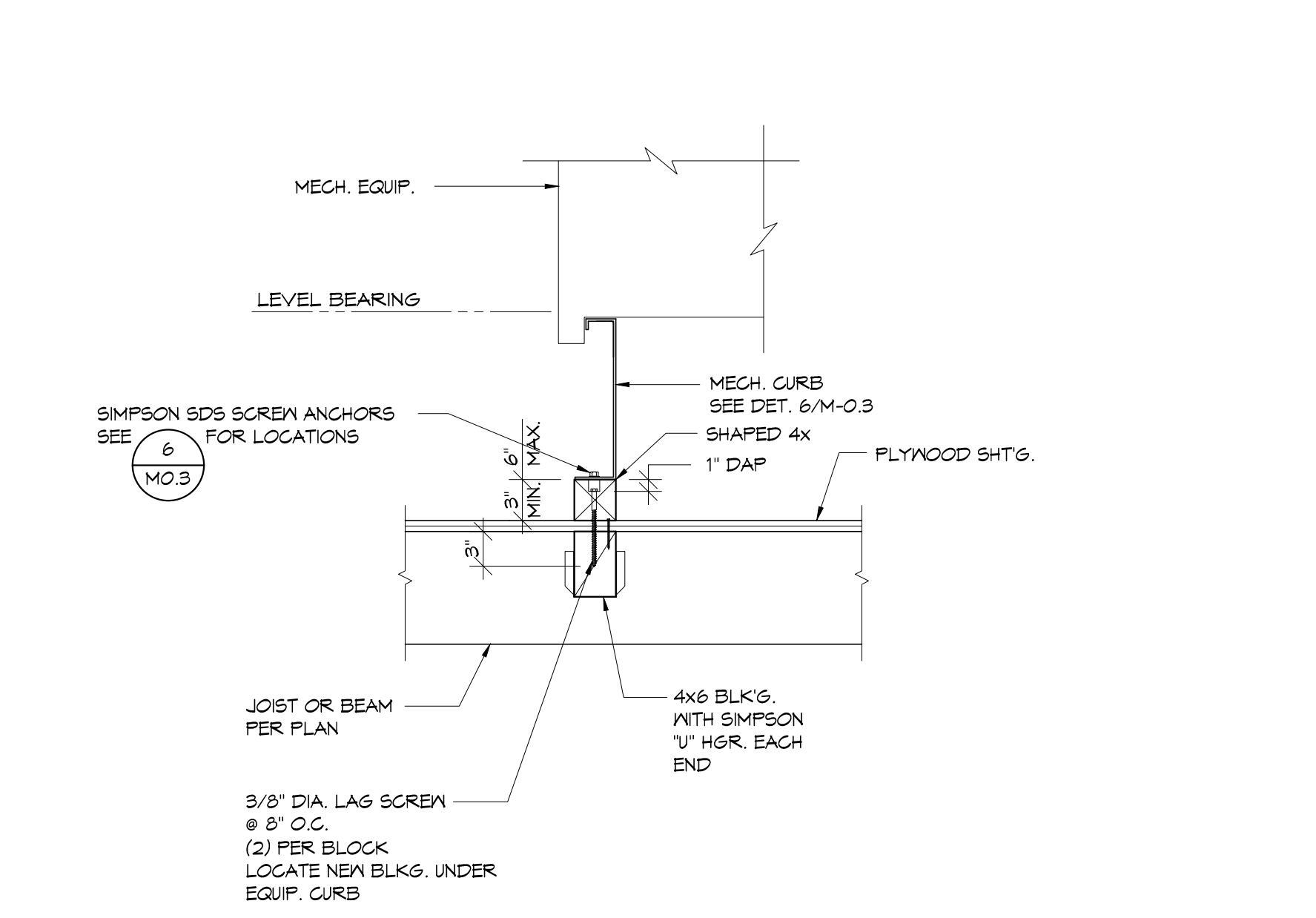
7 DETAIL 3/4"x1'-0"



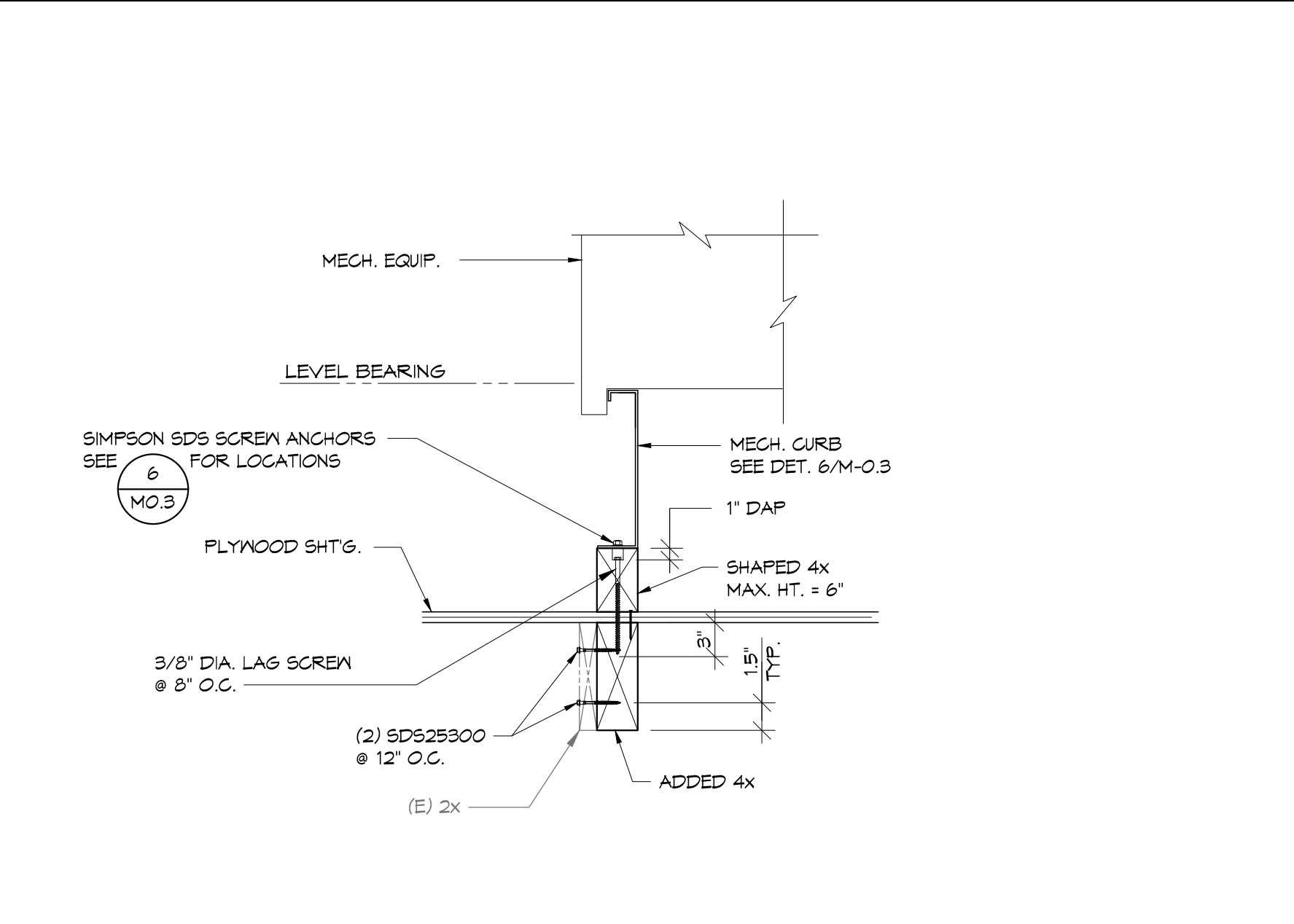
8 CEILING JOIST SCHEDULE AND DETAILS 1"x1'-0"



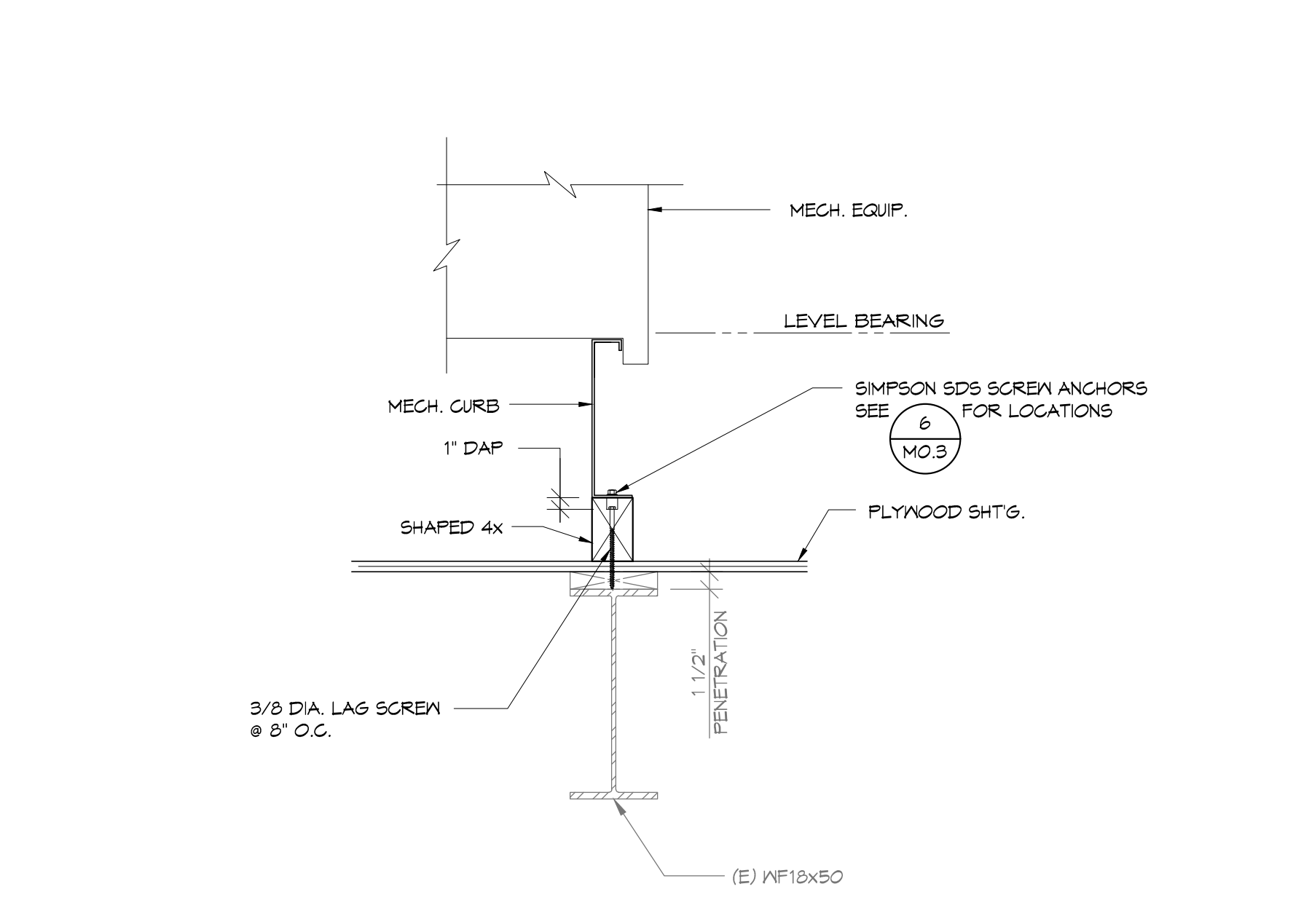
1 A/C PLAN SUPPORT FRAMING PLAN 1'-2"x1'-0"



2 A/C UNIT ANCHORAGE DETAIL 1'-1"x1'-0"

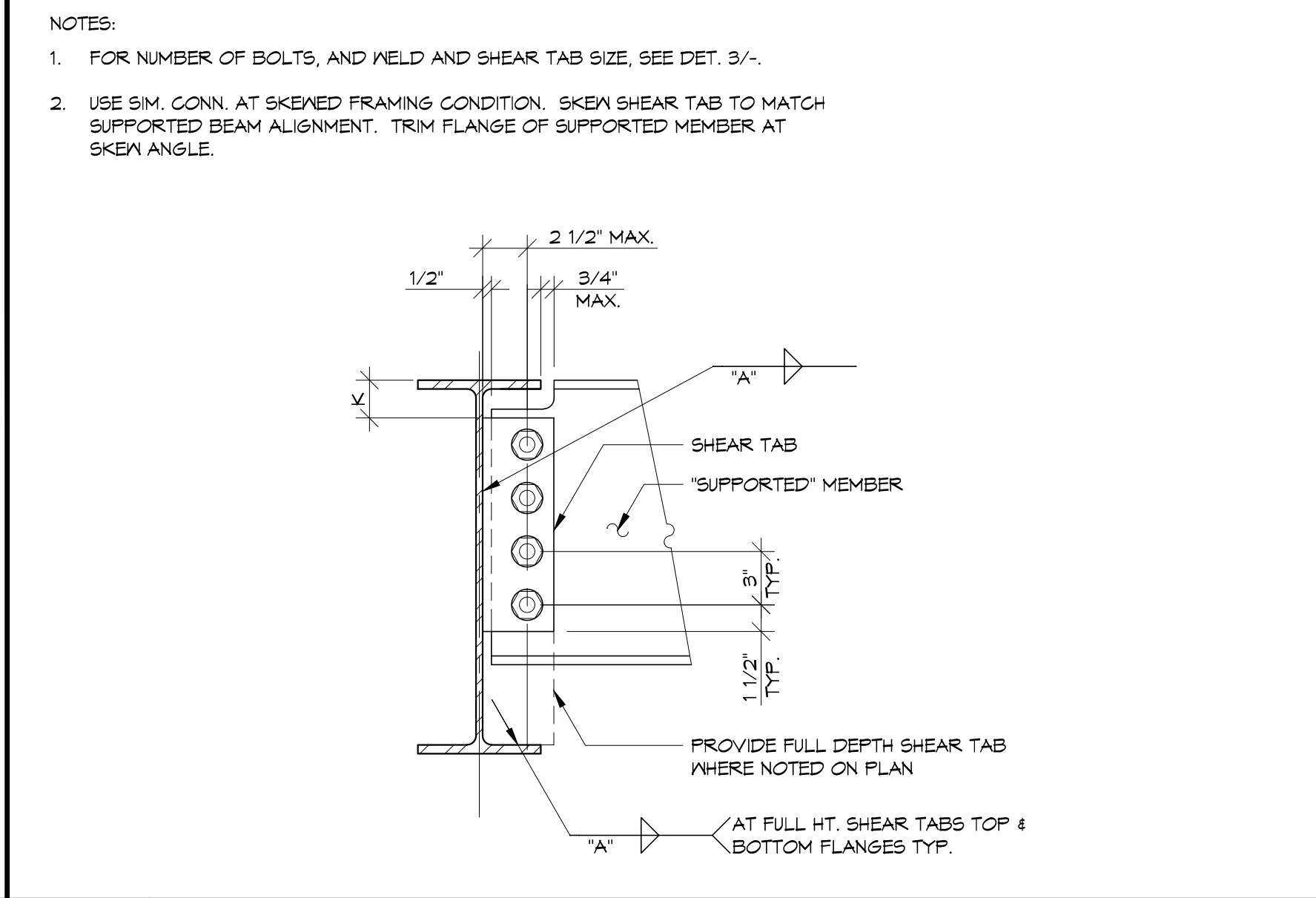
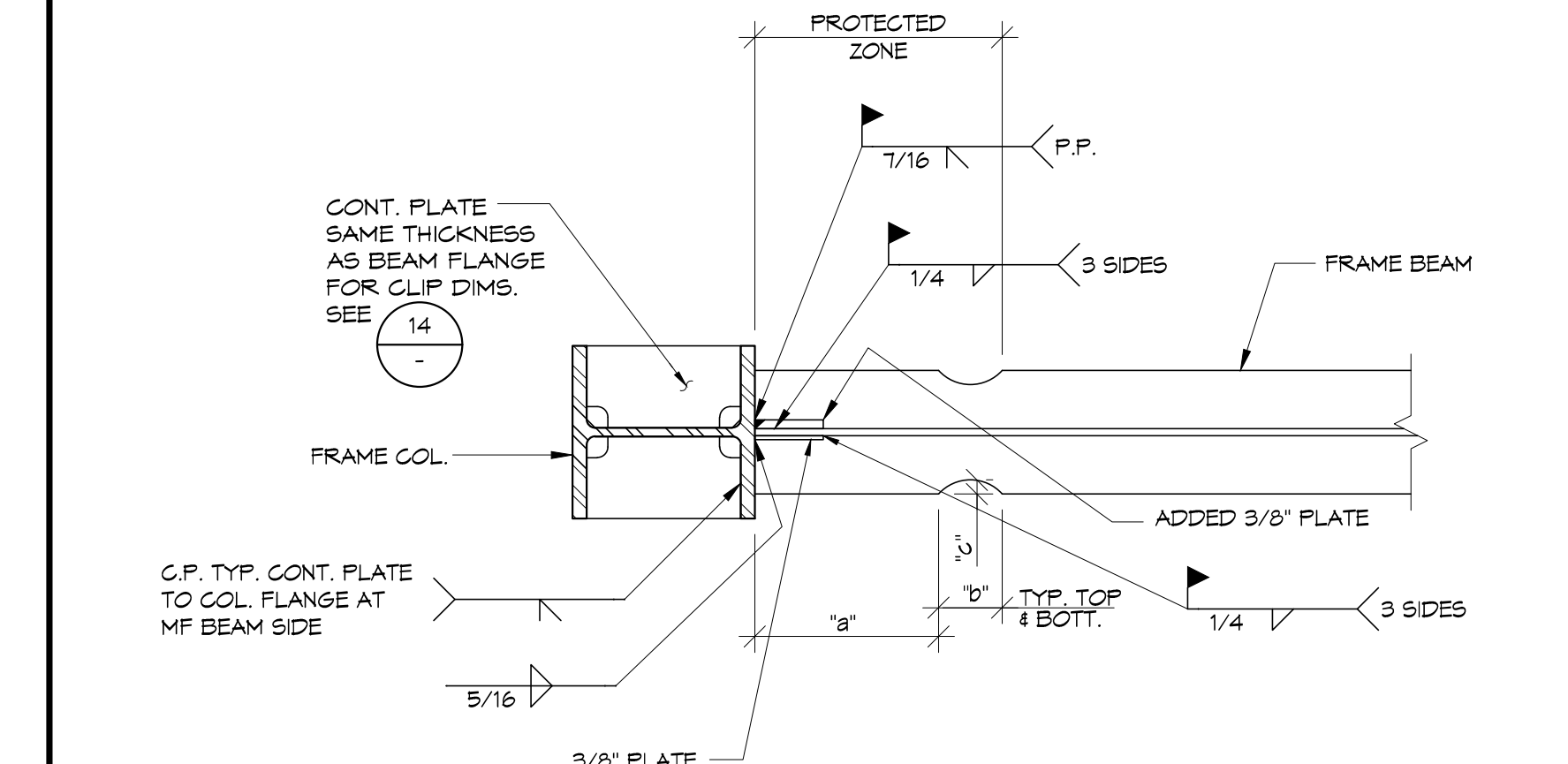
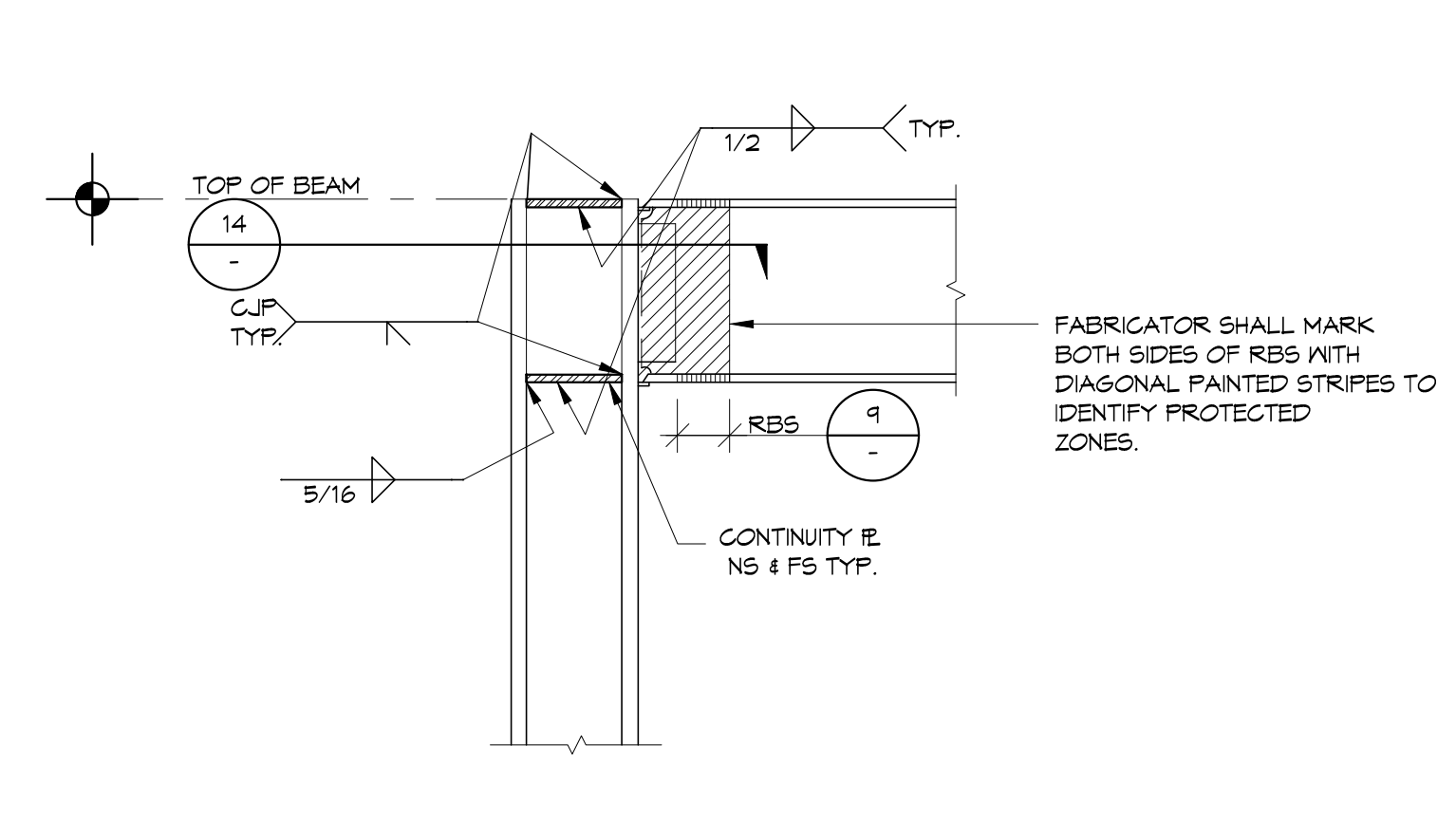


3 SECTION 1'-1"x1'-0"



4 SECTION 1'-1"x1'-0"

BEAM	10"	10"	10"
M18x21	3"	5 1/2"	3/4"



NOTES:

A. THE AREAS DESIGNATED 'PROTECTED ZONE' SHALL COMPLY WITH THE FOLLOWING:

1. WITHIN THE PROTECTED ZONE, DISCONTINUITIES CREATED BY FABRICATION OR ERECTION OPERATIONS, SUCH AS TACK WELDS, ERECTION AIDS, AIR ARC GOUGES, AND THERMAL CUTTING SHALL BE REPAIRED AS REQUIRED BY THE ENGINEER OF RECORD.
2. WELDED SHEAR STUDS AND DECKING ATTACHMENTS THAT PENETRATE THE BEAM FLANGE SHALL NOT BE PLACED ON BEAM FLANGES WITHIN THE PROTECTED ZONE. DECKING ARC SPOT WELDS AS REQUIRED TO SECURE DECKING SHALL BE PERMITTED.
3. WELDED, BOLTED, SCREENED OR SHOT-IN ATTACHMENTS FOR PERIMETER EDGE ANGLES, EXTERIOR FACADES, PARTITIONS, DUCTWORK, PIPING OR OTHER CONSTRUCTION SHALL NOT BE PLACED WITHIN THE PROTECTED ZONE.

B. ALL WELDS TO MF BEAM SHALL BE CONSIDERED DEMAND CRITICAL.

1. WHERE WELDS ARE DESIGNATED AS DEMAND CRITICAL, THEY SHALL BE MADE WITH A FILLER METAL CAPABLE OF PROVIDING A MINIMUM CHARVY V-NOTCH (CVN) TOUGHNESS OF 20 FT-LB (21J) AT -20°F (-29°C) AS DETERMINED BY THE APPROPRIATE AWS CLASSIFICATION TEST METHOD OR MANUFACTURER CERTIFICATION, AND 40 FT-LB (34J) AT 70°F (21°C) AS DETERMINED BY APPENDIX X OR OTHER APPROVED METHOD, WHEN THE STEEL FRAME IS NORMALLY ENCLOSED AND MAINTAINED AT A TEMPERATURE OF 50°F (10°C) OR HIGHER. FOR STRUCTURES WITH SERVICE TEMPERATURES LOWER THAN 50°F (10°C), THE QUALIFICATION TEMPERATURE FOR APPENDIX X SHALL BE 20°F (11°C) ABOVE THE LOWEST ANTICIPATED SERVICE TEMPERATURE, OR AT A LOWER TEMPERATURE.

C. WHERE STEEL BACKING IS USED IN CONNECTIONS WITH COMPLETE-JOINT-PENETRATION (CJP) BEAM FLANGE GROOVE WELDS, STEEL BACKING AND TABS SHALL BE REMOVED, EXCEPT THAT TOP-FLANGE BACKING ATTACHED TO THE COLUMN BY A CONTINUOUS FILLET WELD ON THE EDGE BELOW THE CJP GROOVE WELD NEED NOT BE REMOVED. REMOVAL OF STEEL BACKING AND TABS SHALL BE AS FOLLOWS:

1. FOLLOWING THE REMOVAL OF BACKING, THE ROOT PASS SHALL BE BACKGROUSED TO SOUND WELD METAL AND BACKWELDED WITH A REINFORCING FILLET. THE REINFORCING FILLET SHALL HAVE A MINIMUM LEG SIZE OF 3/16 IN. (5mm).
2. WELD TAB REMOVAL SHALL EXTEND TO WITHIN 1/8 IN. (3mm) OF THE BASE METAL SURFACE, EXCEPT AT CONTINUITY PLATES WHERE REMOVAL TO WITHIN 1/4 IN. (6mm) OF THE PLATE EDGE IS ACCEPTABLE. EDGES OF THE WELD TAB SHALL BE FINISHED TO A SURFACE ROUGHNESS VALUE OF 500 µin. (13µm) OR BETTER. GRINDING TO A FLUSH CONDITION IS NOT REQUIRED. GOUGES AND NOTCHES ARE NOT PERMITTED. THE TRANSITIONAL SLOPE OF ANY AREA WHERE GOUGES AND NOTCHES HAVE BEEN REMOVED SHALL NOT EXCEED 1:5. MATERIAL REMOVED BY GRINDING THAT EXTENDS MORE THAN 1/16 IN. (2mm) BELOW THE SURFACE OF THE BASE METAL SHALL BE FILLED WITH WELD METAL. THE CONTOUR OF THE WELD AT THE ENDS SHALL PROVIDE A SMOOTH TRANSITION, FREE OF NOTCHES AND SHARP CORNERS.

D. WHERE WELD ACCESS HOLES ARE PROVIDED, THEY SHALL BE AS SHOWN IN DETAIL. THE WELD ACCESS HOLE SHALL HAVE A SURFACE ROUGHNESS VALUE NOT TO EXCEED 500 µin. (13 µm), AND SHALL BE FREE OF NOTCHES AND GOUGES. NOTCHES AND GOUGES SHALL BE REPAIRED AS REQUIRED BY THE ENGINEER OF RECORD. WELD ACCESS HOLES ARE PROHIBITED IN THE BEAM WEB ADJACENT TO THE END-PLATE IN BOLTED MOMENT END-PLATE CONNECTIONS.

E. FABRICATION OF FLANGE CUTS

1. THE REDUCED BEAM SECTION SHALL BE MADE USING THERMAL CUTTING TO PRODUCE A SMOOTH CURVE. THE MAXIMUM SURFACE ROUGHNESS OF THE THERMALLY CUT SURFACE SHALL BE 500 MICRONS (13 MICRONS) IN ACCORDANCE WITH AWS B46.1, AS MEASURED USING AWS G4-1-TT SAMPLE 4 OR SIMILAR VISUAL COMPARATOR. ALL TRANSITIONS BETWEEN THE REDUCED BEAM SECTION AND THE UNMODIFIED BEAM FLANGE SHALL BE ROUNDED IN THE DIRECTION OF THE FLANGE LENGTH TO MINIMIZE NOTCH EFFECTS DUE TO ABRUPT TRANSITIONS. CORNERS BETWEEN THE REDUCED SECTION SURFACE AND THE TOP AND BOTTOM OF THE FLANGES SHALL BE GRIND TO REMOVE SHARP EDGES, BUT A MINIMUM CHAMFER OR RADIUS IS NOT REQUIRED.

THERMAL CUTTING TOLERANCES SHALL BE PLUS OR MINUS 1/4 IN. (6mm) FROM THE THEORETICAL CUT LINE. THE BEAM EFFECTIVE FLANGE WIDTH AT ANY SECTION SHALL HAVE A TOLERANCE OF PLUS OR MINUS 3/8 IN. (10mm).

GOUGES AND NOTCHES THAT OCCUR IN THE THERMALLY CUT RBS SURFACE MAY BE REPAIRED BY GRINDING IF NOT MORE THAN 1/4 IN. (6mm) DEEP. THE GOUSED OR NOTCHED AREA SHALL BE FAIRED BY GRINDING SO THAT A SMOOTH TRANSITION EXISTS, AND THE TOTAL LENGTH OF THE AREA GRIND FOR THE TRANSITION SHALL BE NO LESS THAN FIVE TIMES THE DEPTH OF THE REMOVED GOUSE ON EACH SIDE OF THE GOUSE. IF A SHARP NOTCH EXISTS, THE AREA SHALL BE INSPECTED BY MT AFTER GRINDING TO ENSURE THAT THE ENTIRE DEPTH OF NOTCH HAS BEEN REMOVED. GRINDING THAT INCREASES THE DEPTH OF THE RBS CUT MORE THAN 1/4 IN. (6mm) BEYOND THE SPECIFIED DEPTH OF CUT IS NOT PERMITTED.

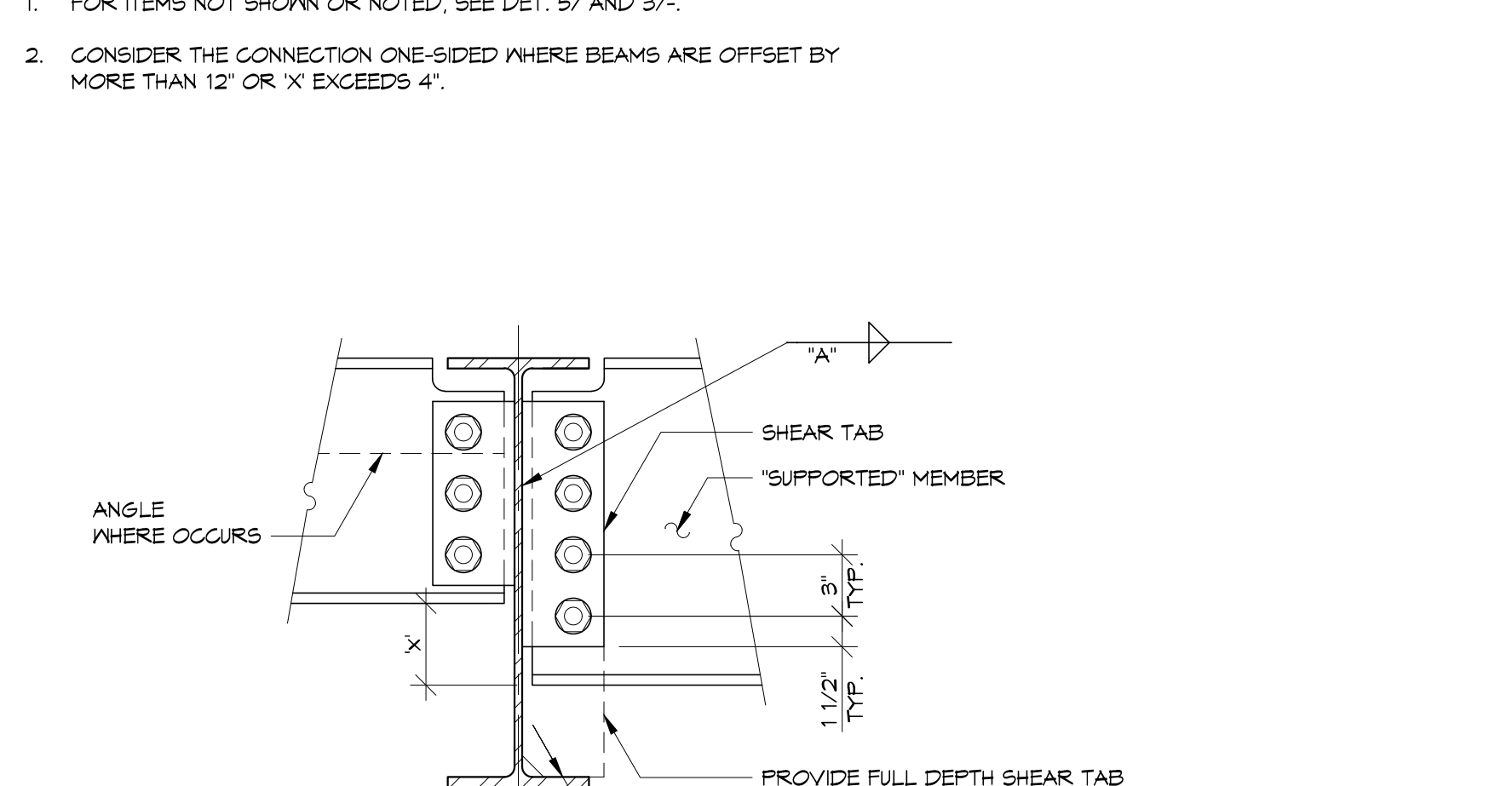
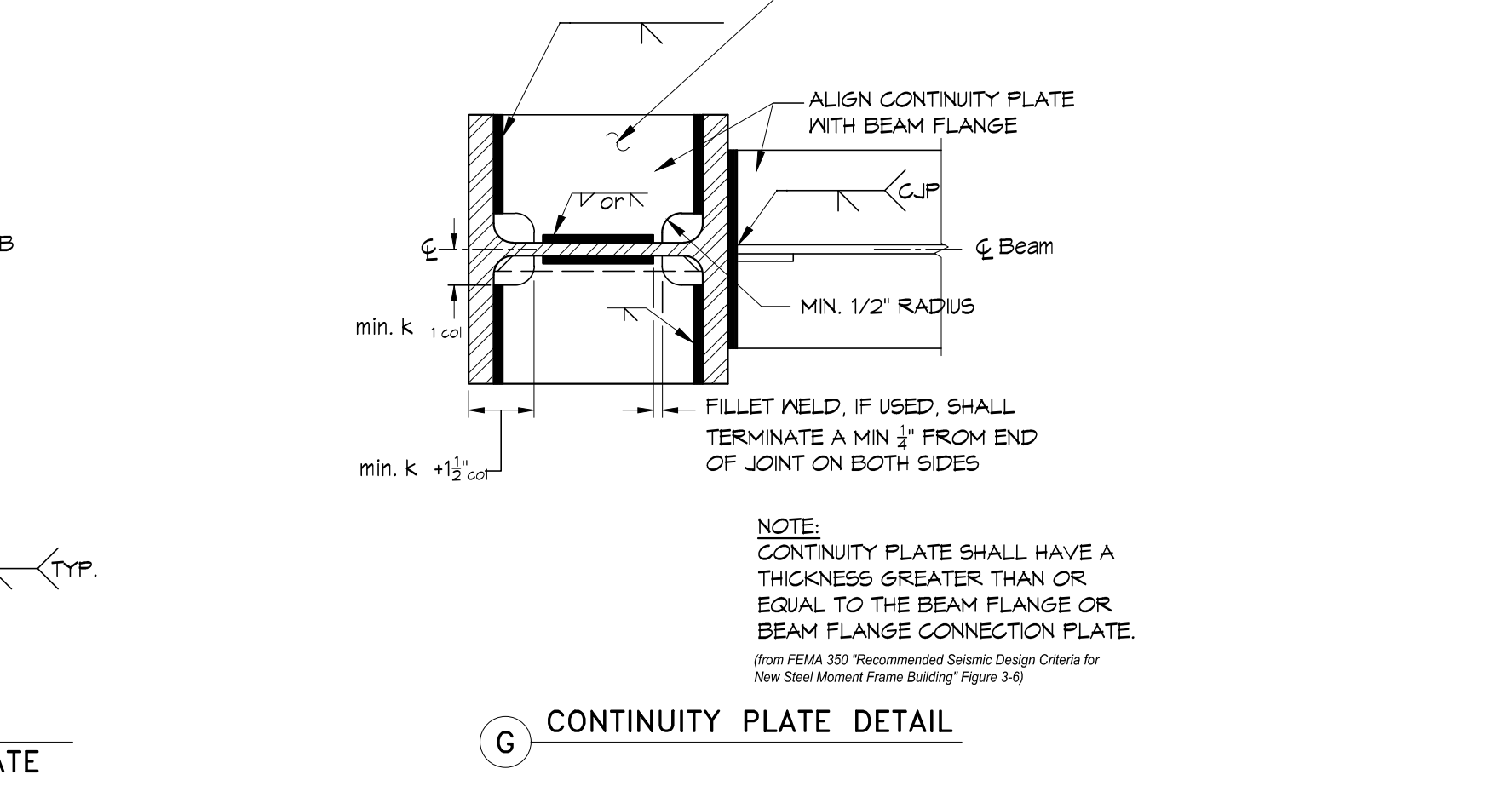
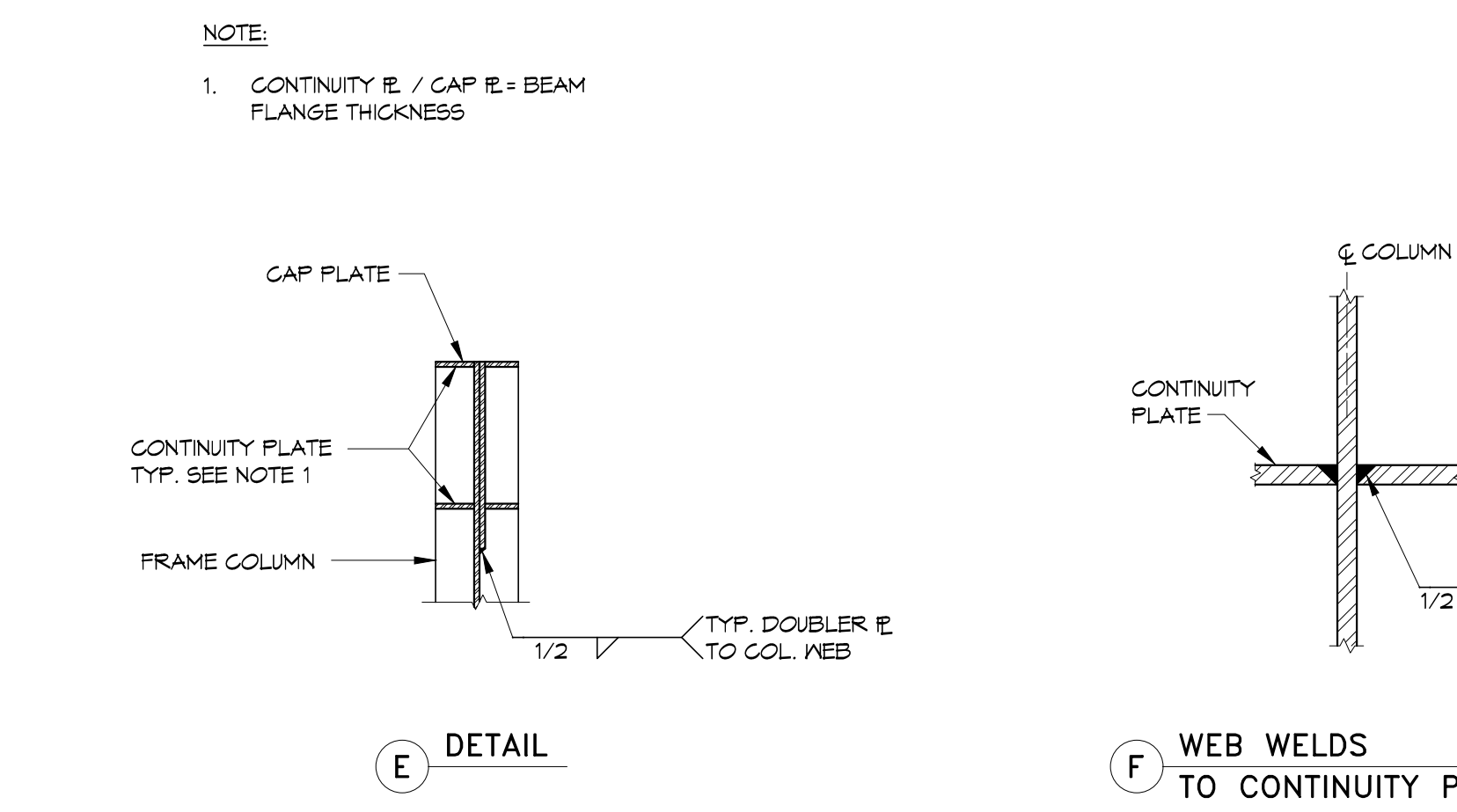
GOUGES AND NOTCHES THAT EXCEED 1/4 IN. (6mm) IN DEPTH, BUT NOT TO EXCEED 1/2 IN. (12mm) IN DEPTH, AND THOSE NOTCHES AND GOUGES WHERE REPAIR BY GRINDING WOULD INCREASE THE EFFECTIVE DEPTH OF THE RBS CUT BEYOND TOLERANCE, MAY BE REPAIRED BY WELDING. THE NOTCH OR GOUSE SHALL BE REMOVED AND GRIND TO PROVIDE A SMOOTH RADIUS OF NOT LESS THAN 1/4 IN. IN PREPARATION FOR WELDING. THE REPAIR AREA SHALL BE PREHEATED TO A TEMPERATURE OF 150°F OR THE VALUE SPECIFIED IN AWS D11 TABLE 3.2, WHICHEVER IS GREATER, MEASURED AT THE LOCATION OF THE WELD REPAIR.

NOTCHES AND GOUGES EXCEEDING 1/2 IN. (12mm) IN DEPTH SHALL BE REPAIRED ONLY WITH A METHOD APPROVED BY THE ENGINEER OF RECORD.

13 MOMENT FRAME CONNECTION N.T.S.

9 RBS PLAN DETAIL 1/4"=1'-0"

5 TYPICAL ONE-SIDED SHEAR CONNECTION N.T.S.



NOTES:

1. FOR REGD. DIMENSIONS, BOLTS, WELDS, SHEAR TAB SIZE AND OTHER INFO. NOT SHOWN OR NOTED, SEE DET. 5/4- AND DET. 3/4-.
2. USE SIM. CONN. AT SKEWED FRAMING CONDITION. SKEW SHEAR TAB TO MATCH 'SUPPORTED' BEAM ALIGNMENT. TRIM FLANGE OF 'SUPPORTED' MEMBER AT SKEW ANGLE.

'SUPPORTED' BEAM

SHEAR TAB

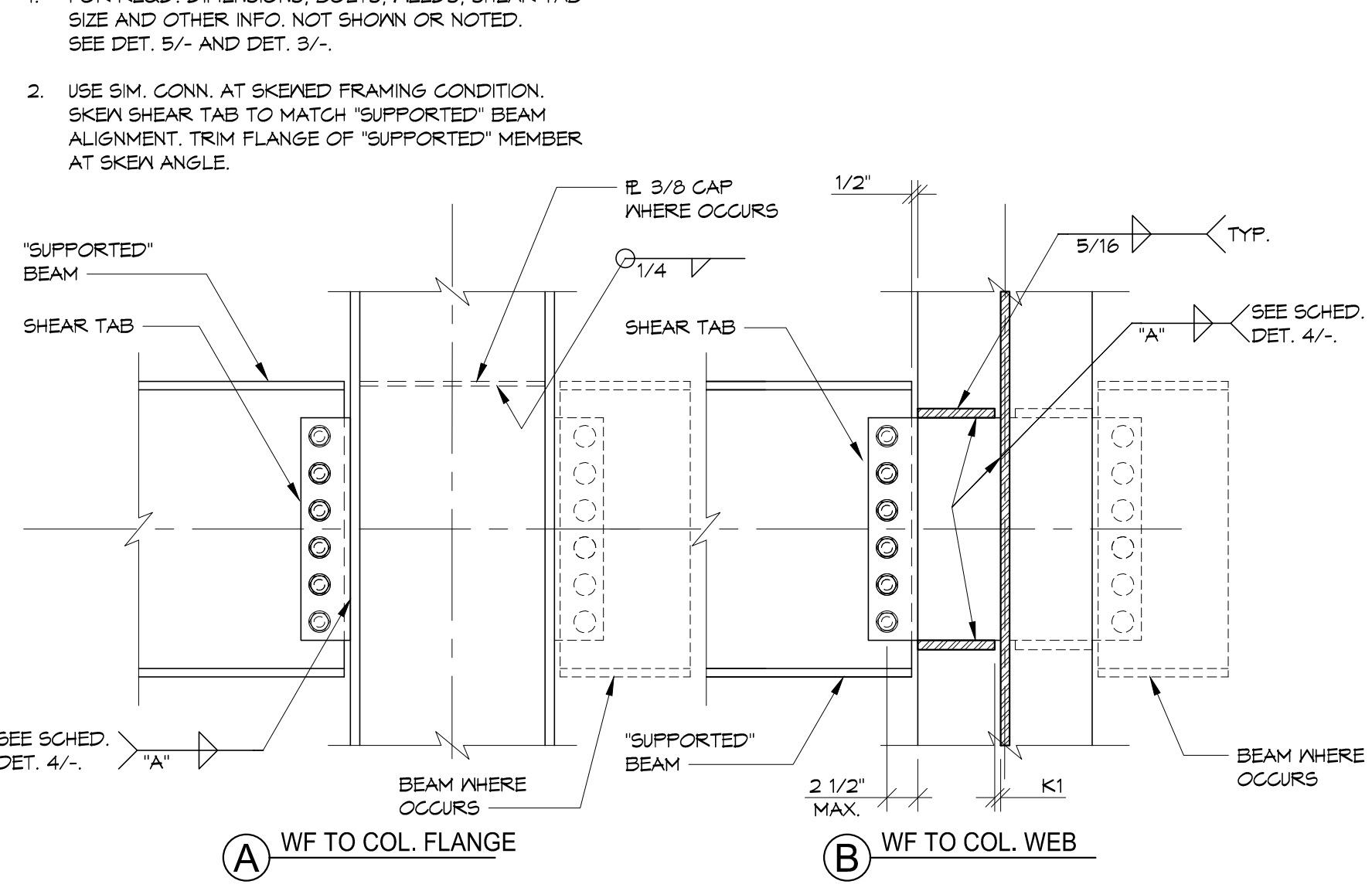
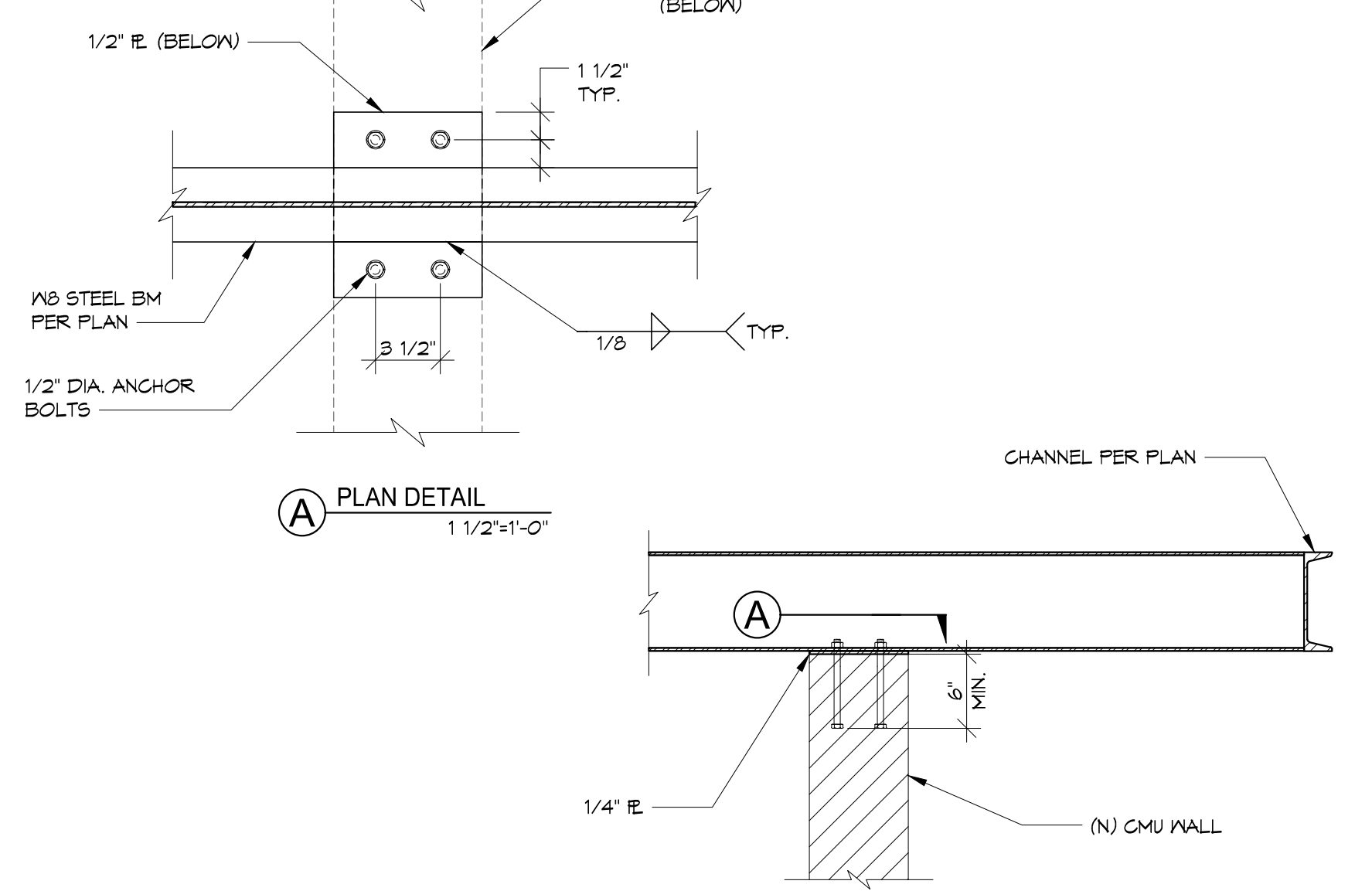
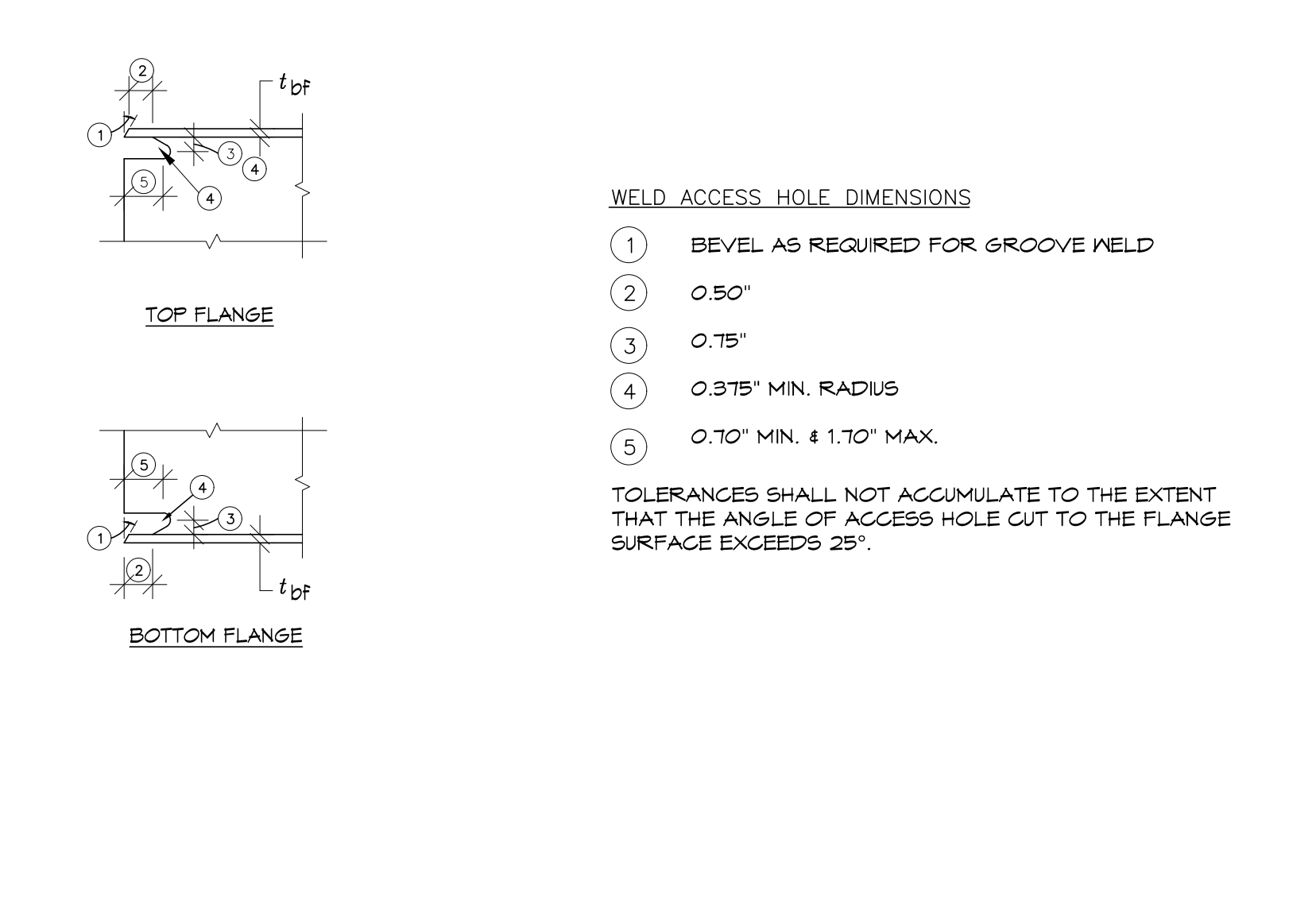
PROVIDE FULL DEPTH SHEAR TAB WHERE OCCURS

AT FULL HT. SHEAR TABS TOP & BOTTOM FLANGES TYP.

14 CONTINUITY & DOUBLER PLATE DETAILS N.T.S.

9 CONTINUITY PLATE DETAIL 1/4"=1'-0"

5 TYPICAL TWO-SIDED SHEAR CONNECTION N.T.S.



2 MOMENT FRAME CONSTRUCTION NOTES N.T.S.

NOTES:

1. PROVIDE COMPLETE PENETRATION WELD BTWN. SHEAR TAB AND SUPPORTING MEMBER WHERE REQUIRED. ANGLE IS OUTSIDE OF AWS PRE-QUALIFIED FILLET WELD LIMITATIONS.
2. AT CONNECTIONS DESIGNATED ON PLAN AS PART OF THE SLRS, PROVIDE (2) ROWS OF SLIP CRITICAL SCHEDULED BOLTS, 1/2" FILLET WELD AND 1/2" GR-50 SHEAR TAB. SEE SHEETS 5-11 FOR ADD'L. REQUIREMENTS.

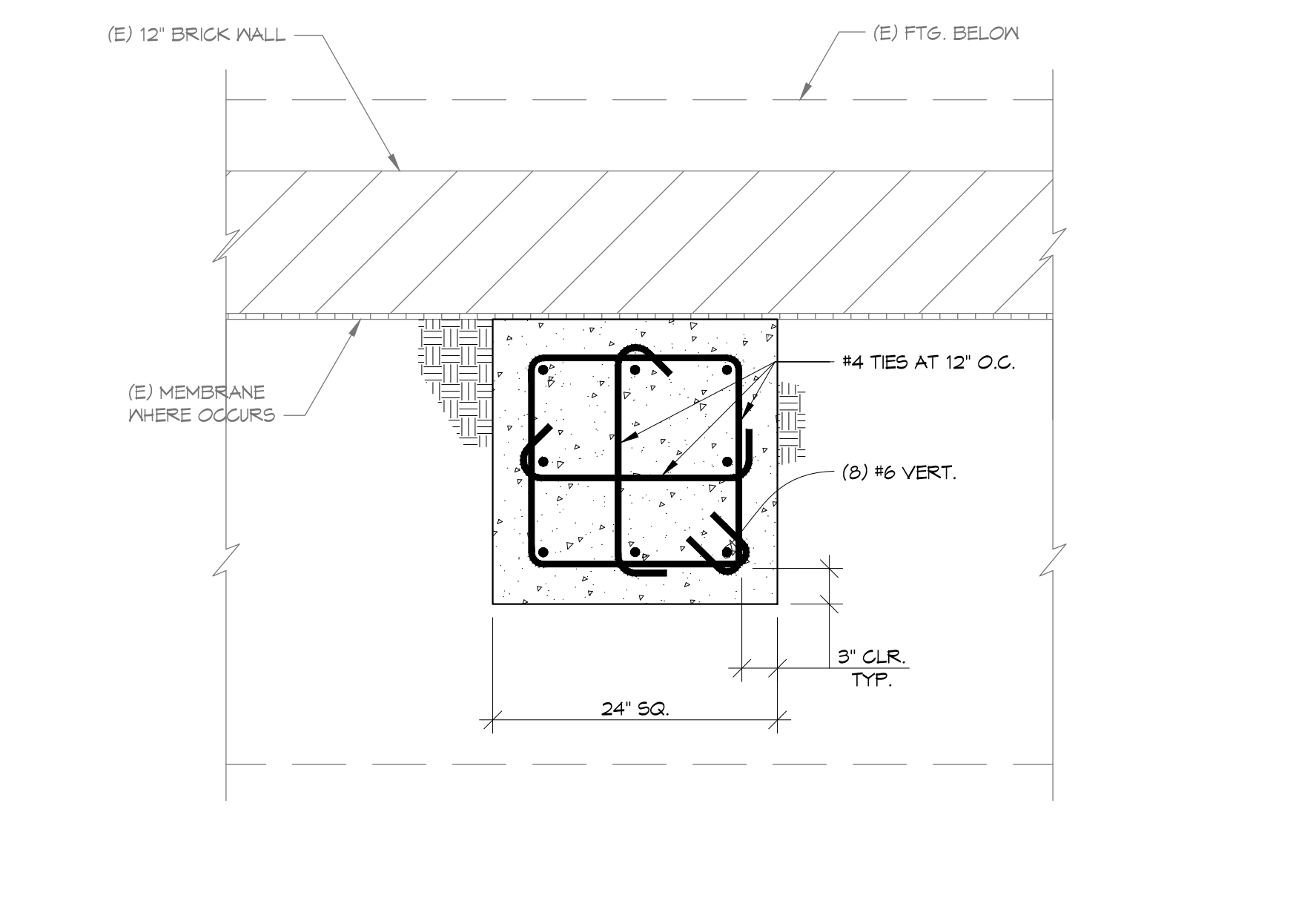
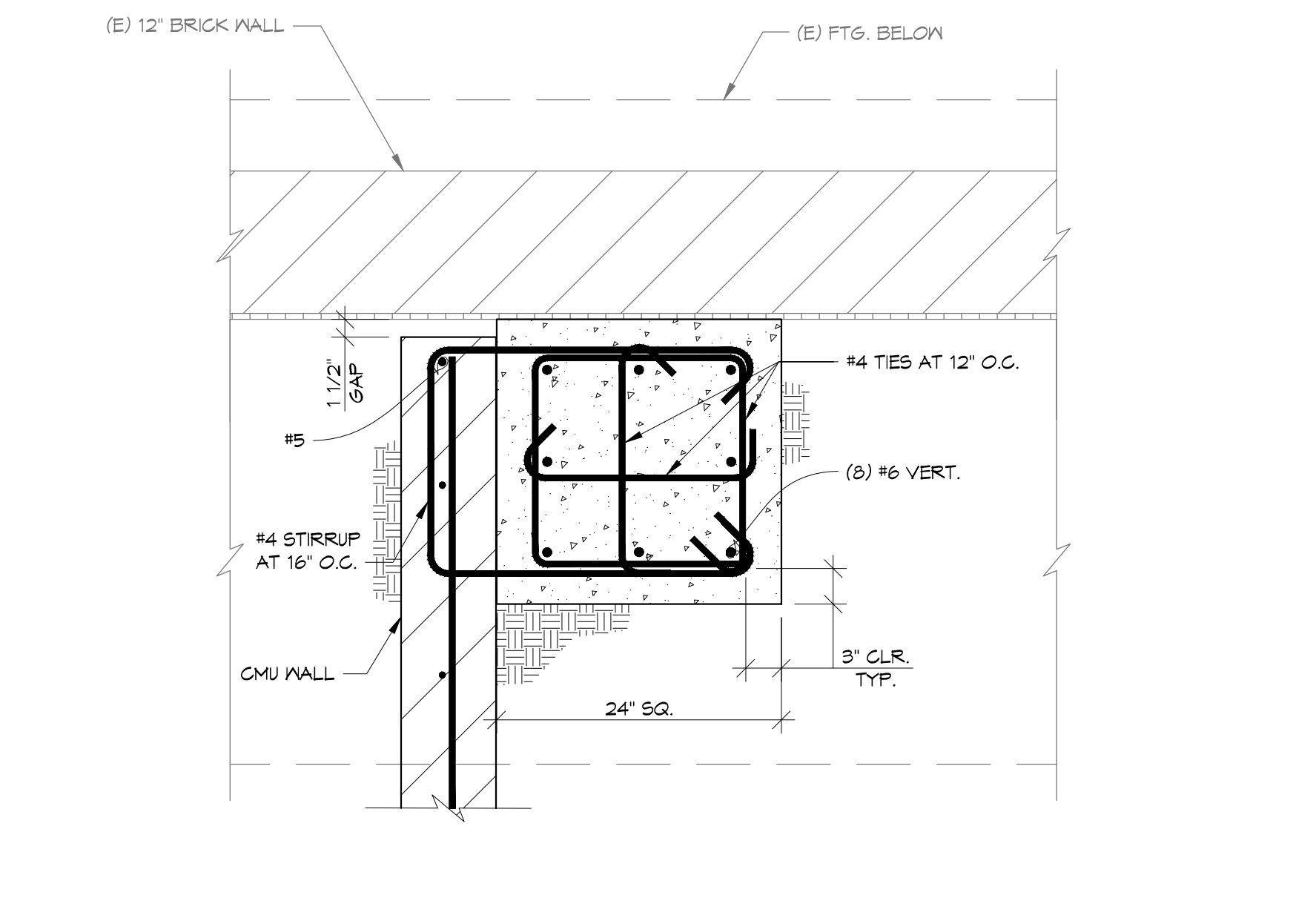
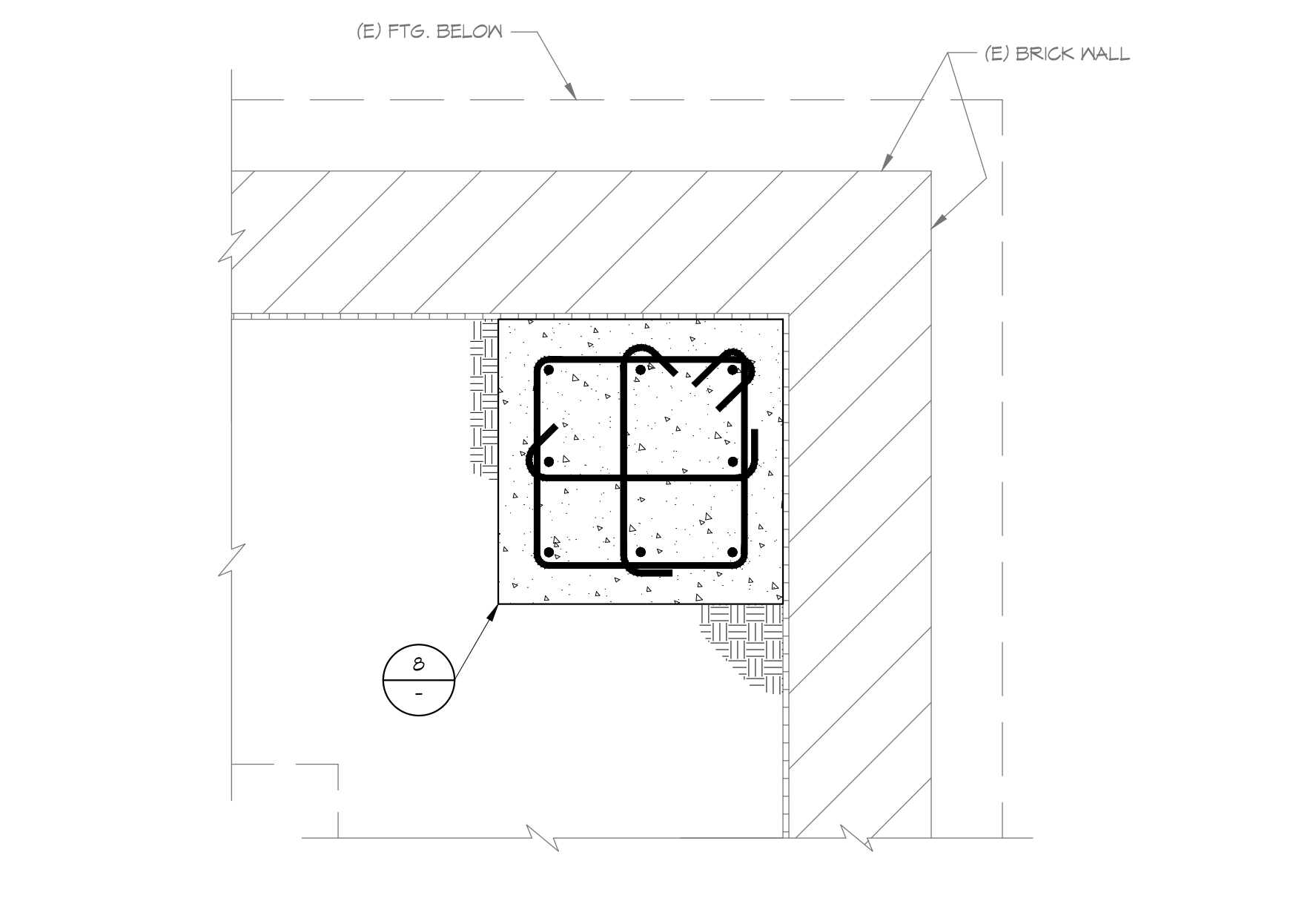
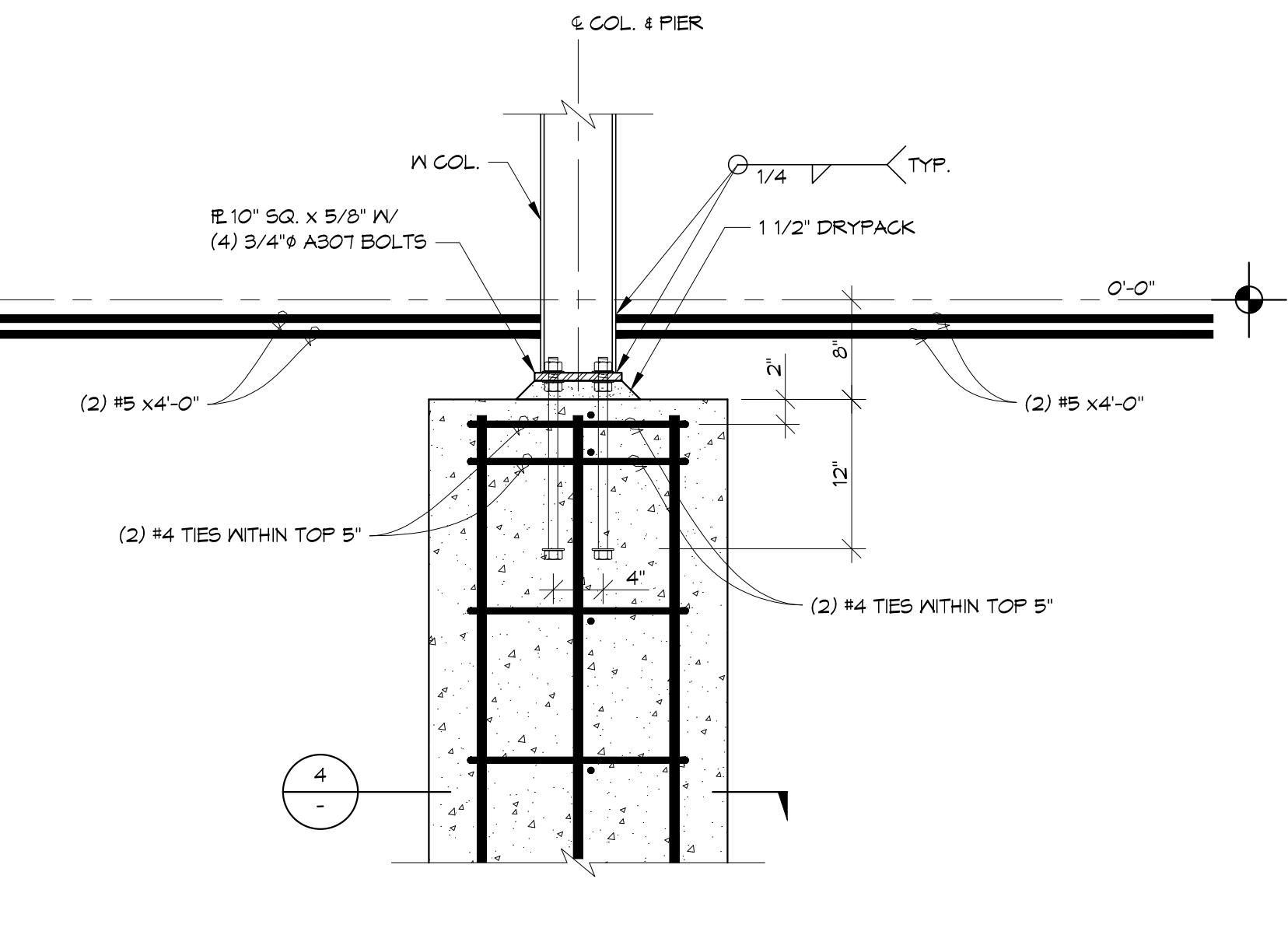
NOMINAL SIZE OF SUPPORTED MEMBER	NO. OF 1/8" DIA. A325N BOLTS (U.O.N.)	FILLET WELD SIZE "A"	SHEAR TAB THICKNESS (IN.)
W8, M10, C8, C10	2	5/16	3/8
L4x4	1	1/4	1/4

15 WELD ACCESS HOLE DIMENSION N.T.S.

11 BEAM TO CMU CONNECTION 1/4"=1'-0"

7 TYPICAL WF BEAM TO WF COLUMN CONNECTION N.T.S.

3 TYPICAL BOLTED CONNECTION SCHEDULE N.T.S.



16 DETAIL 1/4"=1'-0"

12 PLAN SECTION 1/4"=1'-0"

8 PLAN SECTION 1/4"=1'-0"

4 PLAN SECTION 1/4"=1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-121843 INC.
REVIEWED FOR
DATE: 03/30/2022

ARCHITECT:
CO-AR DESIGN, INC.
680 Brea Canyon Road, Suite 178
Diamond Bar, California 91789
Office: 909-590-0186
Dennis J. Lee, NCARB dennis@coar-design.com

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(626) 441-1214

REGISTERED PROFESSIONAL ENGINEER
Dennis J. Lee
No. S 3075
Exp. 3/31/23
STATE OF CALIFORNIA
CIVIL ENGINEER

PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
ROWLAND HEIGHTS CA 91748
OWNER:
ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS:

1. DESIGN DEVELOPMENT	4/22/2021
2. CONSTRUCTION DOCUMENTATION	7/23/2021
3. DSA SUBMITTAL	10/8/2021

PROJECT NO: 202016
SCALE: AS SHOWN
DATE: 9/22/2021
DRAWN BY: KMAC / HAV
CHECKED BY: LT
SHEET TITLE:
DETAILS

GENERAL NOTES	
1.	CONTRACTOR SHALL VISIT JOB SITE TO VERIFY FIELD CONDITION AGAINST CONSTRUCTION PLAN AND SPECIFICATION. IDENTIFY POSSIBLE CONFLICT AND DISCREPANCY BETWEEN PLAN AND SITE CONDITION, AND BRING TO OWNER'S AND ENGINEERS ATTENTION PRIOR TO ENTER CONTRACT.
2.	SUBMISSION OF A CONTRACT SHALL BE CONSTRUCTED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTION OF THE EXISTING BUILDING, EQUIPMENT, SYSTEMS, SITE CONSTRAINTS, ETC. WHICH MAY AFFECT THE ASSOCIATED WORK SCOPE UNDER THIS CONTRACT, AND THE ACCESS TO SUCH SPACES, HAVE ALL BEEN MADE AND THAT THE CONTRACTOR IS FULLY AWARE OF WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF WORK. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT, OR MATERIAL REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN DURING SUCH EXAMINATIONS.
3.	BY ENTERING CONTACT OF CONSTRUCTION, WHETHER IT IS SHOWN OR NOT SHOWN ON THIS PLAN, CONTRACTOR IS FULLY RESPONSIBLE TO COMPLETE WORK WITH MEETING ALL APPLICABLE CODES, LAWS, AND REGULATIONS GOVERNING ANY PORTION OF THE WORK SCOPE ON PLAN AND SPECIFICATIONS PRIOR TO SUBMITTING A PROPOSAL. CONTRACTOR SHALL FULLY UNDERSTAND AND COVER ALL COSTS WORK SCOPE AND MATERIALS TO MEET ALL APPLICABLE CODES, LAWS, AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR.
4.	CONTRACTOR IS TO REVIEW PLANS OF OTHER DISCIPLINES AND COORDINATE WITH THE WORK OF OTHER TRADES PRIOR TO INSTALLATION TO AVOID ANY CONFLICT. NO COST SHALL BE INCURRED ON CONSTRUCTABILITY ISSUE DUE TO LACK OF COORDINATION.
5.	ALL WORK SHOWN ON PLAN ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEM AND WORK. INFORMATION ON PLAN SHALL NOT BE USED TO DETERMINE EXACT LOCATION OF INSTALLATION. WHERE INSTALLATION REQUIRES EXACT MEASUREMENTS AND COORDINATION WITH WORKS OF OTHER TRADE, CONTRACTOR SHALL PREFORM ALL REQUIRED WORK AND PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR WORK DONE WITH DEVIATIONS IN LOCATION AND METHOD TO AVOID OBSTRUCTIONS AND CONFLICT OF OTHER TRADES AND EXISTING UTILIZES OF BASE BUILDING.
6.	CONTRACTOR SHALL SUBMIT SPECIFICATIONS OF ALL THE MATERIALS AND EQUIPMENT TO BE USED ALONG WITH SHOP DRAWING WHERE REQUIRES IN SPECIFICATION FOR APPROVAL PRIOR TO ORDER.
7.	ALL NEW WORK CONNECTING TO EXISTING BASE BUILDING UTILIZES SHALL BE FULLY COORDINATED WITH REPRESENTATIVE OF OWNERSHIP TO RESULT MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY UTILITY SHUT-DOWN TO EXISTING BUILDING SERVICE SHALL BE APPROVED BY OWNERSHIP WITH WRITTEN CONSENT OF BUILDING OWNER AND SHALL INCURRED NO ADDITIONAL CHARGES. FOLLOW ALL REQUIRED CLEANING PROCEDURES AND CONNECTION REQUIREMENT PRIOR TO ESTABLISH SERVICE AFTER CONNECTION. WHERE CONTINUOUS OPERATION OF EXISTING BUILDING SERVICES ARE REQUIRED, PROVIDE WORKMANSHIP AND MATERIAL FOR ISOLATION BETWEEN BUILDING AND PROJECT SPACE, RESTORE BUILDING SERVICE IMMEDIATELY WITH MAINTAINING ORIGINAL OPERATING CONDITION.
8.	CONTRACTOR SHALL STORE ALL EQUIPMENT AND MATERIAL IN A ORGANIZED AND CLEANED SPACE AT ALL TIME TO PREVENT FROM DAMAGING AND DETERIORATION PRIOR TO INSTALLATION. CONTRACTOR SHALL KEEP ALL PART OF THE CONSTRUCTION AREA AND ASSOCIATED ACCESSES CLEAN AND FREE OF DEBRIS RESULTING FROM EXECUTION OF WORK.
9.	ALL LOCATION OF EXISTING UTILITIES ARE SHOWN BASED ON RECORD DRAWING OR INFORMATION PROVIDED BY SURVEYOR OR BASE BUILDING. CONTRACTOR IS RESPONSIBLE TO VERIFY EXACT LOCATION, SIZE, CONDITION, MATERIAL, AND INVERT AS APPLICABLE TO CONFIRM CONSTRUCTABILITY PRIOR TO INSTALL.
10.	ALL EQUIPMENT INSTALLED SHALL BE PROVIDED WITH ACCESS AND CLEARANCES MEETING CODE REQUIREMENT AND REQUIREMENTS OF FACTORY INSTALLATION GUIDELINES FOR MAINTENANCE. WHERE ACCESS SHALL BE PROVIDED FOR OPERATION, INSPECTION, TESTING, BALANCING, MAINTENANCE, OR CODE COMPLIANCE, WHETHER SHOWN OR NOT SHOWN ON ARCHITECTURAL PLAN, CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FOR PROVISION OF SUCH ACCESS.
11.	ANY INVASIVE CONSTRUCTION, SUCH AS CORE-DRILLING, CUTTING, BORING, OPENING, TO EXISTING BUILDING FLOOR OR WALL, STRUCTURAL OR NON-STRUCTURAL RELATED, SHALL BE SUBJECTED TO WRITTEN APPROVAL BY REPRESENTATIVE OR OWNERSHIP OF BASE BUILDING. WHERE REQUIRED BY OWNER, PROVIDE SHOP DRAWING WITH DETAILED MEANS AND METHODS WITH DIMENSIONAL RESULTS OF X-RAY SCANNING AS EVIDENCE TO ENSURE NO DAMAGE WILL CAUSE TO EXISTING BUILDING STRUCTURE OR UTILITY PRIOR TO PERFORM SUCH WORK. NO CONSTRUCTION SHALL BE DONE IN RESULTING OF ANY DAMAGING OR DERATING OF BUILDING STRUCTURE INTEGRITY AND UTILITY SERVICEABILITY.
12.	ANY OPENING MADE TO EXISTING BUILDING SHALL BE SUPPORTED, PATCHED, AND SEALED TO MEET ALL SPECIFICATION OF ORIGINAL CONSTRUCTION. ALL PENETRATION TO RATED ASSEMBLY SHALL BE PROTECTED BY UL LISTED FIRM AND/OR SMOKE PROTECTION ASSEMBLY TO MAINTAIN ORIGINAL ASSEMBLY FIRE AND SMOKE RATING.
13.	CONTRACTOR SHALL PROVIDE INSURANCE POLICY IN ACCORDANCE TO BUILDING OWNERS AND PROJECT OWNERS REQUIREMENTS INCLUDING A HOLD HARMLESS CAUSE FOR OWNER AND ENGINEER ON RECORD.
14.	FOR THE USE OF EQUIPMENT OR MATERIAL THAT ARE DIFFERENT FROM SCHEDULES OR SPECIFICATIONS, CONTRACTOR IS RESPONSIBLE TO PROVIDE, INCLUDING BUT NOT LIMITED TO, SPECIFICATION, CALCULATION, ENGINEERING, COST DIFFERENCE, ETC. FOR APPROVAL OF EQUAL AND OWNERS APPROVAL.
15.	ALL WORK DONE SHALL BE GUARANTEED FOR A PERIOD OF TWO YEARS FROM DATE OF ACCEPTANCE OF WORK.
16.	PRIOR TO FINAL ACCEPTANCE BY OWNER OR REPRESENTATIVE OF OWNER, CONTRACTOR IS RESPONSIBLE TO TEST, ADJUST, AND BALANCE ALL ASSOCIATED EQUIPMENT AND SYSTEM WITHIN SCOPE WITH PROVISIONS OF REPORTS WHERE REQUIRED IN SPECIFICATIONS TO DEMONSTRATE THAT ALL REQUIREMENTS OF PLANS AND SPECIFICATIONS ARE FULLY MET AND ALL APPLICABLE CODES, LAWS, AND REGULATIONS ARE FULLY COMPLIED.

HVAC GENERAL NOTES	
1.	ALL WORK SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODES, LAWS AND REGULATIONS.
2.	ALL NEW DUCT SHALL BE SUPPORTED PER THE MINIMUM REQUIREMENT OF LATEST SMACMA GUIDELINE, AND SHALL BE BRACED AND GUYED TO PREVENT LATERAL OR HORIZONTAL SWING. THE USE OF SEISMIC RESTRAINT GUIDELINES PER SMACMA IS ALSO APPLICABLE (604.2 and 604.5). FASTEN ALL DUCT WORK JOINTS AND SEAMS WITH SHEET METAL SCREW AND CAULK AIR TIGHT TO AVOID AIR STREAK.
3.	CONTRACTOR IS DIRECTED TO VISIT SITE AND BE FULLY COGNIZANT OF ALL CONDITIONS PRIOR TO PROPOSAL. VERIFY EXACT LOCATION, ELEVATIONS, SIZES AND CONDITIONS OF EXISTING UTILITIES, DUCTS AND PIPING ASSOCIATED WITH THE PROJECT ANY EXTRA EXPENSE DUE TO FAILURE TO MAKE SUCH EXAMINATION. SHALL NOT BE MADE. WHERE CHANGES IN THE EXISTING WORK ARE NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK, THEY SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
4.	CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED UTILITY SERVICES, INSPECTIONS AND PERMITS.
5.	ALL MECHANICAL WORK SHALL BE CONCEALED, UNLESS OTHERWISE NOTED.
6.	CLEAN THE PREMISES ON A DAILY BASIS TO LEAVE WORK AREA IN AN UNCLUTTERED CONDITION.
7.	INSTALL THE ENTIRE MECHANICAL SYSTEM TO ELIMINATE ANY OBJECTIONABLE VIBRATION AND NOISE.
8.	NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY IF A DISCREPANCY BETWEEN THE DRAWING AND THE ACTUAL SITE CONDITION OCCURS. STOP THE WORK THAT IS AFFECTED AND OBTAIN INSTRUCTION FROM THE OWNER'S REPRESENTATIVE BEFORE THE WORK CAN BE RESTARTED.
9.	THE DRAWING INDICATES THE GENERAL ARRANGEMENT AND LOCATION OF PIPING, DUCTWORK, AND EQUIPMENT. MAKE DEVIATIONS SUCH AS OFFSETS IN DUCTS AND PIPES THAT ARE NECESSARY TO MEET SITE CONDITIONS AND TO COORDINATE WORK WITH OTHER TRADES. ALL DEVIATIONS TO THE CONTRACT DOCUMENT, WHETHER SHOWN OR NOT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE MADE AT NO EXTRA EXPENSE TO THE OWNER.
10.	OBTAIN AND FOLLOW MANUFACTURER'S DIRECTIONS WHEN INSTALLING NEW EQUIPMENT. SUBMIT OPERATING AND MAINTENANCE MANUALS.
11.	COORDINATE ALL CUTTING AND PATCHING WITH GENERAL CONTRACTOR. INDIVIDUAL SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING TO THEIR WORK.
12.	COORDINATE ALL WORK WITH ARCHITECTURAL, ELECTRICAL AND STRUCTURAL, AND PLUMBING DRAWINGS, INSTALL ALL WORK TO CLEAR NEW AND EXISTING ARCHITECTURAL AND STRUCTURAL MEMBERS.
13.	FURNISH AND INSTALL COMPLETE ALL MATERIALS, EQUIPMENT AND LABOR AS SHOWN AND AS NECESSARY FOR COMPLETE WORKABLE SYSTEM.
14.	CONTRACTOR SHALL GUARANTEE THAT THE WORK DONE UNDER THIS SPECIFICATION WILL BE FREE FROM FAULTY MATERIALS OR WORKMANSHIP AND HEREBY AGREES, UPON RECEIVING NOTIFICATION FROM THE OWNER, AND TO ITS ENTIRE SATISFACTION, ALL DEFECTS, DAMAGES OR IMPERFECTIONS APPEARING IN SAID WORK WITHIN A PERIOD OF ONE (1) YEAR FROM DATE OF FILING NOTICE OF COMPLETIONS.
15.	ALL SUPPLY AIR DUCTWORK WITHIN UN-CONDITIONAL SPACE SHALL BE EXTERNALLY OR INTERNALLY INSULATED WITH MINIMUM R-8 INSULATION.
16.	RESTORE ALL DAMAGE AND LEAVE PREMISES IN CLEAN CONDITION WHEN FINISHED WITH WORK.
17.	PROVIDE TO THE OWNER TWO SETS OF AS-BUILT DRAWINGS AND TWO BOUND SETS OF ALL OPERATING MANUALS, DIAGRAMS SERVICE CONTRACTS, GUARANTEES, ETC.
18.	TEST AND BALANCE ALL EQUIPMENT AND DEVICES TO PERFORM AND DELIVER SPECIFIED QUANTITIES ON THE DRAWING. AIR BALANCING SHALL BE PERFORMED BY 3RD PARTY. SUBMIT 4 SET OF AIR BALANCE REPORT TO THE ENGINEER PRIOR FINAL.
19.	PROVIDE TO THE OWNER TWO SETS OF AS-BUILT DRAWINGS AND TWO BOUND SETS OF ALL OPERATING MANUALS, DIAGRAMS SERVICE CONTRACTS, GUARANTEES, ETC.
20.	TEST AND BALANCE ALL EQUIPMENT AND DEVICES TO PERFORM AND DELIVER SPECIFIED QUANTITIES ON THE DRAWING. AIR BALANCING SHALL BE PERFORMED BY 3RD PARTY. SUBMIT 4 SET OF AIR BALANCE REPORT TO THE ENGINEER PRIOR FINAL.
21.	THE MATERIAL OF THE DUCTS SHALL BE AS FOLLOWING: a) RECTANGULAR DUCTS AND ANY EXPOSED DUCTS : GALVANIZED SHEET METAL WITH GAUGE PER LATEST SMACNA STANDARD. b) ROUND DUCTS IN CEILING SPACE : GALVANIZED SHEET METAL WITH GAUGE PER LATEST SMACNA STANDARDS. CLASS 1 FLEXIBLE DUCT SHALL BE USED NOT MORE THAN 5 FT. FROM THE AIR IN/OUTLET. c) BATHROOM & KITCHEN EXHAUST DUCTS AND DRYER VENTS : GALVANIZED SHEET METAL INSTALL IN ACCORDANCE WITH METHODS AND STANDARDS OF ASHRAE AND SMACNA FOR LOW PRESSURE CONSTRUCTION.
22.	ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE LISTED BY UNDERWRITERS LABORATORIES.
23.	DUCTWORK SHALL BE SUPPORTED PER SMACNA STANDARDS.
24.	SHEET METAL DUCTWORKS SHALL BE CONSTRUCTED PER SMACNA STANDARDS.
25.	SEAL ALL TRANSVERSE JOINTS OF AIR DUCTS WITH DUCT SEALANT PER SMACNA STANDARD.
26.	SUPPLY AND RETURN AIR DUCTS AND PLENUMS OF A HEATING OR COOLING SYSTEM SHALL BE INSULATED TO ACHIEVE THE MINIMUM THERMAL (R) VALUE AS SET FORTH IN 2019 CMC TABLE E 503.7.2(2) AND 503.7.3(1). APPROVED MATERIALS SHALL BE INSTALLED ON DUCTS AND PLENUMS FOR INSULATING, SOUND DEADENING, OR OTHER PURPOSES. MATERIALS SHALL HAVE A MOLD, HUMIDITY, AND EROSION-RESISTANT SURFACE THAT MEETS THE REQUIREMENTS OF THE REFERENCED STANDARD FOR AIR DUCTS IN CHAPTER 17. INSULATION APPLIED TO THE SURFACE OF DUCTS, INCLUDING DUCT COVERINGS, LININGS, TAPES, AND ADHESIVES. LOCATED IN BUILDINGS SHALL HAVE A FLAME-SPREAD INDEX NOT GREATER THAN TWENTY-FIVE (25) AND A SMOKE DEVELOPED INDEX NOT GREATER THAN FIFTY (50), WHEN TESTED AS A COMPOSITE INSTALLATION.
27.	RECTANGULAR DUCT AND PLENUMS SHALL BE FABRICATED OF GALVANIZED STEEL. INSULATE PLENUMS AND RECTANGULAR DUCTING AS INDICATED. DUCT SHALL HAVE THE MINIMUM GAUGE PER SMACNA. FOR PRODUCT CONVEY DUCT, MINIMUM GAUGE OF SHEET METAL SHALL MEET REQUIREMENTS LISTED ON 2019 CMC TABLE 506.2(1) AND TABLE 506.2(2).
28.	CONTRACTOR SHALL COORDINATE WITH ARCHITECT BEFORE PURCHASING DIFFUSERS AND REGISTERS FOR APPROPRIATE SIZE, TYPE, FINISH, AND INSTALLATION LOCATION.
29.	FLEXIBLE DUCTS MAY BE USED IN BETWEEN JOISTS AND AT CONNECTION TO DIFFUSERS WITHIN A MAXIMUM 5 FEET LENGTH. FLEXIBLE DUCT SHALL BE LISTED AND LABELED UMC 10-1 (UL181).
30.	VERIFY THERMOSTAT/SWITCH LOCATIONS W/ARCHITECT PRIOR TO INSTALLATION.
31.	MECHANICAL CONTRACTOR SHALL PROVIDE ALL APPURTENANCES WHICH SHALL INCLUDE BUT NOT LIMITED TO WIRING IN CONDUIT AS REQUIRED BY CODE, CONTROL DEVICES, DAMPER, ACTUATORS, MOTORS, LINKAGES, CONTROLLERS, RELAYS, CONTRACTORS, REDUCED VOLTAGE TRANSFORMERS, PNEUMATIC TUBES, PNEUMATIC CONTROL VALVES, ETC. AS REQUIRED TO AUTOMATICALLY PERFORMED ALL FUNCTIONS.
32.	DUCT TESTING AND SEALING SHALL BE PERFORMED BY HERS RATER AND THE CERTIFICATE & FORMS SHALL BE SUBMITTED TO THE CITY.
33.	PROVIDE ACCESS PANELS FOR ALL FIRE DAMPERS, FIRE/SMOKE DAMPERS AND ACCESS FOR SHUT-OFF AND CONTROL VALVES. COORDINATE ALL CEILING AND WALL ACCESS WITH GENERAL CONTRACTOR.
34.	FIRE DAMPER AND FIRE/SMOKE COMBINATION DAMPERS SHALL BE LABELED BY AN APPROVED TESTING AND LISTING AGENCY.

DRAWING INDEX				
M-0.1	MECHANICAL GENERAL NOTES AND INFORMATION			
M-0.2	MECHANICAL EQUIPMENT SCHEDULES			
M-0.3	MECHANICAL DETAILS			
M-0.4	MECHANICAL PRESCRIPTIVE TITLE 24 COMPLIANCE			
M-0.5	MECHANICAL PRESCRIPTIVE TITLE 24 COMPLIANCE			
M-0.6	MECHANICAL DETAIL			
M-1.0	PARTIAL GROUND FLOOR MECHANICAL REFLECTED CEILING PLAN - DEMO			
M-1.1	PARTIAL GROUND FLOOR MECHANICAL REFLECTED CEILING PLAN - NEW			
M-2.0	PARTIAL ROOF MECHANICAL PLAN - DEMO			
M-2.1	PARTIAL ROOF MECHANICAL PLAN - NEW			
APPLICABLE CODE				
2019 CALIFORNIA BUILDING CODE 2019 CALIFORNIA MECHANICAL CODE 2019 CALIFORNIA PLUMBING CODE 2019 CALIFORNIA ENERGY CODE 2019 CALIFORNIA FIRE CODE 2019 NFPA 13 ALL AMENDMENTS AND SUPPLEMENTS TO ABOVE CODES ALL CITY OF ROWLAND HEIGHTS ORDINANCES AND AMENDMENTS TO ABOVE CODES				
SCOPE OF WORK				
<ul style="list-style-type: none"> DEMOLISH AND REMOVE EXISTING MECHANICAL SYSTEM AND ASSOCIATED HEATERS AND DUCTWORK PER PLAN AND ALL OTHER REQUIRED COMPONENTS. FURNISH AND INSTALL NEW PACKAGED ROOFTOP HEAT PUMP UNITS WITH ALL ASSOCIATED COMPONENTS PER PLAN FOR PROPER SYSTEM FUNCTIONALITIES. FURNISH AND INSTALL NEW GAS FIRED INFRARED HEATERS WITH ALL ASSOCIATED CONTROL COMPONENTS PER PLAN FOR PROPER SYSTEM FUNCTIONALITIES. FURNISH AND INSTALL NEW EXHAUST FAN SYSTEM WITH ALL ASSOCIATED COMPONENTS PER PLAN FOR PROPER SYSTEM FUNCTIONALITIES. PROVIDE MATERIAL AND LABOR FOR HAVC SYSTEM BALANCING, TESTING, AND SCHEDULING. 				
MECHANICAL SEISMIC ANCHORAGE BRACING AND SUPPORT NOTES				
<u>MEP EQUIPMENT ANCHOORAGE NOTE</u>				
ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS DESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1, 18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30:				
<ol style="list-style-type: none"> ALL PERMANENT EQUIPMENT AND COMPONENTS. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. PERMANENTLY ATTACHED SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CORD. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA. 				
THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:				
<ol style="list-style-type: none"> COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL. 				
THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.				
<u>PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE</u>				
PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.				
THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G. OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.				
MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):				
MP	<input type="checkbox"/> MD	<input checked="" type="checkbox"/> PP	<input type="checkbox"/> E	- OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.
MP	<input type="checkbox"/> MD	<input type="checkbox"/> PP	<input type="checkbox"/> E	- OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) # _____

LEGENDS, SYMBOLS AND ABBREVIATIONS			
SYMBOL	DESCRIPTION		
	EQUIPMENT TYPE		
	EQUIPMENT NUMBER		
	DETAIL DRAWING NUMBER		
	DETAIL DRAWING PAGE		
	SUPPLY	RECTANGULAR DUCT SECTION/UP (OR PENETRATION THROUGH FLOOR/ROOF).	
			EXHAUST
			RETURN
		CEILING EXHAUST REGISTER	
		CEILING RETURN REGISTER	
	CEILING SUPPLY DIFFUSER WITH FLEXIBLE DUCT AND AIRFLOW PATTERN	TOP FIGURE INDICATES CFM. BOTTOM FIGURES INDICATES NECK SIZE, DIRECTION AND NUMBER OF THROWS ON SUPPLY DIFFUSER. DUCT SIZE IS FULL SIZE OF DIFFUSER/REGISTER CONNECTION. LETTER INSIDE CIRCLE INDICATES DIFFUSER TYPE. SEE DIFFUSER SCHEDULE FOR DIFFUSER TYPES.	
	SIDEWALL EXHAUST OR RETURN REGISTER	TOP FIGURE INDICATES CFM. BOTTOM FIGURE INDICATES LENGTH OF SLOT/NUMBER OF SLOTS/SLOT WIDTH	
	RECTANGULAR DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES. ARROW INDICATES FLOW DIRECTION.		
	DUCT WITH INTERNAL ACOUSTICAL INSULATION. DIMENSIONS SHOWN ARE NET INSIDE IN INCHES.		
	ROUND DUCT WITH NET INSIDE DIMENSION SHOWN		
	316L WELDED STAINLESS STEEL DUCT		
	SQUARE ELBOW W/ TURNING VANES TURNING VANES IN SUPPLY DUCT ONLY		
	R/D = 1.5, 90° / 45° RADIUS ELBOW		
	ROUND DUCT TAP ON RECTANGULAR DUCT TAP ENTRY AREA EQUALS 150% OF BRANCH AREA		
	RECT. DUCT TAP ON RECTANGULAR DUCT TAP ENTRY AREA EQUALS 150% OF BRANCH AREA		
	ROUND DUCT WITH 45° TAKE-OFF		
	CONCENTRIC / ECCENTRIC DUCT REDUCER RECTANGULAR TO RECTANGULAR, ROUND TO ROUND OR DUCT TO FILTER HOUSING TRANSFORMATION. MAX. 15° INCLUDED ANGLE EXCEPT WHERE SHOWN OTHERWISE.		
	RECTANGULAR TO ROUND DUCT TRANSFORMATION		
	MANUAL SINGLE BLADE OR MULTIPLE BLADE VOLUME DAMPER		
	FIRE/SMOKE DAMPER W/ DUCT ACCESS PANEL		
	FLEXIBLE CONNECTION IN DUCT		
ABBR.	DESCRIPTION	ABBR.	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	ICS	IN CEILING SPACE INSULATION (THERMAL)
B.G.	BELOW GRADE	MA	MAKE-UP AIR
BLDG	BUILDING	NIC	NOT IN CONTRACT
BSMT	BASEMENT	OSA	OUTSIDE AIR (FRESH AIR)
CFF	CAP FOR FUTURE	POC	POINT OF CONNECTION
CLG	CEILING	RA	RETURN AIR
CSD	CEILING SUPPLY DIFFUSER	SA	SUPPLY AIR
EA	EXHAUST AIR	SAD	SEE ARCHITECTURAL DRAWING
DN	DOWN	SOV	SHUT-OFF VALVE
FA	FRESH AIR	SRR	SIDEWALL RETURN REGISTER
FL	FLOOR	UTR	UP THROUGH ROOF
FR	FROM	U.G.	UNDERGROUND/BELOW GRADE
FR	FROM	VTF	VENT THROUGH ROOF
GE	GREASE EXHAUST		
KEA	KITCHEN EXHAUST AIR		
SYMBOL	ABBREV.	DESCRIPTION	
	--	DIGITAL PROGRAMMABLE THERMOSTAT	
	CSD	CEILING SUPPLY DIFFUSER W/ MANUAL VOLUME DAMPER	
	CRR	CEILING RETURN REGISTER W/ MANUAL VOLUME DAMPER	
	CRR	CEILING EXHAUST GRILLE W/ MANUAL VOLUME DAMPER	
	MVD/OBD	MANUAL VOLUME / OPPOSED-BLADE BALANCING DAMPER	
	UP	DUCT UP WITH SMOOTH 90° ELBOW	
	DN	DUCT DOWN WITH SMOOTH 90° ELBOW	
	AP	ACCESS PANEL	
	DSD	DUCT SMOKE DETECTOR	
	FD	FIRE SMOKE DAMPER	
	POC	POINT OF CONNECTION	
	POD	POINT OF DISCONNECT	
	FSD	FIRE AND SMOKE DAMPER COMBO	

DSA APPLICATION: # 03-121843

IDENTIFICATION STAMP OF THE STATE ARCHITECT
 APP: 03-121843 INC:
 REVIEWED FOR
 SS FLS ACS
 DATE: 03/30/2022

ARCHITECT: **CO-AR DESIGN, INC.**
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PROJECT: **CITE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL**

2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748
 CLIENT:

ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS:
 PERMIT REVIEW SET 04/09/2021
 PERMIT SET 08/18/2021

PROJECT NO: 20072
 SCALE: AS SHOWN
 DATE: 9/22/2021
 DRAWN BY: SL
 CHECKED BY: JP
 SHEET TITLE: **MECHANICAL GENERAL NOTES**

SHEET NO: **M-0.1**

MECHANICAL EQUIPMENT SCHEDULE

PACKAGED ROOFTOP HEAT PUMP UNIT SCHEDULE

EQMT. TAG	AREA SERVED	MANUFACTURE / MODEL NO.	COOLING PERFORMANCE					HEATING PERFORMANCE					SUPPLY FAN DATA					ELECTRICAL DATA					TOTAL OPER. WT. (LBS)	REMARKS			
			NOMINAL COOLING TONNAGE	TOTAL SENSIBLE (MBTUH)	EER/IEER /SEER	NO. OF COMPRESSOR	COOLING STAGE	TOTAL INPUT/OUTPUT CAPACITY (MBTUH)	AFUE (%)	MIN. HEATING STAGE	HEATING STAGE (%)	OPERATING AIRFLOW (CFM)	MIN. % OF OSA	E.S.P. (IN W.G.)	MOTOR RATED HP	MOTOR BHP	FAN SPEED (RPM)	FAN DRIVE TYPE	VOLT	PHASE /HZ	MCA	FLA			MOCP	ELECTRIC HEATER (KW)	FILTER DATA (QUANTITY/SIZE)
RTU-01	1ST FL-CLASSROOM	CARRIER / 48FCDM07A3AS-0A0A0	6.0	55.62	11.00/15.0/-	1	2	67.0/54.0	81	2	50/100	2,400	480	1.0	2.4	1.86	2,591	DIRECT	208	3/60	30	29	45	4.9	4/16x16X2	759*	①②③④⑤⑥

REMARKS:

① PROVIDE AND INSTALL THE FOLLOWING MANUFACTURER INSTALLED OPTIONS AND FIELD INSTALLED ACCESSORIES:

a. TWO STAGE COOLING COMPRESSORS AND ULTRA LOW NOx FURNACE.

b. FACTORY DIRECT FAN MOTOR WITH MOTORIZED DAMPER DOWNFLOW CONFIGURATION.

c. TITLE 24 COMPLIANT ECONOMIZER WITH FDD AND BAROMETRIC RELIEF DAMPER.

d. PROVIDE UNIT WITH FACTORY WITH WEATHER HOOD, 2-INCH MERV-13 DISPOSABLE RETURN AND OUTSIDE AIR FILTERS, AND DRAIN PAN.

② PROVIDE AND INSTALL FACTORY RECOMMENDING ROOF CURB WITH KNOCK-DOWN.

③ COORDINATE WITH PLUMBING CONTRACTOR FOR INSTALLATION OF 3/4" Ø CONDENSATE DRAIN TO UNIT WITH VENT AND TRAP.

④ UNIT SHALL BE PROGRAMMED TO OPERATE 2 HOURS BEFORE BUSINESS HOUR FOR PRE-HEAT/PRE-COOL SPACE FOR OPTIMUM SPACE TEMPERATURE CONTROL. CONFIRM WITH OWNER FOR BUSINESS HOURS.

⑤ FAN OF NEW AND EXISTING UNIT SHALL BE SHUT-DOWN AUTOMATICALLY BY FACP UPON DETECTION OF FIRE OR SMOKE BY AREA SMOKE DETECTOR SERVING THE SAME PROJECT AREA. SEE 1/FA-2.1, KEYNOTE 3 FOR MORE DETAILS.

⑥ PROVIDE (N) 24/7 PROGRAMMABLE THERMOSTAT AND INSTALL WITH VENTILATED CLEAR PLASTIC LOCK BOX.

* WEIGHT INCLUDES ALL SELECTED FACTORY OPTION AND ROOF CURB.

EXHAUST FAN SCHEDULE

TAG	MAKE/MODEL	CFM		ESP	FRPM	ELECTRICAL DATA					EQUIPMENT SERVING	UL LISTING	FAN DISCHARGE CONFIG.	DIRECTION OF FAN ROTATION	WEIGHT (LBS)	REMARK	
		MIN	MAX			VOLTS	Ø	BHP	ENCL.	FLA							HP /WATT
EF-01	PANASONIC/ FV-11VQ3	N/A	110	0.5	979	115	1	--	--	0.26	3/4	RESTROOM	UL705	N/A	N/A	14	①②③④
EF-02	GREENHECK/ CUBE-220HP-10	N/A	3,000	0.75	737	115	1	0.7	TEFC	16	1.0/-	WAREHOUSE/STORAGE	N/A	N/A	N/A	184	⑤⑥⑦⑧

REMARK:

① PROVIDE EQUIPMENT AS SCHEDULED OR APPROVE EQUAL.

② INSTALL EXHAUST FAN TO MAINTAIN ACCESS AND MAINTENANCE CLEARANCES PER MANUFACTURER'S REQUIREMENT.

③ EXHAUST FAN SHALL BE EQUIPPED WITH BACK-DRAFT DAMPER.

④ EXHAUST FAN SHALL BE CONTROLLED BY LIGHT SWITCH WITH ADJUSTABLE TIMER DELAY-OFF CONTROL.

⑤ EXHAUST FAN SHALL BE CONTROLLED BY 24/7 PROGRAMMABLE TIME CLOCK AND SHALL REMAIN IN OPERATION WHEN SPACE IS OCCUPIED.

⑥ FURNISH AND INSTALL FAN WITH FOLLOWING FACTORY OPTIONS:

a. NEMA PREMIUM EFFICIENT MOTOR

b. AUTOMATIC BELT TENSIONER

c. UL/CUL 705 LISTED - "POWER VENTILATORS"

d. GRAVITY OPERATED BACK-DRAFT DAMPER WD-100-PB-48X48

e. PERMATECTOR COATING

f. TIE DOWN

g. GALVANIZED BIRDSCREEN

h. L10 LIFE OF 100,000 HRS BEARING

i. FACTORY INSULATED ROOF CURB (GPF-34)

⑦ COORDINATE WITH ELECTRICAL CONTRACTOR FOR NEMA 3R DISCONNECT AND POWER PROVISION.

⑧ COORDINATE WITH GC FOR NEW ROOF OPENING FOR ROOF CURB.

DIFFUSER AND GRILLE SCHEDULE

TAG	LOCATION	TYPE	BRAND / MODEL	MODULE SIZE	NECK SIZE	REMARK
A	SEE PLAN	CEILING SUPPLY DIFFUSER	TITUS / PCS	24X24	SEE PLAN	①②③④
B	SEE PLAN	CEILING RETURN REGISTER	TITUS / PAR	24X24	SEE PLAN	①②③④
C	SEE PLAN	SIDEWALL /CEILING SUPPLY GRILLE	TITUS / 300FL	SEE PLAN	SEE PLAN	①②③④

REMARKS:

① ORDER DIFFUSERS / GRILLES WITH BORDER TYPE FOR SURFACE MOUNT.

② PROVIDE AND FIELD INSTALL MATCH NECK SIZE TAB BOX ON TOP OF DIFFUSER WHERE CEILING SPACE IS LIMITED FOR DUCT CONNECTION.

③ PROVIDE FACTORY OPPOSED-BLADES DAMPER FOR BALANCING WHERE ACCESS OF MANUAL DAMPER CANNOT BE OBTAINED.

④ ORDER DIFFUSER WITH COLOR TO MATCH CEILING FINISHES. CONFIRM WITH ARCHITECT PRIOR TO ORDER.

GAS FIRED INFRARED HEATER SCHEDULE

TAG	AREA SERVED	MAKE/MODEL	INPUT BTU/HR	GAS RANGE	CONNECTION SIZE (INCH)	ELECTRICAL DATA			WEIGHT (LBS)	QUALITY	REMARK
						VOLTAGE	HZ	AMP			
IH-01/ IH-02	AUTO SHOP	SCHWANK/ ECOSCHWANK6	21,500	6"-14" WC.	1/2	24	60	15	22	4	①②③④

REMARK:

① INSTALL UNIT TO MEET ALL REQUIREMENTS PER FACTORY INSTALLATION GUIDELINES. ALSO SEE DETAIL FOR FURTHER INFO CLEARANCE.

② ALL INFRARED HEATERS SHALL BE SUSPENDED HORIZONTALLY.

③ FURNISH AND INSTALL UNIT WITH FOLLOWING FACTORY OPTIONS:

a. FLEXIBLE GAS CONNECTOR. SEE PLUMBING PLAN FOR DETAILS.

b. SAFETY SNAP HOOKS

c. SCHWANK THERMO CONTROL PLUS FOR UP TO TWO(2) SINGLE STAGE TEMPERATURE CONTROL ZONE. PROGRAM CONTROL TO TURN-OFF HEATER WHEN THERE'S NO DETECTION OF OCCUPANCY FOR MORE THAN 15-MINS (ADJ). HEATER SHALL ONLY OPERATE WHEN SPACE IS OCCUPIED.

d. PROVIDE 120V/24V TRANSFORMER FOR CONTROL AND IGNITION.

④ HEATER SHALL BE LISTED FOR INDIRECT VENT APPLICATION. SEE M-1.1 COMBUSTION AIR OPENING CALC FOR DETAILS.

INSULATION SCHEDULE

ITEM	LOCATION	INSULATION TYPE	MIN. R-VALUE	MIN. THICKNESS	REMARK
SUPPLY AIR DUCT/PLENUM	EXTERIOR AND UNCONDITIONAL SPACE	FIBERGLASS	R-8	3"	①②
RETURN AIR DUCT/PLENUM	EXTERIOR AND UNCONDITIONAL SPACE	FIBERGLASS	R-8	3"	①②
SUPPLY AIR DUCT/PLENUM	INDIRECT CONDITIONAL SPACE	FIBERGLASS	R-4.2	1.5"	①②
INTERNAL ACOUSTICAL LINING IN SUPPLY DUCT/PLENUM	ALL	ACOUSTIC FOAM	R-4.2	1"	①②
CONDENSATE WATER PIPE	INDOOR	FIBERGLASS	R-3	0.5"	①

REMARKS:

① ALL INSULATION OR ACCOUSTICAL LINING SHALL HAVE SMOKE SPREAD INDEX LESS THAN 50 AND FLAME SPREAD INDEX LESS THAN 25.

② ALL EXTERIOR DUCTWORK AND PLENUMS SHALL BE EXTERNALLY INSULATED WITH WEATHERPROOFED OUTDOOR INSULATION.

MIN. OSA VENTILATION CALCULATIONS*

OCCUPANCY CLASSIFICATIONS	OCCUPANT DENSITY (PPL/1000 FT ²)	AREA (A _z -FT ²)	NO. OF OCC. (PZ)	PPL OSA RATE (R _p -CFM/PPL)	AREA OSA RATE (R _a -CFM/FT ²)	MIN. REQ'D OSA (V _{oz} -CFM)	DISTRIBUTION EFFECTIVENESS (E _z)	FINAL REQ'D OSA RATE (E _{oz} -CFM)	PROVIDE OSA (CFM)
AUTO REPAIR ROOM/SHOP	10	2,000	20	10	0.18	560	0.5	1,120	3,000
CLASSROOM	35	870	30.45	10	0.12	409	1.0	409	465
OFFICE	5	83	1	5	0.06	10	1.0	1.0	10

* MIN. OSA VENTILATION IS CALCULATED BASED ON 2019 CMC.

A. SECTION 403.2.1 : V_{oz} = R_p x P_z + R_a x A_z

B. SECTION 403.2.3 : V_{oz} = V_{oz}/E_z

C. TABLE 402.1 AND TABLE 403.2.2

MIN. EA VENTILATION CALCULATIONS*

OCCUPANCY CATEGORY	EXHAUST RATE (CFM/FT ²)	MIN. EX RATE (CFM)	MIN. OSA RATE (CFM)	MAX. OF EA AND OSA RATE (CFM)	PROVIDED VENTILATION RATE	EQUIPMENT SERVED
AUTO REPAIR ROOM / SHOP	1.5	2,000	1,120	3,000	3,000	EF-01

* MIN. EA VENTILATION IS CALCULATED BASED ON 2019 CMC.

A. TABLE 403.7.

Unit Report For RTU 2

Project: JHP - Nogales HS
Prepared By: Bruno Hoang
09/29/2021
09:07AM

Unit Parameters

Unit Model: 48FCDM07A3AS-0A0A0
Unit Size: 97 (6 Tons)
Volts-Phase-Hertz: 208-3-60
Heating Type: Gas
Dust Cfg: Vertical Supply / Vertical Return
Low Heat
Single Circuit, Two Stage Cooling (07 only)

Dimensions (ft. in.) & Weight (lb.) ***

Unit Length: 6' 2.375"
Unit Width: 3' 10.625"
Unit Height: 3' 5.375"
*** Total Operating Weight: 612 lb

*** Weights and Dimensions are approximate. Weight does not include unit packaging. Approximate dimensions are provided primarily for shipping purposes. For exact dimensions and weights, refer to appropriate product data catalog.

Lines and Filters

Gas Line Size: 1/2
Condensate Drain Line Size: 3/4
Return Air Filter Type: Throwaway
Return Air Filter Quantity: 4
Return Air Filter Size: 16 x 16 x 2

Unit Configuration

Direct Drive - EcoBlue - High Static
AlCu - AlCu
Base Electromechanical Controls
Standard Packaging

Warranty Information

1-Year parts(Std.)
5-Year compressor parts(Std.)
10-Year heat exchanger - Aluminized(Std.)
No optional warranties were selected.

NOTE: Please see Warranty Catalog 500-089 for explanation of policies and ordering methods.

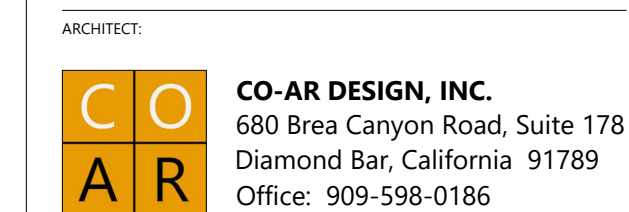
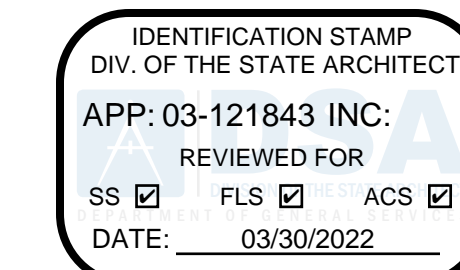
Ordering Information

Part Number	Description	Quantity
48FCDM07A3AS-0A0A0	Rooftop Unit	1
Accessories		
16X16X2-M13-R-P4	16x16x2 MERV-13 replacement air filters	1

Unit = 612 lb
Economizer = 49 lb
14 in. Roof curb = 98 lb
Total weight = 759 lb

Packaged Rooftop Builder 1.60
Page 12 of 16

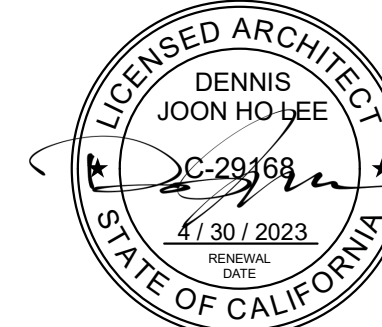
DSA APPLICATION: A# 03-121843



Dennis J. Lee, NCCARB dennis@coar-design.com

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3103 Independence Drive,
Livermore, CA 94551
TEL: 925-405-2508 EX-101
CEL: 510-468-0613
FAX: 510-788-6039



PROJECT: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
ROWLAND HEIGHTS CA 91748

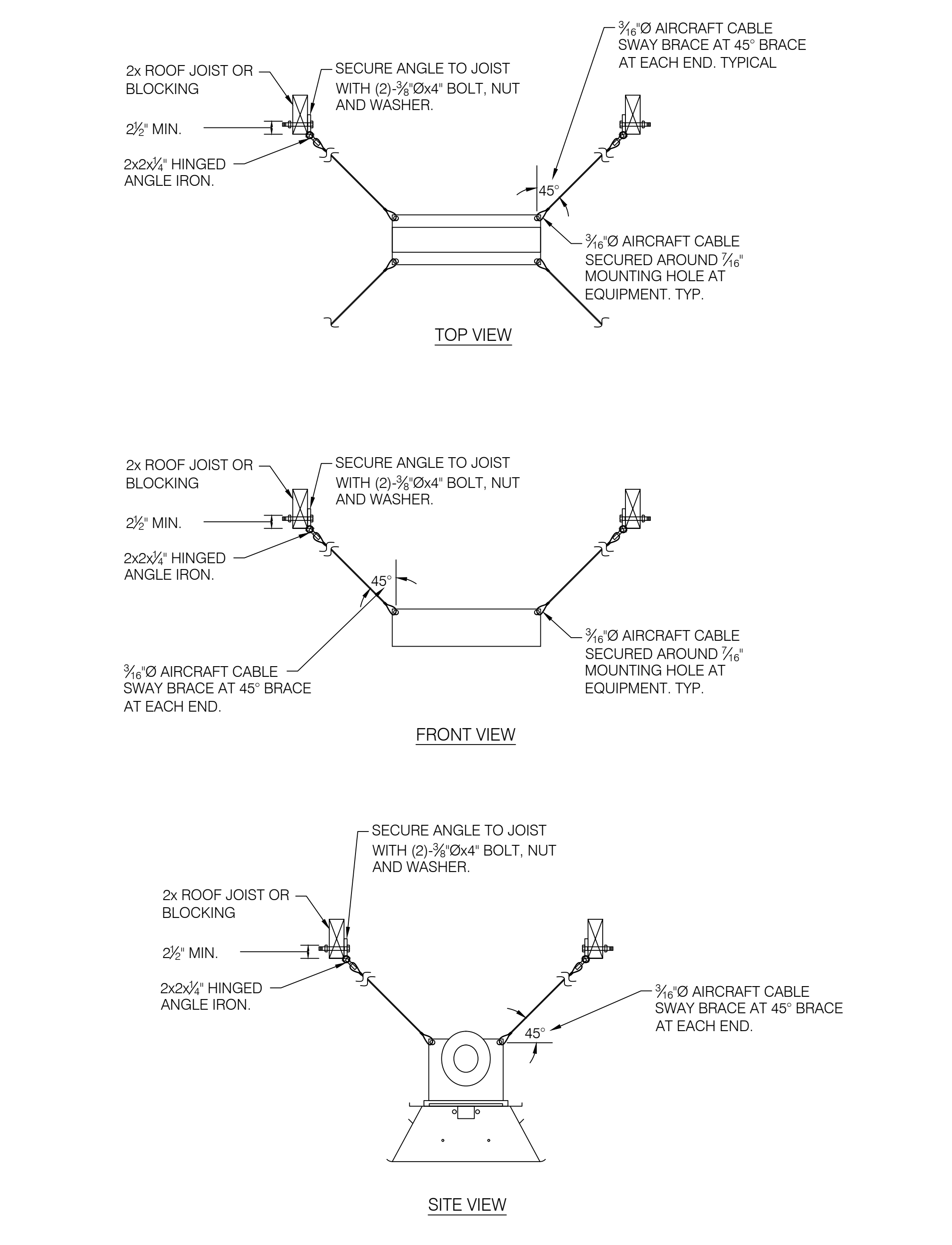
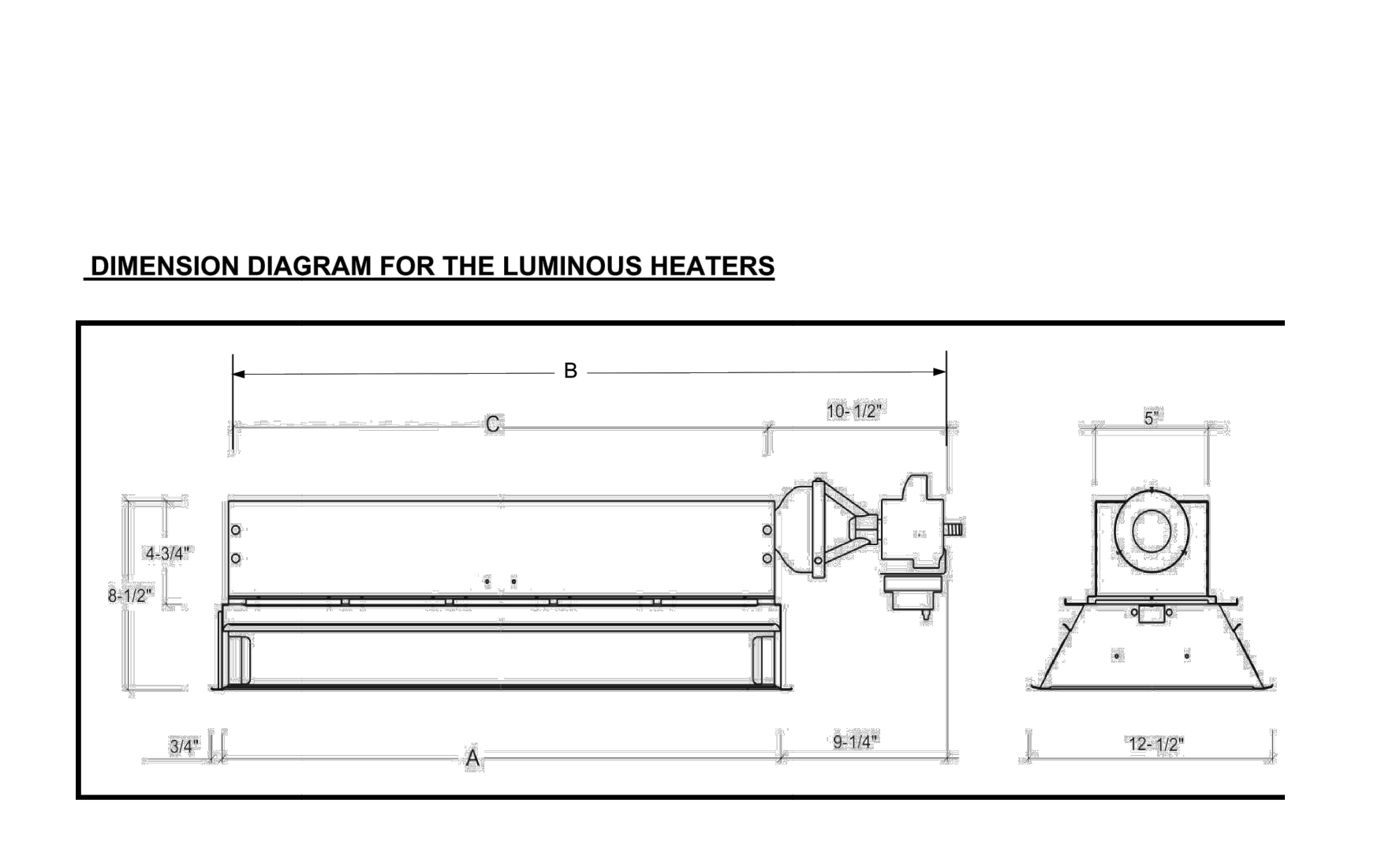
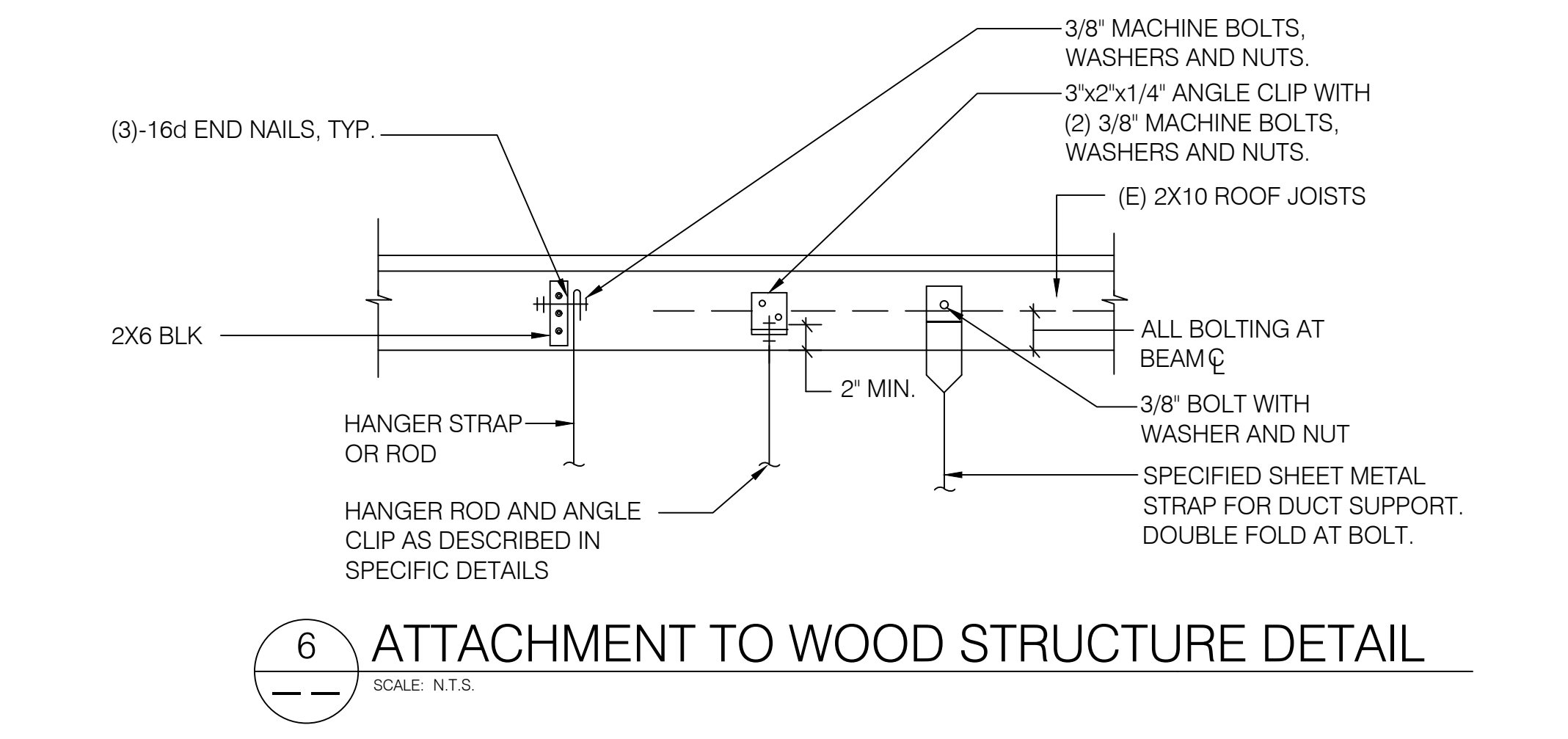
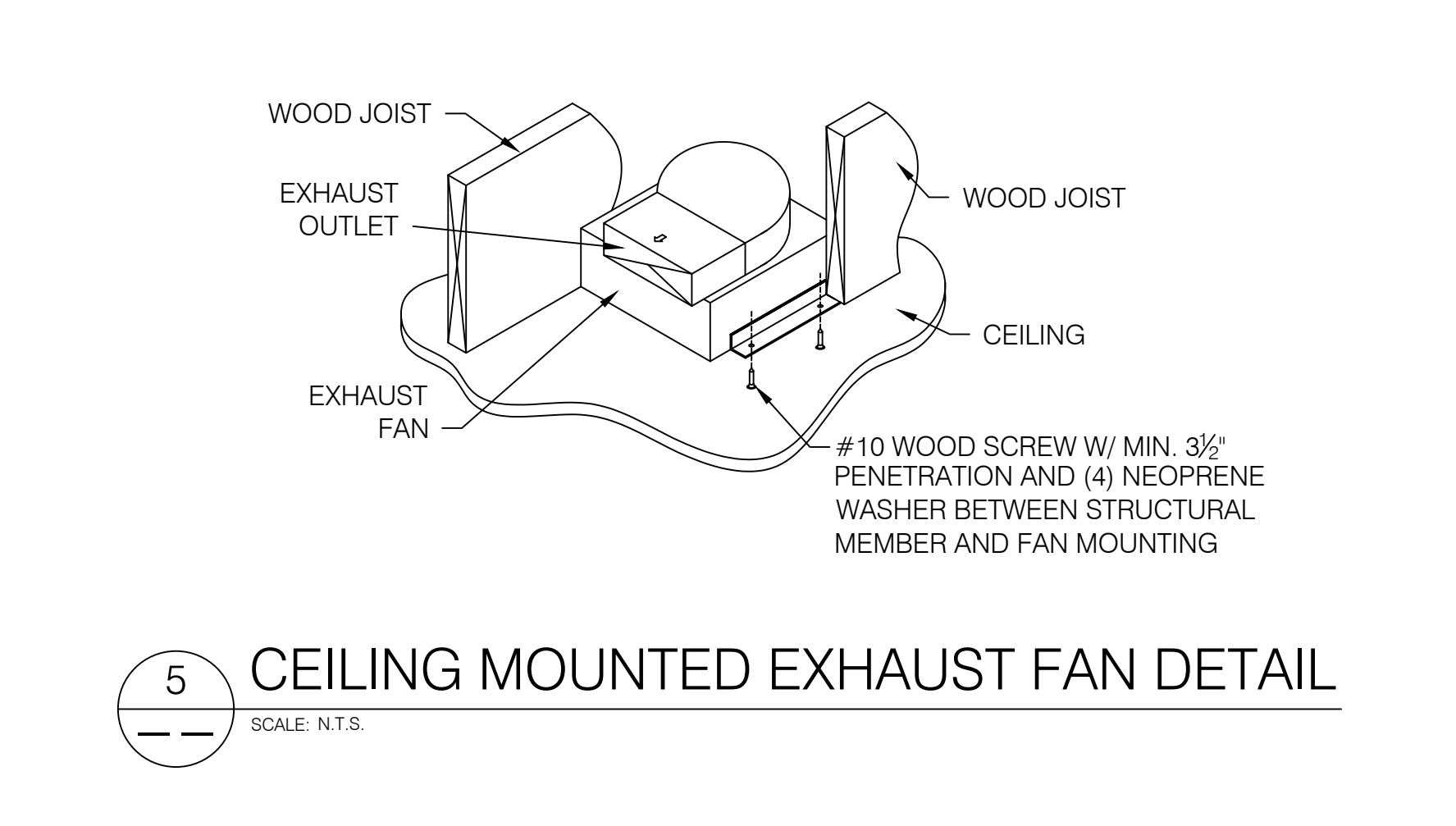
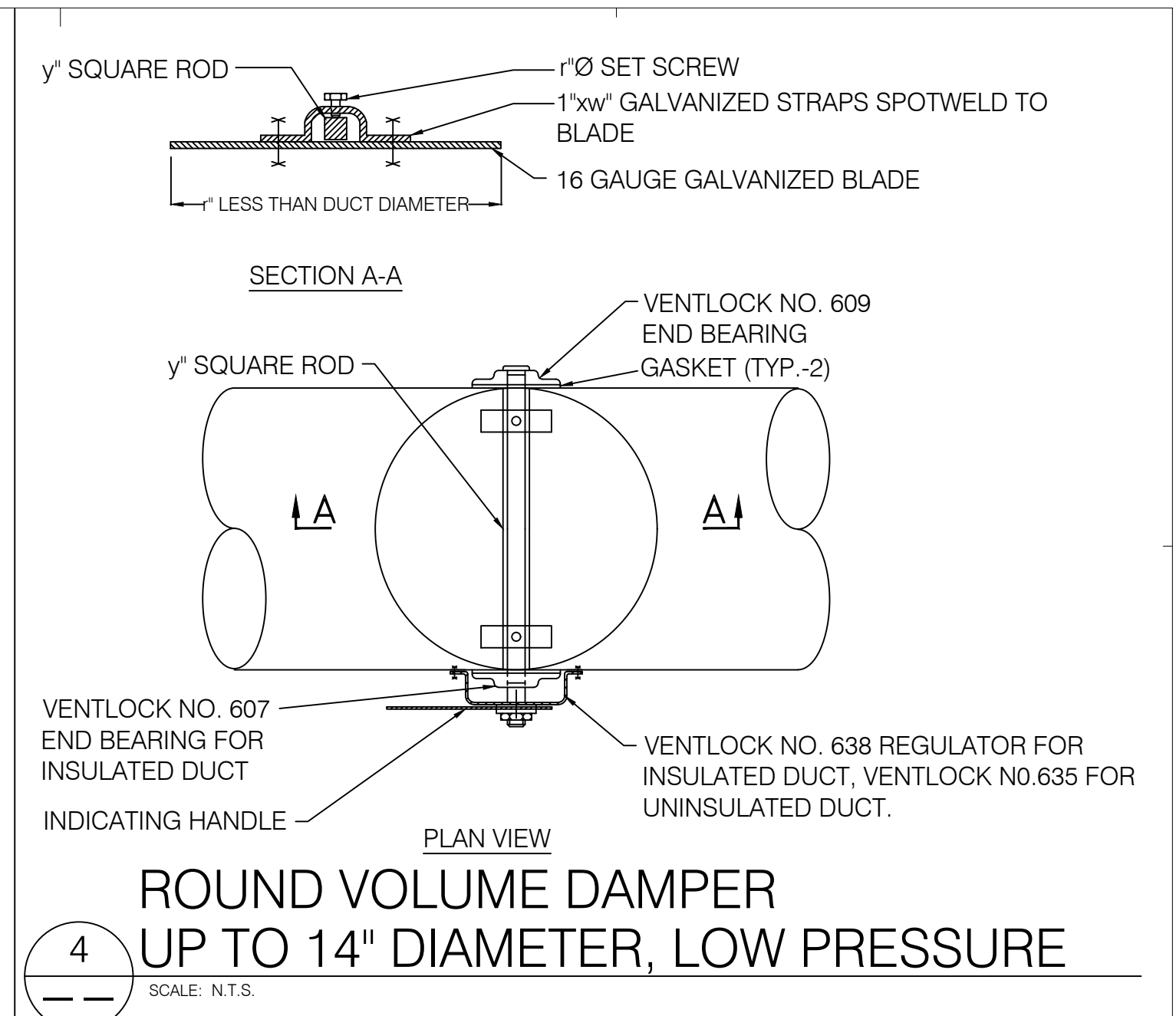
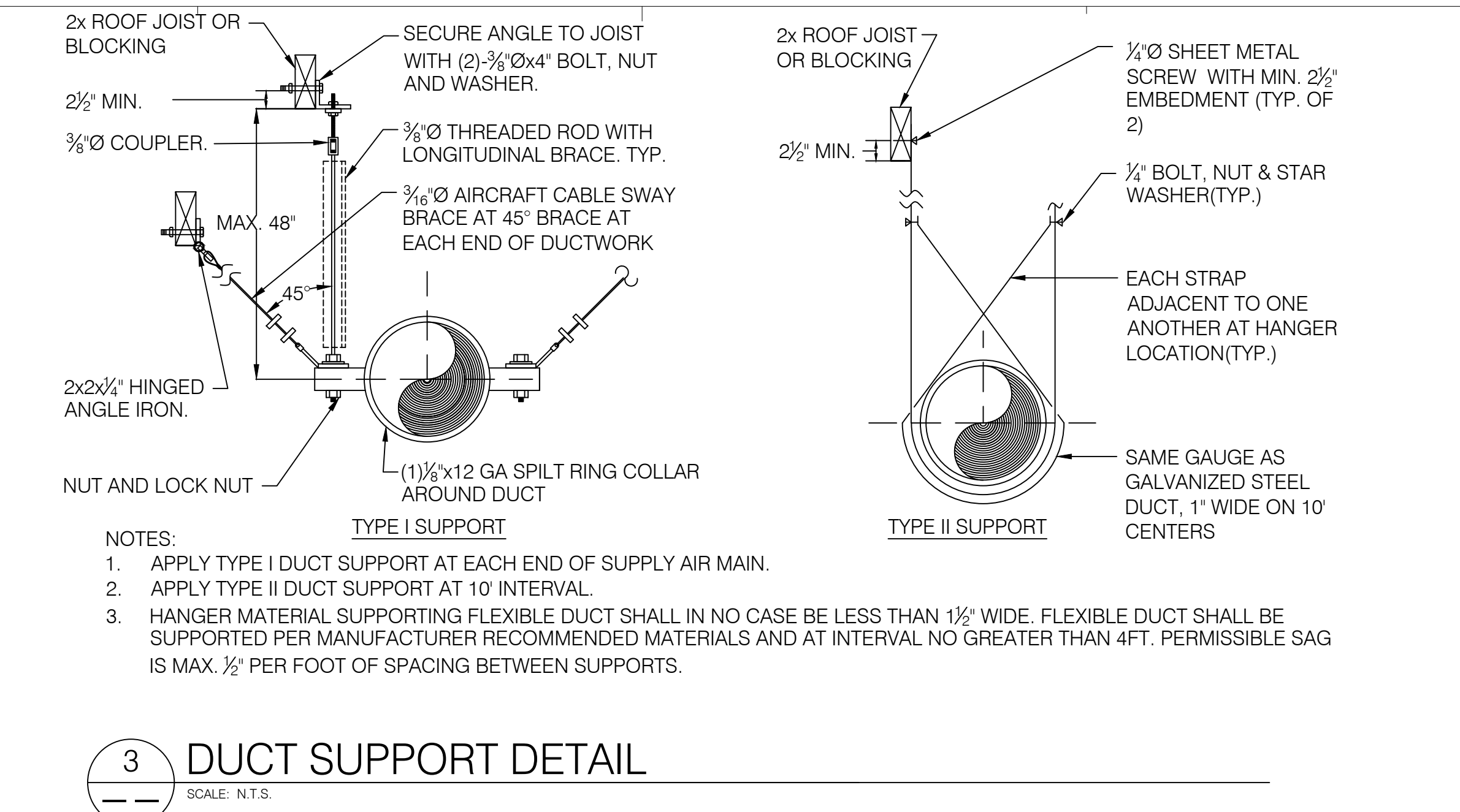
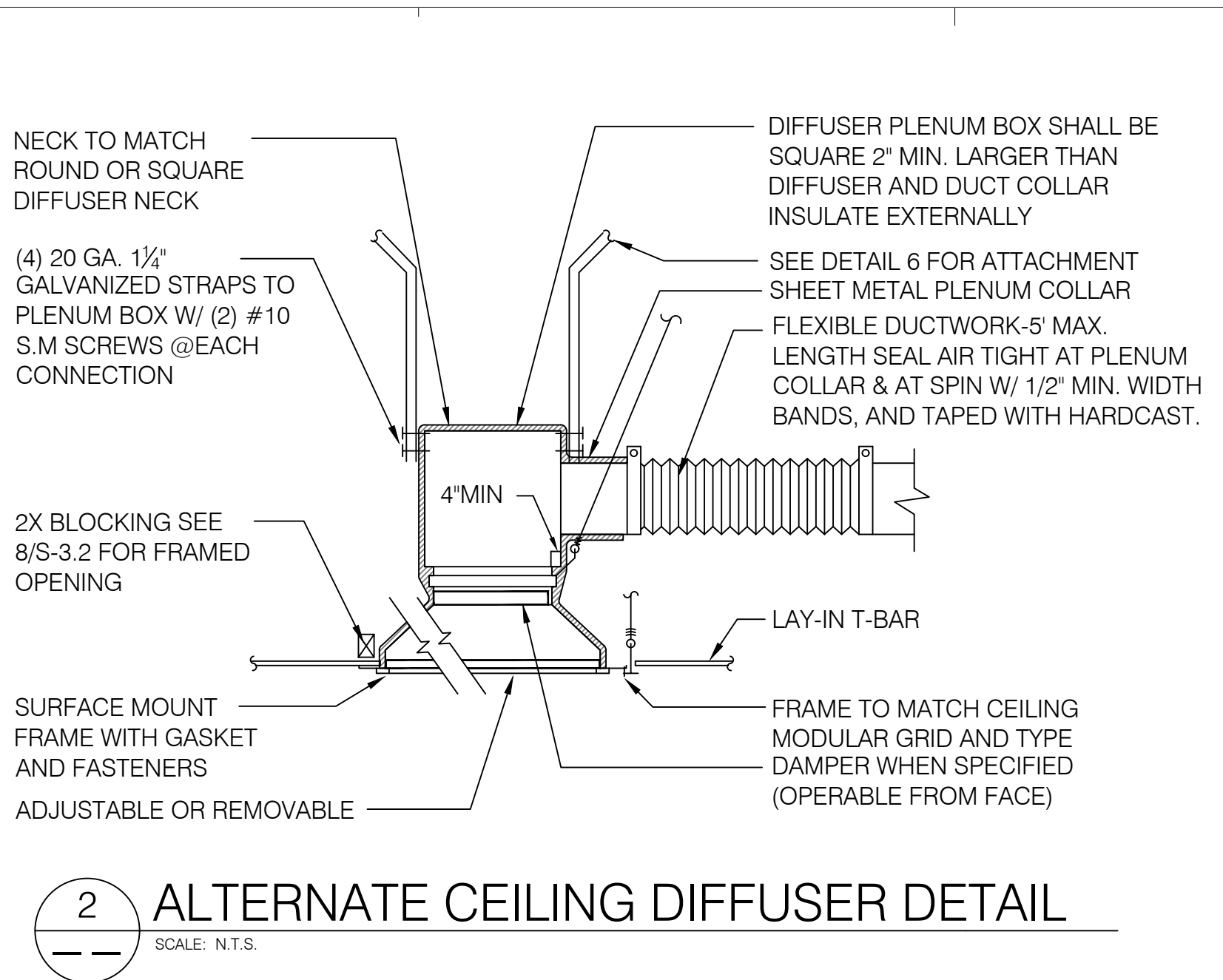
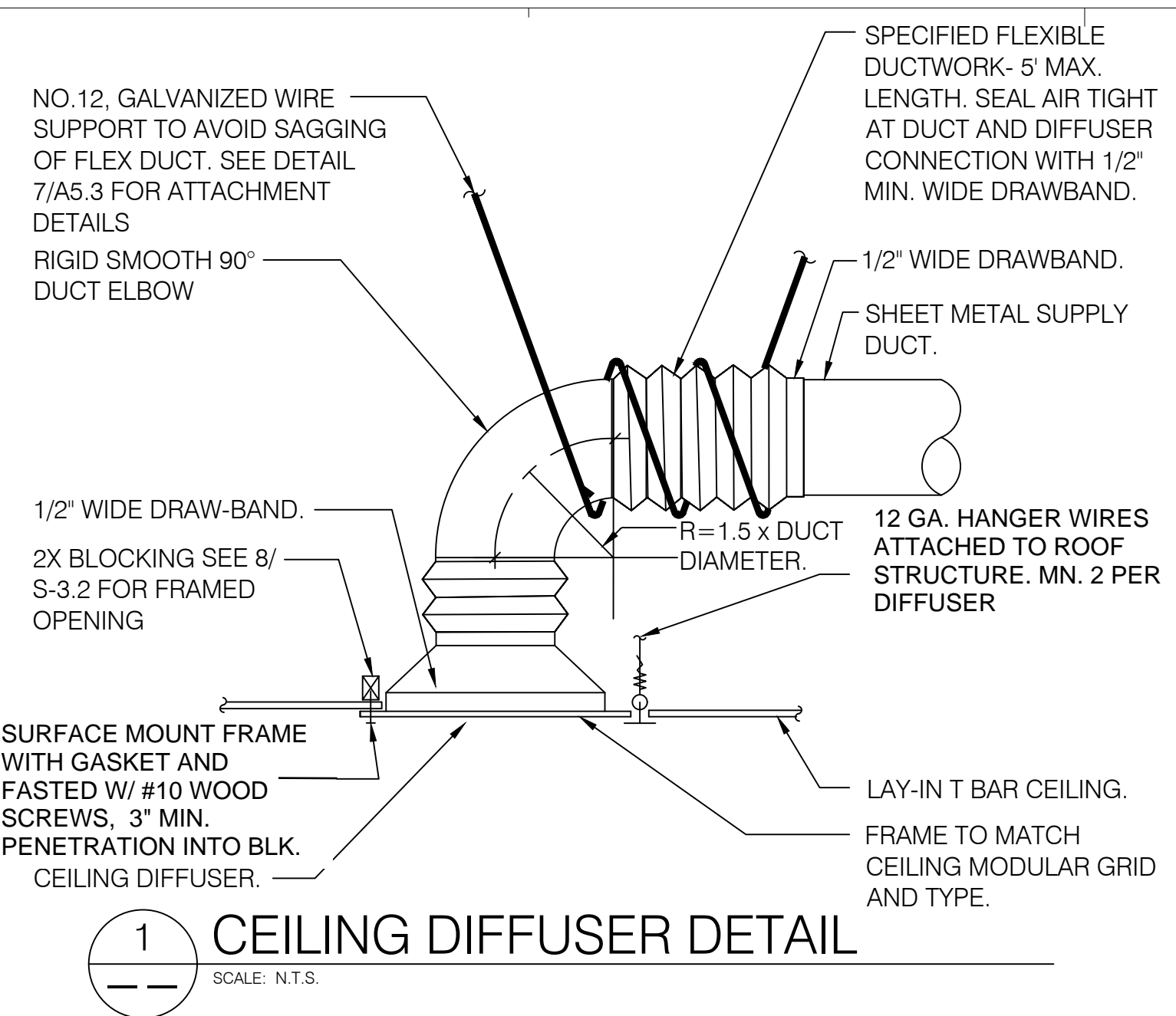
CLIENT: ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS CA 91748

SUBMITTALS REVISIONS:
PERMIT REVIEW SET 04/09/2021
PERMIT SET 08/18/2021

PROJECT NO: 20072
SCALE: AS SHOWN
DATE: 9/22/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE: MECHANICAL SCHEDULES

SHEET NO:

M-0.2



CLEARANCES TO COMBUSTIBLES CHART :

QTY ON PROJECT	HEATER MODEL NO	TOP < A >	SIDE < B >	END < C >	BOTTOM < D >	FRONT < E >	REAR < F >
4	ecoSchwank 6 N/L	24"	27"	24"	60"	60"	24"

7 CEILING MOUNTED EXHAUST FAN DETAIL SCALE: N.T.S.

8 RADIANT HEATER MOUNTING DETAIL (MAX. OF 25-LB) SCALE: N.T.S.

DSA APPLICATION: # 03-121843

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-121843 INC:
REVIEWED FOR:
DATE: 03/30/2022

ARCHITECT: **CO-AR DESIGN, INC.**
680 Brea Canyon Road, Suite 178
Diamond Bar, California 91789
Office: 909-598-0186
Dennis J. Lee, NCARB dennisl@coar-design.com

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LICENSED ARCHITECT
DENNIS JOON HEE
C-28168
EXPIRES 12/31/2023
STATE OF CALIFORNIA

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3103 Independence Drive
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PROJECT: **CITE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL**
2000 S. OTTERBEIN AVENUE
ROWLAND HEIGHTS CA 91748
CLIENT:

ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

SUBMITTALS HISTORY:
PERMIT REVIEW SET 04/09/2021
PERMIT SET 08/18/2021

PROJECT NO: 20072
SCALE: AS SHOWN
DATE: 9/22/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE: **MECHANICAL DETAILS**

SHEET NO: **M-0.3**

STATE OF CALIFORNIA Mechanical Systems NRC-MCH-E (Created 09/2020) CERTIFICATE OF COMPLIANCE Project Name: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL Report Page: Page 2 of 11 Project Address: 2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748 Date Prepared: 2021-04-06

A. GENERAL INFORMATION

01 Project Location (city)	ROWLAND HEIGHTS	04 Total Conditioned Floor Area	953
02 Climate Zone	9	05 Total Unconditioned Floor Area	0
03 Occupancy Types Within Project:		06 # of Stories (Habitable Above Grade)	1

B. PROJECT SCOPE

C. COMPLIANCE RESULTS

01 System Summary	02 Pumps	03 Fans/Economizers	04 System Controls	05 Ventilation	06 Terminal Box Controls	07 Distribution	08 Cooling Towers	09 Compliance Results
AND	AND	AND	AND	AND	AND	AND	AND	COMPLIES

STATE OF CALIFORNIA Mechanical Systems NRC-MCH-E (Created 09/2020) CERTIFICATE OF COMPLIANCE Project Name: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL Report Page: Page 2 of 11 Project Address: 2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748 Date Prepared: 2021-04-06

D. EXCEPTIONAL CONDITIONS

E. ADDITIONAL REMARKS

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

01 Name or Item Tag	02 Equipment Category per Tables 110.2	03 Equipment Type per Tables 110.2 & Title 20	04 Smallest Size Available ¹ §140.4(a)	05 Heating Output ^{2,3}			06 Cooling Output ^{2,3}			07 Total Heating Load (kBtu/h)	08 Total Sensible Cooling Load (kBtu/h)
				Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)			
RTU-01	Unitary heat pumps	Air cooled, package (3 phase)	Yes	66	65.1	16.7	53.98	66.81	68	70	

STATE OF CALIFORNIA Mechanical Systems NRC-MCH-E (Created 09/2020) CERTIFICATE OF COMPLIANCE Project Name: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL Report Page: Page 3 of 11 Project Address: 2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748 Date Prepared: 2021-04-06

G. PUMPS

H. FAN SYSTEMS & AIR ECONOMIZERS

01 Fan Name or Item Tag	02 Fan Function	03 Qty	04 Maximum Design Supply Airflow (CFM)	05 HP Unit ²	06 Design HP	07 Fan Power Pressure Drop Adjustment - Table 140.4-B		08 Constant Volume
						Device	Design Airflow through Device (CFM)	
RTU-01	Supply	1	2,400	BHP	1.29	None used	Design Airflow through Device (CFM)	

STATE OF CALIFORNIA Mechanical Systems NRC-MCH-E (Created 09/2020) CERTIFICATE OF COMPLIANCE Project Name: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL Report Page: Page 4 of 11 Project Address: 2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748 Date Prepared: 2021-04-06

I. SYSTEM CONTROLS

01 System Name	02 System Zoning	03 Conditioned Floor Area Being Served (ft²)	04 Thermostats §110.2(b)(1) & (c) ¹ , §120.2(a) or §141.0(b)(2) ²	05 Shut-Off Controls §120.2(a)	06 Isolation Zone Controls §120.2(a)	07 Demand Response §110.2 and §120.2(b)	08 Supply Air Temp. Reset §140.4(f)	09 Window Interlocks per §140.4(i)
RTU-01	single zone	≤ 25,000 ft²	Setback Thermostat	Auto Timeswitch	NA: Single Zone	NA: PTAC, PTHP, Rm AC, HP	NA: Single Zone	NA: Auto-closing doors

STATE OF CALIFORNIA Mechanical Systems NRC-MCH-E (Created 09/2020) CERTIFICATE OF COMPLIANCE Project Name: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL Report Page: Page 5 of 11 Project Address: 2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748 Date Prepared: 2021-04-06

J. VENTILATION AND INDOOR AIR QUALITY

01 Space Name or Item Tag	02 Occupancy Type ^a	03 Conditioned Floor Area (ft²)	04 # of Showersheads / toilets	05 # of people ^b	06 Required Min OA CFM	07 Required Minimum CFM	08 Provided per Design CFM	09 DCV or Occupant Sensor Controls per §120.1(d)(3), §120.1(d)(5) & §120.2(c)(3) ^a
RTU-01	Office space	83		1	15		15	DCV NA: Not required per §120.1(d)(3)
RTU-01	Classroom (age 5-18)	870		31	465		465	DCV NA: Not required per §120.1(d)(3)

STATE OF CALIFORNIA Mechanical Systems NRC-MCH-E (Created 09/2020) CERTIFICATE OF COMPLIANCE Project Name: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL Report Page: Page 8 of 11 Project Address: 2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748 Date Prepared: 2021-04-06

M. COOLING TOWERS

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

11 YES	12 NO	13 YES	14 NO	15 YES	16 NO	17 YES

STATE OF CALIFORNIA Mechanical Systems NRC-MCH-E (Created 09/2020) CERTIFICATE OF COMPLIANCE Project Name: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL Report Page: Page 7 of 11 Project Address: 2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748 Date Prepared: 2021-04-06

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

YES	NO	Form/Title	Systems To Be Field Verified	Field Inspector	
				Pass	Fail
		NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.			
		NRCA-MCH-03-A Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes". If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".			
		NRCA-MCH-04-A Air Distribution Duct Leakage			
		NRCA-MCH-05-A Air Economizer Controls			
		NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)(3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints.			
		NRCA-MCH-07-A Supply Fan Variable Flow Controls			
		NRCA-MCH-08-A Valve Leakage Test			
		NRCA-MCH-09-A Supply Water Temperature Reset Controls			
		NRCA-MCH-10-A Hydronic System Variable Flow Controls			
		NRCA-MCH-11-A Automatic Demand Shed Controls			

STATE OF CALIFORNIA Mechanical Systems NRC-MCH-E (Created 09/2020) CERTIFICATE OF COMPLIANCE Project Name: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL Report Page: Page 8 of 11 Project Address: 2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748 Date Prepared: 2021-04-06

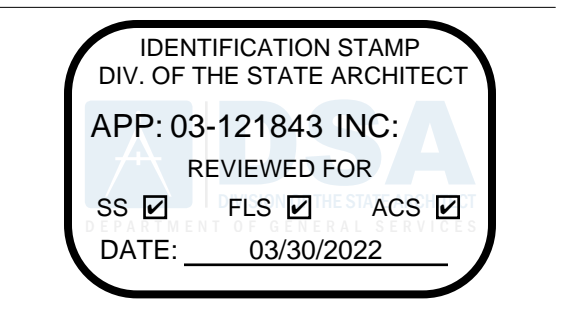
		NRCA-MCH-12-A FDD for Packaged Direct Expansion Units			
		NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance			
		NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy Storage DX AC Systems are included in the scope, permit applicant should move this form to "Yes".			
		NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: This form does not automatically move to "Yes". If Chilled Water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil External Melt, Ice Harvester, Brine, Ice Slurry, Eutectic Salt, Clostrate Hydrate Slurry (CHS), Cryogenic or Encapsulated (Ice Ball) Systems are included in the scope, permit applicant should move this form to "Yes".			
		NRCA-MCH-16-A Supply Air Temperature Reset Controls			
		NRCA-MCH-17-A Condenser Water Temperature Reset Controls			
		NRCA-MCH-18 Energy Management Control Systems			
		NRCA-MCH-19 Occupancy Sensor Controls			
		NRCA-MCH-20 Multi-Family Ventilation			
		NRCA-MCH-21 Multi-Family Envelope Leakage			

STATE OF CALIFORNIA Mechanical Systems NRC-MCH-E (Created 09/2020) CERTIFICATE OF COMPLIANCE Project Name: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL Report Page: Page 9 of 11 Project Address: 2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748 Date Prepared: 2021-04-06

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

YES	NO	Form/Title	Field Inspector	
			Pass	Fail
		NRCV-MCH-04-H Duct Leakage Test NOTE: Must be completed by a HERS Rater		
		NRCV-MCH-24 Enclosure Air Leakage Worksheet NOTE: Must be completed by a HERS Rater		
		NRCV-MCH-27 High-rise Residential NOTE: Must be completed by a HERS Rater		
		NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must be completed by a HERS Rater		

DSA APPLICATION: # 03-121843



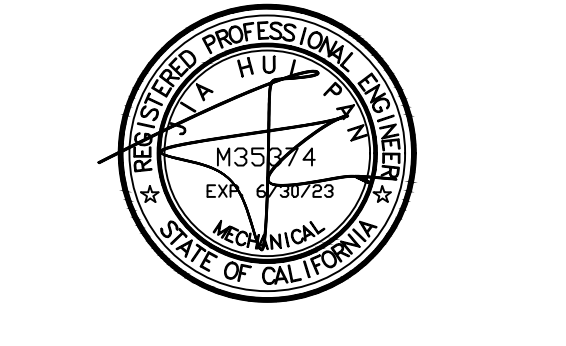
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CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2019standards/> September 2020

STATE OF CALIFORNIA Mechanical Systems NRC-MCH-E (Created 09/2020) CERTIFICATE OF COMPLIANCE Project Name: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL Report Page: Page 9 of 11 Project Address: 2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748 Date Prepared: 2021-04-06

Q. DUCT LEAKAGE SEALING

11 YES	12 NO	13 YES	14 NO	15 YES	16 NO	17 YES



PROJECT: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL
2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748
CLIENT: ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET ROWLAND HEIGHTS, CA 91748

SUBMITTALS REQUIRED:
PERMIT REVIEW SET 04/09/2021
PERMIT SET 08/18/2021

PROJECT NO: 20072
SCALE: AS SHOWN
DATE: 9/22/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE: MECHANICAL PRESCRIPTIVE TITLE 24 COMPLIANCE
SHEET NO:

M-0.4

01		02	
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block:	No	Plan sheet or construction document location	
03		04	
Mandatory Measure		Plan sheet or construction document location	
Heating Equipment Efficiency per §110.1	M-0.2		
Cooling Equipment Efficiency per §110.1	M-0.2		
Furnace Standby Loss Control per §110.2(d)	N/A		
Duct Insulation per §120.4	M-0.2		
Heating Hot Water Equipment Efficiency per §110.1	N/A		
Cooling Chilled and Condenser Water Equipment Efficiency per §110.1	N/A		
Open and Closed Circuit Cooling Towers conductivity of flow-based controls per §110.2(e)	N/A		
Open and Closed Circuit Cooling Towers Flow Meter with analog output per §110.2(e)(3)	N/A		
Open and Closed Circuit Cooling Towers Overflow Alarm per §110.2(e)(4)	N/A		
Open and Closed Circuit Cooling Towers Efficient Drift Eliminators per §110.2(e)(5)	N/A		
Pipe Insulation per §120.3(b)	N/A		
Combustion air shutoff, combustion air fan controls and stack design and controls for boilers per §120.9	N/A		
Heat Pump with Supplementary Electric Resistance Heater Controls per §110.2(b)	N/A		
The air duct and plenum system is designed per §120.4(a)-(f)	M-0.1		
Kitchen range hoods shall be rated for sound in accordance with Section 7.2 of ASHRAE 62.2	N/A		

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2019standards> September 2020

Mechanical Systems

STATE OF CALIFORNIA
NRCC-MCH-E (Created 09/2020)
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE

Project Name: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL
Project Address: 2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748
Report Page: Page 10 of 11
Date Prepared: 2021-04-06

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Jia H. Pan
Company: JHP Engineering and Design Services, Inc.
Address: 3103 Independence Drive
City/State/Zip: Livermore CA 94551

Documentation Author Signature: [Signature]
Signature Date: 2021-04-06
CEA/ HERS Certification Identification (if applicable): M35374
Phone: 925-409-2508

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

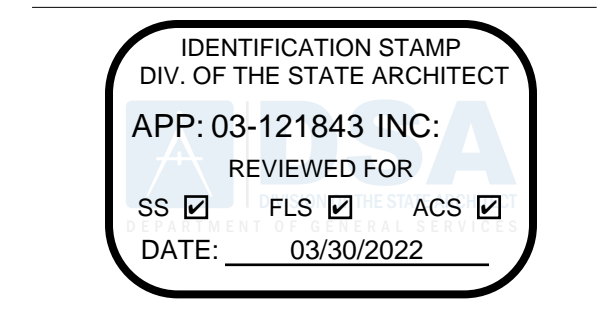
- The information provided on this Certificate of Compliance is true and correct.
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
- The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
- I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Jia H. Pan
Company: JHP Engineering and Design Services, Inc.
Address: 3103 Independence Drive
City/State/Zip: Livermore CA 94551

Responsible Designer Signature: [Signature]
Date Signed: 2021-04-06
License: M35374
Phone: 925-409-2508

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2019standards> September 2020

DSA APPLICATION: **A# 03-121843**

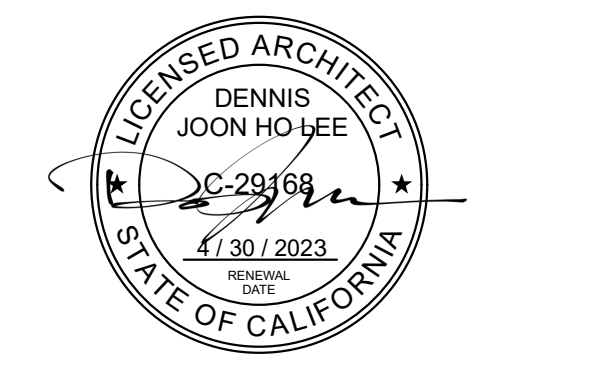


ARCHITECT: **CO-AR DESIGN, INC.**
680 Brea Canyon Road, Suite 178
Diamond Bar, California 91789
Office: 909-598-0186

Dennis J. Lee, NCARB dennisl@coar-design.com

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CEL: 510-468-0613
FAX: 510-788-6039



PROJECT: **CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL**

2000 S. OTTERBEIN AVENUE
ROWLAND HEIGHTS CA 91748

CLIENT: ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

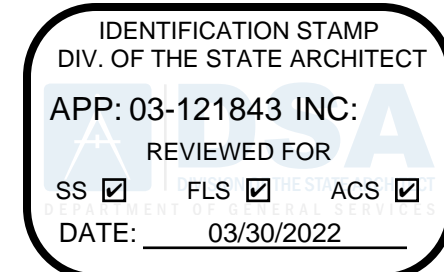
SUBMITTALS REVISIONS:
PERMIT REVIEW SET 04/09/2021
PERMIT SET 08/18/2021

PROJECT NO: 20072
SCALE: AS SHOWN
DATE: 9/22/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE:

MECHANICAL PRESCRIPTIVE TITLE 24 COMPLIANCE

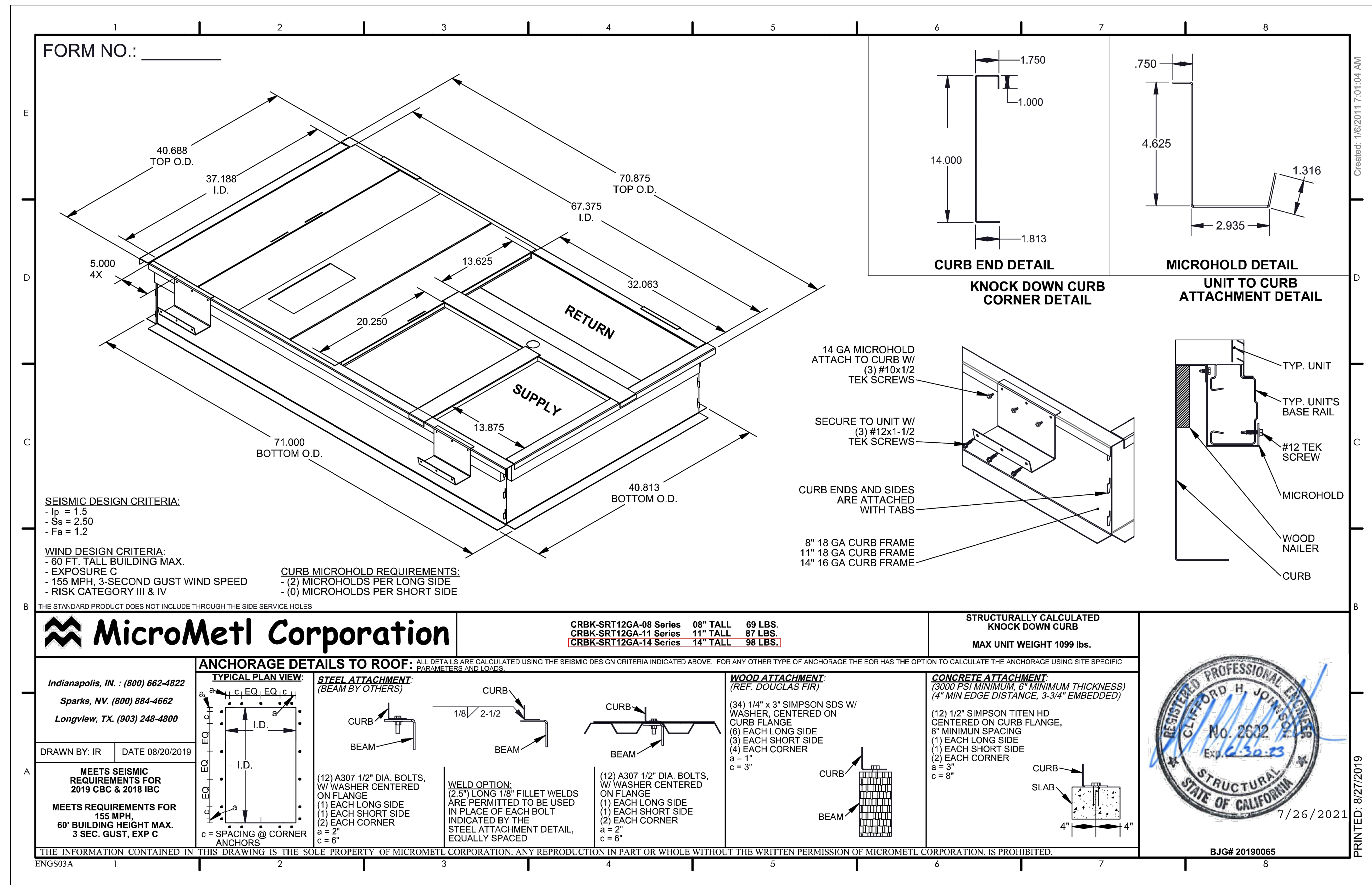
SHEET NO: **M-0.5**

B:\Mchdowd\COMMERCE - BIM\mchdowd\Basic for ARCH\CAD 25/2021 E. RUSO\Rowland High Auto Shop - Wednesday, September 22, 2021 4:28 PM

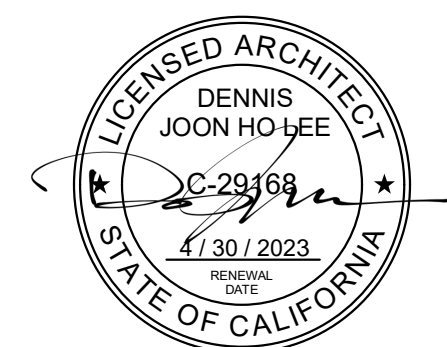


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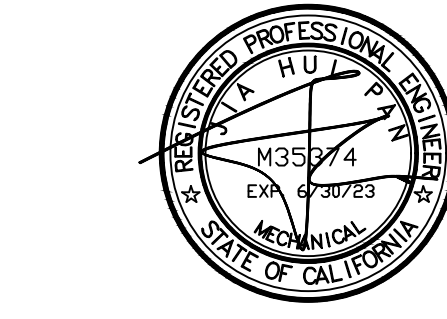
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 NOTES:



1 RTU-01 ROOF CURB MOUNTING DETAILS*
 SCALE: N.T.S.
 *SEE STRUCTURAL PLAN FOR CURB TO ROOF ATTACHMENT DETAIL.



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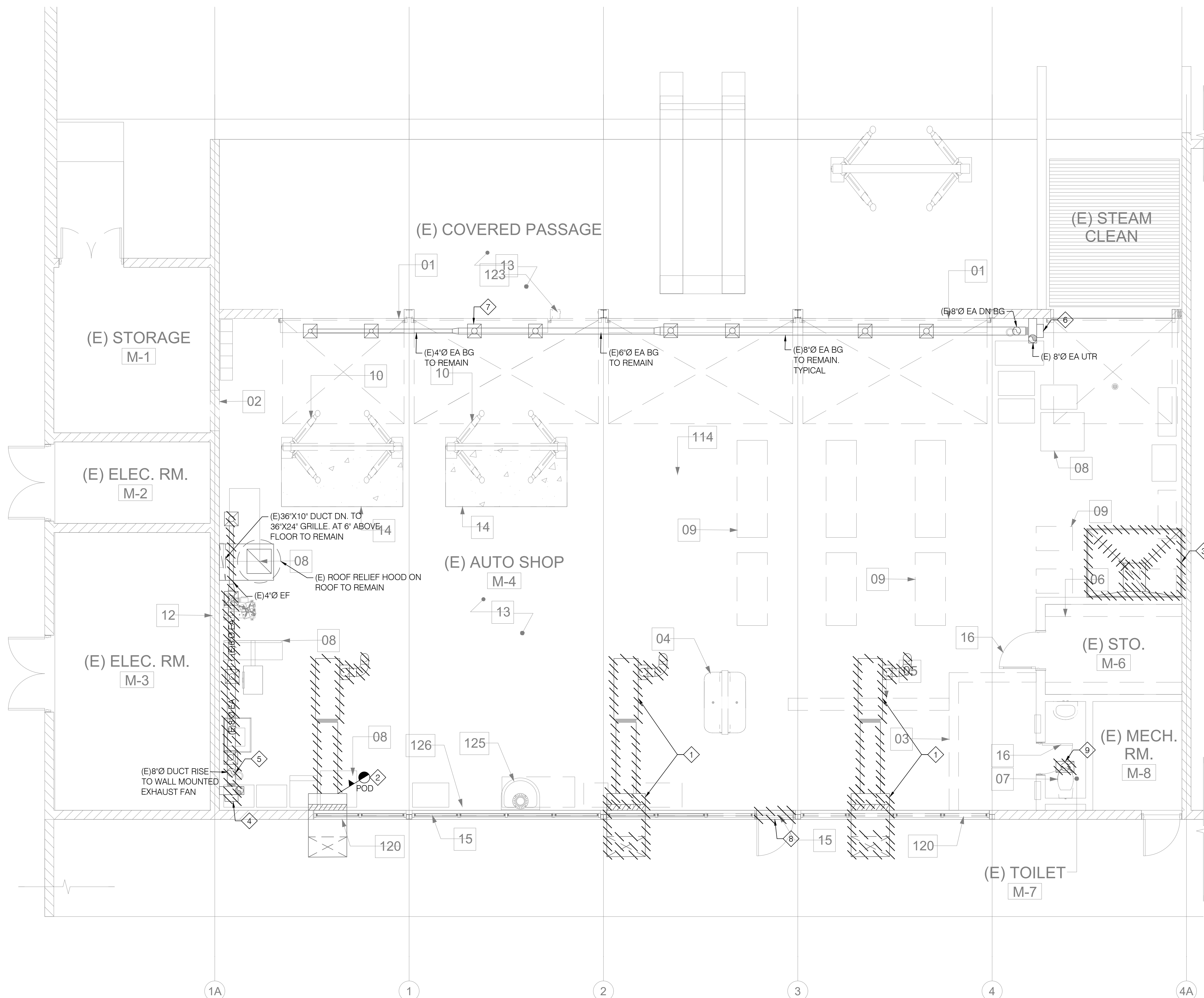


PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL
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 ROWLAND HEIGHTS CA 91748
 CLIENT:
 ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTALS HISTORY:
 PERMIT REVIEW SET 04/09/2021
 PERMIT SET 08/18/2021

PROJECT NO: 20072
 SCALE: AS SHOWN
 DATE: 9/22/2021
 DRAWN BY: SL
 CHECKED BY: JP
 SHEET TITLE:
MECHANICAL DETAILS

SHEET NO:
M-0.6



1 PARTIAL GROUND FLOOR MECHANICAL REFLECTED CEILING PLAN - DEMO
SCALE: 1/4" = 1'-0"

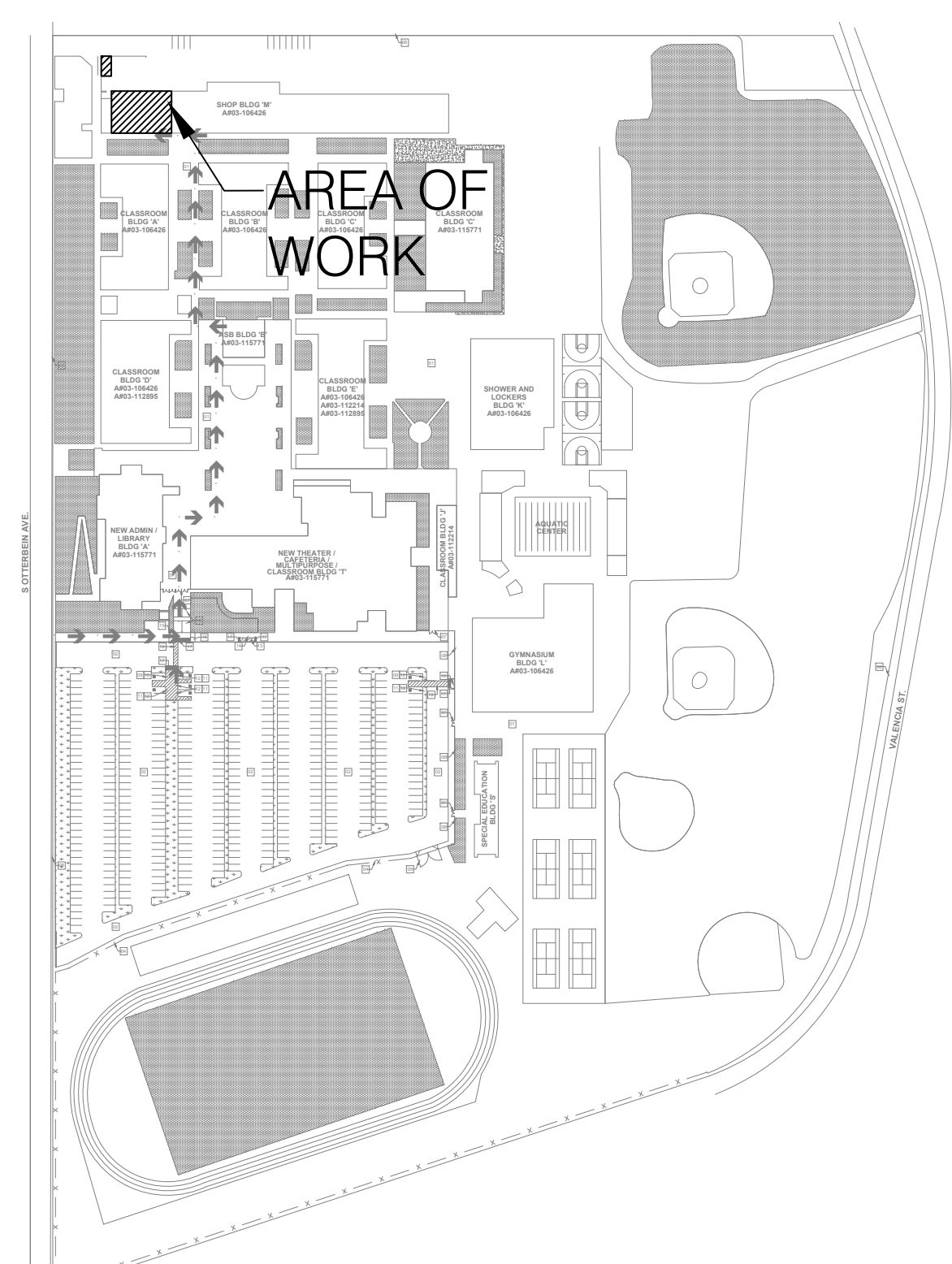
GENERAL DEMOLITION NOTES:

1. DEMOLITION SHALL NOT INTERRUPT UTILITY SERVICE OF FACILITY. IF TEMPORARY UTILITY SHUT-DOWN IS REQUIRED, ALWAYS COORDINATE WITH FACILITY FACULTY PRIOR TO SHUT-DOWN.
2. ALL DEMOLITION DONE IN PLACE SHALL NOT JEOPARDIZE THE STRUCTURAL INTEGRITY OF EXISTING BUILDING OR EXISTING UTILITY SUPPORT THAT IS REQUIRED TO MAINTAIN.
3. ALL WORK SHOWN ON PLAN ARE BASED ON INFORMATION FROM RECORD DRAWING. CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, CONDITION, AND MATERIAL PRIOR TO DEMOLITION AND INSTALLATION. REPORT DISCREPANCY OF EXISTING MECHANICAL SYSTEM AGAINST INFORMATION ON CONTRACT DOCUMENT TO SCHOOL DISTRICT, ARCHITECT, OR ENGINEER PRIOR TO CONSTRUCT.
4. ALL DEMOLITION SHOWN SHALL BE DONE BY COMPLETELY REMOVING EQUIPMENT AND ASSOCIATED COMPONENTS UNLESS OTHERWISE POD IS SPECIFICALLY NOTED ON PLAN FOR PARTIALLY REUSE EXISTING. ALL FLOOR OR WALL OPENING SHALL BE FILLED AND PATCHED TO MAINTAIN ORIGINAL BUILDING ENVELOP RATING W/ NEW WATER PROOFING BY GC.
5. CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, CONDITION, AND MATERIAL OF EXISTING MECHANICAL SYSTEM THAN IS INTENDED TO REMAIN AND REUSE. REPORT DEFICIENCY OR CODE COMPLIANCE ISSUE OF EXISTING SYSTEM IF FOUND TO SCHOOL DISTRICT, ARCHITECT, OR ENGINEER.

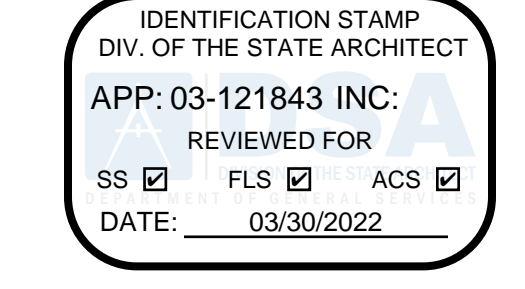
SHEET NOTES:

1. DEMOLISH AND REMOVE EXISTING DUCT HEATERS WITH ASSOCIATED DUCTWORK, FLUE PIPE, FILTER SECTION, AND CONTROLS. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING BUILDING OPENING WITH NEW WATERPROOFING.
2. CUT AND REMOVE EXISTING DUCT HEATERS WITH ASSOCIATED DUCTWORK, FLUE PIPE, AND CONTROLS PER PLAN UP TO FILTER SECTION. TEMPORARILY GAP OPENING FOR RECONNECTION. SEE M-1.1 FOR DETAILS.
3. DEMOLISH AND REMOVE EXISTING HOOD WITH ASSOCIATED DUCTWORK AND EXHAUST FAN ON ROOF. COORDINATE WITH GC FOR COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING BUILDING OPENING WITH NEW WATERPROOFING.
4. DEMOLISH AND REMOVE EXISTING WALL MOUNTED EXHAUST FAN WITH ASSOCIATED DUCTWORK AND WALL BRACKET. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING BUILDING OPENING WITH NEW WATERPROOFING.
5. DEMOLISH AND REMOVE EXISTING UNDERGROUND EXHAUST DUCTWORK AND ASSOCIATED COMPONENTS. COORDINATE WITH GC FOR PATCHING AND FILL FLOOR OPENING WITH CONCRETE AND REBAR AS REQUIRED.
6. EXISTING EXHAUST FAN MOUNTED ON WALL BRACKET TO REMAIN. PROVIDE TESTING, MAINTENANCE AND/OR REPAIR AS REQUIRED TO RETAIN DESIGNED PERFORMANCE.
7. EXISTING FLOOR EA OUTLET FOR AUTOMOBILE FUME EXHAUST CONNECTION WHEN ENGINE IS RUNNING TO REMAIN. TYPICAL OF 8.
8. DEMOLISH AND REMOVE EXISTING RELIEF LOUVER. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING BUILDING OPENING WITH NEW WATERPROOFING.
9. DEMOLISH AND REMOVE EXISTING CEILING MOUNTED EXHAUST FAN AND DUCTWORK UP THOUGH ROOF. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING BUILDING OPENING WITH NEW WATERPROOFING.

KEY PLAN

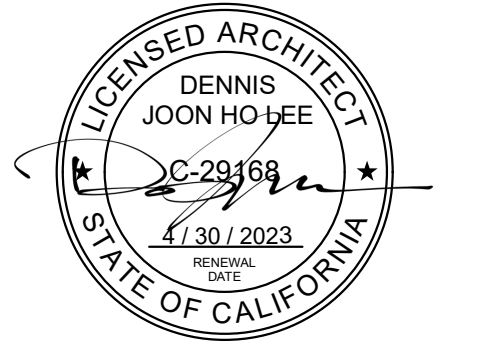


DSA APPLICATION: A# 03-121843

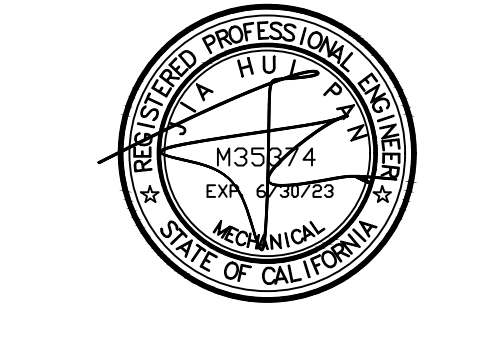


ARCHITECT:
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Diamond Bar, California 91789
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Dennis J. Lee, NCARB dennis@coar-design.com

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PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
ROWLAND HEIGHTS CA 91748

CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS:
PERMIT REVIEW SET 04/09/2021
PERMIT SET 08/18/2021

PROJECT NO: 20072
SCALE: AS SHOWN
DATE: 9/22/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE:

PARTIAL GROUND FL. MECHANICAL REFLECTED CEILING PLAN - DEMO

SHEET NO:

M-1.0

CALCULATION FOR INDIRECT VENTING EQUIPMENT

- PER 2019 CMC, SECTION 701.4.1, MIN. REQUIRED VOLUME: 50-cu.ft. / 1,000-Btu/h.
- TOTAL Btu/h OF INDIRECT VENTING EQUIPMENT PROPOSED: 21,500-Btu/h X 4 = 86,000-Btu/h.
- MIN. REQUIRED ROOM VOLUME: 86,000-Btu/h X (50-cu.ft. / 1,000-Btu/h) = 4,300-cu.ft.
- ROOM VOLUME = 2,000- sq.ft. X 12-ft = 24,000-cu.ft. > 4,300-cu.ft. ==> OK

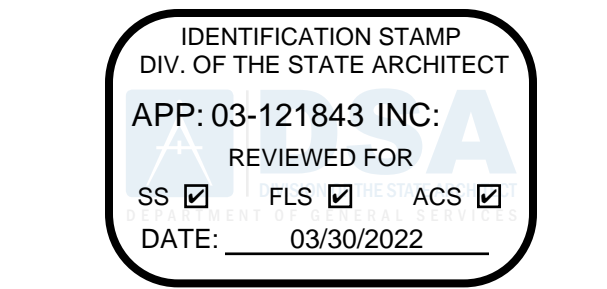
CHECK FOR MINIMUM VENTILATION REQUIREMENT PER FACTORY INSTALLATION REQUIREMENT:

- PER FACTORY INSTALLATION MANUAL, MIN. VENTILATION: 4-cfm/1,000-Btu/h.
- TOTAL MIN. VENTILATION RATE = 4-cfm/1,000-Btu/h X 86,000-Btu/h = 344-cfm.
- PROVIDED VENTILATION RATE BY EF-02 = 3,000-cfm > 344-cfm ==> OK

SHEET NOTES:

- INDIRECT VENTED GAS INFRARED HEATER SUSPENDED FROM CEILING. SEE EQUIPMENT SCHEDULE FOR DETAILED REQUIREMENTS AND DETAIL 7/ M-0.3 FOR CLEARANCE REQUIREMENTS.
- OUTLINE OF RTU-01 FOOTPRINT ON ROOF SHOWN FOR REFERENCE ONLY.
- 12"X 18" SA DOWN FROM ROOF AND CONNECTED TO (N)24"X24"X24"(H) SA PLENUM WITH 1" ACOUSTICAL INTERNAL LINING.
- 25"X 10" RA DOWN FROM ROOF AND CONNECTED TO (N)32"X18"X24"(H) RA PLENUM WITH 1" ACOUSTICAL INTERNAL LINING.
- 24X24 EA DOWN FROM EF-02 AND TERMINATED AT 12" BELOW ROOF WITH FACTORY BACK-DRAFT DAMPER, SEE EQUIPMENT SCHEDULE OF EF-02 FOR DETAILS.
- CEILING MOUNTED EXHAUST FAN. SEE EQUIPMENT SCHEDULE FOR DETAILS.
- PROVIDE (N)24/7 PROGRAMMABLE THERMOSTAT WITH PLASTIC VENTILATED LOCKABLE BOX. TOP OF THERMOSTAT SHALL BE SET AT 48° A.F.F.. CONFIRM LOCATION W/ ARCHITECT AND OWNER PRIOR TO INSTALL.
- PROVIDE 1/2" UNDERCUT DOOR WAY FOR TRANSFER AIR.
- PROVIDE FACTORY TEMPERATURE CONTROL UNIT WITH VOLTAGE TRANSFORMER FOR HEATER. SEE EQUIPMENT SCHEDULE FOR DETAILS.
- CONTRACTOR TO VERIFY EXACT SIZE OF FILTER AND PROVIDE MERV-13 MATCH SIZED FILTER.
- (E) 36X24 TRANSFER AIR GRILLE AT 6" AFF TO REMAIN FOR RELIEF AIR.
- PROVIDE NEW 42X20 MA GRILLE WITH TRANSITION NEEDED TO (E) 38X20 MA DUCT PER PLAN.
- PROVIDE MIN. R-6 EXTERNAL INSULATION TO ALL EXPOSED SUPPLY AND RETURN DUCTWORK TO MEET REQUIREMENT OF SCHOOL DISTRICT. TYP. OF ALL.
- ALL DUCT JOINTS OF NEW DUCTWORK SYSTEM SHALL BE SEALED WITH DUCT SEALER TO AIRTIGHT AND PROVIDE PRESSURE TEST TO CHECK LEAKAGE. TYPICAL OF ALL.

DSA APPLICATION: A# 03-121843



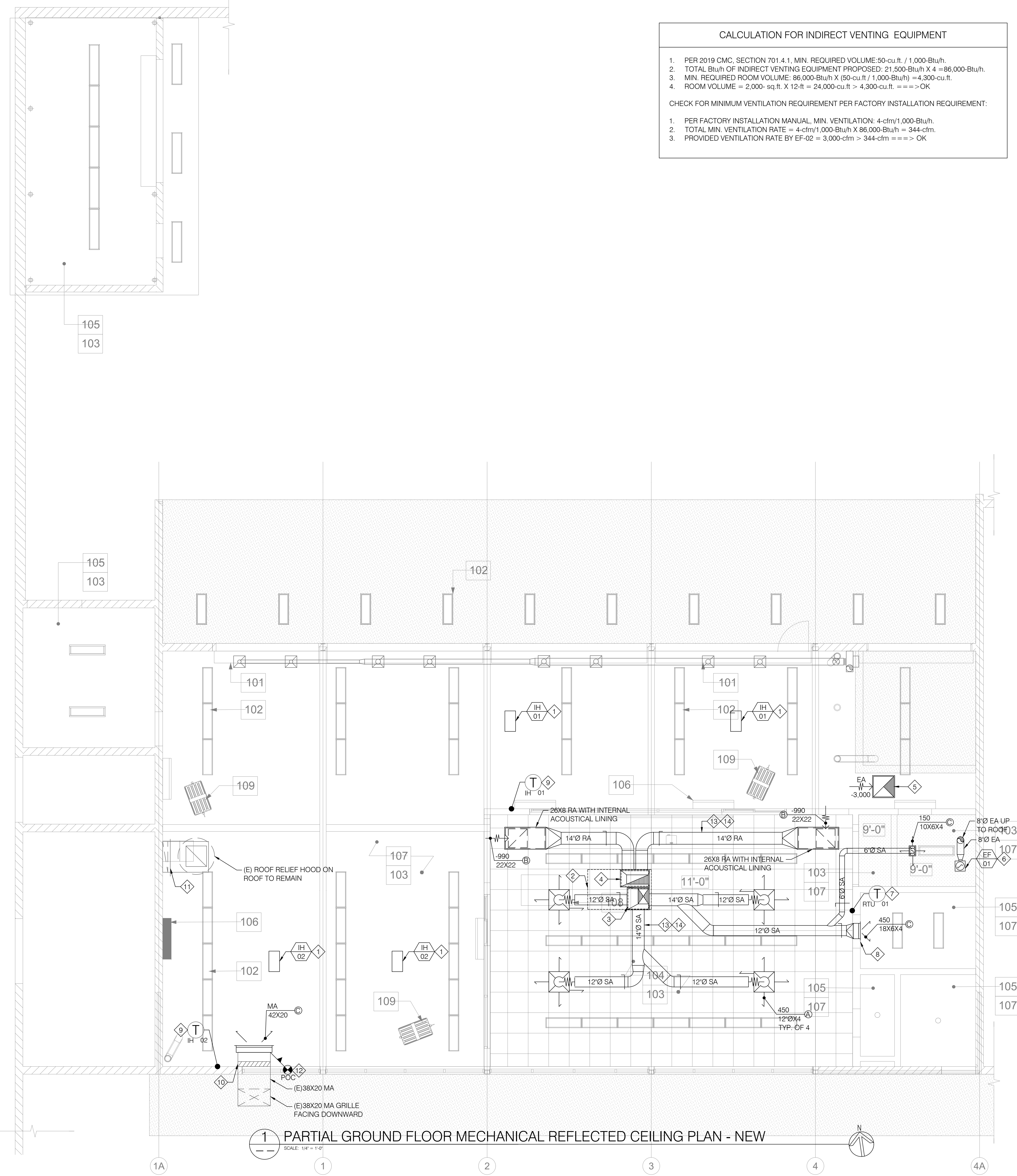
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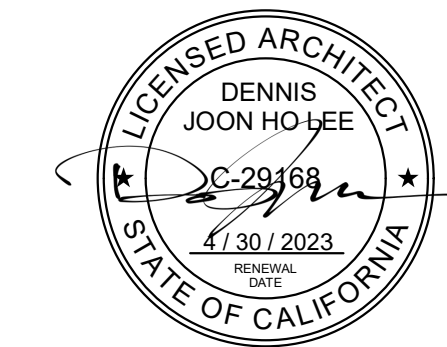
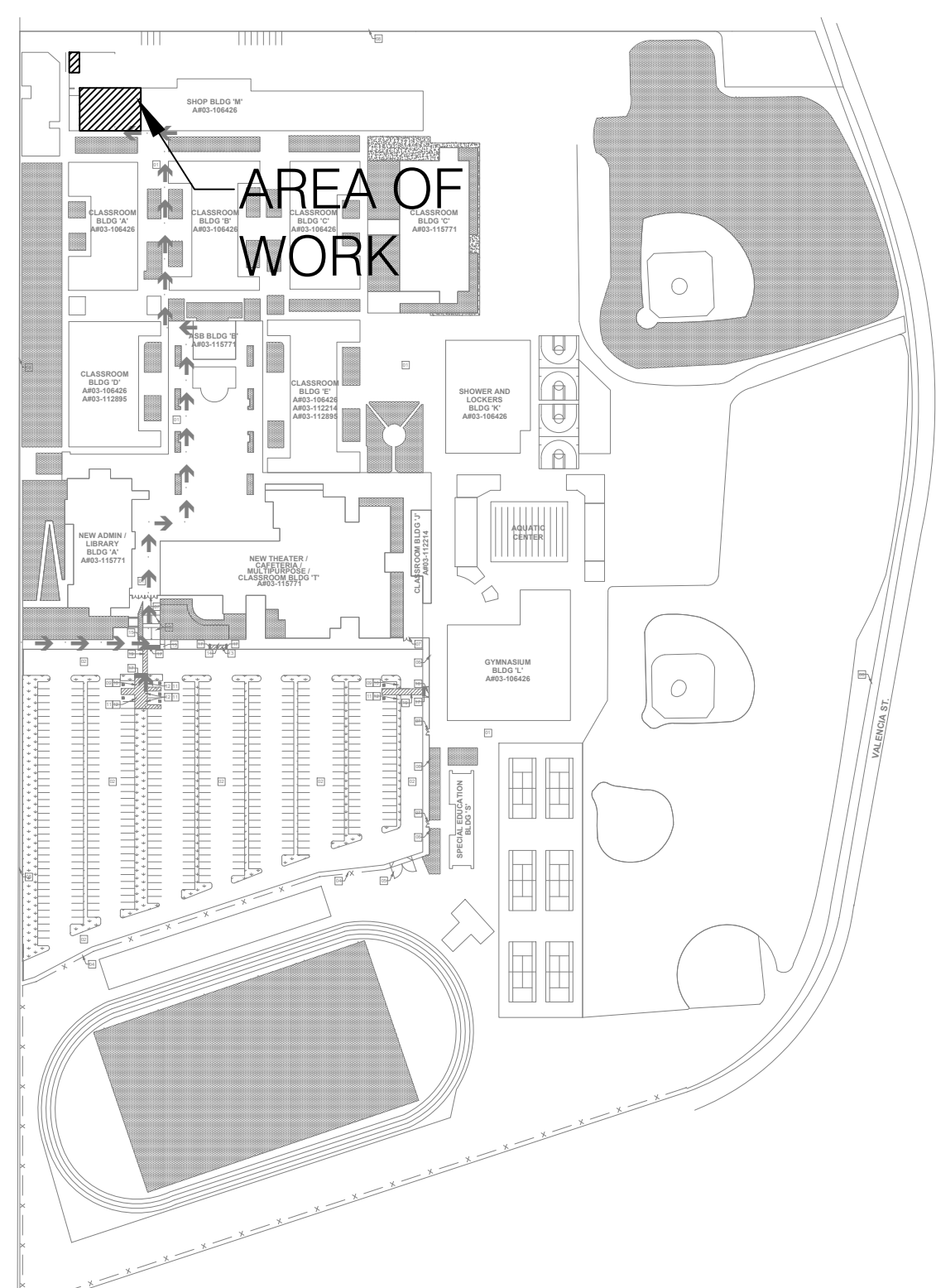
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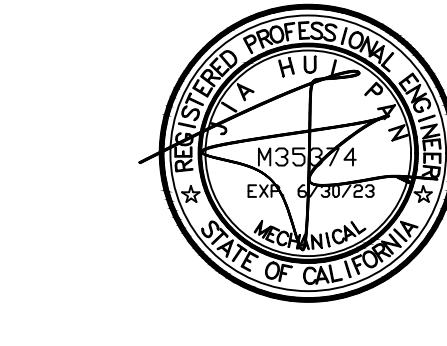


1 PARTIAL GROUND FLOOR MECHANICAL REFLECTED CEILING PLAN - NEW
 SCALE: 1/4" = 1'-0"

KEY PLAN



JHP Engineering and Design Services Inc.
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PROJECT:
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SUBMITTALS HISTORY:
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 PERMIT SET 08/18/2021

PROJECT NO: 20072
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CHECKED BY: JP
SHEET TITLE:

PARTIAL GROUND FL. MECHANICAL REFLECTED CEILING PLAN - NEW

SHEET NO:

M-1.1



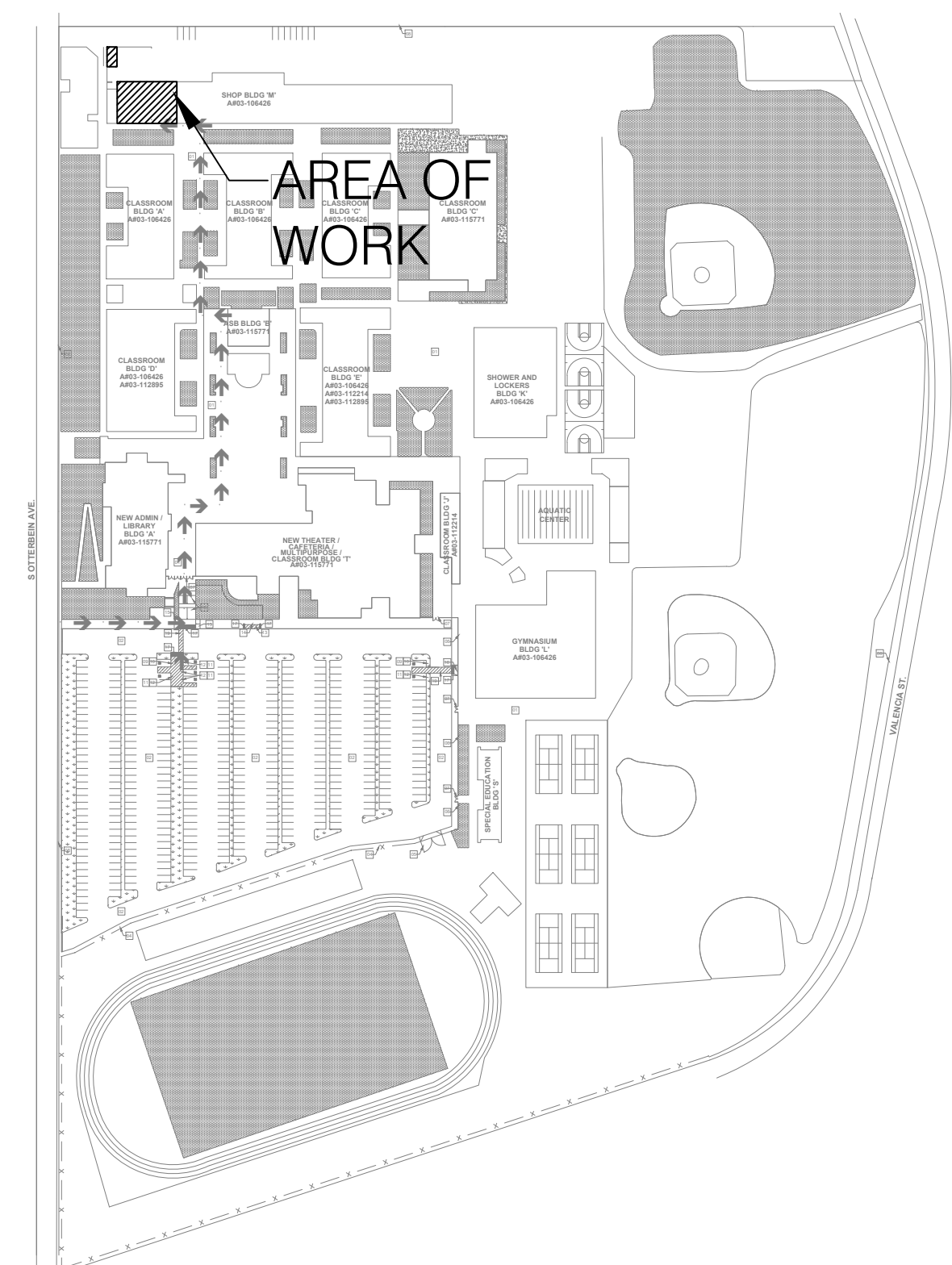
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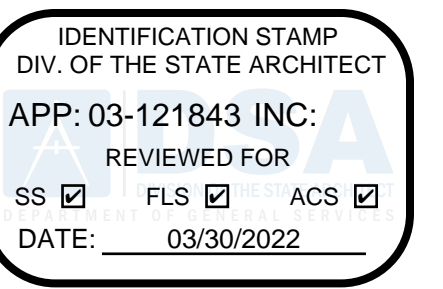
SHEET NOTES:

1. EXISTING ROOF RELIEF HOOD TO REMAIN.
2. DEMOLISH AND REMOVE EXISTING FLUE FOR DUCT HEATERS. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING ROOF OPENING WITH NEW WATERPROOFING.
3. DEMOLISH AND REMOVE EXISTING RESTROOM EXHAUST OUTLET. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING ROOF OPENING WITH NEW WATERPROOFING.
4. DEMOLISH AND REMOVE EXISTING AUTO SHOP EXHAUST OUTLET. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING ROOF OPENING WITH NEW WATERPROOFING.
5. DEMOLISH AND REMOVE EXISTING EXHAUST FAN ON ROOF. COORDINATE WITH GC FOR MODIFICATION OF EXISTING ROOF CURB/OPENING FOR NEW EXHAUST FAN ROOF CURB. SEE M-1.1 AND EQUIPMENT SCHEDULE FOR DETAILS OF ROOF CURB OPENING.

KEY PLAN



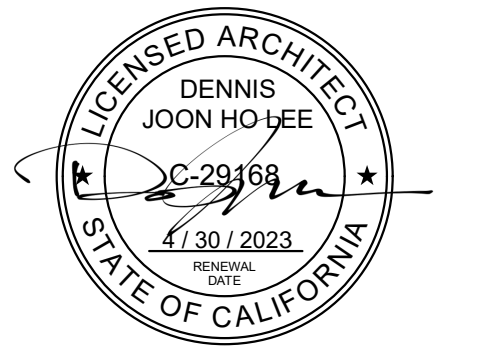
DSA APPLICATION: A# 03-121843



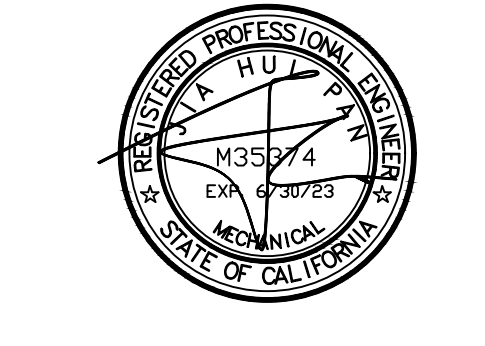
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PARTIAL ROOF MECHANICAL PLAN - DEMO

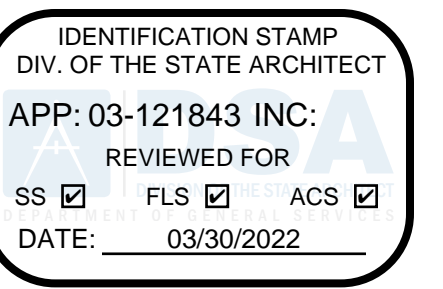
SHEET NO:

M-2.0

SHEET NOTES:

- 1 NEW PACKAGED ROOFTOP HEAT PUMP UNIT TO BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR. INSTALL UNIT TO MAINTAIN ALL MANUFACTURE CLEARANCE REQUIREMENTS. SEE SCHEDULE AND PLAN FOR DETAILED REQUIREMENTS.
- 2 MAINTAIN MIN. 10'-0" CLEARANCE FROM MECHANICAL OUTSIDE AIR INTAKE TO BUILDING EXHAUST AND PLUMBING VENT.
- 3 8"Ø BATHROOM EXHAUST TERMINATED ON ROOF WITH WEATHER CAP. MAINTAIN MIN. 3" CLEARANCE FROM EXHAUST FAN OUTLETS TO PROPERTY LINES.
- 4 EXISTING ROOF RELIEF HOOD TO REMAIN.
- 5 ROOF MOUNTED EXHAUST FAN MOUNTED ON FACTORY ROOF CURB. COORDINATE WITH GC FOR NEW ROOF OPENING. ALSO SEE EQUIPMENT SCHEDULE FOR DETAILED REQUIREMENT.

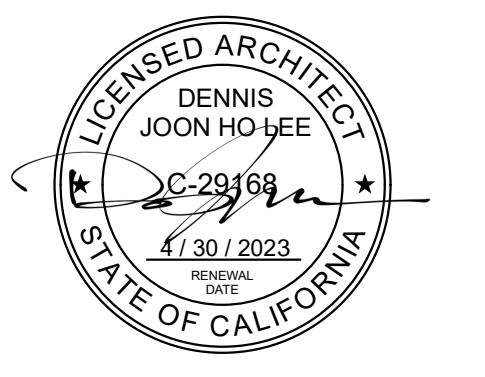
DSA APPLICATION: A# 03-121843



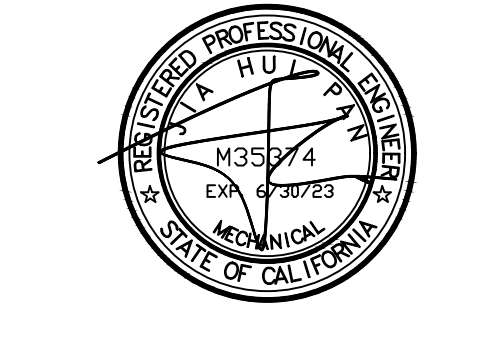
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 NOTES



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PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748

CLIENT:
 ROWLAND UNIFIED SCHOOL DISTRICT
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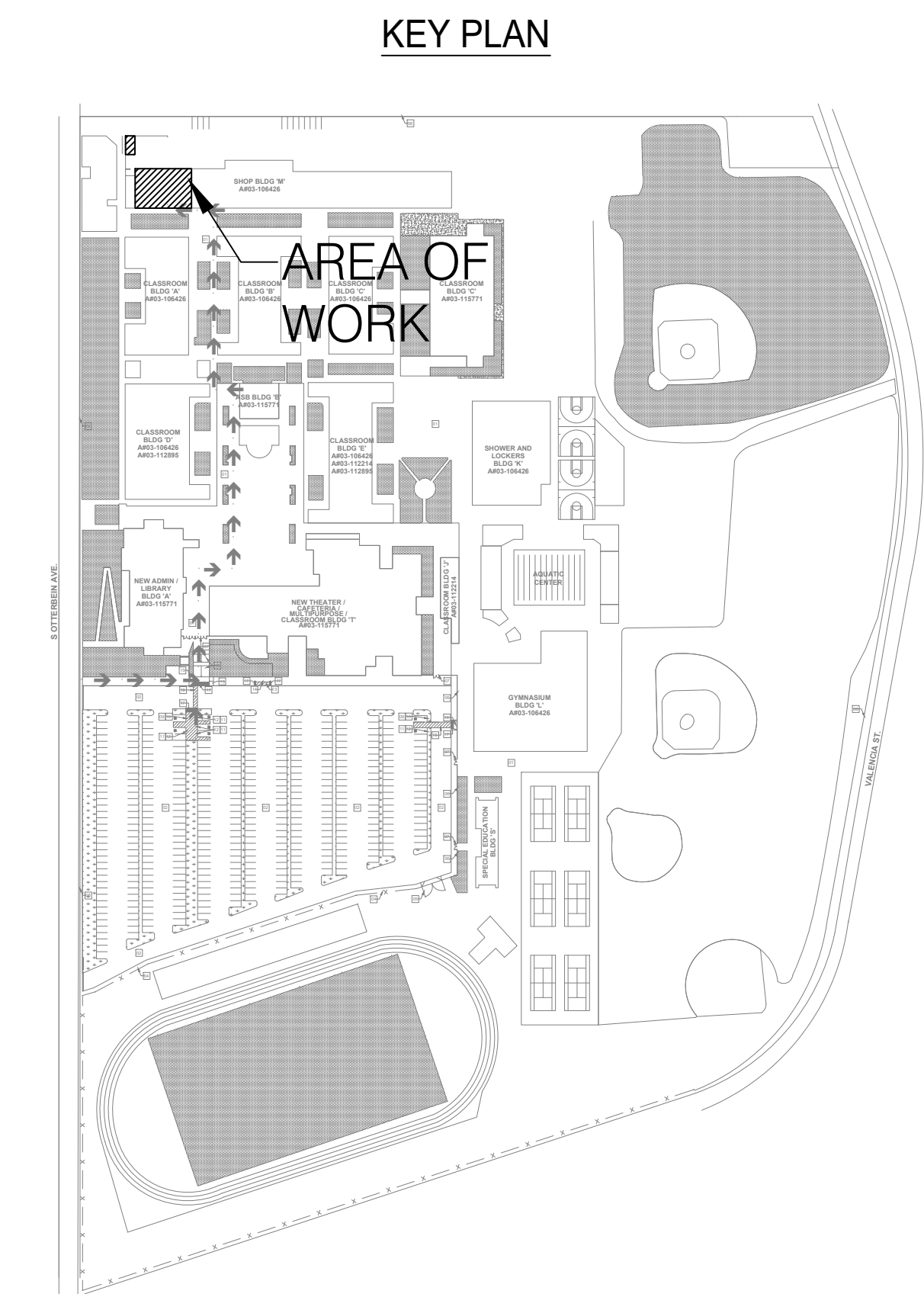
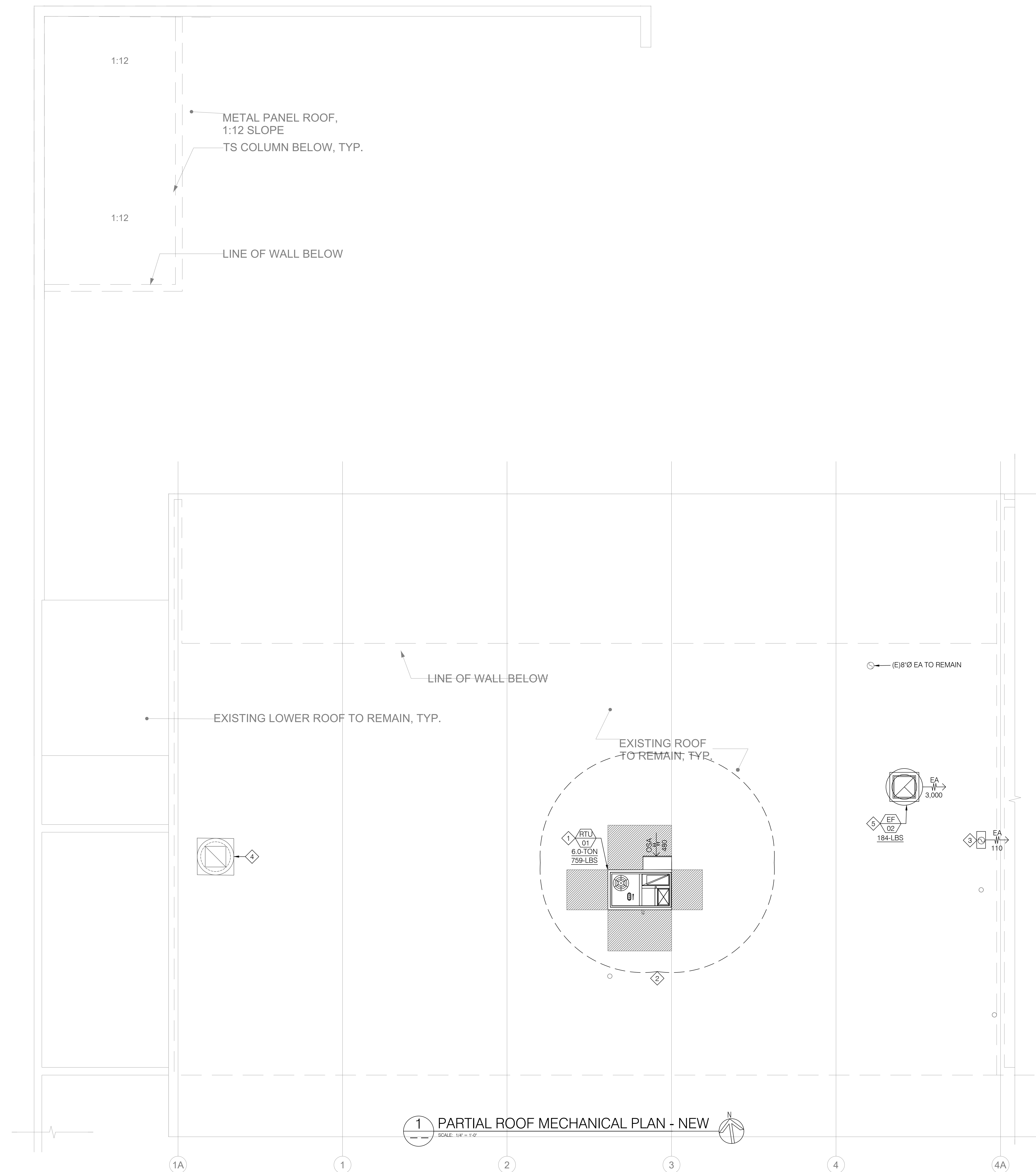
SUBMITTALS REVISIONS:
 PERMIT REVIEW SET 04/09/2021
 PERMIT SET 08/18/2021

PROJECT NO: 20072
SCALE: AS SHOWN
DATE: 9/22/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE:

PARTIAL ROOF MECHANICAL PLAN - NEW

SHEET NO:

M-2.1



1 PARTIAL ROOF MECHANICAL PLAN - NEW
 SCALE: 1/4" = 1'-0"

BIMcloud.COM - CONFORMANCE - BIMcloud Basic for ARCHICAD 25 (2021) E. RUSO - Rowland High School - Wednesday, September 22, 2021 4:28 PM

GENERAL NOTES	
1.	CONTRACTOR SHALL VISIT JOB SITE TO VERIFY FIELD CONDITION AGAINST CONSTRUCTION PLAN AND SPECIFICATION. IDENTIFY POSSIBLE CONFLICT AND DISCREPANCY BETWEEN PLAN AND SITE CONDITION, AND BRING TO OWNER'S AND ENGINEERS ATTENTION PRIOR TO ENTER CONTRACT.
2.	SUBMISSION OF A CONTRACT SHALL BE CONSTRUCTED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTION OF THE EXISTING BUILDING, EQUIPMENT, SYSTEMS, SITE CONSTRAINTS, ETC. WHICH MAY AFFECT THE ASSOCIATED WORK SCOPE UNDER THIS CONTRACT, AND THE ACCESS TO SUCH SPACES, HAVE ALL BEEN MADE AND THAT THE CONTRACTOR IS FULLY AWARE OF WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF WORK. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT, OR MATERIAL REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN DURING SUCH EXAMINATIONS.
3.	BY ENTERING CONTACT OF CONSTRUCTION, WHETHER IT IS SHOWN OR NOT SHOWN ON THIS PLAN, CONTRACTOR IS FULLY RESPONSIBLE TO COMPLETE WORK WITH MEETING ALL APPLICABLE CODES, LAWS, AND REGULATIONS GOVERNING ANY PORTION OF THE WORK SCOPE ON PLAN AND SPECIFICATIONS PRIOR TO SUBMITTING A PROPOSAL. CONTRACTOR SHALL FULLY UNDERSTAND AND COVER ALL COSTS WORK SCOPE AND MATERIALS TO MEET ALL APPLICABLE CODES, LAWS, AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR.
4.	CONTRACTOR IS TO REVIEW PLANS OF OTHER DISCIPLINES AND COORDINATE WITH THE WORK OF OTHER TRADES PRIOR TO INSTALLATION TO AVOID ANY CONFLICT. NO COST SHALL BE INCURRED ON CONSTRUCTABILITY ISSUE DUE TO LACK OF COORDINATION.
5.	ALL WORK SHOWN ON PLAN ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEM AND WORK. INFORMATION ON PLAN SHALL NOT BE USED TO DETERMINE EXACT LOCATION OF INSTALLATION. WHERE INSTALLATION REQUIRES EXACT MEASUREMENTS AND COORDINATION WITH WORKS OF OTHER TRADE, CONTRACTOR SHALL PREFORM ALL REQUIRED WORK AND PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR WORK DONE WITH DEVIATIONS IN LOCATION AND METHOD TO AVOID OBSTRUCTIONS AND CONFLICT OF OTHER TRADES AND EXISTING UTILIZES OF BASE BUILDING.
6.	CONTRACTOR SHALL SUBMIT SPECIFICATIONS OF ALL THE MATERIALS AND EQUIPMENT TO BE USED ALONG WITH SHOP DRAWING WHERE REQUIRES IN SPECIFICATION FOR APPROVAL PRIOR TO ORDER.
7.	ALL NEW WORK CONNECTING TO EXISTING BASE BUILDING UTILIZES SHALL BE FULLY COORDINATED WITH REPRESENTATIVE OF OWNERSHIP TO RESULT MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY UTILITY SHUT-DOWN TO EXISTING BUILDING SERVICE SHALL BE APPROVED BY OWNERSHIP WITH WRITTEN CONSENT OF BUILDING OWNER AND SHALL INCURRED NO ADDITIONAL CHARGES. FOLLOW ALL REQUIRED CLEANING PROCEDURES AND CONNECTION REQUIREMENT PRIOR TO ESTABLISH SERVICE AFTER CONNECTION. WHERE CONTINUOUS OPERATION OF EXISTING BUILDING SERVICES ARE REQUIRED, PROVIDE WORKMANSHIP AND MATERIAL FOR ISOLATION BETWEEN BUILDING AND PROJECT SPACE, RESTORE BUILDING SERVICE IMMEDIATELY WITH MAINTAINING ORIGINAL OPERATING CONDITION.
8.	CONTRACTOR SHALL STORE ALL EQUIPMENT AND MATERIAL IN A ORGANIZED AND CLEANED SPACE AT ALL TIME TO PREVENT FROM DAMAGING AND DETERIORATION PRIOR TO INSTALLATION. CONTRACTOR SHALL KEEP ALL PART OF THE CONSTRUCTION AREA AND ASSOCIATED ACCESSES CLEAN AND FREE OF DEBRIS RESULTING FROM EXECUTION OF WORK.
9.	ALL LOCATION OF EXISTING UTILITIES ARE SHOWN BASED ON RECORD DRAWING OR INFORMATION PROVIDED BY SURVEYOR OR BASE BUILDING. CONTRACTOR IS RESPONSIBLE TO VERIFY EXACT LOCATION, SIZE, CONDITION, MATERIAL, AND INVERT AS APPLICABLE TO CONFIRM CONSTRUCTABILITY PRIOR TO INSTALL.
10.	ALL EQUIPMENT INSTALLED SHALL BE PROVIDED WITH ACCESS AND CLEARANCES MEETING CODE REQUIREMENT AND REQUIREMENTS OF FACTORY INSTALLATION GUIDELINES FOR MAINTENANCE. WHERE ACCESS SHALL BE PROVIDED FOR OPERATION, INSPECTION, TESTING, BALANCING, MAINTENANCE, OR CODE COMPLIANCE, WHETHER SHOWN OR NOT SHOWN ON ARCHITECTURAL PLAN, CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FOR PROVISION OF SUCH ACCESS.
11.	ANY INVASIVE CONSTRUCTION, SUCH AS CORE-DRILLING, CUTTING, BORING, OPENING, TO EXISTING BUILDING FLOOR OR WALL, STRUCTURAL OR NON-STRUCTURAL RELATED, SHALL BE SUBJECTED TO WRITTEN APPROVAL BY REPRESENTATIVE OR OWNERSHIP OF BASE BUILDING. WHERE REQUIRED BY OWNER, PROVIDE SHOP DRAWING WITH DETAILED MEANS AND METHODS WITH DIMENSIONAL RESULTS OF X-RAY SCANNING AS EVIDENCE TO ENSURE NO DAMAGE WILL CAUSE TO EXISTING BUILDING STRUCTURE OR UTILITY PRIOR TO PERFORM SUCH WORK. NO CONSTRUCTION SHALL BE DONE IN RESULTING OF ANY DAMAGING OR DERATING OF BUILDING STRUCTURE INTEGRITY AND UTILITY SERVICEABILITY.
12.	ANY OPENING MADE TO EXISTING BUILDING SHALL BE SUPPORTED, PATCHED, AND SEALED TO MEET ALL SPECIFICATION OF ORIGINAL CONSTRUCTION. ALL PENETRATION TO RATED ASSEMBLY SHALL BE PROTECTED BY UL LISTED FIRM AND/OR SMOKE PROTECTION ASSEMBLY TO MAINTAIN ORIGINAL ASSEMBLY FIRE AND SMOKE RATING.
13.	CONTRACTOR SHALL PROVIDE INSURANCE POLICY IN ACCORDANCE TO BUILDING OWNERS AND PROJECT OWNERS REQUIREMENTS INCLUDING A HOLD HARMLESS CAUSE FOR OWNER AND ENGINEER ON RECORD.
14.	FOR THE USE OF EQUIPMENT OR MATERIAL THAT ARE DIFFERENT FROM SCHEDULES OR SPECIFICATIONS, CONTRACTOR IS RESPONSIBLE TO PROVIDE, INCLUDING BUT NOT LIMITED TO, SPECIFICATION, CALCULATION, ENGINEERING, COST DIFFERENCE, ETC. FOR APPROVAL OF EQUAL AND OWNERS APPROVAL.
15.	ALL WORK DONE SHALL BE GUARANTEED FOR A PERIOD OF TWO YEARS FROM DATE OF ACCEPTANCE OF WORK.
16.	PRIOR TO FINAL ACCEPTANCE BY OWNER OR REPRESENTATIVE OF OWNER, CONTRACTOR IS RESPONSIBLE TO TEST, ADJUST, AND BALANCE ALL ASSOCIATED EQUIPMENT AND SYSTEM WITHIN SCOPE WITH PROVISIONS OF REPORTS WHERE REQUIRED IN SPECIFICATIONS TO DEMONSTRATE THAT ALL REQUIREMENTS OF PLANS AND SPECIFICATIONS ARE FULLY MET AND ALL APPLICABLE CODES, LAWS, AND REGULATIONS ARE FULLY COMPLIED.

PLUMBING GENERAL NOTES	
1.	PROVIDE ISOLATED COUPLINGS AND/OR UNIONS AT POINTS OF CONNECTION BETWEEN COPPER, STEEL AND BRASS PIPING.
2.	ALL WATER PIPING SYSTEMS AND DRAINAGE PIPING SYSTEMS, INCLUDING SUPPLY, WASTE AND DRAIN SHALL BE INSTALLED WITH VIBRATION ISOLATORS AND SHALL BE ISOLATED FROM ANY STRUCTURAL MEMBERS, WALL SECTIONS OR OTHER MATERIALS THAT COULD TRANSMIT SOUND TO THE OCCUPIED AREAS. ALL HANGERS, STRAPS, BRACKETS, AND SUPPORTS SHALL HAVE ACOUSTICAL COMPONENTS OR COMBINED NEOPRENE AND PLASTIC FOAM BY TECH SPECIALTIES, DIVISION OF SPECIALTY PRODUCTS CO. TO ISOLATE COMPLETE PIPE CONTACT AREA. ALL ISOLATION MATERIAL SHALL HAVE A MINIMUM THICKNESS OF 1/2". INSTALL ALL COMPONENTS AS PER MANUFACTURER'S INSTRUCTIONS.
3.	INSTALL ALL CLEAN-OUTS WHERE REQUIRED BY ORDINANCES, AT ENDS OF HOUSE DRAINS, AT ALL CHANGES IN DIRECTIONS, IN ALL STRAIGHT RUNS AT 100 FOOT INTERVALS, WHERE HORIZONTAL MAINS CHANGE SIZE, AND AT ALL ENDS OF ALL BRANCH PIPES WHICH ARE 5' OR OVER IN LENGTH.
4.	PLUMBING FIXTURES SHALL BE COMPLETED WITH ALL ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION.
5.	SELECTION OF FAUCETS AND FITTINGS SHALL AVOID THE TYPE WITH POTENTIAL FOR LEAD CONTAMINATION.
6.	INSTALL STOP VALVES ON HOT AND COLD WATER SUPPLIES TO EACH FIXTURE.
7.	ALL FLOOR DRAIN MUST HAVE 1/2" COLD WATER LINE CONNECTED TO TRAP PRIMER. ALL UNDERGROUND COLD WATER LINE SHALL BE ASTM TYPE-K HARD DRAWN COOPER INSTALLED WITH CONTINUOUS SLOPE TOWARD FLOOR DRAIN.
8.	MATERIALS, METHODS AND LOCATIONS OF SERVICE MAINS CONNECTING THE NEW CONSTRUCTION TO ALL NEW AND EXISTING SERVICES SHALL BE IN STRICT ACCORDANCE WITH RULES, REGULATIONS, CODES AND REQUIREMENTS OF ALL AGENCIES HAVING JURISDICTION OVER THIS INSTALLATION. LOCATE ALL EXISTING STUBS TO BE CONNECTED TO IN THIS CONTRACT BEFORE WORK IS STARTED. COORDINATE LOCATION OF WATER AND SEWER CONNECTIONS WITH BUILDING ENGINEER.
9.	CAULK AIRTIGHT ALL PLUMBING PENETRATIONS IN SOUND RATED WALLS AND FLOOR/CEILINGS. SEAL PENETRATIONS OF CONCRETE FLOORS WITH CEMENT GROUT. MINIMIZE PENETRATIONS THROUGH SOUND RATED CONSTRUCTION.
10.	CONTRACTOR SHALL INSTALL ALL PLUMBING FIXTURES AND TRIM AS SHOWN ON THE ARCHITECTURAL PLANS. ROUGH-IN FOR ALL FIXTURES SHALL BE EXACTLY TO MEASUREMENTS FURNISHED BY FIXTURE MANUFACTURER. ALL EXPOSED PARTS TO BE CHROMIUM PLATED UNLESS SPECIFIED OTHERWISE.
11.	KEEP ROUGH-IN CUTS WITHIN THE PLATE LINES AND DO NOT CUT COMPLETELY THROUGH PLATES IN SOUND-RATED WALLS. DRILL OR SAW NEAT ROUND HOLES FOR ALL PIPING. SIZE APPROXIMATELY 1/2 INCH LARGER THAN THE PIPE DIAMETER.
12.	PIPE LINES SHALL BE INSTALLED FREE FROM TRAPS AND AIR POCKETS AND TRUE TO LINE AND GRADE WITH SUITABLE SUPPORTS PROPERLY SPACED. PIPING SHALL BE INSTALLED WITHOUT UNDUE STRESSES AND WITH PROVISION FOR EXPANSION AND CONTRACTIONS.
13.	HORIZONTAL LINES SHALL HAVE HANGERS OR SUPPORTS SPACED AS FOLLOWS: A. CAST IRON PIPE - 5' CENTERS B. STEEL PIPE - 10' CENTERS C. COOPER TUBING - 5' CENTERS FOR 1-1/2" AND SMALLER, 10' CENTERS FOR 2" AND LARGER
14.	PIPING SHALL BE NEW AND FREE FROM FOREIGN SUBSTANCES. REAM OUT ALL BURRS FORMED IN CUTTING PIPE. THREADS SHALL BE CUT ACCURATELY AND NOT OVER TWO THREADS SHALL SHOW BEYOND THE FITTING. FRICTION WRENCHES SHALL BE USED WITH PLATED POLISHED, OR SOFT METAL PIPING.
15.	CHANGES IN PIPE SIZE SHALL BE MADE WITH REDUCING FITTINGS, AND BUSHING WILL NOT BE PERMITTED.
16.	UNION CONNECTION SHALL BE INSTALLED DOWNSTREAM OF ALL VALVES, AT ALL EQUIPMENT CONNECTIONS AND AT OTHER POINTS AS REQUIRED.
17.	CUTTING OR BORING OF HOLES THROUGH STRUCTURAL MEMBERS SHALL BE DONE ONLY WHEN IT IS IMPOSSIBLE TO ROUTE PIPING IN ANOTHER MANNER. IF CUTTING OR BORING IS NECESSARY IT SHALL BE ACCOMPLISHED ONLY BY WRITTEN APPROVAL FROM THE ARCHITECT, STRUCTURAL AND BUILDING ENGINEER, AND ALSO INCLUDED IN HIS BIDS. WORK SHALL COMPLY WITH CBC SECTIONS 2320A.8.9 AND 2320A.11.10.
18.	DO NOT ALLOW THE PIPING, VALVES OR CONNECTORS TO FORM A RIGID CONNECTION WITH THE STRUCTURE OR OTHER PIPES. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS OR CONNECTED EQUIPMENT.
19.	PROVIDE SIOUX CHIEF WATER HAMMER ARRESTER FOR EACH PLUMBING FIXTURE BANK OR 18" HIGH AIR CHAMBER FOR EACH PLUMBING FIXTURE. SIZE OF WATER HAMMER ARRESTER SHALL BE SUFFICIENT TO HANDLE THE REQUIRED FIXTURE UNIT AT EACH BANK.
20.	THE DOMESTIC WATER SUPPLY AND DISTRIBUTION SYSTEM WITHIN THE AREA OF WORK SHALL BE STERILIZED WITH CHLORINE IN SOLUTION IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION PUBLICATION C-601-1954.
21.	PRESSURE TEST ENTIRE HOT AND COLD PIPING AND DRAINAGE SYSTEM FROM CAPPED CONNECTIONS, TO AND INCLUDING VENTS.
22.	HOT WATER PIPING TO BE INSULATED PER CODE.
23.	PROVIDE ACCESS PANEL FOR ALL STUB OUTS ENDED INSIDE CEILING OR WALL.
24.	THREADED FITTINGS: ANSI/ASME B16.3 BLACK MALLEABLE IRON.
25.	SOCKET-WELDING FITTINGS: ANSI B16.11 FORGED STEEL.
27.	UNIONS: ASME/ANSI B16.39 BLACK MALLEABLE IRON.
28.	FLANGES AND FLANGED FITTINGS: ASME/ANSI B16.5 STEEL FLANGES OR CONVOLUTED STEEL FLANGES. FLANGE FACES SHALL HAVE INTEGRAL GROOVES OF RECTANGULAR CROSS SECTION WHICH AFFORD CONTAINMENT FOR SELF-ENERGIZING GASKET MATERIAL.
29.	THREADED JOINTS: WHERE POSSIBLE USE PIPE WITH FACTORY-CUT THREADS, OTHERWISE CUT PIPE LENGTHS ACCORDINGLY WITH ANSI/ASME B1.20.1. PROVIDE THREADS SMOOTH, CLEAN, AND FULL-CUT. APPLY ANTI-SEIZE PASTE OR TAPE TO MALE THREADS PORTION. WORK PIPING INTO PLACE WITHOUT SPRINGING OR FORCING. BACKING OFF TO PERMIT ALIGNMENT OF THREADED JOINTS WILL NOT BE PERMITTED. ENGAGE THREADS SO THAT NOT MORE THAN TWO THREADS REMAIN EXPOSED. USE UNIONS FOR CONNECTIONS TO VALVES, METERS FOR WHICH A MEANS OF DISCONNECTION IS NOT OTHERWISE PROVIDED.
30.	WELDED JOINTS: WELD BY THE SHIELDED METAL-ARC PROCESS, USING COVERED ELECTRODES AND IN ACCORDANCE WITH PROCEDURES ESTABLISHED AND QUALIFIED IN ACCORDANCE WITH ASME B31.8.
31.	FLANGED JOINTS: USE FLANGED JOINTS FOR CONNECTING WELDED JOINT PIPE AND FITTINGS TO VALVES TO PROVIDE FOR DISCONNECTION. INSTALL JOINTS SO THAT FLANGE FACES BEAR UNIFORMLY ON GASKETS. ENGAGE BOLTS SO THAT THERE IF COMPLETE THREADING THROUGH THE NUTS AND TIGHTEN SO THAT BOLTS ARE UNIFORMLY STRESSED AND EQUALLY TORQUE.
32.	USE TEST PRESSURE OF 50 PSIG. DO NOT TEST UNTIL EVERY JOINT HAS SET AND COOLED AT LEAST 8 HOURS AT TEMPERATURES ABOVE 50 DEGREES F. TEST PIPING SYSTEM FOR AT LEAST 4 HOURS WITHOUT PRESSURE LOSS OR VISIBLE LEAKS.
33.	PLUMBING FIXTURE CONNECTION SIZE: SEE PLAN.
34.	ALL HOT WATER PIPE SHALL BE INSULATED WITH INSULATION PER 2019 TITLE 24 STANDARD. MINIMUM 1"-THICK INSULATION FOR PIPE LESS THAN 1"Ø AND MINIMUM 1/2"-THICK INSULATION FOR PIPE LARGER THAN OR EQUAL TO 1"Ø.

PLUMBING GENERAL NOTES	
35.	PRESSURE PIPING AND FITTING: A. DOMESTIC COLD AND HOT WATER (ABOVE GRADE): HARD DRAWN DEOXIDIZED WATER SERVICE TUBING CONFORMING TO ASTM B88, TYPE "L". PROVIDE 125 PSI FLANGE AT CHANGE OF MATERIAL LOCATIONS. B. DOMESTIC COLD AND HOT WATER (BELOW GRADE): HARD DRAWN DEOXIDIZED WATER SERVICE TUBING CONFORMING TO ASTM B88, TYPE TYPE "K". C. FITTINGS FOR COPPER WATER TUBING: ANSI B16.22 WROUGHT COPPER SOLDER-JOINT FITTING. D. TRAP PRIMER PIPING (UNDERGROUND): HARD DRAWN DEOXIDIZED WATER SERVICE TUBING CONFORMING TO ASTM B88, TYPE "K", WROUGHT COPPER FITTING AND BRAZED JOINT. E. HARRIS, ENGLHARD, OR EQUAL, BCUP FILLER MATERIAL FOR BRAZING OF COPPER FITTING JOINTS. BRAZE JOINTS FOR COLD WATER PIPING 2-1/2" AND LARGER. BRAZE JOINTS FOR HOT WATER PIPING 2-1/2" AND LARGER.
36.	SANITARY AND GREASE DRAINAGE PIPING AND FITTING: A. CAST IRON SOIL PIPE AND FITTINGS (ABOVE FLOOR): REQUIRED CISPI 301 & 310 WHICH COMPLIANCE WITH HUD UM 77A CAST IRON HUBLESS SOIL PIPE AND FITTING. ALL PIPE AND FITTINGS SHALL BE MARKED WITH CISPI'S COLLECTIVE TRADEMARK OR RECEIVE PRIOR APPROVAL BE THE ENGINEER OF RECORD. JOINTS FOR HUBLESS PIPE AND FITTINGS: CISPI 310 AND SHALL CONFORM TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND LOCAL CODE REQUIREMENTS. ANACO "HUSKY SD 4000, CLAMP-ALL 125, TYLER VB, MG COUPLINGS, OR EQUAL, COMPLY WITH FM 1680, CLASS 1. B. CAST IRON SOIL PIPE AND FITTINGS (BELOW SLAB): ASTM A74 STANDARD WEIGHT HUB AND SPIGOT PIPING AND FITTING. ALL PIPE AND FITTINGS SHALL BE MARKED WITH CISPI'S COLLECTIVE TRADEMARK OR RECEIVE PRIOR APPROVAL BE THE ENGINEER OF RECORD. JOINT FOR HUB AND SPIGOT PIPE AND FITTINGS: ASTM C-564 COMPRESSION GASKETS OR SHALL BE INSTALLED WITH LEAD AND OAKUM. C. COPPER DRAINAGE PIPING AND FITTINGS (ABOVE FLOOR): ASTM B306 DWV TYPE COPPER TUBING AND ANSI B16.23 CAST BRONZE SOLDER-JOINT DRAINAGE TYPE FITTING. PROVIDE MISSION, OR EQUAL, CISPI 310 ADAPTOR COUPLING WITH NEOPRENE GASKET AND STAINLESS STEEL SHIELD WITH TWO BANDS. D. CONDENSATE PIPING AND FITTINGS: ASTM B88 HARD DRAWN DEOXIDIZED, TYPE M COPPER TUBING WITH ANSI B16.22 WROUGHT COPPER WYES AND LONG RADIUS SOLDER-JOINT FITTINGS.
37.	NATURAL GAS PIPING AND FITTING: A. BELOW GRADE PIPING: PE 2406, POLYETHYLENE PIPING CONFORMING WITH ASTM D 2513, WITH SOCKET TYPE FITTINGS CONFORMING WITH ASTM D 2683, AND MINIMUM SDR 11. FOR 6" SIZE NATURAL GAS MAIN, USE BUTT FITTINGS WITH SDR 11. PROVIDE POLYETHYLENE TO SCH. 40 STEEL PIPE TRANSITION FITTING AND RISER AT EACH BUILDING PRIOR TO EXTENDING GAS PIPING ABOVE GROUND. PROVIDE 16 AWG COPPER TRACE WIRE OVER ENTIRE RUN OF PE PIPING AT 12 INCHES ABOVE PIPE. B. FOR ABOVE GRADE PIPING: ASTM A-53, SCHEDULE 40 BLACK STEEL PIPING WITH MALLEABLE IRON THREADED FITTING CONFORMING TO ANSI B16.3, AND SCHEDULE 40 STEEL FITTING FOR BUTT WELDING CONFORMING TO ASTM A234, OR ASME B16.9.
38.	ALL FIXTURES, EQUIPMENT, PIPING AND MATERIALS SHALL BE LISTED.
39.	ALL FAUCETS IN PUBLIC RESTROOMS SHALL BE SELF-CLOSING OR SELF-CLOSING METERING FAUCETS.
40.	PUBLIC LAVATORIES SHALL HAVE CONTROLS TO LIMIT THE WATER TEMPERATURE TO 105°F.
41.	WATER PIPE AND FITTINGS WITH A LEAD CONTENT WITH EXCEEDS 8% SHALL BE PROHIBITED IN SYSTEMS CONVEYING POTABLE WATER.
42.	ALL NATURAL GAS COOKING EQUIPMENT SHALL BE EQUIPPED WITH QUICK DISCONNECT GAS HOSE CONNECTION AND RESTRAINING CABLE ATTACHED TO THE EQUIPMENT.
43.	ALL PLUMBING FIXTURES AND FITTING SHALL MEET THE STANDARDS REFERENCED IN TABLE 1701.1 OF THE 2016 CPC CGBCS CHAPTER 6. CGBSC SECTION 5.303.6.
44.	ALL CLEAN-OUTS SHALL BE INSTALLED AS PER SEC. 707.0 & 719.0 OF LATEST CPC.
45.	WATER SUPPLY AND DRAIN PIPES UNDER ACCESSIBLE LAVATORIES AND SINKS SHALL BE INSULATED OR OTHERWISE BE CONFIGURED, TO PROTECT AGAINST CONTACT. PROTECTORS, INSULATORS, OR BOTH SHALL COMPLY WITH ASME A 112.18.9.
46.	ALL HOSE BIBBS AND FAUCETS CONNECTED TO NON-POTABLE WATER LINES SHALL BE POSTED "CAUTION: NON-POTABLE WATER, DO NOT DRINK".
47.	ALL NEW POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE ACCORDING TO SECTION 609.9(1-3) OF THE LATEST PLUMBING CODE.
SCOPE OF WORK	
<ul style="list-style-type: none"> PROVIDE PLUMBING SYSTEM DEMOLITION PER PLAN. FURNISH AND INSTALL PLUMBING FIXTURES AND ASSOCIATED COMPONENTS PER PLAN. FURNISH AND INSTALL NEW DOMESTIC WATER PIPING SYSTEM WITH ALL OTHER ASSOCIATED COMPONENTS PER PLAN. FURNISH AND INSTALL NEW WASTE AND VENT SYSTEM WITH ALL OTHER ASSOCIATED COMPONENT PER PLAN. FURNISH AND INSTALL NATURAL GAS PIPING SYSTEM AND ALL OTHER ASSOCIATED COMPONENTS PER PLAN. FURNISH AND INSTALL CONDENSATE PIPING SYSTEM AND ALL OTHER ASSOCIATED COMPONENTS PER PLAN. 	
DRAWING INDEX	
P-0.1	PLUMBING NOTES AND GENERAL INFORMATION
P-0.2	PLUMBING SCHEDULES, CALCULATION, AND TABLES
P-0.3	PLUMBING DETAILS
P-1.0	PARTIAL GROUND FLOOR DOMESTIC WATER PIPING PLAN - DEMO
P-1.1	PARTIAL GROUND FLOOR DOMESTIC WATER PIPING PLAN - NEW
P-2.0	PARTIAL GROUND FLOOR WASTE AND VENT PIPING PLAN - DEMO
P-2.1	PARTIAL GROUND FLOOR WASTE AND VENT PIPING PLAN - NEW
P-3.0	PARTIAL GROUND FLOOR NATURAL GAS AND COMPRESSED AIR PIPING PLAN - DEMO
P-3.1	PARTIAL GROUND FLOOR NATURAL GAS AND COMPRESSED AIR PIPING PLAN - NEW
P-4.0	PARTIAL ROOF PLUMBING PLAN
APPLICABLE CODE	
2019 CALIFORNIA BUILDING CODE 2019 CALIFORNIA MECHANICAL CODE 2019 CALIFORNIA PLUMBING CODE 2019 CALIFORNIA ENERGY CODE 2019 CALIFORNIA FIRE CODE 2019 NFPA 13 ALL AMENDMENTS AND SUPPLEMENTS TO ABOVE CODES ALL CITY OF ROWLAND HEIGHTS ORDINANCES AND AMENDMENTS TO ABOVE CODES	

PLUMBING SEISMIC ANCHORAGE BRACING AND SUPPORT NOTES			
MEP EQUIPMENT ANCHOORAGE NOTE			
ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS DESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30:			
<ol style="list-style-type: none"> ALL PERMANENT EQUIPMENT AND COMPONENTS. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220VOLT RECEPTACLES HAVING A FLEXIBLE CORD. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA. 			
THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRAVERSE AND LONGITUDINAL DIRECTIONS:			
<ol style="list-style-type: none"> COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL. 			
THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.			
PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE			
PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.			
THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.			
MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):			
MP □ MD □ PP <input checked="" type="checkbox"/> E □ - OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.			
MP □ MD □ PP □ E □ - OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) # _____.			
LEGENDS, SYMBOLS AND ABBREVIATIONS			
SYMBOL		DESCRIPTION	
	=====	EQUIPMENT TYPE	
	=====	EQUIPMENT NUMBER	
	=====	DETAIL DRAWING NUMBER	
	=====	DETAIL DRAWING PAGE	
	●	POC	POINT OF CONNECTION
	●	POD	POINT OF DISCONNECT
	•	--	PLUMBING FIXTURE CONNECTION
	=	CO	CLEAN OUT
	—	DN.	PIPE DOWN
	—	UP	PIPE UP
	➤	--	FLOW DIRECTION
	⌋	TP	TRAP PRIMER W/ WALL ACCESS PANEL
	⌋	SOV	SHUT-OFF VALVE
	⌋	CKV	CHECK VALVE
	⌋	GCK	GAS COCK
	⌋	FD	FLOOR DRAIN
	⌋	PR	PIPE REDUCER
	⌋	WCO	WALL CLEAN-OUT
	⌋	FCO	FLOOR CLEAN-OUT
LINE TYPE		ABBREV.	
	=====	(D)	PIPE TO BE REMOVED
	=====	(E)	EXISTING PIPE TO REMAIN
	— G —	G.	NATURAL GAS
	— HWS —	HWS	HOT WATER SUPPLY
	— HWR —	HWR	HOT WATER RETURN
	— CW —	CW	COLD WATER SUPPLY
	— SW —	SW	SANITARY WASTE
	— V —	V	VENT PIPE
	— CD —	CD	CONDENSATE DRAIN
	⌋	BFP	BACK-FLOW PREVENTER
ABBR.	DESCRIPTION	ABBR.	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	FR	FROM
BG	BELOW GRADE	GE	GREASE EXHAUST
BLDG	BUILDING	INS	INSULATION (THERMAL)
BSMT	BASEMENT	ICS	IN CEILING SPACE
CFF	CAP FOR FUTURE	NIC	NOT IN CONTRACT
CLG	CEILING	OSA	OUTSIDE AIR (FRESH AIR)
CSD	CEILING SUPPLY DIFFUSER	SA	SUPPLY AIR
EA	EXHAUST AIR	SAD	SEE ARCHITECTURAL DRAWING
DN	DOWN	SOV	SHUT-OFF VALVE
FA	FRESH AIR	SRR	SIDEWALL RETURN REGISTER
FL	FLOOR	UTR	UP THROUGH ROOF
FR	FROM	VTF	VENT THROUGH ROOF

DSA APPLICATION: # 03-121843

IDENTIFICATION STAMP
 DIV. OF THE STATE ARCHITECT
 APP: 03-121843 INC:
 REVIEWED FOR
 SS FLS ACS
 DATE: 03/30/2022

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 DENNIS JOON HO LEE
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PROJECT:
CITE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL
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 ROWLAND HEIGHTS CA 91748
 CLIENT:

ROWLAND UNIFIED SCHOOL DISTRICT
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 ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS:

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 CHECKED BY: JP
 SHEET TITLE:
PLUMBING GENERAL NOTES AND INFORMATION
 SHEET NO:

P-0.1

PLUMBING FIXTURE SCHEDULE			
TAG	FIXTURE	MAX. WATER USAGE	DESCRIPTION
WC (ADA) (WC-3)	WATER CLOSET, ADA	1.28 GAL./FLUSH	AMERICAN STANDARD MEDERA FLOWISE 16-1/2" HEIGHT ELONGATED FLUSHMETER TOILET. ADA COMPLIANT. HIGH EFFICIENCY, LOW CONSUMPTION. 1.1 TO 1.6 GPF. ELONGATED BOWL. TOILET SHALL HAVE OPTIONAL CERIONTEC CERAMIC GLAZE.
LAV (L-2)	LAVATORY, ADA	0.4 GPM	AMERICAN STANDARD LUCERNE WALL-HUNG LAVATORY. MODEL: 0355.012. SINGLE CENTER. ADA COMPLIANT. CONFIRM COLOR AND FINISH WITH ARCHITECT/OWNER PRIOR TO ORDER. CHICAGO FAUCETS NO. 3400-ABCP. SINK FAUCET FOR HOT AND COLD WATER, METERING, DECK-MOUNTED WITH 4" FIXED CENTERS, CHROME PLATED. INTEGRAL CAST BRASS SPOUT, 4-3/4" CENTER-TO-CENTER. 0.5 GPM (1.9 L/MIN) VANDAL-PROOF, PRESSURE COMPENSATING, ECONO-FLO. NON-AERATING SPRAY. MVP SELF-CLOSING, AUTO-TIMED METERING CARTRIDGE. ADJUSTABLE RUN TIME FROM 2 TO 15 SECONDS, OPENS WITH PUSH. 0.25 GALLON/CYCLE. 1/2" NPSM SUPPLY INLETS AND COUPLING NUT FOR 3/8" OR 1/2" FLEXIBLE RISER. PROVIDE THERMAL MIXING VALVE TO LIMIT HOT WATER AT NO HIGHER THAN 110°F.
125	EYE WASH	4.2 GPM	HAWS AXION MSR WHEELCHAIR ACCESSIBLE SURFACE MOUNT EYE/FACE WASH. MODEL: 7656WCSM.18 GAUGE TYPE 304 STAINLESS STEEL SURFACE-MOUNTED CABINET, AXION MSR EYE/FACE WASH HEAD, STAINLESS STEEL DRAIN PAN, THERMOSTATIC MIXING VALVE: MODEL TWBS. EWE LEAD-FREE AXION EMERGENCY TEMPERING VALVE THERMOSTATICALLY MIXES HOT AND COLD WATER TO PROVIDE A SAFE FLUID SUPPLY FOR EMERGENCY EYEWASH EQUIPMENT, WITH A FLOW RATE OF 12 GPM, INTEGRAL 4.2 GPM FLOW CONTROL, 1/2" NPT(M) INLET AND 2" NPT(F) DRAIN. ADA COMPLIANT.
126	WASHER	0.5 GPM	WASH-WARE. SEMI-CIRCULAR MODELS. ADA COMPLIANT. MODEL: 3424-ADA-2-H. 304 STAINLESS STEEL WITH SATIN FINISH BOWL AND SPRAYHEAD, INTEGRAL BACKSPASH AND SPRAYHEAD, HEAVY-DUTY S-CLIPS SECURELY ANCHOR THE BACKSPASH TO THE WALL. GALVANIZED STEEL PANELS, AND 304 STAINLESS STEEL PANEL WITH SATIN FINISH ON THE FRONT SIDE. ELECTRONIC SENSOR OPERATION INCLUDES INDIVIDUAL SOLENOID VALVES ACTIVATED BY INFRARED SENSORS WITH A LOW VOLTAGE TRANSFORMER. 0.5 GPM SPRAY VANDAL-RESISTANT SPRAY NOZZLES, ASSE 1070 COMPLIANT TEMPERATURE/PRESSURE BALANCING MIXING VALVE WITH INTEGRAL CHECKS AND STRAINERS. 1/2" OD X 4" TAILPIECE WASTE CONNECTION. COMPLETE WITH LIQUID/LOTION SOAP DISPENSER DV, SEMI-CIRCULAR, FOUR STATION 3424-ADA, SENSOR OPERATION -SO.

PLUMBING FIXTURE UNIT (FU) CALCULATION								
TAG	FIXTURE	TYPE	WATER		SANITARY WASTE			
			QTY	EACH	TOTAL	QTY	EACH	TOTAL
WC	WATER CLOSET		1	--	40.0	1	4.0	4.0
LAV	LAVATORY		1	1.0	1.0	1	2.0	2.0
125	EYE WASH		1	3.0	3.0	1	3.0	3.0
126	WASHER		1	1.0	1.0	1	2.0	2.0
TOTAL FU				45			11	

WATER SUPPLY SYSTEM:
(PER 2019 CPC TABLE 610.4, OVER 45 PSI)
DISTANCE TO MOST REMOTE FIXTURE = 75 FT.
MIN. REQUIRED SIZE OF WATER METER/MAIN: 1"Ø METER/1 1/2"Ø MAIN
EXISTING METER AND NEW COLD MAIN: (E) 2"Ø METER/ (E) 2"Ø MAIN

WASTE AND VENT SYSTEM:
(PER 2019 CPC TABLE 703.2)
MINIMUM REQUIRED SIZE OF WASTE MAIN: (1) 4"Ø SW
EXISTING BUILDING WASTE MAIN: (1) 4"Ø SW
MINIMUM REQUIRED SIZE OF VENT PIPE: (1) 3"Ø V.
EXISTING BUILDING VENT PIPE: (1)(E)2"Ø V AND (1) (E)1 1/2"Ø V

MINIMUM PLUMBING FIXTURE BRANCH PIPE SIZE							
TAG	FIXTURE	WASTE	TRAP	VENT**	CW	HW	REMARK
WC	WATER CLOSET (FLUSH VALVE)	4"Ø	--	2"Ø	1 1/2"Ø	--	①③
LAV	LAVATORY	2"Ø	1 1/2"Ø	1 1/2"Ø	1/2"Ø	1/2"Ø	①②
125	EYE WASH	2"Ø	2"Ø	1 1/2"Ø	3/4"Ø	3/4"Ø	①②
126	WASHER	2"Ø	2"Ø	1 1/2"Ø	3/4"Ø	3/4"Ø	①②

1. PIPE SIZES SHOWN MAY NOT BE NECESSARY THE FIXTURE CONNECTION SIZE. SEE FINAL PRODUCT MANUFACTURER RECOMMENDED PIPING CONNECTION SIZES PRIOR TO INSTALL. PROVIDE REDUCER BETWEEN BRANCH LINE AND CONNECTION AS REQUIRED. WATER HAMMER ARRESTERS SHALL BE APPROVED MECHANICAL DEVICES IN ACCORDANCE WITH ASSE 1010 OR PDI-WH 201 AND SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO QUICK-ACTING VALVES.

2. UNDERGROUND VENT PIPE SHALL BE ONE SIZE LARGER THAN SCHEDULED SIZE. SEE PLUMBING GENERAL NOTES FOR DETAIL.

3. UNDERGROUND COLD WATER PIPE SHALL BE TYPE-K LEAD FREE COPPER PIPE. SEE PLUMBING GENERAL NOTES FOR DETAIL.

REMARKS
① PROVIDE ISOLATION VALVE AND WATER HAMMER ARRESTER FOR EACH FIXTURE AT EACH PLUMBING FIXTURE.
② PROVIDE THERMAL MIXING VALVE AND SET HOT WATER TEMPERATURE NO HIGHER THAN 110°F.
③ FLUSH VALVE PLUMBING FIXTURE

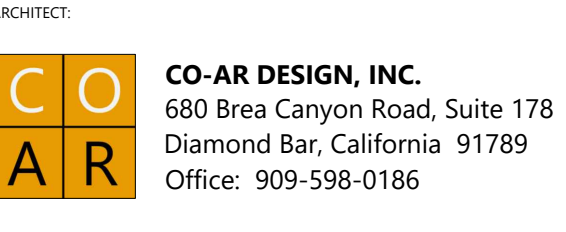
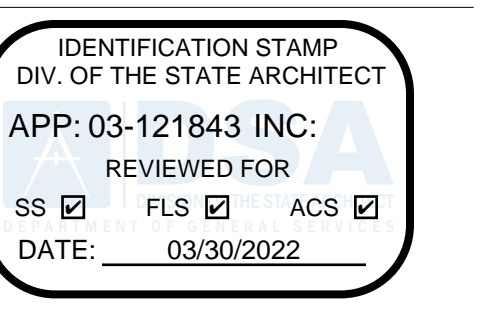
PLUMBING MATERIAL SCHEDULE*		
ITEM	LOCATION	SPECIFICATIONS
DOMESTIC COLD WATER PIPE	ABOVE GRADE	TYPE L COPPER. PIPE SHALL CONFORM WITH ASTM-(B42, B43, B75, B88, B135, B251, B302, B447). PIPE FITTING SHALL CONFORM WITH ASTM-(B16.15, B16.18, B16.22, B16.26, B16.50, B16.51), ASSE 1061.
DOMESTIC COLD WATER PIPE	BELOW GRADE	TYPE K COPPER. PIPE SHALL CONFORM WITH ASTM-(B42, B43, B75, B88, B135, B251, B302, B447). PIPE FITTING SHALL CONFORM WITH ASTM-(B16.15, B16.18, B16.22, B16.26, B16.50, B16.51), ASSE 1061.
SANITARY WASTE AND VENT PIPE	ABOVE GRADE	CAST IRON NO-HUB. PIPE SHALL CONFORM WITH ASTM-D2661, ASTM D2680. PIPE FITTING SHALL CONFORM WITH ASTM D2661, ASTM D2680
SANITARY WASTE AND VENT PIPE	BELOW GRADE	SCHEDULE 40 PVC. PIPE SHALL CONFORM WITH ASTM-D1785, D2665, F794. PIPE FITTING SHALL CONFORM WITH ASTM D2665, F794, F1866.
NATURAL GAS	ABOVE GRADE	BLACK STEEL SCHE. 40 PAINT WITH RUST INHIBITOR
NATURAL GAS	BELOW GRADE	PE 2406, POLYETHYLENE PIPING CONFORMING WITH ASTM D 2513, WITH SOCKET TYPE FITTINGS CONFORMING WITH ASTM D 2683, AND MINIMUM SDR 11.
CONDENSATE	ABOVE AND BELOW GRADE	TYPE M COPPER. PIPE SHALL CONFORM WITH ASTM-(B-43, B75, B251, B302, B306). PIPE FITTING SHALL CONFORM WITH ASTM-(B16.23, B16.29), ASSE 1061.

GAS DEMAND CALCULATION				
EQUIPMENT	CONNECTION SIZE*	QTY	GAS INPUT (CFH)	TOTAL (CFH)
GAS FIRED INFRATED HEATER	1/2"Ø	4	21.5	86
RTU-01	1/2"Ø	1	67	67
GRAND TOTAL (CFH)				153

GAS SUPPLY SYSTEM PER 2019 CPC TABLE 1215.2(1)
TENANT TOTAL GAS LOAD: 153 CFH
DISTANCE FROM POC TO MOST REMOTE OUTLET AT LESS THAN 2-PSI: 200 FT
MIN. GAS PIPE SIZE PER 2019 CPC TABLE 1215.2 (1): 1 1/2" Ø
EXISTING GAS LINE SIZE FROM POC: (1) 1 1/2" Ø

* CONNECTION SIZE SHOWN IN THIS TABLE IS NOT NECESSARY THE BRANCH PIPE SIZE TO EQUIPMENT. SEE NATURAL GAS PIPING PLAN ON P-0.2 FOR PIPE SIZE.

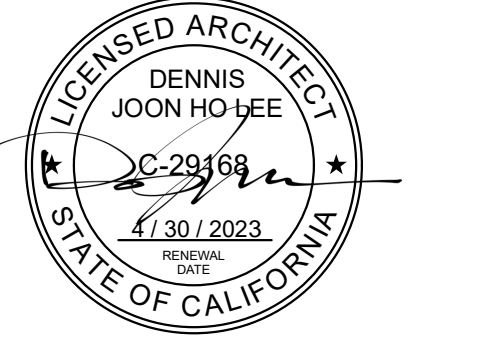
- * SCHEDULE SHOWN FOR QUICK REFERENCE ONLY. SEE SPECIFICATIONS FOR COMPLETE DETAILS.
- * MATERIALS FOR DRAINAGE PIPING SHALL BE IN ACCORDANCE WITH ONE OF THE REFERENCED STANDARDS IN TABLE 701.2. MATERIALS FOR BUILDING WATER PIPING AND BUILDING SUPPLY PIPING SHALL COMPLY WITH THE APPLICABLE STANDARD REFERENCED IN TABLE 604.1.
- * ALL METALLIC NATURAL GAS PIPE AND JOINTING SHALL COMPLY WITH STANDARDS LISTED UNDER CPC 1208.6.



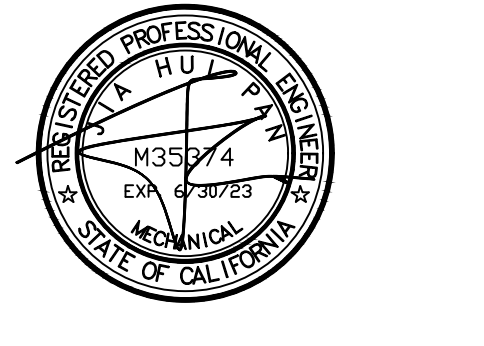
Dennis J. Lee, NCARB dennis@coar.design

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PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

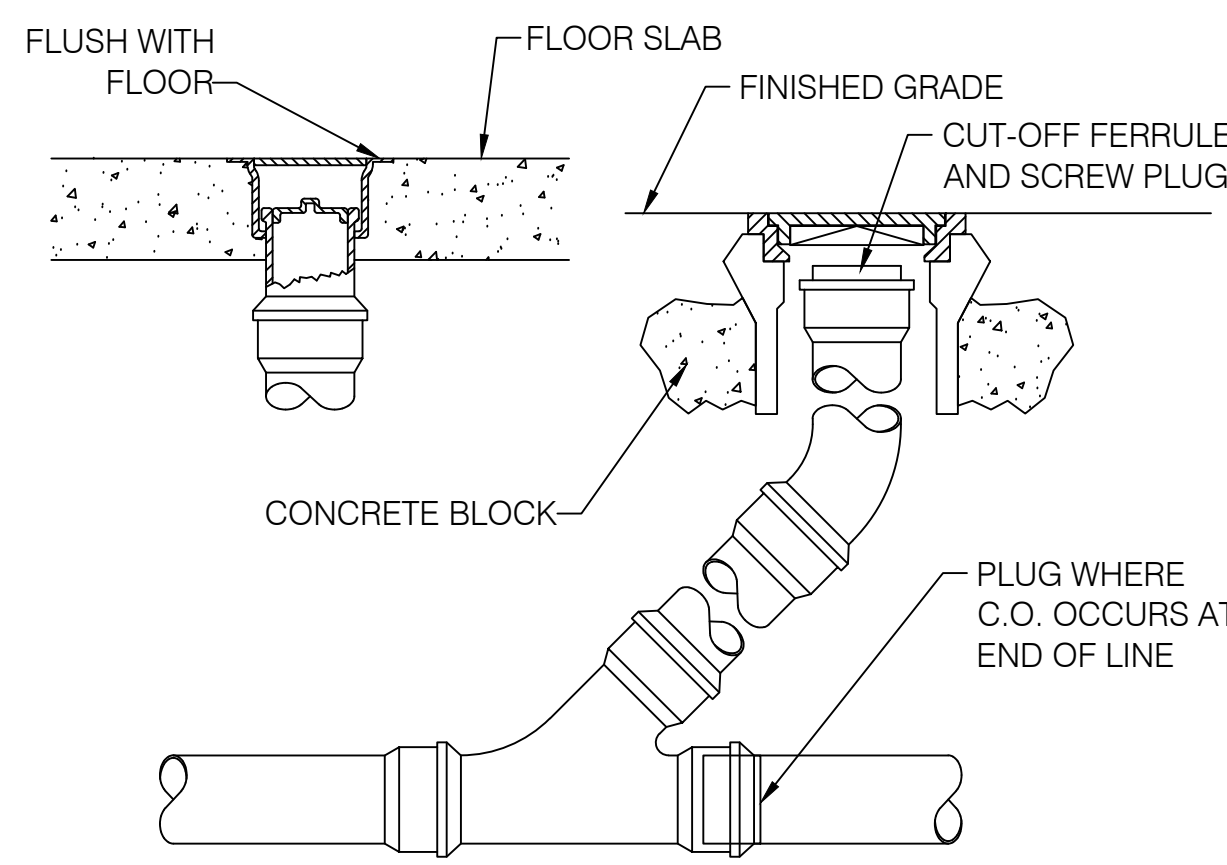
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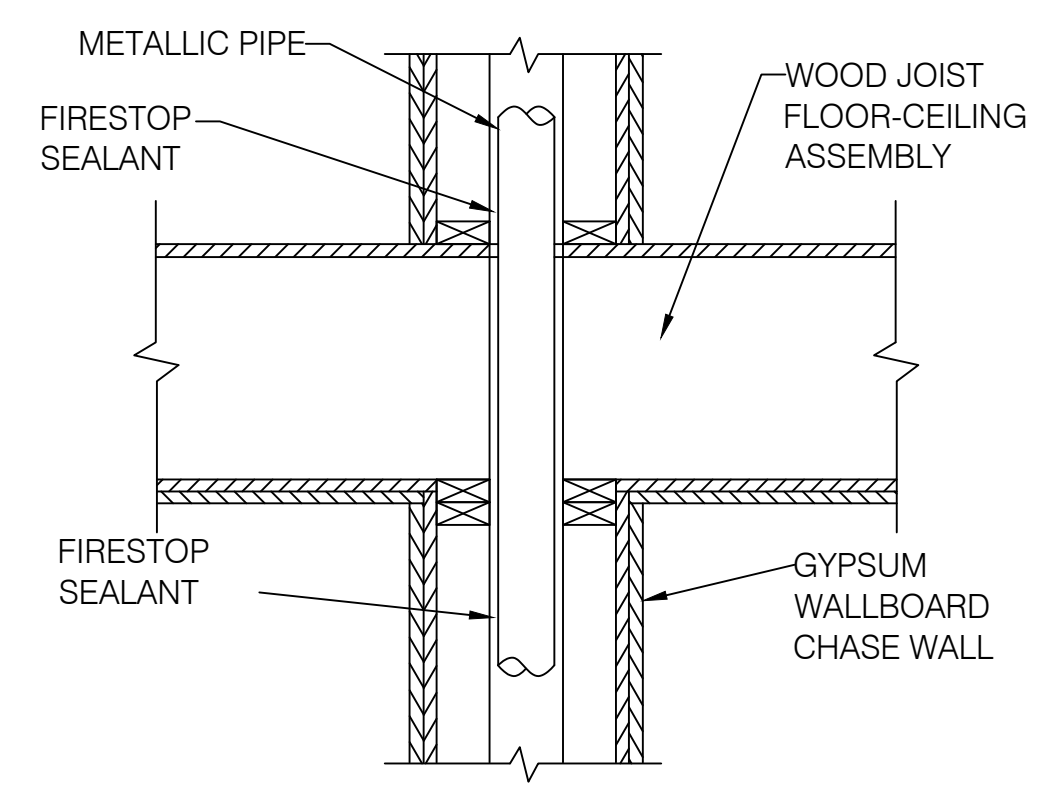
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PERMIT SET	08/18/2021

PROJECT NO: 20072
SCALE: AS SHOWN
DATE: 9/22/2021
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PLUMBING SCHEDULES

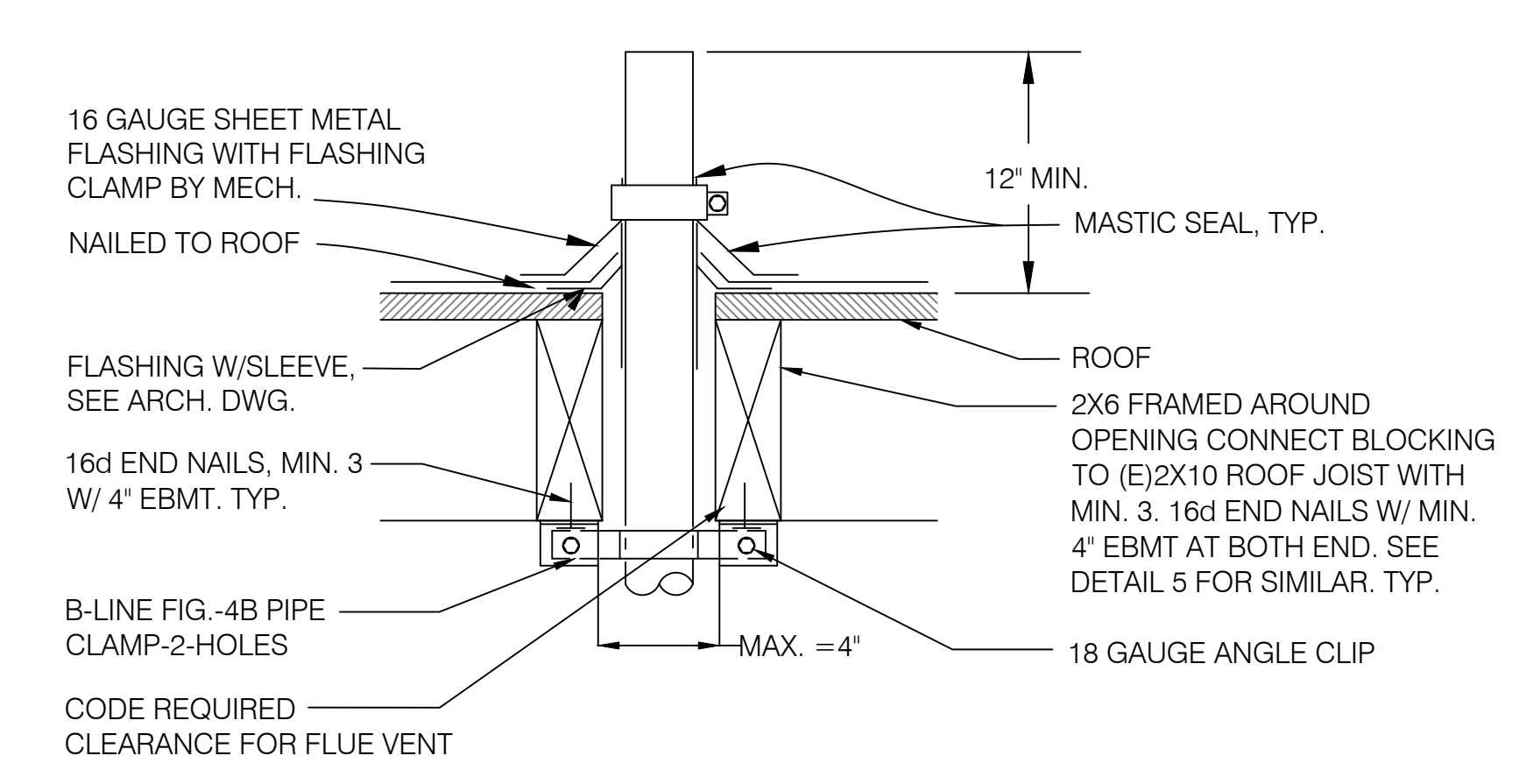
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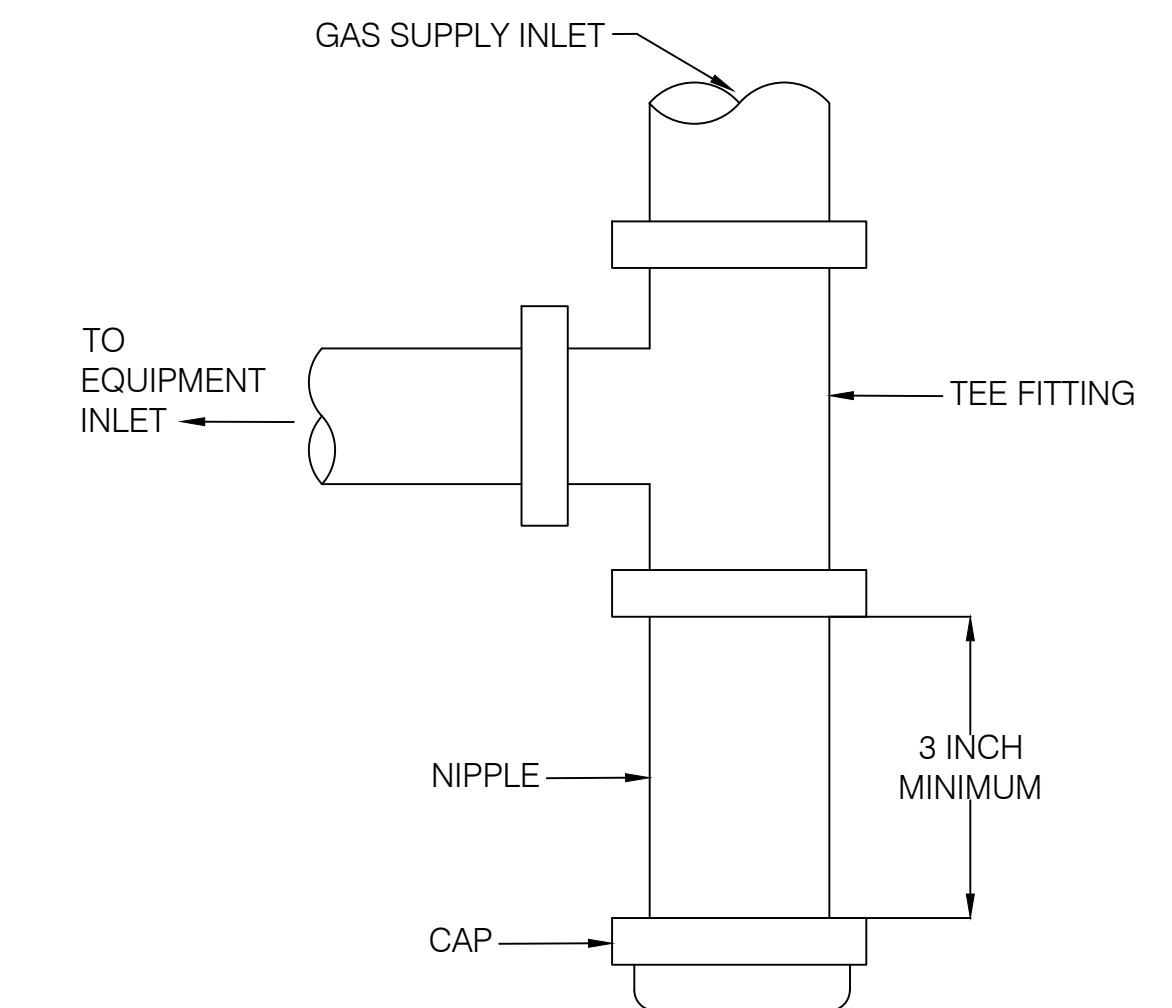
1 FLOOR CLEAN OUT DETAIL
SCALE: N.T.S.



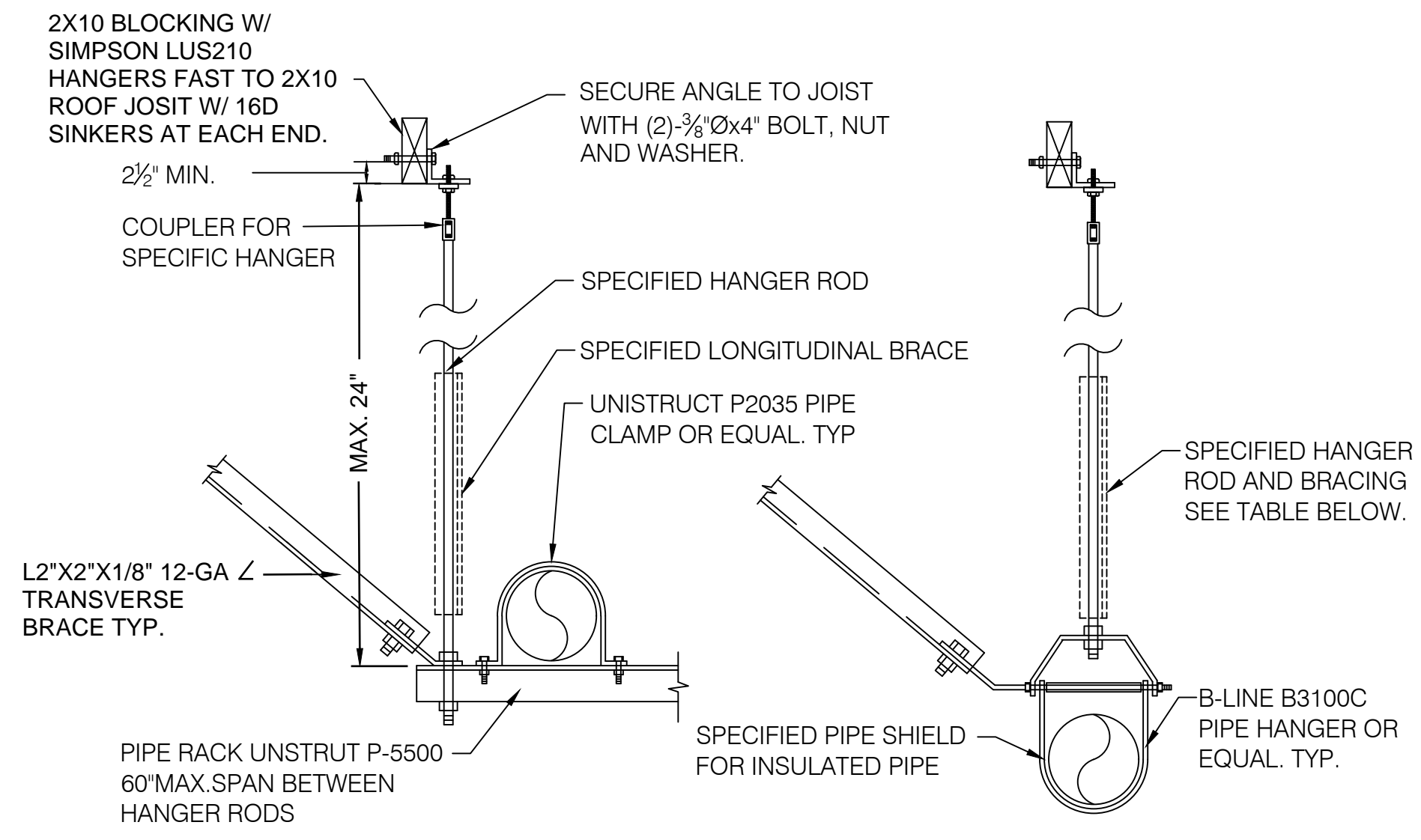
2 PIPE PENETRATES RATED FL./CLG. DETAIL
SCALE: N.T.S.



3 PIPE THROUGH ROOF DETAIL
SCALE: N.T.S.



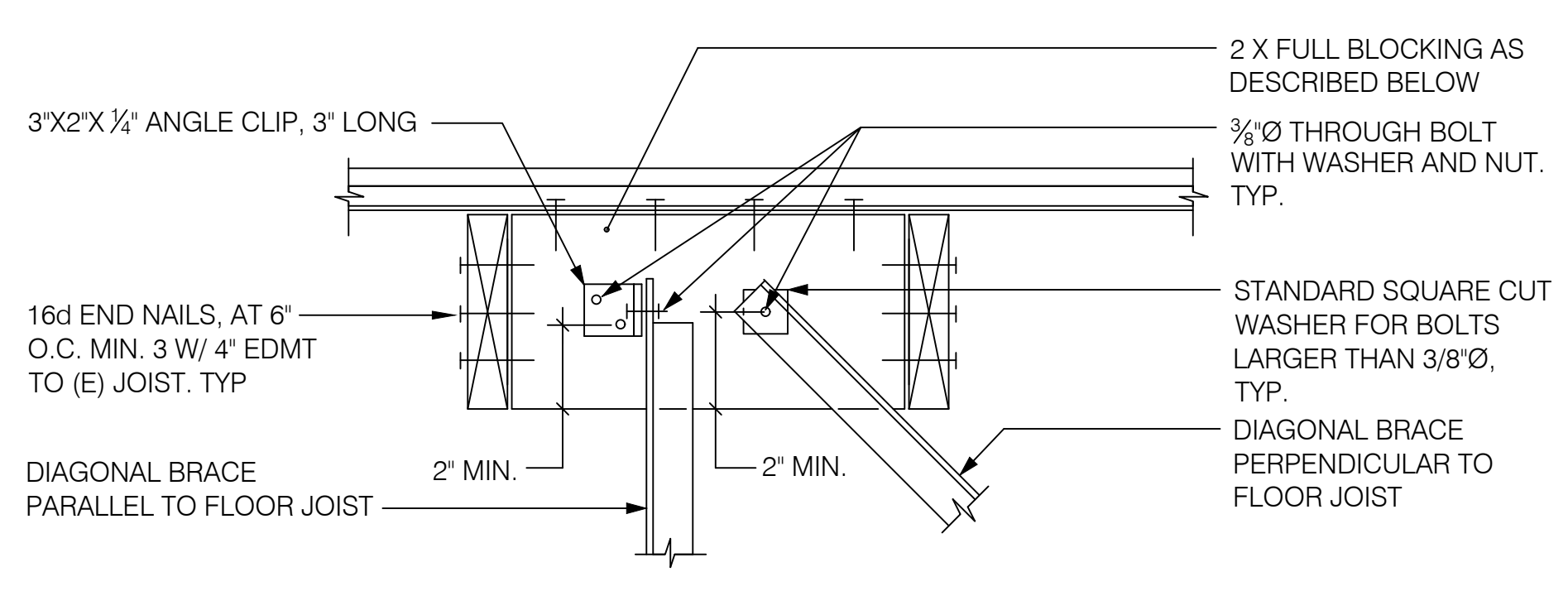
4 NATURAL GAS SEDIMENT TRAP DETAIL
SCALE: N.T.S.



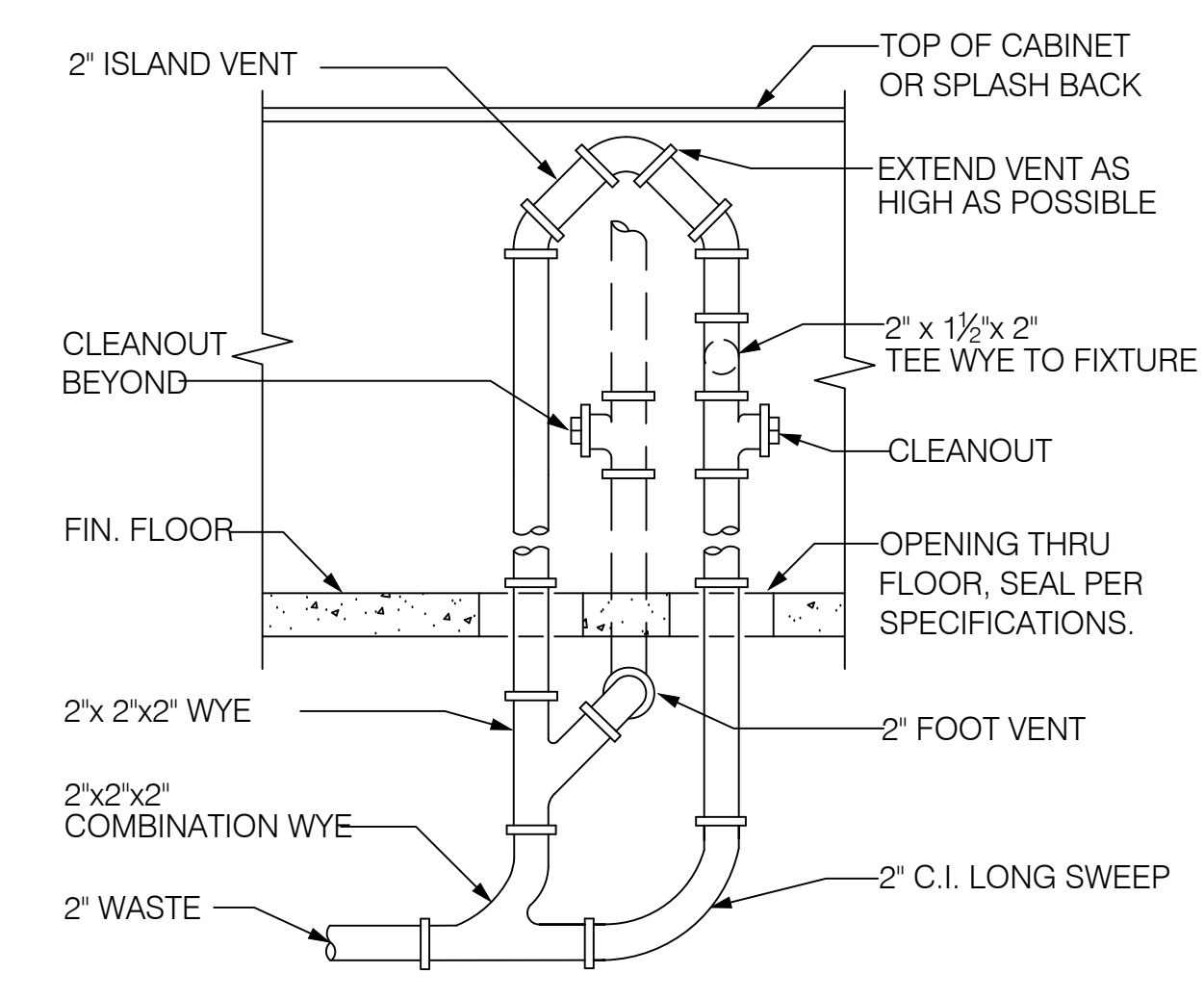
PIPE SIZE	HANGER ROD SIZE	MAX. WEIGHT PER HANGER LOAD	MAXIMUM PIPE SUPPORT SPACING		
			COPPER TUBE OR PIPE	STEEL PIPE	CAST-IRON
1/2"-1 1/2"	3/8"	610 LBS	6'-0"	6'-0"	EVERY OTHER JOINT, UNLESS OVER 4' THEN SUPPORT EACH JOINT
2"-3"	1/2"	730 LBS	10'-0"	10'-0"	

- NOTES:
- SUPPORT PIPES AT INTERVALS INDICATED AND AT EACH CHANGE OF DIRECTION.
 - MULTIPLE PIPES MAY BE SUPPORTED ON A COMMON TRAPEZE SIZE AND SPACING TRAPEZE SIZE AND SPACING SHALL BE GOVERNED BY CUMULATIVE WEIGHT OF SUPPORTED PIPING.
 - ALL PIPE HANGER AND SUPPORT SHALL CONFORM TO 2019 CPC TABLE 313.6 AND 313.1

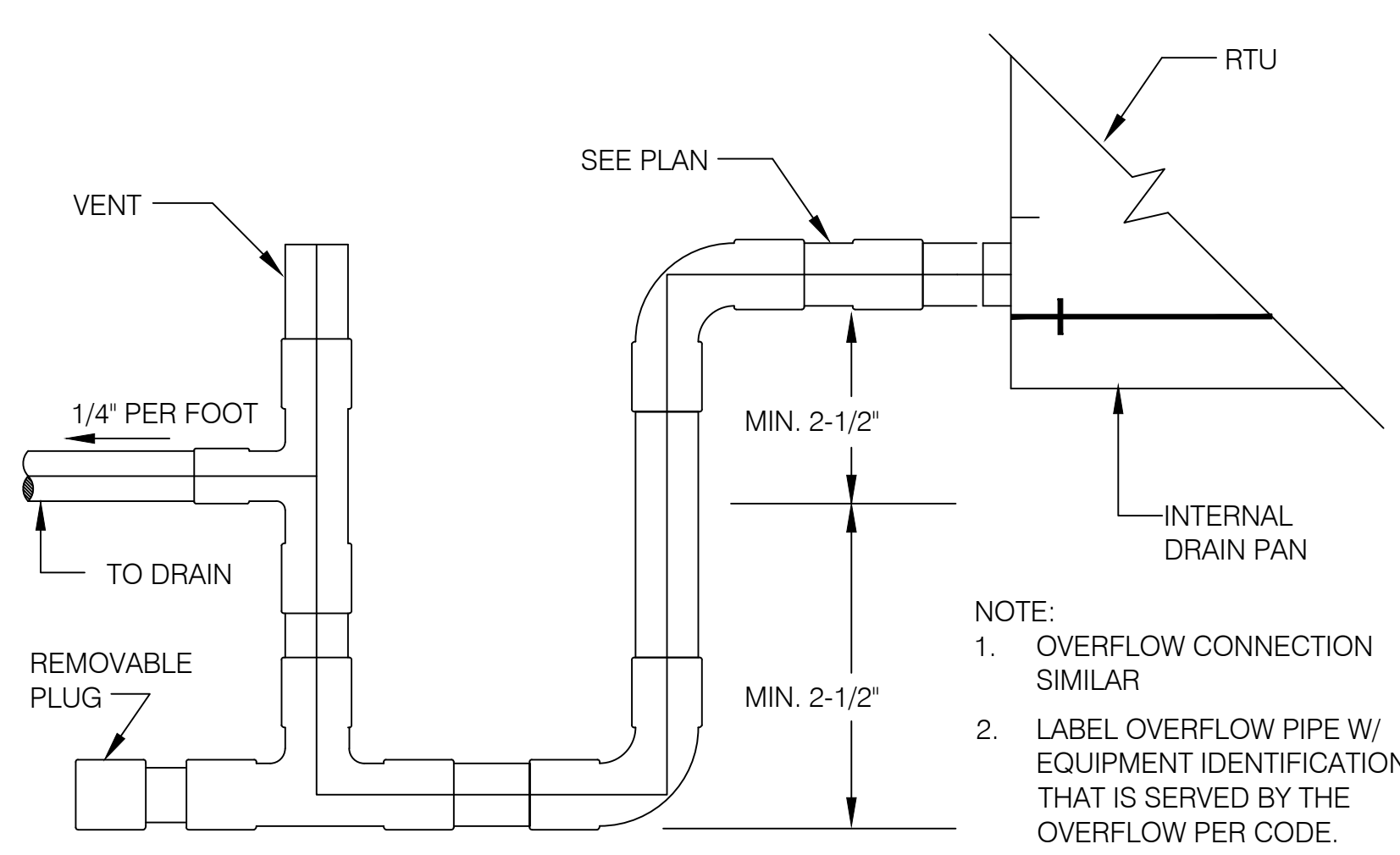
5 PIPE SUPPORT DETAIL
SCALE: N.T.S.



6 LOOP VENT DETAIL
SCALE: N.T.S.

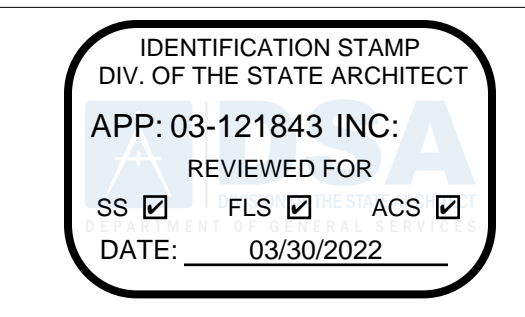


7 CONDENSATE TO TAIL-PIECE PIPING DETAIL
SCALE: N.T.S.



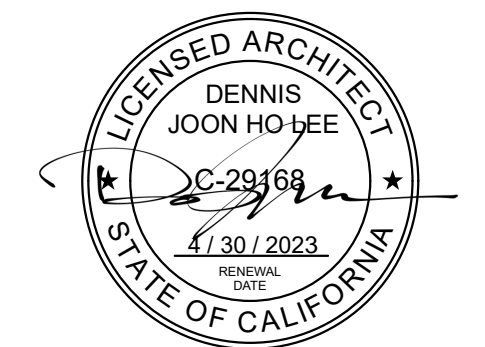
- NOTE:
- OVERFLOW CONNECTION SIMILAR
 - LABEL OVERFLOW PIPE W/ EQUIPMENT IDENTIFICATION THAT IS SERVED BY THE OVERFLOW PER CODE.

8 CONDENSATE DRAIN PIPING FOR RTU
SCALE: N.T.S.

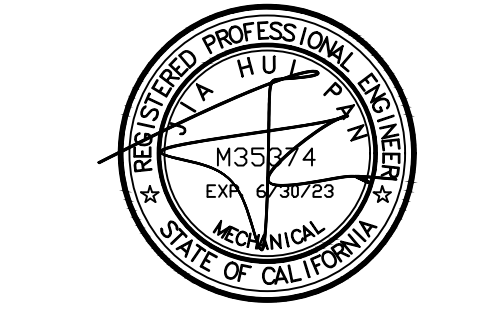


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Office: 909-598-0186
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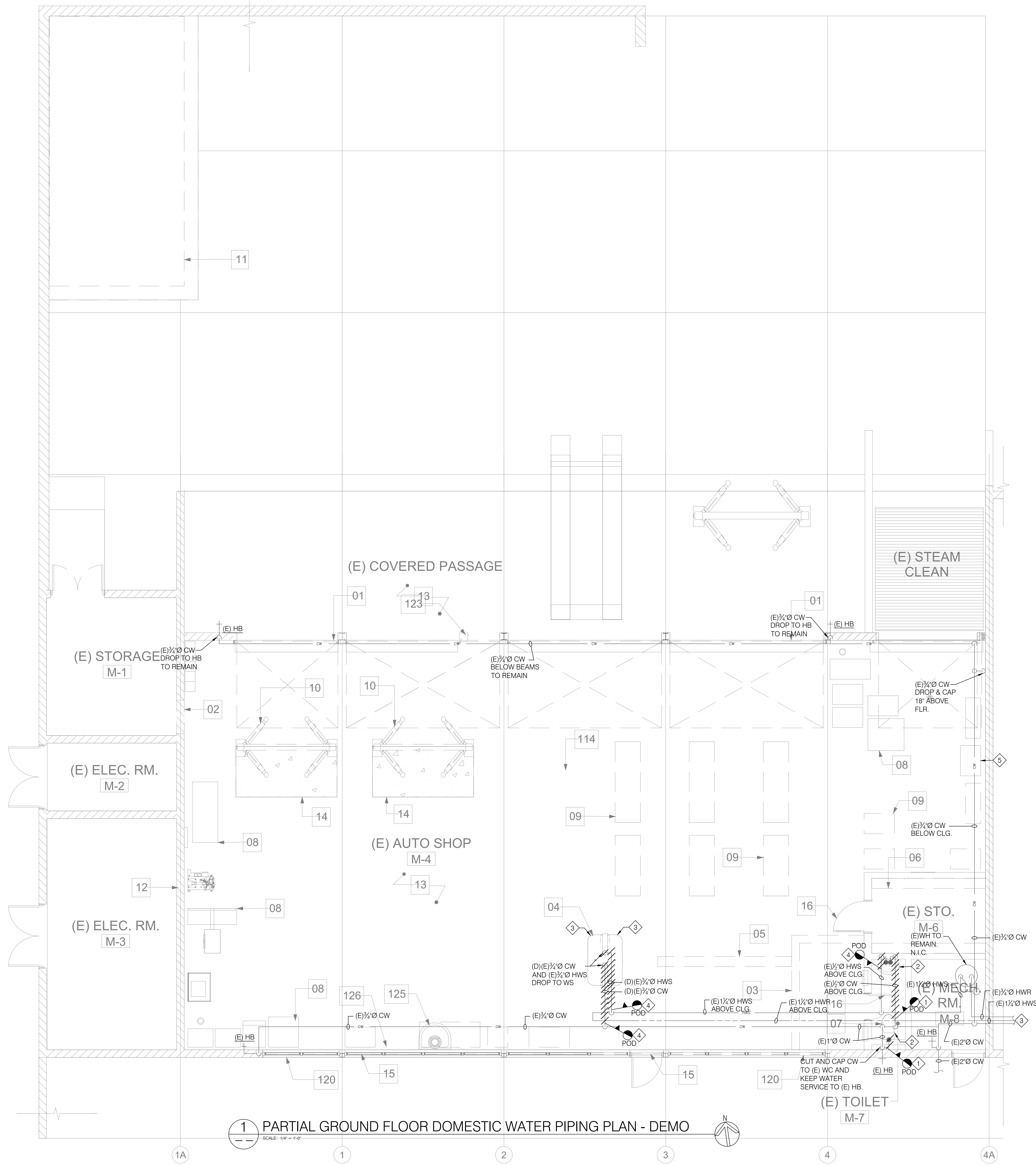
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PLUMBING DETAILS

SHEET NO:



1 PARTIAL GROUND FLOOR DOMESTIC WATER PIPING PLAN - DEMO
SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

- DEMOLITION SHALL NOT INTERRUPT UTILITY SERVICE OF FACILITY. IF TEMPORARY UTILITY SHUT-DOWN IS REQUIRED, ALWAYS COORDINATE WITH FACILITY FACULTY PRIOR TO SHUT-DOWN.
- ALL DEMOLITION DONE IN PLACE SHALL NOT JEOPARDIZE THE STRUCTURAL INTEGRITY OF EXISTING BUILDING OR EXISTING UTILITY SUPPORT THAT IS REQUIRED TO MAINTAIN.
- ALL WORK SHOWN ON PLAN ARE BASED ON INFORMATION FROM RECORD DRAWING. CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, CONDITION, MATERIAL, AND INVERT (AS NEEDED) PRIOR TO DEMOLITION AND INSTALLATION. REPORT DISCREPANCY OF EXISTING PLUMBING SYSTEM AGAINST INFORMATION ON CONTRACT DOCUMENT TO SCHOOL DISTRICT, ARCHITECT, OR ENGINEER PRIOR TO CONSTRUCT.
- ALL DEMOLITION SHOWN SHALL BE DONE CUT, REMOVING, AND CAP PIPE BACK TO NEAREST MAIN PIPE AND SEALED WATERTIGHT. ALL FLOOR OR WALL OPENING SHALL BE FILLED AND PATCHED TO RECEIVE NEW FLOORING OR PAINTING BY GC.
- CONTRACTOR SHALL CONFIRM WITH SCHOOL DISTRICT FOR REQUIREMENT OF X-RAY TO IDENTIFY STRUCTURE MEMBERS OR UTILITIES BELOW GRADE FOR AVOIDING DAMAGING PRIOR TO EXCAVATION.
- CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, CONDITION, AND MATERIAL OF EXISTING PLUMBING SYSTEM THAT IS INTENDED TO REMAIN AND REUSE. REPORT DEFICIENCY OR CODE COMPLIANCE ISSUE OF EXISTING SYSTEM IF FOUND TO SCHOOL DISTRICT, ARCHITECT, OR ENGINEER.

SHEET NOTES:

- CUT, REMOVE, AND CAP EXISTING PIPE LINE BACK TO MAIN AND SEAL WATERTIGHT PER PLAN.
- DEMOLISH AND REMOVE EXISTING PLUMBING FIXTURES AND ASSOCIATED VALVE, CONNECTION, CARRIER, AND FITTING WITHIN PLUMBING CHASE WALL.
- EXISTING PIPE CONTINUES TO ADJACENT SPACE. N.I.C.
- CUT, REMOVE, AND CAP EXISTING PIPE LINE FROM POD PER PLAN FOR RECONNECTION. SEE P-1.1 FOR DETAIL.
- (E) HOT CLEANING TANK. CONTRACTOR TO CONFIRM W/ SCHOOL FOR DEMOLITION REQUIREMENT. REMOVE ALL ASSOCIATED CW, GAS, AND CA AS NEEDED.

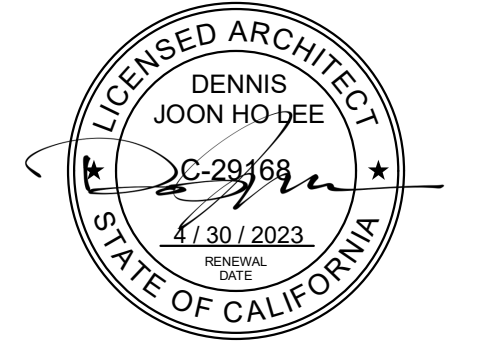
DSA APPLICATION: A# 03-121843

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-121843 INC:
REVIEWED FOR:
SS FLS ACS
DATE: 03/30/2022

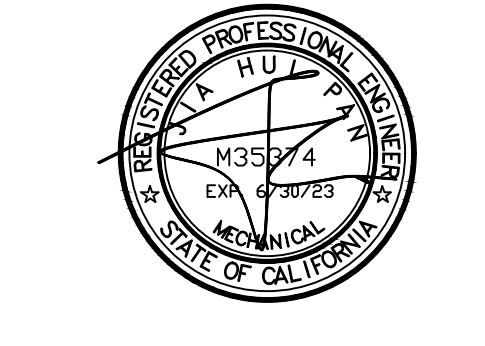
ARCHITECT
CO-AR DESIGN, INC.
680 Brea Canyon Road, Suite 178
Diamond Bar, California 91789
Office: 909-598-0186
Dennis J. Lee, NCARB dennis@coar-design.com

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JHP Engineering and Design Services Inc.
3103 Independence Drive
Livermore, CA 94551
TEL: 925-409-2508 EX. 101
CEL: 510-468-0613
FAX: 510-788-6039



PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
ROWLAND HEIGHTS CA 91748
CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

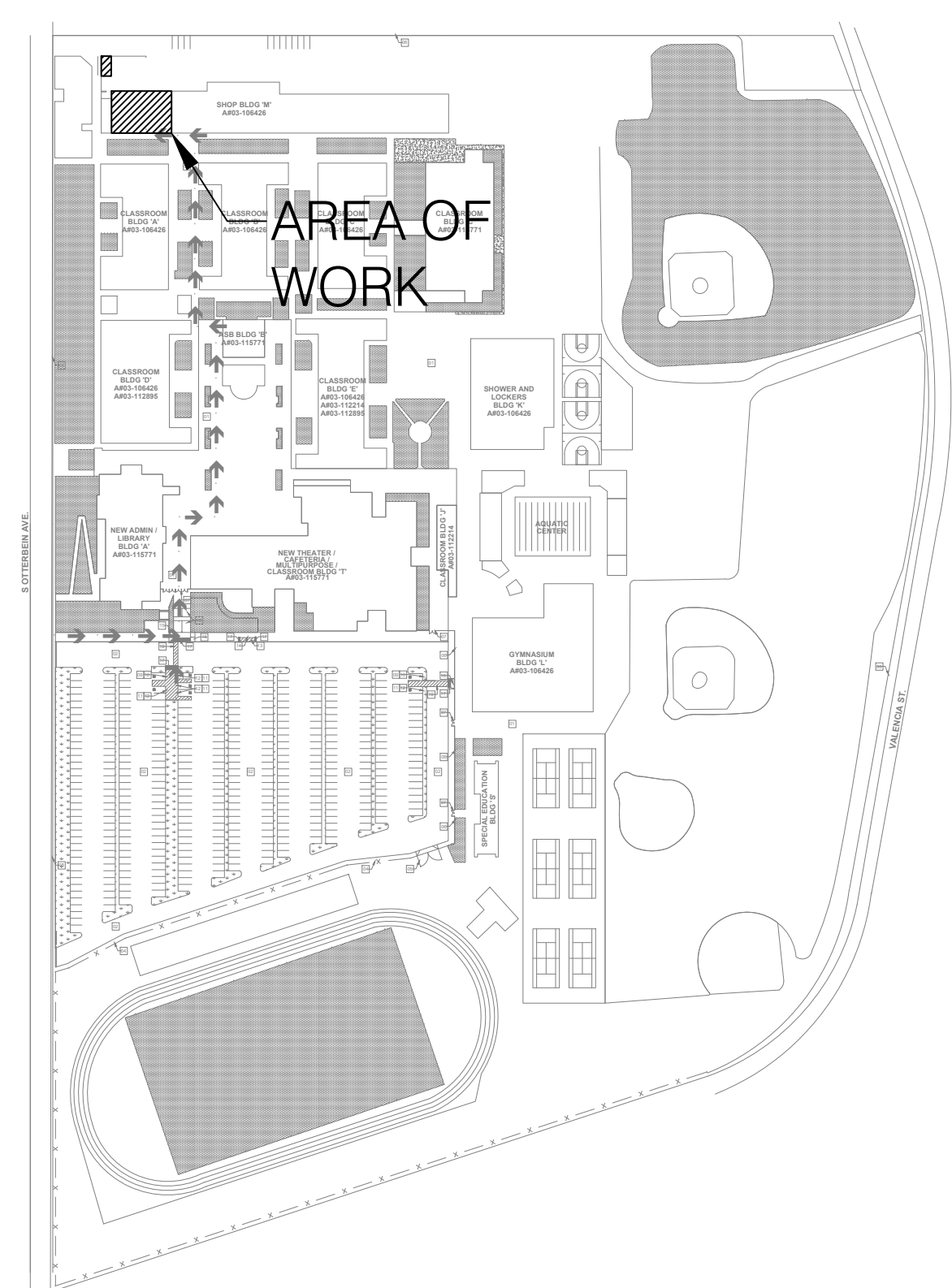
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PERMIT REVIEW SET 04/09/2021
PERMIT SET 08/18/2021

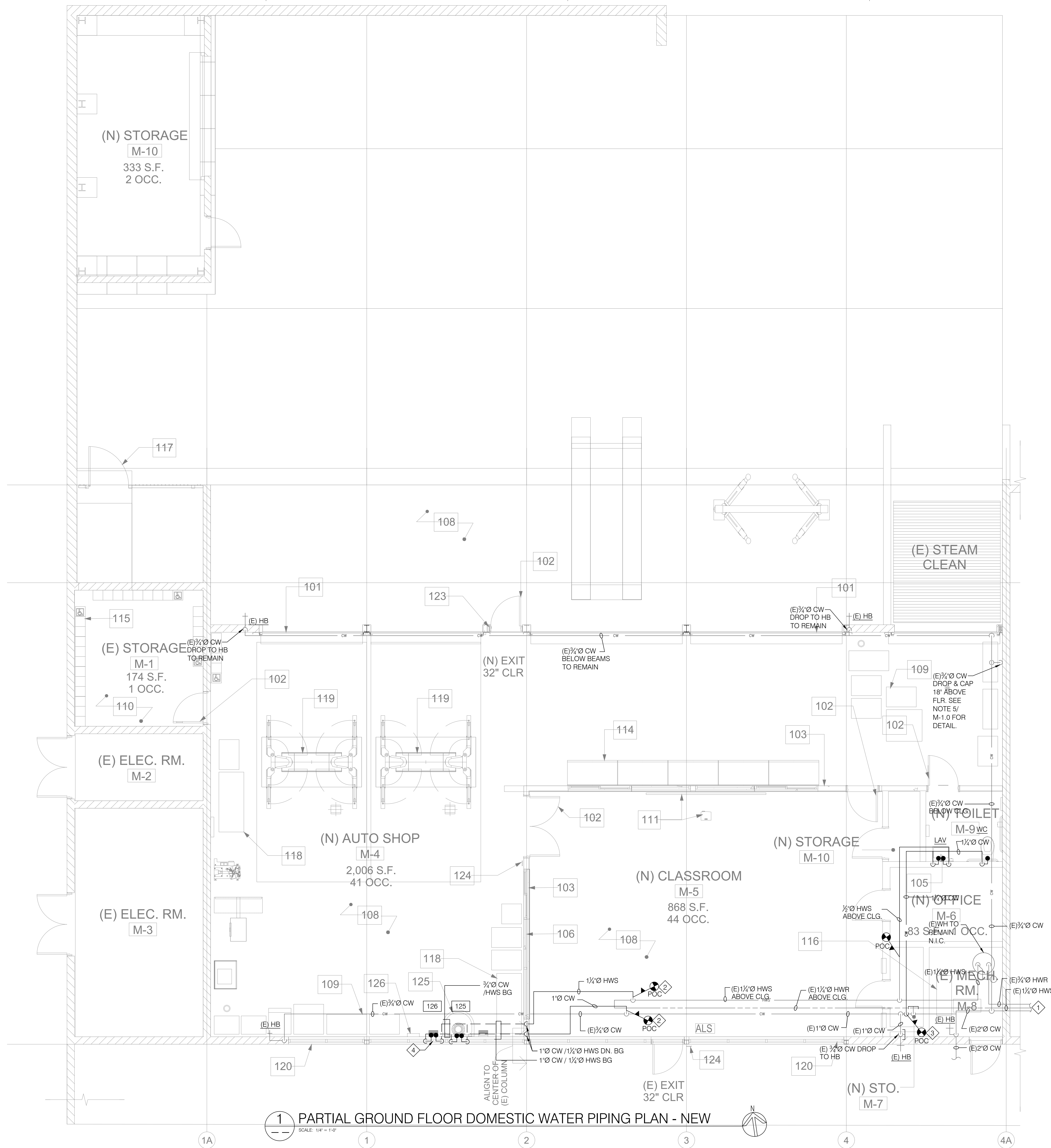
PROJECT NO: 20072
SCALE: AS SHOWN
DATE: 9/22/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE:

PARTIAL GROUND FL. DOMESTIC WATER PIPING PLAN - DEMO

SHEET NO:

KEY PLAN



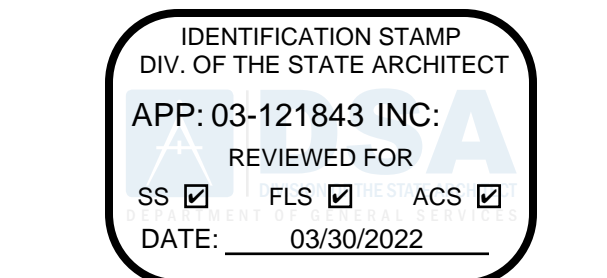


1 PARTIAL GROUND FLOOR DOMESTIC WATER PIPING PLAN - NEW
SCALE: 1/4" = 1'-0"

SHEET NOTES:

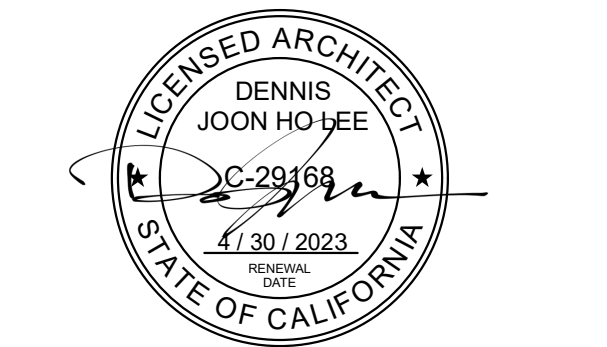
- 1 EXISTING PIPE CONTINUES TO ADJACENT SPACE. N.I.C.
- 2 EXTEND (E) 1 1/2" HWS, AND (E) 1" CW WITH NEW MATCHED SIZE PIPES PER PLAN. CONTRACTOR TO VERIFY EXACT LOCATION, SIZE, INVERT, MATERIAL, AND CONDITION OF EXISTING PIPE PRIOR TO CONSTRUCT.
- 3 TAB (N) 1 1/2" CW TO (E) 2" CW MAIN AND EXTEND TO (N) WC PER PLAN. CONTRACTOR TO VERIFY EXACT LOCATION, SIZE, INVERT, MATERIAL, AND CONDITION OF EXISTING PIPE PRIOR TO CONSTRUCT.
- 4 3/4" CW/ HWS UP FROM BELOW GRADE WITHIN (E) WALL STUD-BAY TO (N) PLUMBING FIXTURE.

DSA APPLICATION: # 03-121843



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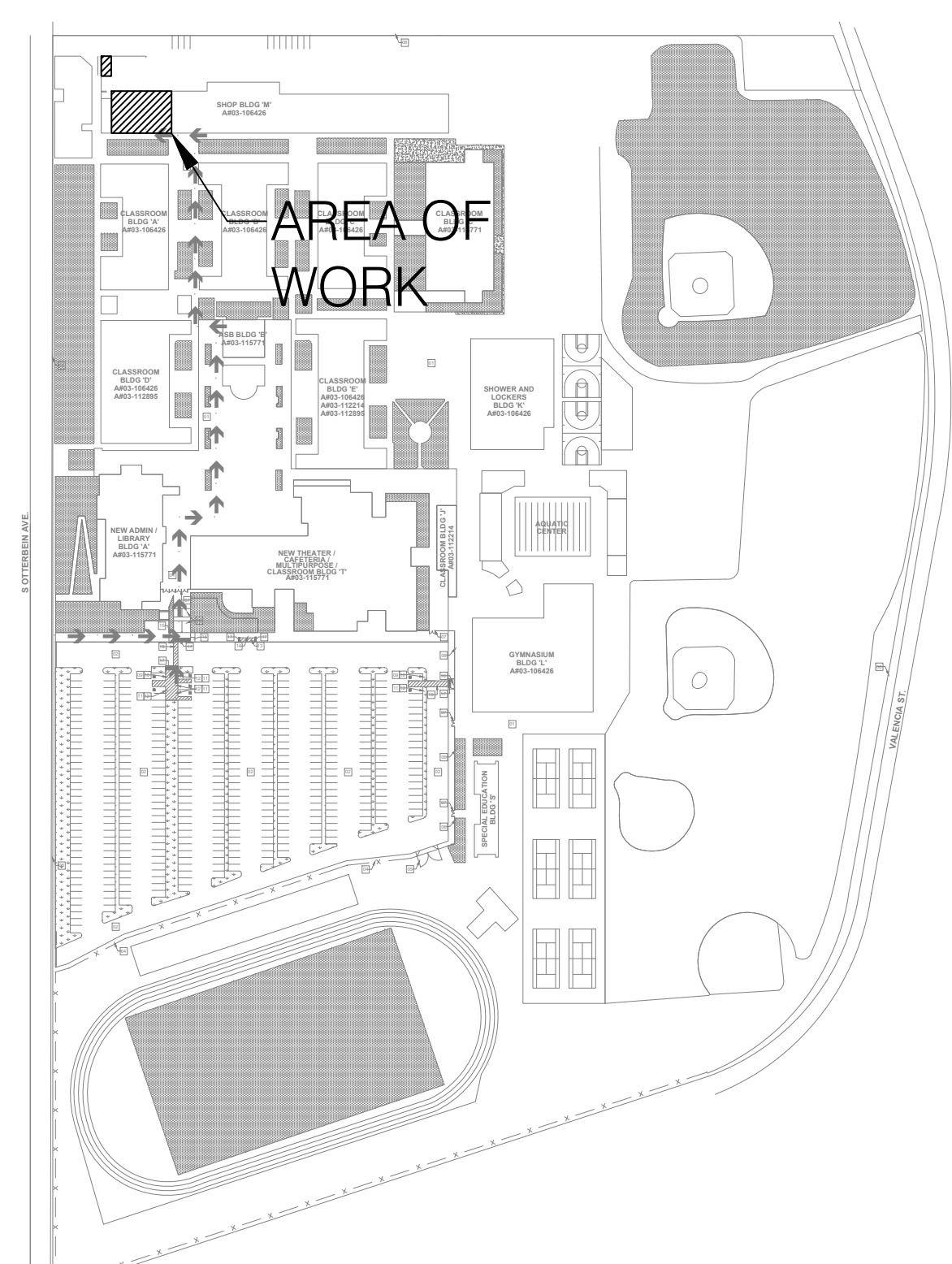
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KEY PLAN



PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
ROWLAND HEIGHTS CA 91748

CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

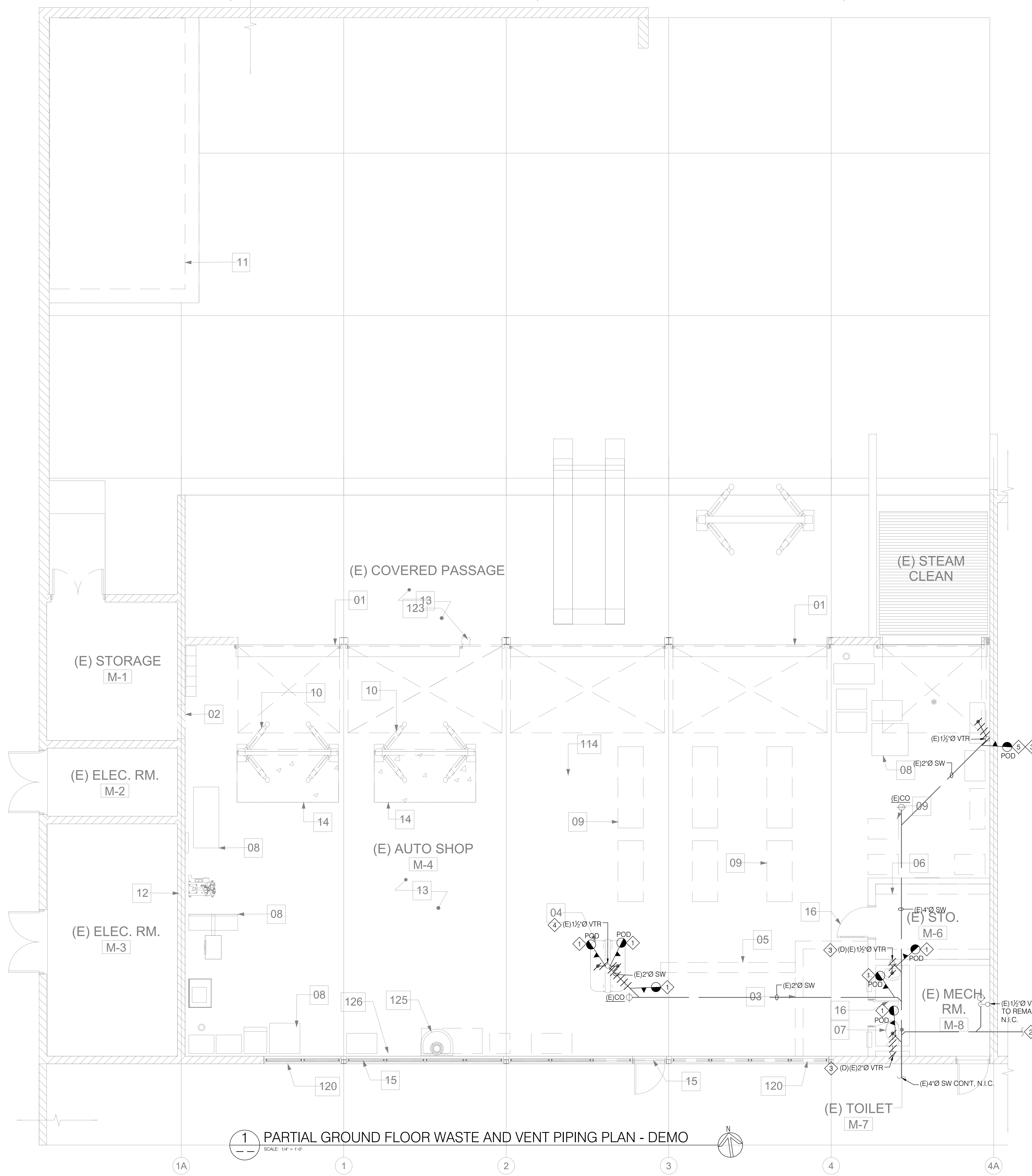
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PERMIT SET 08/18/2021

PROJECT NO: 20072
SCALE: AS SHOWN
DATE: 9/22/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE:

PARTIAL GROUND FL. DOMESTIC WATER PIPING PLAN - NEW

SHEET NO:

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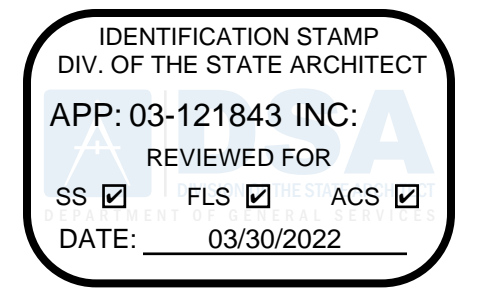
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SHEET NOTES:

- CUT, REMOVE, AND CAP EXISTING WASTE AND VENT PIPE LINE FROM POD PER PLAN. TYPICAL OF ALL.
- EXISTING PIPE CONTINUES TO ADJACENT SPACE. N.I.C.
- REMOVE (E) VENT THROUGH ROOF, COORDINATE W/ GC FOR PATCH AND SEAL (E) ROOF OPENING W/ (N) WATER PROOFING AND ROOFING.
- KEEP (E) 1 1/2" VTR FOR RECONNECTION. SEE M-2.1 FOR DETAIL.
- (E) HOT CLEANING TANK. CONTRACTOR TO CONFIRM W/ SCHOOL FOR DEMOLITION REQUIREMENT. REMOVE ALL ASSOCIATED WASTE AND VENT AS NEEDED.

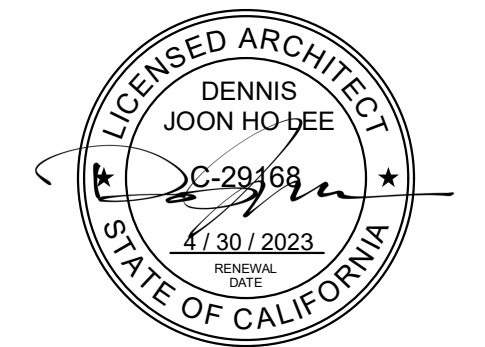
DSA APPLICATION: # 03-121843



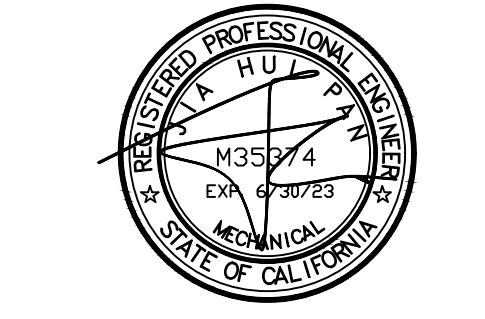
ARCHITECT:
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 Dennis J. Lee, NCARB dennis@coar-design.com

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 FAX: 510-788-6039



PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748
 CLIENT:

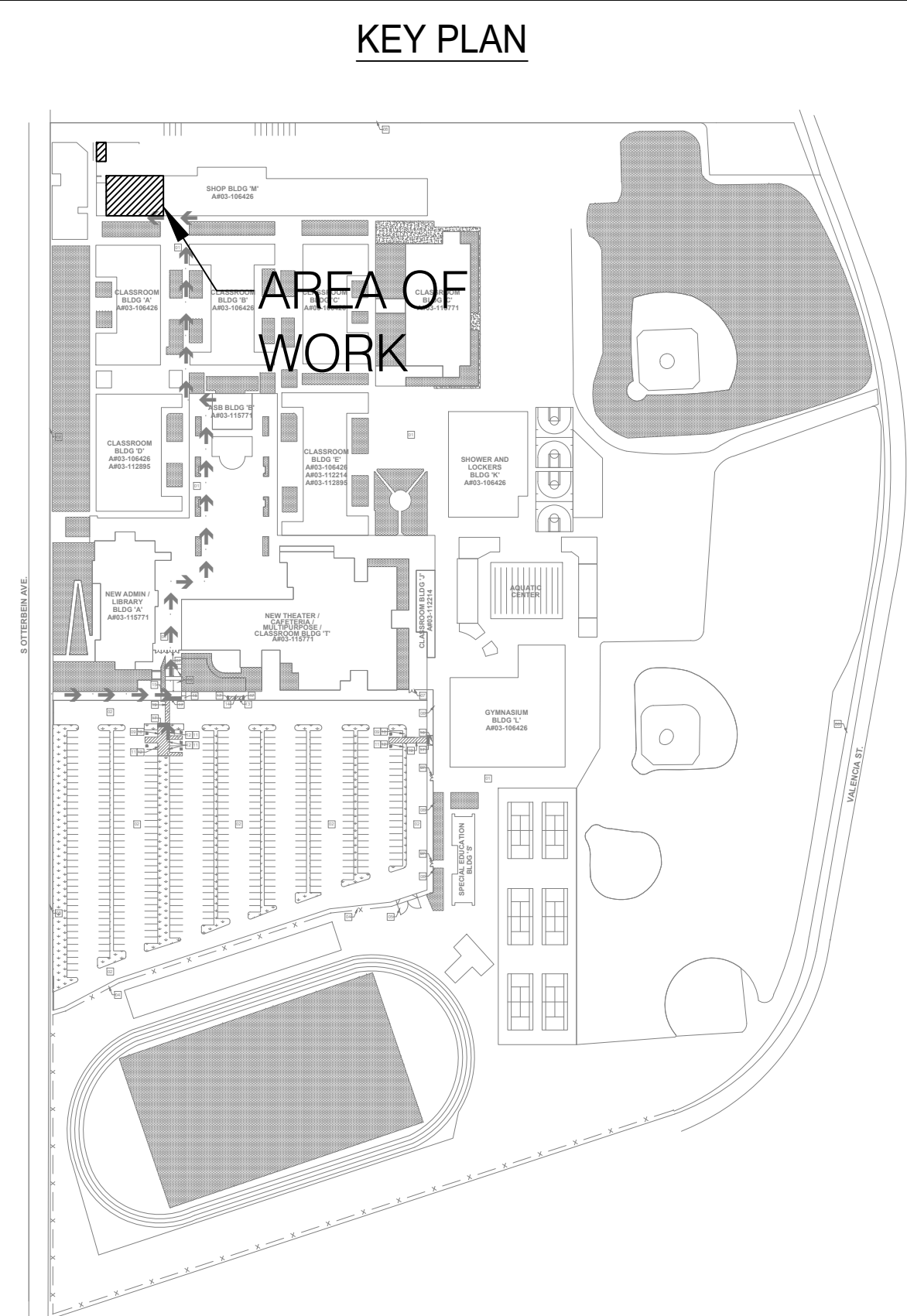
ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTALS REQUIRED:
 PERMIT REVIEW SET 04/09/2021
 PERMIT SET 08/18/2021

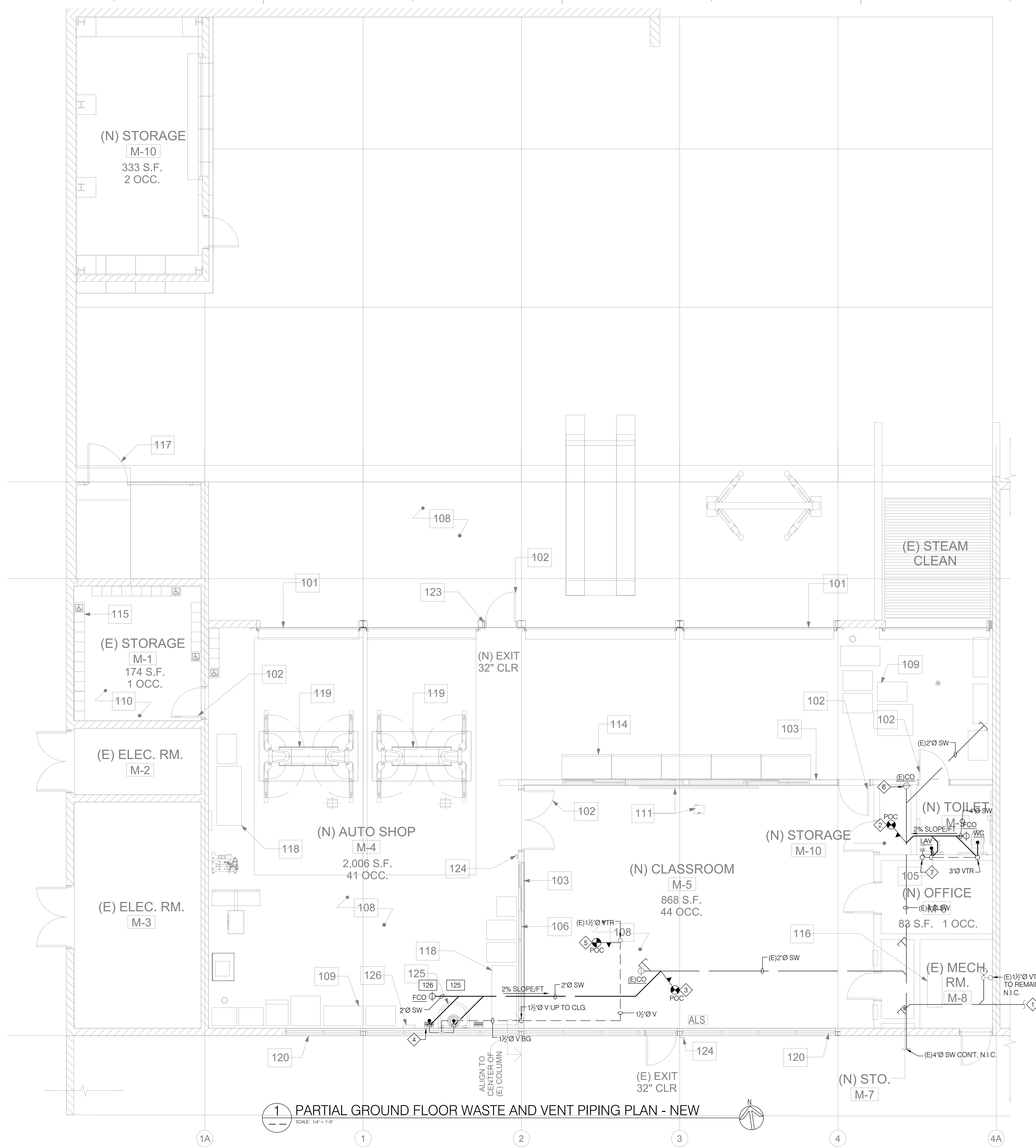
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 SCALE: AS SHOWN
 DATE: 9/22/2021
 DRAWN BY: SL
 CHECKED BY: JP
 SHEET TITLE:

PARTIAL GROUND FL. WASTE AND VENT PIPING PLAN - DEMO

SHEET NO:



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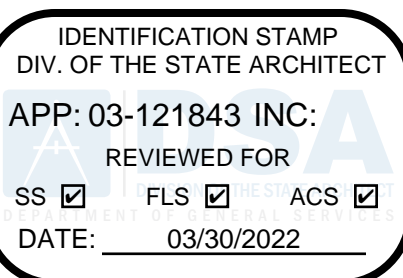


1 PARTIAL GROUND FLOOR WASTE AND VENT PIPING PLAN - NEW
SCALE: 1/4" = 1'-0"

SHEET NOTES:

- 1 EXISTING PIPE CONTINUES TO ADJACENT SPACE. N.I.C.
- 2 CONNECT (N) 4" SW TO (E) 4" SW MAIN. CONTRACTOR TO VERIFY EXACT LOCATION, SIZE, INVERT, MATERIAL, AND CONDITION OF EXISTING PIPE PRIOR TO CONSTRUCT.
- 3 CONNECT (N) 2" SW TO (E) 2" SW MAIN. CONTRACTOR TO VERIFY EXACT LOCATION, SIZE, INVERT, MATERIAL, AND CONDITION OF EXISTING PIPE PRIOR TO CONSTRUCT.
- 4 PROVIDE LOOP VENT AT LOW WALL. SEE DETAILS 6/ P-0.3 FOR FURTHER DETAILS.
- 5 RECONNECT (N) 1 1/2" VENT TO (E) 1 1/2" VTR PER PLAN.
- 6 CONTRACTOR TO VERIFY EXACT LOCATION OF (E) END-OF-LINE CLEAN-OUT VS. LOCATION OF (N) PARTITION WALL. PROVIDE (N) LINE SIZED CLEAN-OUT AT (N) LOCATION TO AVOID CONFLICT WITH (N) WALL AS NEEDED.
- 7 3/4" CD DOWN FROM RTU-01 ON ROOF AND CONNECT TO TAIL -PIECE OF LAVATORY. SEE DETAIL 7/ P-0.3 FOR FURTHER REQUIREMENTS.

DSA APPLICATION: A# 03-121843

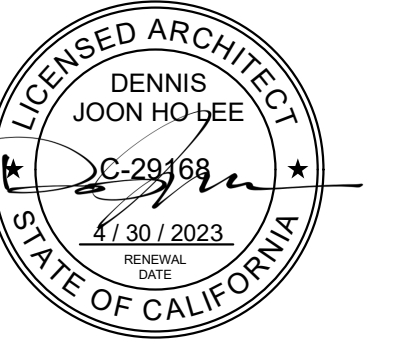


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Office: 909-598-0186

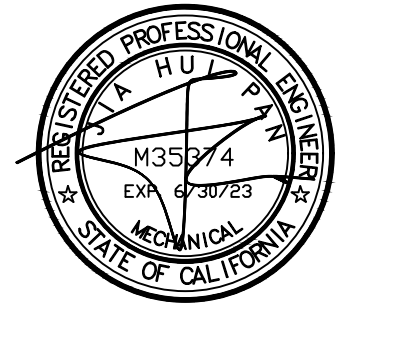
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PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
ROWLAND HEIGHTS CA 91748

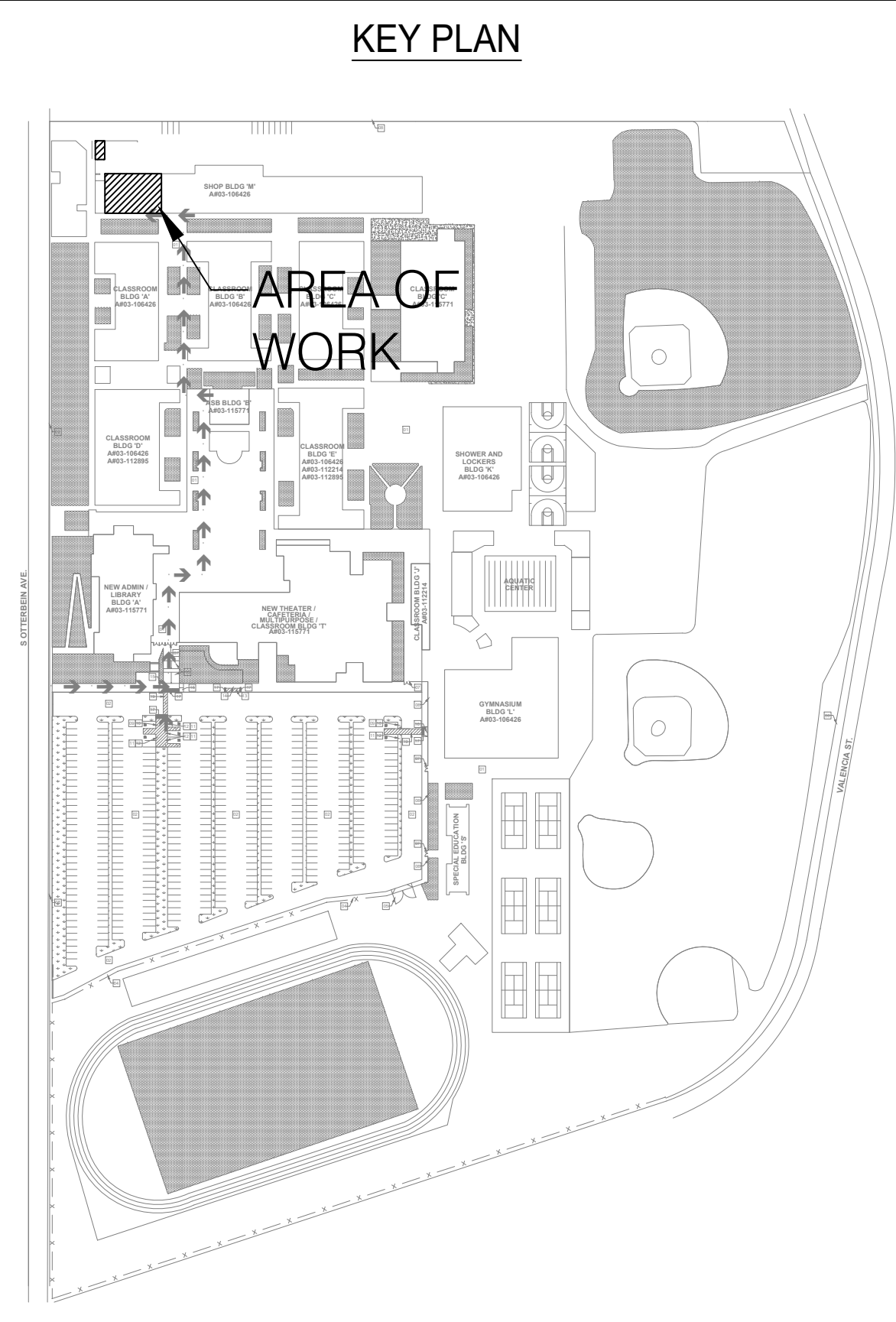
CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

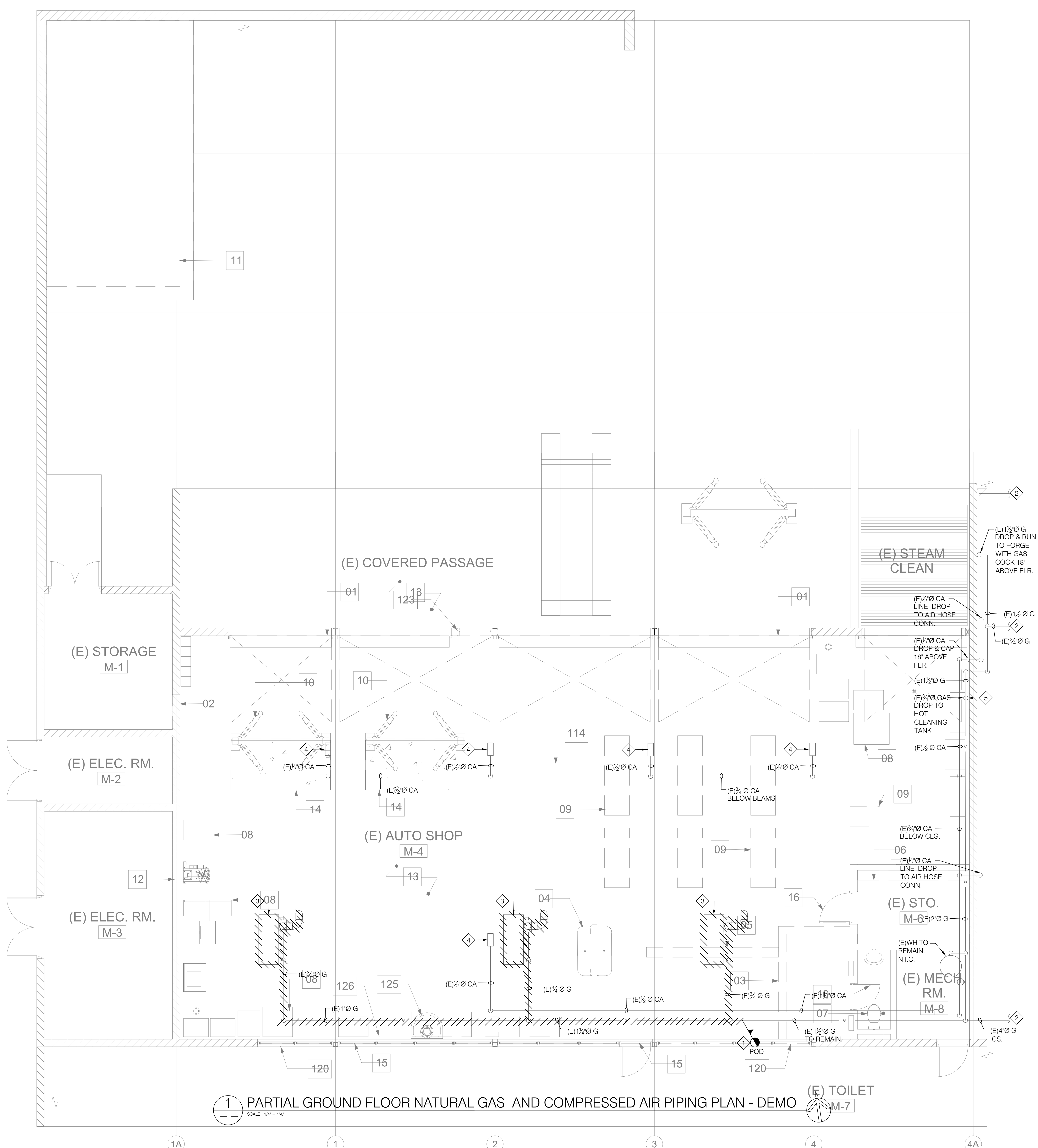
SUBMITTALS REQUIRED:
PERMIT REVIEW SET 04/09/2021
PERMIT SET 08/18/2021

PROJECT NO: 20072
SCALE: AS SHOWN
DATE: 9/22/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE:

PARTIAL GROUND FL. WASTE AND VENT PIPING PLAN - NEW

SHEET NO:





1 PARTIAL GROUND FLOOR NATURAL GAS AND COMPRESSED AIR PIPING PLAN - DEMO
 SCALE: 1/4" = 1'-0"

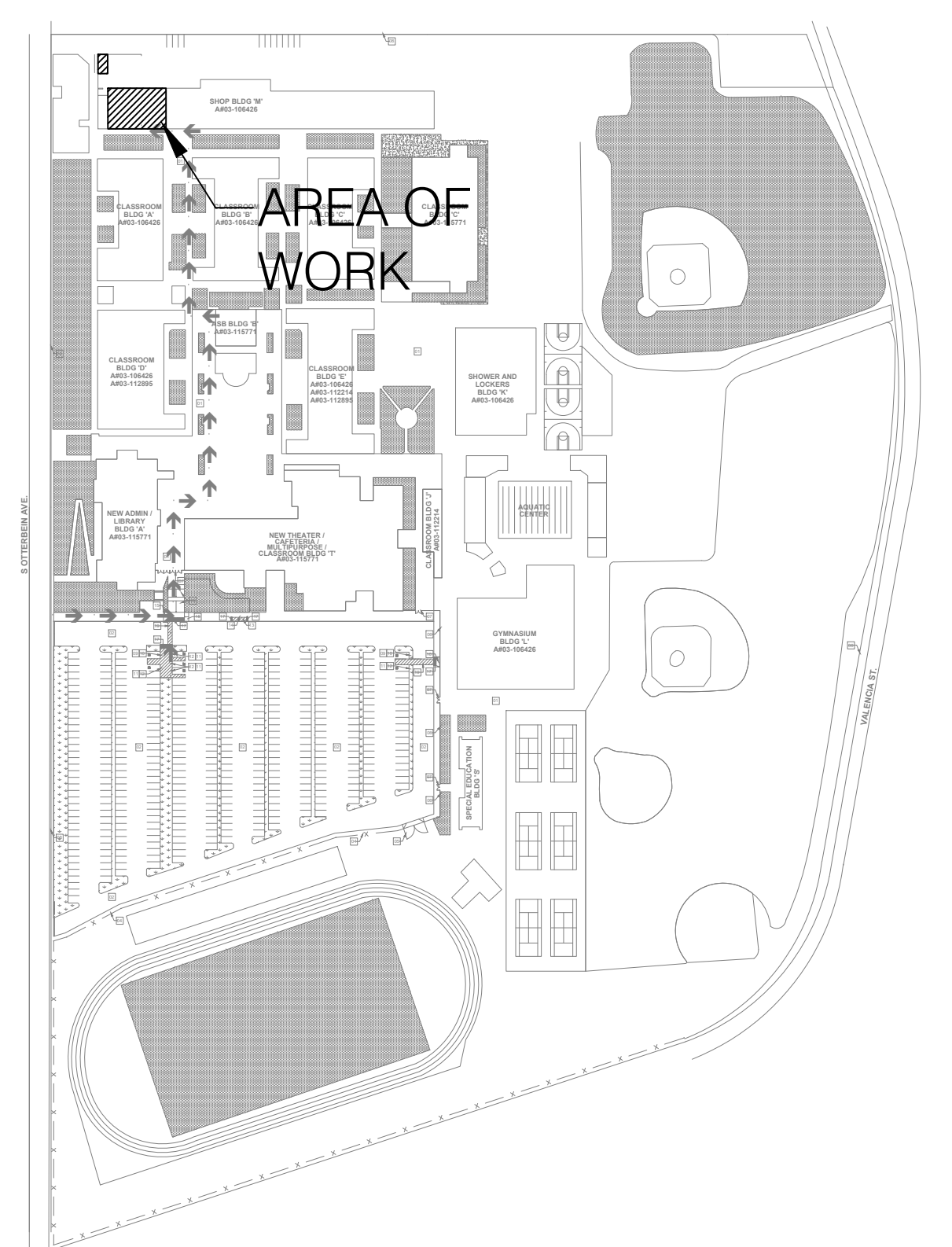
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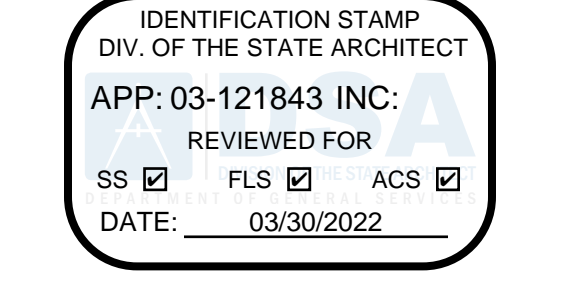
SHEET NOTES:

- CUT, REMOVE, AND CAP EXISTING PIPE LINE FORM POC FOR RECONNECTION. SEE P-3.1 FOR DETAILS.
- EXISTING PIPE CONTINUES TO ADJACENT SPACE. N.I.C.
- DEMOLISH AND REMOVE (E) NATURAL GAS EQUIPMENT W/ ALL ASSOCIATED COMPONENTS. COORDINATE W/ GC FOR PATCHING AND SEALING ANY ROOF OPENING AFTER DEMOLITION.
- CONTRACTOR TO CONFIRM W/ SCHOOL FOR REQUIREMENTS OF REMOVING/KEEPING (E) OVERHEAD CA REELS. REMOVE AND CAP ASSOCIATED CA BACK TO MAIN AS NEEDED.
- (E)HOT CLEANING TANK. CONTRACTOR TO CONFIRM W/ SCHOOL FOR DEMOLITION REQUIREMENT. REMOVE AND REMOVE AND CAP ASSOCIATED CA BACK TO MAIN AS NEEDED.

KEY PLAN

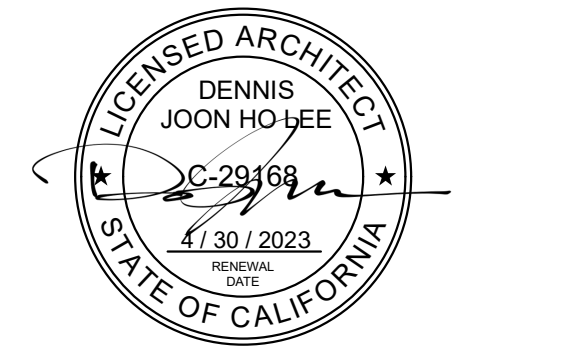


DSA APPLICATION: # 03-121843

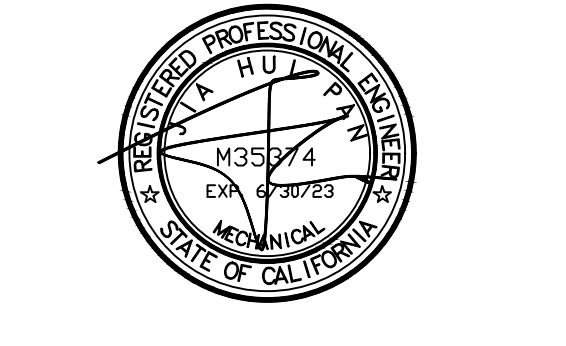


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PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

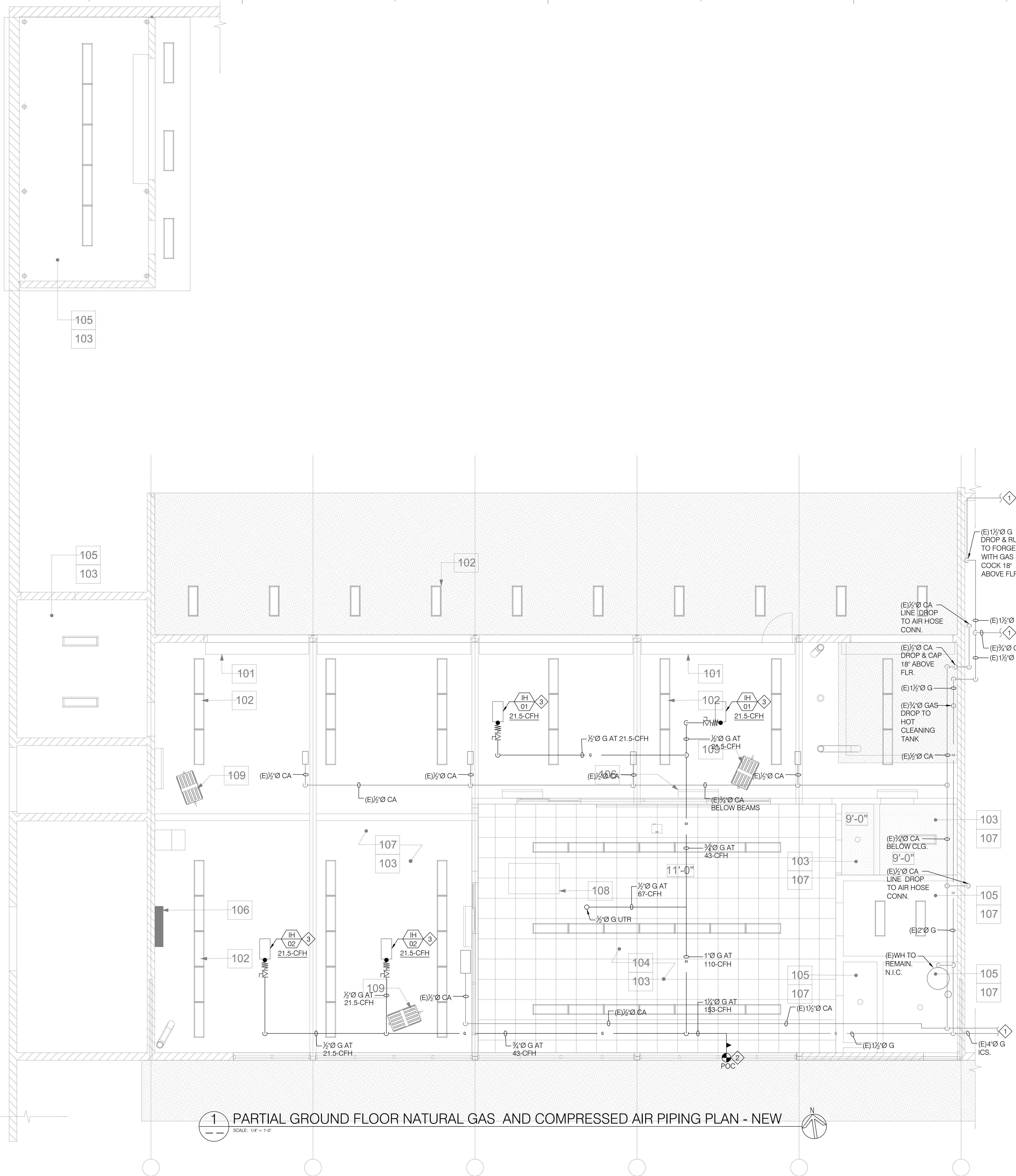
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B:\Moodle\COM-CONCRETE - BIM\Mod\Basic for ARCH\CAD 25/02016.rvt\DWG\Rowland High Auto Shop - Wednesday, September 22, 2021 4:28 PM



1 PARTIAL GROUND FLOOR NATURAL GAS AND COMPRESSED AIR PIPING PLAN - NEW
SCALE: 1/4" = 1'-0"

SHEET NOTES:

- 1 EXISTING PIPE CONTINUES TO ADJACENT SPACE. N.I.C.
- 2 RECONNECT (N) 1" G TO (E) 1 1/2" G W/ LINE-SIZED SHUT-OFF VALVE. CONTRACTOR TO VERIFY EXACT LOCATION, SIZE AND CONDITION OF (E) GAS LINE PRIOR TO CONSTRUCT.
- 3 GAS FIRED INFRARED HEATER FURNISHED AND INSTALLED BY MECHANICAL. PROVIDE GAS CONNECTION W/ SOV AND LISTED FLEXIBLE CONNECTOR TO EQUIPMENT COORDINATE FOR EXACT LOCATION.

DSA APPLICATION: # 03-121843

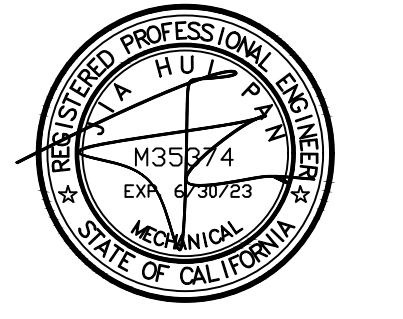
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NOTES:



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PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
ROWLAND HEIGHTS CA 91748
CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

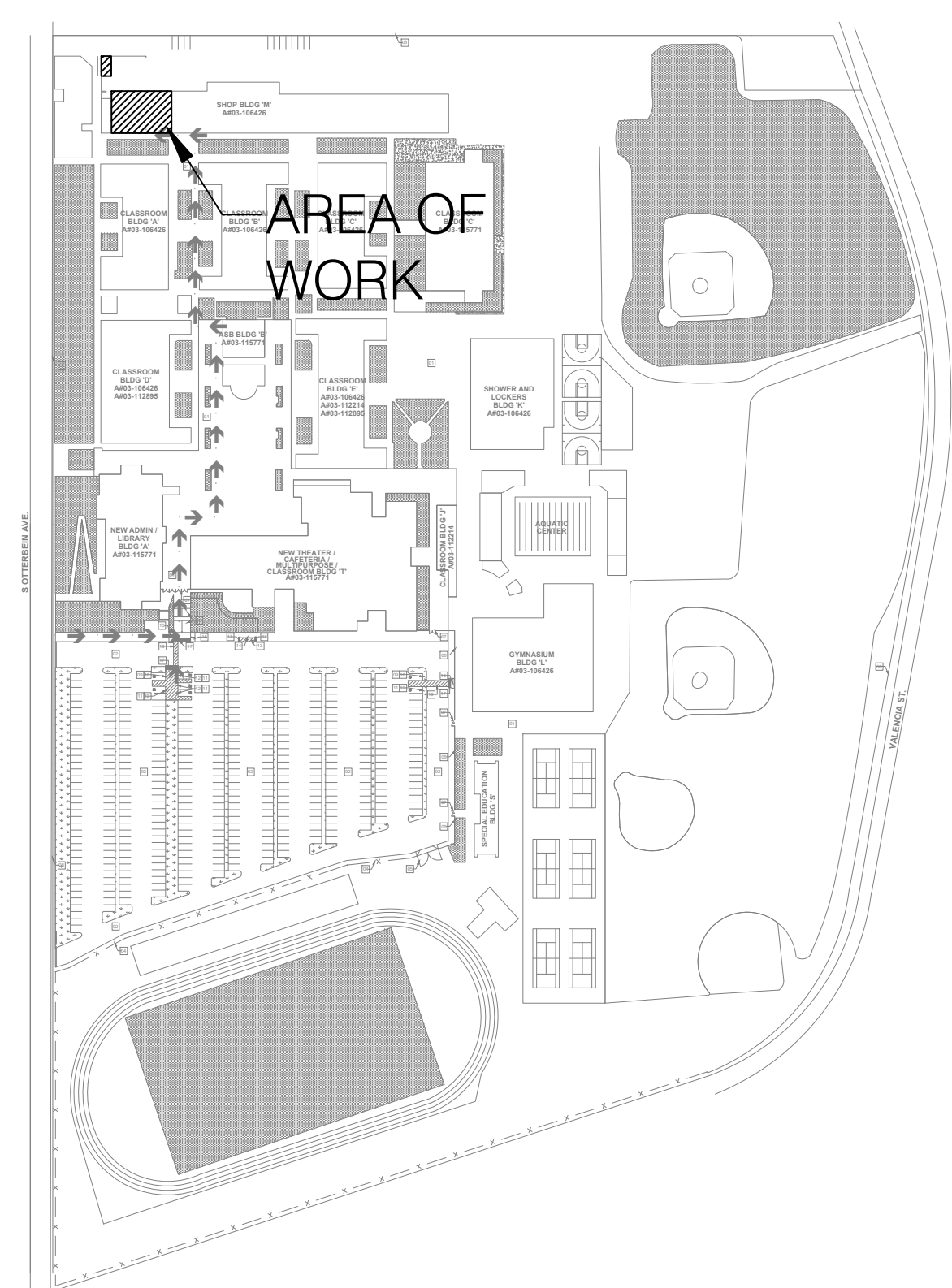
SUBMITTALS REQUIRED:
PERMIT REVIEW SET 04/09/2021
PERMIT SET 08/18/2021

PROJECT NO: 20072
SCALE: AS SHOWN
DATE: 9/22/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE:

PARTIAL GROUND FL. NATURAL GAS AND CA PIPING PLAN - NEW

SHEET NO:

KEY PLAN



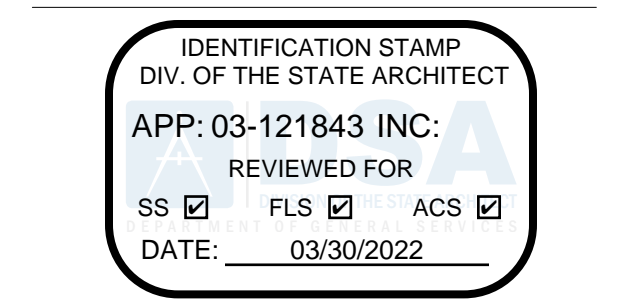
GENERAL DEMOLITION NOTES:

- DEMOLITION SHALL NOT INTERRUPT UTILITY SERVICE OF FACILITY. IF TEMPORARY UTILITY SHUT-DOWN IS REQUIRED, ALWAYS COORDINATE WITH FACILITY FACULTY PRIOR TO SHUT-DOWN.
- ALL DEMOLITION DONE IN PLACE SHALL NOT JEOPARDIZE THE STRUCTURAL INTEGRITY OF EXISTING BUILDING OR EXISTING UTILITY SUPPORT THAT IS REQUIRED TO MAINTAIN.
- ALL WORK SHOWN ON PLAN ARE BASED ON INFORMATION FROM RECORD DRAWING. CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, CONDITION, MATERIAL, AND INVERT (AS NEEDED) PRIOR TO DEMOLITION AND INSTALLATION. REPORT DISCREPANCY OF EXISTING PLUMBING SYSTEM AGAINST INFORMATION ON CONTRACT DOCUMENT TO SCHOOL DISTRICT, ARCHITECT, OR ENGINEER PRIOR TO CONSTRUCT.
- ALL DEMOLITION SHOWN SHALL BE DONE CUT, REMOVING, AND CAP PIPE BACK TO NEAREST MAIN PIPE AND SEALED WATERTIGHT. ALL FLOOR OR WALL OPENING SHALL BE FILLED AND PATCHED TO RECEIVE NEW FLOORING OR PAINTING BY GC.
- CONTRACTOR SHALL CONFIRM WITH SCHOOL DISTRICT FOR REQUIREMENT OF X-RAY TO IDENTIFY STRUCTURE MEMBERS OR UTILITIES BELOW GRADE FOR AVOIDING DAMAGING PRIOR TO EXCAVATION.
- CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, CONDITION, AND MATERIAL OF EXISTING PLUMBING SYSTEM THAT IS INTENDED TO REMAIN AND REUSE. REPORT DEFICIENCY OR CODE COMPLIANCE ISSUE OF EXISTING SYSTEM IF FOUND TO SCHOOL DISTRICT, ARCHITECT, OR ENGINEER.

SHEET NOTES:

- 3"Ø V TERMINATE ON ROOF WITH 3-FEET CLEARANCE TO PROPERTY LINE AND 10-FEET CLEARANCE TO OUTSIDE AIR INTAKE.
- (E) 1½"Ø VENT ON ROOF TO REMAIN.
- PROVIDE ¾"Ø CD WITH TRAP AND VENT TO RTU-01.
- ¾"Ø CD DOWN TO TAIL-PIECE OF LAV. IN RESTROOM. SEE P-2.1 FOR CONT.

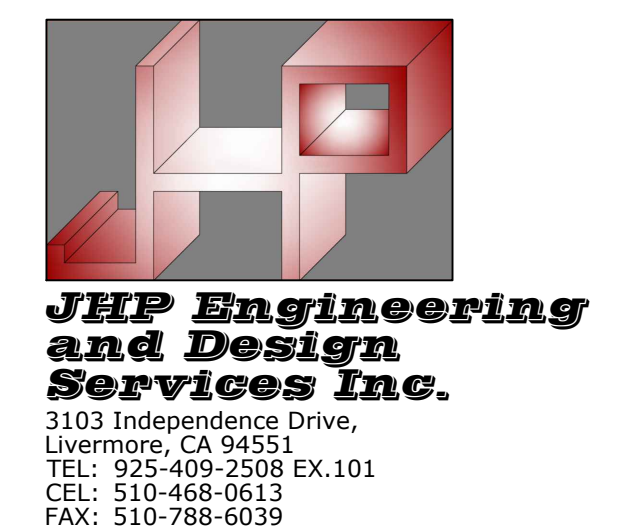
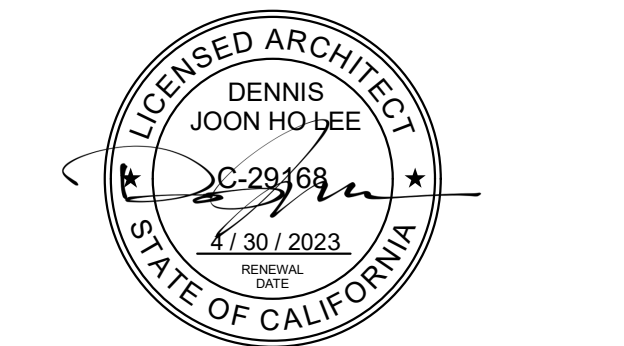
DSA APPLICATION: A# 03-121843



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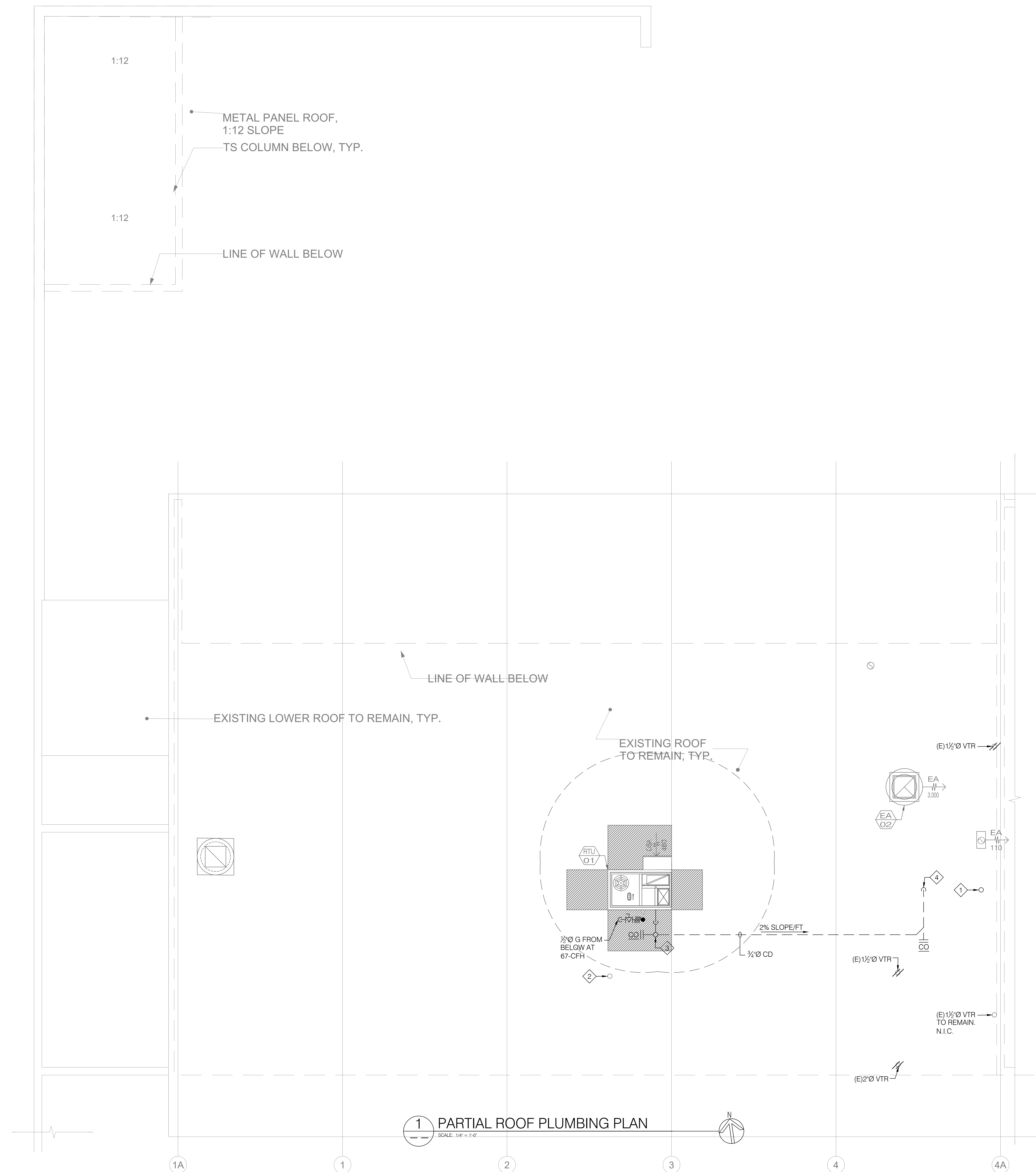
SUBMITTALS REQUIRED:
PERMIT REVIEW SET 04/09/2021
PERMIT SET 08/18/2021

PROJECT NO: 20072
SCALE: AS SHOWN
DATE: 9/22/2021
DRAWN BY: SL
CHECKED BY: JP

SHEET TITLE:
PARTIAL ROOF PLUMBING PLAN

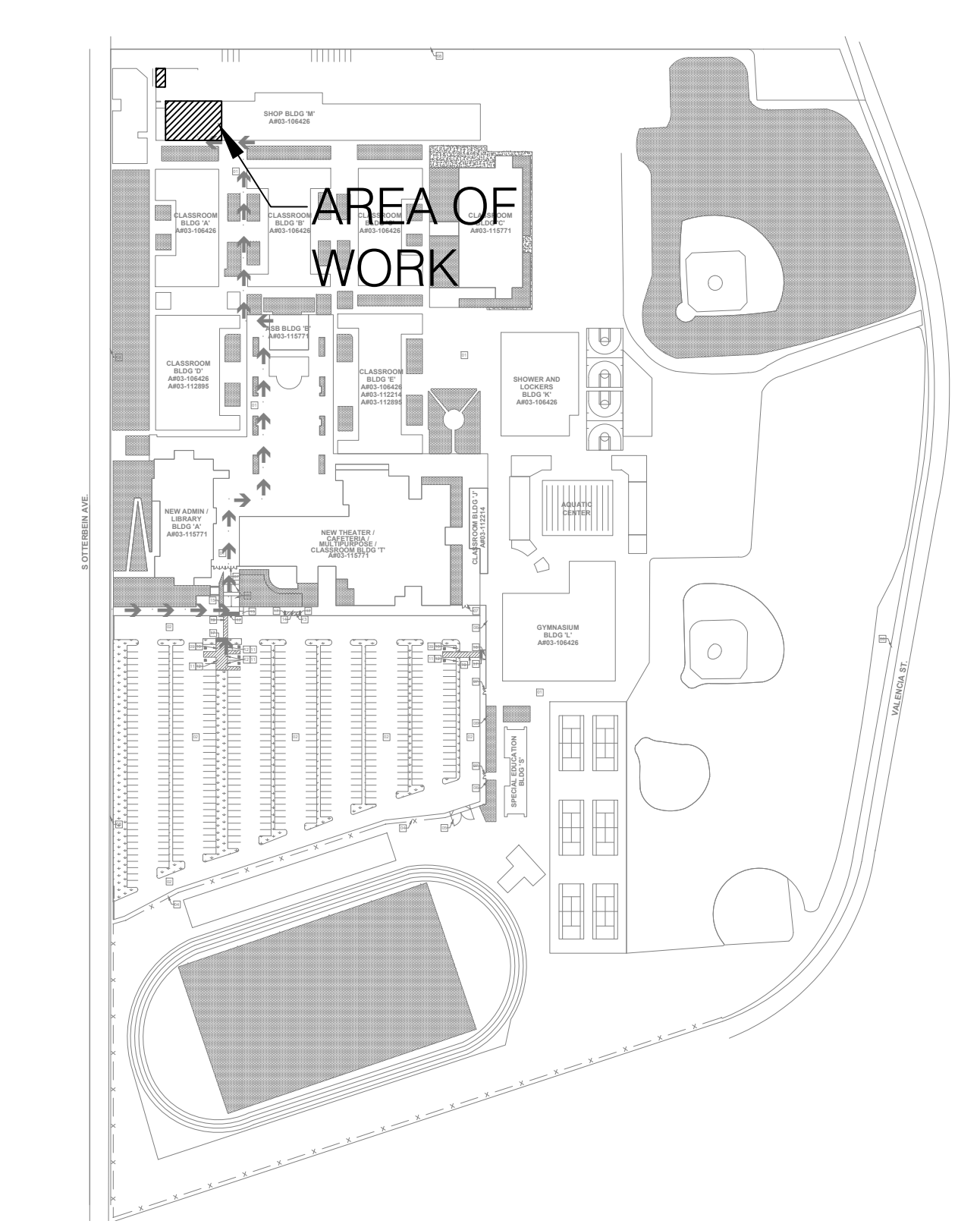
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P-4.0

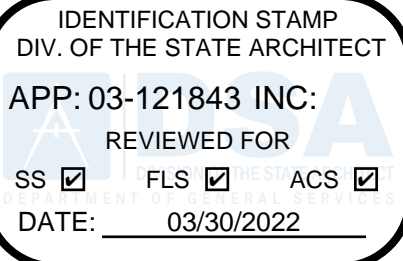


1 PARTIAL ROOF PLUMBING PLAN
SCALE: 1/4" = 1'-0"

KEY PLAN



BIMcloud.COM - CONFORMANCE - BIMcloud Basic for ARCHICAD 23 (2021) E. Rowland High School - Wednesday, September 22, 2021 4:28 PM



ARCHITECT: CO-AR DESIGN, INC. 680 Brea Canyon Road, Suite 178 Diamond Bar, California 91789 Office: 909-598-0186
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NOTES:

ELECTRICAL SYMBOLS

- A LED STRIP LIGHTING.
- AE LED LIGHTING WITH EMERGENCY BATTERY PACK.
- ⊙ CEILING MOUNT LIGHTING OCCUPANCY SENSOR "nLIGHT #nCMPDT10(R)IB."
- ⊙ WALL MOUNTED OCCUPANCY SENSOR SWITCH "ACTIVITY CONTROLS #WSX-PDT". +48" A.F.F., U.O.N.
- ⊙ WALL MOUNT DIMMER SWITCH "nLIGHT #nPDM4PDX". +48" A.F.F., U.O.N.
- Sk KEY SWITCH "nLIGHT #nP0D KEY".
- LV— CONTROL CABLE, PLENUM RATED CAT-5E DATA CABLE WITH JACK.
- ⊙ PANEL DESIGNATION, LETTER IDENTIFIES THE PANEL.
- LIGHTING PANEL.
- HEAVY DUTY DISCONNECT SWITCH.
- St HORSE POWER RATED SWITCH WITHOUT OVERLOAD.
- ⊙ JUNCTION BOX: MOUNTED IN CEILING SPACE OR ON CEILING IF NO CEILING SPACE.
- ⊙ GFI TYPE DUPLEX RECEPTACLE: 125V, 15 AMP., NEMA 5-15R. +18" A.F.F., U.O.N.
- ⊙ DUPLEX OUTLET 125V, 15 AMPS., NEMA 5-15R. +18" A.F.F., U.O.N.
- ⊙ CEILING MOUNT DUPLEX OUTLET 125V, 15 AMPS., NEMA 5-15R.
- ⊙ SINGLE GANG OUTLET, 50 AMPS, 250 VOLTS, NEMA 5-50R.
- +48" TELEPHONE OUTLET, PROVIDE NEW HANDSET, MATCH TO EXISTING.
- ⊙ WALL MOUNT SECURITY MOTION SENSOR, MATCH TO EXISTING.
- ⊙ CEILING MOUNT WIRELESS ACCESS POINT (WAP), MATCH TO EXISTING.
- ⊙ FLUSH 5 SQ. BOX WITH 1-1/4" CONDUIT TO CEILING SPACE.
- 2 ⊙ DUPLEX DATA OUTLET WITH CAT-6 DATA JACK. +18" A.F.F., U.O.N.
- ⊙ CEILING MOUNT DUPLEX DATA OUTLET WITH CAT-6 DATA JACK.
- ⊙ COMBINATION WALL MOUNT CLOCK-SPEAKER, MATCH TO EXISTING.
- ⊙ EMERGENCY CALL BUTTON SWITCH, MATCH TO EXISTING.
- ⊙ SECURITY CCTV CAMERA TO MATCH EXISTING.
- (E) EXISTING.
- GFCI GROUND FAULT CIRCUIT INTERRUPTER. C.O. CONDUIT ONLY.
- A.F.F. ABOVE FINISHED FLOOR. W.P. WEATHERPROOF.
- U.O.N. UNLESS OTHERWISE NOTED. (N) NEW.
- A-1,3,5 HOMERUN TO PANEL "A". CIRCUITS 1, 3, 5.
- CONDUIT: EXPOSED IN UNFINISHED AREAS; CONCEALED ABOVE CEILING OR IN WALL IN FINISHED AREAS.
- 3/4"C,2#12 & 1#12G. 3/4"C,4#12 & 1#12G. 3/4"C,6#12 & 1#12G.

GENERAL NOTES

1. THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO COVER A COMPLETE INSTALLATION OF SYSTEMS. THE OMISSION OF EXPRESSED REFERENCE TO ANY ITEM OF LABOR OR MATERIAL FOR THE PROPER EXECUTION OF THE WORK IN ACCORDANCE WITH PRESENT PRACTICE OF THE TRADE SHALL NOT RELIEVE THE CONTRACTOR FROM PROVIDING SUCH ADDITIONAL LABOR AND MATERIALS.
2. WORK INCLUDES ALL LABOR, MATERIALS, APPLIANCES, TOOLS, EQUIPMENT, FACILITIES, TRANSPORTATION AND SERVICES NECESSARY FOR AND INCIDENTAL TO PERFORMING ALL OPERATIONS IN CONNECTION WITH FURNISHING, DELIVERY AND INSTALLATION OF ELECTRICAL SYSTEM, COMPLETE, AS SHOWN ON THE DRAWINGS AND/OR SPECIFIED HEREIN.
3. CONSTRUCT PROJECT IN ACCORDANCE WITH FOLLOWING CODES, REGULATIONS OF STATE AND LOCAL FIRE MARSHAL, NATIONAL ELECTRIC CODE, NATIONAL FIRE PROTECTION ASSOCIATION, EDITION IN FORCE, LOCAL CODES AND ORDINANCES; TITLE 19, 21 AND 24 CALIFORNIA ADMINISTRATIVE CODE.
4. PERMITS, FEES AND INSPECTIONS: OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND FEES REQUIRED BY ANY CONSTITUTED AUTHORITY HAVING JURISDICTION INCLUDING UTILITIES. ARRANGE AND PAY FOR ALL REQUIRED INSPECTIONS OR EXAMINATIONS AND DELIVER CERTIFICATES OF INSPECTION TO ARCHITECT.
5. RECORD DRAWINGS: ON COMPLETION OF WORK, OBTAIN ONE SET OF XEROX VELLUMS FROM ARCHITECT AT COST OF PRINTING, AND NOTE NEATLY IN SCALE ALL CHANGES ON RECORD SET. DELIVER COMPLETE SET OF VELLUMS TOGETHER WITH ONE SET OF BLUELINE PRINTS TO ARCHITECT TOGETHER WITH CONTRACTOR'S NAME, ADDRESS AND PHONE NUMBER. INCORRECT, NON-LEGIBLE OR NON-REPRODUCIBLE DRAWINGS WILL NOT BE ACCEPTED.
6. SUBMIT A LIST OF MATERIALS AND EQUIPMENT MANUFACTURERS THAT CONTRACTOR INTENDS TO USE. SUBMIT SHOP DRAWINGS FOR: PANELBOARDS, LIGHT FIXTURES, AND DISCONNECT SWITCHES.
7. THE TERM "PROVIDE" USED ON DRAWINGS SHALL BE CONSIDERED TO MEAN "FURNISH AND INSTALL."
8. BEFORE PROCEEDING WITH WORK CAREFULLY CHECK AND VERIFY ALL DIMENSIONS AND SIZES AND ASSUME ALL RESPONSIBILITY FOR FITTING OF MATERIALS AND EQUIPMENT TO OTHER PARTS OF EQUIPMENT AND TO STRUCTURE. WHERE APPARATUS AND EQUIPMENT HAVE BEEN INDICATED ON DRAWINGS, DIMENSIONS HAVE BEEN TAKEN FROM TYPICAL EQUIPMENT OF CLASS INDICATED. CAREFULLY CHECK DRAWINGS AND SEE THAT EQUIPMENT WILL FIT INTO SPACES PROVIDED.
9. LOCATIONS OF CONDUITS, OUTLETS, APPARATUS AND EQUIPMENT INDICATED ON DRAWINGS ARE APPROXIMATE ONLY AND SHALL BE CHANGED TO MEET ARCHITECTURAL AND STRUCTURAL CONDITIONS AS REQUIRED.
10. BE CAUTIONED THAT DIAGRAMS SHOWING ELECTRICAL CONNECTIONS ARE DIAGRAMMATIC ONLY AND MUST NOT BE USED FOR OBTAINING LINEAL RUNS OF WIRING OR CONDUIT. WIRING DIAGRAMS DO NOT NECESSARILY SHOW EXACT PHYSICAL ARRANGEMENT OF EQUIPMENT.
11. EXTRA WORK OR COSTS TO THIS CONTRACTOR DUE TO OTHER CONTRACTORS OR TRADES SHALL BE ADJUSTED BETWEEN THIS CONTRACTOR AND OFFENDING CONTRACTOR AT NO EXTRA COST TO OWNER. NOTIFY ARCHITECT BEFORE SUCH EXTRA WORK IS DONE.
12. WHERE CONDUITS PASS THROUGH SLEEVES IN INTERIOR WALLS, FLOORS, OR CEILINGS, COMPLETELY FILL SPACE BETWEEN EACH CONDUIT AND ITS SLEEVE TO PROVIDE AN AIRTIGHT SEAL.
13. USE GLASS FIBER MATERIAL, "DUXSEAL" COMPOUND, FOR ACOUSTIC SEALS.
14. ALIGN WALL-MOUNTED OUTLET BOXES FOR SWITCHES, THERMOSTATS, AND SIMILAR DEVICES.
15. PROVIDE CAST OUTLET BOXES IN EXTERIOR LOCATIONS AND WET LOCATIONS.
16. WHERE BOXES ARE INSTALLED IN FIRE RATED CEILING OR WALLS, BE RESPONSIBLE FOR PRESERVING INTEGRITY OF FIRE RATING AS REQUIRED.
17. IN FIRE-RATED WALL, USE 4" SQUARE DEEP BOXES. DO NOT AGGREGATE MORE THAN 100 SQUARE INCHES OF BOXES FOR ANY 100 SQUARE FEET OF WALL OR PARTITIONS. SEPARATE OUTLET BOXES ON OPPOSITE SIDES OF WALLS OR PARTITION BY A MINIMUM HORIZONTAL DISTANCE OF 24 INCHES.
18. PROVIDE COPPER CONDUCTORS ONLY.
19. PROVIDE TYPE "THHN" OR "THWN" WIRES ONLY.
20. MOUNT RECEPTACLES, TELEPHONES AND J-BOXES LOCATED IN WALL AT +18" FROM FLOOR LINE TO CENTER LINE OF OUTLET UNLESS OTHERWISE NOTED ON PLAN.
21. PROVIDE "UL APPROVED" OR "UL LISTED" ELECTRICAL EQUIPMENT ONLY.
22. PROVIDE WHEREVER NECESSARY ALL ADDITIONAL BACKING, BLOCKING AND SUPPORTS FOR LIGHT FIXTURES.
23. USE RIGID GALVANIZED STEEL CONDUIT FOR ALL SIZES WHERE DIRECTLY EXPOSED TO WEATHER, WHERE SUBJECT TO ABNORMAL CONDITIONS OF HEAT, COLD, MOISTURE, HUMIDITY, FUMES AND HAZARDOUS ELEMENTS; WHERE INSTALLED EXPOSED BELOW 7-1/2 FEET, IN AREAS WHERE SUBJECT TO MECHANICAL INJURY INCLUDING MECHANICAL AND EQUIPMENT ROOMS; AND IN CONCRETE SLABS ON GRADE.
24. EMT CONDUIT WITH COMPRESSION TYPE FITTINGS MAY BE USED FOR ALL SIZES UP TO 1-1/2 INCHES MAXIMUM TRADE SIZE IN DRY LOCATIONS AS IN STUD PARTITIONS AND FURRED CEILING SPACES. CONDUITS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET TO PANEL EXCEPT WHERE RIGID STEEL CONDUIT IS REQUIRED OR INDICATED. EMT SHALL NOT BE RUN EXPOSED, IN CONCRETE, RUNS MORE THAN 100 FEET FOR POWER FEEDERS.
25. USE FLEXIBLE STEEL CONDUIT ONLY WHERE INDICATED AND FOR SHORT MOTOR OR VIBRATING EQUIPMENT CONNECTIONS, MINIMUM 36 INCHES LONG, OR FOR CONNECTIONS TO RECESSED FIXTURES FROM JUNCTION OR PULLBOXES. MAXIMUM LENGTH FOR ANY APPLICATION SHALL BE 6 FEET. PROVIDE LIQUIDTIGHT FLEXIBLE CONDUIT WITH SEPARATE INSULATED, STRANDED COPPER EQUIPMENT GROUND CONDUCTOR FOR CONNECTIONS IN AREAS EXPOSED TO THE WEATHER, DAMP OR WET LOCATIONS AND CONNECTIONS TO MOTORS AND TRANSFORMER ENCLOSURES, REGARDLESS OF LOCATION.
26. WIRING DEVICES: HIGHEST SPECIFICATION GRADE, COLOR AS SELECTED BY ARCHITECT OR INTERIOR DESIGNER.
27. WIRING DEVICE PLATES: COLOR-FINISH AS SELECTED BY ARCHITECT OR INTERIOR DESIGNER.
28. PROVIDE ALL NECESSARY J-BOXES AND PULL BOXES OF PROPER SIZES AS REQUIRED.
29. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY AND INDICATE GENERAL ARRANGEMENT OF WORK. BE RESPONSIBLE FOR CHECKING AND COORDINATING WITH OTHER TRADES AND VERIFYING SPACE IN WHICH WORK WILL BE INSTALLED.
30. EXISTING CONDITIONS AS INDICATED ON THESE DRAWINGS HAVE BEEN OBTAINED FROM BEST SOURCES AVAILABLE BUT CANNOT BE GUARANTEED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS BEFORE PROCEEDING WITH WORK. INCLUDE AS PART OF CONTRACT ALL WORK REQUIRED TO PRODUCE THE INDICATED RESULT.
31. SEAL ALL SPACE AROUND CONDUIT PENETRATION THROUGH FIRE-RATED WALL WITH A UL LISTED FIRE BARRIER COMPOUND. "3M" CAULKING OR EQUAL.
32. INCLUDE ALL ELECTRICAL DEMOLITION AS PART OF THIS CONTRACT. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF WALL REMOVALS, CEILING CHANGES AND ALL OTHER SIMILAR WORK. ELECTRICAL DEMOLITION SHALL INCLUDE DISCONNECT AND REMOVAL OF AFFECTED LIGHTS, OUTLETS AND ALL OTHER ELECTRICAL DEVICES. REMOVE AND PLUG OR CAP ALL AFFECTED CONDUITS. REMOVE WIRES, IF REMOVED OUTLETS AFFECT DOWNSTREAM ACTIVE OUTLETS, PROVIDE ALL WORK NECESSARY TO REROUTE AND RECONNECT AFFECTED CIRCUITS.

LIGHTING FIXTURE SCHEDULE

TYPE	MTG.	MANUFACTURER AND CATALOG NUMBER	FINISH	LAMP	TOTAL WATTS	VOLT	DESCRIPTION
				TYPE			
A	PEN	MARK LIGHTING #PLN8-LSL-MSL4-80CRI-40K-ID800LMF-2080-MIN1-MVOLT-nLIGHT-FLEP-F2-36A	WH	LED	24.3	120	PENDANT MOUNT LED LIGHTING FIXTURE WITH COMPLETE MOUNTING ACCESSORY.
B	CLG	LITHONIA #STL4-20L-EZ1-LP840-LSXR10	WH	LED	20	120	SURFACE MOUNT LED LIGHTING FIXTURE WITH COMPLETE MOUNTING ACCESSORY AND BUILT-IN SENSOR SWITCH.
C	PEN	MARK LIGHTING #PLN8-LSL-MSL4-80CRI-40K-ID1000LMF-2080-MIN1-MVOLT-nLIGHT-FLEP-F2-36A	WH	LED	31.6	120	PENDANT MOUNT LED LIGHTING FIXTURE WITH COMPLETE MOUNTING ACCESSORY.
CE	PEN	MARK LIGHTING #PLN8-LSL-MSL4-80CRI-40K-ID1000LMF-2080-MIN1-MVOLT-nLIGHT-FLEP-F2-36A-E10WLC	WH	LED	31.6	120	SAME AS TYPE "C" EXCEPT WITH BUILT-IN EMERGENCY BATTERY PACK.
D	REC	LITHONIA #WRTL-F-L48-5000LM-AFL-MVOLT-EZ1-80CRI-MSE6NWL	WH	LED	38	120	RECESSED MOUNT LED LIGHTING FIXTURE WITH COMPLETE MOUNTING ACCESSORY AND BUILT-IN SENSOR SWITCH.
F	CLG	LITHONIA #FEM-L48-4000LM-IMAF-LMD-120-GZ10-80CRI-nLIGHT	WH	LED	27	120	SURFACE MOUNT LED LIGHTING FIXTURE WITH COMPLETE MOUNTING ACCESSORY AND BUILT-IN SENSOR SWITCH.
G	REC	LITHONIA #LDN6-40/40-L06ARLD-120-GZ10	STD	LED	44	120	6" DIAMETER LED DOWNLIGHT WITH COMPLETE MOUNTING ACCESSORY.
H	REC	LITHONIA #LDN6-40/15-L06ARLD-120-GZ10	STD	LED	17	120	6" DIAMETER LED DOWNLIGHT WITH COMPLETE MOUNTING ACCESSORY.

EXISTING CONDITION NOTES

1. THE WORK OF THIS PROJECT INCLUDES ALTERATIONS TO THE EXISTING SPACE TO ACHIEVE THE ARRANGEMENT INDICATED ON THE DRAWINGS. THE CONTRACTORS SHALL VISIT THE JOB SITE TO DETERMINE THE EXTENT OF DEMOLITION WORK REQUIRED BY CONSTRUCTION ACTIVITIES. THE ARCHITECTURAL DRAWINGS FOR THESE AREAS SHOW THE CHANGES TO BE MADE. THE ELECTRICAL CONTRACTOR SHALL REVISE, RE-ARRANGE, RE-ROUTE OR REMOVE EXISTING WIRING AS REQUIRED TO ACCOMMODATE THE CHANGES AND ADDITIONS SHOWN AND TO PROVIDE CONTINUING SERVICE FOR THE AREAS OF THE PROJECT WHICH ARE TO REMAIN IN OPERATION.
2. THESE DRAWINGS INDICATE THE FINISHED REQUIREMENTS FOR THE ELECTRICAL SYSTEMS, EQUIPMENT, LIGHTING FIXTURES, OUTLETS AND DEVICES. DUE TO STRUCTURAL CONDITIONS, MECHANICAL OR DUCT PIPING INTERFERENCE, RETAINED EXISTING FACILITIES OR FOR OTHER REASONS, THE CONTRACTOR MAY DESIRE TO INSTALL THE WORK IN A MANNER DIFFERENT FROM THAT SHOWN. SUCH CHANGES SHALL BE PRESENTED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL BEFORE PROCEEDING, AND THE RECORD DRAWINGS SHALL BE ACCURATELY REVISED TO SHOW THE CHANGES AS COMPLETED.
3. EXISTING ELECTRICAL WIRING MAY BE RE-USED WHERE IT IS IN COMPLIANCE WITH THE JOB REQUIREMENTS AND CODE PROVISIONS AND DOES NOT INTERFERE WITH ACCOMPLISHMENT OF THE WORK BEING DONE.
4. ALL EXISTING LIGHTING FIXTURE NOT TO BE RE-USED IN THEIR PRESENT LOCATIONS SHALL BE CAREFULLY REMOVED AND STORED IN A SAFE PLACE. THEY SHALL BE MADE AVAILABLE FOR INSPECTION BY THE OWNER'S REPRESENTATIVE WHO WILL DESIGNATE THOSE TO BE RE-USED, THOSE TO BE STORED BY THE OWNER AND THOSE TO BE REMOVED FROM THE PREMISES BY THE CONTRACTOR.
5. THE OUTLETS SHOWN ON THE DRAWINGS ARE THOSE THAT NOW EXIST. THE CONTRACTOR SHALL VISIT THE JOB SITE TO DETERMINE WHICH EXISTING OUTLETS AND DEVICES ARE TO REMAIN AND THE CONDUIT AND OTHER MATERIALS WHICH MAY BE REMOVED TO PROVIDE THE DESIRED ARRANGEMENT.
6. IN AREAS WHERE THERE ARE NO ALTERATIONS INDICATED, THE EXISTING FACILITIES SHALL BE RETAINED IN SERVICE. IN CASE OF DOUBT, ASSUME THAT THE ELECTRICAL WIRING IS TO REMAIN IN OPERATION THROUGHOUT THE CONSTRUCTION PERIOD AND THEREAFTER.
7. THE ALTERATION OF EXISTING SPACE IS A WORK OF A COMPLEX NATURE WHICH WILL REQUIRE ACCURATE PLANNING, CAREFUL PREPARATION AND EXECUTION, ATTENTION TO DETAIL AND CLOSE SUPERVISION BY THE CONTRACTOR. HE WILL BE REQUIRED TO DO HIS SCHEDULING ARRANGEMENT TO MINIMIZE DISRUPTION OF NORMAL ACTIVITIES OF THE BUILDING. WHERE SHUTDOWN OF POWER TO EXISTING PANELS IS REQUIRED TO ALTERATION WORK, IT SHALL BE DONE AT A TIME SPECIFIED AND SCHEDULED BY THE OWNER'S REPRESENTATIVE.
8. WHERE INTERRUPTION OF A CIRCUIT FEEDING EXISTING EQUIPMENT, RECEPTACLES, LIGHTING FIXTURES OR BECAUSE OF NEW WORK, THE CIRCUIT SHALL BE REHABILITATED AND MADE CONTINUOUS FROM PANEL TO LAST EXISTING OUTLET.

MEP Component Anchorage Note
All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA-approved construction documents. The following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2019 CBC Sections 1617A.1.18 through 1617A.1.26 and ASCE 7-16 Chapters 13, 26 and 30:
1. All permanent equipment and components.
2. Temporary, movable or mobile equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water. "Permanently attached" shall include all electrical connections except plugs for 110/220 volt receptacles having a flexible cable.
3. Temporary, movable or mobile equipment which is heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component is required to be restrained in a manner approved by DSA.

The following mechanical and electrical components shall be positively attached to the structure but need not demonstrate design compliance with the references noted above. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit. Flexible connections must allow movement in both transverse and longitudinal directions:
A. Components weighing less than 400 pounds and having a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

The anchorage of all mechanical, electrical and plumbing components shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and acceptance by DSA. The project inspector will verify that all components and equipment have been anchored in accordance with the above requirements.
Piping, Ductwork, and Electrical Distribution System Bracing Note
Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-16 Section 13.3 as defined in ASCE 7-16 Sections 13.6.5, 13.6.6, 13.6.7, 13.6.8; and 2019 CBC, Sections 1617A.1.24, 1617A.1.25 and 1617A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., OSHPD OPM for 2013 CBC or later), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):
MP MD PP E
 details
 Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #)

CABLE TYPE

- "S" CABLE - "WEST PENN" NO. 240, 2 PAIR #22 - SECURITY ZONE & POWER FEED.
- "A" CABLE - "WEST PENN" NO. 355, 1 PAIR SHIELDED & 1 PAIR UNSHIELDED #22 - TEL/PA.
- "C" CABLE - 3#12 CLOCK WIRING.
- "D" CABLE - 4 PAIR #24 UTP CATEGORY 6 CABLE AS MANUFACTURED BY COMSCOPE.
- "T" CABLE - 4 PAIR #24 UTP CATEGORY 6 CABLE AS MANUFACTURED BY COMSCOPE.

SECURITY CABLE AND WIRING

- 1S— 3/4" CONDUIT WITH ONE "S" CABLE.
- 2S— 3/4" CONDUIT WITH TWO "S" CABLES.

TELEPHONE CABLE AND WIRING

- 1T— 3/4" CONDUIT WITH ONE "T" CABLE.
- 2T— 1" CONDUIT WITH TWO "T" CABLES.

CLOCK CABLE & WIRING

- C— 3/4" CONDUIT WITH ONE "C" CABLE.

PA/IC, SPEAKER CABLE & WIRING

- 1A— 3/4" CONDUIT WITH ONE "A" CABLE.
- 2A— 3/4" CONDUIT WITH TWO "A" CABLES.

COMPUTER DATA CABLE & WIRING

- 1D— 3/4" CONDUIT WITH ONE "D" CABLE.
- 2D— 3/4" CONDUIT WITH TWO "D" CABLES.
- 3D— 3/4" CONDUIT WITH THREE "D" CABLES.
- 4D— 3/4" CONDUIT WITH FOUR "D" CABLES.
- 5D— 1" CONDUIT WITH (5) "D" CABLES.
- 6D— 1" CONDUIT WITH (6) "D" CABLES.

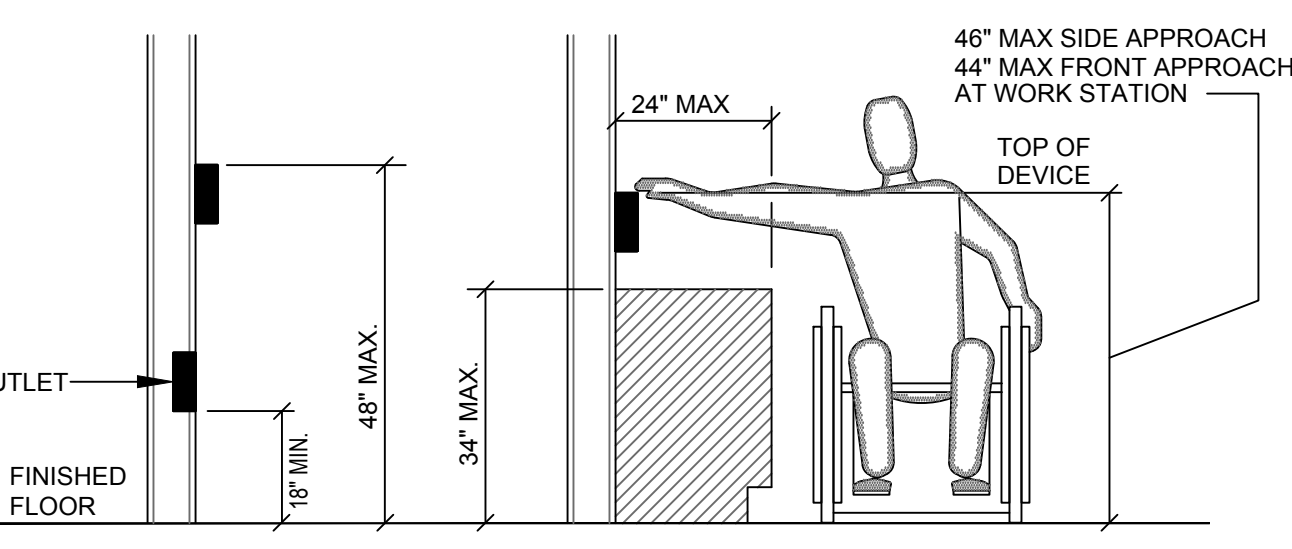
CODES, STANDARDS & GUIDES

PARTIAL LIST OF APPLICABLE CODES AS OF January 1, 2020
2019 California Administrative Code, Part 1, Title 24 C.C.R.
2019 California Building Code (CBC), Part 2, Title 24 C.C.R.
(2018 International Building Code Volumes 1-2 and 2019 California Amendments)
2019 California Electrical Code (CEC), Part 3, Title 24 C.C.R.
(2017 National Electrical Code and 2019 California Amendments)
2019 California Mechanical Code (CMC) Part 4, Title 24 C.C.R.
(2018) Uniform Mechanical Code and 2019 California Amendments)
2019 California Plumbing Code (CPC), Part 5, Title 24 C.C.R.
(2019) Uniform Plumbing Code and 2019 California Amendments)
2019 California Energy Code (CEC), Part 6, Title 24 C.C.R.
2019 California Fire Code, Part 9, Title 24 C.C.R.
(2018 International Fire Code and 2019 California Amendments)
2019 California Green Building Standards Code, Part 11, Title 24 C.C.R.
2019 California Referenced Standards, Part 12, Title 24 C.C.R.
Title 19 C.C.R. - Public Safety, State Fire Marshal Regulations.
2016 ASME A17.1-13SA B44-13 Safety Code for Elevators and Escalators (per 2019 CBC Part 2 Ch 35)

PARTIAL LIST OF APPLICABLE STANDARDS
NFPA 13 Automatic Sprinkler Systems 2016 Edition
NFPA 14 Standpipe Systems 2016 Edition
NFPA 17 Dry Chemical Extinguishing Systems 2017 Edition
NFPA 17A Wet Chemical Systems 2017 Edition
NFPA 20 Stationary Tanks 2016 Edition
NFPA 22 Water Tanks for Private Fire Protection 2016 Edition
NFPA 54 Private Fire Mans 2016 Edition
NFPA 72 National Fire Alarm Code 2016 Edition
NFPA 80 Fire doors and Other Opening Protectives 2016 Edition
NFPA 92 Standard for Smoke Control Systems 2012 Edition
NFPA 253 Critical Radiant Flux of Floor Covering Systems 2015 Edition
NFPA 2001 Clean Agent Fire Extinguishing Systems 2015 Edition
ICC 300 ICC Standards on Bleachers, Folding and Telescoping Seating and Grand stands 2012 Edition
UL 300 Fire Testing of Fire Extinguishing Systems for Protection Of Restaurant Cooking Areas 2017 Edition
UL 464 Audible Signal Appliances 2003 Edition
UL 521 Heat Detectors for Fire Protective Signaling Systems 1999 Edition

Reference code section for NFPA Standards- 2019 CBC (SFM) Chapter 35. See Chapter 35 for State of California amendments to NFPA Standards.

* All parts of the 2019 California Building Code become effective January 1, 2020 except the effective date for the use of the 2019 Building Energy Efficiency Standards (Title 24, Part 1, Chapter 10 and Part 6, and affected provisions in Part 11 (Cal Green Building Standards Code)) is January 8, 2019 and the effective date for California Administrative Code, Part 1, Title 24 is January 8, 2019.



MOUNTING HEIGHTS OVER OBSTRUCTION
N.T.S.
TYPICAL MOUNTING HEIGHTS ABOVE FINISHED FLOOR (UNLESS OTHERWISE NOTED ON DRAWINGS)
+48" TO TOP OF BOX LIGHT SWITCHES, DIMMER SWITCHES, FIRE ALARM PULL STATION, DUCT DETECTOR TEST PANEL, INTERCOM CALL SWITCH, SPEAKER VOLUME CONTROL, T-STATS, BY-PASS TIMER, WALL TELEPHONE.
+18" TO BOTTOM OF BOX ALL DUPLEX RECEPTACLES, WALL OUTLET FOR DESK TELEPHONE, COMPUTER OUTLET, UNLESS OTHERWISE NOTED.

PROJECT: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

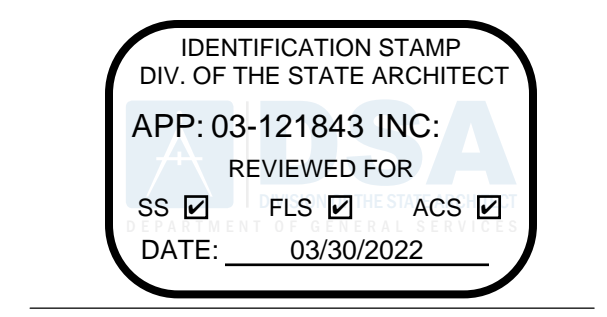
2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748

CLIENT: ROWLAND UNIFIED SCHOOL DISTRICT 1830 NOGALES STREET ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS:
1 DESIGN DEVELOPMENT 4/22/2021
2 CONSTRUCTION DOCUMENTATION 7/2/2021
3 DSA SUBMITTAL 10/8/2021

PROJECT NO: 202016
SCALE: AS SHOWN
DATE: 9/22/2021
DRAWN BY: JF
CHECKED BY: HY
SHEET TITLE:

SYMBOL LIST, FIXTURE SCHEDULE, CODES, NOTES & DETAIL

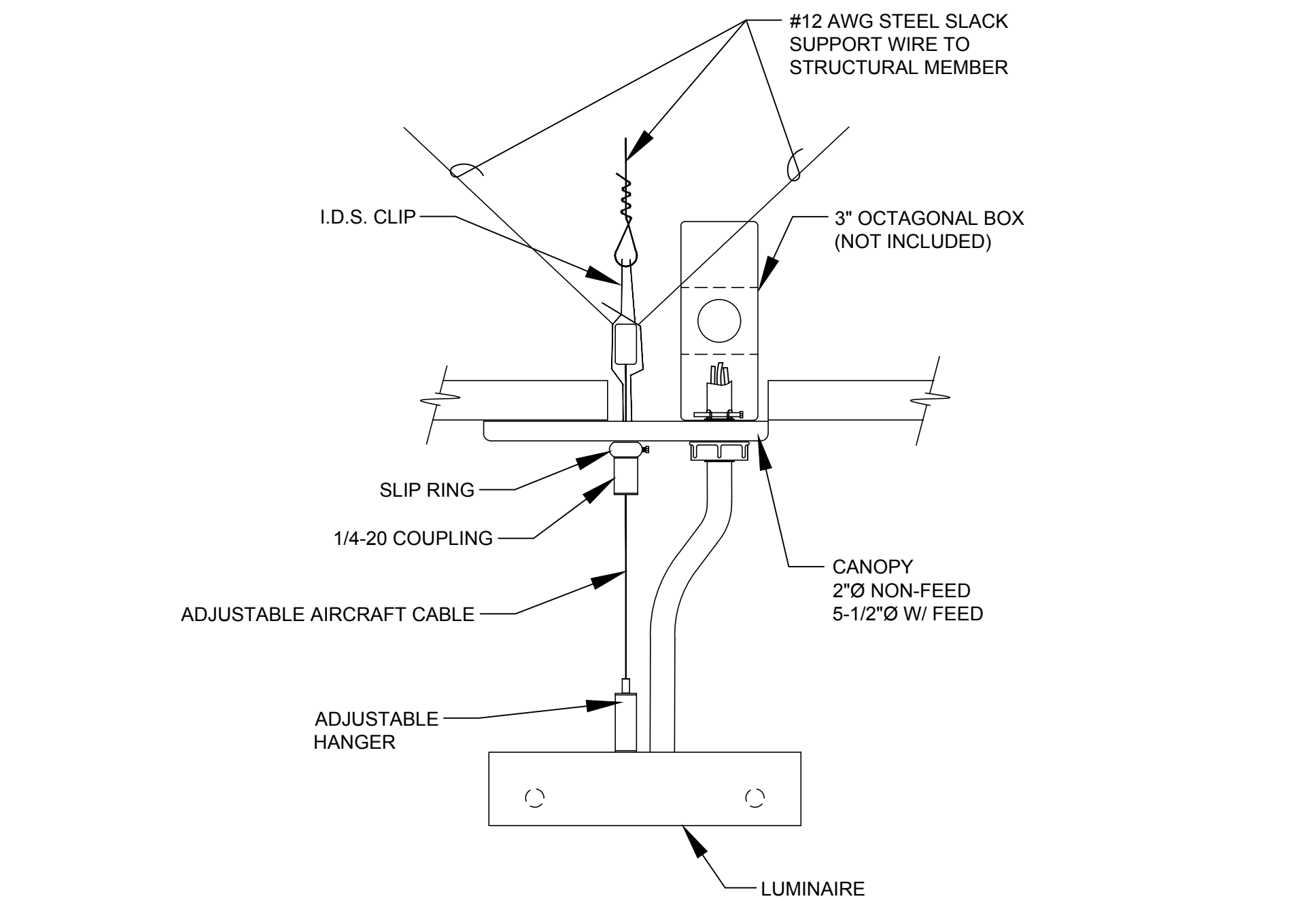


CO-AR DESIGN, INC.
680 Brea Canyon Road, Suite 178
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Dennis J. Lee, N.CARB dennis@coar-design.com

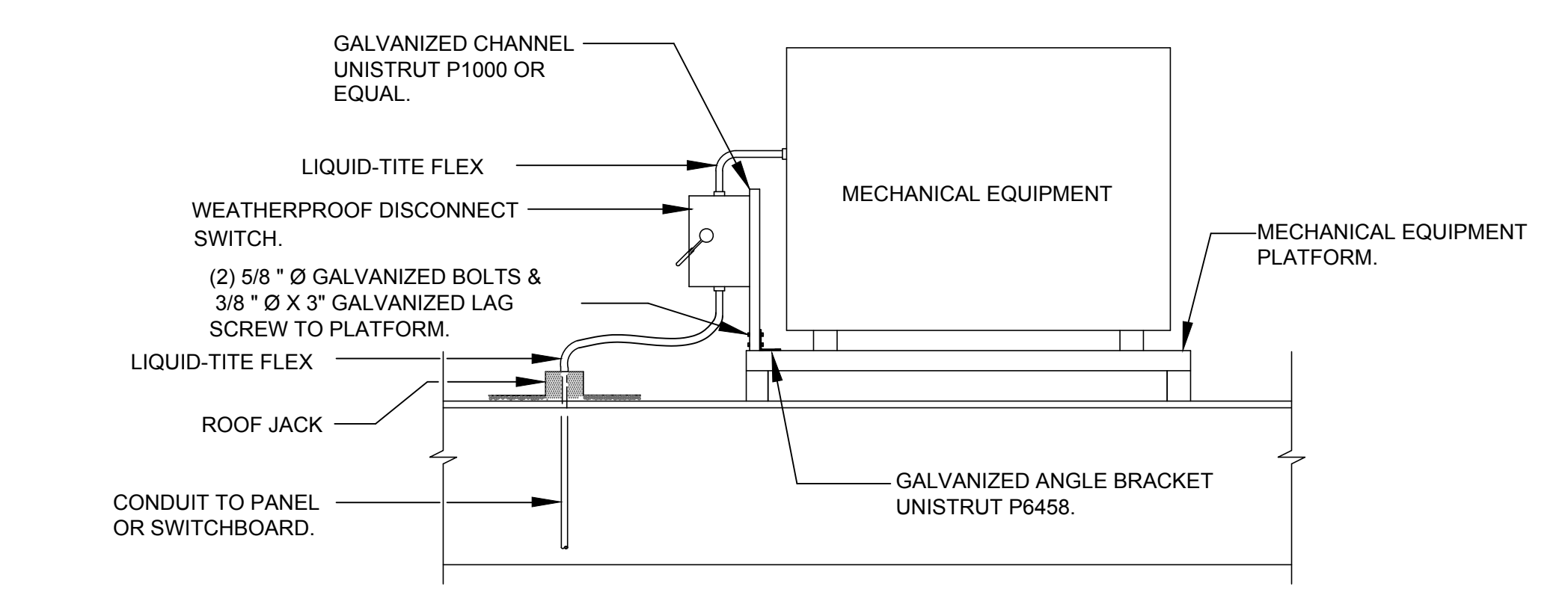
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NOTES:

(NEW) PANEL MA											
120/208 VOLTS			MAIN BRK: 150 AMPS, 3 POLE CB			BUS RATING: 225A			LOCATION: NEW CLASSROOM		
3 PHASE			FEEDER: EXISTING			MOUNTING: FLUSH					
4 WIRE											
LOCATION	WATTAGE	LTG	REC	MIS	CIR	BKR	PH-A	PH-B	PH-C	LOCATION	WATTAGE
LTG. CLASSROOM OFF. RESTROOM. STO.	834	27		1	1	20-1				ROLL-UP DOOR 1/3 HP	864
LTG. AUTO SHOP STORAGE	704	23			3	20-1				ROLL-UP DOOR 1/3 HP	864
LTG. AUTO SHOP		474	15		5	20-1				ROLL-UP DOOR 1/3 HP	864
LTG. EXTERIOR	268	10			7	20-1				ROLL-UP DOOR 1/3 HP	864
RECEPTACLE	360		2		9	20-1				PROJECTOR	800
RECEPTACLE	180		1		11	20-1				ROOF RECEPTACLE	180
RECEPTACLE	800			1	16	20-1				ELCOND	1920
SPARE					17	20-2				ROOF EXH FAN 1 HP	
SPARE					19					SPARE	
SPARE					21	20-2				SPARE	
SPARE					23					SPARE	
SPARE					25	20-1				SPARE	
SPARE					27	20-1				SPARE	
HAND DRYER	1500			1	29	20-1				4180 WELDING MACH.	4180
SPARE					31	20-3				4160 WELDING MACH.	4160
SPARE					33					4180 WELDING MACH.	4180
RTU-01 ON ROOF	3480			1	37	45-3				2100 (E)SH COMPRESSOR	2100
RTU-01 ON ROOF	3480				39					2100	2100
RTU-01 ON ROOF	3480				41					2100	2100
PH-A= 12928 VA	PH-B= 13332 VA	PH-C= 19638 VA									
TOTAL CONNECTED LOAD: 45898 VA	OR 127.49 AMPS @ 120/208 VOLTS	- 3 PHASE									
LCL: 2278 VA	X 1.25% = 2847.5 VA										
FDL: 49620 VA	+ 2848 VA (LCL) = 46468 VA	OR 129.1 A									

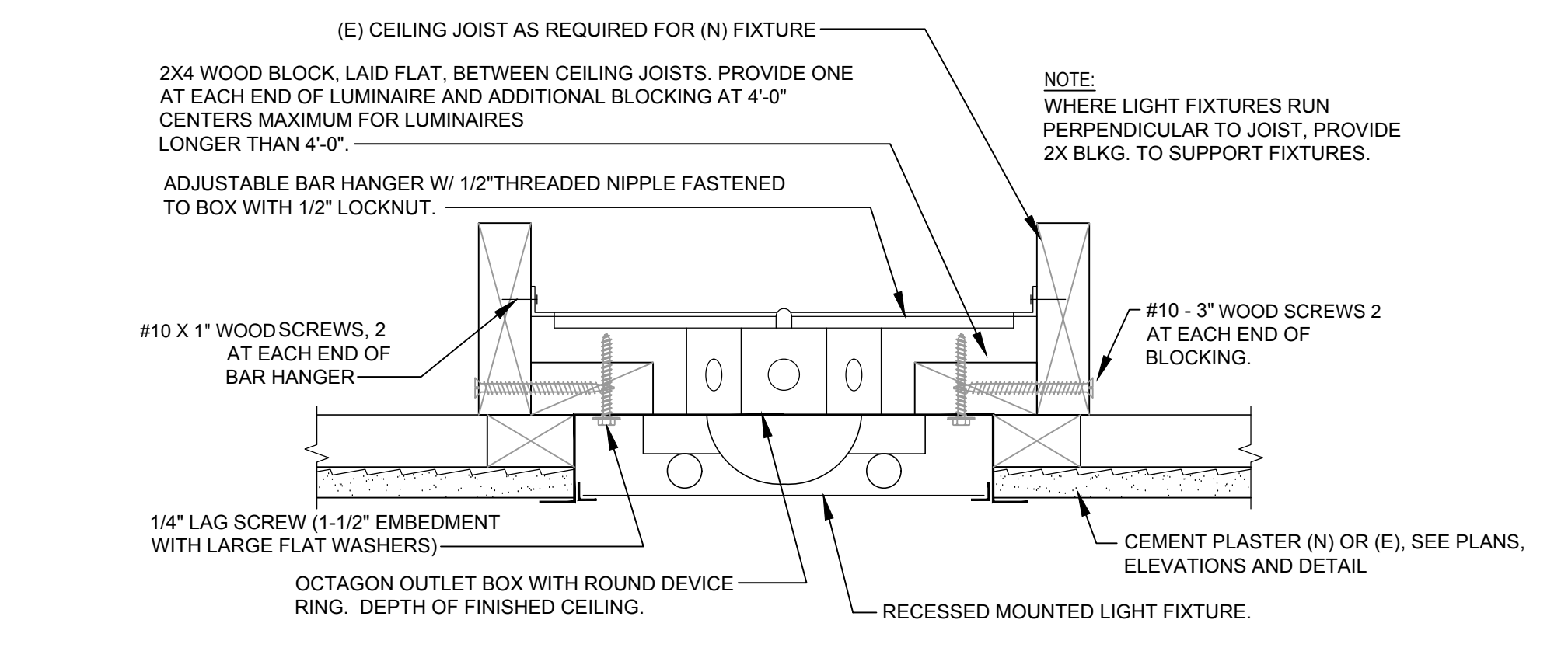
(NEW) PANEL MB											
120/208 VOLTS			MAIN BRK: 150 AMPS, 3 POLE CB			BUS RATING: 225A			LOCATION: NEW CLASSROOM		
3 PHASE			FEEDER: EXISTING			MOUNTING: FLUSH					
4 WIRE											
LOCATION	WATTAGE	LTG	REC	MIS	CIR	BKR	PH-A	PH-B	PH-C	LOCATION	WATTAGE
RECEPTACLE	400				1	1	20-1			CEILING RECEPTACLE	360
RECEPTACLE	400				1	3	20-1			CEILING RECEPTACLE	360
RECEPTACLE					1	5	20-1			CEILING RECEPTACLE	360
RECEPTACLE	720				4	7	20-1			BIGASS FAN	840
RECEPTACLE	800				1	9	20-1			RECEPTACLE	1176
RECEPTACLE					2	11	20-1			RECEPTACLE	
RECEPTACLE	800				2	13	20-1			RECEPTACLE	
SPARE					13	20-1				RECEPTACLE	
SPARE					15	20-1				RECEPTACLE	
SPARE					17	20-1				RECEPTACLE	
SPARE					19	30-3				RECEPTACLE	
SPARE					21					RECEPTACLE	
SPARE	1768				23					RECEPTACLE	
RECEPTACLE	400				1	25	20-1			RECEPTACLE	400
RECEPTACLE	400				1	27	20-1			RECEPTACLE	400
RECEPTACLE	400				1	29	20-1			RECEPTACLE	400
RECEPTACLE	400				1	31	20-1			RECEPTACLE	400
RECEPTACLE	400				1	33	20-1			BIGASS FAN	1176
RECEPTACLE	400				1	35	20-1			BIGASS FAN	1176
RECEPTACLE	360				2	37	20-1			RECEPTACLE	360
RECEPTACLE	360				2	39	20-1			RECEPTACLE	360
RECEPTACLE	360				2	41	20-1			RECEPTACLE	360
RECEPTACLE	2004				1	43	35-3			RECEPTACLE	2004
RECEPTACLE	2004				1	45				RECEPTACLE	2004
RECEPTACLE	2004				1	47				RECEPTACLE	2004
PH-A= 12368 VA	PH-B= 12536 VA	PH-C= 10236 VA									
TOTAL CONNECTED LOAD: 35140 VA	OR 97.61 AMPS @ 120/208 VOLTS	- 3 PHASE									
LCL: 0 VA	X 1.25% = 0 VA										
FDL: 35140 VA	+ 0 VA (LCL) = 35140 VA	OR 97.61 A									



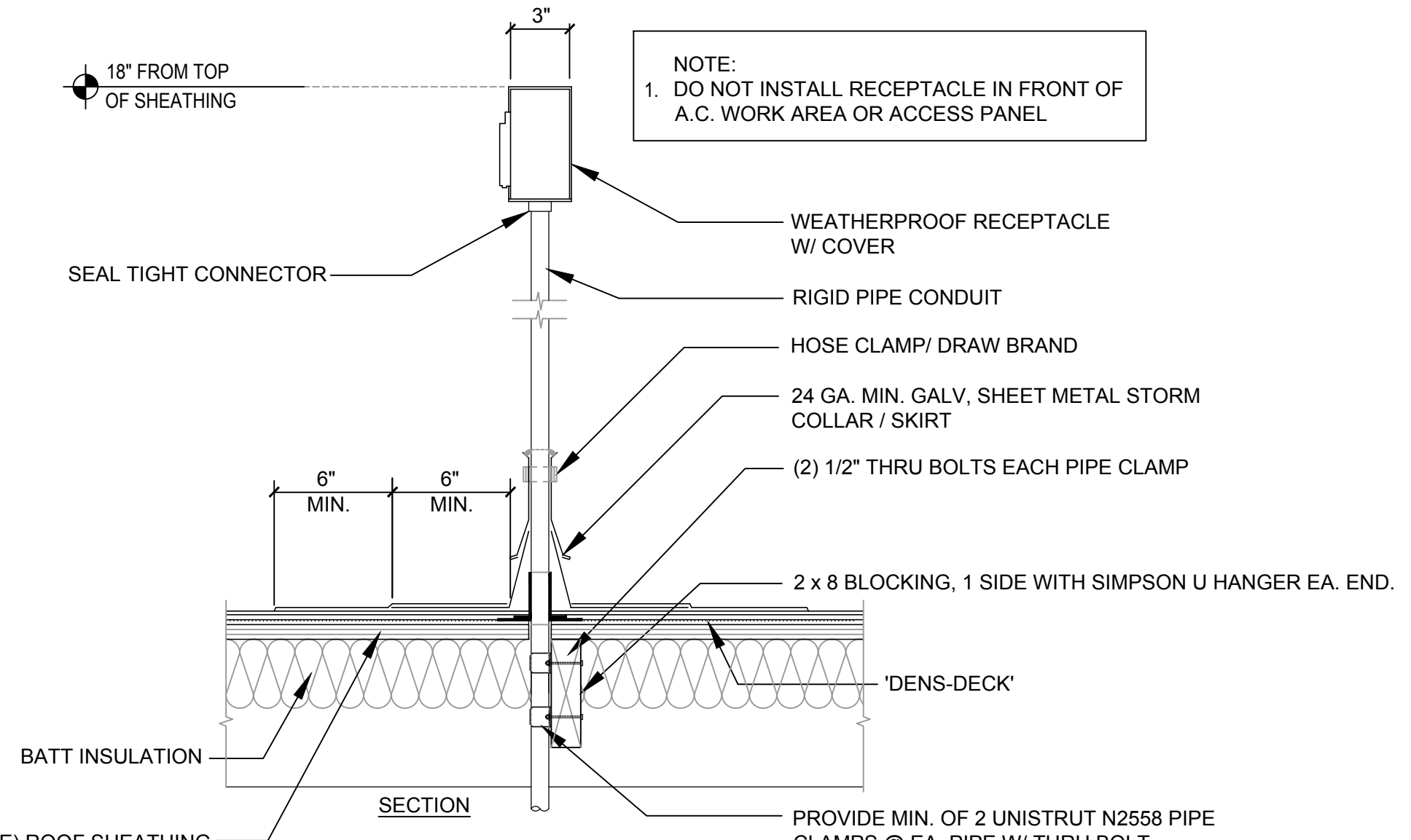
6 E-1.2 PENDANT MOUNTED LIGHTING FIXTURE N.T.S.



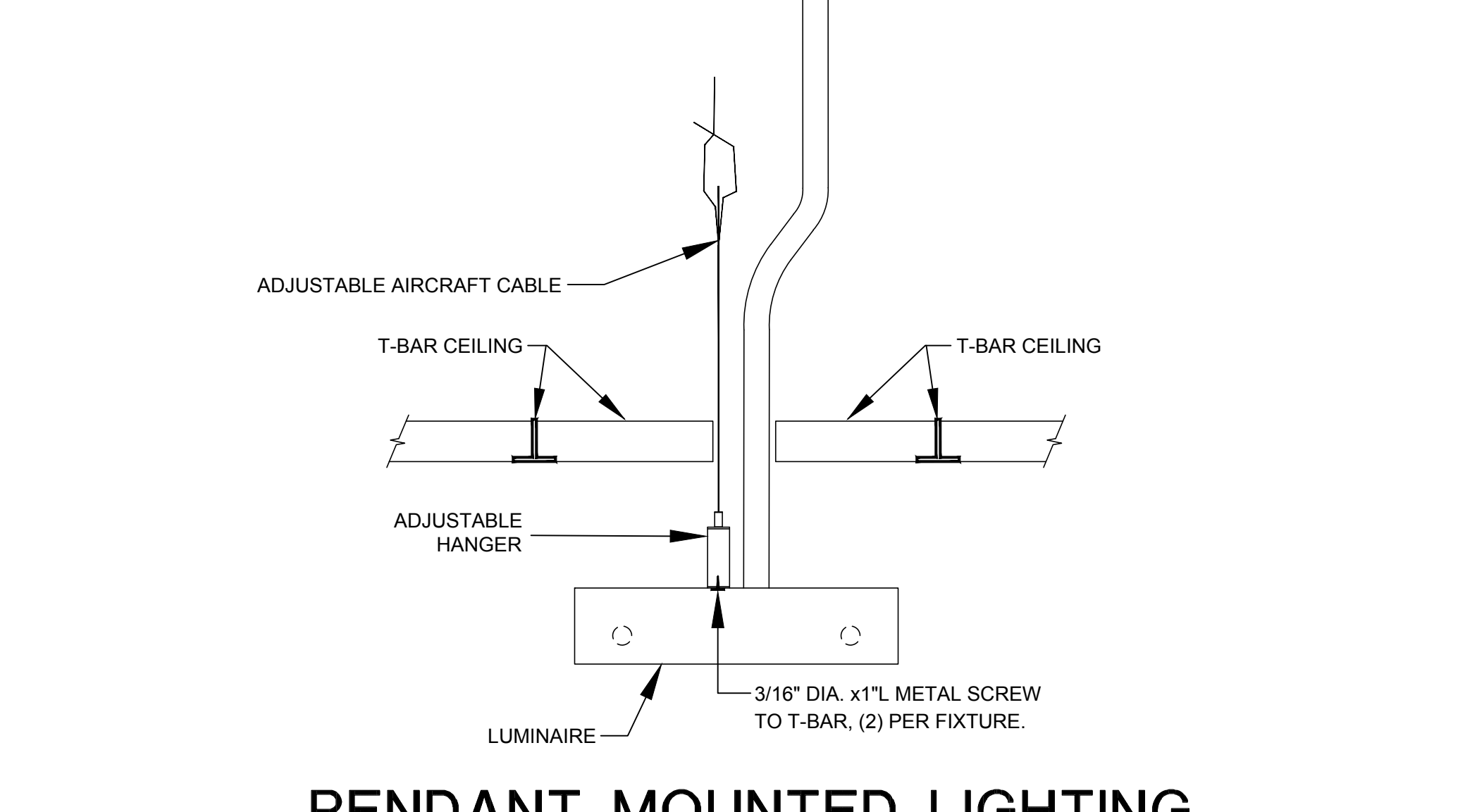
4 E-1.2 DISCONNECT SWITCH MOUNTING DETAIL N.T.S.



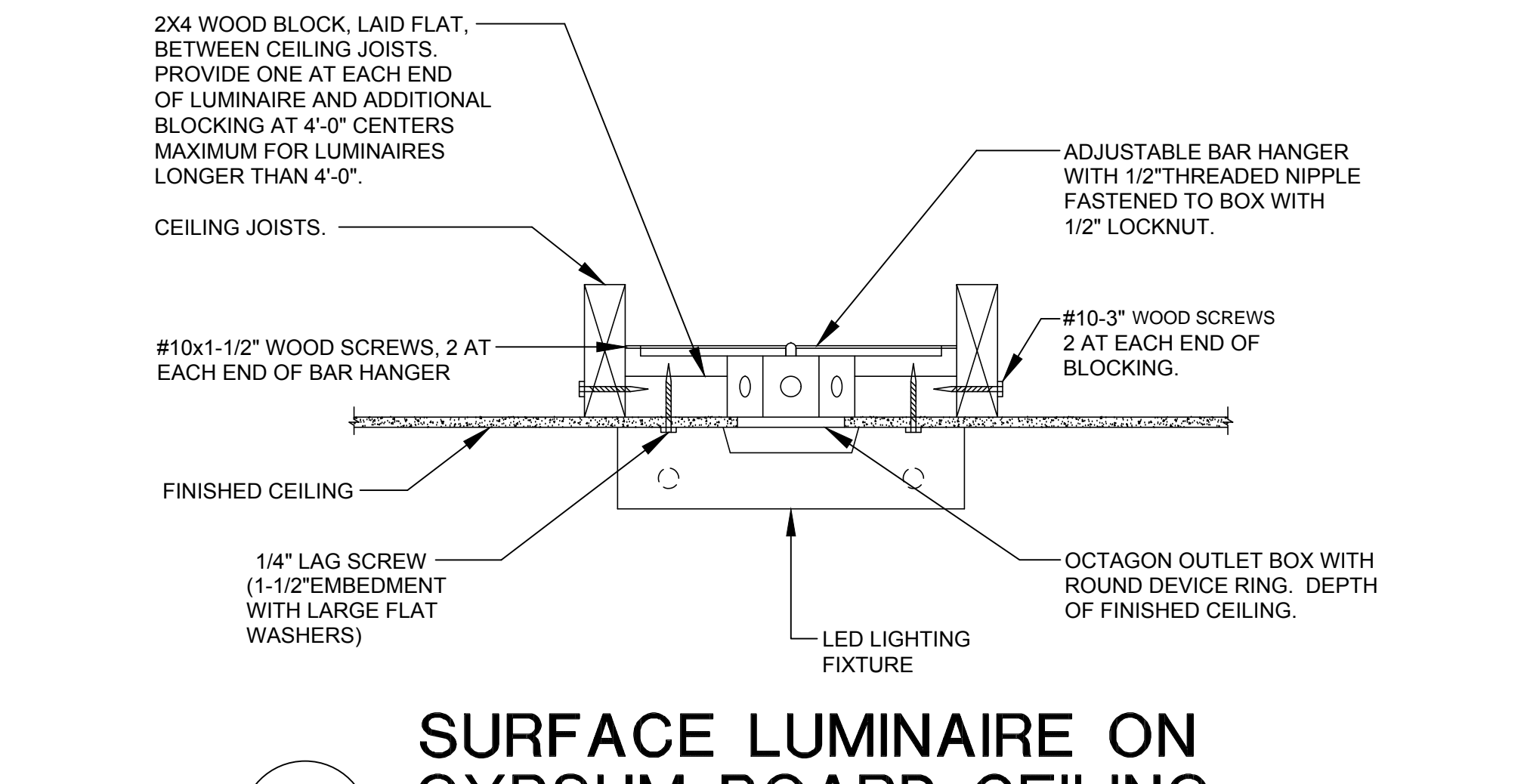
2 E-1.2 TYP. RECESSED CEILING LIGHTING FIXTURE N.T.S.



5 E-1.2 ROOF OUTLET MOUNTING DETAIL N.T.S.



3 E-1.2 PENDANT MOUNTED LIGHTING FIXTURE ON T-BAR CEILING N.T.S.



1 E-1.2 SURFACE LUMINAIRE ON GYPSUM BOARD CEILING N.T.S.

PROJECT: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
ROWLAND HEIGHTS CA 91748

CLIENT: ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

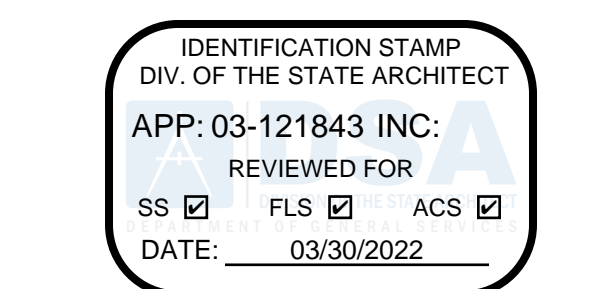
DATE: 8/22/2021

DESIGNED BY: JH
CHECKED BY: JF

PROJECT NO: 202016
AS SHOWN
DATE: 8/22/2021
DRAWN BY: JH
CHECKED BY: JF

PANEL SCHEDULES & DETAILS

SHEET NO: E-1.2



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STATE OF CALIFORNIA Indoor Lighting NRCC-LTI-E (Created 04/21) CALIFORNIA ENERGY COMMISSION. CERTIFICATE OF COMPLIANCE. Project Name: CTE AUTO SHOP PROGRAM-ROWLAND HIGH SCHOOL. Project Address: 2000 S. OTTERBEIN AVENUE, ROWLAND HEIGHTS, CA. 91748. A. GENERAL INFORMATION. B. PROJECT SCOPE. C. COMPLIANCE RESULTS.

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards April 2021

STATE OF CALIFORNIA Indoor Lighting NRCC-LTI-E (Created 04/21) CALIFORNIA ENERGY COMMISSION. CERTIFICATE OF COMPLIANCE. Project Name: CTE AUTO SHOP PROGRAM-ROWLAND HIGH SCHOOL. Project Address: 2000 S. OTTERBEIN AVENUE, ROWLAND HEIGHTS, CA. 91748. OFFICE, RESTROOM, ELECTRICAL ROOM. I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS.

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards April 2021

STATE OF CALIFORNIA Indoor Lighting NRCC-LTI-E (Created 04/21) CALIFORNIA ENERGY COMMISSION. CERTIFICATE OF COMPLIANCE. Project Name: CTE AUTO SHOP PROGRAM-ROWLAND HIGH SCHOOL. Project Address: 2000 S. OTTERBEIN AVENUE, ROWLAND HEIGHTS, CA. 91748. DOCUMENTATION AUTHOR'S DECLARATION STATEMENT. RESPONSIBLE PERSON'S DECLARATION STATEMENT.

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards April 2021

STATE OF CALIFORNIA Indoor Lighting NRCC-LTI-E (Created 04/21) CALIFORNIA ENERGY COMMISSION. CERTIFICATE OF COMPLIANCE. Project Name: CTE AUTO SHOP PROGRAM-ROWLAND HIGH SCHOOL. Project Address: 2000 S. OTTERBEIN AVENUE, ROWLAND HEIGHTS, CA. 91748. D. EXCEPTIONAL CONDITIONS. E. ADDITIONAL REMARKS. F. INDOOR LIGHTING FIXTURE SCHEDULE.

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards April 2021

STATE OF CALIFORNIA Indoor Lighting NRCC-LTI-E (Created 04/21) CALIFORNIA ENERGY COMMISSION. CERTIFICATE OF COMPLIANCE. Project Name: CTE AUTO SHOP PROGRAM-ROWLAND HIGH SCHOOL. Project Address: 2000 S. OTTERBEIN AVENUE, ROWLAND HEIGHTS, CA. 91748. G. MODULAR LIGHTING SYSTEMS. H. INDOOR LIGHTING CONTROLS (Not Including PAFs). I. ADDITIONAL LIGHTING ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM.

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards April 2021

STATE OF CALIFORNIA Indoor Lighting NRCC-LTI-E (Created 04/21) CALIFORNIA ENERGY COMMISSION. CERTIFICATE OF COMPLIANCE. Project Name: CTE AUTO SHOP PROGRAM-ROWLAND HIGH SCHOOL. Project Address: 2000 S. OTTERBEIN AVENUE, ROWLAND HEIGHTS, CA. 91748. J. ADDITIONAL LIGHTING ALLOWANCE: TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE. K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE.

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards April 2021

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CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards April 2021

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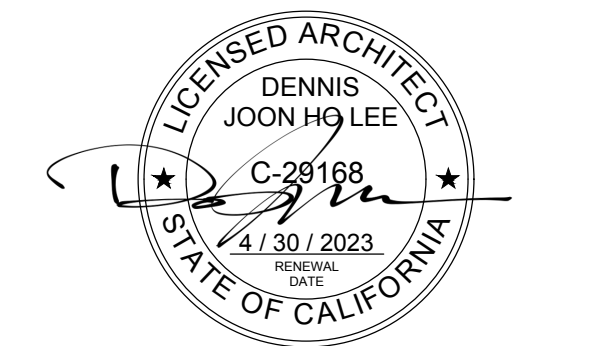
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CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards April 2021



PACIFIC ENGINEERS GROUP Consulting Electrical Engineers 1106 W. Magnolia Blvd., Suite A Burbank, CA 91506 (818) 859-7081 Y21-012



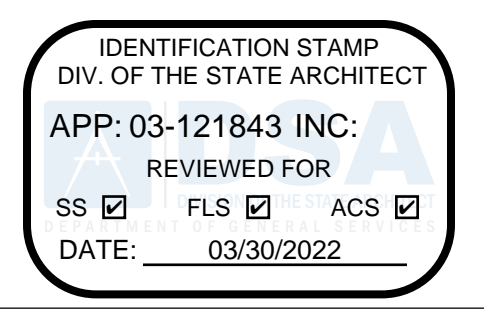
PROJECT: CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE ROWLAND HEIGHTS CA 91748

CLIENT: ROWLAND UNIFIED SCHOOL DISTRICT 1830 NOGALES STREET ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS: 1. DESIGN DEVELOPMENT 4/22/2021 2. CONSTRUCTION DOCUMENTATION 7/2/2021 3. DSA SUBMITTAL 10/8/2021

PROJECT NO: 202016 SCALE: AS SHOWN DATE: 8/23/2021 DRAWN BY: JF CHECKED BY: HF SHEET TITLE: TITLE 24 FORMS

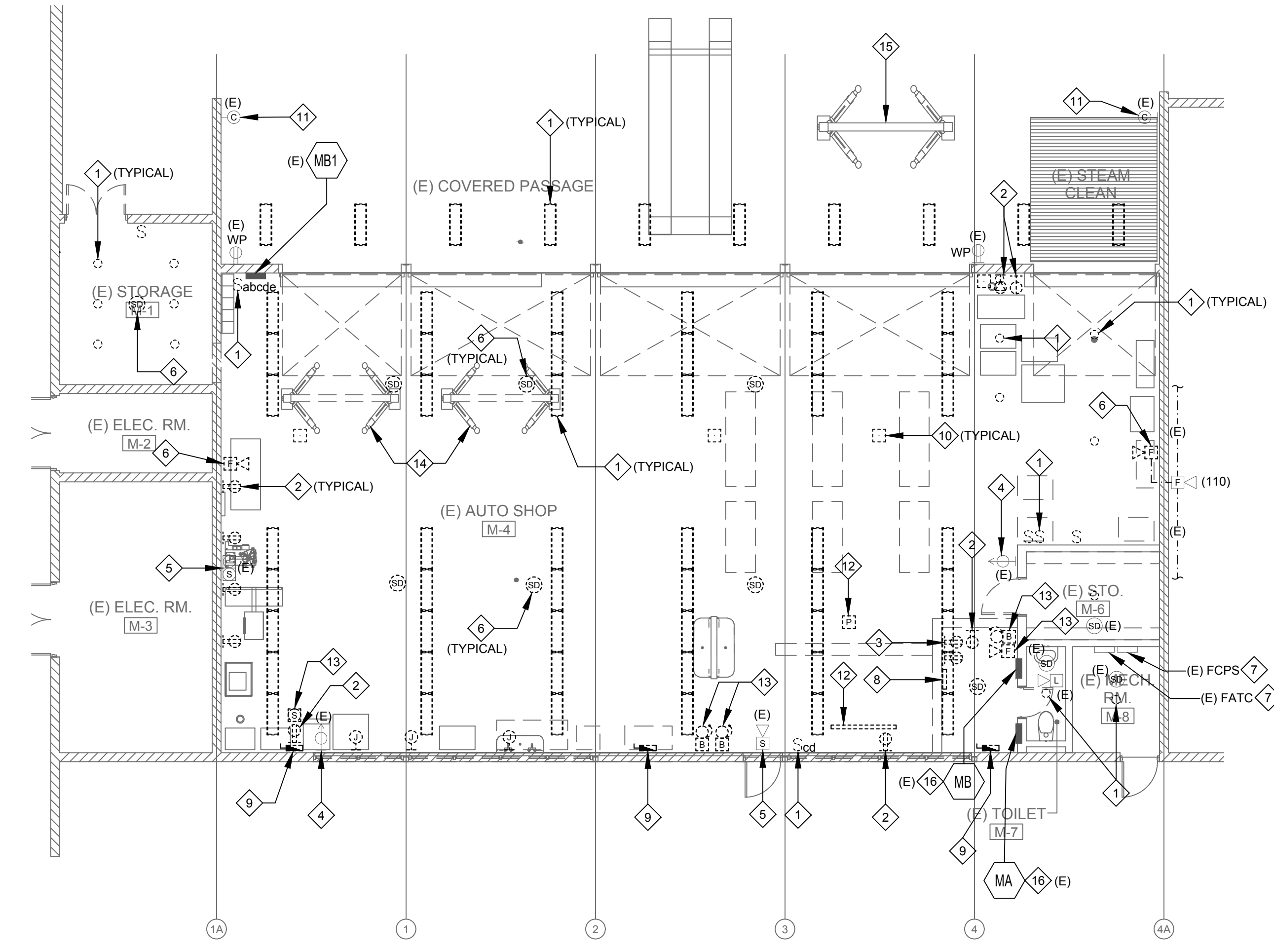


ARCHITECT:
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 680 Brea Canyon Road, Suite 178
 Diamond Bar, California 91789
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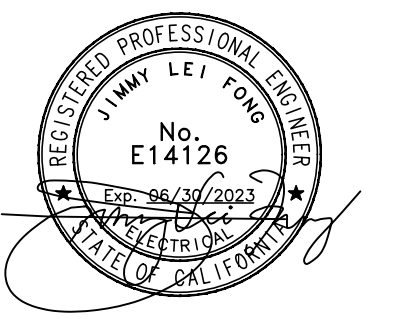
Dennis J. Lee, N.CARB dennisl@coar-design.com

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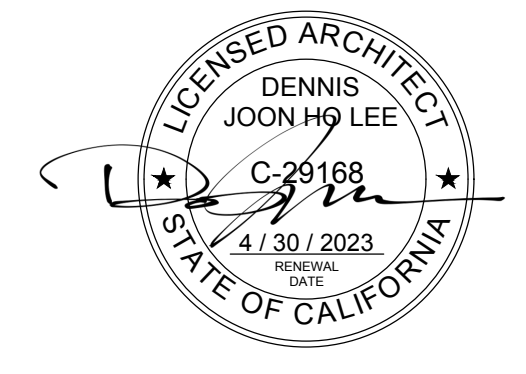
- DEMOLITION KEYED NOTES**
- 1 DISCONNECT AND REMOVE LIGHTING FIXTURES, WALL SWITCHES INCLUDING WIRES, CONDUIT AND CONTROL WIRINGS UP TO PANELBOARD.
 - 2 DISCONNECT AND REMOVE RECEPTACLE OUTLETS INCLUDING WIRES AND CONDUIT UP TO PANELBOARD. PROVIDE COVER TO FLUSH BOX, CUT, CAP CONCEAL CONDUIT AND ABANDON IN PLACE.
 - 3 DISCONNECT AND REMOVE DATA OUTLET INCLUDING RACEWAYS AND CABLE UP TO IDF CABINET.
 - 4 PROTECT IN PLACE INTRUSION DETECTION DEVICES INCLUDING CONDUIT AND CABLES UP TO TERMINAL CABINET.
 - 5 PROTECT IN PLACE CLOCK, SPEAKERS AND CALL BUTTON INCLUDING WIRES AND CONDUIT UP TO TERMINAL CABINET.
 - 6 CAREFULLY DISCONNECT, REMOVE AND REPLACE FIRE ALARM SMOKE DETECTORS, HORN-STROBE INCLUDING WIRES AND CONDUIT UP TO REMAINING DEVICES AS NOTED. SEE NEW FIRE ALARM PLAN SHEET FA-2.1.
 - 7 PROTECT IN PLACE FIRE ALARM POWER SUPPLY CONTROL PANEL (FCPS) AND TERMINAL CABINET, INCLUDING ASSOCIATED DEVICES AS NOTED.
 - 8 DISCONNECT AND REMOVE IDF SWITCH. PULLBACK FIBER OPTIC CABLE UP TO NEAREST MDF/IDF CABINET.
 - 9 REMOVE DISCONNECT SWITCH INCLUDING ASSOCIATED WIRES AND CONDUIT UP TO PANELBOARD.
 - 10 DISCONNECT AND REMOVE CEILING MOUNT SERVICE LIGHT INCLUDING WIRES AND CONDUIT UP TO PANELBOARD.
 - 11 PROTECT IN PLACE CCTV CAMERA INCLUDING ASSOCIATED WIRES AND CONDUIT.
 - 12 CAREFULLY DISCONNECT AND REMOVE CEILING MOUNT PROJECTOR, SCREEN AND HDMI INPUT INCLUDING ASSOCIATED WIRES AND CONDUIT.
 - 13 IF NOT USED, DISCONNECT AND REMOVE ALARM BELL INCLUDING WIRES AND CONDUIT.
 - 14 DISCONNECT AND REMOVE CAR LIFT INCLUDING ASSOCIATED WIRES AND CONDUIT UP TO PANELBOARD.
 - 15 PROTECT IN PLACE CAR LIFT INCLUDING ASSOCIATED WIRES AND CONDUIT.
 - 16 DISCONNECT REMOVE AND REPLACE PANELBOARD IN THE SAME LOCATION. PROTECT IN PLACE EXISTING FEEDER FROM DISTRIBUTION BOARD "DBM" AND BE REUSE.



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



PACIFIC ENGINEERS GROUP
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 1106 W. Magnolia Blvd., Suite A
 Burbank, CA 91506
 (818) 859-7081 Y21-012



PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748

CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

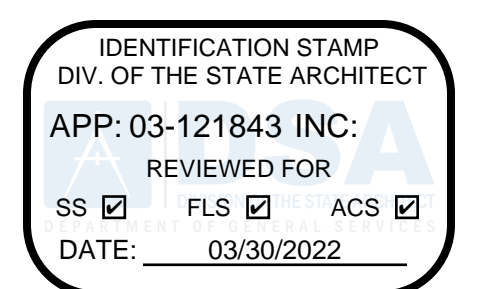
SUBMITTALS/REVISIONS:

1	DESIGN DEVELOPMENT	4/22/2021
2	CONSTRUCTION DOCUMENTATION	7/2/2021
3	DSA SUBMITTAL	10/6/2021

PROJECT NO: 202016
 SCALE: AS SHOWN
 DATE: 9/22/2021
 DRAWN BY: HY
 CHECKED BY: JF
 SHEET TITLE:

DEMOLITION PLAN

SHEET NO:

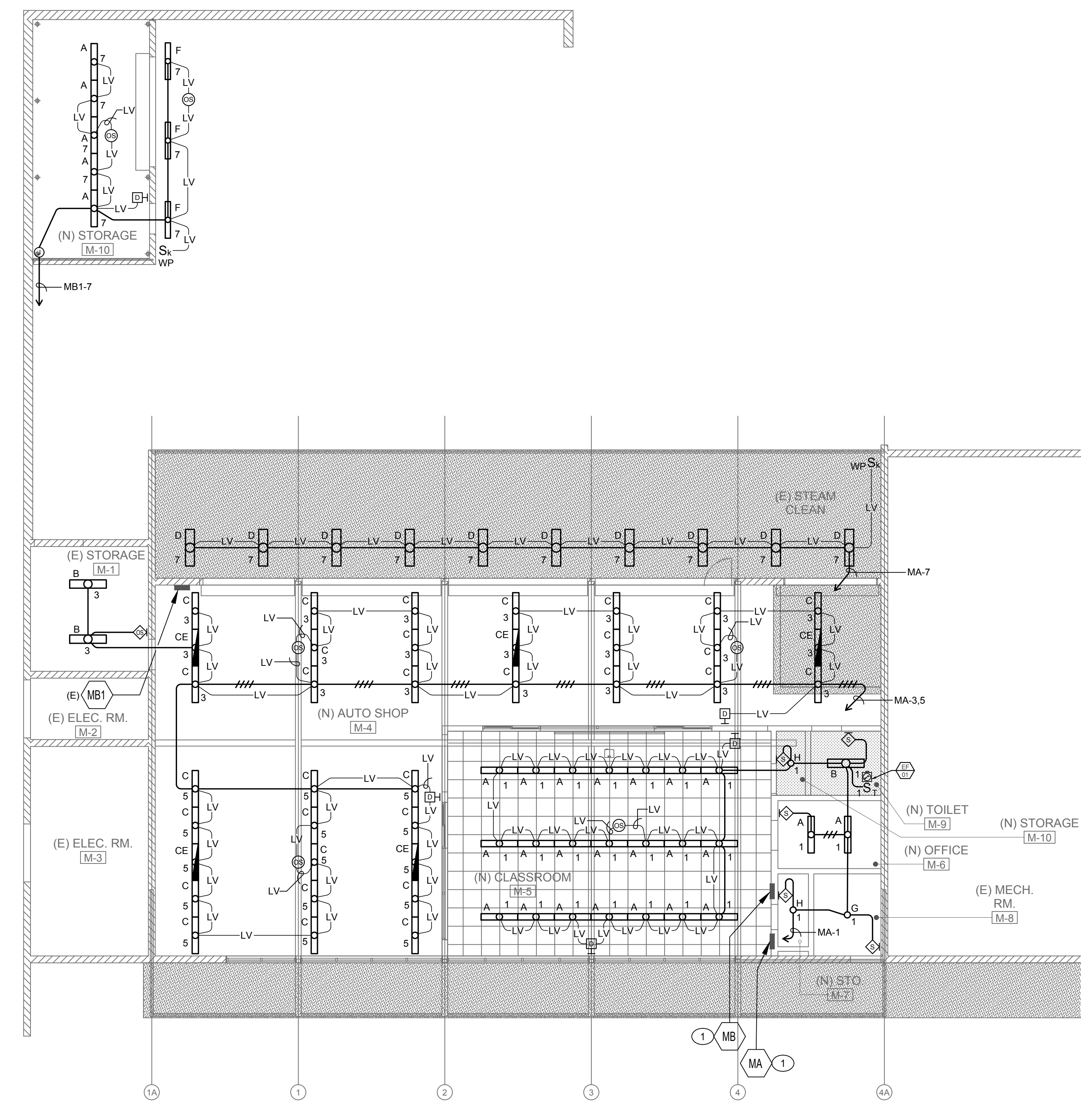


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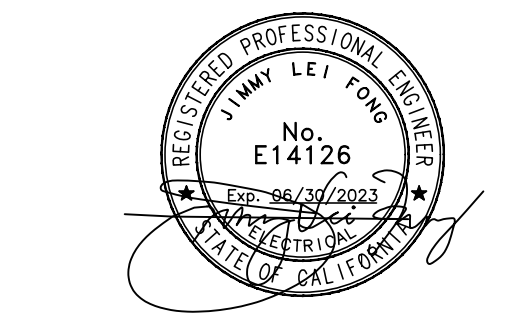
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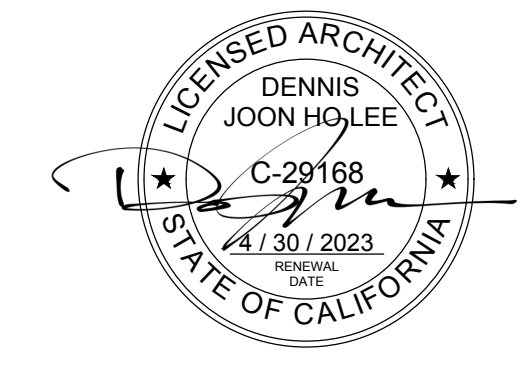
KEYED NOTES
 ① NEW PANELBOARD, RE-CONNECT EXISTING FEEDER. SAW-CUT WALL TO CONCEAL NEW CONDUIT HOMERUN. PATCH AND PAINT WALL TO MATCH WALL COLOR.



LIGHTING PLAN ①
 SCALE: 1/8" = 1'-0"



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CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748

ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

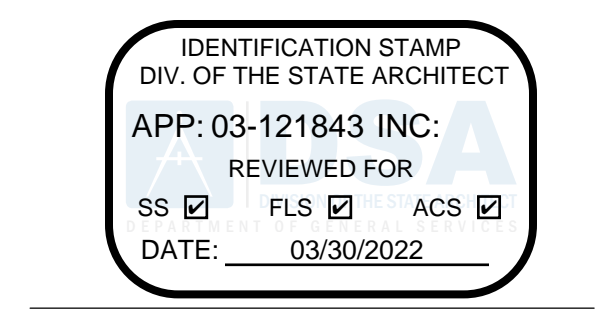
SUBMITTALS REVISIONS:

1	DESIGN DEVELOPMENT	4/22/2021
2	CONSTRUCTION DOCUMENTATION	7/2/2021
3	DSA SUBMITTAL	10/6/2021

PROJECT NO: 202016
 SCALE: AS SHOWN
 DATE: 9/22/2021
 DRAWN BY: JF
 CHECKED BY: JF
 SHEET TITLE:

LIGHTING PLAN

SHEET NO:



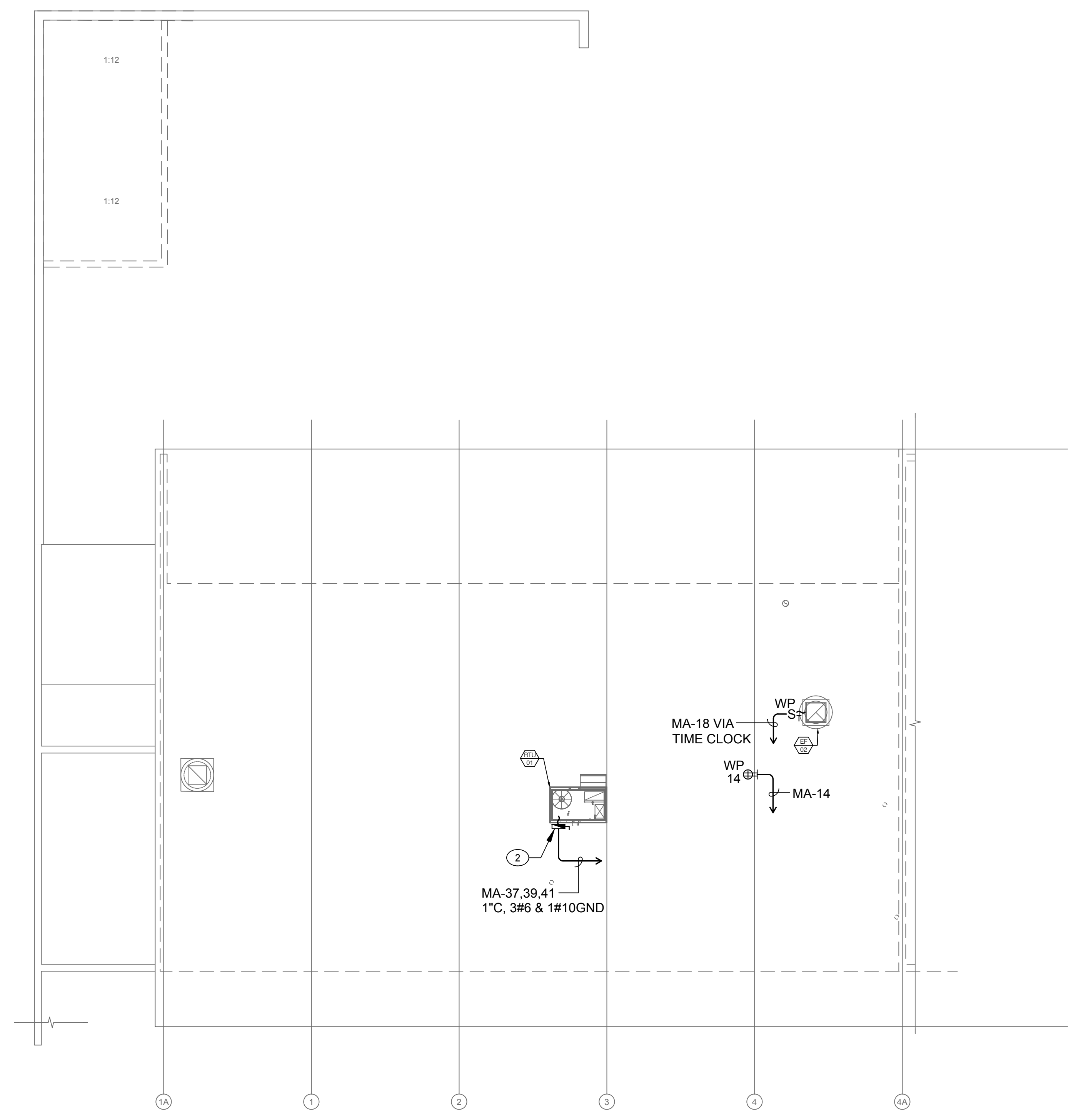
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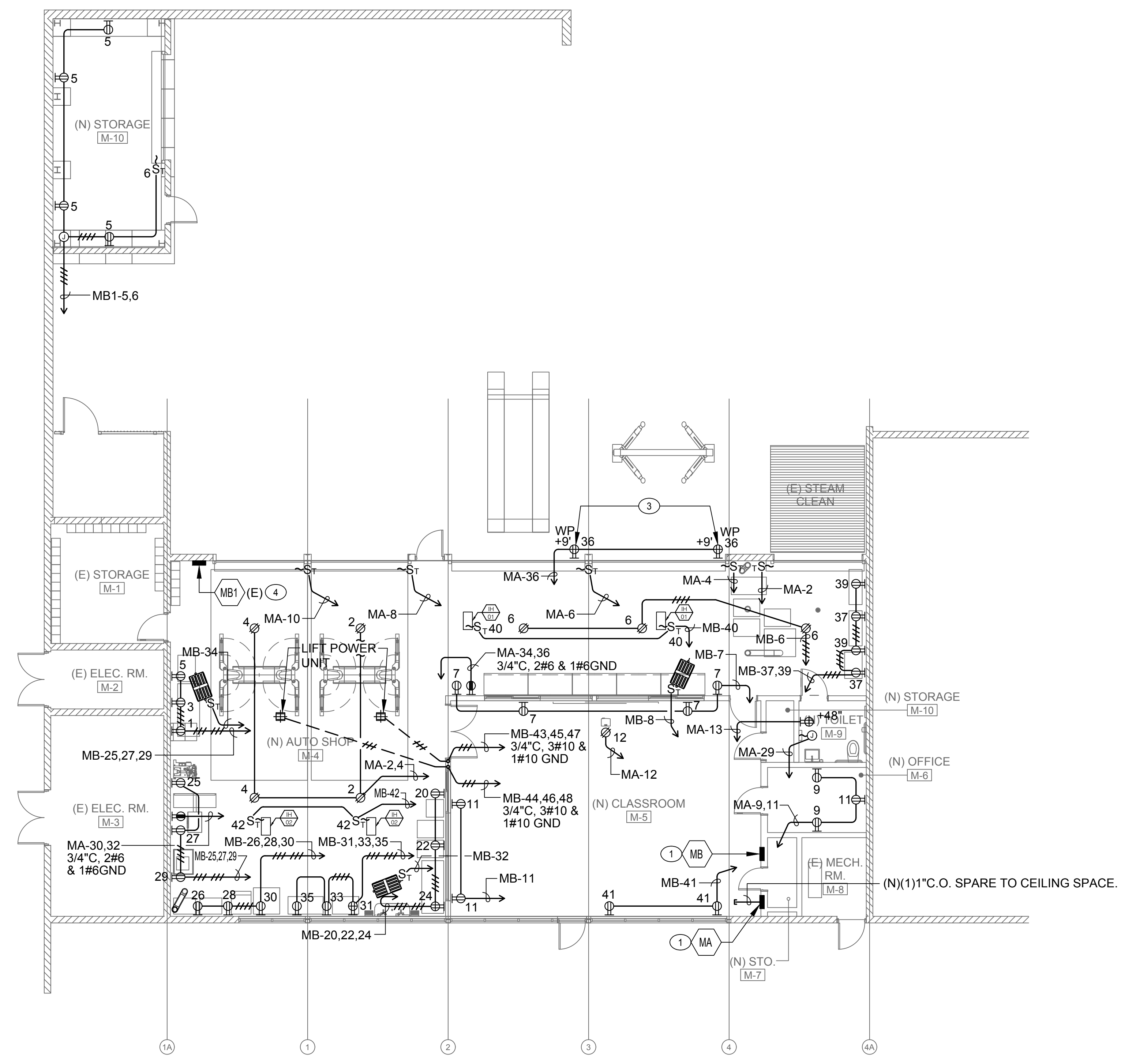
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 NOTES:

- KEYED NOTES**
- 1 SAW CUT WALL TO CONCEAL NEW PANELBOARD AND CONDUIT HOMERUNS. RE-CONNECT EXISTING AND NEW LOADS. SEE PANEL SCHEDULE ON SHEET E-1.2. PATCH AND PAINT WALL TO MATCH WALL COLOR.
 - 2 DISCONNECT SWITCH, FUSIBLE TYPE, 60 AMPS, 3 POLE, 250 VOLTS WITH (3) 45 AMPS FUSE IN NEMA-3R ENCLOSURE.
 - 3 PROVIDE LOCKABLE WEATHERPROOF COVER.
 - 4 PROVIDE (2) 20 AMPS, 1 POLE CIRCUIT BREAKER AT SPACE BRANCH CIRCUIT 6.8. MATCH TYPE AND A.I.C. RATING.

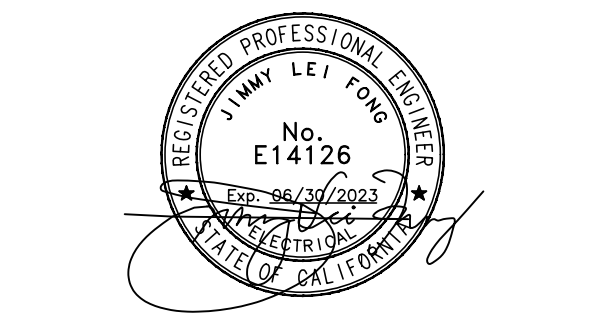
NOTE:
 LABEL ALL ELECTRICAL COVERS/FACEPLATES WITH CORRESPONDING PANEL AND CIRCUIT NUMBER.



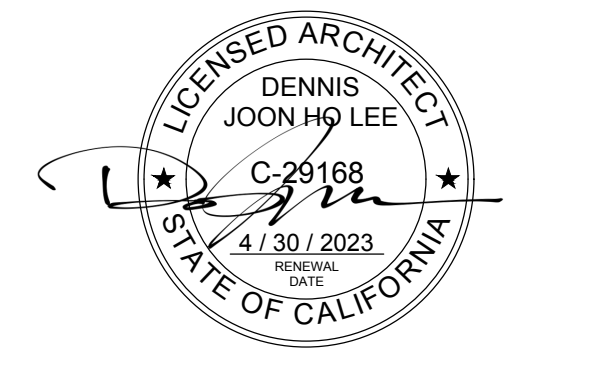
ROOF POWER PLAN ②
 SCALE: 1/8" = 1'-0"



POWER PLAN ①
 SCALE: 1/8" = 1'-0"



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PROJECT:
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 PROGRAM - ROWLAND
 HIGH SCHOOL**

2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748

CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS:

NO.	DESCRIPTION	DATE
1	DESIGN DEVELOPMENT	4/22/2021
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3	DSA SUBMITTAL	10/6/2021

PROJECT NO: 202016
 SCALE: AS SHOWN
 DATE: 8/23/2021
 DRAWN BY: HY
 CHECKED BY: JF
 SHEET TITLE:

POWER PLAN

SHEET NO:

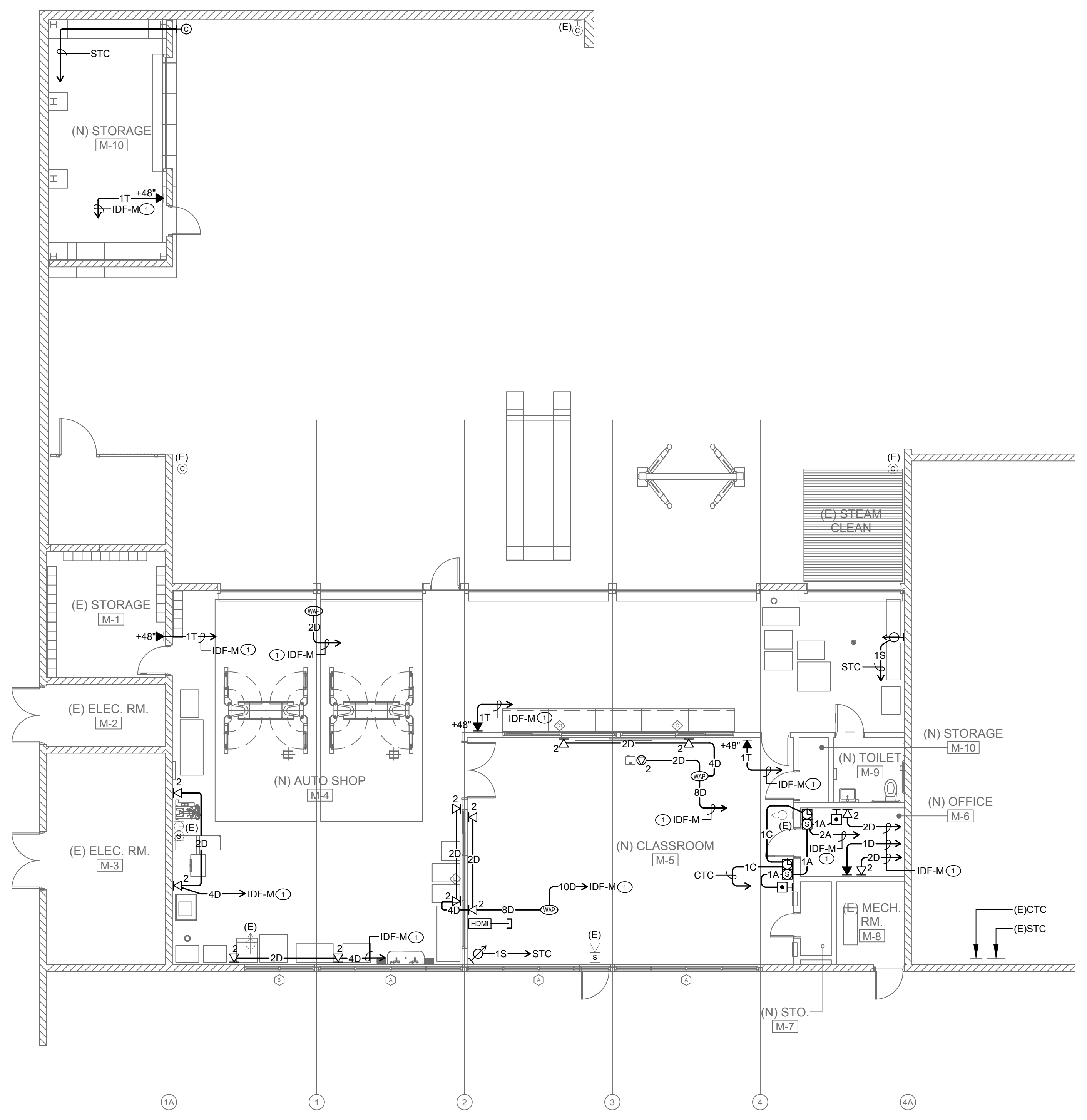
KEY: NOTES
 1 FOR EXISTING IDF-M LOCATION, SEE SHEET FA-2.0 SITE PLAN.

IDENTIFICATION STAMP
 DIV. OF THE STATE ARCHITECT
 APP: 03-121843 INC:
 REVIEWED FOR:
 SS FLS ACS
 DATE: 03/30/2022

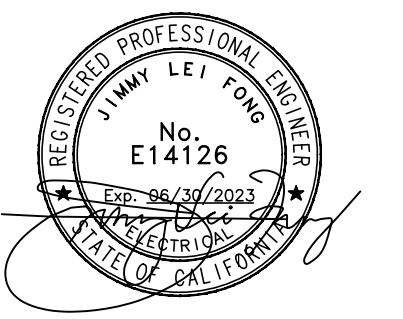
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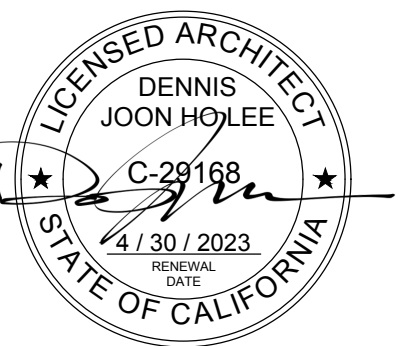
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 NOTES:



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



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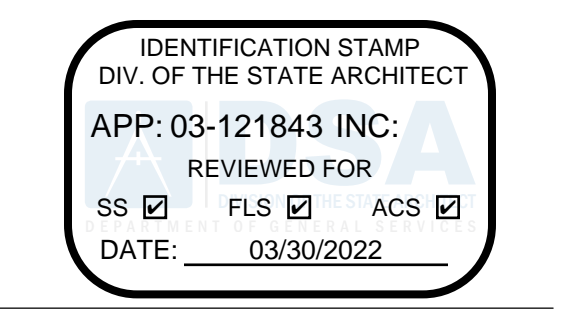
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 CHECKED BY: JF
 SHEET TITLE:

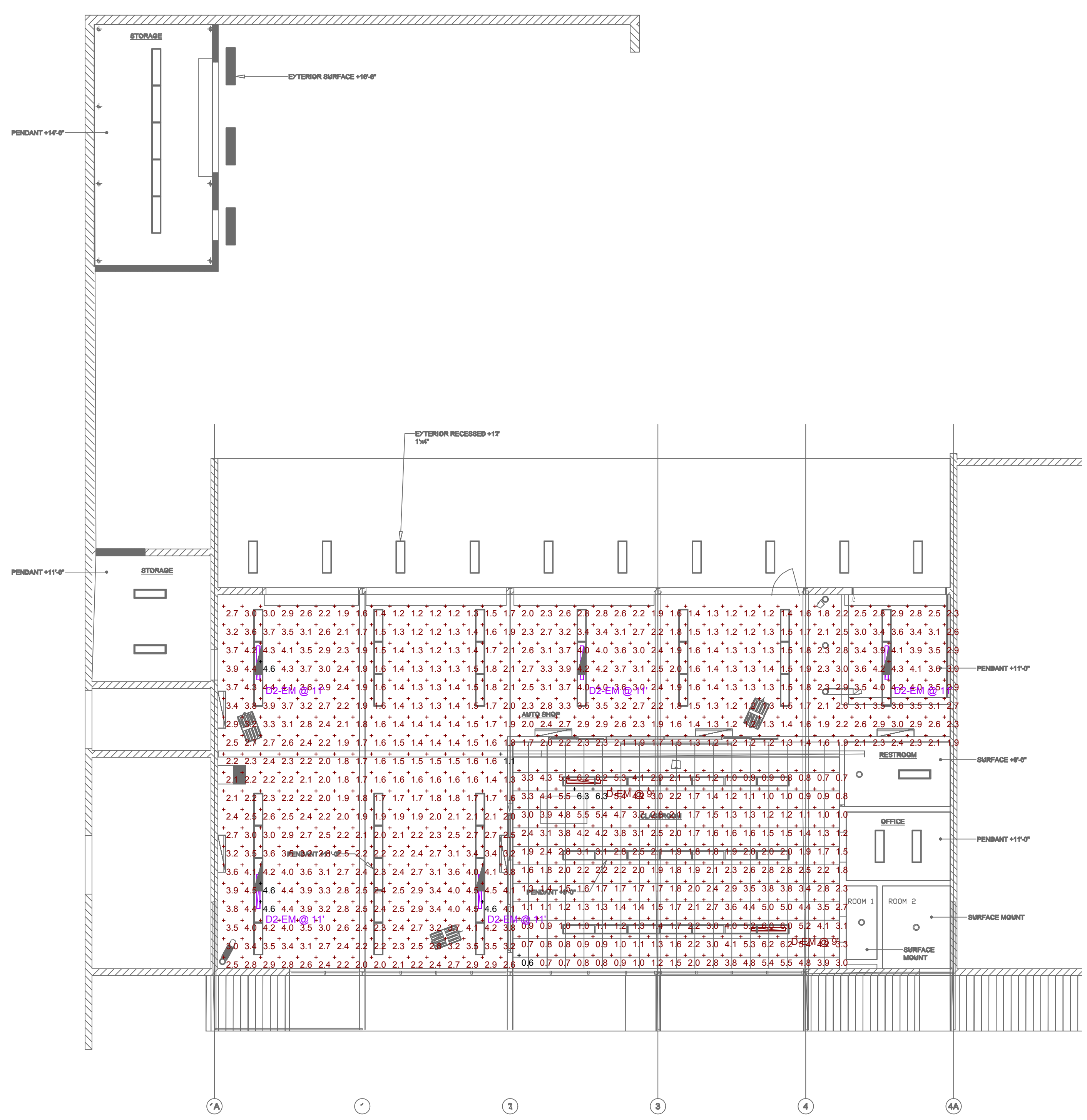
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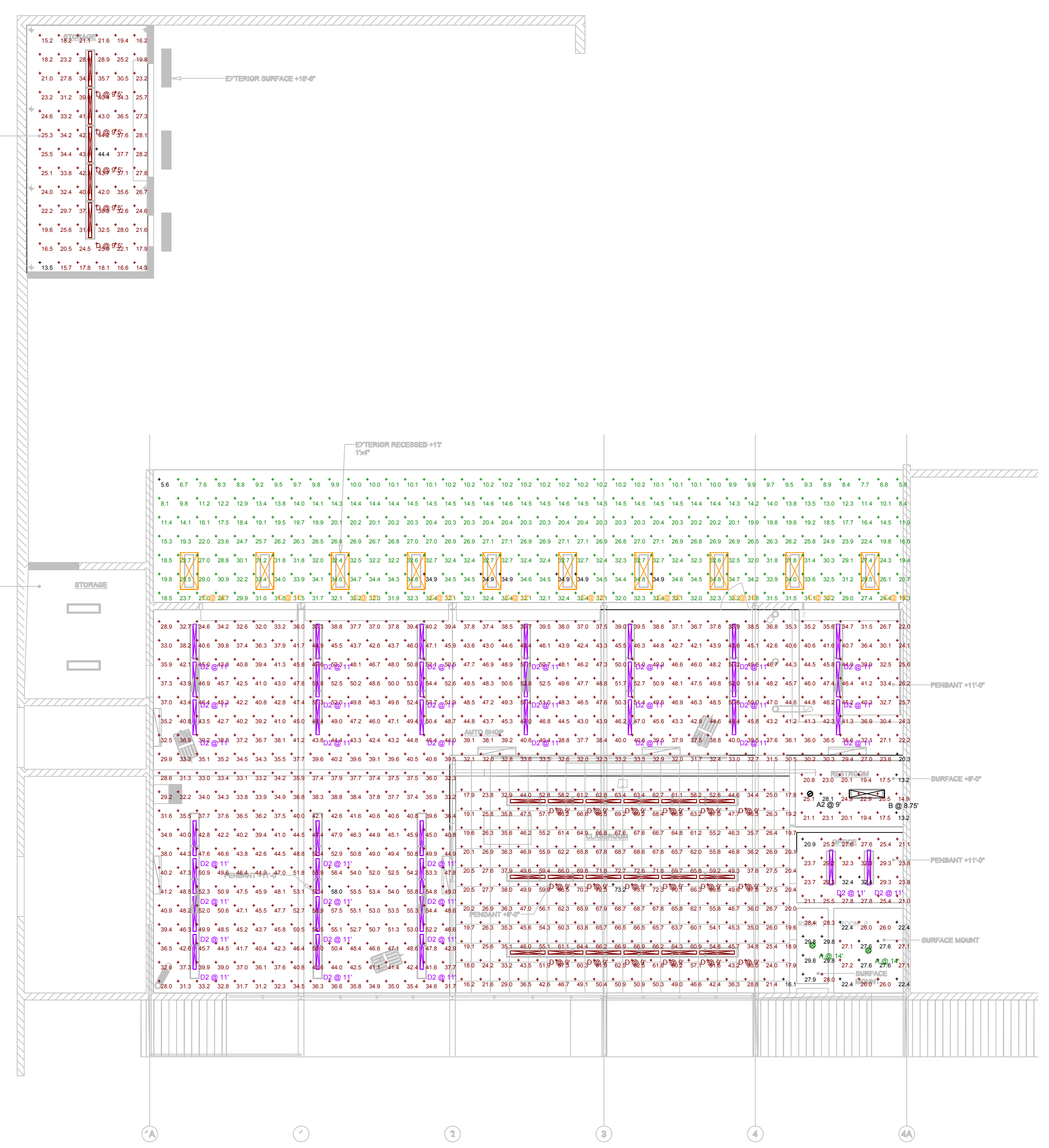


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EMERGENCY PHOTOMETRIC PLAN
 SCALE: 1/8" = 1'-0" 2



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

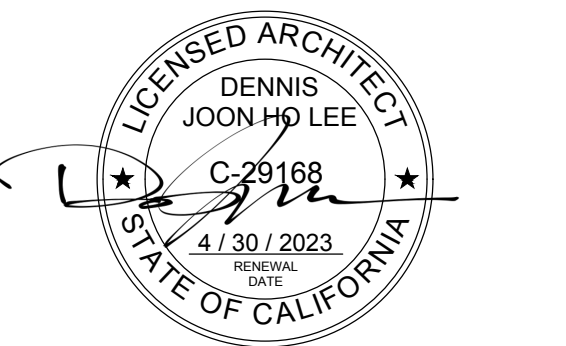
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens Per Lamp	Lumen Multiplier	Light Loss Factor	Wattage	Efficiency
D-EM	Architectural Lighting	2	Mark	PLN8-4FT-8CRI-40K-ID100LMF-2080-E100W/CP	PLN8-4FT-8CRI-40K-ID100LMF-2080	LED	1	2911	1	0.51	24.31	100%
D2-EM	Architectural Lighting	5	Mark	PLN8-4FT-8CRI-40K-ID100LMF-2080-E100W/CP	PLN8-4FT-8CRI-40K-ID100LMF-2080	LED	1	3732	1	0.4	31.58	100%

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
EMERGENCY - AUTO SHOP	+	2.5 fc	4.6 fc	1.1 fc	4.2:1	2.3:1
EMERGENCY - CLASSROOM	+	2.5 fc	6.3 fc	0.6 fc	10.5:1	4.2:1

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens Per Lamp	Lumen Multiplier	Light Loss Factor	Wattage	Efficiency
A	Lithonia Lighting	2	Lithonia	LDN8-4010-LOGAR-LD	BN-LDN-4089K-4000LM-CLEAR, MATTE DIFFUSE REFLECTOR, CRI90	LED	1	3582	1	0.9	44.26	100%
B	Lithonia Lighting	1	Lithonia	STL4-20L-E21-LP840	STL4-4" 2000 NOMINAL LUMENS 4000K	LED	1	2230	1	0.9	20.01	100%
C	Lithonia Lighting	10	Lithonia	2WRTL-KX-L48-5000LM-KX-AFL-KX-40K-8CRI	2WRTL-L48-5000LM-AFL-40K-8CRI	LED	1	4809	1	0.9	38.72	100%
D	Architectural Lighting	23	Mark	PLN8-4FT-8CRI-40K-ID100LMF-2080	PLN8-4FT-8CRI-40K-ID100LMF-2080	LED	1	2911	1	0.9	24.31	100%
D2	Architectural Lighting	35	Mark	PLN8-4FT-8CRI-40K-ID100LMF-2080	PLN8-4FT-8CRI-40K-ID100LMF-2080	LED	1	3732	1	0.9	31.58	100%
A2	Lithonia Lighting	1	Lithonia	LDN8-4010-LOGAR-LD	BN-LDN-4089K-1000LM-CLEAR, MATTE DIFFUSE REFLECTOR, CRI90	LED	1	861	1	0.9	10.44	100%

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
AUTO SHOP @ 2'-6" AFF	+	42.3 fc	58.0 fc	20.3 fc	2.9:1	2.1:1
CLASSROOM @ 2'-6" AFF	+	48.5 fc	73.2 fc	16.1 fc	4.5:1	3.0:1
EXTERIOR FLOOR	+	23.0 fc	34.9 fc	5.6 fc	6.2:1	4.1:1
OFFICE @ 2'-6" AFF	+	26.6 fc	32.4 fc	20.9 fc	1.6:1	1.3:1
RESTROOM @ 2'-6" AFF	+	20.3 fc	28.1 fc	13.2 fc	2.1:1	1.5:1
ROOM 1 @ 2'-6" AFF	+	29.0 fc	29.8 fc	27.9 fc	1.1:1	1.0:1
ROOM 2 @ 2'-6" AFF	+	25.8 fc	27.6 fc	22.4 fc	1.2:1	1.2:1
STORAGE @ 2'-6" AFF	+	28.6 fc	44.4 fc	13.5 fc	3.3:1	2.1:1

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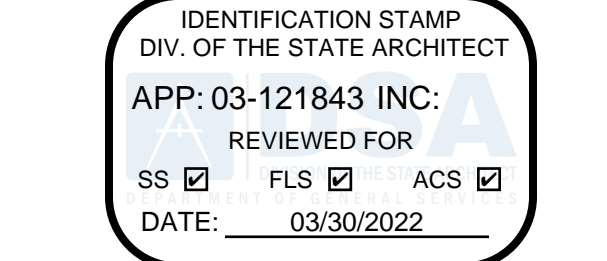
PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

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 ROWLAND HEIGHTS CA 91748

CLIENT:
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 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

REVISIONS	DATE
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PROJECT NO: 202016
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 DATE: 9/22/2021
 DRAWN BY: JH
 CHECKED BY: JH
 SHEET TITLE:
PHOTOMETRIC PLAN



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NOTES:

FIRE ALARM SYMBOL LIST

- FATC FIRE ALARM TERMINAL CABINET WITH TERMINAL STRIPS.
- MFACP MAIN FIRE ALARM CONTROL PANEL.
- FA FIRE ALARM.
- FCPS FIRE ALARM POWER SUPPLY.
- MFATC MAIN FIRE ALARM TERMINAL CABINET WITH TERMINAL STRIPS.
- WP WEATHERPROOF.
- A1-1 FIRE ALARM WALL MOUNTED HORN WITH STROBE LIGHT, CANDELA RATING AS INDICATED. +96" TO TOP OF STROBE LIGHT. "A1-1" DENOTES AUDIBLE FIRE ALARM SIGNAL CIRCUIT AND "V1-1" DENOTE VISUAL FIRE ALARM SIGNAL CIRCUIT. "15cd" DENOTES CANDELA RATING.
- S1-1 FIRE ALARM MANUAL PULL STATION. PROVIDE MONITOR MODULE TO EACH DEVICE. +48". "S1-1" DENOTES LOOP MODULE (SLC #1) IDENTIFICATION NUMBER.
- WP EXTERIOR W.P. FIRE ALARM HORN. "A1-1" DENOTES AUDIBLE FA SIGNAL CIRCUIT NUMBER.
- V1-1 FIRE ALARM STROBE MOUNT AT +96" TO TOP OF STROBE. CANDELA RATING AS INDICATED. "V1-1" DENOTES FIRE ALARM SIGNAL CIRCUIT NUMBER. "15cd" DENOTES 15cd CANDELA RATING.
- S1-1 ADDRESSABLE SMOKE DETECTOR, PHOTOELECTRIC TYPE. "S1-1" DENOTES LOOP DETECTOR IDENTIFICATION NUMBER.
- S1-1 ADDRESSABLE HEAT DETECTOR MOUNTED IN CEILING WITH ACCESS PANEL. "S1-1" DENOTES LOOP DETECTOR IDENTIFICATION NUMBER.
- S1-1 CONTROL RELAY MODULE. "S1-1" DENOTES LOOP DETECTOR IDENTIFICATION NUMBER.

FIRE ALARM CABLE AND WIRING

- "F" CABLE - "WEST PENN" NO. D990, 1 PAIR #18 NON-SHIELDED - FIRE ALARM ADDRESSABLE LOOP.
- "V" CABLE - #212 AWG-FIRE ALARM VISUAL CIRCUIT CABLE.
- "A" CABLE - #212 AWG FIRE ALARM AUDIO CIRCUIT CABLE.
- 3/4" C, WITH ONE "F" CABLE, ONE "A" CABLE AND ONE "V" CABLE.
- 3/4" CONDUIT WITH ONE "F" CABLE.
- 3/4" CONDUIT WITH TWO "F" CABLES.
- 3/4" CONDUIT WITH ONE "V" CABLE.
- 3/4" CONDUIT WITH TWO "V" CABLES.
- 3/4" CONDUIT WITH ONE "A" CABLE.
- 3/4" CONDUIT WITH TWO "A" CABLES.
- 1-1/2" CONDUIT WITH TWO "F", TWO "A", TWO "V" CABLES.
- 1" CONDUIT WITH TWO "A", TWO "V" CABLES.
- 1" CONDUIT WITH ONE "F", ONE "A", TWO "V" CABLES.

SYMBOLS	COMPONENT	NOTIFIER	CSFM NO.
	MAIN FIRE ALARM CONTROL PANEL (E)	NFS2-3030	7165-0028.0224
	SMOKE DETECTOR, PHOTOELECTRIC TYPE WITH B210LP BASE	FAPT-851	7272-0028.0206
	HEAT DETECTOR W/ 210LP BASE	FST-851H	7270-0028.0196
	STROBE, WALL MOUNT	SYSTEM SENSOR SRL	7125-1653.0504
	HORN-STROBE, WALL MOUNT	SYSTEM SENSOR P4RL	7135-1653.0503
	EXTERIOR HORN	SYSTEM SENSOR-HRK WITH MWBB BACKBOX	7135-1653.0189
	CONTROL RELAY MODULE	FRM-1(A)	7300-0028.0219

FIRE ALARM NOTES

- 1) APPLICABLE STANDARD NFPA 72, as adopted and amended in CBC Chapter 55
- 2) INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATION, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM, HAS BEEN APPROVED BY DSA.
- 3) UPON COMPLETION OF SYSTEM INSTALLATION, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF A DSA PROJECT INSPECTOR.
- 4) A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.
- 5) ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF THE PROJECT.
- 6) DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
- 7) ALL PENETRATIONS THROUGH RATED ASSEMBLIES REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITH A PENETRATION FIRE STOP SYSTEM AS IDENTIFIED IN CBC CHAPTER 7, UL OR OTHER APPROVED LAB TESTING CRITERIA. APPROVED TYPES OF MATERIALS SHALL BE IDENTIFIED WITHIN THE PROJECT SPECIFICATIONS WITHIN THE FIRE ALARM SECTION.
- 8) WALL MOUNTED VISIBLE NOTIFICATION DEVICES SHALL HAVE THEIR BOTTOMS MOUNTED AT 80" MINIMUM AND 96" MAXIMUM FROM FINISHED FLOOR.
- 9) WALL MOUNTED AUDIBLE NOTIFICATION DEVICES SHALL HAVE THEIR TOPS MOUNTED AT 90" MINIMUM AND 100" MAXIMUM FROM FINISHED FLOOR AND NO CLOSER THEN 6" TO A HORIZONTAL STRUCTURE.
- 10) AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (dBA) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR FIVE dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIABLE SPACE WITHIN THE BUILDING.
- 11) AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.
- 12) THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
- 13) VISIBLE DEVICES SHOULD NOT EXCEED TWO FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN ONE FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. VISIBLE DEVICES WITHIN 55' FROM EACH OTHER SHALL BE SYNCHRONIZED.
- 14) IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MAINTAIN CONTINUITY OF THE EXISTING FIRE ALARM SYSTEM, CENTRAL STATION REPORTING SYSTEM, SMOKE MANAGEMENT SYSTEM, AND ANY OTHER LIFE SAFETY EQUIPMENT EXISTING AT THE SITE AND AFFECTED BY HIS WORK ON THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIRE WATCH OR OTHER MITIGATING MEASURES FOR SYSTEMS THAT ARE MADE INACTIVE OR OTHERWISE COMPROMISED AS A RESULT OF THE WORK PERFORMED BY THAT CONTRACTOR.
- 15) ALL FIRE ALARM WIRING SHALL BE FPLOR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE TYPE THHN OR THWN.
- 16) PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE THE WIRE. ALL BOXES TO BE SIZED PER CEC.
- 17) SMOKE DETECTORS SHALL NOT BE ANY CLOSER THAN 1' FROM FIRE SPRINKLERS OR 3' FROM ANY SUPPLY DIFFUSER. IN AREA OF CONSTRUCTION OR POSSIBLE DAMAGE/CONTAMINATION ON NEWLY INSTALLED FIRE ALARM DEVICES SHALL BE COVERED UNTIL THAT AREA IS READY TO BE TURNED OVER TO THE OWNER.
- 18) ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT, SURFACE RACEWAY OR OPEN RUN ABOVE CEILINGS, UNDER FLOORS AND IN WALLS IN A NEAT AND PROTECTED MANNER AS INDICATED ON DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS.
- 19) A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM THE COMMON USE AREA PANEL AND SHALL HAVE NO OTHER OUTLETS. THE BREAKER SHALL HAVE A RED LOCKING DEVICE TO BLOCK THE HANDLE IN THE "ON" POSITION. THE CIRCUIT BREAKER SHALL BE LABELED "FIRE ALARM CIRCUIT CONTROL." CIRCUIT ID TO BE LABELED AT FIRE PANEL/EXTENDERS.
- 20) THE INSTALLING CONTRACTOR SHALL PROVIDE A COMPLETED "SYSTEM RECORD OF COMPLETION" PER NFPA 72, FIGURE 17.8.2.
- 21) THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2.
- 22) SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST.
- 23) OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS.
- 24) PROVIDE (2)2x2' OPENING FOR ALL CEILING IDENTIFIED AS HARD, PLASTER & TILE CEILINGS. TO ACCOMMODATE CONDUIT INSTALLATION TO HEAT DETECTOR IN ATTIC SPACE PATCH AND REPAIR TO MATCH EXISTING CEILING.
- 25) IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THE TYPE OF CEILING CONSTRUCTION AND TO PROVIDE THE PROPER TYPE OF BOX MOUNTING AND SUPPORT FOR FIRE ALARM INITIATION DEVICES.

FIRE ALARM SEQUENCE OF OPERATION					
DEVICE / ACTION	MANUAL PULL STATION	AREA SMOKE DETECTOR	AREA HEAT DETECTORS	POWER FAILURE	NOTES
ANNUNCIATE ALARM AT FACP AND REMOTE ANNUNCIATOR	X	X	X		
ANNUNCIATE SUPERVISORY CONDITION AT FACP AND REMOTE ANNUNCIATOR	X	X	X	X	
ANNUNCIATE TROUBLE AT FACP AND REMOTE ANNUNCIATOR	X	X	X	X	[1]
ACTIVATE AUDIBLE/VISUAL SIGNAL THROUGHOUT SCHOOL (ALARM)	X	X	X		
CONTACT CENTRAL STATION (UDACT)	X	X	X	X	
SHUT DOWN AIR HANDLING EQUIPMENT	X	X	X		[2]

[1] INDICATE TROUBLE ON WIRING FAULT OR DEVICE AS REQUIRED.
[2] SHUT DOWN ONLY AIR HANDLER EQUIPMENT IN THE BUILDING OR AREA WHERE ALARM CONDITION OCCURS.

FIRE ALARM SIGNAL CIRCUIT SCHEDULE												
CKT. NO.	QUAN. INDOOR HORN	QUAN. STROBE 15 cd	QUAN. STROBE 30 cd	QUAN. STROBE 75 cd	QUAN. STROBE 110cd	QUAN. OUTDOOR HORN	TOTAL AMPS	WIRE SIZE	DISTANCE (IN FEET)	TO MFACP	TO POWER EXTENDER	PERCENT VOLTAGE DROP
V1		4		2	2		0.68	#12	260		X	2.44
A1	4					2	0.31	#12	200		X	0.87
V2							0.00					0.00
A2							0.00					0.00

I = TOTAL CURRENT FLOW IN ALARM CONDITION
L = LENGTH OF CIRCUIT FROM SUPPLY TO LAST DEVICE (IN FEET)
21.6 = RESISTIVITY OF COPPER CONDUCTOR PER CIRCULAR MILL (10.8 X 2 FOR TWICE THE LENGTH)
C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILLS
VOLTAGE DROP = $\frac{I \times L \times 21.6}{C.M.}$

SHOP BLDG-M BATTERY CALCULATIONS - REMOTE POWER SUPPLY FCPS-M (E)

EQUIPMENT MODEL	QUANTITY	SUPERVISORY CURRENT, A		ALARM CURRENT, A		
		UNIT	TOTAL	UNIT	TOTAL	
POWER SUPPLY FCPS	1	0.065	0.065	0.91	0.91	
110cd ALARM STROBE LIGHT 24 VDC	7	0	0	0.148	1.036	
75cd ALARM STROBE LIGHT 24 VDC	2	0	0	0.107	0.214	
30cd ALARM STROBE LIGHT 24 VDC	0	0	0	0.063	0	
15cd ALARM STROBE LIGHT 24 VDC	8	0	0	0.043	0.344	
HORN	11	0	0	0.069	0.759	
STANDBY AH	1.56		SUB TOTAL	0.07	SUB TOTAL	3.263
ALARM AH	0.82		HOURS	24.00	HOURS	0.25
TOTAL	2.38		AH STANDBY	1.56	AH ALARM	0.81575

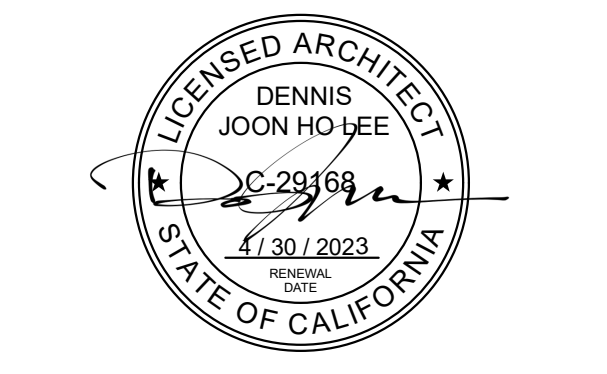
* PROVIDE NEW 7 AH BATTERY PACK. (0.25 HRS. = 15 MIN.)

BUILDING A-ADMIN. AREA

BATTERY SIZING CALCULATIONS - NFS2 3030D - (E)MFACP A#03-115771						
DEVICE NAME (NOTIFIER)	QTY	SUPERVISORY CURRENT		ALARM CURRENT		
		UNIT	TOTAL	UNIT	TOTAL	
CPU2-3030D	1	0.34	0.34	0.42	0.42	
REMOTE ANNUNCIATOR	1	0.05	0.05	0.1	0.1	
LCM-320	4	0.13	0.52	0.13	0.52	
LEM-320	4	0.1	0.4	0.1	0.4	
DA2-5025	3	0.4	1.2	0.55	1.65	
UDACT COMMUNICATOR	1	0	0	0.03	0.03	
NGM-W NETWORK MODULE	1	0.11	0.11	0.11	0.11	
AVPS-24 AUXILIARY POWER SUPPLY	15	0.018	0.27	0.018	0.27	
HEAT DETECTOR (E)148 + (N)6 = 154	154	0.0007	0.1078	0.0065	1.001	
PHOTOELECTRIC SMOKE DETECTOR (E)565-(E)9+ (N)13 = 569	569	0.00021	0.11949	0.0068	3.8692	
FMM ADDRESSABLE MONITOR MODULE	11	0.00021	0.00231	0.005	0.055	
FRM ADDRESSABLE CONTROL MODULE (E)79+(N)1 = 80	80	0.00026	0.0208	0.0065	0.52	
UNIVERSAL ZONE CODER MODULE UZC-26	1	0.05	0.05	0.085	0.085	
PULL STATION	6	0.00021	0.00126	0.0068	0.4128	
SPRINKLER BELL	1	0	0	0.03	0.03	
STANDBY AH	76.60		SUB TOTAL	3.19	SUB TOTAL	9.473
ALARM AH	2.37		HOURS	24.00	HOURS	0.25
SUB-TOTAL	78.97		AH STANDBY	76.60	AH ALARM	2.36825
30% SPARE	19.74					
TOTAL	98.71					

* PROVIDE NEW 100 AMPERE-HOUR(AH) BATTERY PACK TO REPLACE EXISTING (0.25 HRS. = 15 MIN.)
NOTE: REPROGRAM AND TEST FIRE ALARM SYSTEM AFTER NEW DEVICES ARE INSTALLED.

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CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

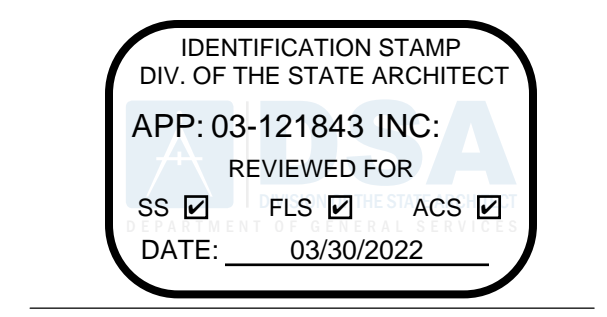
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ROWLAND HEIGHTS CA 91748

ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

NO.	REVISIONS	DATE
1	DESIGN DEVELOPMENT	4/22/2021
2	CONSTRUCTION DOCUMENTATION	7/2/2021
3	DSA SUBMITTAL	10/6/2021

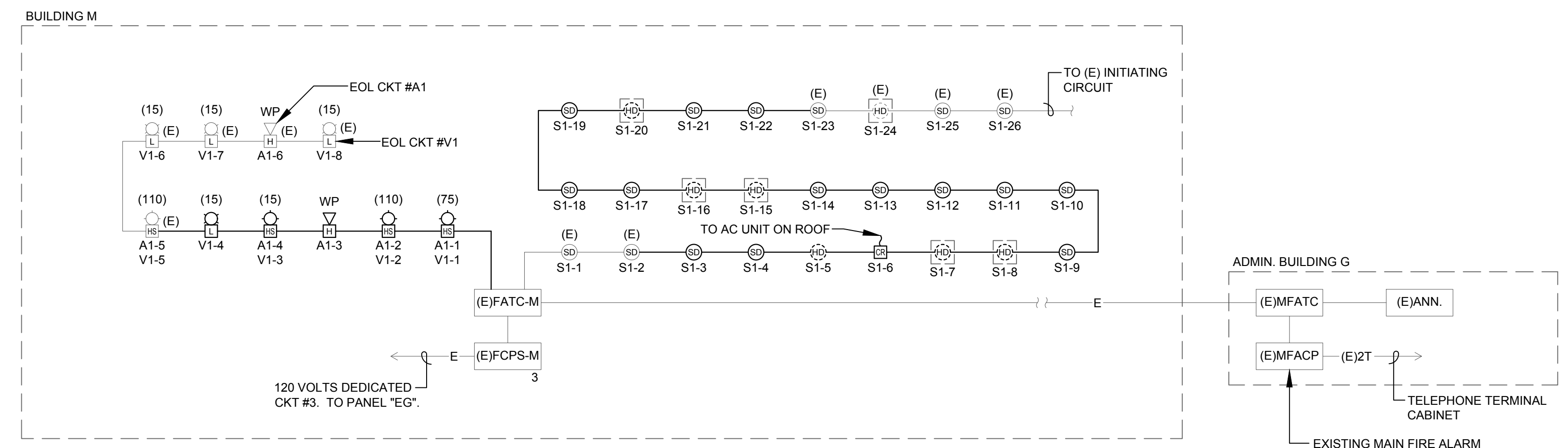
PROJECT NO: 202016
SCALE: AS SHOWN
DATE: 9/23/2021
DRAWN BY: HY
CHECKED BY: JF

FIRE ALARM SYMBOL LIST, NOTES & CALCULATIONS

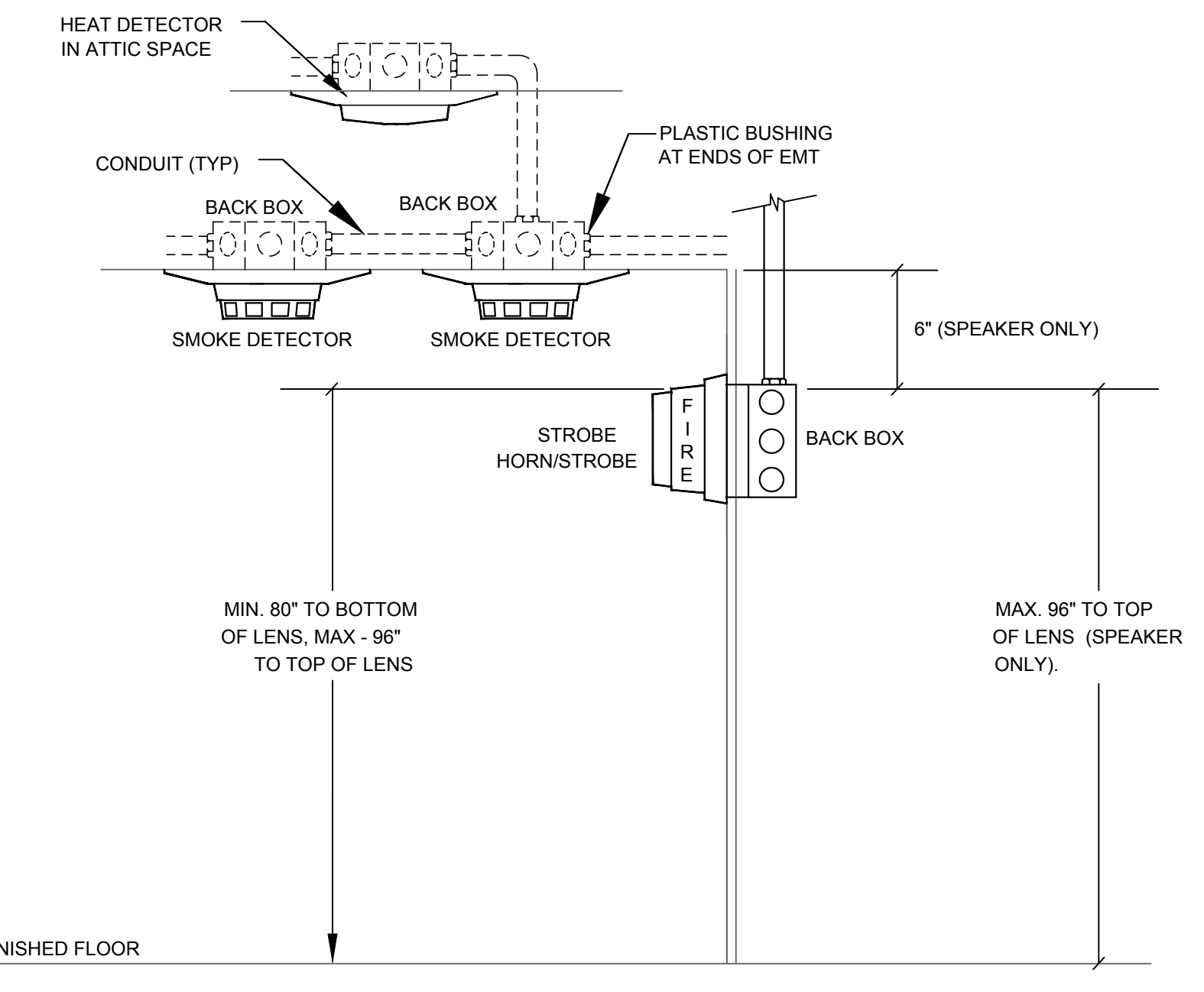


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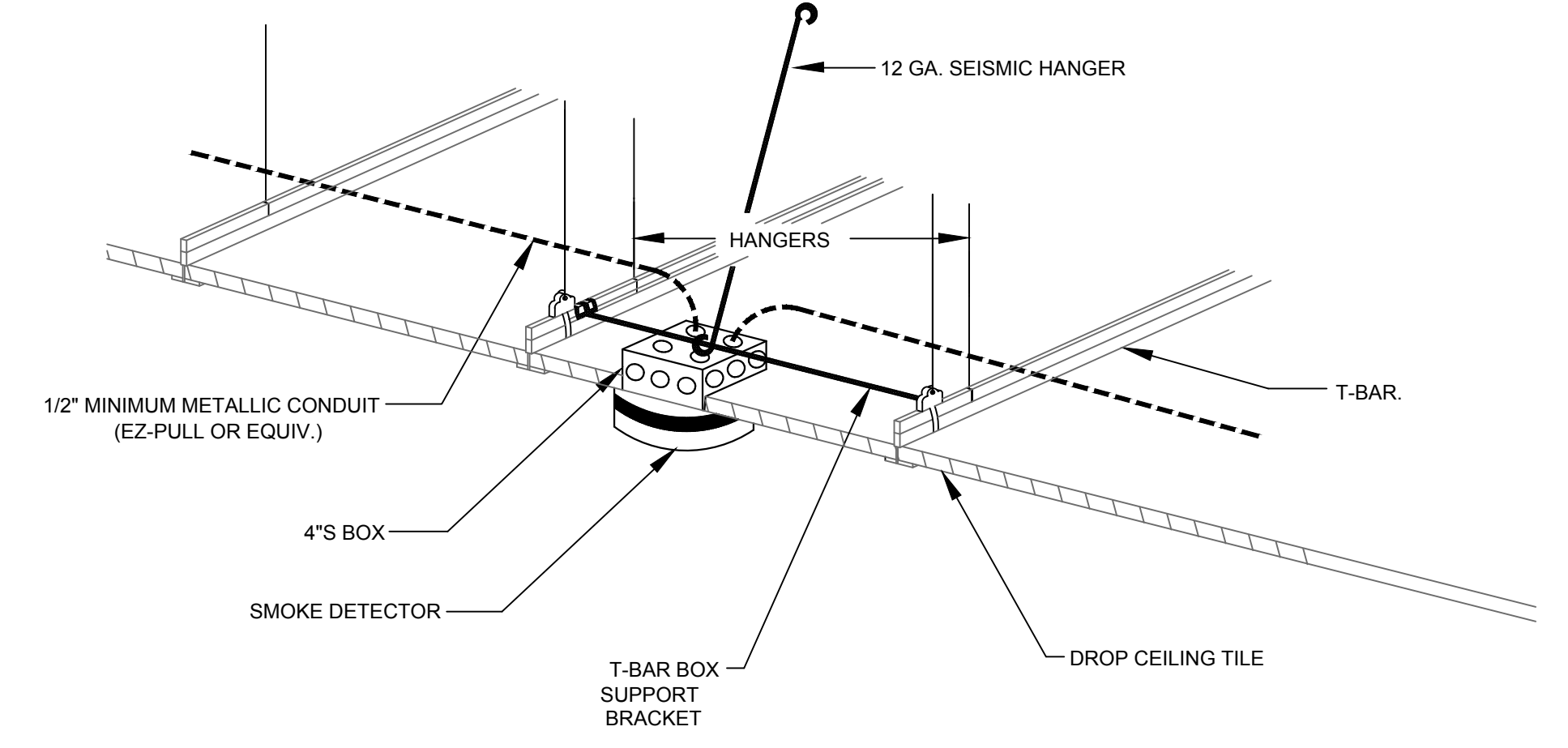
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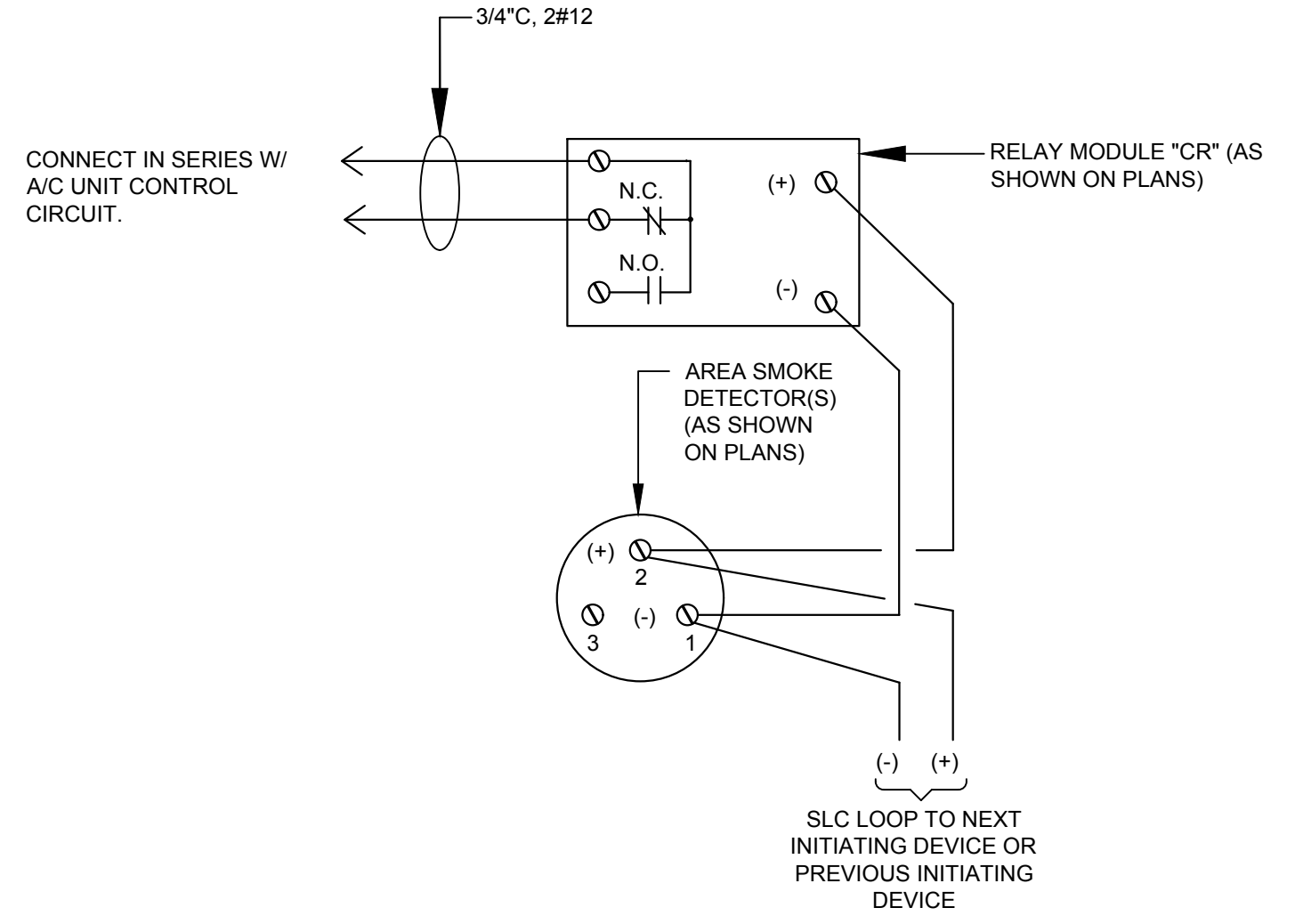
FIRE ALARM RISER DIAGRAM
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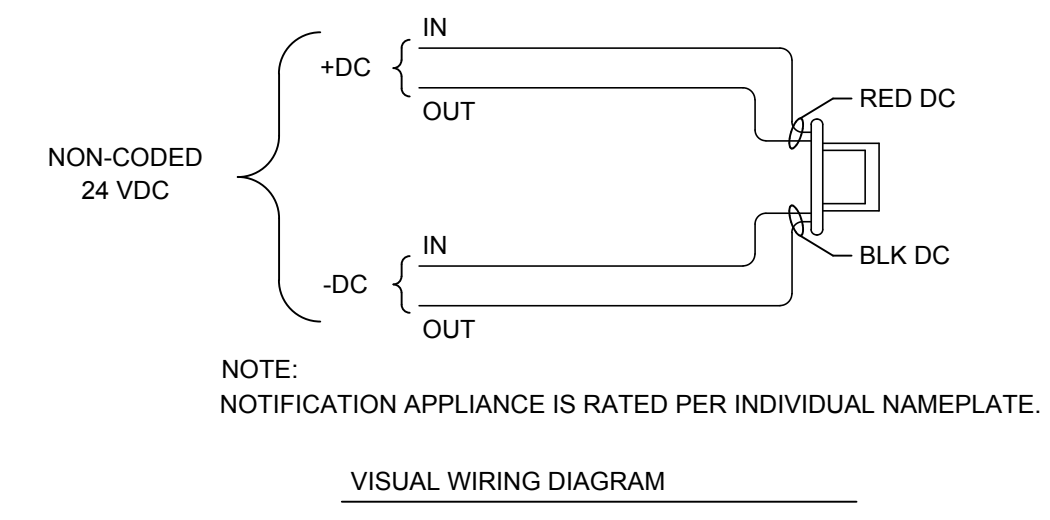
8 HORN & STROBE HEIGHT REQUIREMENTS
 N.T.S.



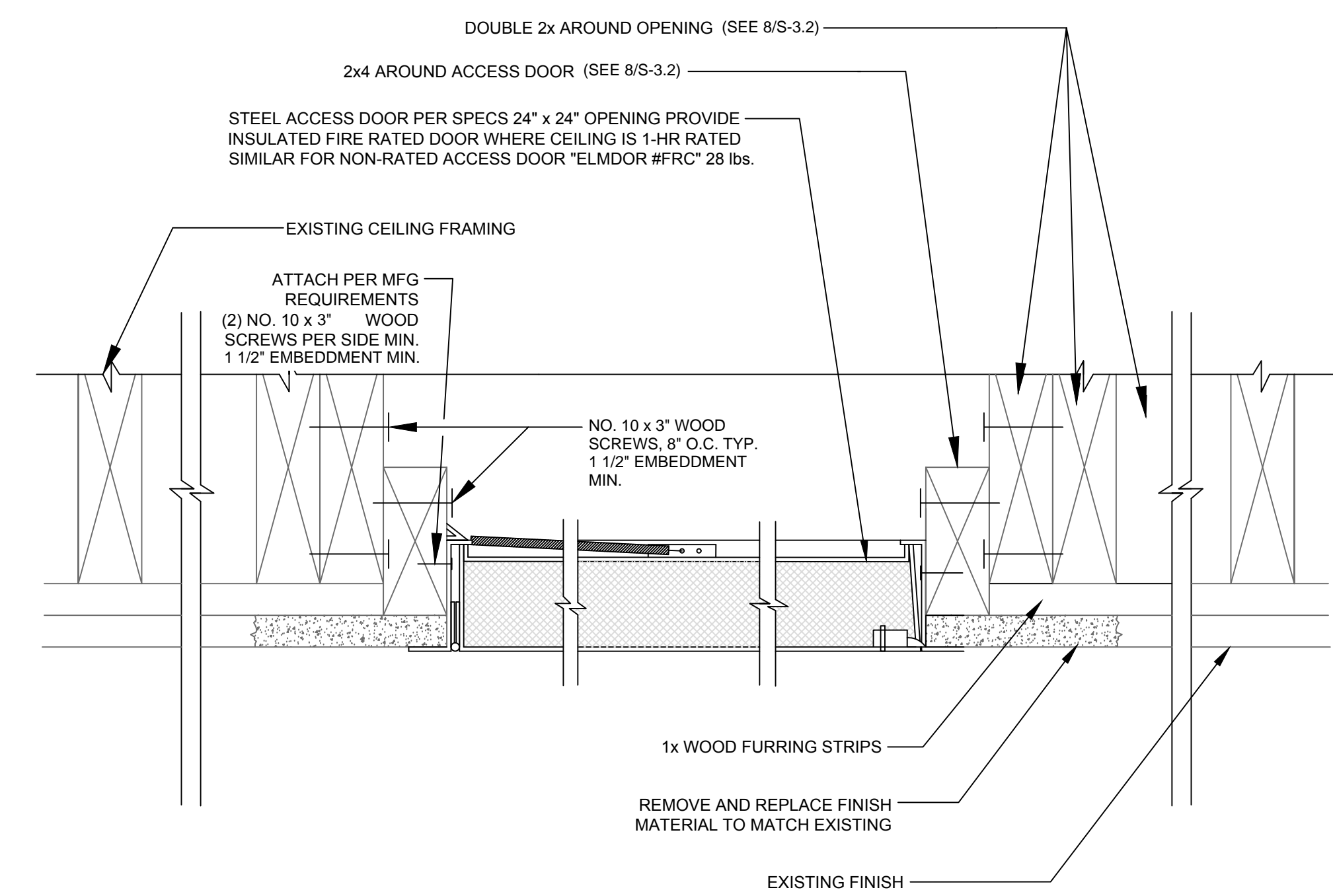
3 TYPICAL SMOKE DETECTOR CEILING MOUNT INSTALLATION DETAIL
 N.T.S.



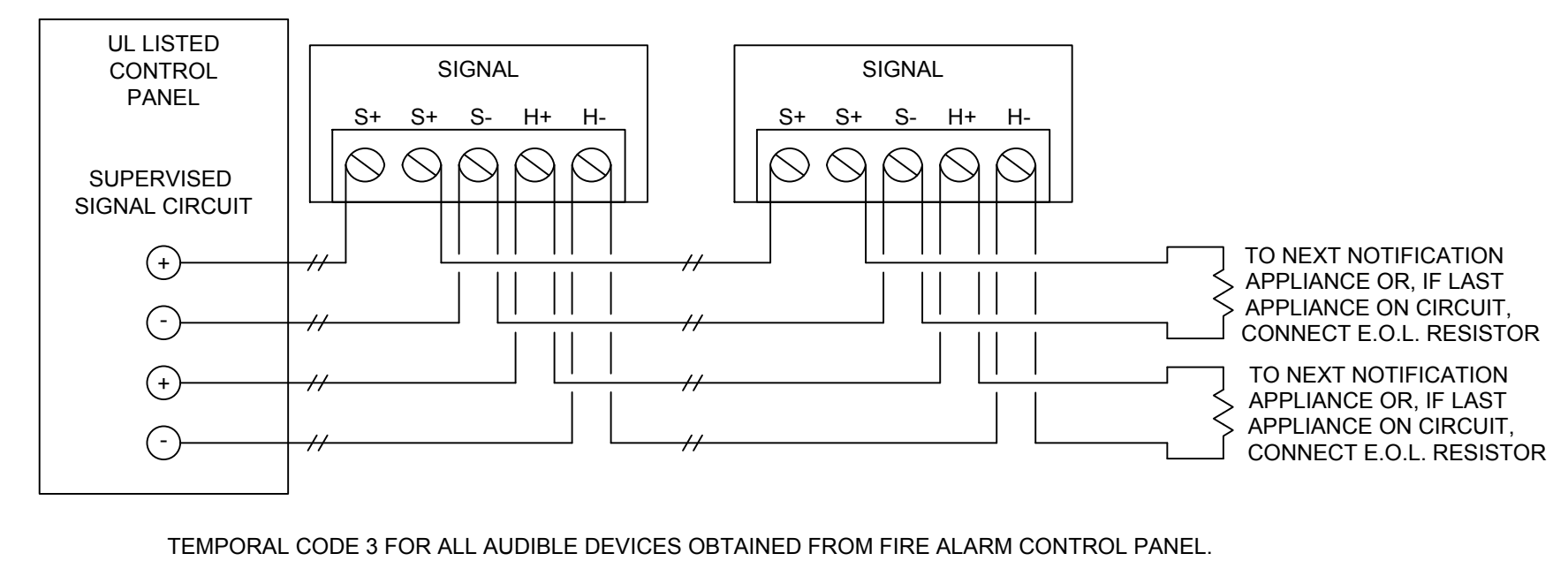
7 TYPICAL A/C UNIT SHUT DOWN CONTROLS (LOW VOLTAGE CONTROL CIRCUIT)
 N.T.S.



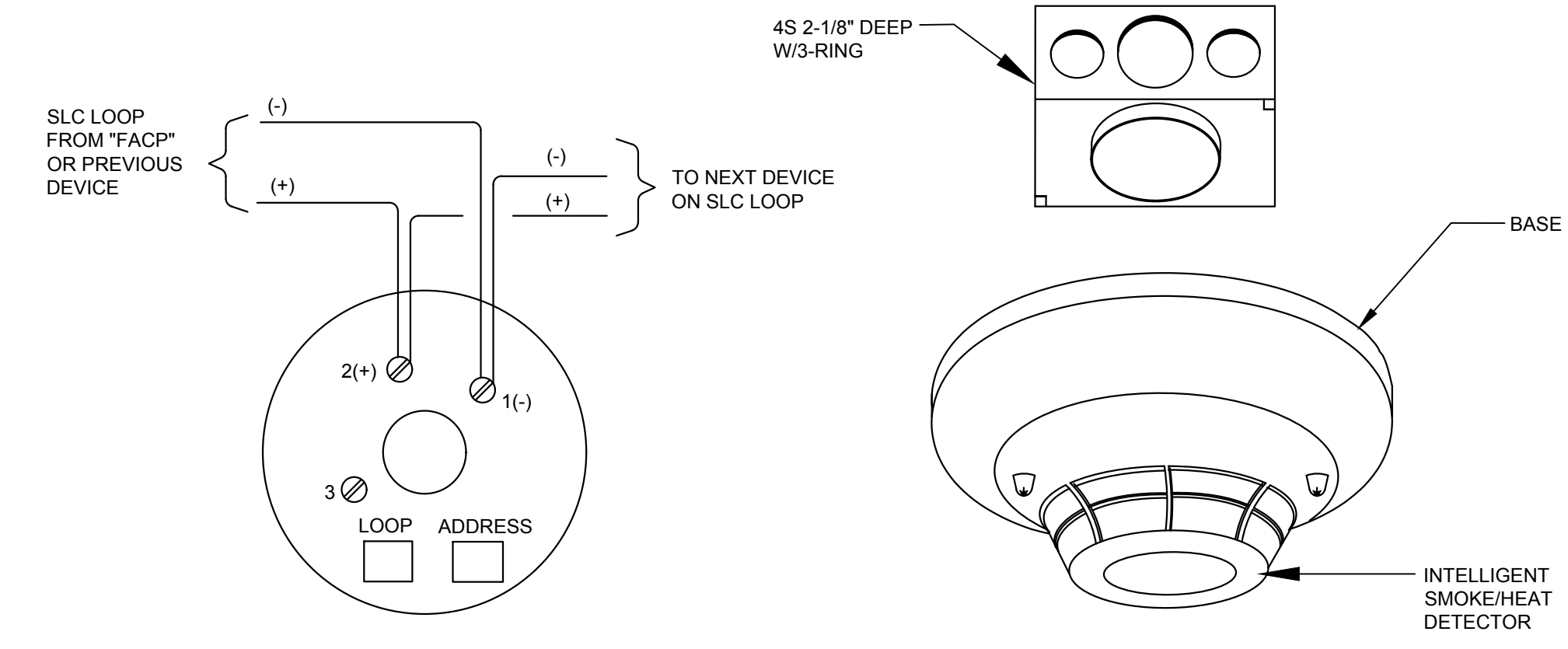
5 STROBE LIGHT
 N.T.S.



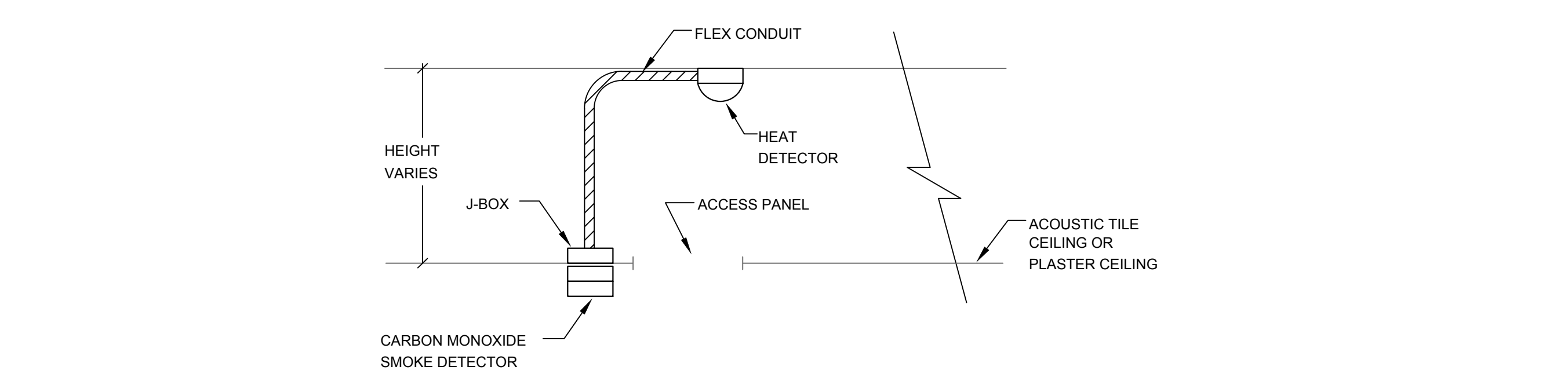
2 CEILING ACCESS PANEL
 N.T.S.



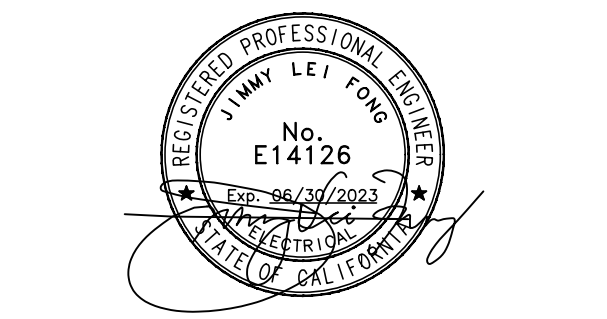
6 DUAL INPUT HORN/STROBE
 N.T.S.



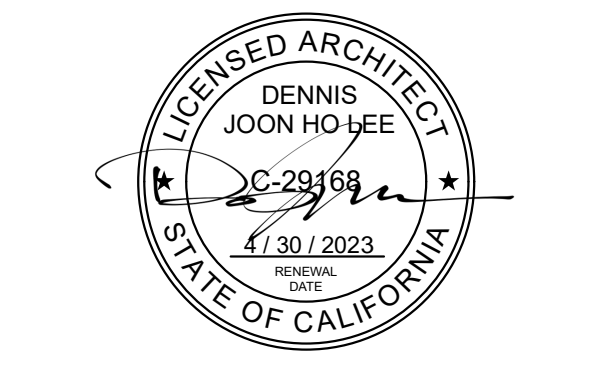
4 HEAT/SMOKE DETECTOR
 N.T.S.



1 TYPICAL SMOKE DETECTOR & HEAT DETECTOR MOUNTING DETAIL AT ACCESS PANEL
 N.T.S. (APPLICABLE TO ALL SHEETS)



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PROJECT:
CTE AUTO SHOP PROGRAM - ROWLAND HIGH SCHOOL

2000 S. OTTERBEIN AVENUE
 ROWLAND HEIGHTS CA 91748

CLIENT:
 ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

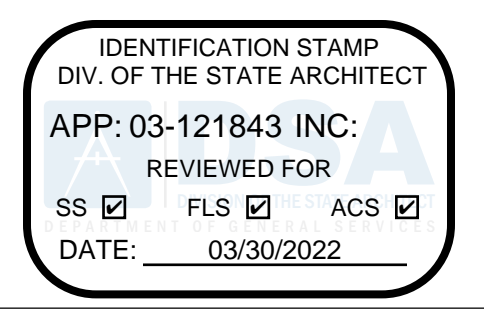
SUBMITTALS/REVISIONS:

1	DESIGN DEVELOPMENT	4/22/2021
2	CONSTRUCTION DOCUMENTATION	7/2/2021
3	DSA SUBMITTAL	10/8/2021

PROJECT NO: 202016
 SCALE: AS SHOWN
 DATE: 9/23/2021
 DRAWN BY: JH
 CHECKED BY: JF

SHEET TITLE:
FIRE ALARM DETAILS AND RISER DIAGRAM

SHEET NO:

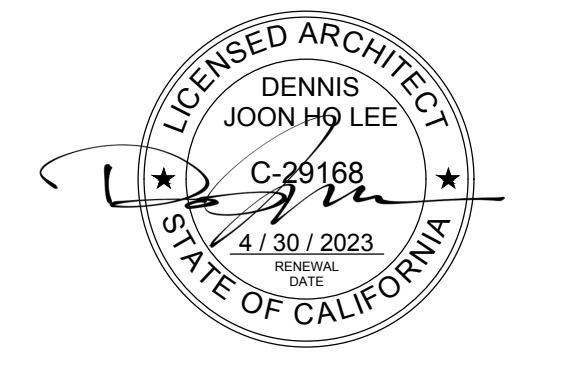


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ROWLAND UNIFIED SCHOOL DISTRICT
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 ROWLAND HEIGHTS, CA 91748

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1	DESIGN DEVELOPMENT	4/22/2021
2	CONSTRUCTION DOCUMENTATION	7/2/2021
3	DSA SUBMITTAL	10/6/2021

PROJECT NO: 202016
 SCALE: AS SHOWN
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 CHECKED BY: JF
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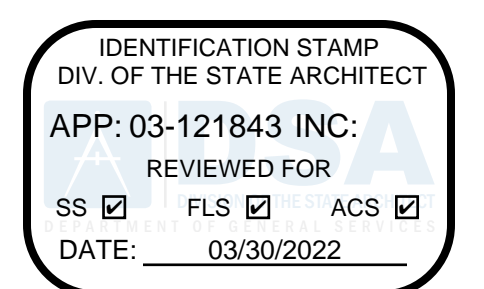
FIRE ALARM SITE PLAN

SHEET NO:
FA-2.0



FIRE ALARM SITE PLAN
 SCALE: 1" = 50'

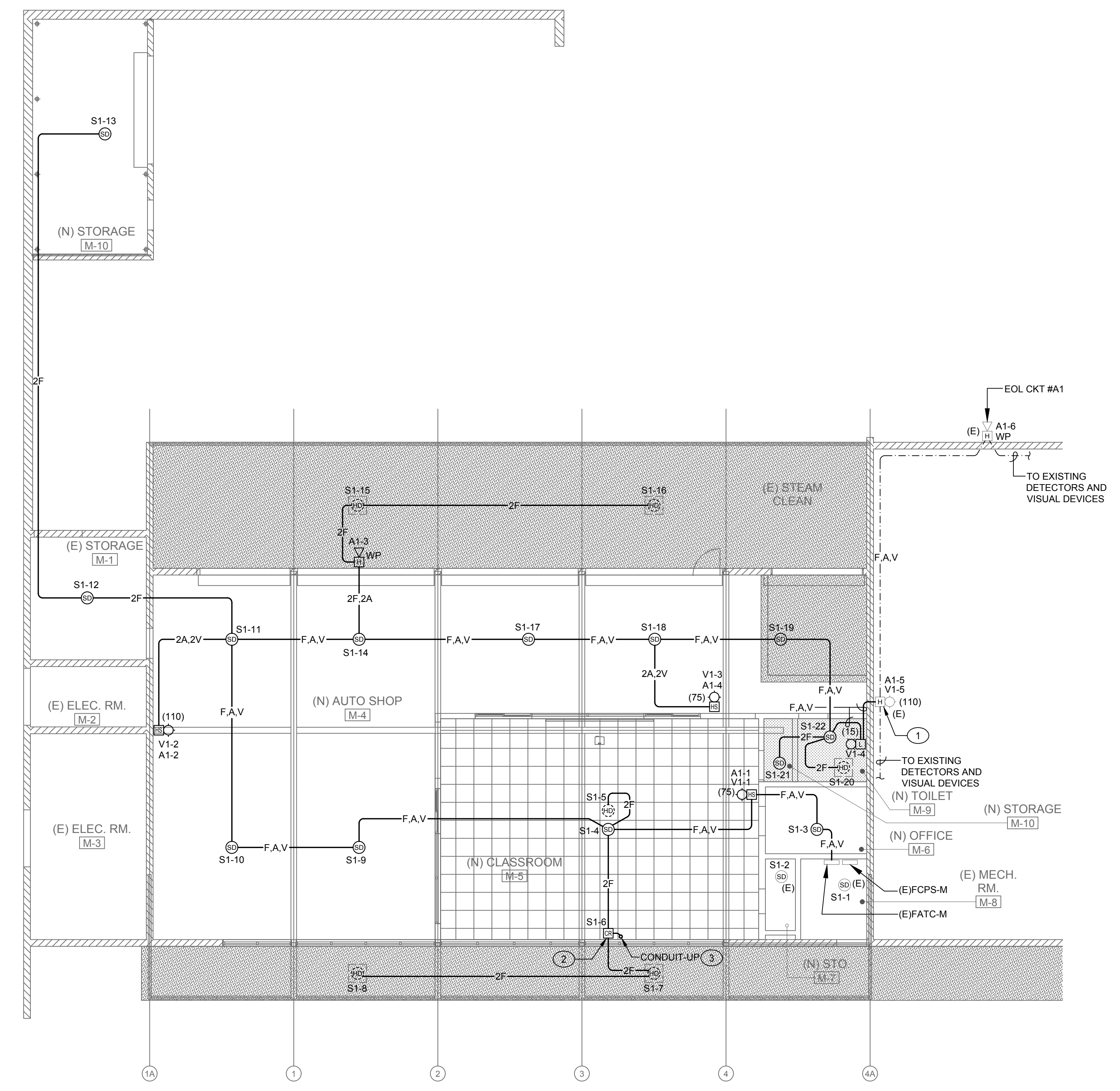
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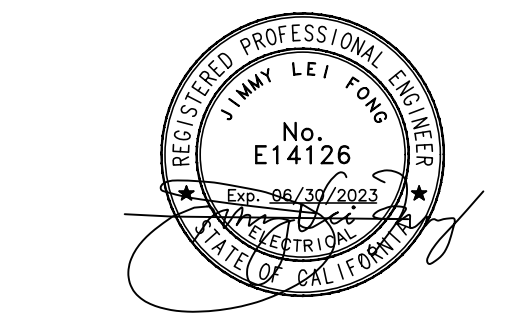
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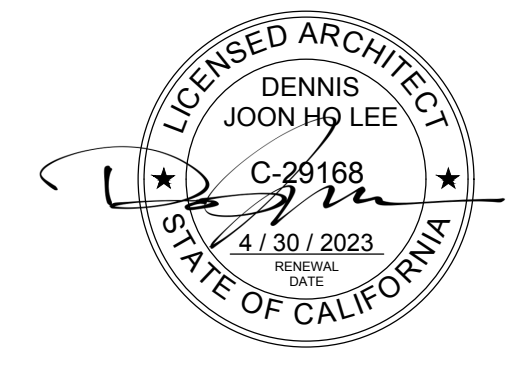
- KEYED NOTES**
- 1 TERMINATE FIRE ALARM CABLE TO EXISTING DEVICES.
 - 2 4S-BOX WITH CONTROL RELAY MODULE. MOUNT IN CEILING SPACE. PROVIDE LABEL TO FINISHED CEILING.
 - 3 3/4" C. 2#12. CONNECT TO AC UNIT ON ROOF FOR AUTOMATIC SHUT-OFF. SEE WIRING DETAIL 7/FA-1.1.



FIRE ALARM PLAN ①
 SCALE: 1/8" = 1'-0"



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2	CONSTRUCTION DOCUMENTATION	7/2/2021
3	DSA SUBMITTAL	10/6/2021

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 SCALE: AS SHOWN
 DATE: 8/22/2021
 DRAWN BY: HY
 CHECKED BY: JF
 SHEET TITLE:

FIRE ALARM PLAN

SHEET NO:
FA-2.1