

1 FIRE AUTHORITY APPROVAL SITE PLAN
A1.1

KEYNOTES

- 02 41 00 EXISTING CONDITIONS
02 41 00.A1 Existing fire hydrant
- 02 43 13 STRUCTURE RELOCATION
02 43 13.A1 One relocatable classroom and ramp to be relocated from stockpile and set on wood foundation by Mobile Modular. Modify ramp handrails per Mobile Modular Handrail Extension drawings (DSA #04-115384)
- 06 10 00 ROUGH CARPENTRY
06 10 00.A1 Install closure panels between relocatable buildings front and rear per detail 8/A0.1.
- 10 14 23 SIGNAGE
10 14 23.A1 provide room identification sign and tactile exit sign per details 2/A0.1 and 3/A0.1 at building P1.
- 10 44 16 FIRE EXTINGUISHERS
10 44 16.A1 provide one UL rated 2A-10 BC multipurpose fire extinguisher at one classroom. Mount on wall with bracket near door.
- 32 00 00 EXTERIOR IMPROVEMENTS
32 00 00.A1 accessible path of travel shown dashed - - - - -
32 00 00.A2 Existing accessible parking (van included) per DSA #109532 and verified and upgraded per DSA #02-111649
32 00 00.A3 Existing tow away sign per DSA #02-109532
32 00 00.A4 Existing accessible student (boys and girls) restrooms per DSA #02-111649
32 00 00.A5 Existing accessible staff (men and women) restrooms per DSA #02-111649



810

FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

To facilitate the Division of the State Architect's (DSA) fire and life safety plan review of project site conditions, DSA requires the design professional to provide the following information at time of project submittal for projects consisting of construction of a new campus, construction of new building(s), additions to existing buildings, and for site alternate design means for fire department emergency vehicle access, and fire suppression water supply.

Information associated with compliance items 1-3 below is to be provided for all project types indicated above. Information associated with items 4-7 is to be completed when an alternate means is utilized. Acknowledgement by the school district and signature from the local fire authority (LFA) is only required when an alternate design means is being requested.

Page 1 of the completed form must be imaged onto the fire access site plan. When an alternate design/means is proposed, completed pages 1 and 2 are to be imaged on the fire access site plan.

For additional information refer to the instructions at the end of this form and DSA Policy 09-01.

PROJECT INFORMATION			
School District/Owner: LODI UNIFIED SCHOOL DISTRICT			
Project Name/School: LODI MIDDLE SCHOOL			
Project Address: 945 S HAM LANE, LODI, CA 95242			
FIRE & LIFE SAFETY INFORMATION			
1.	Has a fire hydrant flow test been performed within the past 12 months? (If yes, provide a copy of the test data.)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
2.	Was the fire hydrant water flow test performed as part of this LFA review?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
3.	Is the project located within a designated fire hazard severity zone as established by Cal-Fire? (If yes, indicate fire hazard zone classification below) Refer to the following for fire hazard zone locations: www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_maps Wildland Interface Area (WIFA) (If any designations are checked, project design must meet the requirements of CBC Chapter 7A.)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> High <input type="checkbox"/> Very High <input type="checkbox"/> WIFA <input type="checkbox"/>	
CONDITION MEANS AND METHODS RESOLUTION		ALTERNATE ACCEPTED	
		Yes	No
4.	Emergency vehicle access roadways do not meet CFC requirements.		
4a.	Acceptable Alternate: Emergency vehicle and personnel access as proposed by the project architect is acceptable for providing fire suppression and protection of life and property.		
5.	Fire Hydrants: Number and spacing does not meet CFC requirements.		
5a.	Acceptable Alternate: Number of fire hydrants and spacing as proposed by the project architect is acceptable for fire suppression and protection of life and property.		
6.	Fire Hydrants: Water flow and pressure are less than CFC minimum.		
6a.	Acceptable Alternate: The available flow and pressure is acceptable for providing fire suppression and protection of life and property.		
7.	Location of fire department connection(s) serving fire sprinkler systems or standpipe systems does not meet CFC requirements.		
7a.	Acceptable Alternate: The location of fire department connection serving the fire sprinkler system and/or standpipe system is acceptable for providing fire suppression and protection of life and property.		

DSA 810 (rev 10-22-18) DIVISION OF THE STATE ARCHITECT DEPARTMENT OF GENERAL SERVICES STATE OF CALIFORNIA Page 1 of 4

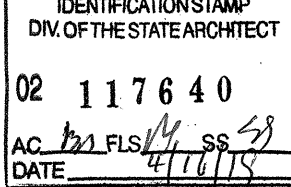
DSA 810
FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

School District Acceptance of Acceptable Design Alternates

By signing this form, the school district acknowledges and accepts the proposed design as an alternative to California Building Code (CBC) and California Fire Code (CFC) minimum requirements, as indicated by one or more of the conditions indicated at items 4a, 5a, 6a or 7a, for providing fire and life safety protection of life and property.

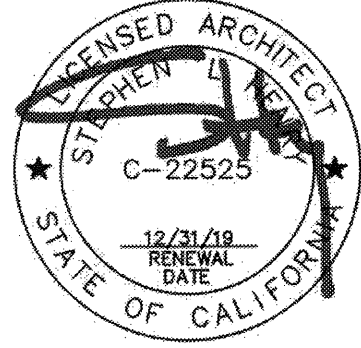
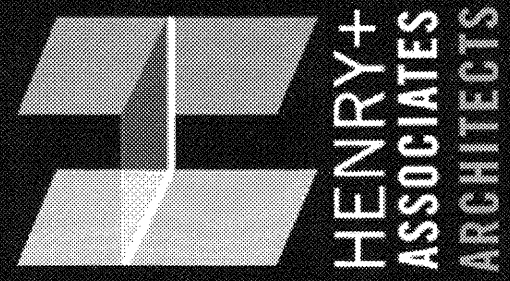
Accepted by: _____ Title: _____
Signature: _____ Date: _____

LOCAL FIRE AUTHORITY (LFA) INFORMATION	
LFA Agency Name:	LODI FIRE DEPARTMENT
LFA Review Official:	BATTALION CHIEF BRAD DOELL
Title:	FIRE MARSHAL
Work E-mail:	bdoell@lodi.gov



FILE NO. 39-50 APP NO.

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212



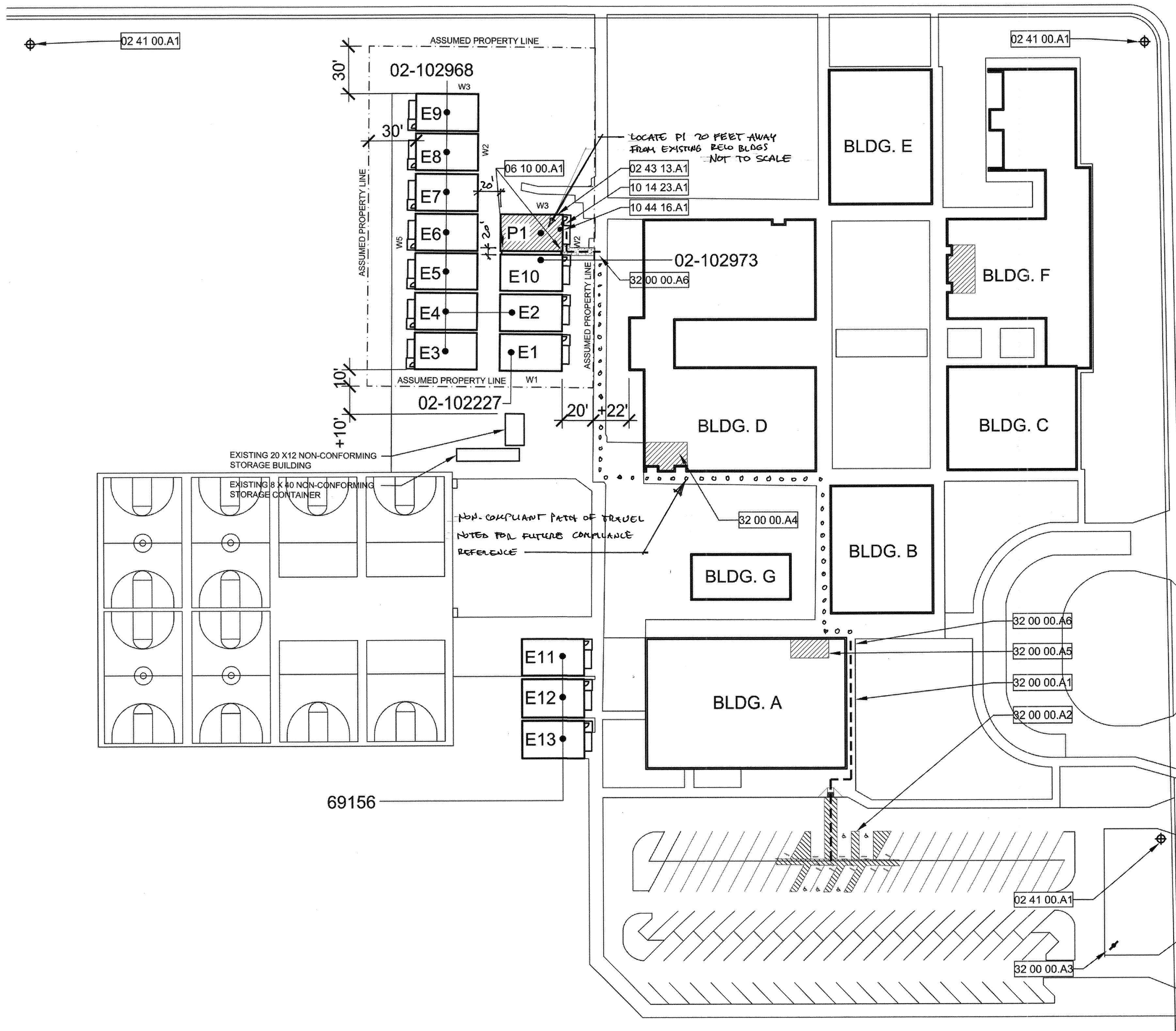
RELOCATABLE RELOCATION
LODI MIDDLE SCHOOL
FIRE AUTHORITY APPROVAL
SITE PLAN

CONSULTANT

PROJECT NO.	REVISIONS	BY
19-32-048		
DATE		
03/29/2019		
DRAWN		
SLH		
CHECKED		
SLH		
SCALE		
CADFILE		
UPDATED		

SHEET NO.

A1.1



2 SITE PLAN

A1.2 SCALE: 1" = 40'-0"



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32 00 00.A5 Existing accessible staff (men and women) restrooms per DSA #02-111649
32 00 00.A6 End of accessible path of travel this project

Path of travel (P.O.T.) as indicated is a barrier free access without any abrupt vertical changes exceeding 1/2" at 1:2 Maximum slope, except that level changes do not exceed 1/4" vertical (11B-303 & 11B-403.4). P.O.T. is a minimum of 48" wide (11B-403.5.1Ex3) slip resistant surface with 5% max. slope and 1:48 max. cross slope (11B-403.3). Passing spaces (11B-403.5.3) of 60"x60" min. are located not more than 200' apart. Walks with continuous gradients have 60" in length of level areas (11B-403.7) not more than 400' apart. P.O.T. shall be maintained free of overhanging obstructions to 80" min (11B-307.4) and protruding objects (11B-307) greater than 4" projection from wall above 27" and less than 80". There is no drop-off over 4" at the edge of walk or landing unless identified by a guard, a handrail, or a warning curb at least 6" in height above the walk (11B-303.5).

CODE ANALYSIS

EXISTING BUILDING NUMBERS E1-E10
USE: CLASSROOM
OCCUPANCY GROUP: E
CONSTRUCTION: TYPE V-B
TOTAL BUILDING STORIES: 1
AUTOMATIC FIRE SPRINKLER: No
TOTAL EXISTING BUILDING AREA: 0 SF
TOTAL EXISTING ROOF AREA: 0 SF
NEW BUILDING AREA (P1) 960 SF
NEW ROOF AREA (P1): 168 SF
TOTAL AREA 1,168 SF

ALLOWABLE AREA $A_a = A_t + (NS \times I_f)$

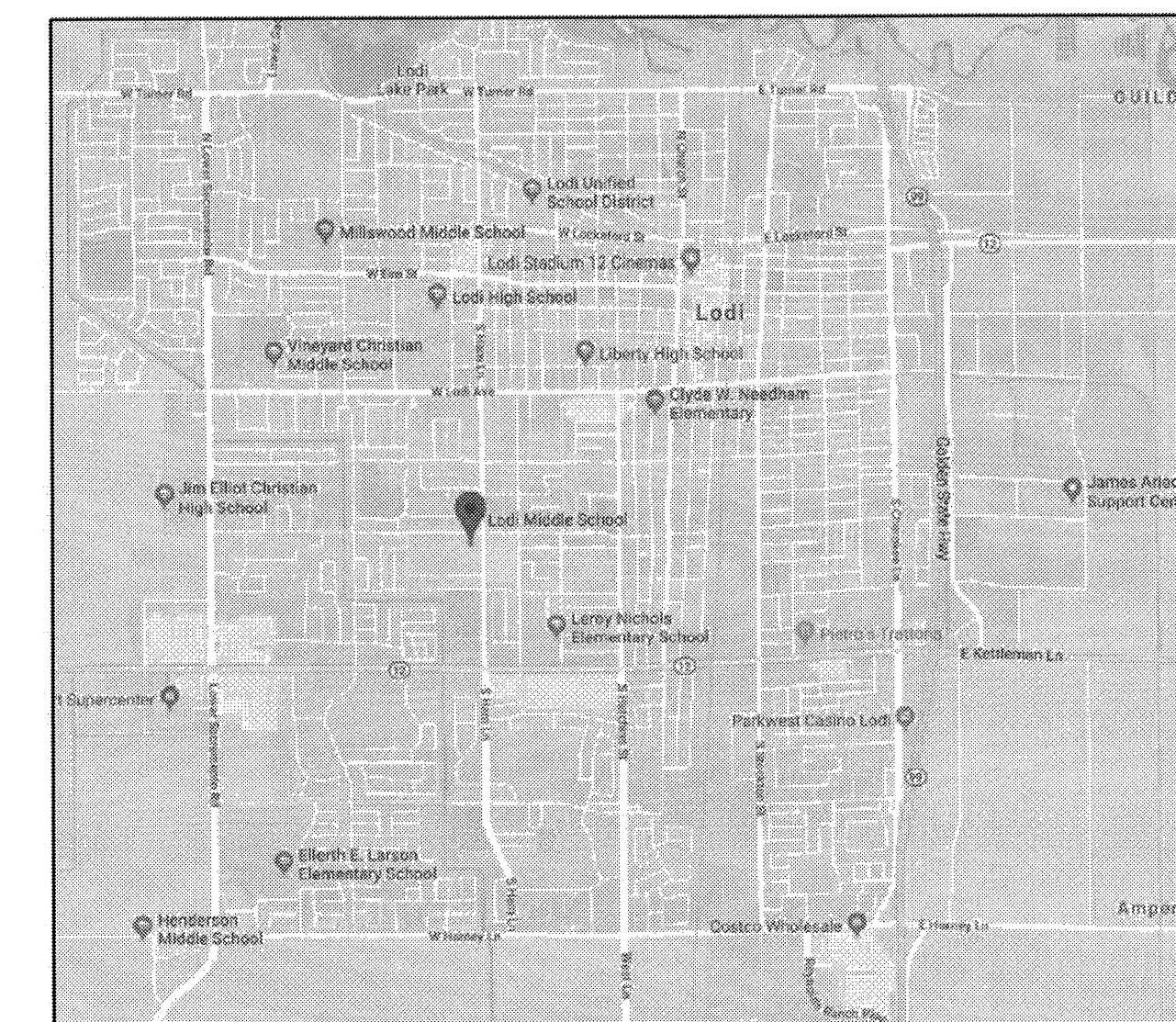
A_a = Allowable Area
 A_t = Tabular allowable area factor per Table 506.2 = 9,500 SF
 NS = Tabular allowable area factor for nonsprinklered building per Table 506.2 = 9,500 SF
 I_f = Area factor increase due to frontage (percent) calculated per Section 506.3

$W1 = 10'$
 $L1 = 80'$
 $W2 = 20'$
 $L2 = 168'$
 $W3 = 30'$
 $L3 = 80'$
 $W4 = 30'$
 $L4 = 168'$
 $F = 416'$
 $P = 496$
 $W = [(168 \times 20) + (80 \times 30) + (168 \times 30)]/F$
 $W = 10800/416 = 26$

$I_f = (F/P \times 0.25)W/30 = (416/496 \times 0.25)^{2/3} \times 30 = 0.51$

$A_a = A_t + (NS \times I_f) = 9,500 + (9,500 \times 0.51) = 9,500 + 4,845 = 14,345 \text{ SF}$

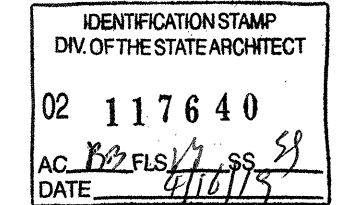
BUILDING DATA					
BUILDING	DSA NUMBER SERIAL NUMBER	CONSTRUCTION TYPE	OCCUPANCY	SQUARE FOOTAGE	CERTIFIED
BLDG A MULTI-PURPOSE	24025, 51591, 02-109532, 02-111649	V-A	A-3	10910	Y
BLDG B ADMIN.	24025, 02-109532	V-B	E	6683	Y
BLDG C CLASSROOMS	24025, 02-109532	V-B	E	5741	Y
BLDG D CLASSROOM	24025, 02-109532, 02-111649	V-B	E	16,431	Y
BLDG E CLASSROOM	24025	V-B	E	6061	Y
BLDG F CLASSROOM	29702, 02-102227, 02-103249, 02-109532	V-B	E	11460	Y
BLDG G SHADE STRUCTURE	02-112412	V-B	E	1920	Y
E1 CLASSROOM	02-102227	V-B	E	960	Y
E2-E9 CLASSROOM	02-102968	V-B	E	8640	Y
E10 CLASSROOM	02-102973	V-B	E	960	Y
E11-E13 CLASSROOM	69156	V-B	E	2880	Y
P1 (Enviroplex, Inc.)	This Application 65586 Serial #1079-EN	V-B	E	960	Y



LODI MIDDLE SCHOOL
945 S HAM ROAD, LODI, CA 95242

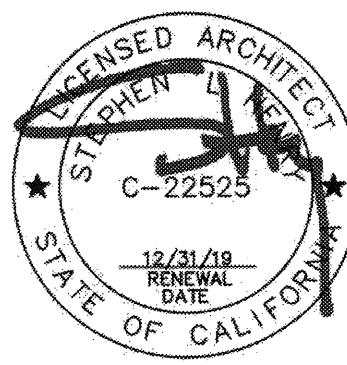
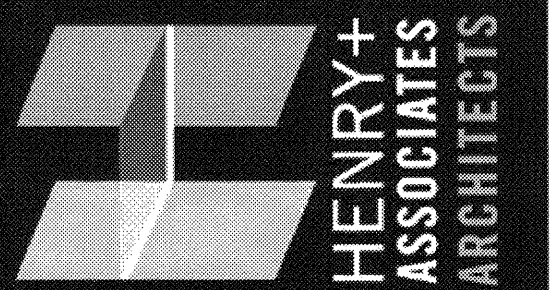
1 VICINITY MAP

NO SCALE



FILE NO. 39-50 APP NO.

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212



RELOCATABLE RELOCATION
LODI MIDDLE SCHOOL

VICINITY MAP BLDG DATA
SITE PLAN

CONSULTANT

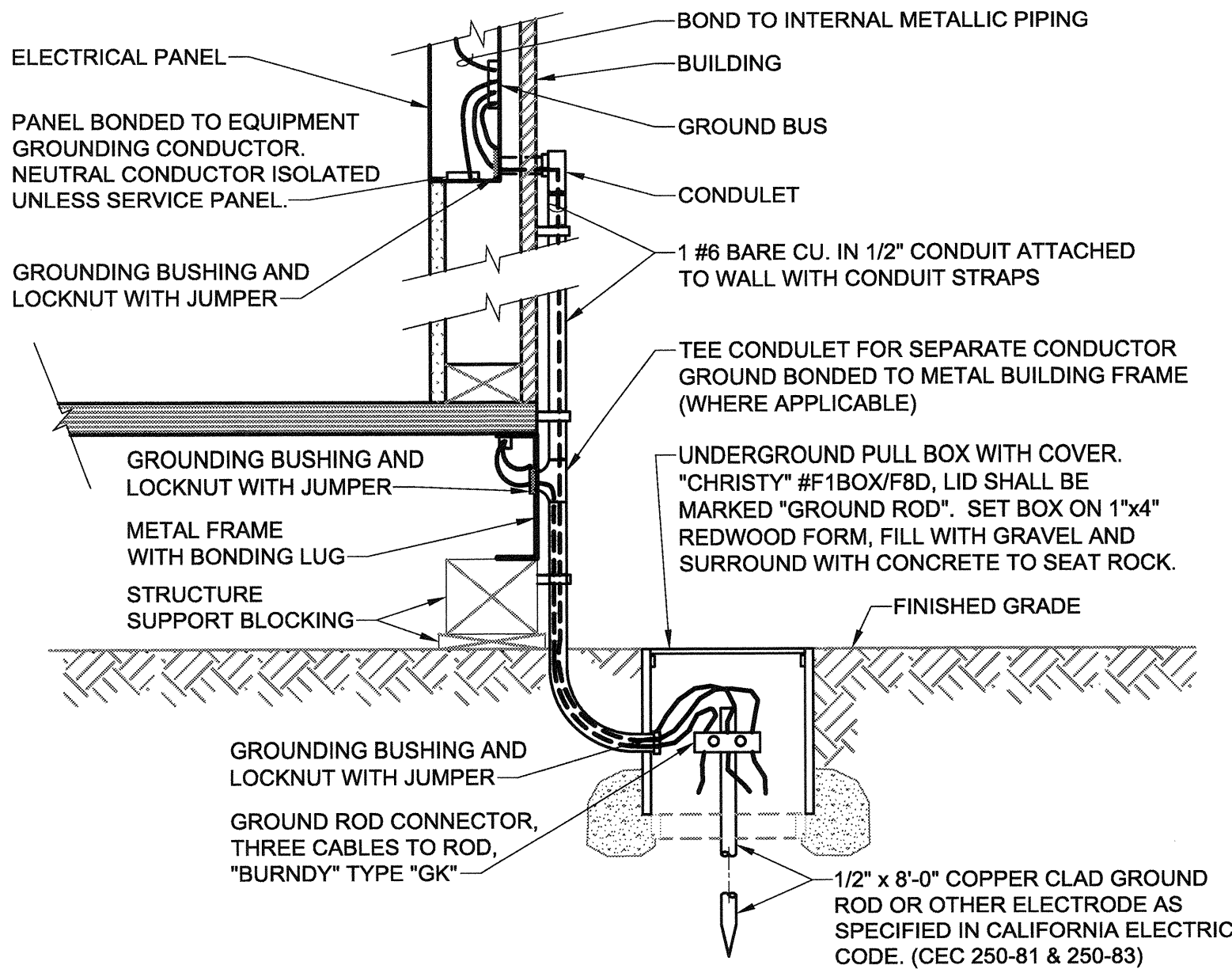
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SLH		
SCALE		
CADFILE		
UPDATED		
SHEET NO.		

A1.2

04 OF 28 SHEETS

GENERAL GROUNDING NOTES:

1. SIZE OF CONDUCTORS SHALL COMPLY WITH CEC TABLE 250-95.
2. BOND SEPARATE CONDUCTORS FROM GROUND ROD TO METAL BUILDING FRAME, WHERE APPLICABLE, (CEC 250-81) IN ADDITION TO THE DETAIL SHOWN ON DRAWING. BOND THE ELECTRICAL GROUND TO METAL WATER PIPE EMBEDDED AT LEAST 10 FEET INTO SOIL IF AVAILABLE (CEC 250-81 AND 250-83).
3. ALL MODULES OF METAL FRAME BUILDINGS, WHERE APPLICABLE, SHALL BE ELECTRICALLY BONDED TOGETHER, (BOLTING ONLY IS NOT ACCEPTABLE).
4. CHECK RESISTANCE TO GROUND. IF RESISTANCE EXCEEDS 25 OHMS, INSTALL ADDITIONAL GROUND RODS (CEC 250-84) AS REQUIRED.
5. THE SITE INSPECTOR SHALL VERIFY THE GROUNDING TESTS.



1 GROUNDING DETAIL
E0.1 NO SCALE

ELECTRICAL SYMBOL LIST

①	JUNCTION BOX - SIZE AS REQUIRED BY CODE
⚡ (3)	COMBINATION TELE/DATA OUTLET FLUSH IN WALL +18" A.F.F., 4-11/16" SQUARE BOX, 2-1/8" DEEP WITH 4 DEVICE RING AND PLATE, 3 JACKS AND ONE BLANK (REFER TO DATA JACKS COLOR SCHEDULE).
⚡ (4)	DATA OUTLET - FLUSH IN WALL +18" A.F.F. NUMBER IN PARENTHESIS INDICATES NUMBER OF DATA JACKS (REFER TO DATA JACKS COLOR SCHEDULE).
⚡ X	FIRE ALARM HEAT DETECTOR - CEILING MOUNTED. "X" = "C", "R", TO INDICATE "RATE COMPENSATION", "RATE OF RISE", TYPE DETECTOR RESPECTIVELY. THE DEFAULT TYPE IS "FIXED TEMPERATURE AND RATE OF RISE" INDICATED BY NO LETTER.
⚡ X	FIRE ALARM SMOKE DETECTOR - CEILING MOUNTED. "X" = "I", "R", "T" TO INDICATE "IONIZATION", "BEAM RECEIVER", "BEAM TRANSMITTER" TYPE DETECTOR RESPECTIVELY. THE DEFAULT TYPE IS "PHOTOELECTRIC" INDICATED BY NO LETTER.
⚡ X	FIRE ALARM AUDIBLE DEVICE, +90" A.F.F. UNLESS OTHERWISE NOTED. DEFAULT DEVICE IS A SPEAKER.
⚡ YY	FIRE ALARM AUDIO / VISUAL DEVICE, +80" A.F.F. DEFAULT AUDIO DEVICE IS A SPEAKER. "YY" INDICATES STROBE CANDELA RATING.
⚡ YY	FIRE ALARM VISUAL DEVICE, +80" A.F.F. "YY" INDICATES STROBE CANDELA RATING.
MM	FIRE ALARM MONITOR MODULE
⚡	END OF LINE RESISTOR
FACP	MASTER FIRE ALARM CONTROL PANEL
FAPS	REMOTE FIRE ALARM POWER SUPPLY
☑	SPEAKER - WALL MOUNTED +72" A.F.F. PROVIDE TO MATCH EXISTING ON THE SITE, OR TO BE 100% COMPATIBLE AND MATCH EXISTING DEVICE CAPABILITIES.
⌚	CLOCK OUTLET / CLOCK - REFER TO PLAN, MOUNT ADJACENT TO SPEAKER.
— — —	CONDUIT RUN CONCEALED IN CEILINGS OR WALLS. NUMBER OF HASH MARKS DENOTES QUANTITY OF WIRES. CURVED HASH MARK DENOTES QUANTITY OF #12 GREEN GROUND WIRES. CONDUCTORS OTHER THAN #12 ARE INDICATED ON PLANS. NO HASH MARKS DENOTES 2 #12 AWG AND 1 #12 GREEN GROUND IN 1/2" CONDUIT. TYPICAL FOR ALL CONDUITS.
— — —	FLEXIBLE CONDUIT CONCEALED. NUMBER OF HASH MARKS DENOTES QUANTITY OF WIRES. CURVED HASH MARK DENOTES QUANTITY OF #12 GREEN GROUND WIRES. CONDUCTORS OTHER THAN #12 ARE INDICATED ON PLANS. NO HASH MARKS DENOTES 2 #12 AWG AND 1 #12 GREEN GROUND IN 1/2" MINIMUM DIAMETER CONDUIT.
— — —	CONDUIT RUN UNDERFLOOR OR UNDERGROUND MINIMUM 1" DIAMETER.
→	CONDUIT HOMERUN TO PANELBOARD, SWITCHBOARD OR TERMINAL CABINET
— — —	EXISTING CONDUIT AND WIRING
□	TERMINAL CABINET
▨	SWITCHBOARD, DISTRIBUTION PANEL, OR MOTOR CONTROL CENTER
1	DRAWING SHEET NUMBERED NOTE DESIGNATION - APPLIES TO NUMBERED NOTE ON SAME SHEET
1 E-1	DRAWING PLAN OR DETAIL DESIGNATION - "1" OR "A" DENOTES PLAN OR DETAIL NUMBER, "E-1" DENOTES SHEET NUMBER

SYMBOL LIST NOTES:

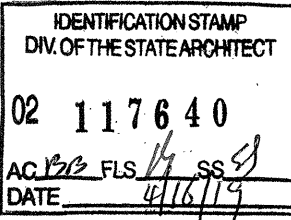
1. EXISTING ELECTRICAL EQUIPMENT, OUTLETS, AND DEVICES ARE SHOWN THE SAME AS NEW, EXCEPT LIGHTLY AND ACCOMPANIED BY (E). SUCH ELECTRICAL EQUIPMENT, OUTLETS, AND DEVICES ARE TO REMAIN AS IS, UNLESS OTHERWISE NOTED ON PLAN OR SPECIFICATION.
2. VERIFY ON SITE THAT ALL PANELBOARDS HAVE MINIMUM WORKING SPACES PER CODE AND THAT THE DEDICATED PANELBOARD SPACES ARE CLEAR OF ALL DUCTS, PIPING AND EQUIPMENT FOREIGN TO THE PANEL BOARDS. NOTIFY THE ENGINEER FOR CORRECTIVE ACTION IN THE EVENT THAT FOREIGN OBJECTS IMPEDE THE DEDICATED PANELBOARD AREAS.
3. WHERE CONDUIT STUB IS INDICATED, PROVIDE CONDUIT WITH BUSHING AT THE END OF CONDUIT AND PULL ROPE INTO ACCESSIBLE CEILING AREA.

ELECTRICAL SHEET INDEX

No. OF SHEETS	DRAWING No.	DRAWING DESCRIPTIONS
1	E0.1	ELECTRICAL SYMBOLS, ABBREVIATIONS, SHEET INDEX AND DETAILS
2	E1.1	SITE PLAN PLAN - ELECTRICAL
3	E2.1	FLOOR PLANS - SIGNAL AND FIRE ALARM
4	E4.1	FIRE ALARM NOTES, MATRIX, DETAILS, AND DIAGRAMS
5	E4.2	FIRE ALARM RISER DIAGRAM, SCHEDULES, AND CALCULATIONS
6	E5.1	ELECTRICAL SPECIFICATIONS
7	E5.2	ELECTRICAL SPECIFICATIONS

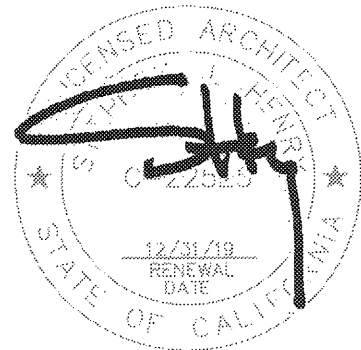
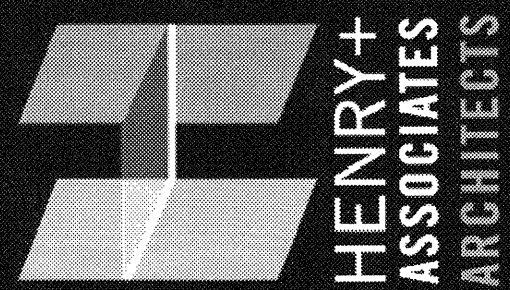
ABBREVIATIONS

A	AMPERES	GND	GROUND
AC	ABOVE CEILING	IDF	INTERMEDIATE DISTRIBUTION FRAME
A.F.F.	ABOVE FINISHED FLOOR	MAX.	MAXIMUM
APPROX	APPROXIMATE	MIN.	MINIMUM
AWG	AMERICAN WIRE GAUGE	(N)	NEW
BKR	BREAKER	NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION
C.	CONDUIT	QTY	QUANTITY
C.B.	CIRCUIT BREAKER	THW	INSULATED STRAND WIRE
CKT	CIRCUIT	THHN	NYLON JACKETED WIRE
C.O.	CONDUIT ONLY, WITH PULL WIRE	UG	UNDERGROUND
(E)	EXISTING	UL	UNDERWRITERS LABORATORY
FA	FIRE ALARM	UON	UNLESS OTHERWISE NOTED
GA.	GAUGE	WP	WEATHER PROTECTED
		XHHW	CROSS-LINKED POLYETHYLENE WIRE INSULATED



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RELOCATABLE RELOCATION
LODI MIDDLE SCHOOL

ELECTRICAL SYMBOLS,
ABREVIATIONS, SHEET
INDEX, DETAILS

CONSULTANT

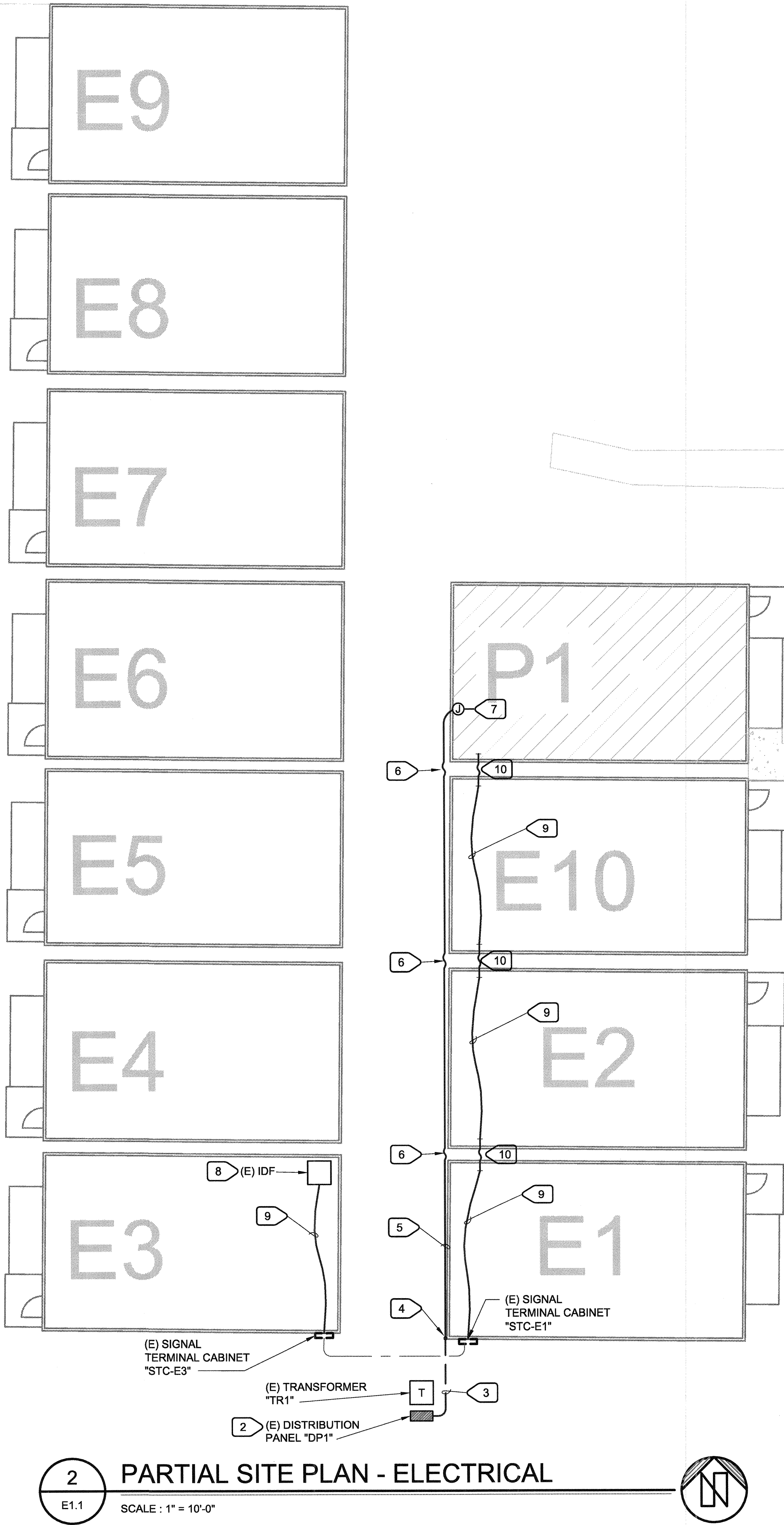


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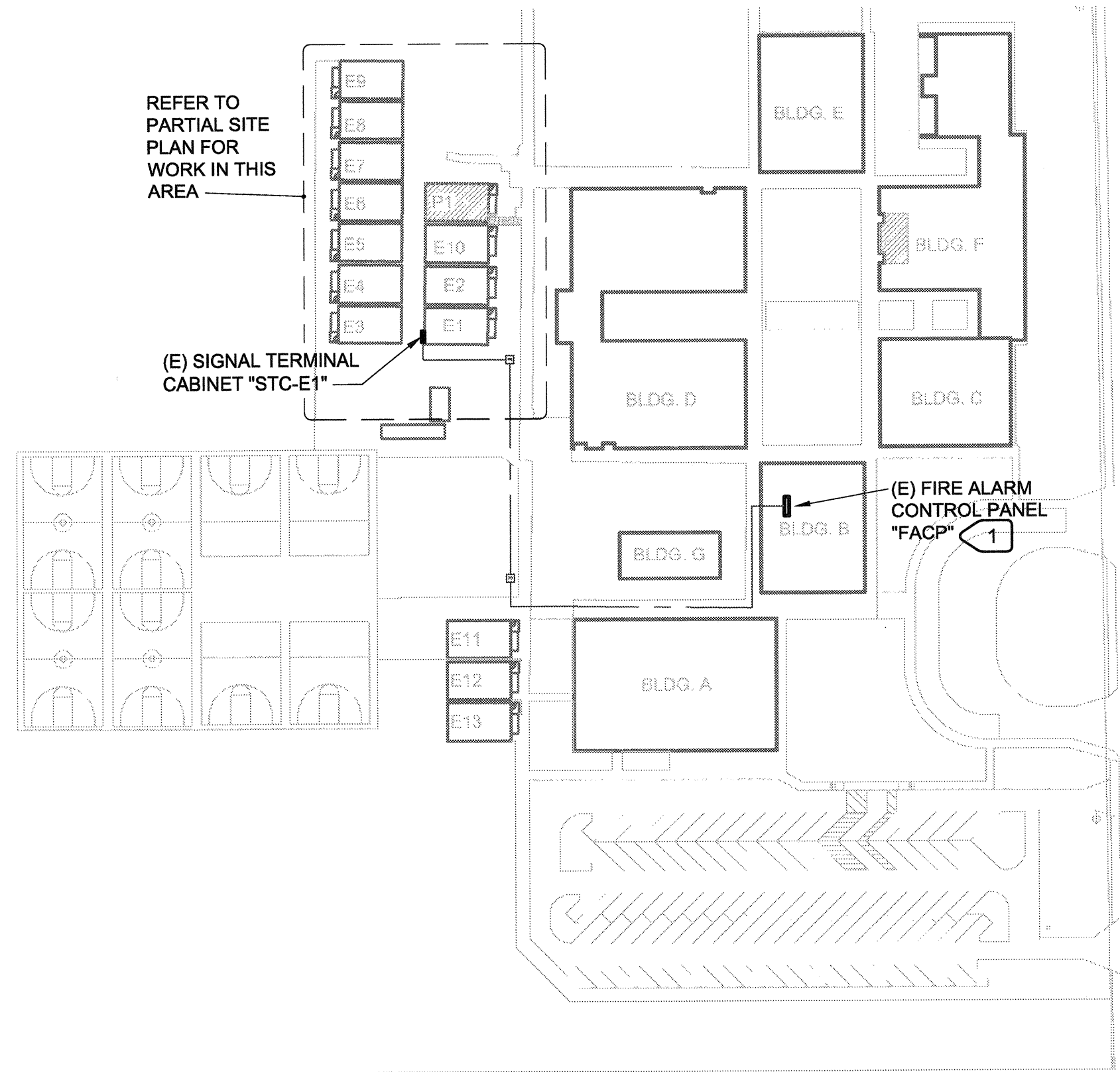
SHEET NO.

E0.1

OF 102 SHEETS



2 PARTIAL SITE PLAN - ELECTRICAL
E1.1 SCALE : 1" = 10'-0"



1 SITE PLAN - ELECTRICAL
E1.1 SCALE : 1" = 80'-0"

- NUMBERED NOTES:
- 1 PROGRAM FACP FOR NEW ADDED DEVICES.
 - 2 PROVIDE (N) 125/2 CKT. BRKR. IN (E) SPACES. PROVIDE ALL HARDWARE AND TRIM PIECES FOR COMPLETE INSTALLATION.
 - 3 1-1/2"C-3#1, 1#6G. RUN CONDUIT U.G. CAREFULLY EXCAVATE IN THIS AREA. PRIMARY FOR THE TRANSFORMER MAY BE LOCATED HERE.
 - 4 RISE 1-1/2"C-3#1, 1#6G ON THE SIDE OF THE BUILDING. USE RIGID STEEL CONDUIT.
 - 5 RUN HIGH ON BUILDING, COORDINATE WITH OTHER EQUIPMENT.
 - 6 SPAN SPACE BETWEEN BUILDINGS USING LIQUIDTIGHT FLEX CONDUIT.
 - 7 CONNECT POWER PANEL PROVIDED WITH BUILDING. COORDINATE EXACT REQUIREMENTS IN FIELD.
 - 8 (9) (N) DATA CABLES (CAT6a) NEED TO BE ADDED TO (E) IDF. INSURE THAT THERE IS ADEQUATE SPARE PATCH PANEL, OR PROVIDE ADDITIONAL PATCH PANEL. INSURE THAT TWO (2) DATA DROPS ARE PoI.
 - 9 (9) (N) DATA CABLES. REFER TO SPECIFICATIONS FOR CABLE COLORS. RUN IN ACCESSIBLE ABOVE CEILING SPACE SUPPORTED BY J-HOOKS. PROVIDE 2"C THROUGH INACCESSIBLE ABOVE CEILING SPACE.
 - 10 SPAN SPACE BETWEEN PORTABLES WITH 2" LIQUIDTIGHT FLEX CONDUIT FOR (N) DATA CABLES.

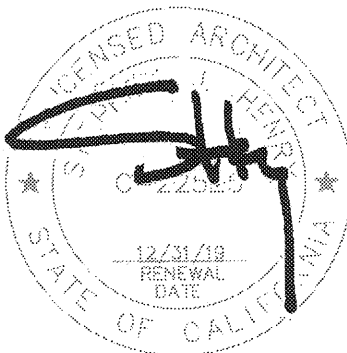
M. NEILS ENGINEERING, INC.
Electrical Engineers | Lighting Designers
100 Howe Ave., Suite 200N
Sacramento, CA 95825-4217
www.mneilsengineering.com
Tel: (916) 923-4400 Fax: (916) 923-4410
PROJECT #: 19045.21

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
02 117640
AC 102 FLS. 1/18/19
DATE 4/16/19

FILE NO. 39-50 APP NO.

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
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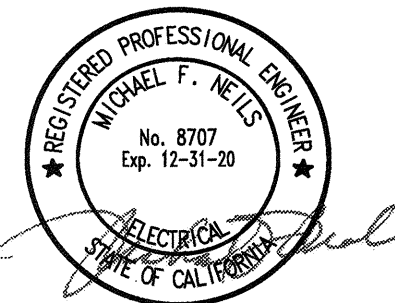
HENRY+ ASSOCIATES
ARCHITECTS



RELOCATABLE RELOCATION
LODI MIDDLE SCHOOL

SITE PLANS - ELECTRICAL

CONSULTANT

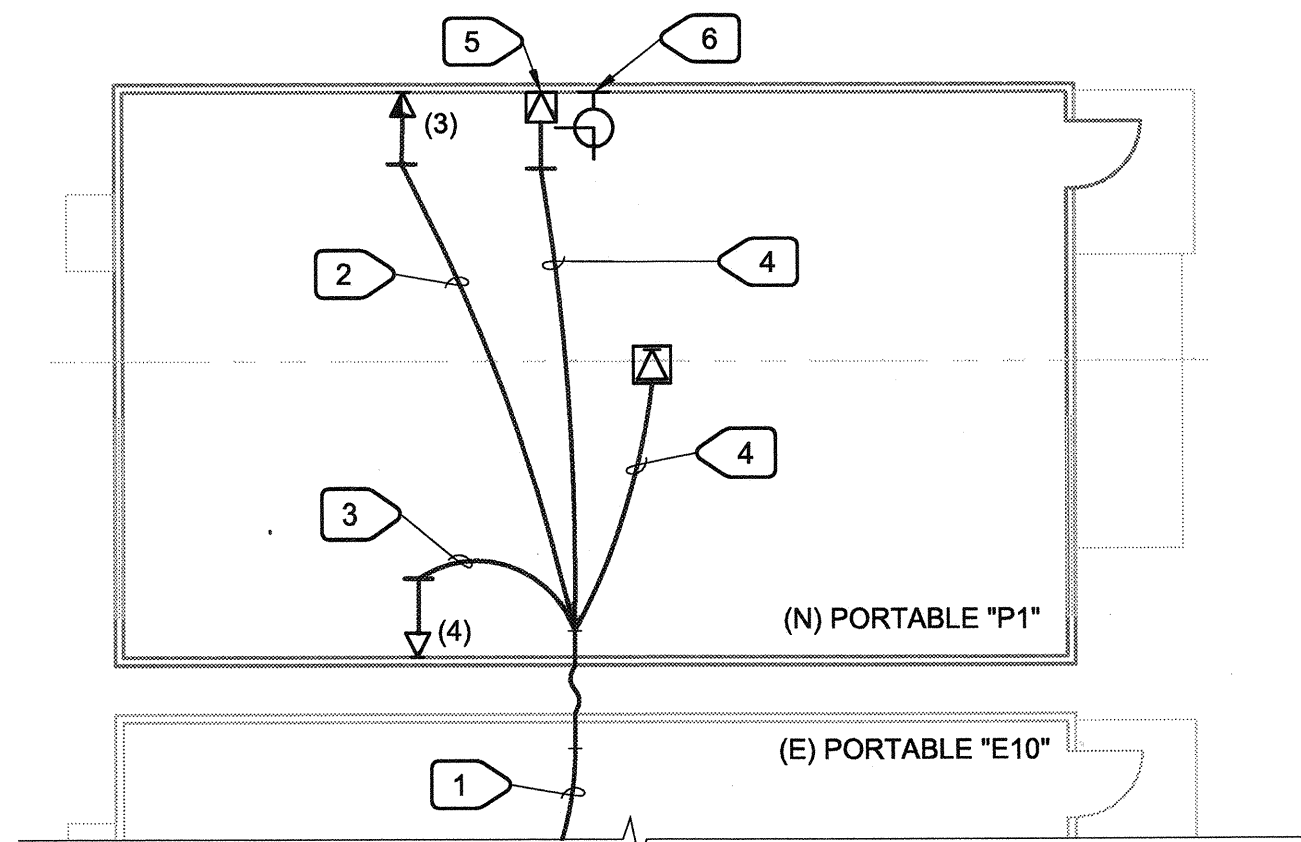


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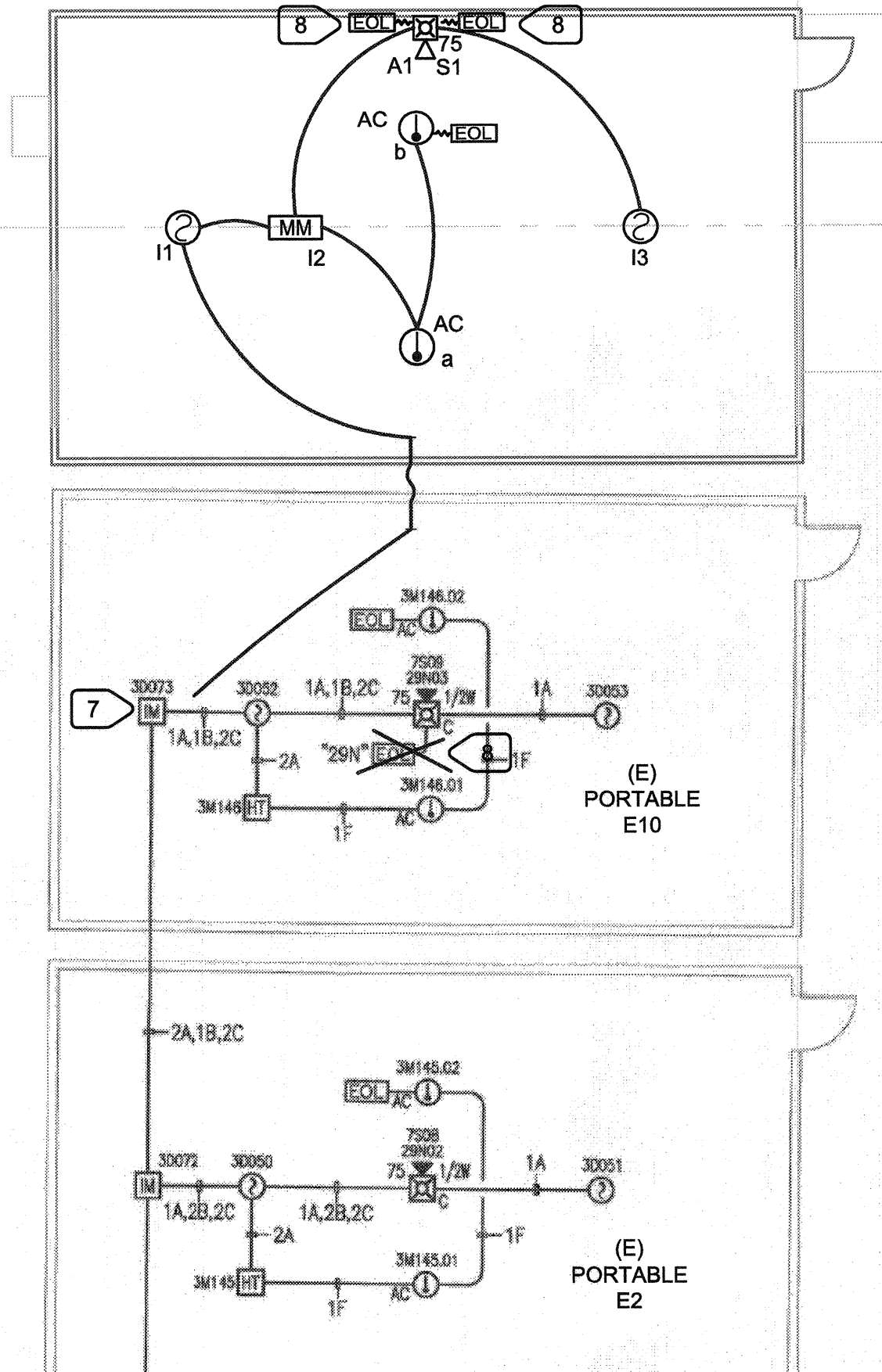
E1.1

OF 102 SHEETS



1 FLOOR PLAN - SIGNAL
E2.1 SCALE : 1/8" = 1'-0"

DATA OUTLETS - COLOR CODING	
<input checked="" type="checkbox"/>	(1) WHITE JACK FOR WAP
<input checked="" type="checkbox"/>	(1) GREEN JACK FOR VOIP SPEAKER
<input checked="" type="checkbox"/>	(4) BEIGE JACKS FOR STUDENT COMPUTERS
<input checked="" type="checkbox"/>	(2) BEIGE JACKS AND (1) BLUE JACK FOR TEACHER LOCATION (COMPUTER + VOICE)



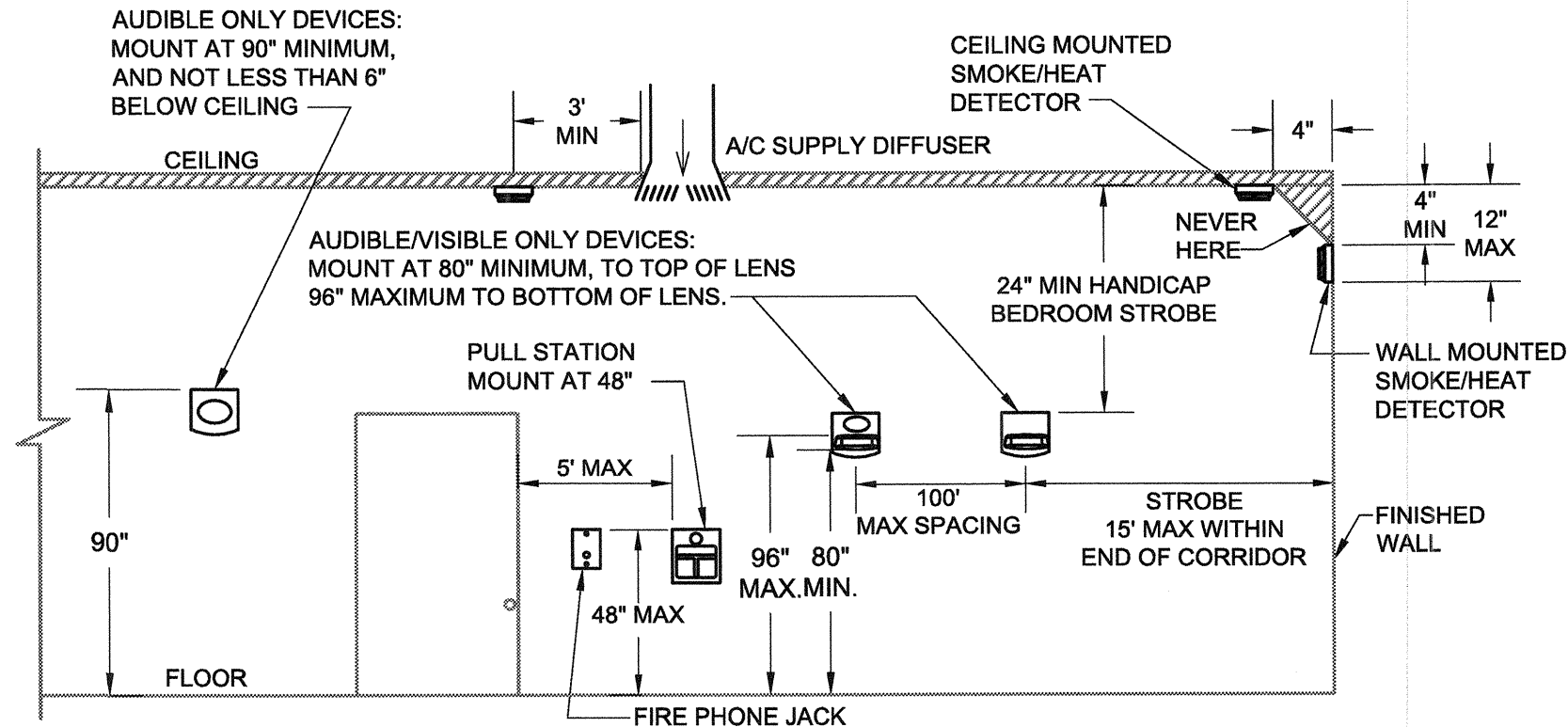
(E) PORTABLES ARE SHOWN FROM THE SET OF DSA APPROVED PLANS, APPL. #02-116554, DATED 06-21-2018

2 FLOOR PLAN - FIRE ALARM
E2.1 SCALE : 1/8" = 1'-0"

NUMBERED NOTES:

- (9) (N) INCOMING DATA CABLES. REFER TO PARTIAL SITE PLAN - ELECTRICAL.
- (3) (N) DATA CABLES TO TEACHER DATA OUTLET LOCATION. STUB 1"C INTO ACCESSIBLE ATTIC SPACE.
- (4) (N) DATA CABLES TO STUDENT DATA OUTLET LOCATION. STUB 1"C INTO ACCESSIBLE ATTIC SPACE.
- (1) (N) DATA CABLE TO VoIP SPEAKER / WIRELESS ACCESS POINT. STUB 3/4"C INTO ATTIC SPACE FROM SPEAKER BACKBOX INTO ACCESSIBLE ATTIC SPACE.
- PROVIDE IP SPEAKER TO MATCH (E) ON SITE.
- PROVIDE 12" BATTERY OPERATED CLOCK, ARABIC NUMERALS, BLACK HOUR AND MINUTE HANDLE, RED SECOND HANDLE, MIN. 5 YEARS BATTERY PACK, RADIO SYNCHRONIZED.
- EXTEND (E) INITIATION CKT, NOTIFICATION VISUAL, AND NOTIFICATION AUDIO CKTS.
- RELOCATE (E) END-OF-LINE RESISTOR FROM HERE TO (N) PORTABLE AS SHOWN.

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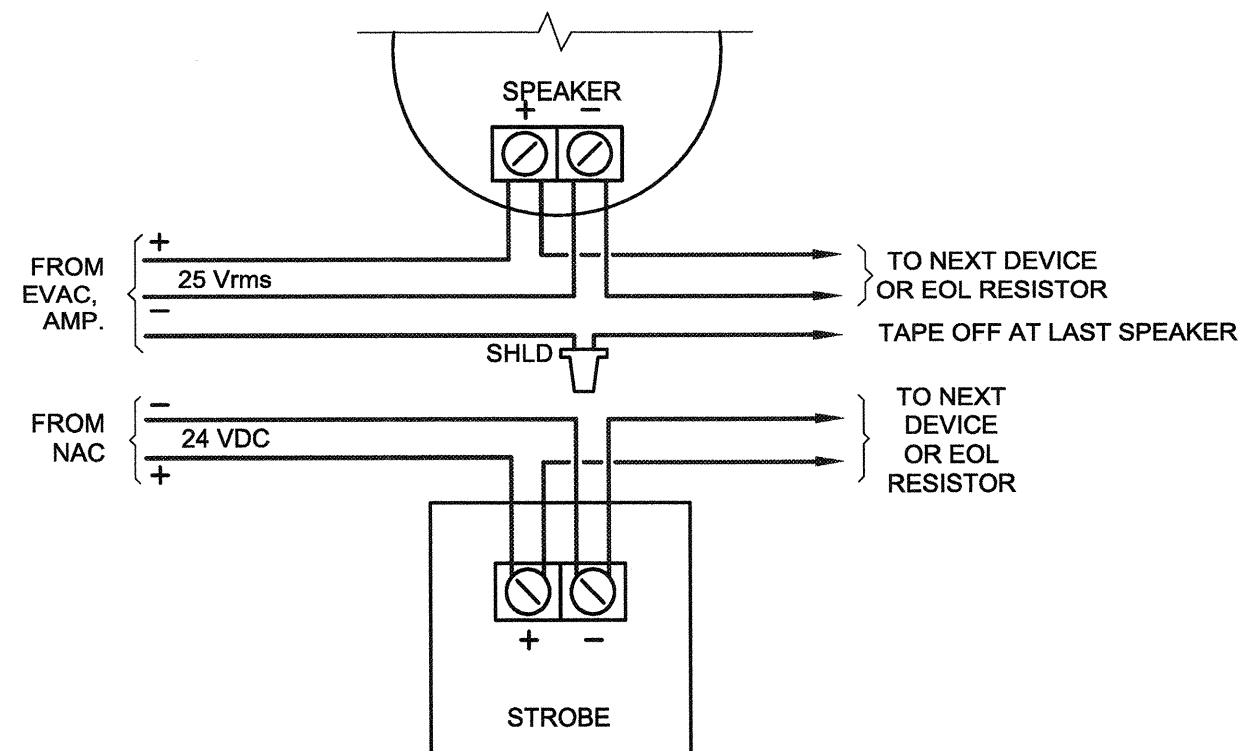


TYPICAL INITIATION AND NOTIFICATION

1
E4.1

APPLIANCE ELEVATION DETAIL

NO SCALE

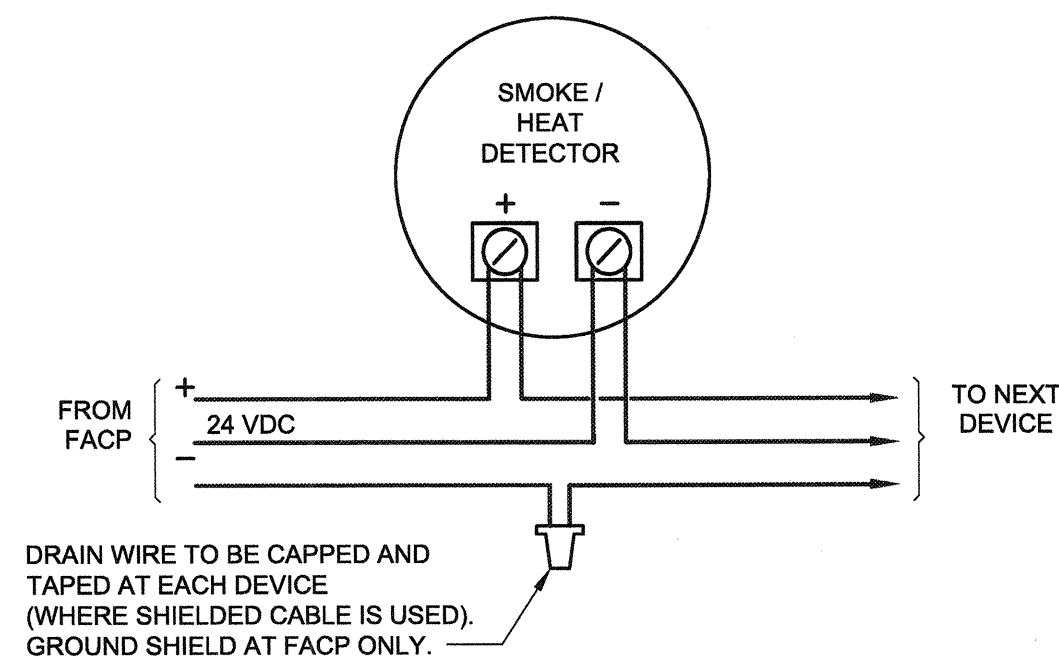


NOTIFICATION DEVICES

2
E4.2

POINT TO POINT WIRING DIAGRAM

NO SCALE



NOTE:
DIAGRAM IS GENERIC THEREFORE CONTRACTOR SHALL COORDINATE WORK FOR SPECIFIC DEVICES USED.
REFER TO MANUFACTURER INFORMATION FOR TYPE OF CABLE, MAX. LENGTH, T-TAPING, GROUNDING, ETC.

ADDRESSABLE INITIATION

3
E4.3

DEVICES - POINT TO POINT WIRING DIAGRAM

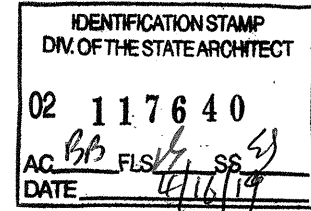
NO SCALE

FIRE ALARM GENERAL NOTES

1. ADD FIRE ALARM IN NEW PORTABLE CLASSROOM AND CONNECT TO EXISTING FIRE ALARM CONTROL PANEL WITH VOICE EVACUATION CAPABILITIES.
2. (E) SYSTEM SHALL BE CAPABLE OF AUTOMATICALLY TESTING SMOKE DETECTORS AND PRINTING A REPORT OF THE TEST.
3. (E) SYSTEM SHALL INCLUDE AUTOMATIC DIALING CAPABILITY FOR SENDING A SUPERVISORY SIGNAL, A TROUBLE SIGNAL, AND AN ALARM SIGNAL TO AN APPROVED SUPERVISING OFF-SITE MONITORING STATION IN ACCORDANCE WITH NFPA 72. THE SUPERVISING STATIONS SHALL BE LISTED AS EITHER UUFx (CENTRAL STATION) OR UUJS (REMOTE AND PROPRIETARY) BY UL, OR SHALL COMPLY WITH THE REQUIREMENTS OF STANDARD FM 3011. DIALER SHALL BE CAPABLE OF "GRABBING" A PHONE LINE FOR AN ALARM SIGNAL IF PHONE LINE IS ALREADY IN USE.
4. UPON COMPLETION OF ADDITION TO EXISTING FIRE PROTECTION SIGNALING SYSTEM, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE WITH THE LOCAL FIRE MARSHALL AND THE PROJECT INSPECTOR OF RECORD AS WITNESSES.
5. THE FIRE ALARM SYSTEM SHALL CONFORM TO THE CALIFORNIA BUILDING CODE, CALIFORNIA ELECTRICAL CODE, ARTICLE 760, AND THE CALIFORNIA FIRE CODE.
6. ADDITION TO EXISTING FIRE ALARM SYSTEM SHALL HAVE FULL COVERAGE AND SHALL BE FULLY COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM.
7. PROVIDE "FIRE WATCH" (REFER TO CHAPTER 33 - FIRE SAFETY DURING CONSTRUCTION.
8. THE FIRE ALARM WIRING SHALL BE RUN IN CONDUITS.
9. DO NOT START INSTALLATION OF THE FIRE ALARM SYSTEM UNTIL DETAILED PLANS, SPECIFICATIONS AND CALIFORNIA STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAVE BEEN APPROVED BY THE DEPARTMENT OF STATE ARCHITECTS.
10. PER NFPA 72 2016, SECTIONS 10.6.5.2.2 AND 10.6.5.2.3, CIRCUITS FOR FIRE ALARM SYSTEMS SHALL BE IDENTIFIED AS "FIRE ALARM / ECS CIRCUIT", AND THE DISCONNECTING MEANS FOR THE CIRCUIT SHALL HAVE A RED MARKING, BE ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL AND SHALL BE MECHANICALLY PROTECTED. LOCATION OF THE DISCONNECT SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT. THE CIRCUITS FOR FIRE ALARM SYSTEMS SHALL BE DEDICATED TO FIRE ALARM EQUIPMENT.
11. A STAMPED SET OF APPROVED FIRE ALARM DRAWINGS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION. ANY DEVIATION FROM THE APPROVED PLANS, INCLUDING THE SUBSTITUTION OF DEVICES, SHALL BE APPROVED BY THE DEPARTMENT OF STATE ARCHITECTS.
14. A FIRE ALARM ACCEPTANCE TEST OF ALL DEVICES AND APPLIANCES, INCLUDING THE BACKUP BATTERY(IES), SHALL BE PERFORMED. ALL MANUFACTURER OPERATING RANGES SHALL BE MET. TESTING OF THE SUPERVISING STATION SIGNALS, AS WELL AS RELAY TO THE APPROPRIATE RESPONDING AGENCY, SHALL BE INCLUDED IN THE ACCEPTANCE TESTING. THE PROJECT INSPECTOR SHALL WITNESS THE ACCEPTANCE INSPECTION AND SHALL SIGN AS THE AHJ REPRESENTATIVE ON THE "SYSTEM RECORD OF COMPLETION" AT SECTION 12.3 (NFPA 72, FIGURE 7.8.2(a)). ALL SUPPLEMENTARY RECORDS SHALL BE ATTACHED AS APPLICABLE. THE PROJECT INSPECTOR SHALL VERIFY THAT THE FIRE ALARM SYSTEM IS IN SERVICE PRIOR TO COMPLETION OF THE "SYSTEM RECORD OF COMPLETION" FORM. ALL ORIGINAL DECONTATION SHALL BE RETAINED IN THE REQUIRED DOCUMENTATION CABINET (NFPA 72, 7.7.2).
15. A CERTIFICATE OF COMPLIANCE SHALL BE PREPARED BY THE INSTALLER AND GIVEN TO THE CALIFORNIA STATE FIRE MARSHAL UPON COMPLETION OF THE INSTALLATION.

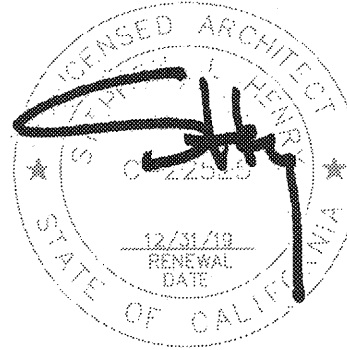
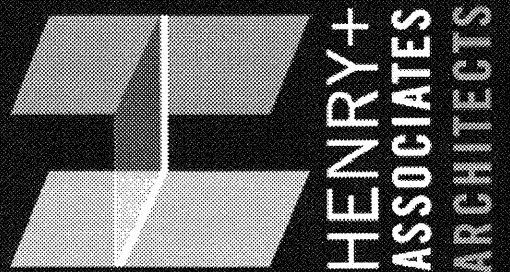
FIRE ALARM SEQUENCE OF OPERATION MATRIX

	FACP ALARM	FACP TROUBLE	FACP SUPERVISORY	ALARM SIGNAL OFF-SITE	TROUBLE SIGNAL OFF-SITE	SUPERVISORY OFF-SITE	ACTIVATE AUDIOVISUAL THROUGHOUT PARTS-HOSPITAL-MOB	ALARM RECEIPT CAPABILITY DURING ABNORMAL CONDITIONS	ANNUNCIATE ALARM AT REMOTE ANNUNCIATOR
AREA SMOKE DETECTORS	X			X			X		X
HEAT DETECTORS	X			X			X		X
	X			X			X		X
POWER FAILURE		X			X				
NOTIFICATION CIRCUIT CLASS B		X							
OPEN WIRE		X			X				
GROUNDING WIRE		X		X				R	
SHORTED WIRES		X		X					
SIGNALING LINE CIRCUIT CLASS B									
OPEN WIRE		X			X				
GROUNDING WIRE		X		X				R	
WIRE TO WIRE (SHORT & OPEN)		X		X					
WIRE TO WIRE (SHORT & GROUND)		X		X					
OPEN & GROUND		X		X					
LOSS OF CARRIER		X		X					
NOTE: BLANK MEANS NOT APPLICABLE R = REQUIRED ACTION									



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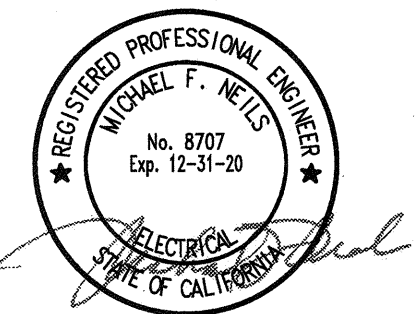
730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212



RELOCATABLE RELOCATION
LODI MIDDLE SCHOOL

FIRE ALARM NOTES, MATRIX,
DETAILS AND DIAGRAMS







CONSULTANT







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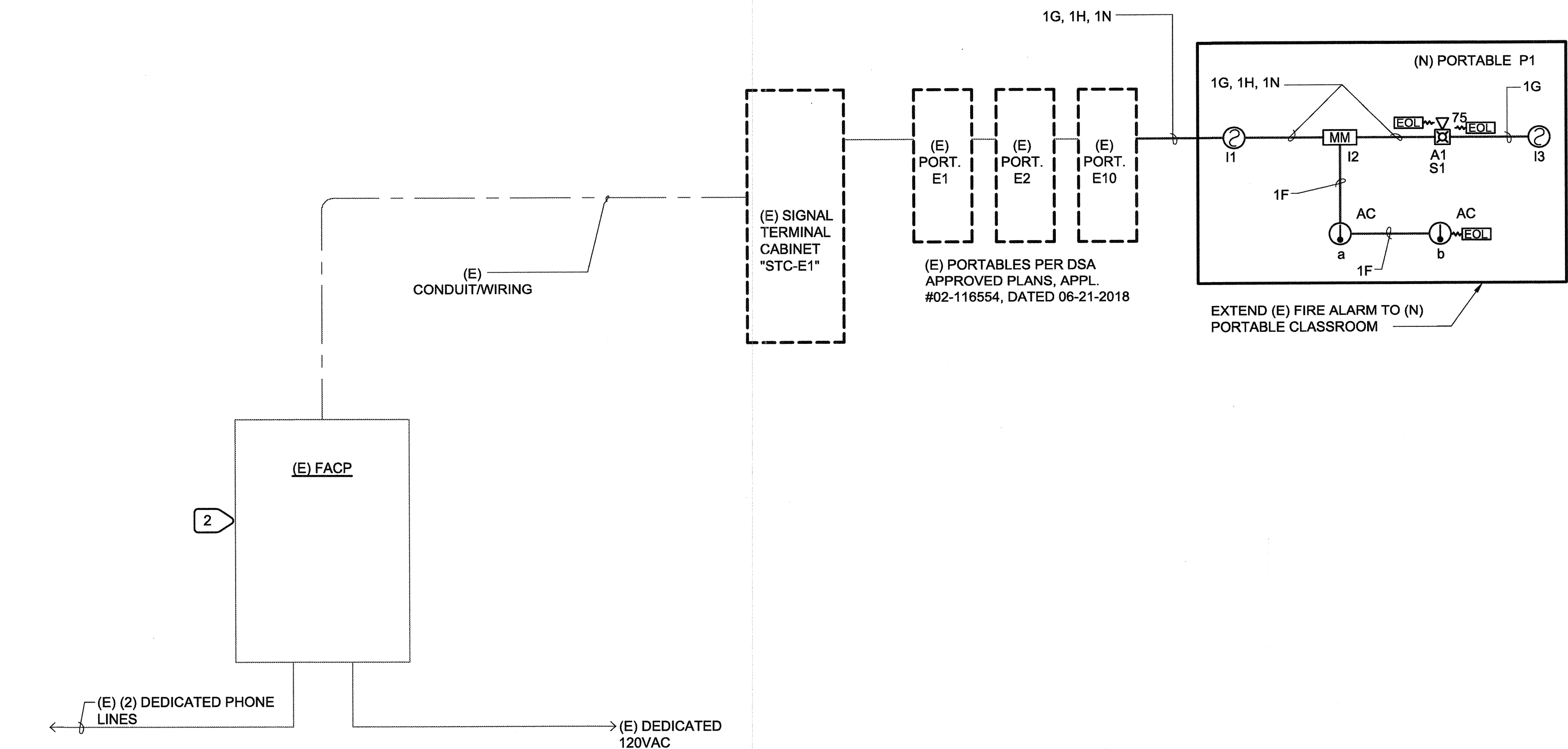
OF 102 SHEETS

SYMBOL	CATALOG NO.	DESCRIPTION	CSFM LISTING No.
	EST G4HFRF-S7VMC	SPEAKER/STROBE, WALL MOUNTED	7320-1657:0211
	EST SIGA-PD	SMOKE PHOTOELECTRIC DETECTOR	7272-1657:0331
 AC	SYSTEM SENSOR 5602	HEAT DETECTOR - FIXED TEMP 194° AND RATE-OF RISE	7270-1653:0167
	EST SIGA-CT1HT	HIGH TEMPERATURE MONITOR MODULE	7300-1657:0121
(E) 	EST 3	(E) FIRE ALARM CONTROL PANEL	
(E) 	EST BPS10A	(E) FIRE ALARM POWER SUPPLY	

FIRE ALARM CABLE SCHEDULE			
TYPE	CABLE DESCRIPTION AND USE	MANUFACTURER & CATALOG NO.	REMARKS NOTE No.
F 	SLC CABLE 16AWG, RED	WEST PENN - 990S	
G 	IDC CABLE, 16AWG, BLACK	WEST PENN - 225	
H 	VISUAL NAC, 14AWG, BROWN	WEST PENN - 226	
N 	AUDIBLE NAC, 16AWG, WHITE	WEST PENN - 225	

ALL FIRE ALARM WIRING SHALL RUN IN CONDUITS

FIRE ALARM CABLE SCHEDULE REMARK NOTES:



1 FIRE ALARM RISER DIAGRAM

BATTERY CALCULATION - FIRE ALARM POWER SUPPLY BPS-P2					
DESCRIPTION	QUANTITY	STANDBY CURRENT	SUBTOTAL	ALARM CURRENT	SUBTOTAL
FAPS CPU	1	0.070 A	0.070 A	0.270 A	0.270 A
EXISTING LOAD	1	0.000 A	0.000 A	1.950 A	1.950 A
NEW STROBE 75cd	1	0.000 A	0.000A	0.168 A	0.168 A
		TOTAL	0.070 A	TOTAL	2.388 A
STANDBY	24	HOURS X	0.070 A	=	1.680 AH
ALARM	15	MIN X	2.388 A	=	0.597 AH
Spare	20% OFF		2.277 AH	=	0.455 AH
			TOTAL	=	2.732 AH
			EXISTING BATTERY	=	7 AH @ 24V

VOLTAGE DROP CALCULATION

LAST DEVICE - WORST CASE SCENARIO

EXISTING VISUAL CKT. 29N

ACCEPTABLE LIMIT: NOT TO EXCEED 2.04V (10% * 20.4V)

OHMS = (#14 FT * 3.07/1000 + #12 FT * 1.93/1000+ #10 FT * 1.21/1000) * 2

DEVICE	TO DEVICE #	CKT. LENGTH FT	WIRE SIZE #14	RESISTANCE OF WIRE (OHM) (OHMM)	LOAD TOTAL	ACCUM. VOLTAGE DROP
BPS-P2	S1	440	0.00307	2.702	0.672 A	1.815 V

(4) 75 cd STROBES ((1) (N) +(3) (N)) = 0.168 X 4 = 0.672A TOTAL LOAD

AUDIO LOSS		
SPEAKER CIRCUIT 7S		
Audio Wiring Distance		
Enter audio voltage (Vrms)		70
Enter wire gauge		12
Enter wire resistance (ohms/ft)		0.00198
Enter speaker load (in watts)		19.5
Enter distance (in feet)		2310
dB loss		-0.2
ADJUST (N) SPEAKER TO 1 WATT OUTPUT		

<u>BPS-P2 BATTERY CALCULATIONS</u>						
Component	Qty	Standard Circuit Watt	Stand by Watt	Power Watt	Watt Hours	Total Amps-Hrs
MAF - P70	1	-	25	25	25	25
MAF - 200V	1	-	-	524	524	504
MAF - 200V	1	-	-	524	524	517
MAF - 200V	1	-	-	524	524	504
MAF - 200V (3 Units)						
Subtotal			0	0	0	0

Battery Rechargement Calculated for 24 Hours Standby and 18 Minutes Power

Assumes 100% = 240 Watts/Comp. 1 Hour/Standby Comp. 1 Hour = Standby 1 hour

Assumes 100% = 20 Watts/24 Hour Standby 1 Hour/Standby 1 Hour

Assumes 100% = 2.1


BATTERY SUPPLIES: (3) 12 Vols, 7 Amps/Hours (24 Vols, 7 Amps/Hours)

CIRCUIT: 22N							
DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROPP
22N01	5S75-CEL	168	504	14	215	23.26	2.94
22N02	5S75-CEL	166	336	14	75	23.13	3.63
22N03	5S75-CEL	166	168	14	75	23.05	3.97

CIRCUIT NUMBER	TOTAL PWR (W)	URGE VOLTAGE	CURRENT (A)	WIRE AWG	LENGTH (ft)	VOLTAGE DROPP	PERCENT DROPP	LOSS (dB)
18	9.75	70	0.14	16	645	0.65	0.84	-0.08
28	19.5	70	0.28	16	1306	1.81	2.58	-0.23
38	26.25	70	0.36	16	2326	2.48	3.52	-0.54
48	5	70	0.07	16	595	0.30	0.42	-0.04
58	14.5	70	0.21	16	1760	1.86	2.64	-0.23
68	8	70	0.13	16	1320	0.85	1.21	-0.11
78	18.5	70	0.26	16	2225	2.96	4.21	-0.37

DSA APPROVED PLANS, APPL. #02-116554, DATED 06-21-2018.
CALCULATIONS, SHOWN FOR REFERENCE ONLY.

EXISTING LOADS, WIRE LENGTH AND BATTERY CAPACITY ARE FROM DSA APPROVED PLANS, APPL. #02-116554, DATED 06-21-2018. ADDED IS ONE (1) 75cd STROBE, AND ONE (1) 1WATT SPEAKER. ADDED IS 75' OF WIRE TO EACH AUDIO AND VISUAL NOTIFICATION CKTS.



M. NEILS
ENGINEERING INC.
Electrical Engineers | Lighting Designers

100 Howe Ave., Suite 235N
Sacramento, CA 95825-8217
www.mneilsengineering.com
Tel: (916) 923-4400 Fax: (916) 923-4410
PROJECT #: 19045.21

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT

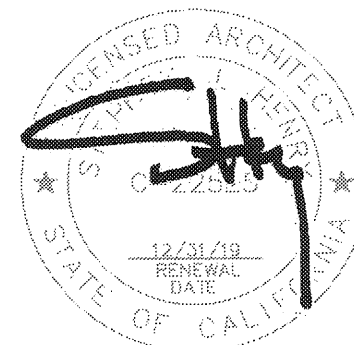
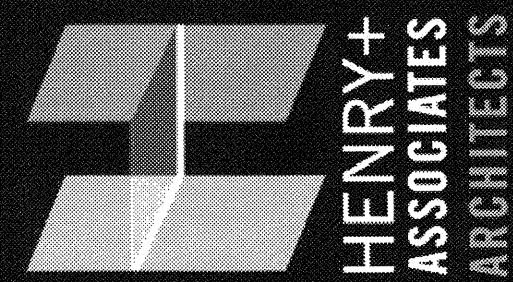
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DATE 4/18/19

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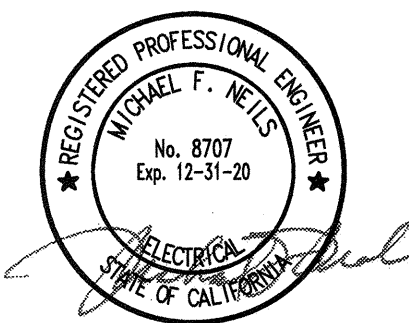
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RELOCATABLE RELOCATION LODI MIDDLE SCHOOL

FIRE ALARM RISER DIAGRAM, SCHEDULES, AND CALCULATIONS

CONSULTANT



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___ OF 102 SHEETS

PART 1 - GENERAL

1.01 REQUIREMENTS

- A. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO ADD ONE PORTABLE CLASSROOM IN EXISTING SCHOOL, IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).

1.02 WORK INCLUDED

- A. THE DRAWINGS REPRESENT THE GRAPHIC PICTORIAL PORTIONS OF THE WORK. THE WORK (MEANING ALL MATERIALS, CONSTRUCTION METHODS, AND SERVICES NECESSARY TO COMPLETE THE TOTAL CONSTRUCTION PROJECT) SHALL BE INCLUDED IN THE CONTRACTOR'S BID. THE WORK, INCLUDING DIMENSIONS, QUALITY AND WORKMANSHIP, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1.03 CODE COMPLIANCE

- A. PERFORM ALL WORK IN ACCORDANCE WITH THE FOLLOWING CODES:
- CALIFORNIA ELECTRICAL CODE (CEC) WHICH ADOPTS, WITH 2013 AMENDMENTS, THE NATIONAL FIRE PROTECTION ASSOCIATION NFPA NO. 70-2013, NATIONAL ELECTRICAL CODE (NEC), AND THE CALIFORNIA CODE OF REGULATIONS, TITLE 24 STATE BUILDING STANDARDS, PART 3, BASIC ELECTRICAL REGULATIONS.
 - CALIFORNIA BUILDING CODE (CBC) WHICH ADOPTS, WITH 2013 AMENDMENTS, THE 2012 INTERNATIONAL BUILDING CODE (IBC) AND THE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2.
 - CALIFORNIA FIRE CODE (CFC) WHICH ADOPTS, WITH 2013 AMENDMENTS, THE 2012 INTERNATIONAL FIRE CODE (IFC), AND THE CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 9.
 - 2001 EDITION TITLE 19, CALIFORNIA CODE OF REGULATIONS, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.
 - STATE OF CALIFORNIA, TITLE 24, STATE BUILDING STANDARDS, PART 6, CALIFORNIA ENERGY CODE, 2013 EDITION.
 - ALL APPLICABLE STATE LOCAL CODES AND REGULATIONS.

1.04 PERMITS, FEES AND INSPECTIONS

- A. OBTAIN ALL PERMITS, WHICH ARE REQUIRED FOR THE WORK.
- B. OBTAIN APPROVALS FROM INSPECTOR OF RECORD PRIOR TO FINAL INSPECTION .

1.05 MATERIALS AND SUBSTITUTIONS

- A. MATERIALS
- ALL MATERIAL AND EQUIPMENT SHALL BE UL LISTED, LABELED, OR CERTIFIED FOR INTENDED USE BY A NATIONAL RECOGNIZED TESTING LABORATORY (NRTL) AS RECOGNIZED BY THE U.S. DEPARTMENT OF LABOR IF SUCH LISTING IS AVAILABLE FOR THAT TYPE OF MATERIAL OR EQUIPMENT. MATERIAL AND EQUIPMENT SHALL BEAR THE LISTING STICKER IN AN ACCESSIBLE LOCATION.
 - PROVIDE NEW MATERIAL OF THE QUALITY SPECIFIED AND SATISFACTORY TO THE ENGINEER.
- B. SUBSTITUTIONS:
- THE EQUIPMENT INCLUDED IN THE CONTRACT DOCUMENTS IS USED TO ESTABLISH STANDARDS OF QUALITY, UTILITY, AND APPEARANCE. EQUIPMENT WHICH IN THE OPINION OF THE ENGINEER IS EQUAL IN QUALITY, UTILITY, AND APPEARANCE WILL BE APPROVED AS SUBSTITUTIONS TO THAT SPECIFIED.

1.06 DRAWINGS AND SPECIFICATIONS

- A. DATA GIVEN HEREIN AND ON THE PLANS ARE AS EXACT AS COULD BE PRACTICALLY SECURED, BUT THEIR ABSOLUTE ACCURACY IS NOT GUARANTEED. PLANS AND SPECIFICATIONS ARE FOR THE ASSISTANCE AND GUIDANCE OF THE CONTRACTOR AND EXACT LOCATIONS, DISTANCES, LEVELS, OBSTRUCTIONS, EXISTING CONDITIONS AND OTHER DATA WILL BE GOVERNED BY THE STRUCTURES.
- B. LAYOUTS OF EQUIPMENT, ACCESSORIES, AND WIRING SYSTEMS ARE DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE. EXAMINE ARCHITECTURAL, AND OTHER DRAWINGS, NOTING ALL CONDITIONS THAT MAY AFFECT THIS WORK. REPORT CONFLICTING CONDITIONS TO THE ENGINEER FOR ADJUSTMENT BEFORE PROCEEDING WITH THE WORK. SHOULD THE CONTRACTOR PROCEED WITH WORK WITHOUT PROPER AUTHORIZATION OR WITHOUT REPORTING THE MATTER, HE DOES SO AT HIS OWN RISK. IF THE ENGINEER DETERMINES THAT CORRECTIONS ARE NEEDED BECAUSE OF THE CONTRACTOR'S ACTIONS, THEY SHALL BE MADE AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

1.07 WORKMANSHIP

- A. FIRMLY AND PERMANENTLY SECURE IN PLACE ALL ELECTRICAL EQUIPMENT TO THE STRUCTURE SO THAT IT IS LEVEL, PLUMB, AND TRUE WITH THE STRUCTURE AND OTHER EQUIPMENT, AND INSTALLED SUCH THAT IT WILL RESIST SEISMIC MOVEMENT. PERFORM ALL INSTALLATIONS IN ACCORDANCE WITH APPLICABLE CODES, STANDARDS (E.G. UL STANDARDS), MANUFACTURER'S INSTRUCTIONS, DRAWINGS AND SPECIFICATIONS AND WITH THE METHODS RECOMMENDED BY THE NATIONAL ELECTRICAL CONTRACTORS' STANDARD OF INSTALLATION. NOTIFY THE ENGINEER OF ANY CONFLICTS BETWEEN THE DRAWINGS AND SPECIFICATIONS AND THE ABOVE PRIOR TO THE INSTALLATION OF MATERIALS.
- B. CAUSE AS LITTLE INTERFERENCE OR INTERRUPTION OF EXISTING UTILITIES AND SERVICES AS POSSIBLE. SCHEDULE ANY POWER OR OTHER UTILITY SHUTDOWN WITH OWNER'S REPRESENTATIVE FOR APPROVAL TWO WEEKS PRIOR TO COMMENCEMENT OF WORK. SHUTDOWN WORK SHALL BE PERFORMED ON OVERTIME HOURS IF SO DIRECTED BY THE OWNER.
- C. ALL UL LISTED, NRTL, OR OTHER LISTED EQUIPMENT SHALL BE INSTALLED AS PER LISTING OR LABELING (I.E., MAXIMUM FUSE SIZE MEANS FUSE PROTECTION REQUIRED).

1.08 RECORD DRAWINGS

- A. THE CONTRACTOR SHALL MAINTAIN AT THE JOB SITE OFFICE AN UP TO DATE AS-BUILT DRAWING SET SHOWING ACTUAL INSTALLATION OF ELECTRICAL SYSTEMS AND EQUIPMENT. USE THIS SET OF DRAWINGS FOR NO OTHER PURPOSE.
- B. AT PROJECT COMPLETION, SUBMIT RECORD SET OF FULL SIZE DRAWINGS AND FOUR COPIES ALL MARKED TO SHOW FINAL AS-BUILT CONDITIONS. THESE SHALL BE TURNED OVER TO THE OWNER'S REPRESENTATIVE UPON COMPLETION.

1.09 EXAMINATION OF SITE

- A. EXAMINE THE SITE PRIOR TO BID TO DETERMINE EXISTING SITE CONDITIONS, WHICH MAY AFFECT THE WORK. NO ALLOWANCE WILL BE ALLOWED FOR ANY EXTRA WORK REQUIRED DUE TO A FAILURE TO RECOGNIZE OR NEGLIGENCE TO DISCOVER CONDITIONS PRIOR TO BID.

1.10 IDENTIFICATION

- A. INSTALL NAMEPLATES ON ELECTRICAL EQUIPMENT INCLUDING:
- CIRCUIT BREAKERS, DISCONNECT SWITCHES AND STARTERS WHETHER PROVIDED UNDER THIS DIVISION OR SOME OTHER.
 - TERMINAL CABINETS
- B. FABRICATE NAMEPLATES OF LAMINATED PHENOLIC PLASTIC, BLACK FRONT AND BACK WITH WHITE CORE. FASTEN NAMEPLATES TO EQUIPMENT WITH NO. 4 PHILLIPS, ROUND HEAD, CADMIUM STEEL, SELF TAPPING SCREWS. USE 1/8-INCH LETTERS ON CIRCUIT BREAKERS, SWITCHES AND OTHER CONTROL

DEVICES, AND 1/4-INCH LETTERS TERMINAL CABINET

1.11 TESTS

- A. GROUNDING SYSTEMS, FOR RESISTANCE TO EARTH. PROVIDE ADDITIONAL GROUNDING ELECTRODES, IF SEPARATELY DERIVED SYSTEM GROUND RESISTANCE EXCEEDS 5 OHMS.
- B. PRIOR TO ENERGIZING EQUIPMENT, CHECK THE INSULATION RESISTANCE OF FEEDERS SIZED LARGER THAN #2 AWG WITH A 1000 VOLT DC "MEGGER". MINIMUM INSULATION RESISTANCE VALUES SHALL NOT BE LESS THAN 50 MEGA OHMS.
- C. FUNCTIONAL TESTS:
- PERFORM ALL TESTS SUGGESTED BY THE EQUIPMENT MANUFACTURERS.
 - VERIFY THAT EVERYTHING INSTALLED AS PART OF THE SCOPE OF WORK FUNCTIONS PROPERLY. VERIFY THAT ANY WORK PERFORMED DID NOT ADVERSELY AFFECT EXISTING SYSTEMS OR EQUIPMENT (E.G., THAT AFTER REMOVING A DEVICE FROM A BRANCH CIRCUIT THAT THE REMAINING EXISTING BRANCH CIRCUIT CONTINUITY WAS MAINTAINED).

PART 2 - PRODUCTS

2.01 RACEWAYS

- A. RIGID STEEL CONDUIT:
- ANSI C80.1, MINIMUM SIZE 3/4 INCH.
 - THREADED FITTINGS, GALVANIZED.
 - LOCKNUTS, 3/4 INCH TO 1-1/2 INCH, HEAVY NUT STEEL.
 - LOCKNUTS, 1-1/2 INCH AND LARGER, MALLEABLE IRON.
- B. INSULATED BUSHINGS, MALLEABLE IRON WITH PLASTIC OR NYLON INSERT, OZ IBC THREADED SERIES, RACO 113X AND 112X SERIES, APPLETON "GIB" SERIES OR EQUAL.
- C. THREE PIECE CONDUIT COUPLINGS, MALLEABLE IRON, T & B ERICKSON, APPLETON EC SERIES, OZ 5 SERIES, OR EQUAL.
- B. LIQUID-TIGHT FLEXIBLE METAL CONDUIT:
- FABRICATE FROM GALVANIZED STEEL STRIP, JACKETED WITH PVC, MINIMUM SIZE 1/2 INCH.
 - STRAIGHT CONNECTORS, CADMIUM PLATED STEEL OR MALLEABLE IRON, INSULATED THROAT AND NEOPRENE SEALING RING, OZ "40 T" SERIES, T & B "5330" SERIES, RACO 351X AND 252X SERIES, OR EQUAL.
 - ANGLE CONNECTORS, CADMIUM PLATED STEEL OR MALLEABLE IRON, INSULATED THROAT AND NEOPRENE SEALING RING, OZ, T & B, RACO, OR EQUAL, COMPARABLE TO STRAIGHT CONNECTORS.
 - HARDWARE, CADMIUM PLATED STEEL.
 - LENGTH, NO GREATER THAN 18 INCHES. ALLOW SLACK FOR MOVEMENT OF CONNECTED EQUIPMENT.
- E. PVC CONDUIT:
- SCHEDULE 40, NEMA TC2, TYPE I UNDERGROUND INSTALLATION.
 - MINIMUM SIZE, 1 INCH.
 - SCHEDULE 80, SCHEDULE 40 ENCASED IN CONCRETE OR RIGID CONDUIT WRAPPED FOR EMERGENCY SYSTEM.
 - ELBOWS, SCHEDULE 40 OR RIGID CONDUIT, ENCASED IN CONCRETE FOR SIZES 2 INCH AND LARGER.
 - EXTENSIONS ABOVE GRADE, RIGID STEEL (EXPOSED), EMT (CONCEALED INDOORS).
 - ADAPTERS, PVC TO RIGID STEEL, THREADED PLASTIC.

2.02 OUTLET, PULL, AND JUNCTION BOXES

- A. CONSTRUCTION: DEEP DRAWN OR FABRICATED INTERLOCKED FLAT PIECES WITH WELDED TABS, ELECTROGALVANIZED SHEET STEEL WITH ELECTROGALVANIZED HARDWARE. DO NOT USE SECTIONAL OR GANGABLE BOXES.
- B. SIZE: TO ACCOMMODATE THE REQUIRED NUMBER AND SIZES OF CONDUITS, WIRES, SPLICES AND DEVICES BUT NOT SMALLER THAN THE SIZE INDICATED OR SPECIFIED.
- C. DEVICE BOXES: FOR SINGLE SWITCHES AND RECEPTACLES, PROVIDE BOXES NOT LESS THAN 4 INCHES SQUARE BY 1-1/2 INCHES DEEP. FOR 2 DEVICES, PROVIDE BOXES NOT LESS THAN 4-11/16 INCHES SQUARE BY 1-1/2 INCHES DEEP.
- D. SPECIAL MOUNTING: IN CABINETS, TILE, CONCRETE BLOCK, BRICK, STONE, WOOD OR SIMILAR MATERIAL, PROVIDE RECTANGULAR BOXES WITH SQUARE CORNERS AND STRAIGHT SIDES. FOR SINGLE DEVICES, PROVIDE BOXES 4 INCHES HIGH BY 2-1/2 INCHES WIDE BY 3-3/8 INCHES DEEP. FOR 2 OR MORE DEVICES, PROVIDE MULTI-GANG, NON-SECTIONAL BOX WITH TILE OR MASONRY RING.

2.04 WIRE AND CABLE

- A. CONDUCTOR: INSULATED COPPER, INDIVIDUAL CONDUCTORS, 98 PERCENT CONDUCTIVITY.
- POWER CONDUCTORS, #12 AWG, MINIMUM TO 750 MCM, STRANDED.
 - CONTROL CONDUCTORS #14 AWG, MINIMUM TO #10 AWG, STRANDED.
- B. INSULATION:
- RATED 600 VOLTS AND 90 DEGREE CELSIUS AS FOLLOWS:
- | ITEM | INSULATION TYPE | SIZE (AWG) |
|---------------------|----------------------------------|-------------|
| THWN-2 | ABOVE GRADE | #14 TO #4/0 |
| XHHW-2 | ABOVE GRADE | OVER #4/0 |
| XHHW-2 | BELOW GRADE (ANY PORTION OF RUN) | ALL SIZES |
| CONTROL IN CABINETS | MTW OR THWN-2 | |

2.05 WIRE CONNECTIONS

- A. CONNECT WIRE TO BINDING POST SCREW, STUD, BOLT OR BUS AS FOLLOWS:
- #10 AWG AND SMALLER CONDUCTORS, COMPRESSION TYPE, NYLON, SELF INSULATED GRIP SPADE LUGS, T & B "STA KON", 3M SCOTCHLOK MNG, PANDUIT "PAN TERM", OR EQUAL.
 - #8 AWG TO #750 MCM COPPER CONDUCTORS, SOLDERLESS COPPER LUG TYPE CONNECTORS, WITH HEX HEAD OR ALLEN TYPE COMPRESSION SET SCREWS WITH CONFIGURATION TO SUIT APPLICATION, T & B "LOCKTITE", BURNDY "QA", OZ TYPE "XL" OR "XLH", OR EQUAL. USE TWO SCREW LUGS FOR WIRE #4/0 AND LARGER.
- B. SPLICE WIRE AS FOLLOWS:
- #10 AWG AND SMALLER CONDUCTORS, TWIST ON SOLDERLESS, INSULATED SPRING CONNECTORS, 3M "SCOTCHLOKS", T & B "PIGGYS" OR EQUAL.
- C. SIZE, INSTALL AND TIGHTEN WIRE TERMINAL AND SPLICE CONNECTORS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

2.06 TAPE

- A. WIRE SPLICES: VINYL PLASTIC ELECTRICAL TAPE, 8.5 MIL AND 4.0 MIL, SCOTCH 33.

- B. CONDUIT WRAPPING: 10 MIL VINYL WRAPPING TAPE, MINNESOTA MINING AND MANUFACTURING COMPANY (3M) SCOTCHWRAP 50, PLYMOUTH 4811, OR EQUAL.

2.07 WIRING ACCESSORIES

- A. IDENTIFY CONDUZING EQUIPMENT, CHECK THE INSULATION RESISTANCE OF TO FIT THE CONDUCTOR INSULATION, WITH MACHINE PRINTED BLACK MARKING, W.H. BRADY, THOMAS AND BETTS, OR EQUAL.
- B. WIRE TIES:
- NYLON, ADJUSTABLE, AND SELF-LOCKING.
- C. CIRCUIT BREAKERS
- PROVIDE CIRCUIT BREAKERS FOR MISCELLANEOUS BRANCH CIRCUITS WITH FRAME SIZES AND RATINGS AS SHOWN ON THE PLANS
- BOLT-ON, THERMAL MAGNETIC, MOLDED CASE, WITH INVERSE TIME CURRENT OVERLOAD, AND INSTANTANEOUS MAGNETIC TRIPS, TRIP FREE AND TRIP INDICATING ALL POLES OF MULTI-POLE DEVICE SHALL OPERATE SIMULTANEOUSLY DURING OPEN, CLOSE AND TRIP OPERATIONS. PROVIDE CIRCUIT BREAKERS WITH RATING TO MATCH EXISTING.

PART 3 - EXECUTION

3.01 RACEWAY SYSTEMS

- A. RIGID STEEL CONDUIT: SUITABLE FOR USE IN ALL LOCATIONS. FOR UNDERGROUND INSTALLATIONS TAPE WRAP CONDUIT COMPLETELY WITH TAPE SUITABLE FOR UNDERGROUND INSTALLATIONS, DOUBLE LAP OF CALPICO 10 MIL OR EQUAL.
- B. LIQUID TIGHT FLEXIBLE METAL CONDUIT: SUITABLE FOR CONNECTION OF EQUIPMENT IN DAMP OR WET LOCATIONS.
- C. PVC CONDUIT: SUITABLE FOR USE UNDERGROUND, WITH A MINIMUM OF 18 INCHES OF COVER. FABRICATE FIELD BENDS WITH AN APPROVED THERMAL BENDER AND JIG. FOR UNDERGROUND EMERGENCY SYSTEMS ENCASE CONDUIT IN CONCRETE, MINIMUM OF 2" ALL AROUND. MAINTAIN SEPARATION BETWEEN CONDUITS USING PLASTIC SPACERS SPECIFICALLY DESIGNED FOR THE PURPOSE.
- D. CONDUIT BENDS:
- ELECTRICAL CONDUITS: PROVIDE NO MORE THAN (3) 90 DEGREE CONDUIT BENDS OR THE EQUIVALENT NUMBER OF SMALLER RADIUS BENDS IN ANY CONDUIT RUN BETWEEN BOXES OR EQUIPMENT.
 - TELECOMMUNICATIONS CONDUITS: PROVIDE NO MORE THAN (2) 90 DEGREE BENDS OR THE EQUIVALENT NUMBER OF SMALLER RADIUS BEND IN ANY CONDUIT RUN BETWEEN BOXES OR STUB, WITH RADIUS 10 TIMES THE DIAMETER OF THE CONDUIT.
 - LENGTH OF RUN: 400 FEET MAXIMUM, LESS 100 FEET FOR EACH EQUIVALENT 90 DEGREE BEND.
 - FABRICATE BENDS AND OFFSETS WITH A HICKEY OR CONDUIT BENDER DESIGNED SPECIFICALLY FOR USE WITH THE TYPE OF CONDUIT TO BE BENT, OR USE FACTORY MADE BEND.
 - RADIUS OF UNDERGROUND BENDS: MINIMUM 10 TIMES CONDUIT RADIUS.

3.02 INSULATED CONDUCTORS AND CABLE

- A. EXERCISE EXTREME CARE WHEN PULLING CONDUCTORS AND CABLE INTO CONDUITS TO AVOID KINKING, TWISTING, NICKING OR SCRATCHING OF THE INSULATION OR THE PLACEMENT OF EXTREME STRESS ON THE CONDUCTORS OR CABLE. WHEN REQUIRED, UTILIZE UL APPROVED PULLING COMPOUNDS TO ASSIST IN PULLING CONDUCTORS.
- B. COLOR CODE CONDUCTORS BY PHASE SEQUENCE A-B-C WHEN LOOKING INTO THE FRONT OF THE EQUIPMENT FROM LEFT-TO-RIGHT, TOP TO BOTTOM OR FRONT-TO-BACK. PROVIDE CONDUCTORS WITH THE APPROPRIATE PHASE COLOR OR MARK CONDUCTORS WITH A MINIMUM OF 6 INCHES OF PHASE TAPE ON ENDS CONNECTED TO TERMINALS. PHASE CODE CONDUCTORS AS LISTED:

VOLTAGE	PHASE A GROUND	PHASE B	PHASE C	NEUTRAL
120/208	BLACK GREEN	RED	BLUE	WHITE

- C. IDENTIFY EACH CONDUCTOR WITH ITS RESPECTIVE CIRCUIT NUMBER AT EACH BOX OR TERMINAL.

D. CONNECTIONS:

- UTILIZE TWIST-ON SOLDERLESS CONNECTORS FOR SPLICING RECEPTACLE AND LIGHTING CIRCUITS #10 AWG WIRE SIZE AND SMALLER.
- SPLICES AND TAPS WILL NOT BE PERMITTED FOR OTHER THAN RECEPTACLE AND LIGHTING CIRCUITS. OR FOR WIRE LARGER THAN #10.
- TERMINATE CONDUCTORS AT MOTORS WITH BOLTED CONNECTIONS, INSULATED WITH PLASTIC TAPE.

3.05 GROUNDING

- A. PERMANENTLY AND EFFECTIVELY GROUND ALL RACEWAY SYSTEMS, SUPPORTS, CABINETS, SWITCHBOARDS, CONTROL EQUIPMENT, MOTOR FRAMES, LIGHTING FIXTURES AND OTHER UTILIZATION APPARATUS.
- B. PROVIDE A GROUND WIRE IN EACH CONDUIT CARRYING CIRCUITS OPERATING AT 100 VOLTS OR HIGHER BONDED AT EACH END TO EQUIPMENT. SIZE AS SHOWN ON THE DRAWINGS OR PER CEC.
- C. IDENTIFY EACH CONDUCTOR WITH ITS RESPECTIVE CIRCUIT NUMBER AT EACH BOX OR TERMINAL.
- D. CONNECTIONS:
- UTILIZE TWIST-ON SOLDERLESS CONNECTORS FOR SPLICING RECEPTACLE AND LIGHTING CIRCUITS #10 AWG WIRE SIZE AND SMALLER.
 - SPLICES AND TAPS WILL NOT BE PERMITTED FOR OTHER THAN RECEPTACLE AND LIGHTING CIRCUITS. OR FOR WIRE LARGER THAN #10.
 - TERMINATE CONDUCTORS AT MOTORS WITH BOLTED CONNECTIONS, INSULATED WITH PLASTIC TAPE.

3.09 COMMISSIONING

- A. FACTORY START-UP SHALL BE PROVIDED ON A 5 WEEKDAYS BY 8 HOURS BASIS (7 DAYS BY 24 HOURS OPTIONAL). START-UP SERVICE SHALL BE PROVIDED
- AT NO EXTRA CHARGE AND SHALL INCLUDE ONE VISIT TO PERFORM ALL PROCEDURES AND TESTS SPECIFIED WITHIN UPS INSTALLATION AND OPERATION MANUAL. UPS MANUFACTURER SHALL ALSO OFFER THE FOLLOWING OPTIONAL SERVICES:
- PRE-ENERGIZE VISIT TO INSPECT INSTALLATION AND PROVIDE GUIDANCE TO INSTALLERS AS REQUIRED.
- B. THE FOLLOWING PROCEDURES AND TESTS SHALL BE PERFORMED BY CONTRACTOR/FACTORY FIELD SERVICE PERSONNEL DURING THE UPS STARTUP:
- VISUAL INSPECTION:
 - VISUALLY INSPECT ALL EQUIPMENT FOR SIGNS

SECTION 27 0000 - DATA COMMUNICATION

PART 1 - GENERAL

1.01 INTRODUCTION

THE FOLLOWING SPECIFICATIONS ARE INTENDED TO ASSIST IN THE DEVELOPMENT OF A TELECOMMUNICATIONS SYSTEM FOR ACCOMMODATING PRESENT AND FUTURE TECHNOLOGIES WITHIN THE LODI UNIFIED SCHOOL DISTRICT. THEY PROVIDE A SET OF INSTRUCTIONS AND MATERIALS NEEDED TO INSTALL A TELECOMMUNICATIONS SYSTEM WITHIN PARAMETERS SET BY INDUSTRY STANDARDS. THE REQUIREMENTS FOR THE STRUCTURED CABLING SYSTEMS WITHIN THE FACILITIES ARE CONTINUED IN THIS DOCUMENT.

1.02 WORK INCLUDED

- CONTRACTOR SHALL DESIGN AND PROVIDE ALL MATERIALS IN ORDER TO INSTALL A COMPLETE AND FUNCTIONAL DATA/TELECOMMUNICATIONS AND CABLE TELEVISION INFRASTRUCTURE.

- ONLY ONE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE AND FUNCTIONAL INFRASTRUCTURE, INCLUDING NECESSARY COMPONENTS AND DOCUMENTATION.

1.03 CONTRACTOR QUALIFICATIONS

- MUST BE A PANDUIT CERTIFIED INSTALLER AND HAVE AN ANIXTER ACCOUNT IN GOOD STANDING.
- MUST POSSESS A VALID C-7 CALIFORNIA STATE CONTRACTOR'S LICENSE. THIS LICENSE MUST HAVE BEEN ISSUED 2 YEARS PRIOR TO THE DATE OF THE BID. NO OTHER LICENSE CLASSIFICATION IS ACCEPTABLE.

1.04 REQUIREMENTS

DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATIONS SECTIONS SHALL APPLY TO WORK SPECIFIED, IN THIS SECTION.

RULES AND REGULATIONS

ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE FOLLOWING:

- EIA/TIA STANDARDS
- BICSI STANDARDS
- NEC STANDARDS
- TITLE 24 (CALIFORNIA CODE OF REGULATION)
- ALL LOCAL CODES
- LUSD STANDARDS
- NFPA STANDARDS
- ADA REQUIREMENTS

EXAMINATION OF SITE

CONTRACTOR SHALL BE HELD TO HAVE VISITED THE SITE AND BEEN SATISFIED WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. CONTRACTOR SHALL CHECK EXISTING CONDITIONS THAT MAY AFFECT THE WORK. IF THE CONTRACTOR RETAINS SERVICES OF OTHER FIRMS, THOSE FIRMS SHALL INVESTIGATE EXISTING SYSTEMS AND DETERMINE LABOR AND OTHER MATERIALS REQUIRED TO ADD DEVICES OR MODIFY SYSTEMS. NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE ON THE CONTRACTOR'S BEHALF, FOR ANY EXTRA EXPENSE RESULTING FROM A FAILURE OR NEGLECT TO DISCOVER CONDITIONS AFFECTING THE WORK.

CLEANING AND CLEANUP

ALL WORK AREAS SHALL BE CLEANED TO REMOVE ALL DUST, DIRT, GREASE, PAINT, OR OTHER MARKS. ALL ELECTRICAL EQUIPMENT SHALL BE LEFT IN A CLEAN CONDITION INSIDE AND OUT. SATISFACTORY TO LUSD. BUILDINGS AND PREMISES WILL BE KEPT FREE FROM ACCUMULATED WASTE MATERIALS, RUBBISH AND DEBRIS RESULTING FROM WORK. UPON COMPLETION OF WORK, TOOLS, APPLIANCES, SURPLUS AND WASTE MATERIALS, RUBBISH AND/OR DEBRIS WILL BE REMOVED AND/OR LEGALLY DISPOSED OF OFFSITE.

INTERRUPTION OF SERVICES

- THE UNDERGROUND ROUTE MAY RUN THROUGH AREAS OF EXISTING UNDERGROUND IRRIGATION, SIGNAL, POWER, GAS, WATER AND SEWER.
- CONTRACTOR MUST TAKE PRECAUTIONS TO AVOID DAMAGING/KILLING THE ROOT SYSTEMS OF EXISTING TREES. CONTRACTOR SHALL HAND-DIG AS NECESSARY TO PREVENT DISRUPTION TO EXISTING SYSTEMS, AND MAKE ALL REPAIRS AS REQUIRED IF DAMAGE OCCURRED, AT NO ADDITIONAL COST TO LUSD.
- LUSD WILL MAKE EVERY EFFORT TO ASSIST CONTRACTOR IN LOCATING EXISTING UNDERGROUND ROUTES. HOWEVER, CONTRACTOR WILL BE REQUIRED TO POTHOLE AND INSPECT AS NEEDED. CONTRACTOR IS RESPONSIBLE FOR USA SURVEYS (UNDERGROUND SERVICE ALERT).
- POWER AND SIGNAL SERVICES TO EXISTING BUILDINGS AND RELATED CIRCUITS ARE TO REMAIN IN OPERATION AND SHALL NOT BE INTERRUPTED, EXCEPT BY SPECIFIC WRITTEN APPROVAL FROM LUSD.
- IF IT IS DEEMED NECESSARY TO SHUTDOWN CIRCUITS FOR THE INSTALLATION OF NEW WORK, SUCH SHUTDOWNS SHALL BE SCHEDULED WITH LUSD WHO MAY AT ITS CHOOSING, HAVE A REPRESENTATIVE PRESENT DURING SHUTDOWN. SHUTDOWNS SHALL BE SCHEDULED "AFTER HOURS" OR ON WEEKENDS WHEN AN INTERRUPTION WOULD NOT CAUSE A DISTURBANCE TO SCHOOL ACTIVITIES. ANY ACCIDENTAL INTERRUPTION OF SERVICE TO CIRCUITS OR EQUIPMENT AS A RESULT OF WORK PERFORMED BY THE CONTRACTOR SHALL BE RESTORED IMMEDIATELY IN A MANNER ACCEPTABLE TO LUSD, AT THE CONTRACTOR'S EXPENSE.

COOPERATION AND COORDINATION

CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR INSTITUTING AND MAINTAINING SAFE WORKING CONDITIONS FOR THE PROJECT AREA UNDER CONSTRUCTION. NOISE, DUST, AND OTHER NUISANCE CONTROL MEASURES WILL BE IMPLEMENTED AS EFFECTIVELY AS POSSIBLE. WORK WILL BE EXECUTED AT A TIME WHEN THE SPACE REQUIRED BY THIS INSTALLATION IS ACCESSIBLE. ADEQUATE BARRIER AND TRENCH COVERS WILL BE PROVIDED, AND NO EQUIPMENT WILL BE LEFT UNATTENDED, ENSURING THE SAFETY OF STUDENTS AND STAFF.

INSPECTION

CONTRACTOR SHALL COOPERATE WITH THE LUSD DESIGNER/INSPECTOR AND PROVIDE ASSISTANCE AT ALL TIMES FOR INSPECTION OF THE WORK PERFORMED UNDER THIS CONTRACT. WORK THAT WILL BE CONTAINED BEHIND OR UNDER ACCESS COVERS, GROUND COVERING, OR SIMILAR IMPEDIMENTS SHALL BE LEFT EXPOSED UNTIL INSPECTED BY LUSD. CONTRACTOR SHALL REMOVE COVERS, OPERATE DEVICES, OR PERFORM ANY REASONABLE WORK THAT, IN THE OPINION OF LUSD, WILL BE NECESSARY TO DETERMINE THE QUALITY AND ADEQUACY OF THE WORK.

SCHEDULING OF WORK

DUE TO ITS NATURE, THIS WORK WILL HAVE TO PROCEED WITH A DEFINITE SEQUENCE OF OPERATIONS TO MINIMIZE OUTAGES AND CONTINUE FACILITIES TO ALL AREAS. THE SITE WILL REMAIN IN OPERATION DURING THE WORK, AND THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MAINTAIN REQUIRED SERVICES.

GUARANTEES

- ACCEPTANCE OF THE CONTRACT FOR THIS WORK INCLUDES THIS GUARANTEE: CONTRACTOR GUARANTEES THAT HE HAS PERFORMED THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. CONTRACTOR ALSO AGREES TO REPLACE OR REPAIR, AS NEW, ANY DEFECTIVE WORK, MATERIALS, OR PARTS WHICH APPEARS WITHIN 4 YEARS OF FINAL PAYMENT. LUSD WILL MAKE THE FINAL DETERMINATION OF WHETHER ANY DEFECTS ARE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE OR REPAIR.
- WARRANTIES, GUARANTEES AND CERTIFICATES SHALL BE PROVIDED FOR EQUIPMENT AND MATERIALS FURNISHED AND INSTALLED, AS OF THE DATE OF FINAL PAYMENT AND BE DELIVERED TO LUSD. A SET OF "AS BUILT" VIDEO DRAWINGS AND TEST RESULTS FOR ALL INSTALLED CABLING SHALL BE PROVIDED TO LUSD, BEFORE THE PROJECT WILL BE CONSIDERED COMPLETE.
- PANDUIT PAN-NET PERFORMANCE GUARANTEE - CONTRACTOR SHALL PROVIDE A 25 YEAR APPLICATION PERFORMANCE WARRANTY FOR ALL PANDUIT PAN-NET COPPER CABLE AND CONNECTIVITY PRODUCTS. THE SYSTEM MUST BE INSTALLED TO MEET ALL TIA/EIA COMMERCIAL BUILDING WIRING STANDARDS AND INSTALLED PER APPROPRIATE PANDUIT

INSTRUCTION SHEETS, IF ANY PANDUIT PRODUCT FAILS TO PERFORM AS STATED ABOVE, PANDUIT WILL PROVIDE NEW COMPONENTS AT NO CHARGE.

PART 2 - PRODUCTS AND PROCEDURES

2.01 APPROVED LUSD PARTS LIST

AN APPROVED PARTS LIST IS AVAILABLE THROUGH ANIXTER INC. (1-800-ANIXTER, REFERENCE LODI UNIFIED). ALL PRODUCTS MUST BE SELECTED FROM THE "LUSD PARTS LIST," UNLESS SUBSTITUTIONS HAVE BEEN APPROVED BY LUSD.

2.02 LABELING

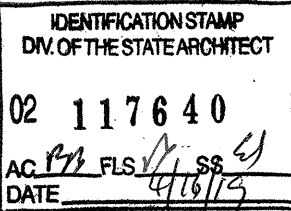
- SHALL FOLLOW THE "LUSD LABELING FORMAT" SPECIFIED IN ENCLOSURE B, WITH THE EXCEPTION OF WORKSTATION CABLES (I.E. PATCH CORDS).
- SHALL NEVER BE HAND-WRITTEN.
- SHALL BE MACHINE PRINTED ON CLEAR OR OPAQUE TAPE, STENCILED ONTO ADHESIVE LABELS, OR TYPE WRITTEN ONTO ADHESIVE LABELS.
- SHALL HAVE FONT THAT IS AT LEAST 1/8" IN HEIGHT, BLOCK CHARACTERS, AND LEGIBLE.
- SHALL HAVE TEXT THAT IS OF A COLOR CONTRASTING WITH THE LABEL SO THAT IT MAY BE EASILY READ. IF LABELING TAPE IS UTILIZED, THE FONT COLOR SHALL CONTRAST WITH THE BACKGROUND.

2.03 WI-FI CABLE

- DESCRIPTION: CABLING BETWEEN WI-FI JACKS AND IDF/MDF'S.
- SHALL BE BLUE CATEGORY 6A - 802.3BT TYPE 4 AND INSTALLATION MUST BE IN COMPLIANCE WITH ALL EIA/TIA STANDARDS.
 - EACH BLUE CABLE SHALL BE TERMINATED AT BOTH ENDS WITH WHITE PANDUIT CAT 6A RJ45 JACKS.
 - PANDUIT EXECUTIVE STYLE FACEPLATE SHALL BE USED AT ACCESS POINT LOCATION.

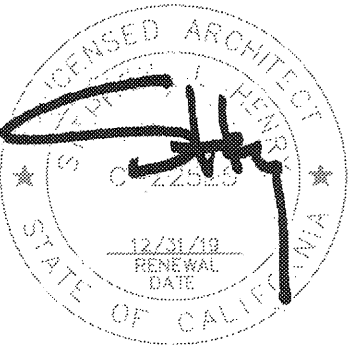
2.04 WORKSTATION CABLE

- DESCRIPTION: CABLING BETWEEN WORKSTATIONS AND IDF/MDF'S.
- INSTALLATION MUST BE IN COMPLIANCE WITH ALL EIA/TIA STANDARDS.
 - EACH STANDARD CLASSROOM MUST HAVE A MINIMUM OF TWO WORKSTATIONS:
 - ONE WORKSTATION (THE TEACHER'S) CONSISTS OF 2 PURPLE CAT 6A CABLES AND 1 GREY CAT 6A CABLE.
 - THE SECOND WORKSTATION (THE STUDENT'S) CONSISTS OF 4 PURPLE CAT 6A CABLES.
 - EACH PURPLE CABLE SHALL BE TERMINATED AT BOTH ENDS WITH A BEIGE PANDUIT CAT 6A RJ45 JACKS.
 - EACH GRAY CABLE SHALL BE TERMINATED, WITH BLACK LOOP AT IDF LOCATION WITH A CAT 6A BLACK RJ45 FOR VOIP AND 110 PUNCH BLOCK FOR NON-VOIP. DISTRICT WILL IDENTIFY WHERE TO USE VOIP AND WHERE TO NON-VOIP. WORKSTATION TERMINATES WITH A BLACK PANDUIT, CAT 6A RJ45 JACK.
 - PANDUIT LDP SERIES OR PANDUIT 7-70 SERIES (BOTH CAT 6A COMPLIANT) RACEWAY SHALL BE USED ON INTERIOR WALLS FOR STATION DROPS.
- 2.10 TESTING AND DOCUMENTATION
- TESTING: CONTRACTOR SHALL TEST EACH PAIR OF TWISTED PAIR COPPER CABLE AFTER LABELING IS 100% COMPLETE. LUSD RESERVES THE RIGHT TO HAVE A REPRESENTATIVE PRESENT DURING TESTING.
- WORKSTATION CABLE: EACH WORKSTATION CABLE SHALL BE TESTED FROM THE JACK PANEL TO THE DATA OUTLET AFTER LABELING IS COMPLETED.
 - TEST EQUIPMENT: FLUKE DSP-4000 OR EQUIVALENT.
 - TESTS: CONFORM TO EIA/TIA STANDARDS FOR CATEGORY 6A.
 - TEST CRITERIA: TESTED TO CATEGORY 6A FOR PERMANENT LINK COMPLIANCE.
 - WI-FI CABLE: EACH WI-FI CABLE SHALL BE TESTED FROM THE JACK PANEL TO THE DATA OUTLET AFTER LABELING IS COMPLETED.
 - TEST EQUIPMENT: FLUKE DSP-4000 OR EQUIVALENT.
 - TESTS: CONFORM TO EIA/TIA STANDARDS FOR CATEGORY 6A AND 802.3BT TYPE 4.
 - TEST CRITERIA: TESTED TO CATEGORY 6A FOR PERMANENT LINK COMPLIANCE.
 - AS-BUILT DRAWINGS: CONTRACTOR SHALL PRODUCE DRAWINGS ADHERING TO THE LUSD STANDARDS. COORDINATE WITH THE OWNER EXACT REQUIREMENTS FOR THE AS-BUILTS.



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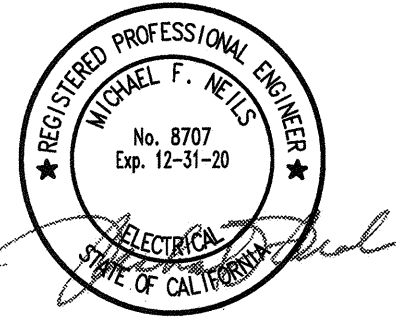
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Fax: 916.921.2212



RELOCATABLE RELOCATION
LODI MIDDLE SCHOOL

ELECTRICAL
SPECIFICATIONS

CONSULTANT



PROJECT NO.	REVISIONS	BY
19-32-048		
DATE		
03/29/2019		
DRAWN		
SG		
CHECKED		
SG		
SCALE		
CADFILE		
UPDATED		

SHEET NO.

E5.1

SECTION 28 3100
FIRE DETECTION AND ALARM

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. FIRE ALARM SYSTEM DESIGN AND INSTALLATION, INCLUDING ALL COMPONENTS, WIRING, AND CONDUIT.
- B. MASS NOTIFICATION (EMERGENCY EVACUATION) SYSTEM CONNECTED WITH FIRE ALARM SYSTEM.

1.02 DESCRIPTION

A. WORK INCLUDES:

- 1. FURNISH ALL LABOR, FIRE PROTECTION ENGINEERING, DESIGN, MATERIALS, TOOLS, EQUIPMENT AND SERVICES FOR FIRE DETECTION AND ALARM SYSTEM DESCRIBED IN HERE AND ON PLANS..
- 2. PROVIDE ALL ELECTRICAL CONNECTIONS NEEDED FOR NEW EQUIPMENT.
- 3. DESCRIPTION OF SYSTEM: EXISTING AUTOMATIC SYSTEM WITH MANUAL STATIONS IN OFFICE AND ASSEMBLY AREAS, ADDRESSABLE, ANALOG, GENERAL, ALARM, SUPERVISED, 24 VOLT DC FIRE DETECTION AND ALARM SYSTEM. ADDITION OF MASS NOTIFICATION (EMERGENCY EVACUATION) SYSTEM TO WORK IN CONJUNCTION WITH EXISTING FIRE ALARM CONTROL PANEL.
- B. PROVIDE COMPONENTS INCLUDING BUT NOT LIMITED TO FOLLOWING.
 - 1. AUTOMATIC SMOKE DETECTORS
 - 2. AUTOMATIC HEAT DETECTORS.
 - 3. FLASHING GENERAL ALARM LIGHTS.
 - 4. AUDIBLE DEVICES TO TRANSMIT ALARM SIGNAL, PRERECORDED MESSAGE, OR GENERAL ANNOUNCEMENT.
 - 5. COMBINATION AUDIBLE AND VISUAL SIGNAL DEVICES.
 - 6. FIRE ALARM SYSTEM CONDUIT AND WIRE.

1.04 FIRE ALARM SYSTEM: SCOPE

A. GENERAL:

- 1. THIS PROJECT CONSIST OF EXTENSION OF EXISTING FIRE ALARM SYSTEM WITH MASS NOTIFICATION SYSTEM TO NEW BUILDING ON THE CAMPUS.
- 2. PREPARE COMPLETE SHOP DRAWINGS AND OBTAIN ENGINEER'S APPROVAL PRIOR TO CONTRACTOR'S DEFERRED APPROVAL SUBMISSION.
- 3. FURNISH, INSTALL, CONNECT AND TEST SPEAKERS, STROBES, SMOKE DETECTORS, AND HEAT DETECTORS TO THE FIRE ALARM CONTROL PANEL.
- 4. TEST AND DEMONSTRATE OPERATION OF THE FIRE ALARM CONTROL PANEL WITH INITIATING AND SIGNAL APPLIANCE DEVICES INSTALLED AND CONNECTED.

1.05 RELATED SECTIONS

- A. SECTION 26 0100: GENERAL REQUIREMENTS FOR ELECTRICAL WORK.
- B. SECTION 26 0801: FIELD TEST AND OPERATIONAL CHECK.

1.06 QUALITY ASSURANCE

A. SYSTEM STANDARDS:

- 5. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 72, 2013 EDITION
- 6. NATIONAL FIRE PROTECTION ASSOCIATION 90A.
- 7. CALIFORNIA ELECTRICAL CODE (CEC) 2013 EDITION, ARTICLE 760.
- 8. CALIFORNIA BUILDING CODE (CBC), 2013 EDITION TITLE 24 PARTS 2,3,7,9, & 12.
- 9. FACTORY MUTUAL (FM) APPROVED.
- 10. APPROVED BY CALIFORNIA STATE FIRE MARSHAL (CSFM) AND TITLE 19.
- 11. TITLE 24 PARTS 2, 3, 7, 9, & 12.
- 12. OTHER CODES AS REQUIRED.

B. DESIGN CRITERIA:

- 1. COMPLY WITH ALL SYSTEM STANDARDS.
- 2. MEET ALL REQUIREMENTS OF FIRE AUTHORITIES HAVING JURISDICTION.
- 3. COMPLETE FIRE DETECTION AND ALARM SYSTEM DESIGN, WIRING DIAGRAMS, INTERFACE WIRING DIAGRAMS, AND OPERATIONAL DETAILS BY SYSTEM MANUFACTURER OR AUTHORIZED TECHNICAL REPRESENTATIVE.
- 4. SYSTEM: ALL EQUIPMENT SHALL BE APPROVED AND LISTED BY THE CSFM AND UNDERWRITERS LABORATORIES, INC. (UL).
- 5. INSTALLATION SHALL CONFORM TO THE CSFM REQUIREMENTS AND SHALL BE SUBJECT TO INSPECTION BY THEM.
- C. CONTRACTOR QUALIFICATIONS:
 - 1. OFFER AN ANNUAL MAINTENANCE CONTRACT INCLUDING COMPLETE SERVICE AND EQUIPMENT COSTS FOR MAINTENANCE OF COMPLETE SYSTEM.
 - 2. SHOW EVIDENCE UPON REQUEST OF FIVE YEARS EXPERIENCE MINIMUM SERVICING FIRE ALARM SYSTEMS.
 - 3. SHOW EVIDENCE UPON REQUEST OF FIVE YEARS EXPERIENCE MINIMUM INSTALLING SYSTEMS OF SIMILAR TYPE AND SCOPE.
 - 4. PROVIDE FOR 24 HOUR EMERGENCY SERVICE.
 - 5. FACTORY TRAINED TECHNICIANS.

1.07 GUARANTEE

- A. WARRANT THE ENTIRE FIRE ALARM SYSTEM IMPROVEMENTS FOR A PERIOD OF 2 YEARS.
- B. FOR ALL REPAIRS THAT CANNOT BE COMPLETED AFTER THE INITIAL RESPONSE, SUBMIT A WRITTEN PLAN OF CORRECTION TO THE OWNER PRIOR TO LEAVING THE PREMISES.
- C. FURNISH WARRANTY SERVICE FROM THE INSTALLING COMPANY. PROVIDE RESPONSE TIME FOR EMERGENCY SERVICE NO LONGER THAN 2 HOURS FROM THE TIME OF NOTIFICATION. FOR NON-EMERGENCY SERVICE PROVIDE RESPONSE TIME NO LONGER THAN TWENTY FOUR (24) HOURS FROM THE TIME OF NOTIFICATION

1.08 SUBMITTALS

A. SUBMIT THE FOLLOWING WITH SHOP DRAWINGS:

- 1. FLOOR PLANS SHOWING THE ENTIRE AREA, ALL FIRE RATED WALLS, THE ADDRESSES FOR ALL ADDRESSABLE DEVICES AND THE ROUTING OF CONDUIT AND WIRE. INDICATE ON ALL CONDUIT RUNS, THE CONDUIT SIZE AND TYPE AND SIZE OF WIRES.
- 2. SINGLE LINE RISER DIAGRAM SHOWING ALL FIRE ALARM SYSTEM CIRCUITS.
- 3. POINT TO POINT DIAGRAM.
- 4. WIRING DIAGRAMS THAT INDICATE INTERNAL WIRING FOR EACH ITEM OF EQUIPMENT AND THE INTERCONNECTIONS BETWEEN THE ITEMS OF EQUIPMENT.
- 5. TECHNICAL DATA SHOWING EXACT TYPES AND QUANTITY OF ALL FIRE ALARM SYSTEM COMPONENTS. HIGH-LIGHT OR OTHERWISE IDENTIFY SPECIFIC COMPONENTS ON CATALOG CUT SHEETS. ALL EQUIPMENT DRAWING ALARM OR SUPERVISORY CURRENT SHALL HAVE DOCUMENTATION OF THE CURRENT DRAW HIGHLIGHTED IN THE SUBMITTAL INFORMATION.
- 6. CSFM LISTING SHEET WITH CURRENT EXPIRATION DATE FOR EACH COMPONENT.
- 7. BATTERY CAPACITY CALCULATIONS. SUBMIT COMPLETE BATTERY CALCULATION SHEET SHOWING ALL THE ELECTRICAL REQUIREMENTS FOR THE ENTIRE FIRE ALARM SYSTEM, INCLUDING THE POWER CONSUMPTION TO THE INDIVIDUAL DEVICES, BOTH IN ALARM AND SUPERVISORY MODES ON 8-1/2 X 11 INCH PAPER.
- 8. VOLTAGE DROP CALCULATIONS FOR ALL WIRE AND CABLE RUNS.
- 9. EQUIPMENT LIST TO SHOW ALL FIRE ALARM SYSTEM COMPONENTS, THE SYMBOLS USED, THE QUANTITIES, MANUFACTURERS' MODEL NUMBER AND CSFM LISTING NUMBERS.
- 10. PROVIDE SEQUENCE OF OPERATIONS TO SHOW HOW THE SYSTEM WILL REACT TO THE ACTIVATION OF EACH TYPE OF DEVICE.
- 11. LIST OF WIRE AND CABLE THAT SPECIFIES GAUGE AND TYPE OF WIRE TO BE USED.
- 12. ALL FIRE ALARM PANEL PROGRAMMING INFORMATION.
- 13. DETAILS FOR MOUNTING OF EQUIPMENT.
- 14. STAMP AND SIGNATURE OF DESIGN PROFESSIONAL OF RECORD.
- 15. INCLUDE THE FOLLOWING STATEMENTS ON SHOP DRAWINGS:
 - a. PROVIDE FIRE ALARM SYSTEM THAT CONFORMS TO ARTICLE 760 OF THE CEC.
 - b. DO NOT START INSTALLATION OF THE FIRE ALARM SYSTEM UNTIL DETAILS, PLANS AND SPECIFICATIONS, CSFM LISTING SHEETS, INCLUDING LISTING NUMBER WITH ANNUAL UPDATE AND EXPIRATION DATE, FOR ALL SYSTEM COMPONENTS HAVE BEEN APPROVED BY THE CSFM.
 - c. KEEP A STAMPED SET OF APPROVED FIRE ALARM SHOP DRAWINGS ON THE JOB SITE AND USE FOR INSTALLATION.
 - d. UPON COMPLETION OF THE INSTALLATION OF THE DESCRIBED ADDITION TO EXISTING FIRE ALARM SYSTEM, PERFORM TWO SEPARATE TESTS. IN BOTH TESTS, SUCCESSFULLY DEMONSTRATE ALL FUNCTIONS REQUIRED IN THE CONTRACT. COMPLETE ONE TEST IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE AND CONDUCT A SEPARATE TEST FOR FINAL ACCEPTANCE BY THE CSFM IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE AND AUTHORITIES HAVING JURISDICTION.

1.09 OPERATION AND MAINTENANCE MANUAL

- A. PROVIDE A MINIMUM OF 6 COPIES OF THE OPERATIONS AND MAINTENANCE MANUAL. LABEL AND NEATLY INSTALL THE MANUALS IN A BINDER WITH TABS AND SECTIONS AS INDICATED IN A TABLE OF CONTENTS, MAINTENANCE.
- B. SUBMIT 2 COPIES OF COMPLETE AS-BUILT INSTALLATION WIRING DOCUMENTATION, INTERNAL FIRE ALARM CONTROL PANEL SCHEMATICS, AND MAINTENANCE MANUALS PRIOR TO FINAL ACCEPTANCE.

1.10 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. PROVIDE MATERIAL THAT IS NEW, IN CONDITION ACCEPTABLE TO OWNER'S REPRESENTATIVE AND SUITABLE FOR INTENDED USE.
- B. DELIVER MATERIALS IN THE ORIGINAL, UNOPENED AND LABELED PACKAGES.
- C. DELIVER SPARE PARTS TO THE OWNER'S REPRESENTATIVE.
- 1.11 SITE EXAMINATION AND CONDITIONS
 - A. REFER TO SECTION 26 0100 - GENERAL REQUIREMENTS FOR ELECTRICAL WORK, ARTICLE 1.14: COORDINATION WITH OTHER TRADES.
 - B. ACCEPT INFORMATION SHOWN ON THE DRAWINGS BASED UPON AVAILABLE RECORDS AND DATA AS APPROXIMATE ONLY. MAKE MINOR DEVIATIONS FOUND NECESSARY TO CONFORM TO ACTUAL LOCATIONS AND CONDITIONS WITH NO INCREASE IN CONTRACT SUM.

PART 2 PRODUCTS

2.01 FIRE ALARM SYSTEM

- A. ACCEPTABLE MANUFACTURER:
 - MATCH EXISTING FIRE ALARMS CONTROL PANEL, AND DESCRIPTION ON THE PLANS.
- B. ALL EQUIPMENT:
 - 1. UL LISTED AS A PRODUCT OF A SINGLE MANUFACTURER UNDER APPROPRIATE CATEGORY.
 - 2. EQUIPMENT SHALL NOT BE MODIFIED OR INSTALLED TO ALTER OR VOID UL LABEL OR LISTING.
 - 3. CSFM LISTED.
 - 4. MISCELLANEOUS ACCESSORIES: CHANNELS, JOINERS, HANGERS, CAPS, NUTS AND BOLTS, AND ASSOCIATED PARTS SHALL BE PLATED ELECTROLYTICALLY WITH ZINC

2.03 FIRE ALARM SYSTEM OPERATION:

- EXTEND EXISTING FIRE ALARM DEVICES FUNCTIONS TO THE NEW ADDITION.

2.05 SIGNAL INITIATING DEVICES

- A. AUTOMATIC SMOKE SENSOR: PHOTOELECTRIC TYPE, ADDRESSABLE.
 - 1. OPERATE ON PHOTOELECTRIC PRINCIPLE, ACTIVATED BY PRESENCE OF SMOKE PARTICLES.
 - 2. OPERATING CHARACTERISTICS SHALL ALLOW DETECTOR TO REMAIN STABLE UNDER VARYING CONDITIONS OF VIBRATION, MECHANICAL SHOCK, SUPPLY VOLTAGE, AMBIENT TEMPERATURE, AIR FLOW AND BAROMETRIC VARIATIONS.
 - 3. LOW VOLTAGE, SOLID-STATE DESIGN EMPLOYING VOLTAGE AND RF TRANSIENT SUPPRESSION.
 - 4. DETECTOR BASE: MOLDED CONSTRUCTION EQUIPPED WITH TERMINAL SCREWS FOR ALL WIRING CONNECTIONS.
 - 5. UL LISTED TO STANDARD 268 AND SHALL BE DOCUMENTED AS COMPATIBLE WITH CONTROL EQUIPMENT TO WHICH IT IS CONNECTED.
 - 6. DETECTOR WITH A FLASHING STATUS INDICATING LED FOR VISUAL SUPERVISION. WHEN DETECTOR IS ACTUATED, FLASHING LED WILL LATCH ON STEADY AND AT FULL BRILLIANCE.
 - 7. OPERATING POWER SUPPLIED FROM BASIC 24 VOLT DC ZONE CIRCUIT.
 - 8. REMOVAL OF DETECTOR HEAD WILL INTERRUPT SUPERVISORY CIRCUIT OF ZONE CIRCUIT AND CAUSE A TROUBLE SIGNAL TO BE INITIATED.
 - 9. DETECTOR HEAD EASILY DISSEMBLED TO FACILITATE CLEANING.
 - 10. SENSORS SHALL INCLUDE TEST PROVISIONS WHICH SIMULATE ALARM CONDITIONS.
 - 11. SENSOR SENSITIVITY CAN BE ADJUSTED FROM BUILDING CPU.
 - 12. BASE CAPABLE OF ACCEPTING ANALOG OUTPUT SENSOR.
 - 13. THE DETECTORS SHALL PROVIDE A TEST MEANS WHEREBY THEY WILL SIMULATE AN ALARM CONDITION AND REPORT THAT CONDITION TO THE CONTROL PANEL. SUCH A TEST MAY BE INITIATED AT THE DETECTOR ITSELF (BY ACTIVATING A MAGNETIC SWITCH) OR INITIATED REMOTELY ON COMMAND FROM THE CONTROL PANEL.
 - 14. THE DETECTORS SHALL PROVIDE ADDRESS-SETTING MEANS ON THE DETECTOR HEAD USING DECIMAL SWITCHES. THE DETECTORS SHALL ALSO STORE AN INTERNAL IDENTIFYING CODE THAT THE CONTROL PANEL SHALL USE TO IDENTIFY THE TYPE OF DETECTOR.
 - 15. USING SOFTWARE IN THE FIRE ALARM CONTROL PANEL (FACP), THE DETECTORS SHALL AUTOMATICALLY COMPENSATE FOR DUST ACCUMULATION AND OTHER SLOW ENVIRONMENTAL CHANGES THAT MAY AFFECT THEIR PERFORMANCE. THE DETECTORS SHALL BE LISTED BY UL AS MEETING THE CALIBRATED SENSITIVITY TEST REQUIREMENTS OF NFPA STANDARD 72E.

B. INTERFACE :

- 1. PROVIDE INTERFACE FOR ALL CONTACT CLOSURE DEVICES TO PROVIDE A COMPLETE SYSTEM.
- 2. ALL MONITOR MODULES TO BE LOCATED IN A VISIBLE LOCATION, SO DEVICE LED CAN BE SEEN, WITHOUT HAVING TO MOVE ANY CEILING PANELS, ETC. THIS MAY MEAN LOWERING THE DEVICES AND CUTTING CEILING TILE, INSTALLING BOXES, ETC., AS REQUIRED.
- 3. ALL MONITOR MODULES TO BE IDENTIFIED WITH A PLASTIC (WHITE ON RED) LAMINATED STICK-ON LABEL INDICATING DEVICE FUNCTION AND IDENTIFICATION NUMBER.

2.06 ALARM SIGNALING APPLIANCES

- A. GENERAL: PROVIDE THE NUMBER AND LOCATION OF AUDIBLE DEVICES NECESSARY TO MEET THE AUDIBILITY REQUIREMENTS OF THE CODES AND STANDARDS. FURNISH AND INSTALL ADDITIONAL DEVICES WHERE REQUIRED AND PERFORM TESTS TO SHOW THAT AUDIBLE DEVICES MEET THESE REQUIREMENTS.

2.07 FIRE ALARM WIRE AND CABLE

- A. CONDUIT: 1/2 INCH MINIMUM.
- B. CONDUCTORS SHALL BE AS INDICATED ON THE PLANS.

PART 3 EXECUTION

3.01 INSTALLATION

A. GENERAL

- 1. INSTALL ALL COMPONENTS AS SHOWN ON DRAWINGS AND IN ACCORDANCE WITH ALL CODES, AND MANUFACTURERS' DIAGRAMS. IF THE DRAWINGS CONTRADICT CODES OR MANUFACTURERS' DATA SHEETS, IMMEDIATELY CONTACT THE ARCHITECT TO CLARIFY AND CORRECT THE PROBLEM.
- 2. CABLES SHALL BE INSTALLED IN CONDUITS, NO EXCEPTIONS.

B. EQUIPMENT

- 1. ACCURATELY SET AND LEVEL, NEATLY PLACED SUPPORT AND ANCHOR PROPERLY. ANCHOR WITH BOLTS TO .56G FOR ESSENTIAL EQUIPMENT AND .22G FOR NONESSENTIAL EQUIPMENT. DEVICES
 - a. CEILING-TYPE DETECTORS:
 - 1. INSTALL WHERE SHOWN ON DRAWINGS.
 - 2. MOUNT UNITS IN ACCORDANCE WITH DRAWINGS AND MANUFACTURER'S STANDARD DETAILS.
 - 3. LOCATE DETECTORS WITH INDICATING LIGHT VISIBLE FROM FLOOR, ALL ORIENTED IN THE SAME DIRECTION.
 - 4. DO NOT LOCATE AREA PROTECTION DETECTORS IN DIRECT AIR STREAM FROM SUPPLY AIR OUTLETS. MAINTAIN A MINIMUM DISTANCE OF 3 FEET FROM AIR OUTLETS.

D. WIRING

- 1. INSTALL ALL WIRING IN ACCORDANCE WITH CEC, ARTICLE 760.
- 2. INSTALL ALL WIRING IN RIGID, INTERMEDIATE OR ELECTRICAL METALLIC CONDUIT, MINIMUM CONDUIT SIZE IS 1 INCH. INSTALL FIRE ALARM WIRING IN DEDICATED CONDUITS, NO EXCEPTIONS.
- 3. PAINT ALL CONDUITS EXCEPT THAT WHICH IS EXPOSED IN PUBLIC AREAS RED IN COLOR FOR SIX INCHES AT LEAST EVERY 6 FEET FOR THE ENTIRE CIRCUMFERENCE OF THE CONDUIT. PAINT ALL CONCEALED JUNCTION BOXES RED. LABEL JUNCTION BOXES "FIRE ALARM" WITH CONTRASTING COLORED LETTERS.
- E. CONNECTIONS: MAKE WIRE CONNECTIONS TO TERMINAL WITH TERMINAL SPADE LUGS OR TO TERMINAL BLOCKS APPROVED FOR USE WITHOUT LUGS. ENGAGE THE SERVICE OF MANUFACTURER'S CERTIFIED TECHNICIANS TO MAKE ALL FINAL CONNECTIONS.
- F. IDENTIFICATION: IDENTIFY ALL CONDUCTORS WITH E-Z CODE OR BRADY WIRE MARKERS BY ZONES, OR EQUIVALENT, DESIGNATION, AT ALL JUNCTION BOXES, DETECTOR OUTLETS, PULL STATIONS, STROBE, STROBE/HORN AND MASTER TERMINALS.
- G. GROUNDING: PERMANENTLY GROUND ALL METALLIC CONDUIT, CABINETS, JUNCTION BOXES, AND EXPOSED NON-CURRENT-CARRYING METAL PARTS. CONNECT A SEPARATE NO. 10 AWG CONDUCTOR TO A GROUNDING BUS BAR LOCATED IN EACH MAIN TERMINAL CABINET TO BUILDING GROUND. PROVIDE THE BUS BAR WITH A MINIMUM OF 5 TUBULAR, PRESSURE-TYPE SCREW TERMINALS, SIZED FOR NO. 18 AWG THROUGH NO. 10 AWG WIRE.

3.02

CUTTING AND PATCHING:

- 1. AS SPECIFIED IN SECTION 01045: CUTTING AND PATCHING.
- 2. PERFORM ALL CUTTING AND PATCHING, INCLUDING STRUCTURAL REINFORCING, NECESSARY FOR THIS WORK.
- 3. PERFORM NO CUTTING OR PATCHING WITHOUT PRIOR APPROVAL. REPAIR DAMAGE DONE BY CUTTING AND PATCHING EQUAL TO ORIGINAL CONDITION.

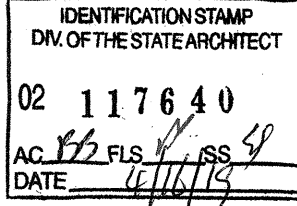
3.03 PROGRAMMING

B. PROGRAM THE SYSTEM IN ACCORD WITH OWNER REQUIREMENTS.

3.04 TESTING ACCEPTANCE

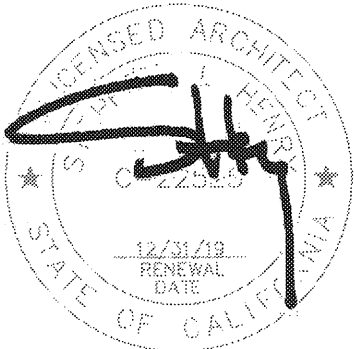
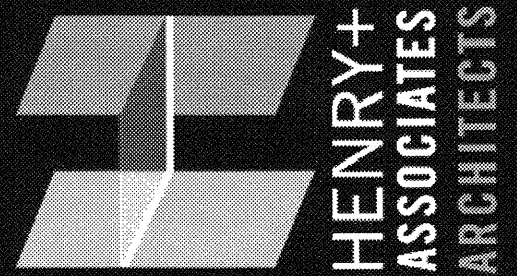
- A. OBTAIN SERVICES OF A FACTORY TRAINED REPRESENTATIVE OF SYSTEM MANUFACTURER TO SUPERVISE INSTALLATION, SUPERVISE FINAL CONNECTIONS TO EQUIPMENT AND PROVIDE TESTING
- B. PROVIDE 4 SETS OF PRELIMINARY AS-BUILT DRAWINGS FOR MARK-UP DURING TESTING. THE OWNER WILL RETAIN THESE SETS. PERFORM TST AS REQUIRED BY GOVERNING CODES AND AUTHORITIES HAVING JURISDICTION.
- C. FURNISH ALL LABOR AND TEST EQUIPMENT REQUIRED FOR THIS WORK.
- D. PRIOR TO THE CSFM TEST, CORRECT PUNCH LIST ITEMS IDENTIFIED BY THE OWNER'S REPRESENTATIVE. AFTER RE-INSPECTION OF PUNCH LIST ITEMS PERFORM ADDITIONAL TESTING NECESSARY TO VERIFY COMPLIANCE. CONTINUE TO CORRECT AND RETEST SYSTEM UNTIL DEFECT-FREE.
- E. ACCEPTANCE TESTING WILL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
 - 1. TEST THAT SPEAKERS DELIVER THE RATED SOUND PRESSURE LEVELS OF THE SPECIFIED DEVICE AND 10-DB SOUND LEVEL ABOVE AMBIENT LEVEL.
 - 2. TEST THAT AUTOMATIC DETECTORS OPERATE WHEN THE APPROPRIATE FIRE OR SMOKE CONDITIONS ARE GENERATED.
 - 3. TEST THAT PANELS AND SUPERVISORY DEVICES DISPLAY AND CONTROL FUNCTIONS SPECIFIED.
 - 4. TEST THAT FIRE ALARM SUPERVISORY AND TROUBLE SIGNALS ARE RECEIVED AT THE REMOTE ALARM STATION.
 - 5. TEST THAT BATTERY WITH PROVIDE 24 HOUR BACKUP UPON REMOVAL OF AC POWER (4 HOURS IF FIRE ALARM SYSTEM IS SUPPLIED BY EMERGENCY POWER).
 - 6. TURNING OVER AND OBTAINING RECEIPT FOR COMPLETION OF NFPA CERTIFICATION APPLICATION FORM.
- F. PRIOR TO PERFORMING ACCEPTANCE TESTING:
 - 1. VERIFY ENTIRE SYSTEM TESTS FREE FROM OPENS, GROUNDS, AND SHORT CIRCUITS.
 - 2. VERIFY THAT HORNS, HORNSTROBES, MANUAL PULL STATIONS, TRANSMITTERS, AUTOMATIC DETECTORS AND SUPERVISORY DEVICES, AND ALL OTHER FIRE ALARM SYSTEM COMPONENTS ARE FUNCTIONING AS SPECIFIED.
 - 3. VERIFY THAT ALL INDIVIDUAL CIRCUITS ARE CONNECTED AT PANEL FOR PROPER OPERATION.
 - 4. VERIFY CONTROL CIRCUIT INTEGRITY.
 - 5. VERIFY COMPONENT COMPLIANCE WITH SPECIFICATIONS.
 - 6. OPEN INITIATING DEVICE CIRCUITS AND VERIFY THAT THE TROUBLE SIGNAL ACTUATES.
 - 7. OPEN AND SHORT SIGNALING LINE CIRCUITS AND VERIFY THAT THE TROUBLE SIGNAL ACTUATES.
 - 8. OPEN AND SHORT INDICATING APPLIANCE CIRCUITS AND VERIFY THAT TROUBLE SIGNAL ACTUATES.
 - 9. GROUND ALL CIRCUITS AND VERIFY RESPONSE OF TROUBLE SIGNALS.
 - 10. CHECK PRESENCE AND AUDIBILITY OF ALL ALARM NOTIFICATION DEVICES.
 - 11. CHECK INSTALLATION, SUPERVISION, AND OPERATION OF ALL INTELLIGENT SMOKE DETECTORS.
 - 12. GROUND TESTS SHALL MEET REQUIREMENTS OF CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 24, PART 3.
- G. AFTER COMPLETION OF TESTING AND ADJUSTMENT, OPERATE THE DIFFERENT SYSTEMS AND EQUIPMENT UNDER NORMAL WORKING CONDITIONS AND SHOW SPECIFIED PERFORMANCE. IF, IN THE OPINION OF THE ARCHITECT, PERFORMANCE OF EQUIPMENT OR SYSTEMS IS NOT IN ACCORDANCE WITH SPECIFICATIONS OR SUBMITTED DATA, ALTER OR REPLACE EQUIPMENT AT NO INCREASE IN CONTRACT SUM.
- H. DO NOT ALLOW OR CAUSE ANY WORK TO BE COVERED UP OR ENCLOSED BEFORE IT HAS BEEN INSPECTED AND APPROVED. BEFORE REQUESTING FINAL APPROVAL OF THE INSTALLATION, FURNISH A WRITTEN STATEMENT TO THE CSFM TO THE EFFECT THAT THE SYSTEM HAS BEEN INSTALLED AND COMPLETELY TESTED IN ACCORDANCE WITH (2010) NFPA 72 SECTIONS 10.18.1.3 AND 14.4.1.2.

END OF SECTION



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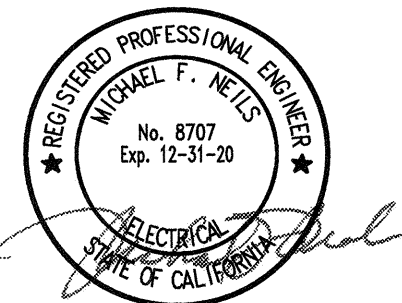
730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212



RELOCATABLE RELOCATION
LODI MIDDLE SCHOOL

ELECTRICAL
SPECIFICATIONS

CONSULTANT

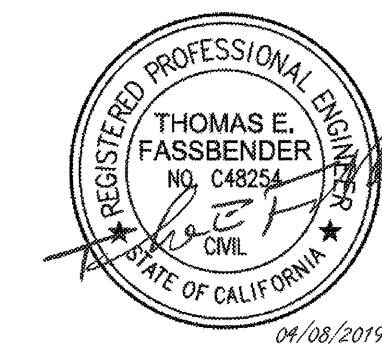
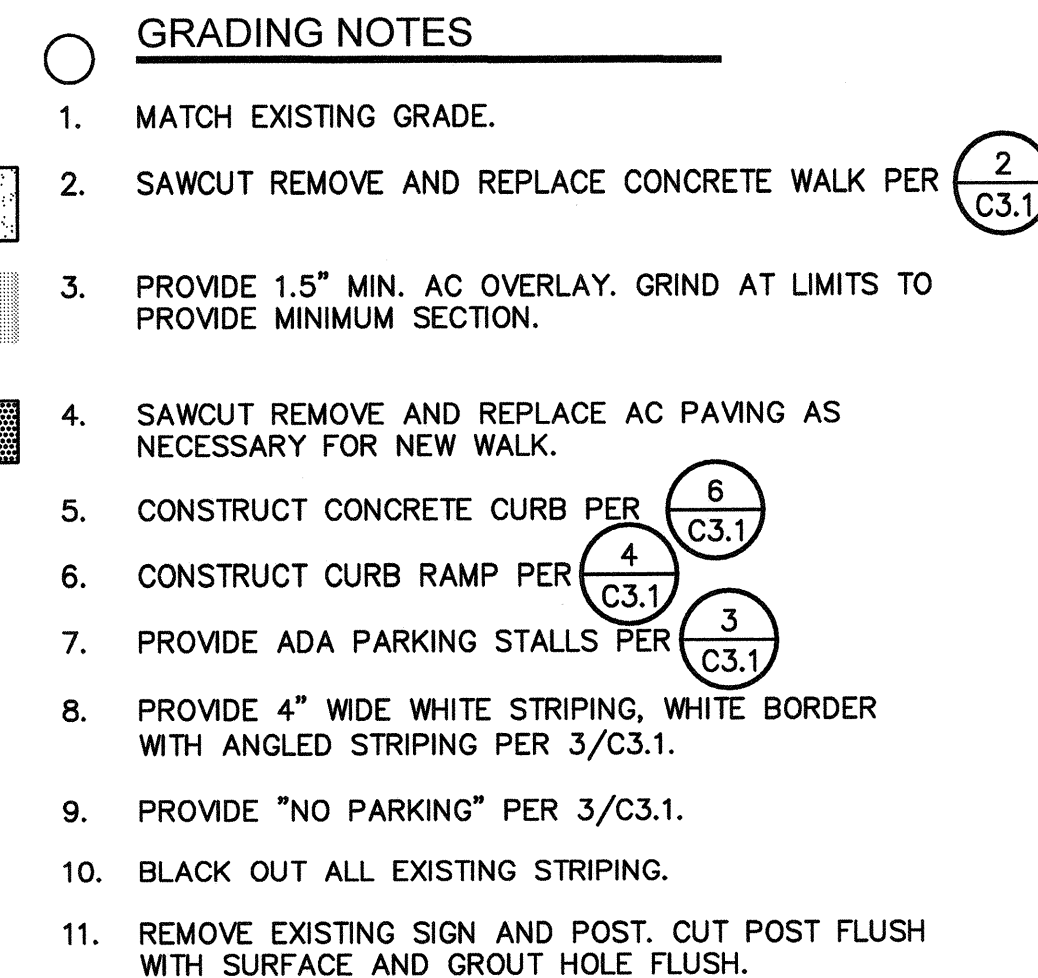
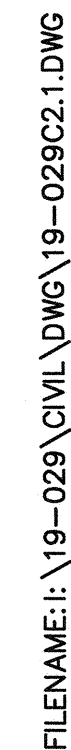


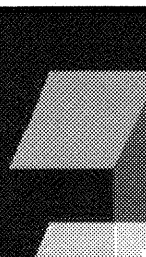

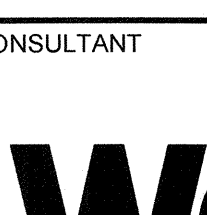
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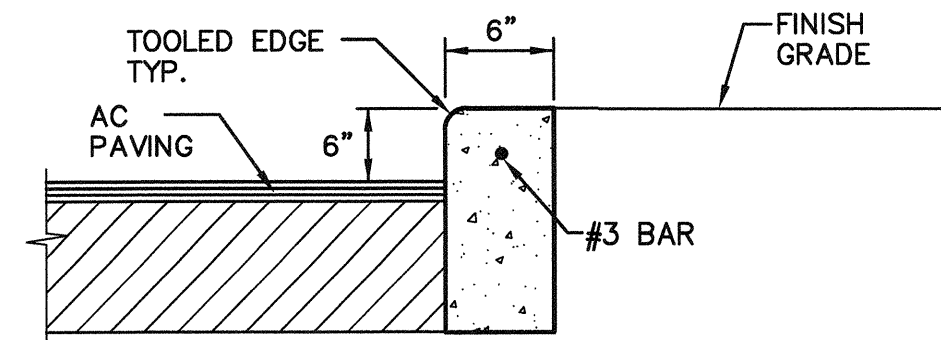
E5.2

OF 102 SHEETS



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FILE NO. 39-50 APP NO.		
730 Howe Avenue, Suite 450 Sacramento, CA 95825 Phone: 916.921.2112 Fax: 916.921.2212		
 <div style="display: inline-block; vertical-align: middle; text-align: left;"> <p style="margin: 0; font-weight: bold; font-size: 1.5em;">HENRY+</p> <p style="margin: 0; font-weight: bold;">ASSOCIATES</p> <p style="margin: 0; font-weight: bold;">ARCHITECTS</p> </div>		
		
<div style="display: flex; justify-content: space-around;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; font-size: 1.2em;"> RELOCATABLE RELOCATION LODI MIDDLE SCHOOL </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; font-size: 1.2em;"> GRADING PLAN </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 0.8em;"> LODI UNIFIED SCHOOL DISTRICT, LODI, SAN JOAQUIN COUNTY, CALIFORNIA </div> </div>		
CONSULTANT		
 <p style="margin: 5px 0; font-weight: bold; font-size: 0.8em;">WARREN CONSULTING ENGINEERS, INC.</p> <p style="margin: 0 0 0 40px; font-size: 0.7em;">1117 WINDFIELD WAY, SUITE 110 EL DORADO HILLS, CA 95762 (916) 985-1870</p>		
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- NOTES:
1. PROVIDE FELT EXPANSION JOINTS (E.J.) AT 60 FEET O.C. PROVIDE CONTROL JOINTS AT 10 FEET O.C.
 2. AT E.J. USE 1/2"x24" SMOOTH DOWELS, ALIGN WITH REBAR, GREASE 1/2 THE LENGTH BEFORE CONCRETE PLACEMENT.

6 CONCRETE CURB
C3.1 NO SCALE

ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS MAY BE USED ON THESE PLANS.

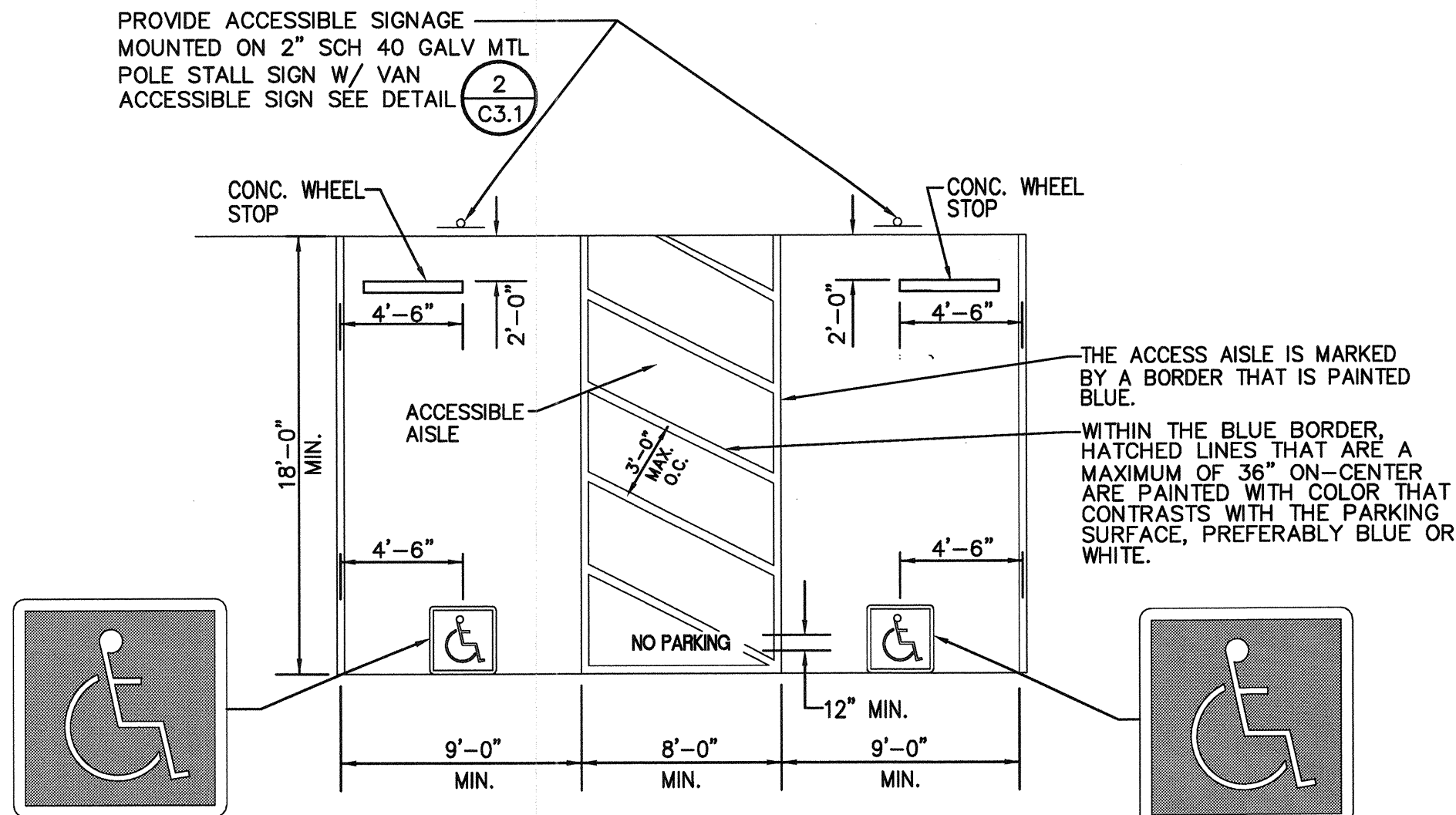
AB	AGGREGATE BASE
AC	ASPHALTIC CONCRETE
AD	AREA DRAIN
CL	CLASS
CO	CLEANOUT
CONC.	CONCRETE
CONST.	CONSTRUCT
CS	CONCRETE SURFACE
DI	DROP INLET
DWG	DRAWING
DS	DOWNSPOUT
E	ELECTRIC
EX	EXISTING
FL	FLOWLINE
FF	FINISHED FLOOR ELEVATION
GB	GRADE BREAK
GR	GRATE ELEVATION
GRD	GRADE ELEVATION
GV	GATE VALVE
HB	HOSE BIBB
INV	PIPE INVERT ELEVATION
LF	LINEAL FEET
NTS	NOT TO SCALE
PCC	PORTLAND CEMENT CONCRETE
PVC	POLYVINYL CHLORIDE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
STD	STANDARD
TC	TOP OF CURB
TW	TOP OF WALK ELEVATION

LEGEND

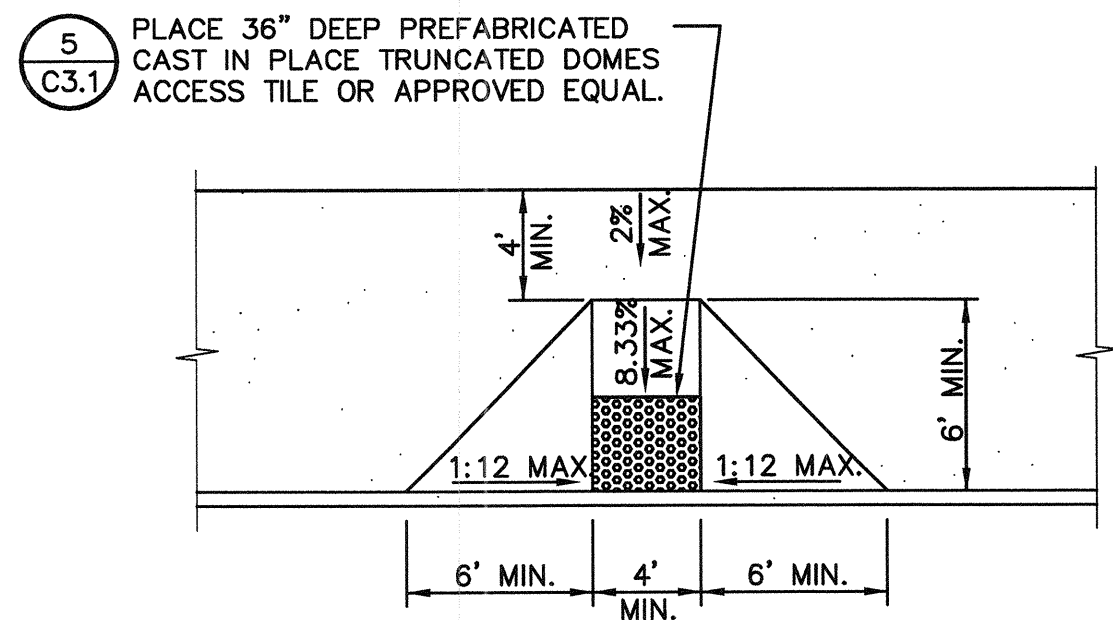
NOTE: NOT ALL SYMBOLS MAY BE USED ON THESE PLANS.

PROPOSED GRADING & DRAINAGE SYMBOLS:

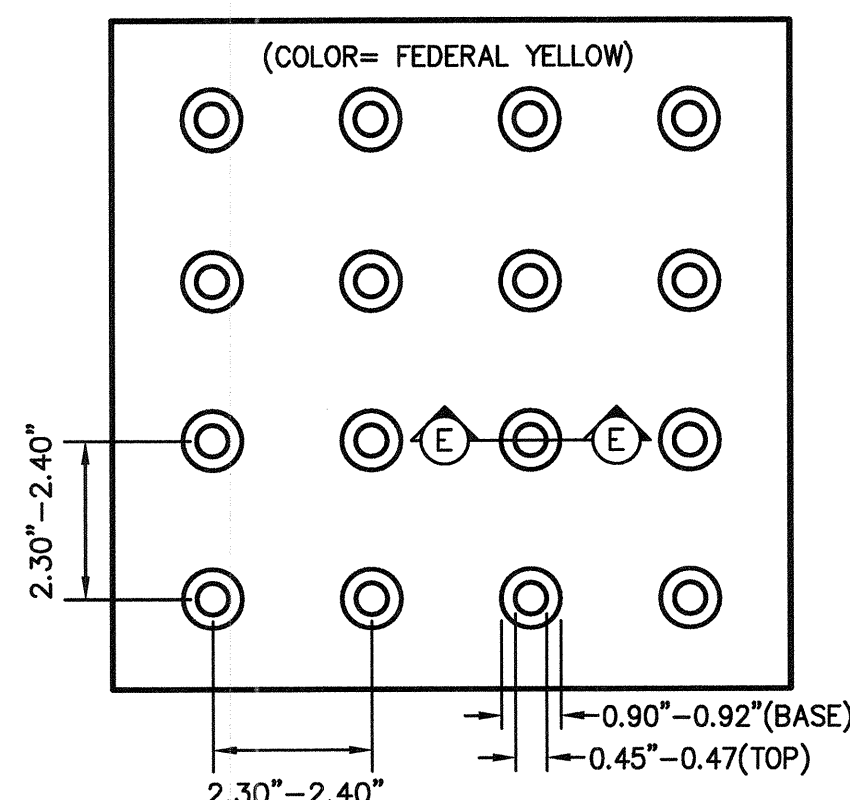
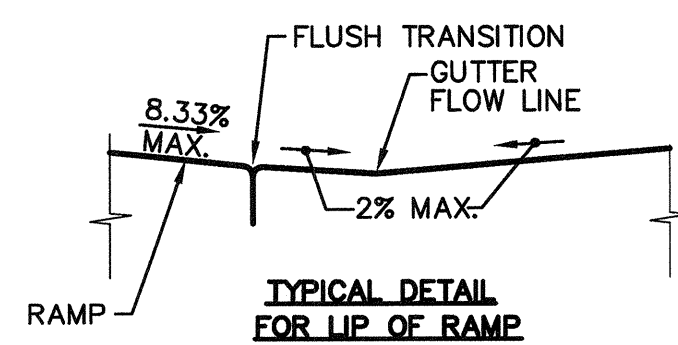
99.99	ELEVATION
FF=100.00	FINISHED FLOOR ELEVATION
PAD=99.33	BUILDING PAD ELEVATION
[Symbol]	CONCRETE SIDEWALK
[Symbol]	GRADED DIRECTION FOR DRAINAGE FLOW
[Symbol]	SWALE



3 ACCESSIBLE PARKING
C3.1 NO SCALE

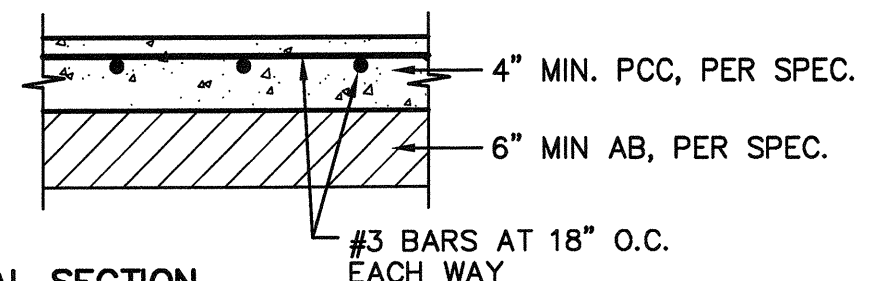


4 ACCESSIBLE RAMP
C3.1 NO SCALE

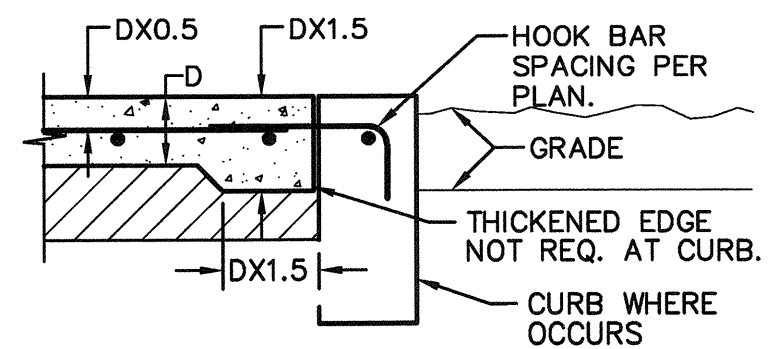


SECTION E-E

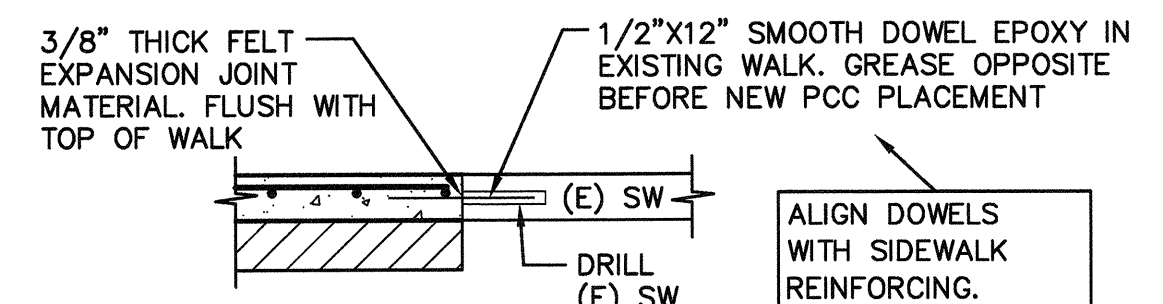
5 TRUNCATED DOMES
C3.1 NO SCALE



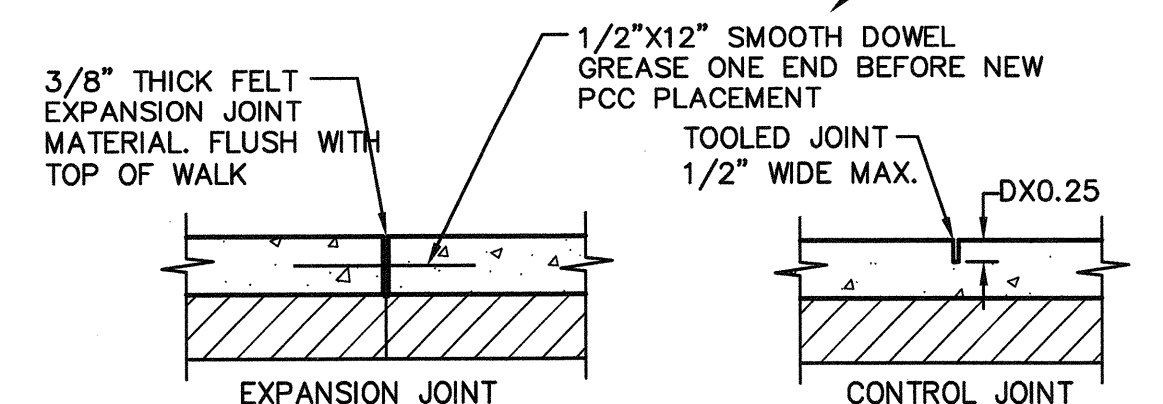
TYPICAL SECTION



TYPICAL THICKENED EDGE



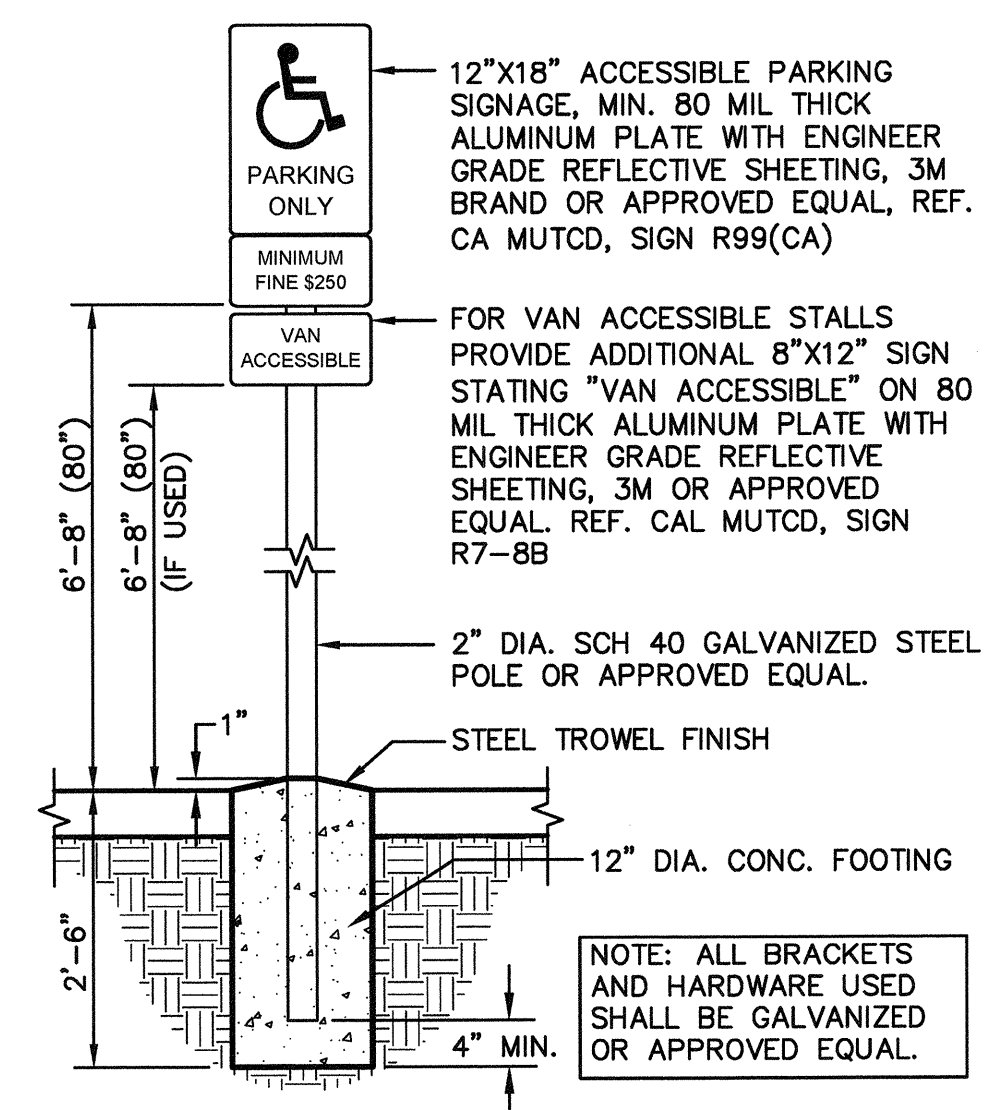
CONNECTION TO (E) CONCRETE



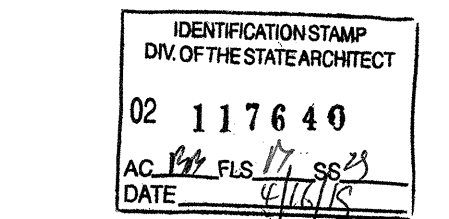
TYPICAL JOINTS

- NOTES:
1. PROVIDE FELT EXPANSION JOINTS AT 20 FEET O.C. MIN.
 2. PROVIDE CONTROL JOINTS AT 10 FEET O.C. MIN.
 3. EXPANSION OR CONTROL JOINTS SHALL NOT EXCEED 1/2" IN SURFACE WIDTH.

1 CONCRETE SIDEWALK
C3.1 NO SCALE

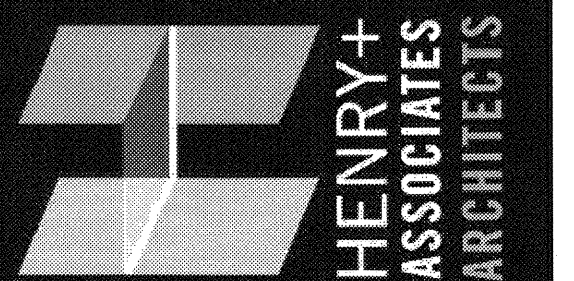


2 PARKING SIGNAGE
C3.1 NO SCALE



FILE NO. 39-50 APP NO.

730 Howe Avenue, Suite 450
Sacramento, CA 95825
Phone: 916.921.2112
Fax: 916.921.2212



**RELOCATABLE ADDITION
LODI MIDDLE SCHOOL**

DETAILS

CONSULTANT



PROJECT NO.	REVISIONS	BY
19-32-048		
DATE		
04/05/2019		
DRAWN		
MG		
CHECKED		
MG		
SCALE		
CADFILE		
UPDATED		

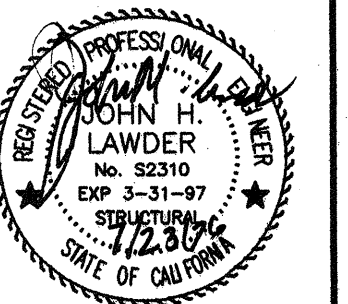
SHEET NO.

C3.1

OF - SHEETS



RIGID STEELFRAME MODULAR BUILDING
24' x 40' RELOCATABLE CLASSROOMS FOR
MOBILE MODULAR MANAGEMENT CORP.
20 PSF ROOF LIVE LOAD (NON-REDUCIBLE)



11

MOBILE MODULAR MANAGEMENT CORP.

COVER SHEET
ABBREVIATIONS
SHEET INDEX

REVISION DATE:	BY:
DATE:	
<p>THIS MODULAR BLDG. HAS BEEN ENGINEERED BY A REGISTERED STRUCTURAL ENGINEER AND PREVIOUSLY REVIEWED & APPROVED BY THE DIVISION OF THE STATE ARCHITECT, FIRE & LIFE SAFETY AND ACCESS COMPLIANCE SECTION</p>	

TESTING LABORATORY: _____		DATE: _____		
NAME: _____				
DISTRICT/OWNER: _____				
DIVISION - FILE NO. _____		APPLICATION NO. _____		
ARCHITECT: _____				
STRUCTURAL ENGINEER: _____				
THE FOLLOWING TESTS AND INSPECTIONS, AS CHECKED, WILL BE REQUIRED AS DETAILED IN APPLICATION SPECIFICATIONS.				
COMPACTED FILL	TROW- CRETE	GUNITE	GROUT	MORTAR
FILL MATERIAL, ACCEPTANCE TESTS				TEST OF AGGREGATES FOR MIX DESIGN ONLY
COMPACTION CONTROL, CONTINUOUS				SUITABILITY TESTS OF AGGREGATES AS DETAILED BELOW
COMPACTION TESTS ONLY AS ORDERED	<input checked="" type="checkbox"/>			MIX DESIGNS (METHOD A)
BEARING CAPACITY OF COMPACTED FILL	<input checked="" type="checkbox"/>			WEIGHMASTER CERTIFICATE
REINFORCING STEEL				INSPECT PLACING
SAMPLE AND TEST BAR STEEL				SAMPLE
SAMPLE AND TEST MESH	<input checked="" type="checkbox"/>			COMPRESSION TESTS (CONCRETE FOUNDATION ONLY)
INSPECT PLACING AT JOB				PICK UP SAMPLES AT JOB
STRUCTURAL STEEL				SAMPLES DELIVERED TO LABORATORY
<input checked="" type="checkbox"/> SAMPLE AND TEST AS DETAILED BELOW				DELIVER SAMPLE FORMS TO JOBSITE
<input checked="" type="checkbox"/> SHOP FABRICATION INSPECTION				SAMPLE AND TEST CEMENT
FIELD ERECTION INSPECTION				
<input checked="" type="checkbox"/> INSPECTION OF WELDS-SHOP	MIX DESIGNS: CONCRETE, GROUT, MORTAR OR GUNITE			
INSPECTION OF WELDS-FIELD				
INSPECTION OF RIVETING OR BOLTING-SHOP	MATERIAL	MAXIMUM SIZE	COMPRESSIVE STRENGTH PSI MINIMUM	
INSPECTION OF RIVETING OR BOLTING-FIELD	CONCRETE	1"	Ø 28 DAYS 2,500 PSI	
SAMPLE AND TEST HIGH STRENGTH BOLTS AND WASHERS				
BRICK AND BLOCK				
SAMPLE AND TEST				
TEST ONLY				
INSPECTION OF PLACING	LIST OF STRUCTURAL STEEL MEMBERS TO BE TESTED			
CORE DRILL SAMPLES				
OTHER TESTS & INSPECTIONS				
1. GENERAL IMPLANT INSPECTION				
2. ELECTRICAL GROUND TEST IN FIELD				
3. TEST ELECTRICAL GROUNDING				
DISTRIBUTION () ENVIROPLEX INC. _____ () DIVISION OF STATE ARCHITECT _____ () DISTRICT/OWNER _____ () INSPECTOR _____ () ARCHITECT _____		AUTHORIZATION SIGNATURE _____		
REMARKS:				

STRUCTURAL TESTS AND INSPECTIONS

TAPERED ROOF SHEET INDEX

SEE SHEET A3 FOR ELECTRICAL SYMBOLS

BUILDING CODES/CBC DATA

D.S.A. REQUIREMENTS

DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL 65586
AC *JK* FLS *012* SS *Adjuang*
DATE *7-27-96*
FILE NO. 39-0

DESIGN CRITERIA

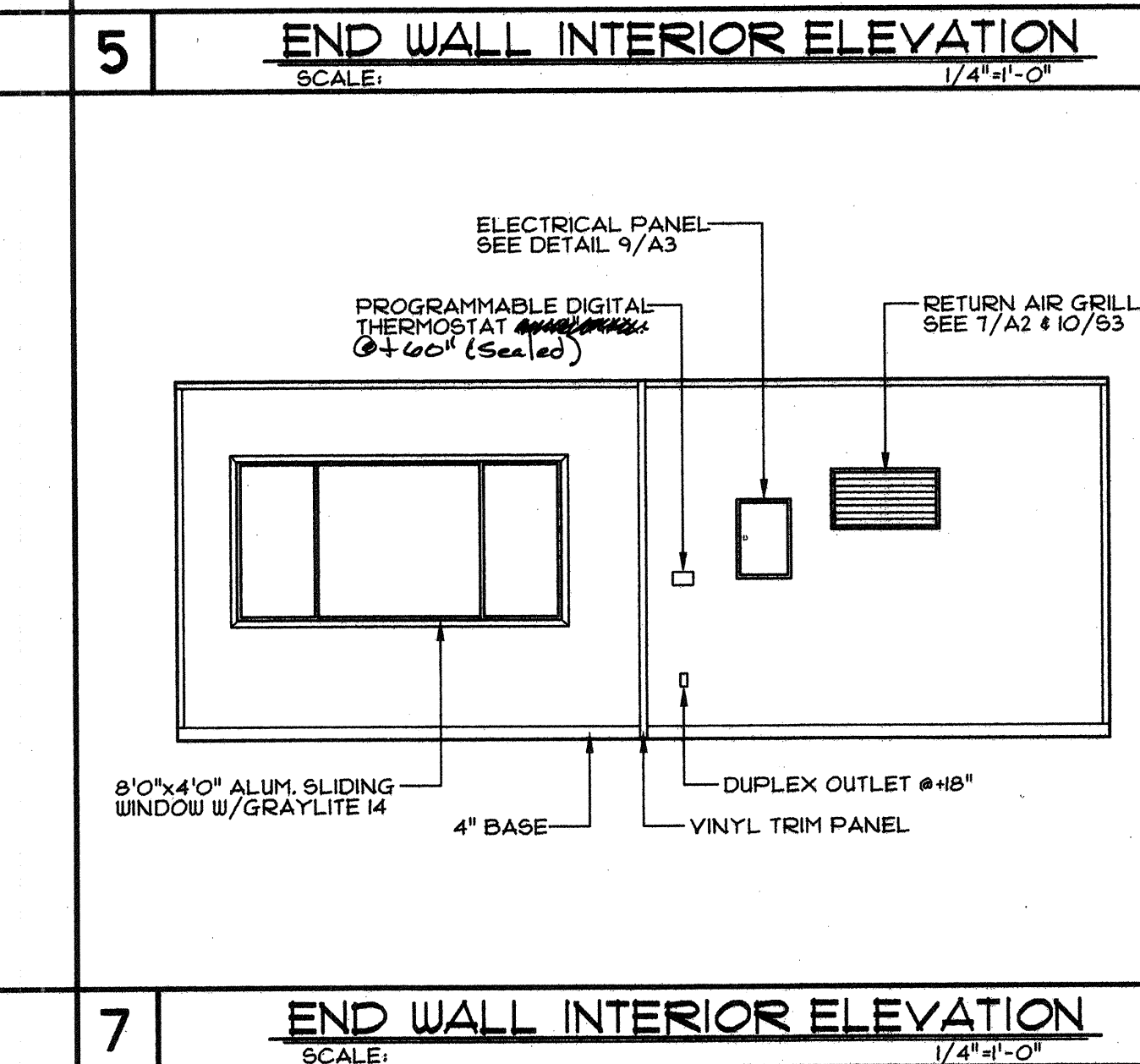
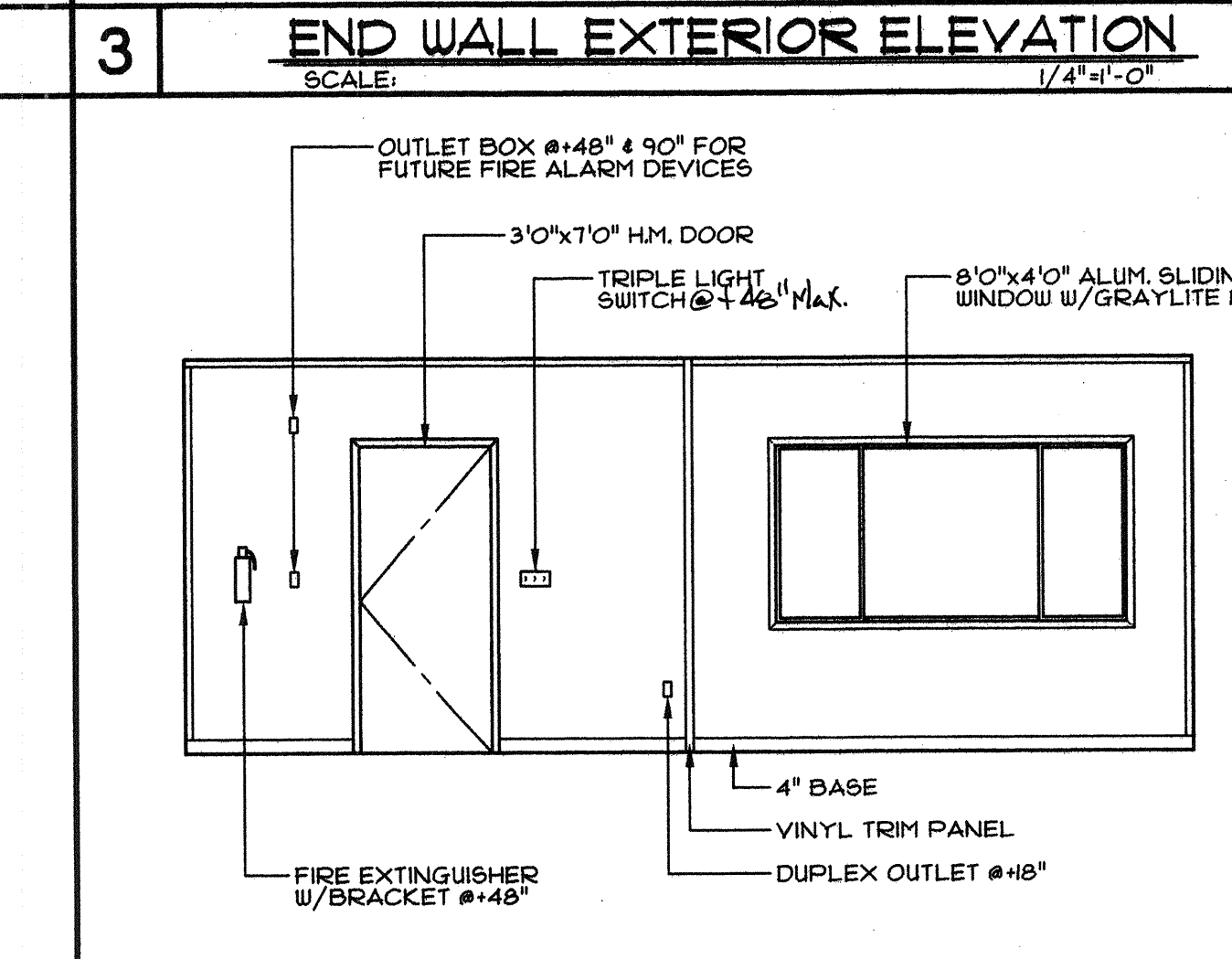
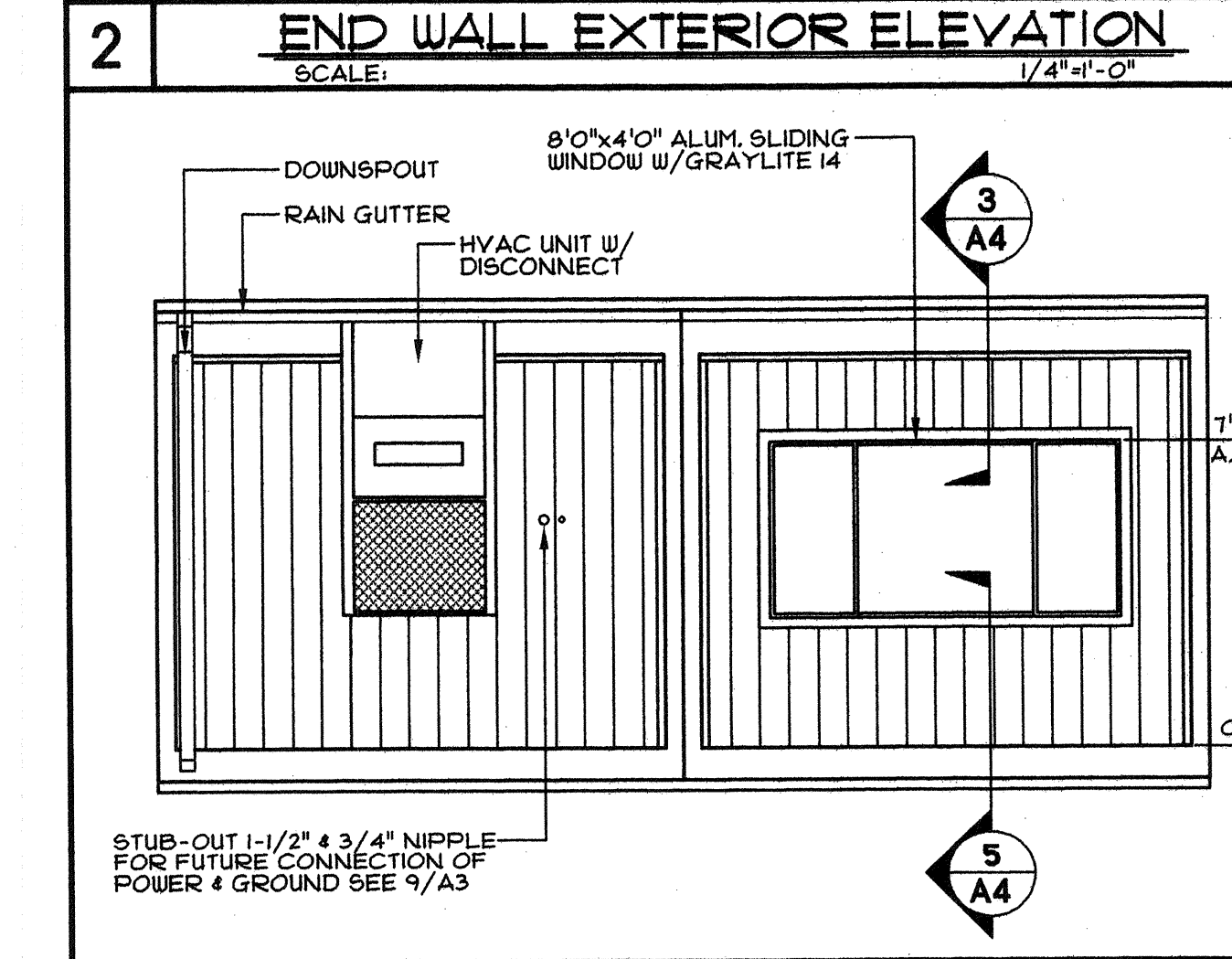
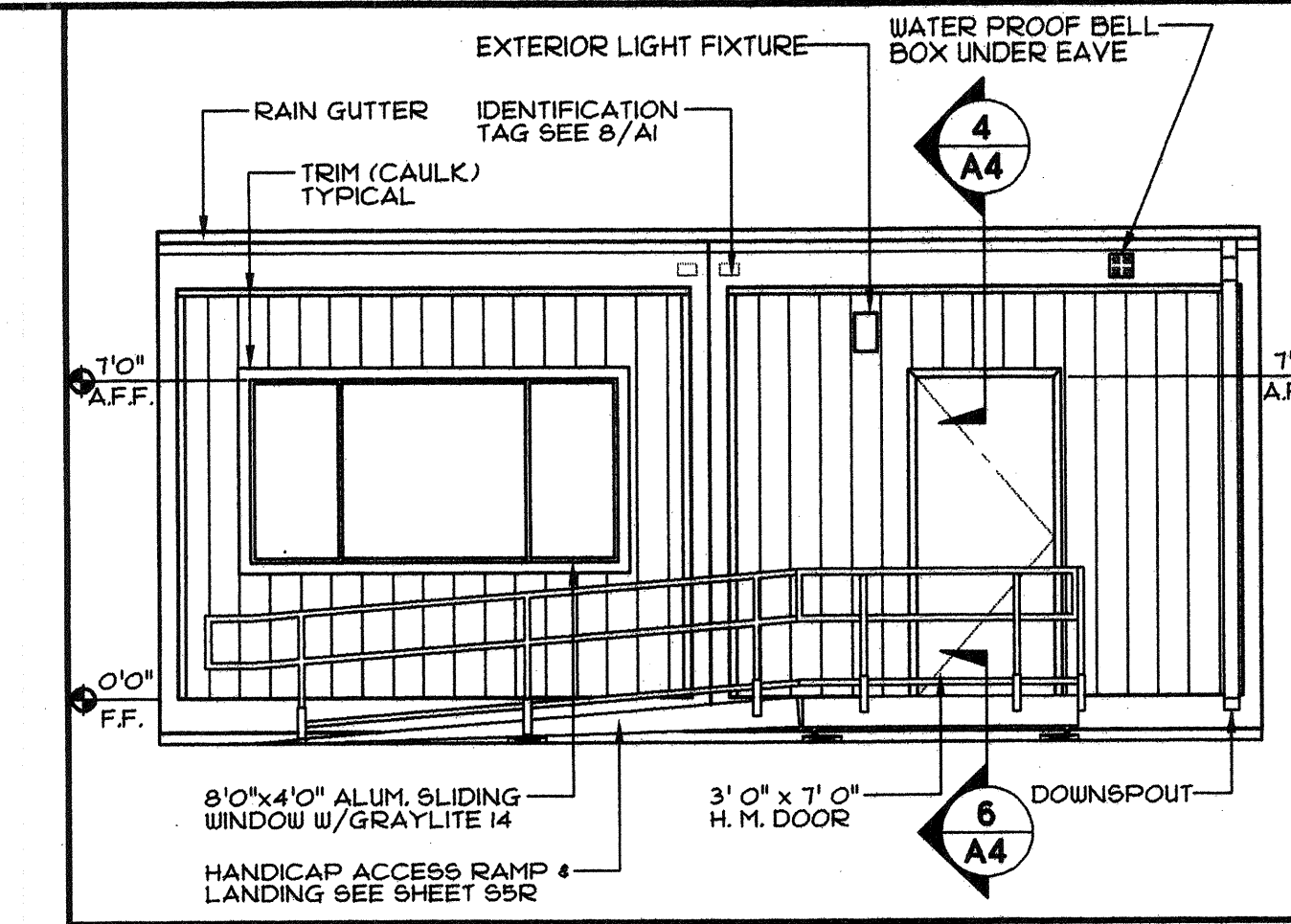
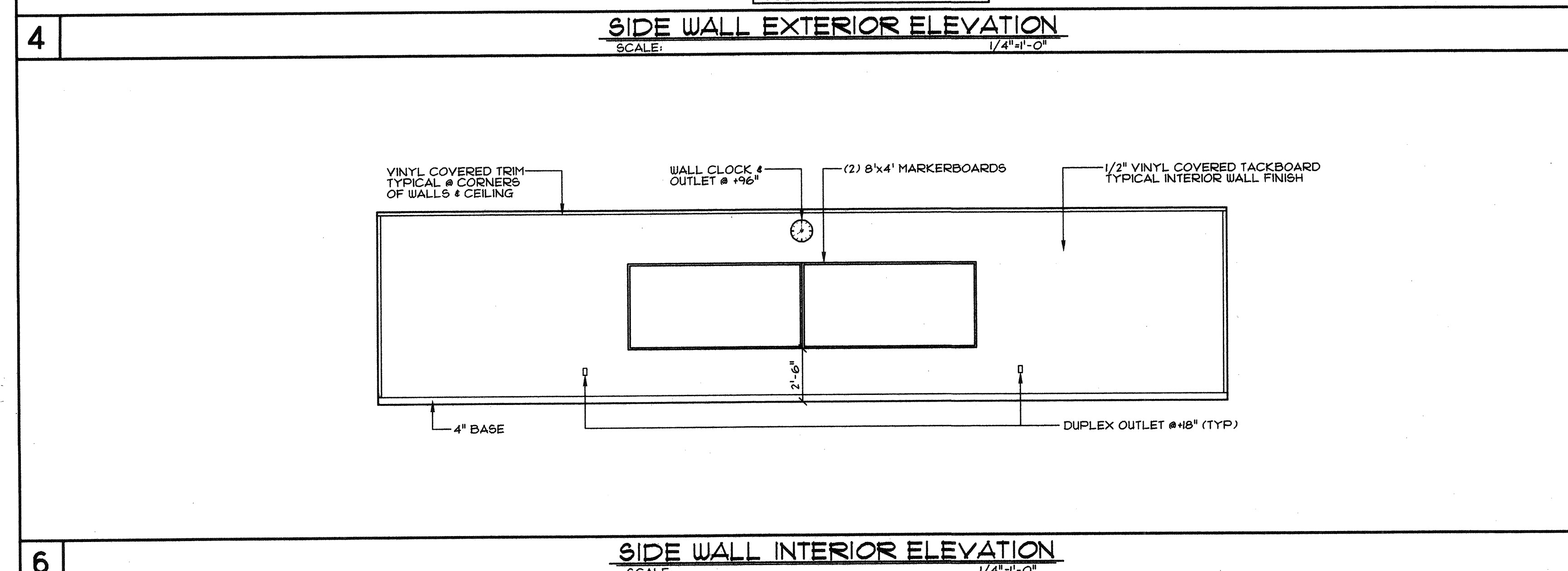
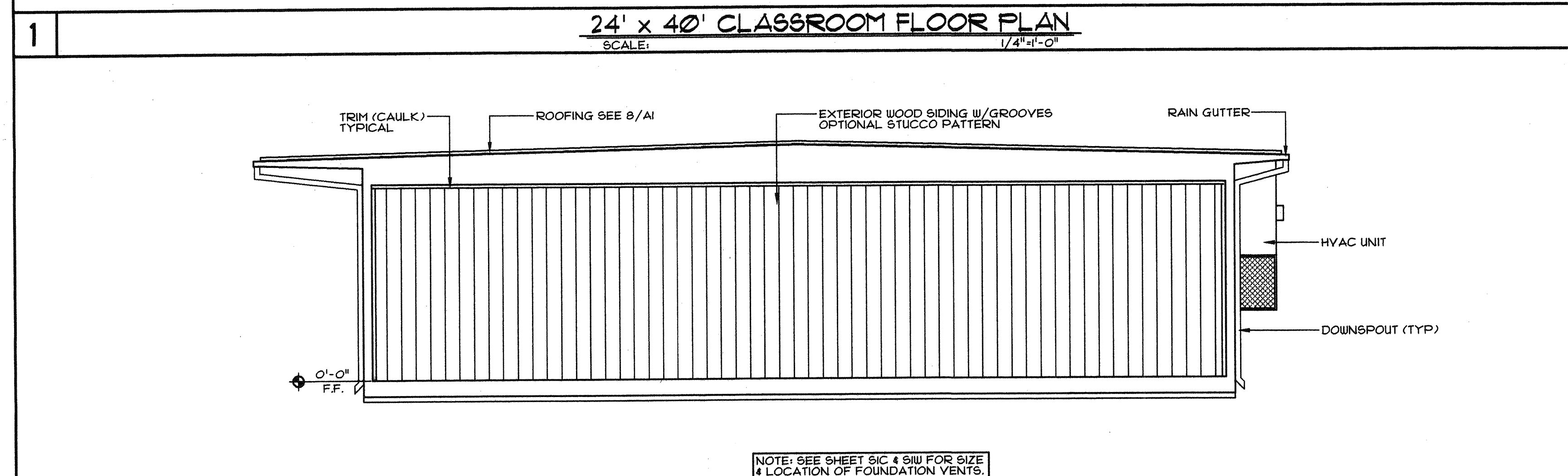
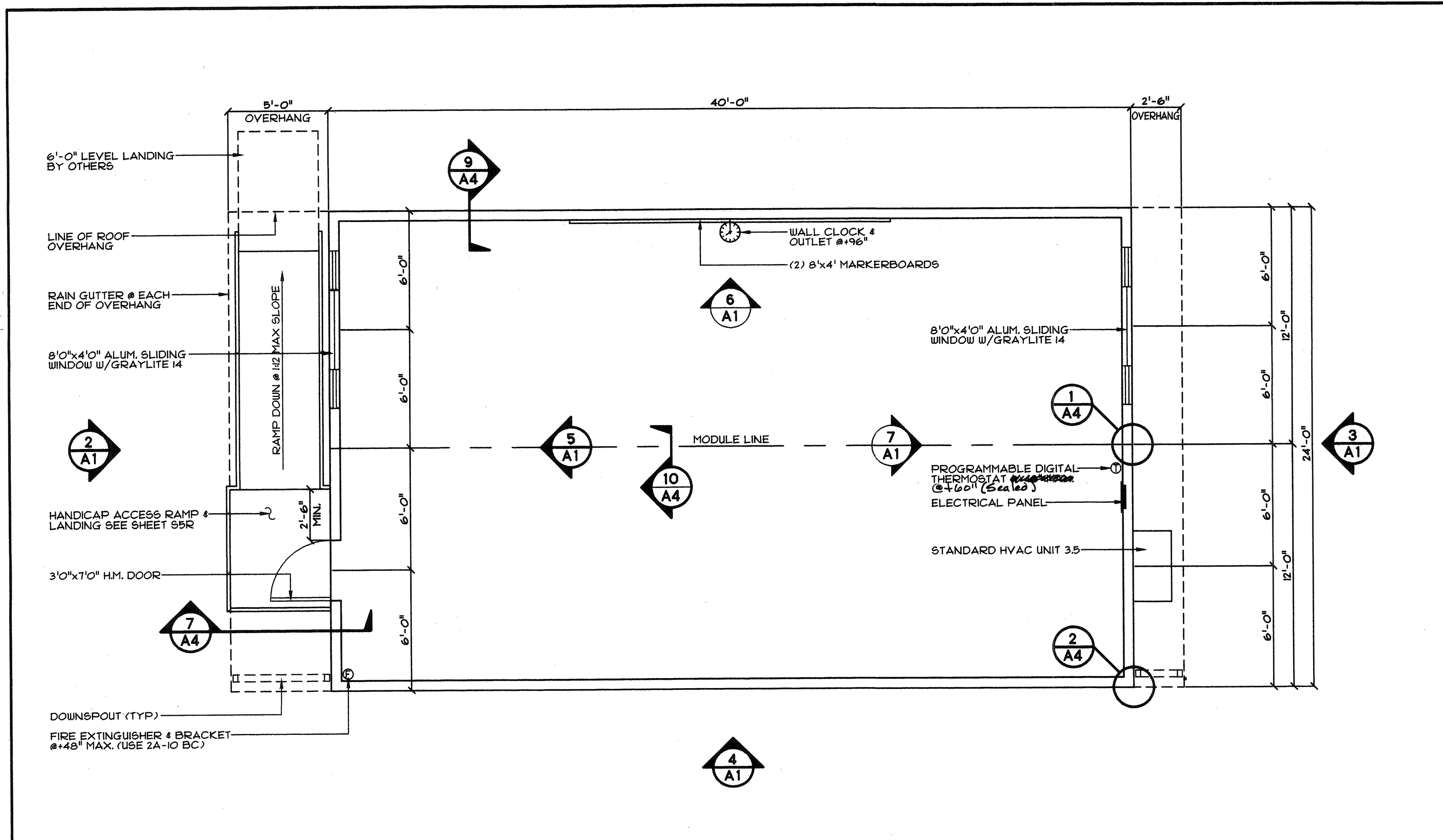
ROOF: DEAD LOAD - 8.0 PSF
ROOF: LIVE LOAD - 20.0 PSF (SNOW)

FLOOR: DEAD LOAD - 8.0 PSF
FLOOR: LIVE LOAD - 50.0 PSF

WALLS: DEAD LOAD - 8.0 PSF
WIND: 80 MPH; EXPOSURE: C
qs=16.4 PSF; Ce=1.06; Cq AS R
SEISMIC: ZONE 4, Rw=6, C=2.75

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O



- CARPETS- ALL MODULES SHALL BE CARPETED WITH DIRECT GLUE DOWN TYPE PER STATE OF CALIFORNIA SPECIFICATION T220-21K-01, GROUP 1, TYPE "A", CLASS 24. THE CARPET DENSITY SHALL BE 4600 MIN. PILE YARN SHALL BE BRANDED NYLON. NO CROSS SEAMS SHALL BE ALLOWED. COLOR TO BE SELECTED BY OWNER.
- RESILIENT BASE COVE- BEST QUALITY, MOULDED RUBBER, 1/8" THICK, 4" HIGH, MOULDED TOP SET COVE. PROVIDE PREFORMED BASE FOR SQUARE EXTERNAL CORNERS AND PREFORMED END STOPS WHERE BASE DOES NOT ABUT. SOLID COLORS AS MANUFACTURED BY "BURKE RUBBER CO." OR EQUAL.
- ADHESIVES SHALL BE WATER BASE, SOLVENT BASE NOT ACCEPTABLE. FURNISH AND APPLY PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- SEALANT- ROOF & MODULE LINE - POLYURETHANE SIDING & TRIM - ACRYLIC LATEX
- PAINT- (EXTERIOR WOOD) PRIMER-----ACRYLIC UNDERCOAT FINISH-----ACRYLIC ENAMEL (METALS)-----PRIMER-----RED OXIDE ALKYD FINISH-----ACRYLIC ENAMEL
- BUILDING TRIM- MASONITE FACED MDO TRIM. TRIM SHALL BE SEALED AT ALL EDGES. SEALANT PAINTED TO MATCH TRIM OR SIDING. DOOR/WINDOW TRIM- MASONITE FACED MDO TRIM SHALL BE SEALED AT ALL EDGES. SEALANT PAINTED TO MATCH TRIM OR SIDING.
- HOLLOW METAL DOORS AND FRAMES- 3'-0" x 7'-0" x 1-3/4" 18 GA. FULL FLUSH METAL DOOR IN 18 GA. METAL FRAME. EXIT DOOR SHALL BE OPENABLE FROM THE INTERIOR WITHOUT A KEY OR SPECIAL KNOWLEDGE OR EFFORT. CLOSERS FOR EXTERIOR DOORS SHALL BE SET FOR A MAXIMUM OPENING PRESSURE OF 8.5 LBS & 9 LBS FOR INTERIOR CLOSERS. DEADBOLTS NOT PERMITTED UNLESS OPERABLE WITH A SINGLE EFFORT USING LEVER HANDLE. DOOR SWINGS CAN BE RIGHT OR LEFT HAND HINGE. HARDWARE SHALL BE CENTERED BETWEEN 30" AND 44" ABOVE FINISHED FLOOR. LOCKSET (LEVER MODEL) SCHLAGE D10PDRHO (RHODES) OR EQUAL
- HINGES-----HAGER BB279 N.R.P. 4-1/2" x 4-1/2" OR EQUAL CLOSER-----NORTON 850IBF OR EQUAL THRESHOLD-----PEMCO 271A OR EQUAL DOOR BOTTOM-----PEMCO 216AV OR EQUAL WEATHERSTRIP-----PEMCO 306A OR EQUAL
- ROOFING METAL ROOF: PREFINISHED, UNPENETRATED INTERLOCKING, 26 GAGE MIN. GALVANIZED STEEL ROOF PANELS, MECHANICALLY CRIMPED STANDING SEAM OVER 30 LB. FELT OVER 15/32" APA RATED, EXTERIOR GRADE PLYWOOD, (CLASS "B" FIRE RATING)
- INSULATION 1. ALL INSULATION (INCLUDING PIPE INSULATION) SHALL COMPLY WITH CALIFORNIA QUALITY STANDARDS, CALIFORNIA BUILDING STANDARDS, 1012, 1013, & 2606 FOR FOAM. MAX FLAME SPREAD: 25. MAX SMOKE DENSITY: 450. Duct Insulation shall have a max smoke density of 250. 2. CEILING: 6" R-19 FIBERGLASS 3. WALL: 3-1/2" R-11 FIBERGLASS 4. FLOOR: 1-1/4" RIGID CELLULAR BOARD (TOTAL FLOOR INSULATION R-11).
- IDENTIFICATION NOTE: THE MANUFACTURER SHALL PLACE A PERMANENT METAL IDENTIFICATION TAG ON EACH MODULAR BUILDING IDENTIFYING MECHANICALLY FASTENED TO THE END WALL. THE TAG SHALL SHOW D.S.A. APPLICATION NUMBER, MANUFACTURER'S SERIAL NUMBER, PLANT INSPECTOR'S IDENTIFICATION MARK AND DESIGN FLOOR AND ROOF LIVE LOAD.

- ### 8 MATERIAL SPECIFICATIONS & NOTES
- SAW LUMBER GRADED PER WEST COAST LUMBER INSPECTION BUREAU, RULE 17.
 - ALL FRAMING LUMBER SHALL BE DOUGLAS FIR #2 OR BETTER (124c). 2x4 AND 2x6 BLOCKING SHALL BE DOUGLAS FIR #2 OR BETTER (123 c).
 - LAG SCREWS AND SCREWS SHALL BE SCREWED AND NOT DRIVEN INTO PLACE.
 - LUMBER MAY BE REJECTED FOR BOXED HEART, EXCESSIVE WARP, TWIST, SPLIT, CHECK, FUNGUS, MOLD, OR ANY REASON PROVIDED BY GRADING RULES.
- ### 9 LUMBER NOTES
- ALL MODULES MAY BE BUILT OPPOSITE HAND FROM THE WAY THEY ARE SHOWN
 - SIDEWALL & ENDWALL ELEVATIONS SHOWN ON SHEET AI ARE MODULAR NON-BEARING WALLS NOT REQUIRED FOR THE RESISTANCE OF VERTICAL OR LATERAL LOADS.

10 BUILDING AND WALL PANEL OPTIONS

DIVISION OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
02 117640
AC 1/27/95
DATE 4/1/95

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OFFICE OF REGULATION SERVICES
APPL 65586
AC 1/27/95
DATE 7-29-96

DESIGN CRITERIA

ROOF: DEAD LOAD - 8.0 PSF
ROOF: LIVE LOAD - 20.0 PSF (SNOW)

FLOOR: DEAD LOAD - 8.0 PSF
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JH Lawder, Inc.
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621 14TH STREET, STOCKTON, CA 95204
(209) 521-1143 FAX (209) 521-1186

ENVIROPLEX, INC.
4777 E. CARPENTER ROAD STOCKTON, CA. 95215
24' x 40' RELOCATABLE CLASSROOMS FOR
MOBILE MODULAR MANAGEMENT CORP.

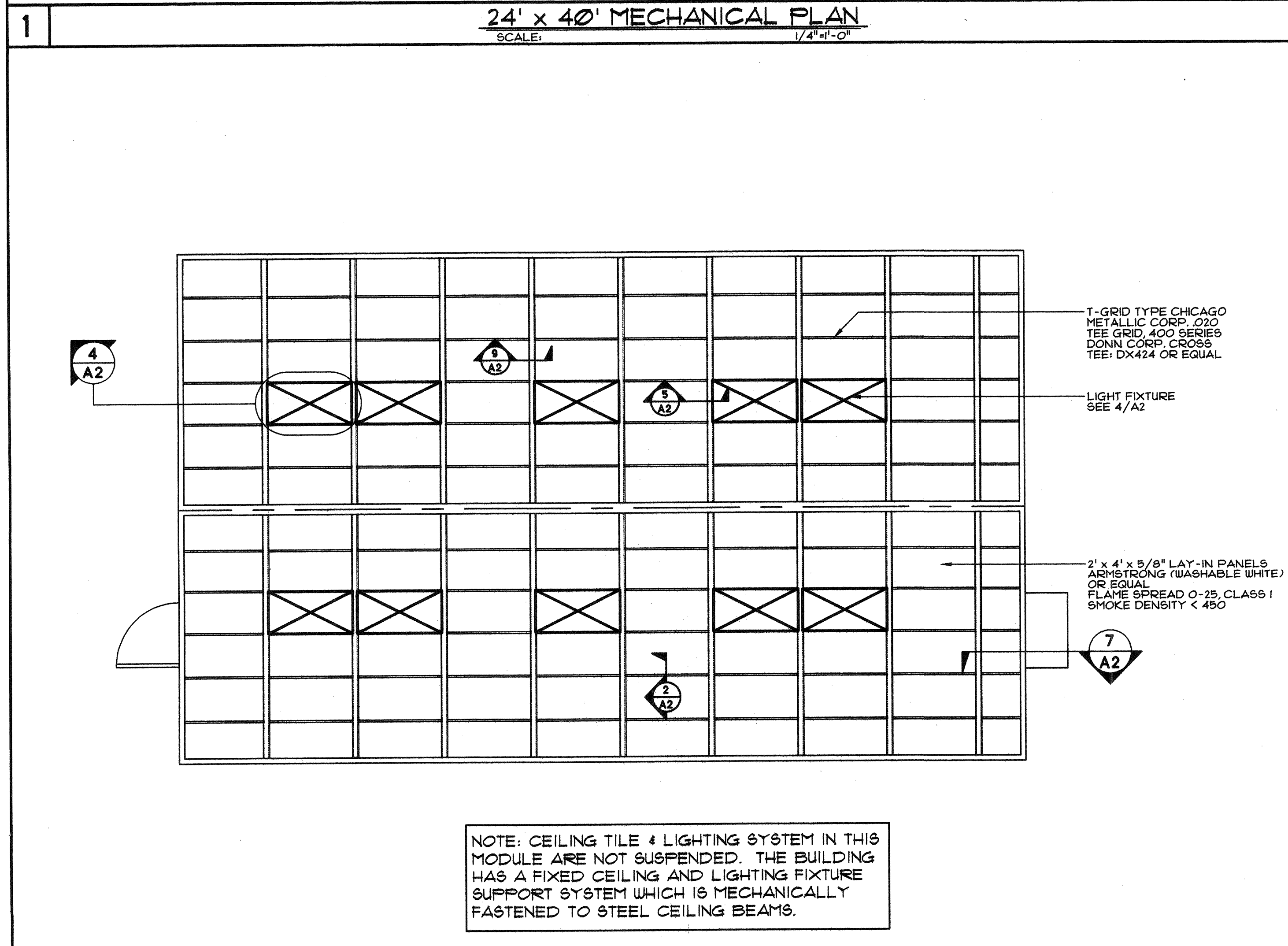
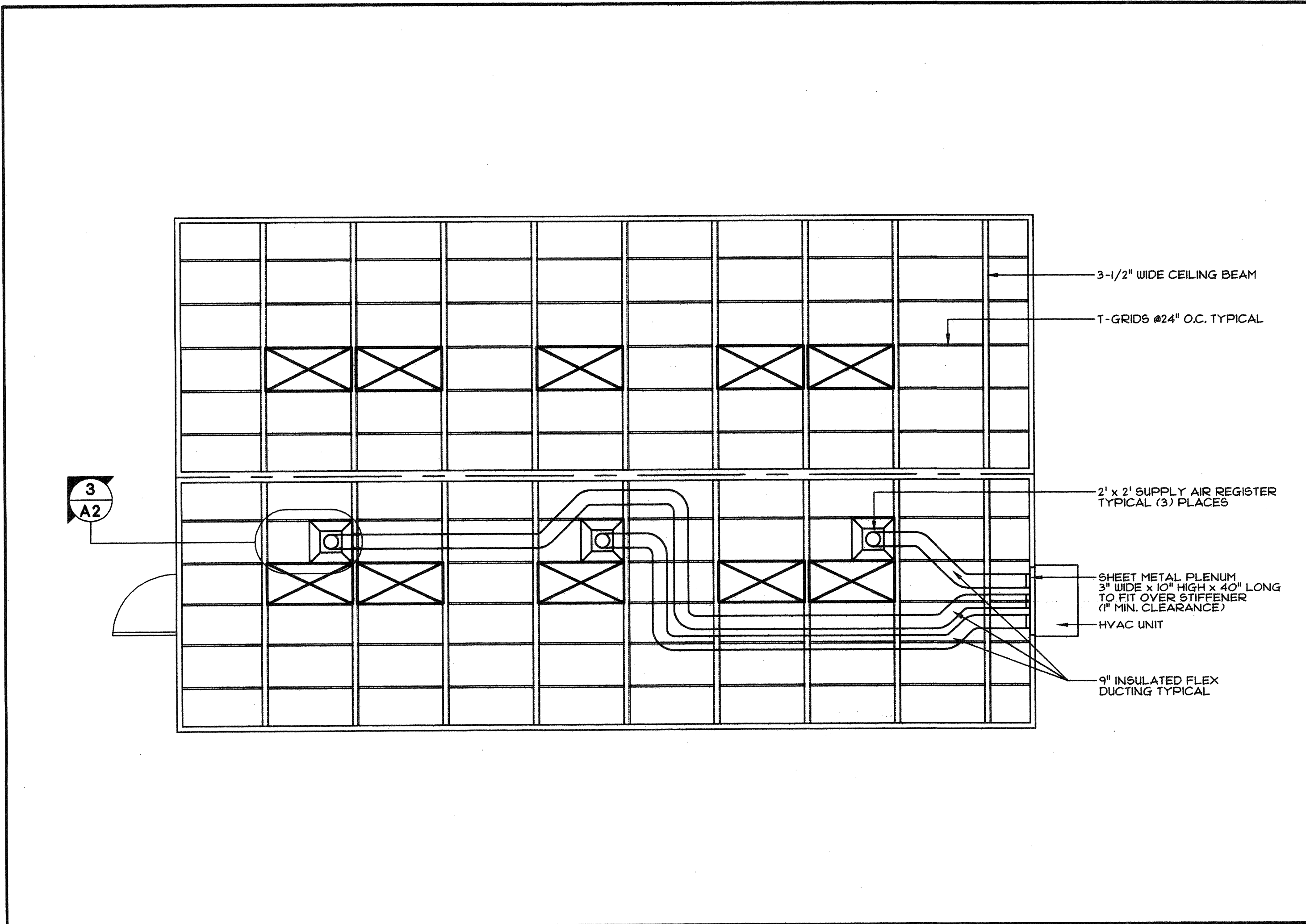
**FLOOR PLAN-INTERIOR&EXTERIOR
ELEVATIONS - MATERIAL
SPECIFICATIONS - NOTES**

REVISION DATE:	BY:

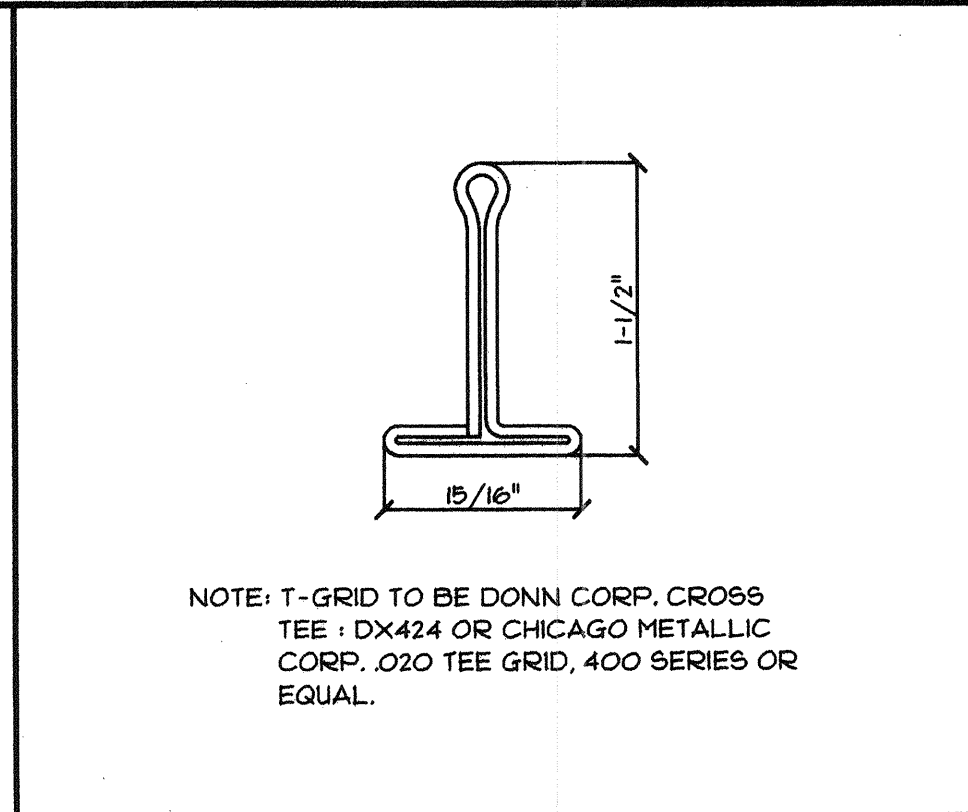
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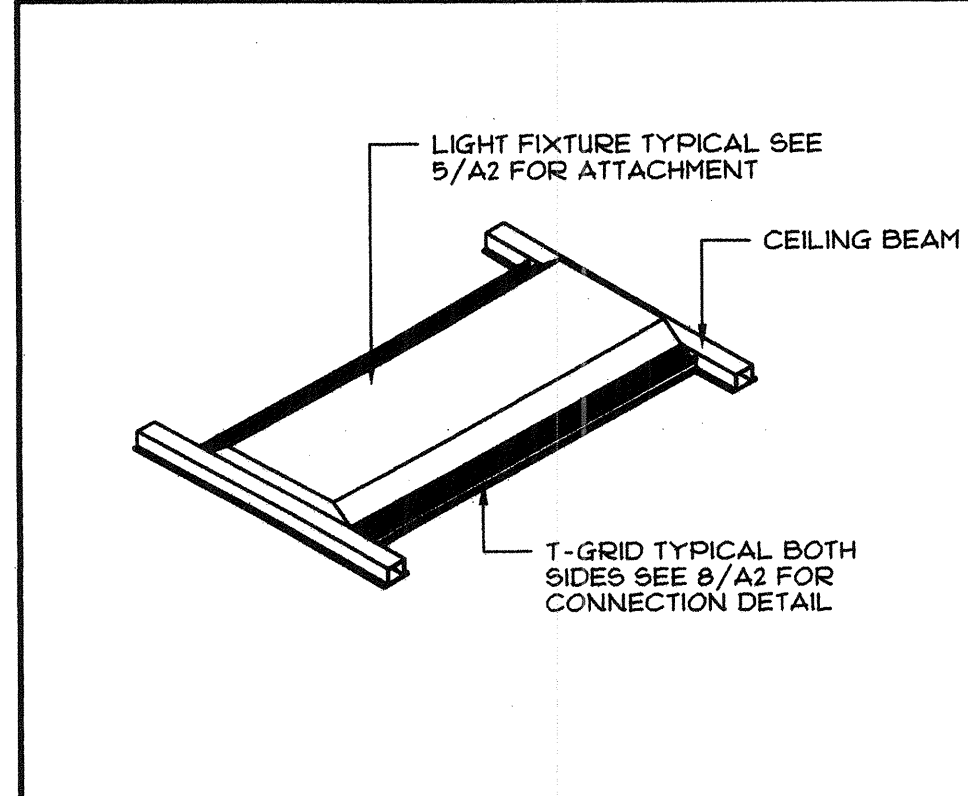
A1



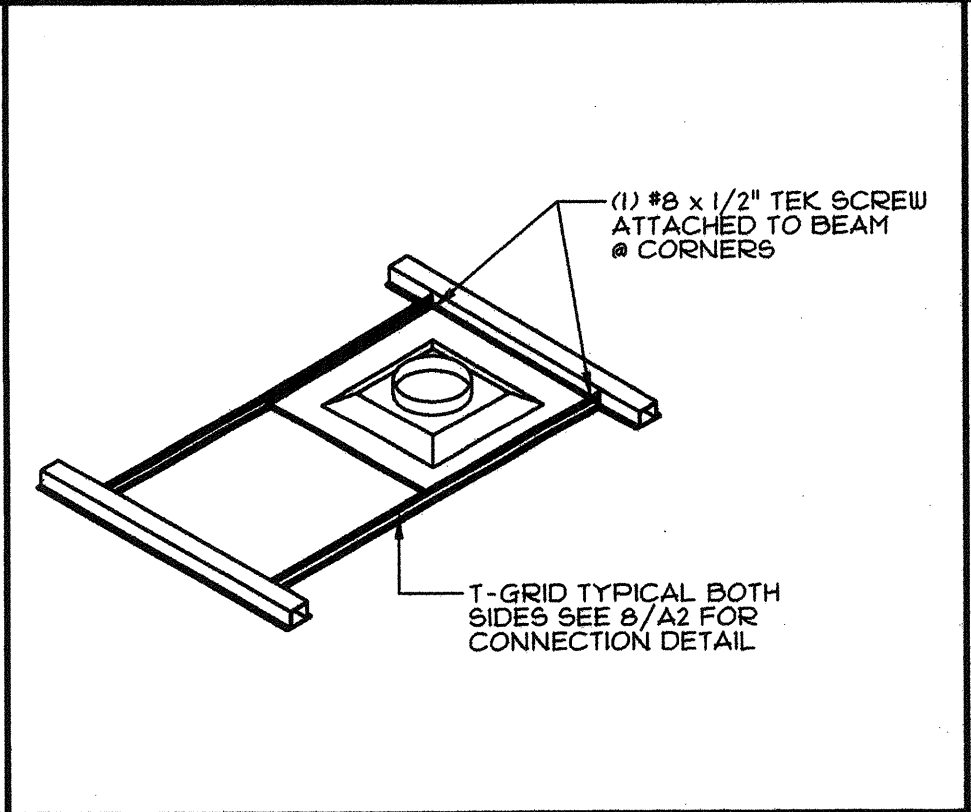
6 24' x 40' REFLECTED CEILING PLAN SCALE: 1/4"=1'-0"



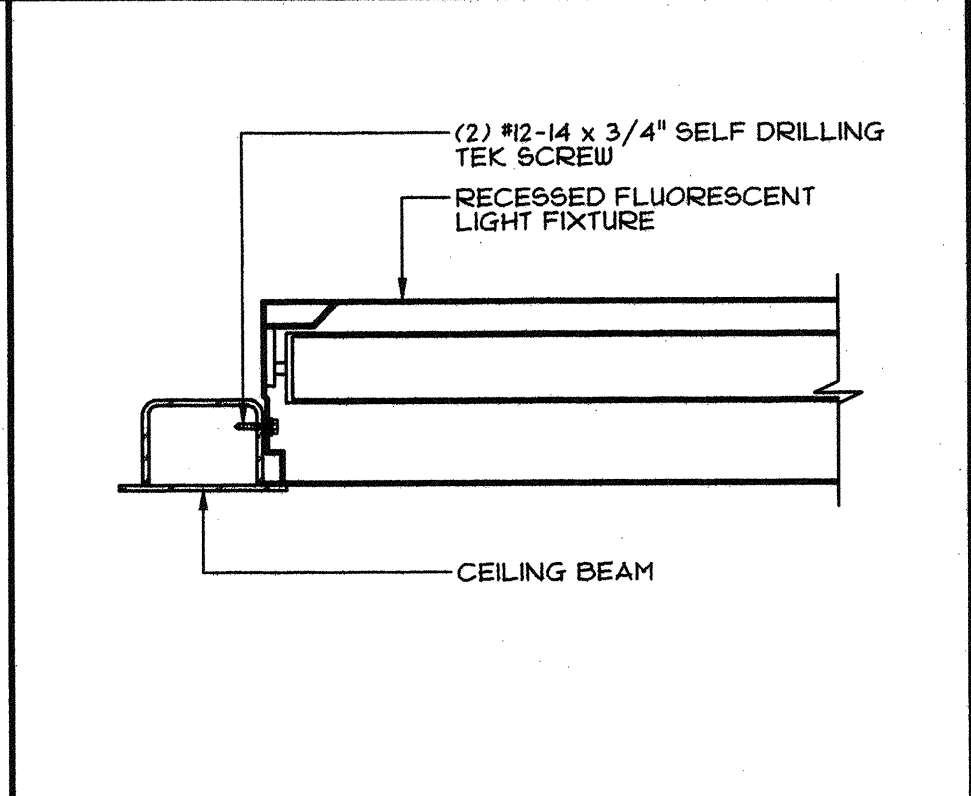
2 TYPICAL T-GRID SCALE: FULL



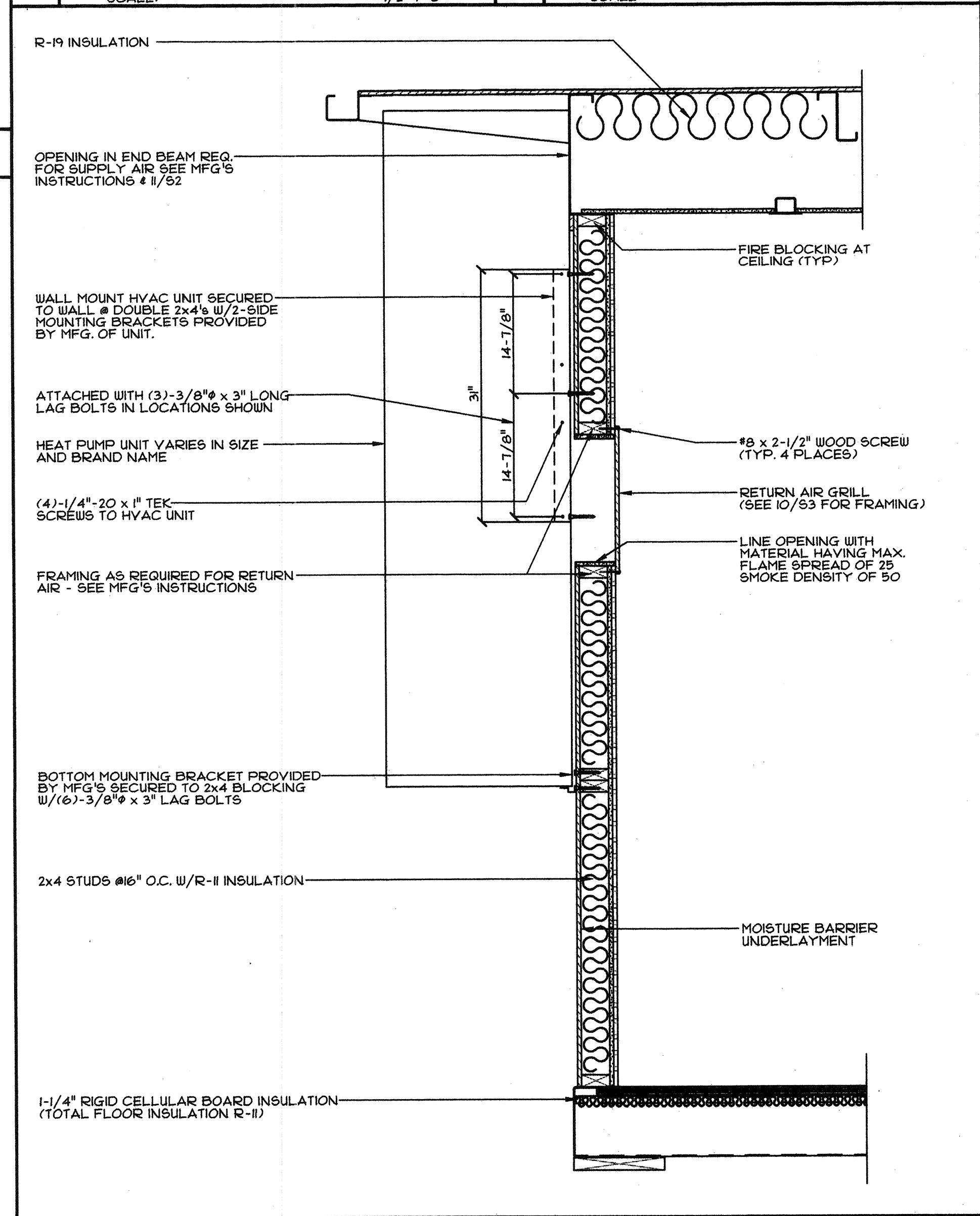
4 DROP-IN LIGHT FIXTURE SCALE: 1/2"=1'-0"



3 SUPPLY AIR REGISTER SCALE: 1/2"=1'-0"



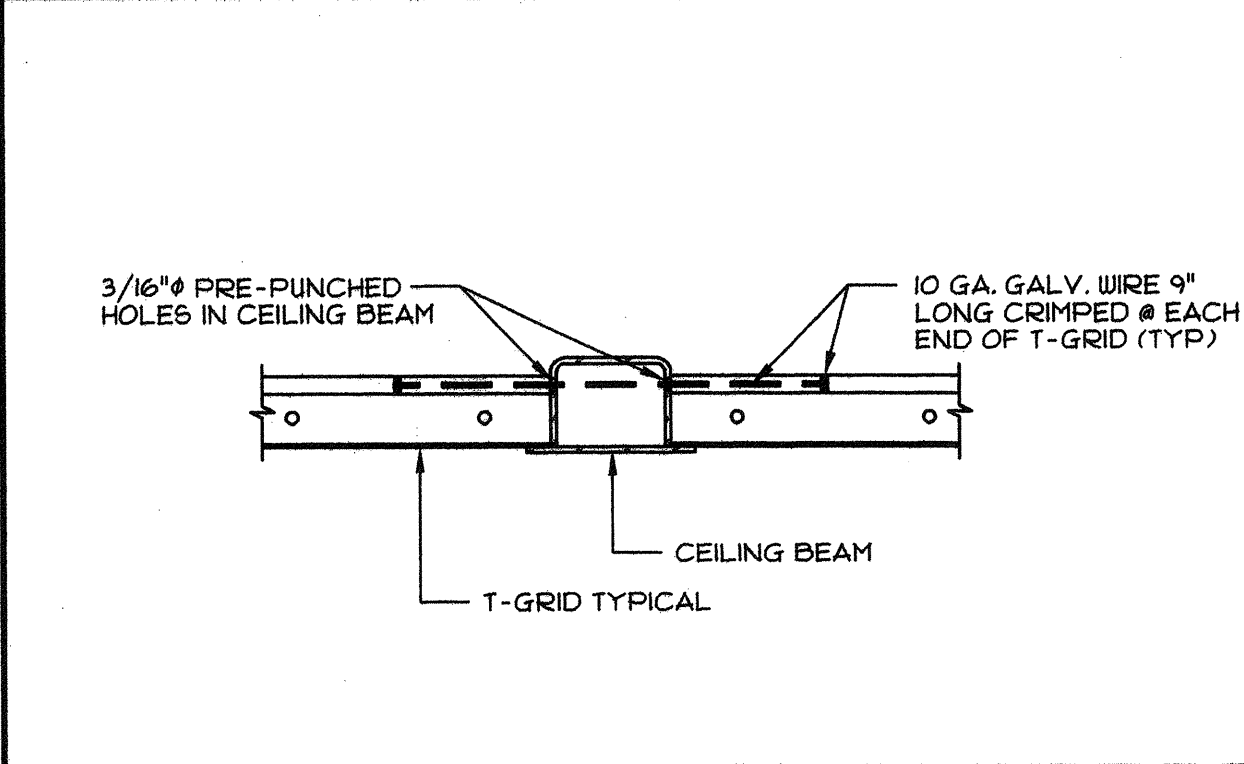
5 LIGHT FIXTURE SUPPORT SCALE: 3/4"=1'-0"



7 HVAC @ WALL SECTION SCALE: 1"=1'-0"

1. HEAT PUMP
SINGLE PACKAGE WALL MOUNTED AIR TO AIR ELECTRIC HEAT PUMP UNIT SHALL BE RATED IN ACCORDANCE WITH ARI STANDARDS 240-TT, (UL LISTED) REFERENCE BRANDS: SUN HY42H-1-08-C (OR EQUAL)
BARD WH421-AXXXXB (OR EQUAL)
INTERTECH PUYB-24K810 (OR EQUAL)
WIRING AND MNTG. INSTALLATION OF UNIT PER MANUFACTURER'S INSTRUCTIONS.
A) TWO SPEED INDOOR BLOWER MOTOR TO REDUCE INDOOR NOISE LEVEL.
B) RECIRCUIT 8 KW HEAT STRIP (HEATER CAN BE SERVICED ELECTRICALLY BY 60 AMP BREAKER, COMPRESOR BY 50 AMP BREAKER) MAXIMUM TOTAL AMPS: 68 @ MIN. 240 VOLTS. MINIMUM CIRCUIT AMPACITY: HEATER 50 AMPS, COMPRESSOR 33.3 AMPS.
C) LOW TEMPERATURE OUTDOOR THERMOSTAT TO ASSIST CIRCUITING DURING THE HEATING MODE.
D) COOLING: 39,406 BTU HR (95°F) HEATING 43,000 BTU HR (47°F)
E) WEIGHT: 910# MAX
AIR FILTERS:
AN APPROVED TYPE TESTED IN ACCORDANCE WITH TEST METHOD 9FM-12-71-AS SHOWN IN PART 12, TITLE 24, CALIFORNIA CODE OF REGULATIONS. PREFORMED FILTERS HAVING COMBUSTABLE FRAMING SHALL BE TESTED AS A COMPLETE ASSEMBLY. AIR FILTERS IN ALL OCCUPANCIES SHALL BE CLASS 2 OR BETTER. AS DEFINED IN THE TEST METHOD ABOVE. AIR FILTERS SHALL BE ACCESSIBLE FOR CLEANING OR REPLACEMENT.
2. CONTROLS:
THERMOSTAT: WHITE-ROGERS IF92 DIGITAL (TAMPER PROOF). MAX +60" FROM FLOOR (+48" MAX IF NON-SEALED TYPE).
3. DUCTS: MAY BE CLASS 1" OR 10"
FACTORY MADE AIR DUCTS SHALL BE APPROVED FOR THE USE INTENDED OR SHALL CONFORM TO THE REQUIREMENTS OF UMC. STANDARDS NO. 6-1. EACH PORTION OF A FACTORY MADE AIR DUCT SYSTEM SHALL BE IDENTIFIED BY THE MANUFACTURER WITH A LABEL OR OTHER SUITABLE IDENTIFICATION INDICATING COMPLIANCE W/UMC STANDARD NO. 6-1 AND ITS CLASS DESIGNATION. THESE DUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE TERMS OF THEIR LISTING. INSULATION APPLIED TO THE EXTERIOR SURFACE OF DUCTS LOCATED IN BUILDING SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE 50 WHEN TESTED AS A COMPOSITE INSTALLATION INCLUDING INSULATION, FACING MATERIALS, TAPES AND ADHESIVE AS NORMALLY APPLIED. MATERIAL EXPOSED WITHIN DUCTS OR PLENUMS SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50

8 H.V.A.C. SPECIFICATIONS



9 T-GRID CONNECTION DETAIL SCALE: 3/4"=1'-0"

10 DIVISION OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02 117640
AC 10/15/13 SS 3/1
DATE 4/11/13

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OFFICE OF REGULATION SERVICES
APPL 05586
AC 10/15/13 SS 3/1
DATE 7/29/16

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11 APPROVALS

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ENVIROPLEX, INC.
4777 E. CARPENTER ROAD STOCKTON, CA 95215
24' x 40' RELOCATABLE CLASSROOMS FOR MOBILE MODULAR MANAGEMENT CORP.

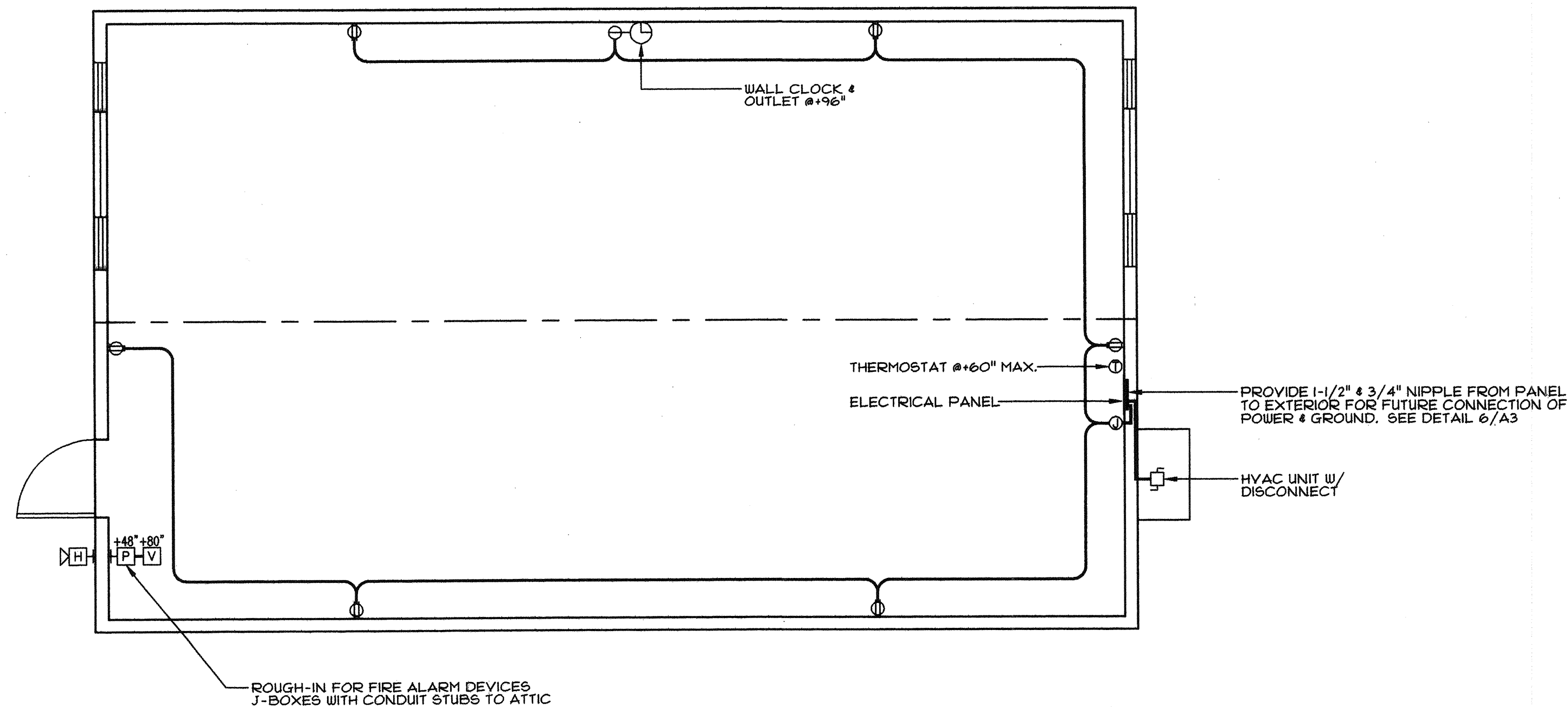
MECHANICAL & REFLECTED CEILING PLANS - HVAC @ WALL SECTION
DETAILS - HVAC SPECIFICATIONS

REVISION DATE: BY:

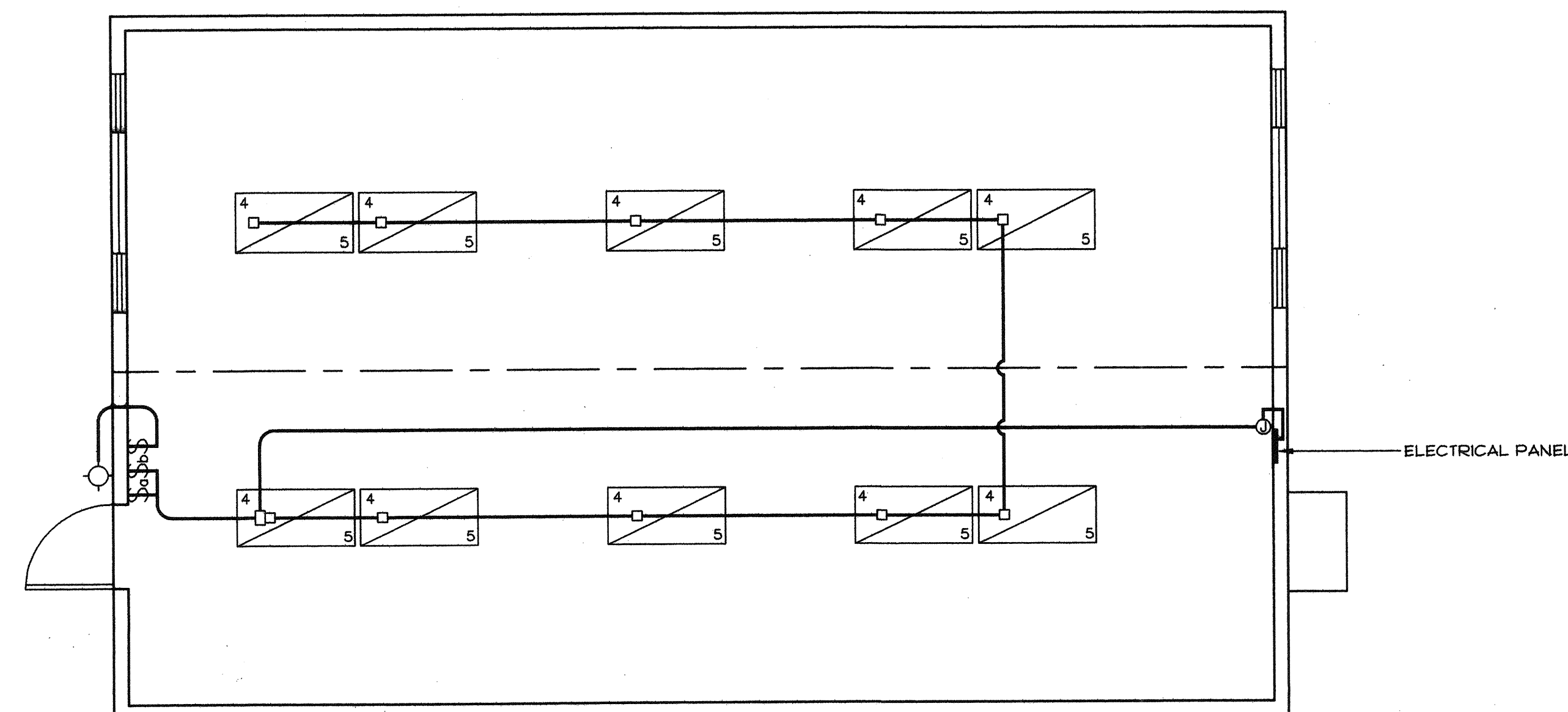
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A2



24' x 40' ELECTRICAL POWER & SIGNAL PLAN
SCALE: 1/4"=1'-0"



24' x 40' ELECTRICAL LIGHTING PLAN
SCALE: 1/4"=1'-0"

1. FIRE ALARM: FURNISHED BY OWNER AND SHALL CONFORM TO THE CALIFORNIA BUILDING CODE SECTION 309.9 AND CALIFORNIA ELECTRICAL CODE ARTICLE 760.
2. INSTALLATION OF THE FIRE ALARM SYSTEM SHALL NOT BE STARTED UNTIL DETAILED PLANS AND SPECIFICATIONS, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAVE BEEN APPROVED BY O.R.S.
3. UPON COMPLETION OF THE INSTALLATION OF THE FIRE ALARM SYSTEM A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE PROJECT INSPECTOR.

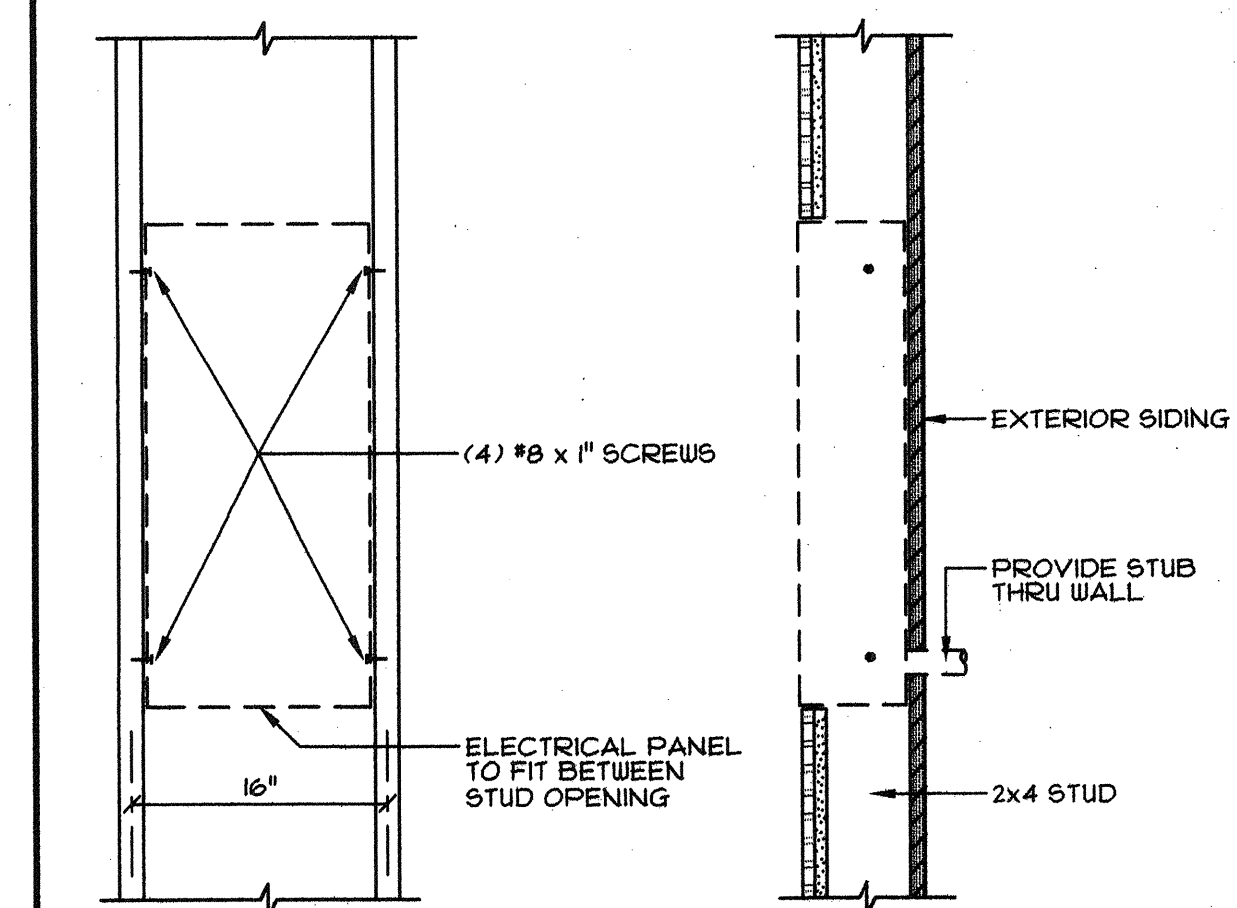
2 FIRE PROTECTION

- ⊕ DUPLEX RECEPTACLE #15" MIN. FROM FLOOR
- ⊙ PROGRAMMABLE DIGITAL THERMOSTAT FOR HVAC UNIT #60" MAX. FROM FLOOR SEALED (NON USER OPERABLE)
- ⊕ WALL CLOCK W/ SINGLE CLOCK RECEPTACLE
- ⊙ JUNCTION BOX ABOVE IN CEILING OR WALLS
- ⊕ WATER PROOF BELL BOX UNDER EAVE #9'-4" FOR FUTURE FIRE ALARM AUDIBLE WARNING DEVICE - SEE NOTE NO.1 OF FIRE PROTECTION
- ⊕ OUTLET BOX #148" TO CENTER FOR FUTURE FIRE ALARM PULL STATION - SEE NOTE NO.1 OF FIRE PROTECTION ABOVE
- ⊕ OUTLET BOX #148" TO CENTER FOR FUTURE FIRE ALARM VISUAL WARNING DEVICE - SEE NOTE NO.1 OF FIRE PROTECTION ABOVE
- ⊕ OUTLET BOX #148" TO CENTER FOR FUTURE INTERCOM SYSTEM
- ⊕ EXTERIOR INCANDESCENT LIGHT FIXTURE
- S LIGHT SWITCH #148" MAX. TO CENTER FROM FLOOR

4 ELECTRICAL SYMBOLS

- NOTES:
1. METER AND GROUND ARE NOT PART OF THIS CONTRACT TO BE PROVIDED BY OTHERS
 2. SIZE OF CONDUCTORS SHALL COMPLY W/ CEC TABLE 250-95
 3. BOND SEPARATE CONDUCTORS FROM GROUND ROD TO ELECTRICAL PANEL AND TO METAL OF BUILDING FRAME (CEC 250-81) IN ADDITION TO THE DETAIL SHOWN BOND THE ELECTRICAL GROUND TO METAL WATER PIPE EMBEDDED AT LEAST 10' INTO THE SOIL IF AVAILABLE (CEC 250-81 & 250-83)
 4. ALL MODULES OF METAL FRAME BUILDING SHALL BE ELECTRICALLY BONDED TOGETHER, BOLTING ONLY IS NOT ACCEPTABLE BONDING.
 5. CHECK RESISTANCE TO GROUND. IF RESISTANCE EXCEEDS 25 OHMS, INSTALL ADDITIONAL GROUND RODS W/ CONDUCTORS AS SHOWN, SEPARATE AT LEAST 6' UNTIL RESISTANCE IS REDUCED TO 25 OHMS OR LESS. (CEC 250-84)
 6. ELECTRICAL GROUNDING TEST SHALL BE WITNESSED BY THE PROJECT INSPECTOR & RESULTS SENT TO D.S.A.
 7. GROUND ROD GROUNDING CLAMP TO BE BUSHING RATED FOR 3 CONNECTIONS
- 1/2" x 3/8" LONG, COPPER CLAD GROUND ROD OR OTHER ELECTRODE AS SPECIFIED IN CALIFORNIA ELECTRICAL CODE (CEC 250-83)
- NOTE: GROUND TO BE PROVIDED BY OTHERS

6 ELECTRICAL GROUND



ELECTRICAL PANEL MTG. DETAIL
SCALE: 1/2"=1'-0"

1. WALL CLOCK: 12" x 19" FROM FLOOR WITH EAGLE CLOCK RECEPTACLE 15 VAC, R4H INC. OR EQUAL.
2. PANEL BOARD: FLUSH MOUNTED W/ HINGED DOORS AND INDEXED CARD HOLDERS. CIRCUIT BREAKER(S) WILL HAVE AN APPROPRIATE UL LABEL LISTED.
3. RECEPTACLES: LEVITON, HUBBEL OR EQUAL #15" MIN.
4. LIGHT SWITCHES: LEVITON, HUBBEL OR EQUAL #148" MAX.
5. LIGHTING FIXTURE: 2' x 4' FLUORESCENT DROP-IN TYPE FIXTURES WITH 35 WATT LAMPS AND ENERGY SAVING BALLAST, CRECENT, LITHONIA OR EQUAL.
6. ELECTRIC METALLIC TUBING: COUPLINGS AND FLEX CONDUIT GALVANIZED OR SHERARDIZED.
7. CONDUCTORS: COPPER, INSULATED FOR 600 VOLTS, TYPE THHN FOR SIZES #12 TO #6 TYPE THW FOR LARGER SIZES, MINIMUM SIZE #12. LIGHTING & OUTLETS USE MINIMUM SIZE #12, SIZE HVAC WIRING PER LOAD.
8. SEE SHEET A2 FOR HVAC & THERMOSTAT SPECIFICATION.

3 ELECTRICAL SPECIFICATIONS

1. ~~RELOCATABLE CLASSROOMS FOR MOBILE MODULAR MANAGEMENT CORP.~~

2. ~~RELOCATABLE CLASSROOMS FOR MOBILE MODULAR MANAGEMENT CORP.~~

3. ~~RELOCATABLE CLASSROOMS FOR MOBILE MODULAR MANAGEMENT CORP.~~

4. ~~RELOCATABLE CLASSROOMS FOR MOBILE MODULAR MANAGEMENT CORP.~~

5. ~~RELOCATABLE CLASSROOMS FOR MOBILE MODULAR MANAGEMENT CORP.~~

6. ~~RELOCATABLE CLASSROOMS FOR MOBILE MODULAR MANAGEMENT CORP.~~

7. ~~RELOCATABLE CLASSROOMS FOR MOBILE MODULAR MANAGEMENT CORP.~~

8. ~~RELOCATABLE CLASSROOMS FOR MOBILE MODULAR MANAGEMENT CORP.~~

PANEL SCHEDULE: "A" NEMA-1 VOLTS: 120/240
MOUNTING: FLUSH AMP: 100 WIRE: 3W
INTERIOR PHASE: 1Φ

DESCRIPTION		LOAD	BRKR			BRKR	LOAD	DESCRIPTION
HVAC UNIT		10580	50	1		2	20	750 LIGHTING-A
				2	3	4	20	750 LIGHTING-B
					5	6	20	1800 OUTLETS
					7	8	20	1800 OUTLETS
					9	10		
					11	12		
					13	14		
					15	16		
					17	18		
					19	20		
					21	22		
					23	24		
		10.6	KVA	TOTAL		5.1		

7 PANEL SCHEDULE "A"

DIVISION OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02 117640
AC 102 FLS 1/2 SS 4/1
DATE 4/10/15

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL 63586
AC 102 FLS 1/2 SS 4/1
DATE 7-29-96

DESIGN CRITERIA

ROOF: DEAD LOAD - 8.0 PSF
ROOF: LIVE LOAD - 20.0 PSF (SNOW)

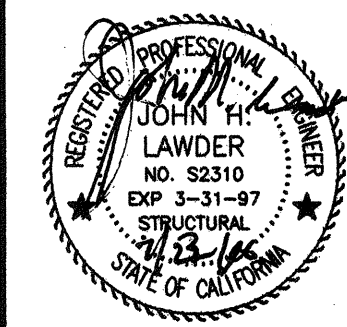
FLOOR: DEAD LOAD - 8.0 PSF
FLOOR: LIVE LOAD - 50.0 PSF

WALLS: DEAD LOAD - 8.0 PSF
WIND: 80 MPH; EXPOSURE: C
qs=16.4 PSF; Ce=1.06; Cq AS REQ.
SEISMIC: ZONE 4, R=6, C=2.75

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10 APPROVALS

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621 14th STREET
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(909) 521-1143 FAX (909) 521-1146



ENVIROPLEX, INC.
4777 E. CARPENTER ROAD STOCKTON, CA. 95215
24' x 40' RELOCATABLE CLASSROOMS FOR MOBILE MODULAR MANAGEMENT CORP.

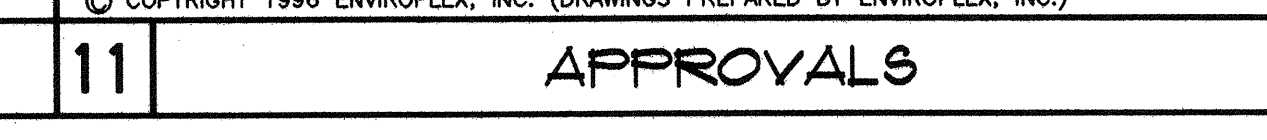
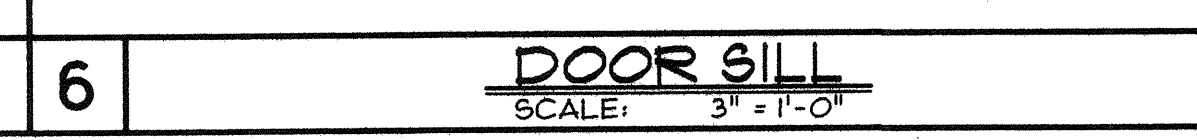
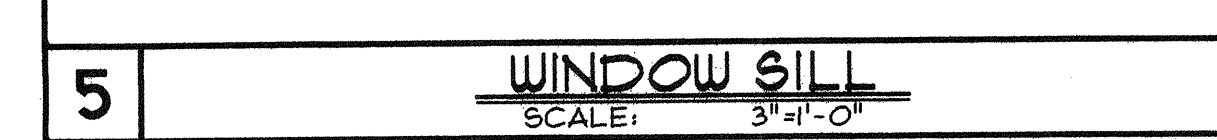
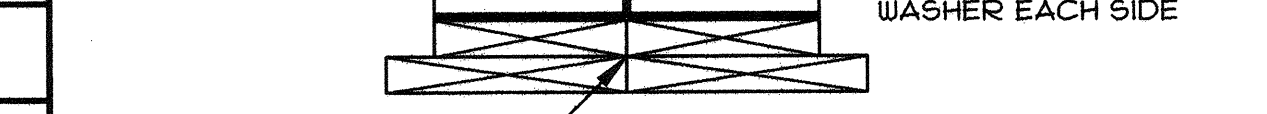
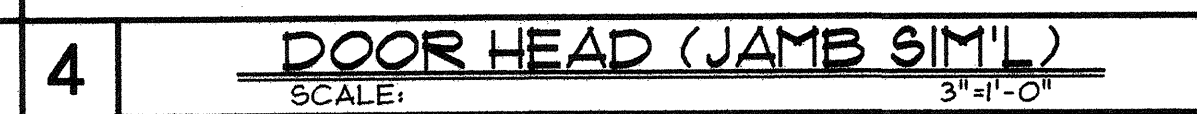
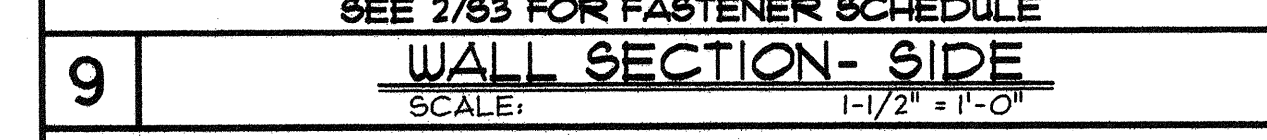
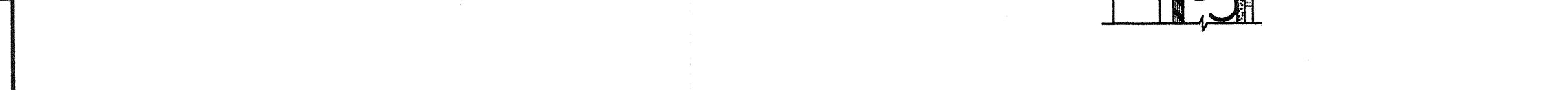
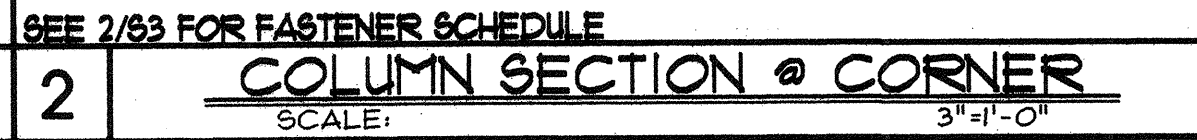
ELECTRICAL POWER & SIGNAL PLAN
ELECTRICAL LIGHTING PLAN
DETAILS-ELECTRICAL NOTES

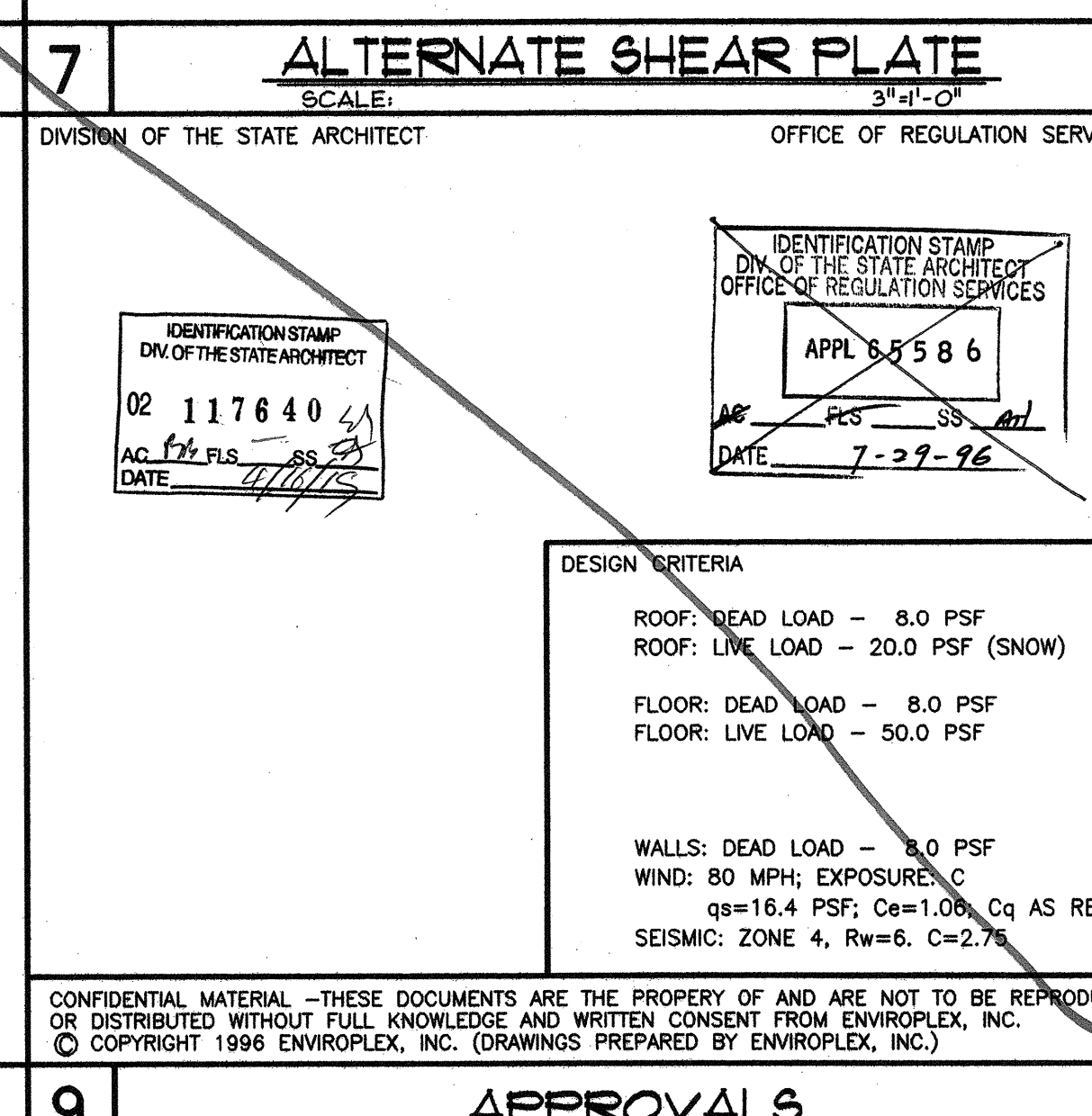
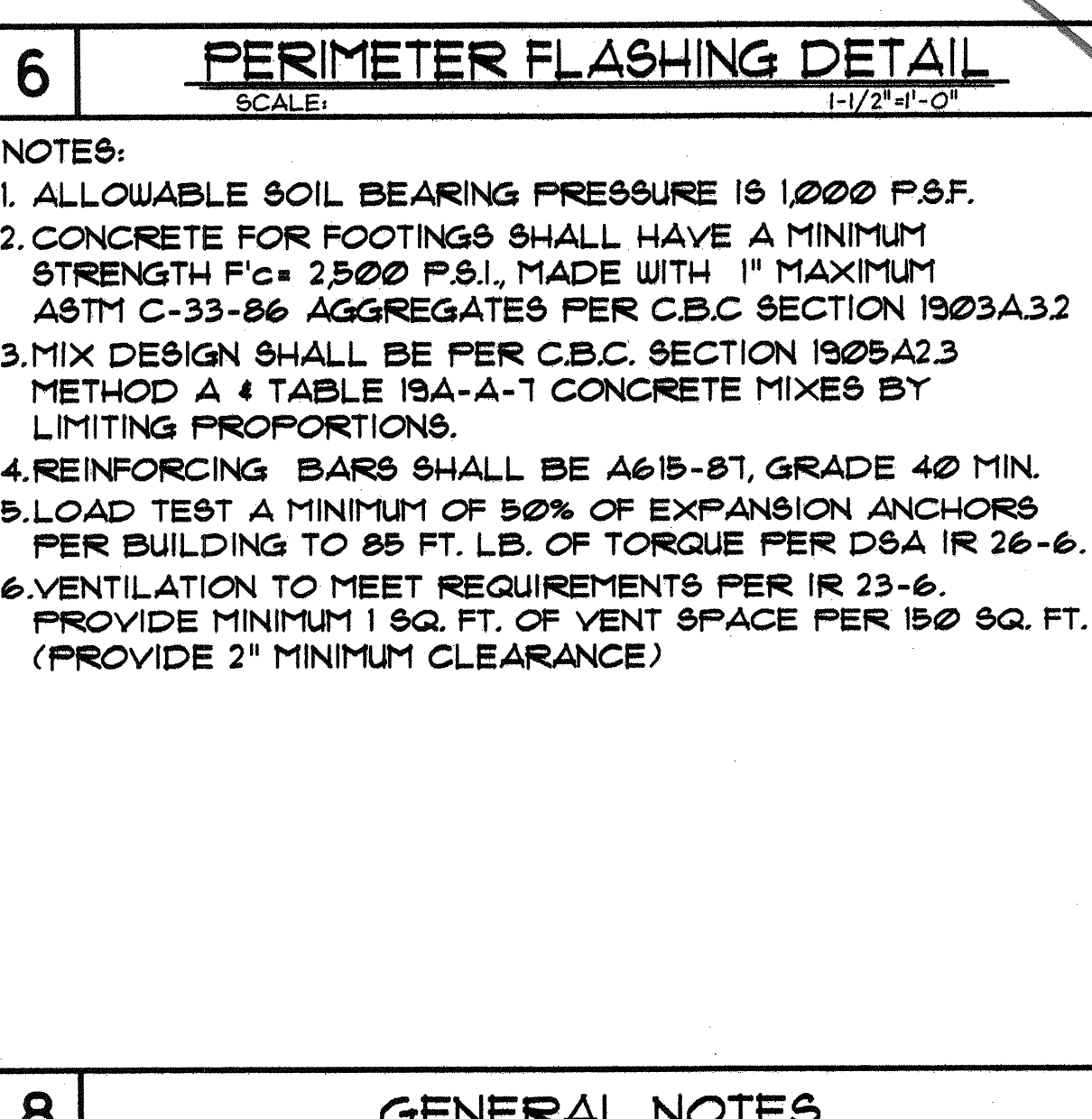
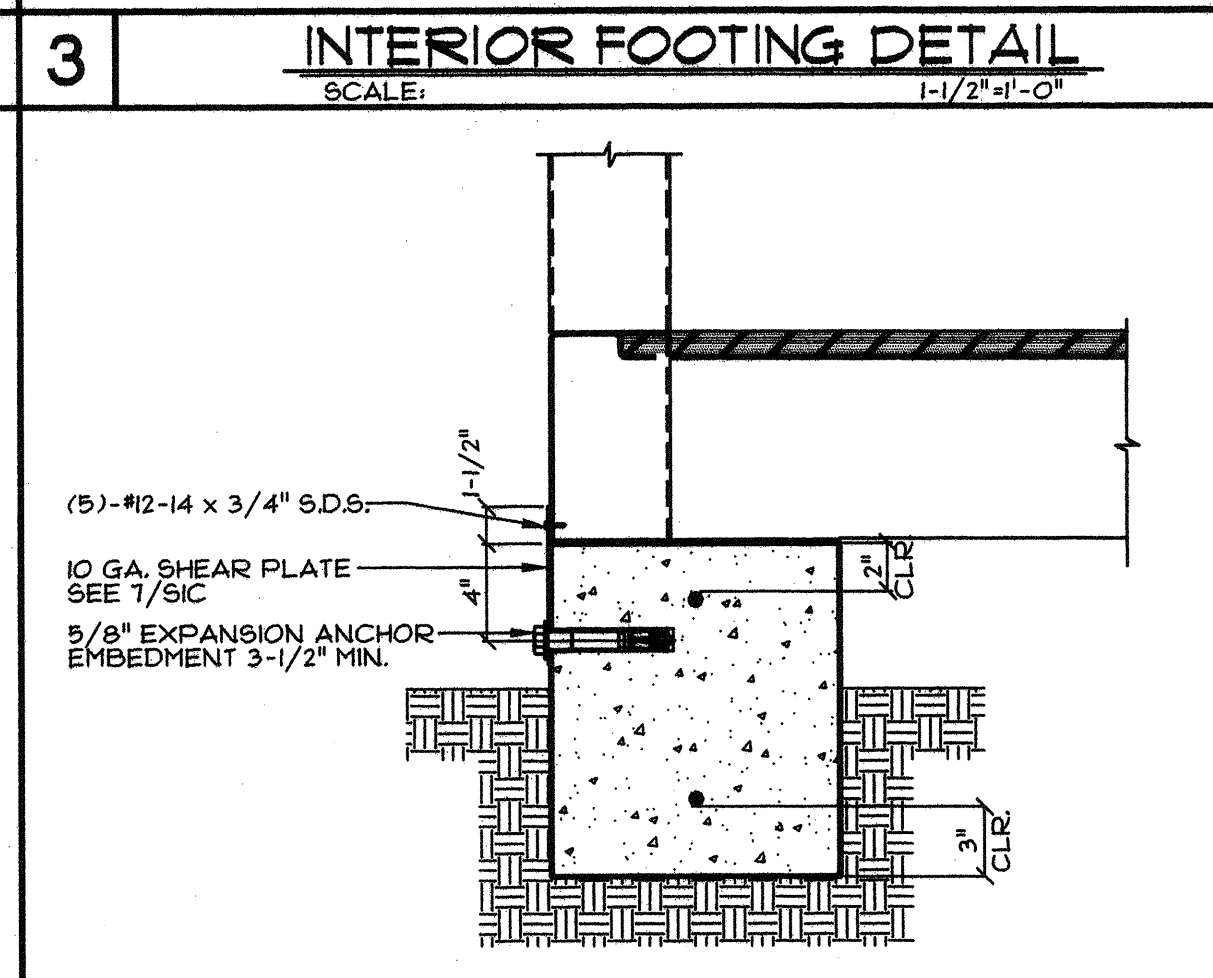
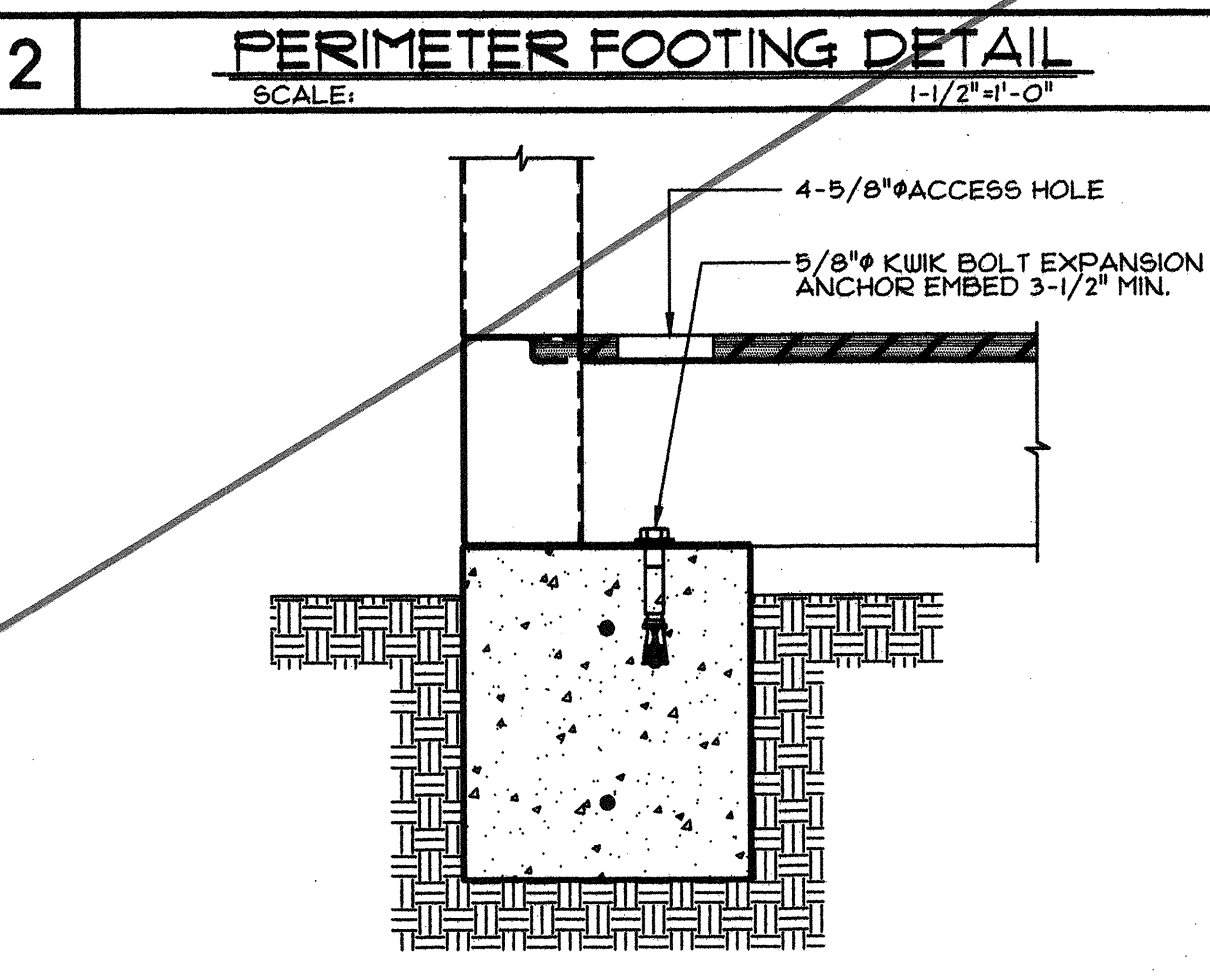
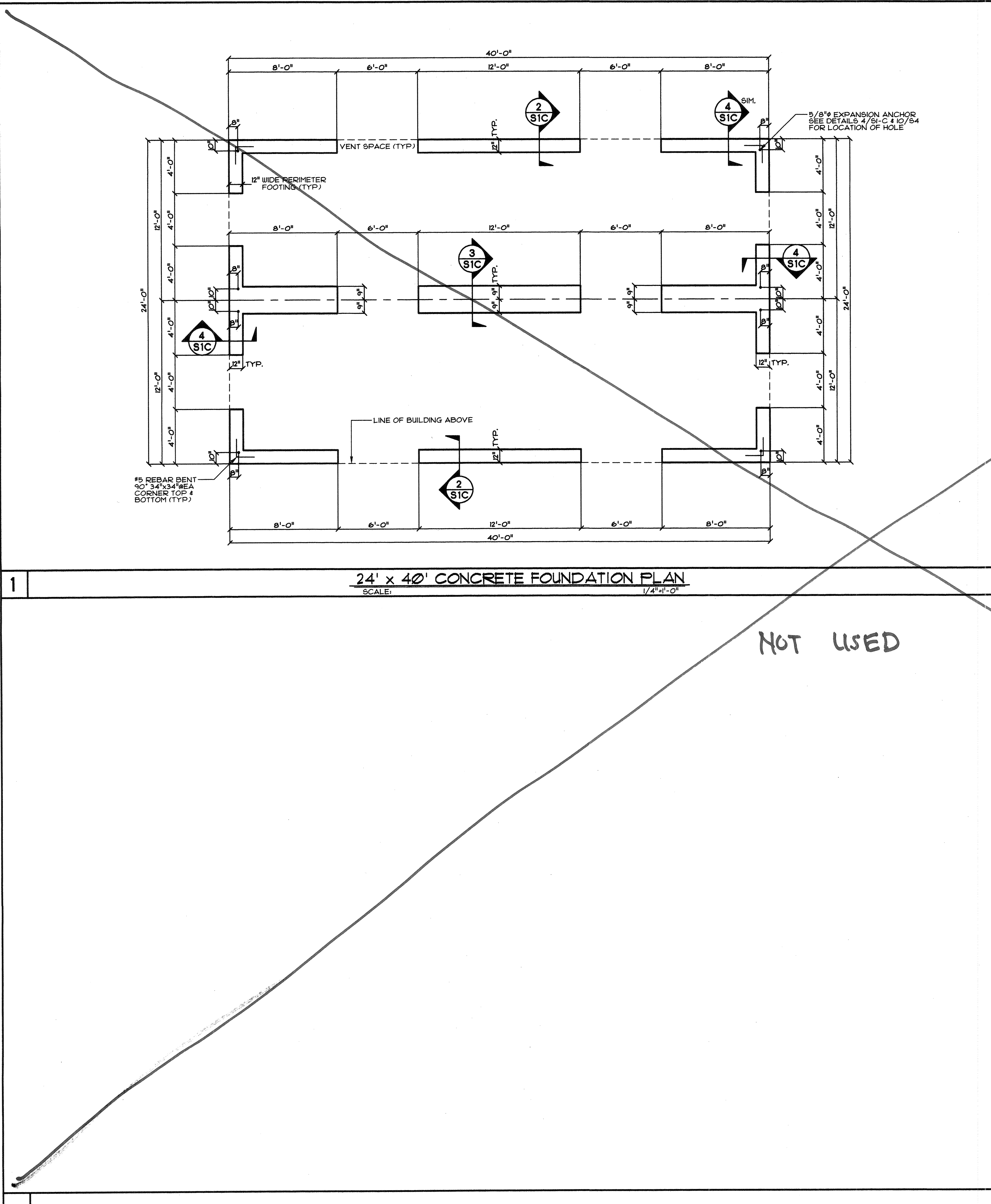
REVISION DATE: BY:

DATE:

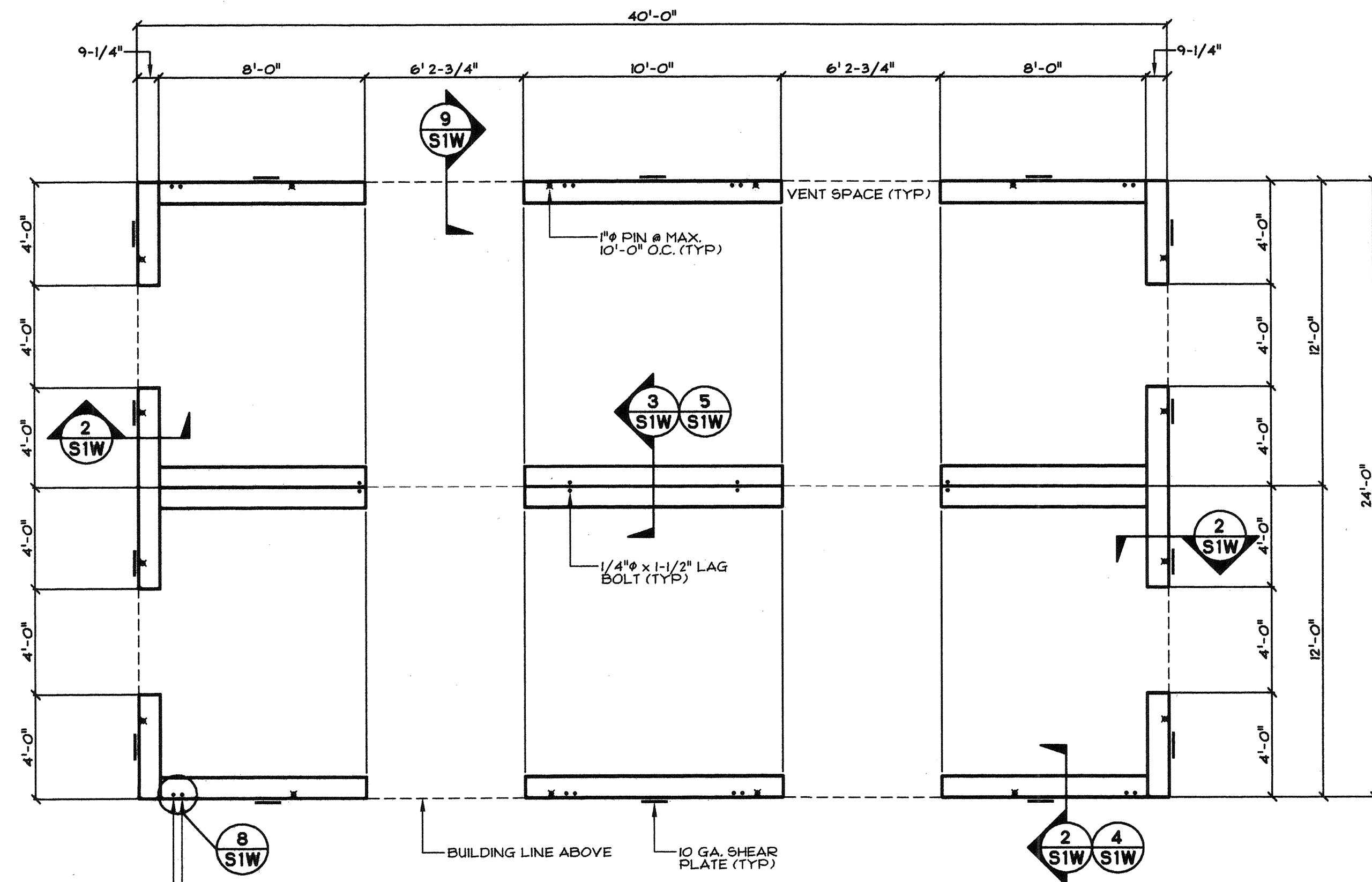
THIS MODULAR BLDG. HAS BEEN ENGINEERED BY A REGISTERED STRUCTURAL ENGINEER AND PREVIOUSLY REVIEWED & APPROVED BY THE DIVISION OF THE STATE ARCHITECT, FIRE & LIFE SAFETY AND ACCESS COMPLIANCE SECTION

A3



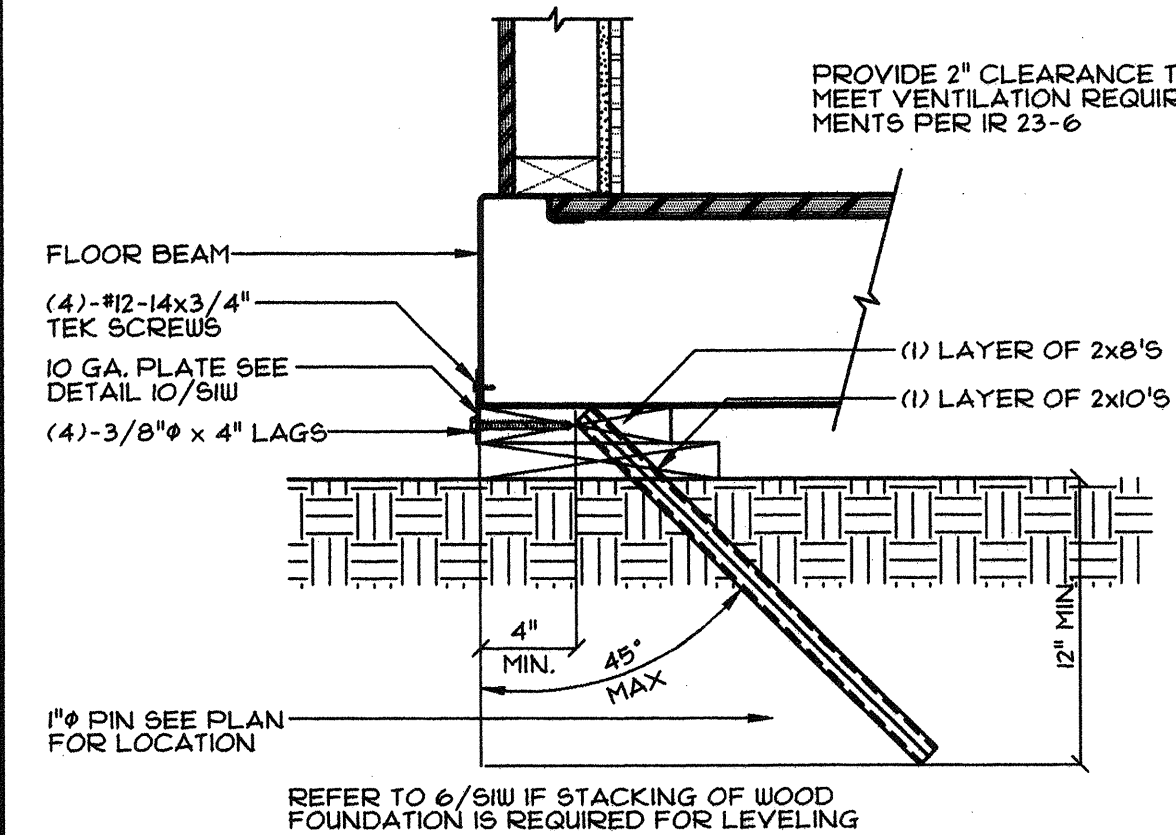


<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 40%;"> <p style="font-size: 24px; font-weight: bold; margin: 0;">ENVIROPLEX, INC.</p> <p style="font-size: 16px; margin: 0;">4777 E. CARPENTER ROAD STOCKTON, CA. 95215</p> </div> <div style="width: 50%; text-align: center;"> <p style="font-size: 24px; font-weight: bold; margin: 0;">24' x 40' RELOCATABLE CLASSROOMS FOR</p> <p style="font-size: 24px; font-weight: bold; margin: 0;">MOBILE MODULAR MANAGEMENT CORP.</p> </div> </div>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <p style="font-size: 18px; font-weight: bold; margin: 0;">CONCRETE FOUNDATION PLAN</p> <p style="font-size: 18px; font-weight: bold; margin: 0;">FOOTING DETAILS & NOTES</p> </div> <div style="width: 50%; text-align: right;"> <p style="font-size: 18px; font-weight: bold; margin: 0;">DATE: _____</p> </div> </div>	
<p style="font-size: 12px; margin: 0;">REVISION: DATE: _____</p>	<p style="font-size: 12px; margin: 0;">BY: _____</p>

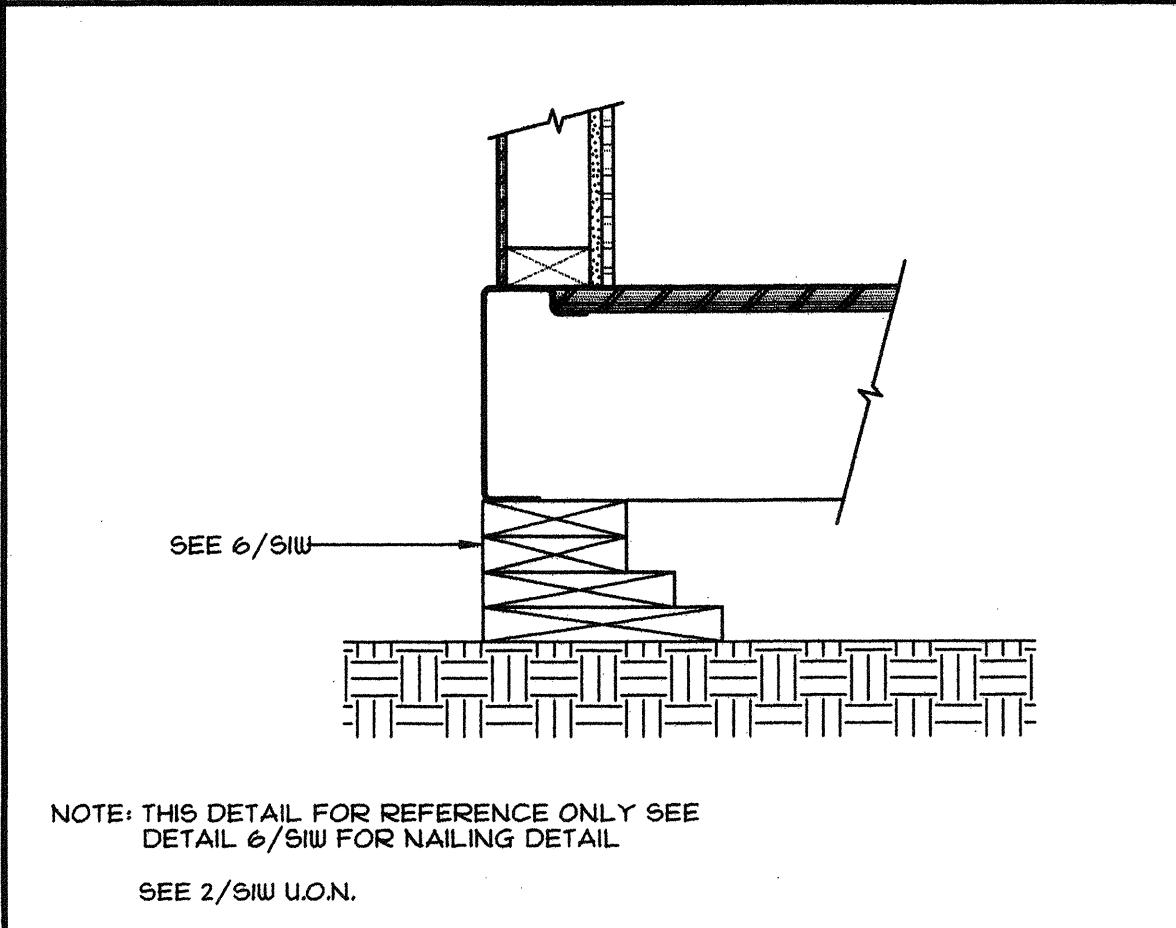


(2) 3/8" LAG SCREWS #3" O.C. (8) LOCATIONS AS SHOWN. PROVIDE ONLY AS ALTERNATE TO 10/8IU

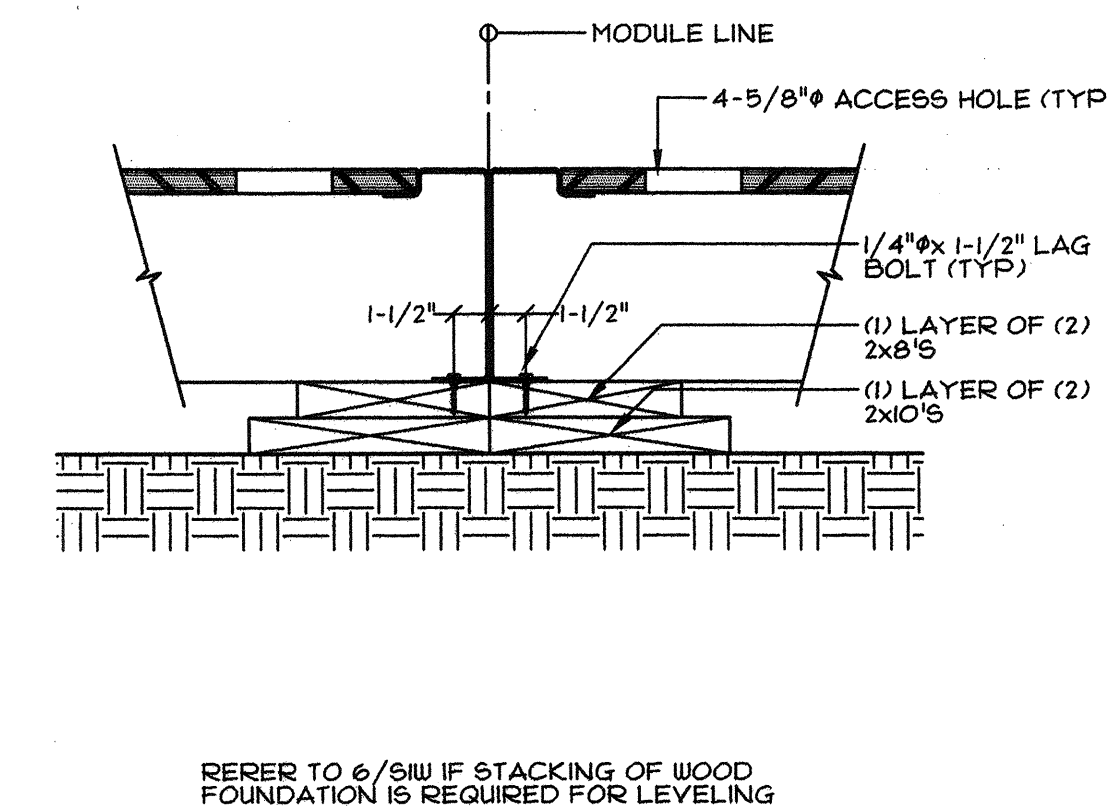
1" PIN SEE 2/SIW
1/4" LAG BOLT



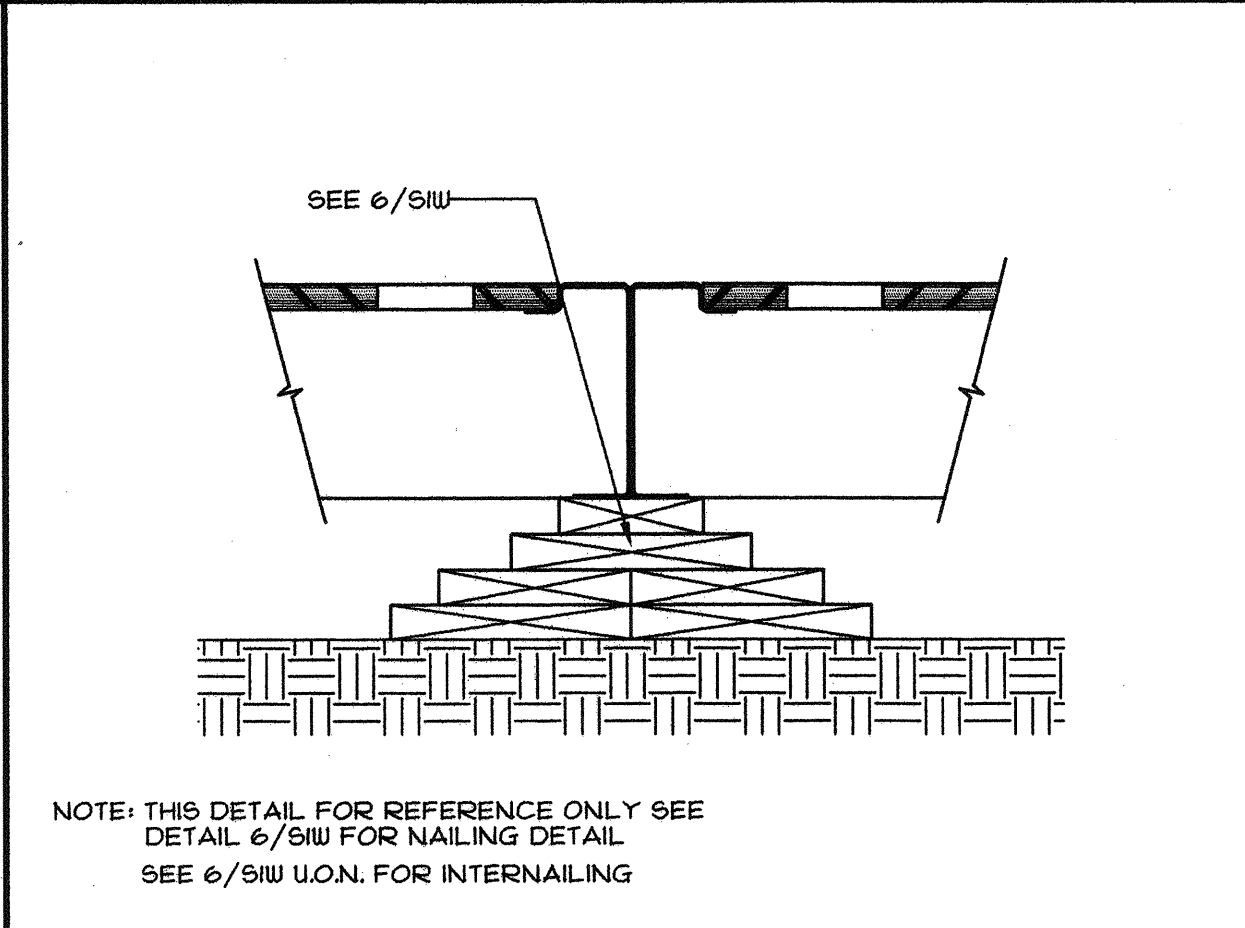
2 PERIMETER PIER DETAIL
SCALE: 1-1/2"=1'-0"



4 PERIMETER PIER STACKING DETAIL
SCALE: 1-1/2"=1'-0"



3 INTERIOR PIER DETAIL
SCALE: 1-1/2"=1'-0"

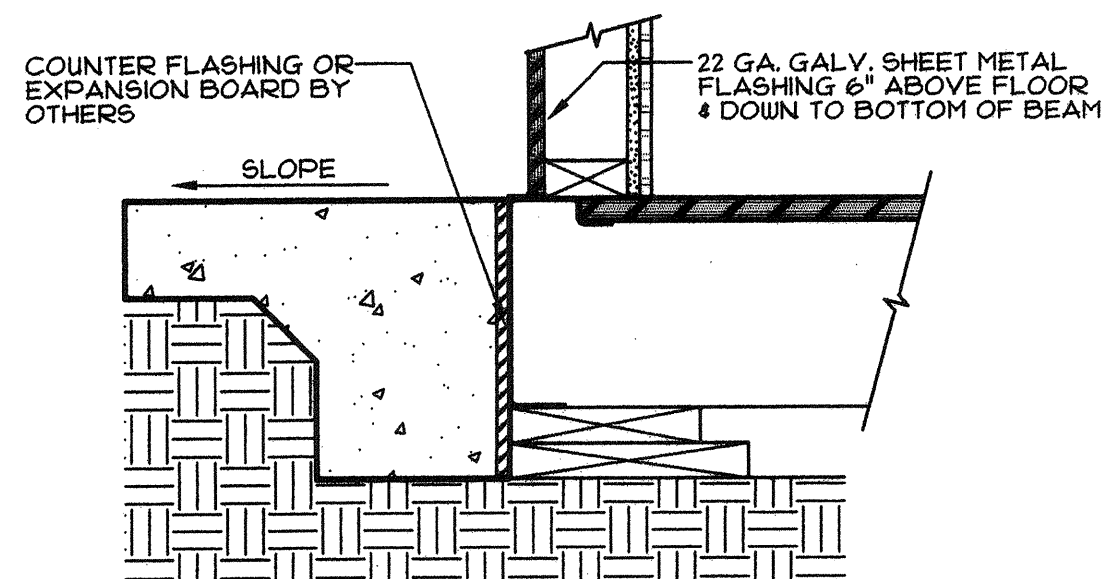


5 INTERIOR PIER STACKING DETAIL
SCALE: 1-1/2"=1'-0"

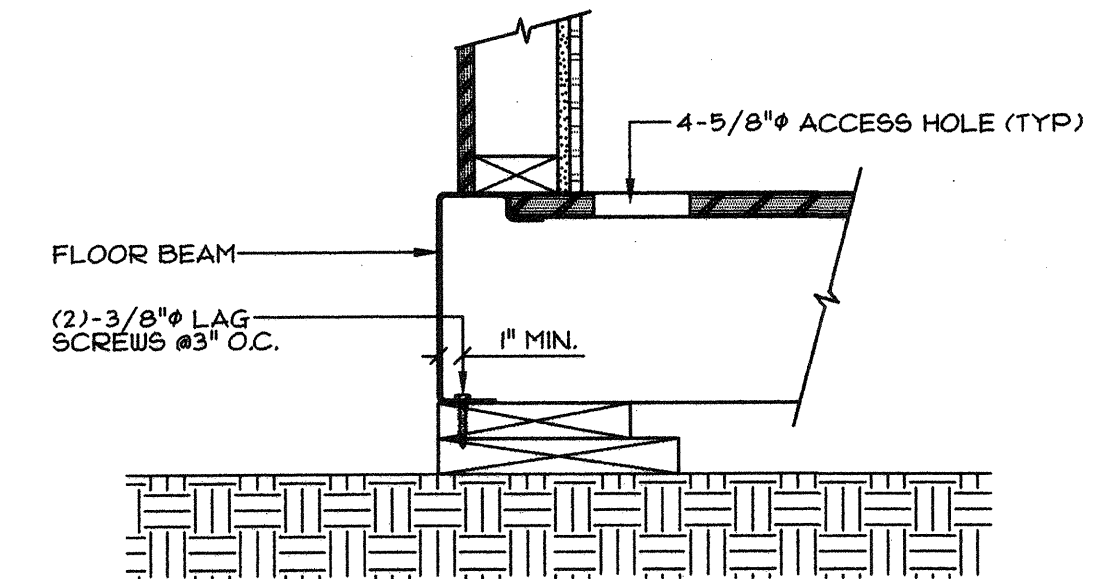
1 24' x 40' WOOD FOUNDATION PLAN
SCALE: 1/4"=1'-0"

- BOTTOM LAYER OF PIERS SHALL BE PRESSURE TREATED HEM FIR NO. 2 OR BETTER. FOUNDATION GRADE WOOD IN CONTACT WITH SOIL SHALL BE PRESERVATIVE TREATED & SHALL BE STAMPED "FOR GROUND CONTACT". PRESERVATIVE TREATED MATERIAL SHALL BE VERIFIED BY A CERTIFICATE OF TREATMENT STATING, "THE MATERIAL IN THIS UNIT WAS TREATED PER UNIFORM BUILDING CODE, SECTION 2303A1". EACH PIECE PRESSURE TREATED MATERIAL SHALL BE STAMPED WITH THE APPROPRIATE STAMP.
- CORROSIVE RESISTANT NAILS SHALL BE IN ACCORDANCE WITH SECTION 2325A1 C.B.C.
- SHIM PIERS AS REQUIRED WITH APA RATED PLYWOOD MADE WITH EXTERIOR GLUE. SHIMS SHALL BE CONTINUOUS ACROSS LENGTH OF PIERS AS FIELD CONDITIONS ALLOW. PLYWOOD SHIMS SHALL NOT BE IN DIRECT CONTACT WITH THE SOIL.
- SOIL BEARING PRESSURE IS ASSUMED AT 1000 P.S.F.
- FOUNDATION SHOWN ON (2) LAYERS OF WOOD. ANY ADDITIONAL LAYERS OF WOOD ARE TO BE STACKED AS PER STACKING DETAILS 4/SIW, 5/SIW & 6/SIW
- VENTILATION TO MEET REQUIREMENTS PER IR 23-6. PROVIDE MIN. 6.4 SQ. FT. OF VENT SPACE. (PROVIDE 2" MIN. CLR.)

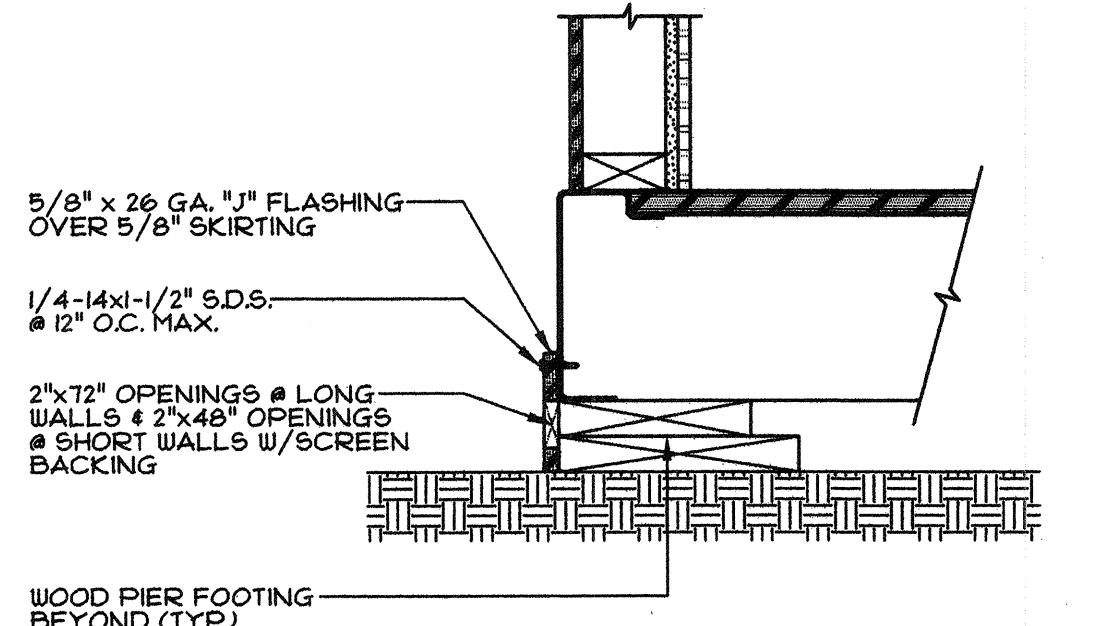
WOOD NOTES



7 PERIMETER FLASHING DETAIL
SCALE: 1-1/2"=1'-0"



8 ALTERNATE PERIMETER DETAIL
SCALE: 1-1/2"=1'-0"



9 PERIMETER SKIRTING DETAIL
SCALE: 1-1/2"=1'-0"

6 INTERNAILING OF WOOD PIERS
SCALE: 1-1/2"=1'-0"

DIVISION OF THE STATE ARCHITECT

OFFICE OF REGULATION SERVICES

IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITECT

02 117640

AC 10/1/96

DATE 10/1/96

IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITECT

OFFICE OF REGULATION SERVICES

APPL 55586

AC 10/1/96

DATE 7-29-96

DESIGN CRITERIA

ROOF: DEAD LOAD - 8.0 PSF

ROOF: LIVE LOAD - 20.0 PSF (SNOW)

FLOOR: DEAD LOAD - 8.0 PSF

FLOOR: LIVE LOAD - 50.0 PSF

WALLS: DEAD LOAD - 8.0 PSF

WIND: 80 MPH - EXPOSURE: C

qs=16.4 PSF; Ce=1.06; Cq AS REQ.

SEISMIC: ZONE 4, Rw=6, C2.75

10 SHEAR PLATE
SCALE: 3/4"=1'-0"

11 APPROVAL

JH Lawder, Inc.
Structural Engineers
621 14th Street
Modesto, CA 95354
(209) 521-1143 FAX (209) 521-1186

ENVIROPLEX, INC.
4777 E. CARPENTER ROAD STOCKTON, CA 95215

24' x 40' RELOCATABLE CLASSROOMS FOR
MOBILE MODULAR MANAGEMENT CORP.

WOOD FOUNDATION PLAN
FOOTING DETAILS - NOTES

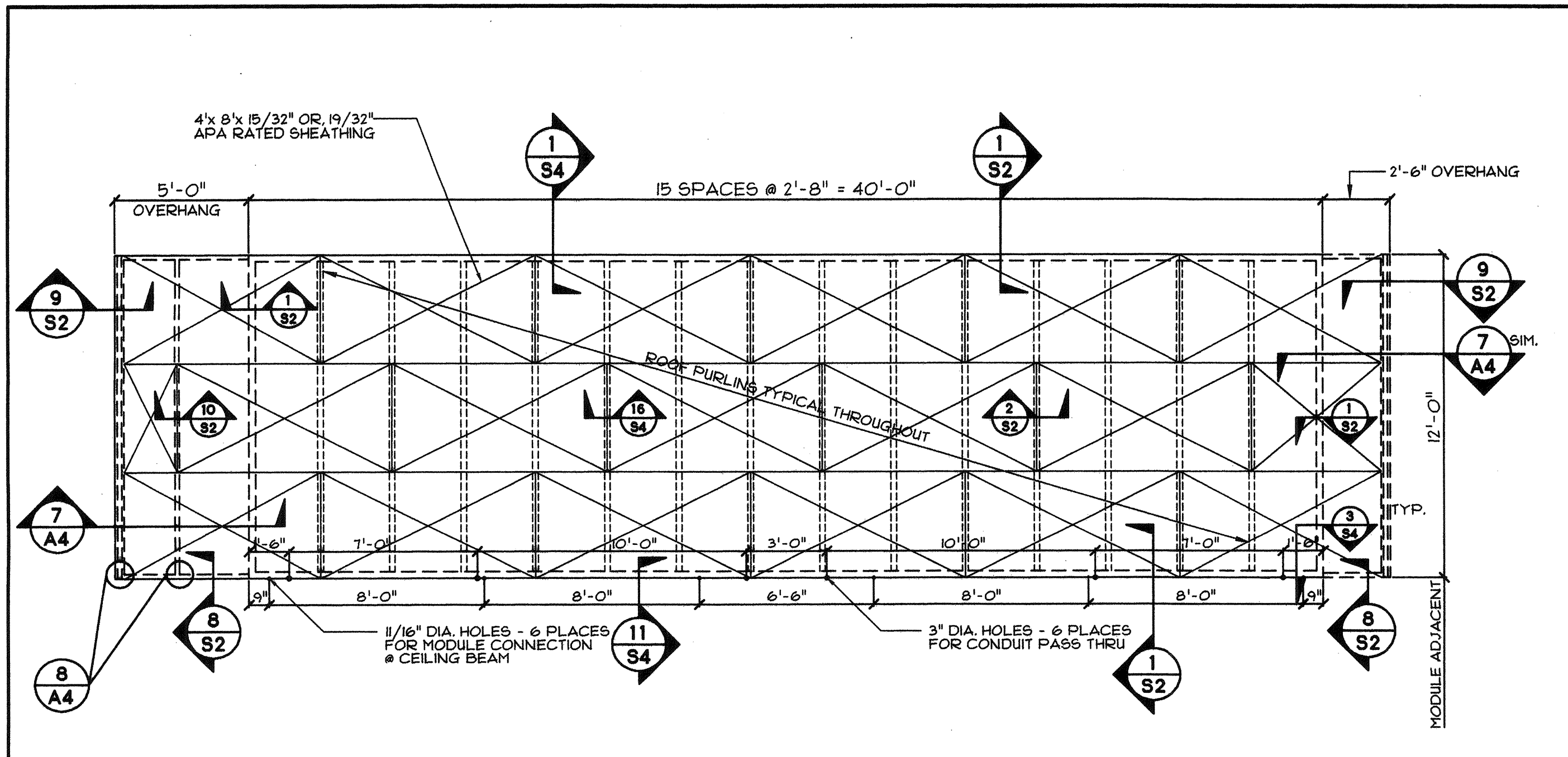
REVISION DATE:

DATE:

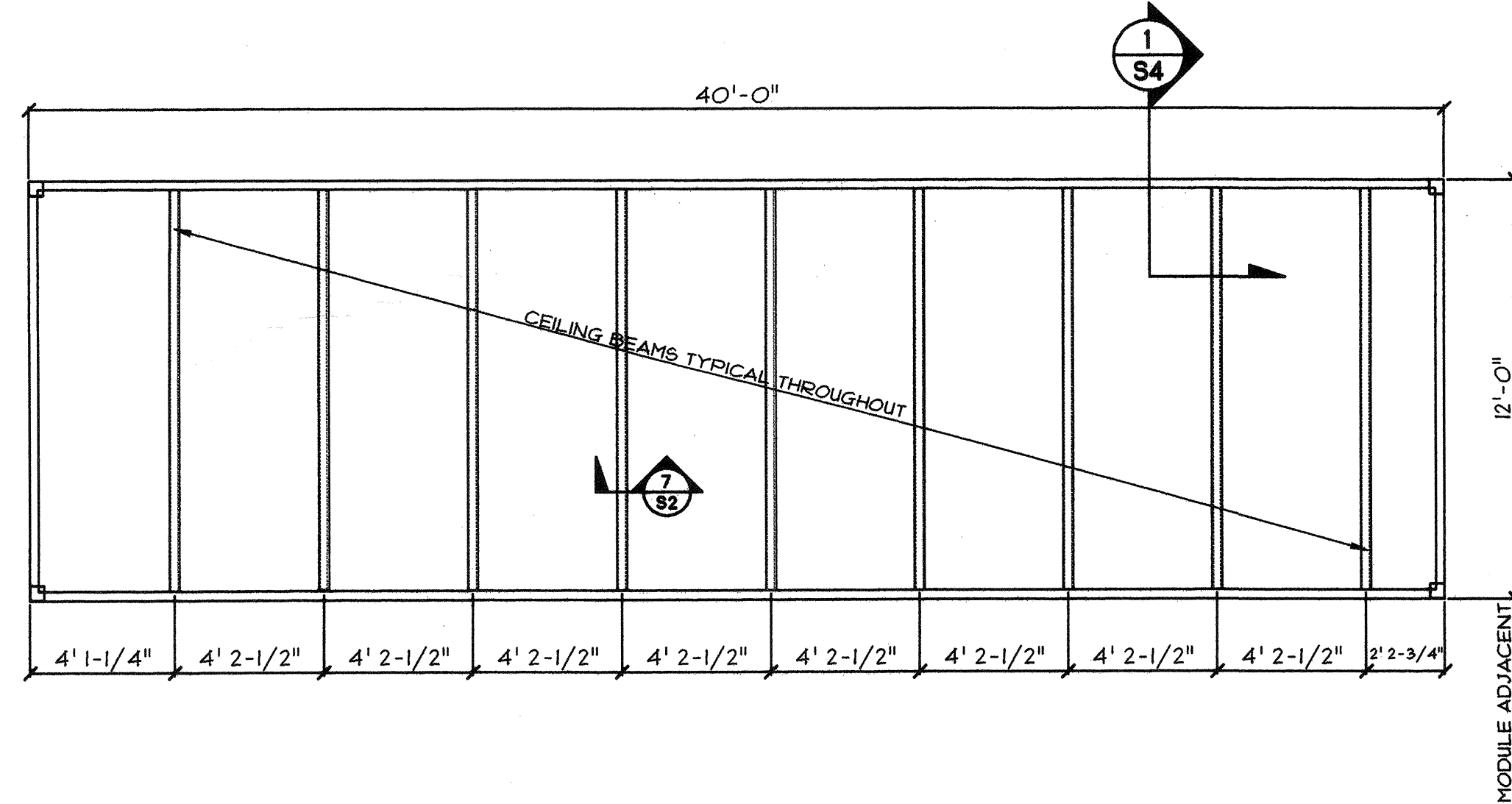
BY:

THIS MODULAR BLDG. HAS BEEN ENGINEERED BY A REGISTERED STRUCTURAL ENGINEER & PREVIOUSLY REVIEWED & APPROVED BY THE DIVISION OF THE STATE ARCHITECT, FIRE & LIFE SAFETY AND ACCESS COMPLIANCE SECTION

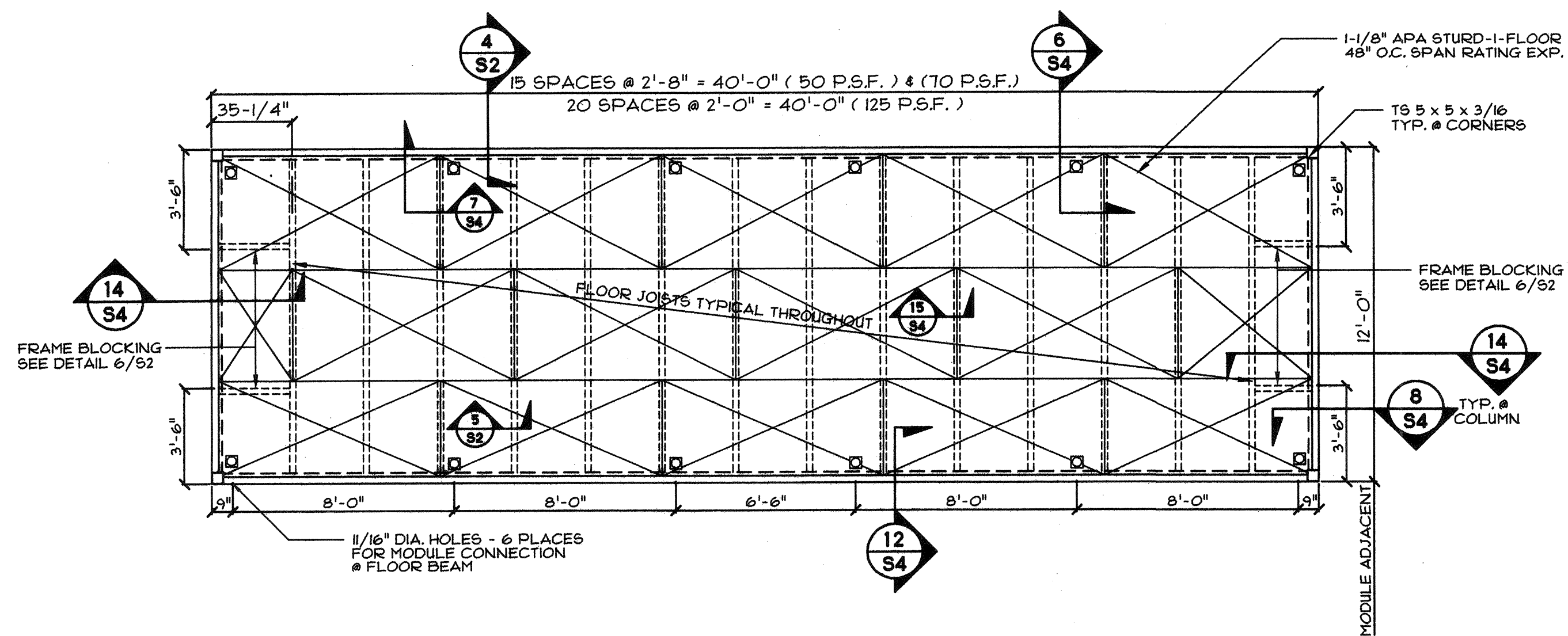
S1W50



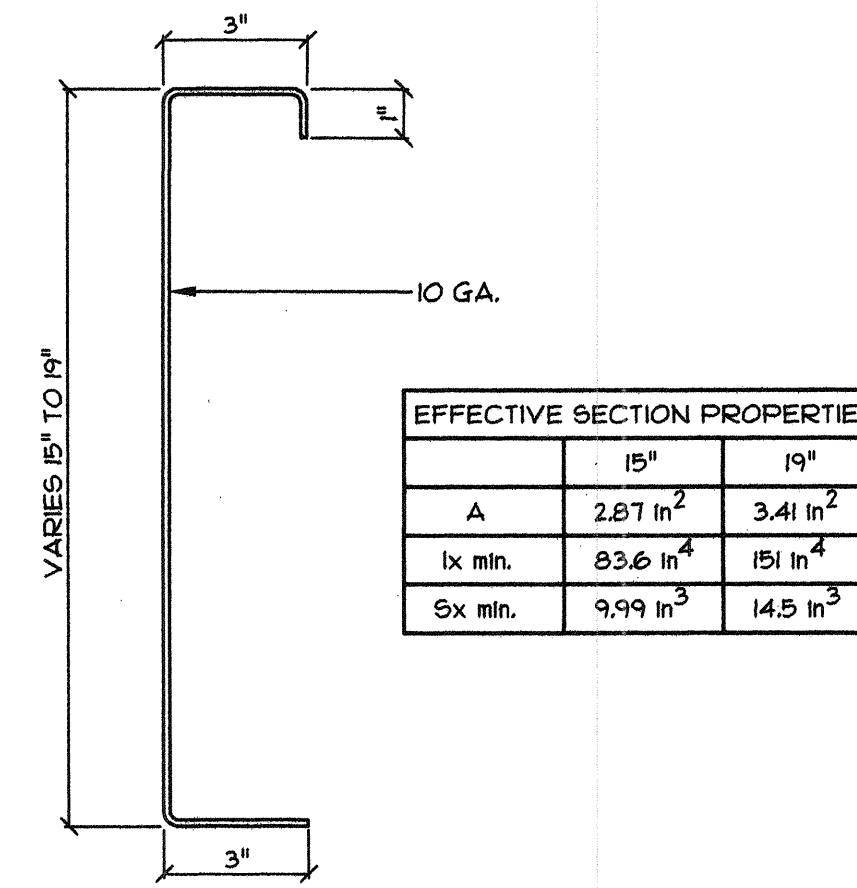
13 ROOF FRAMING PLAN
SCALE: 1/4"=1'-0"



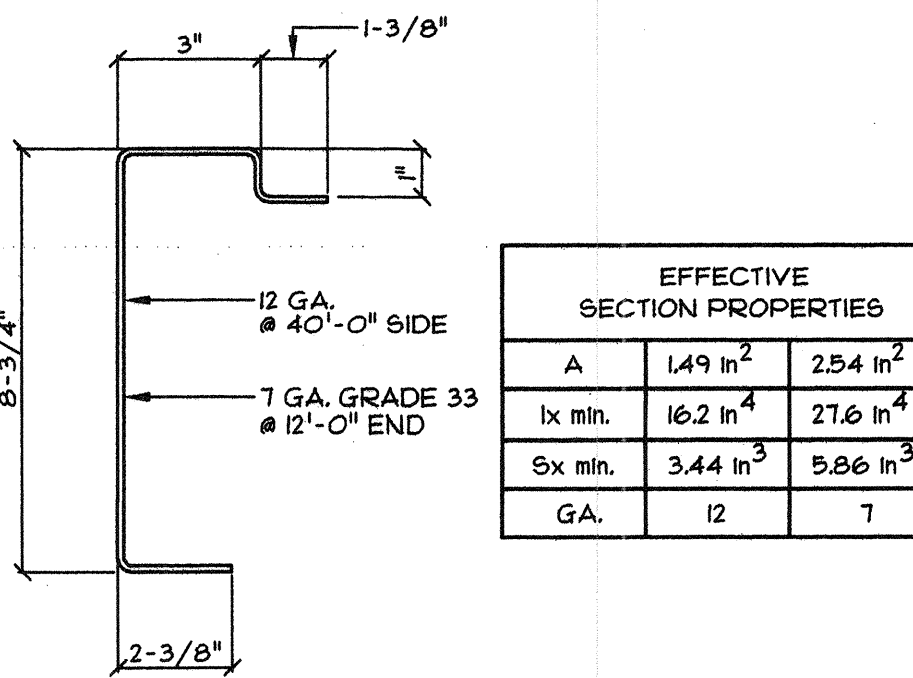
14 CEILING FRAMING PLAN
SCALE: 1/4"=1'-0"



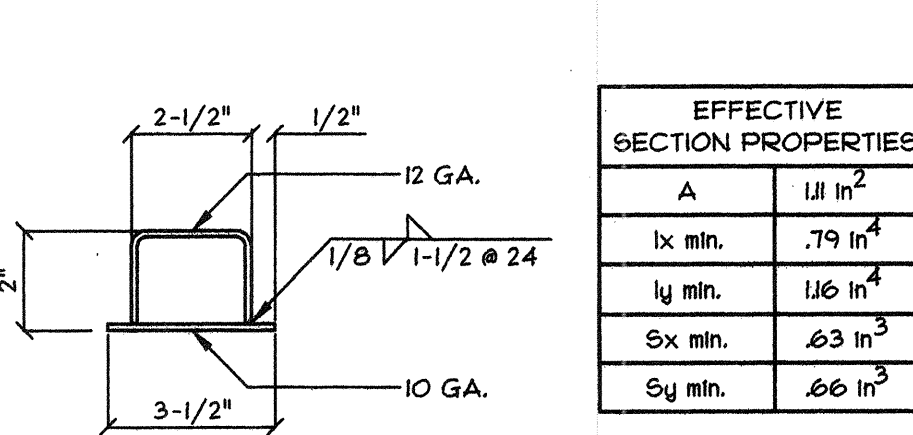
15 FLOOR FRAMING PLAN
SCALE: 1/4"=1'-0"



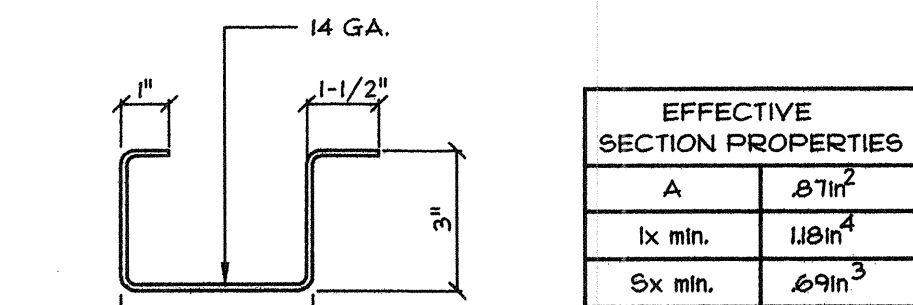
1 ROOF BEAM SECTION
SCALE: 3/4"=1'-0"



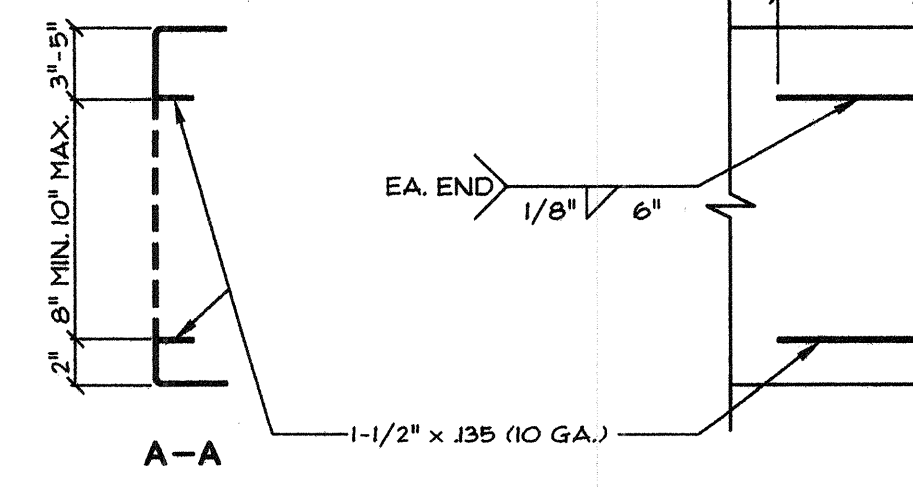
4 FLOOR BEAM SECTION
SCALE: 3/4"=1'-0"



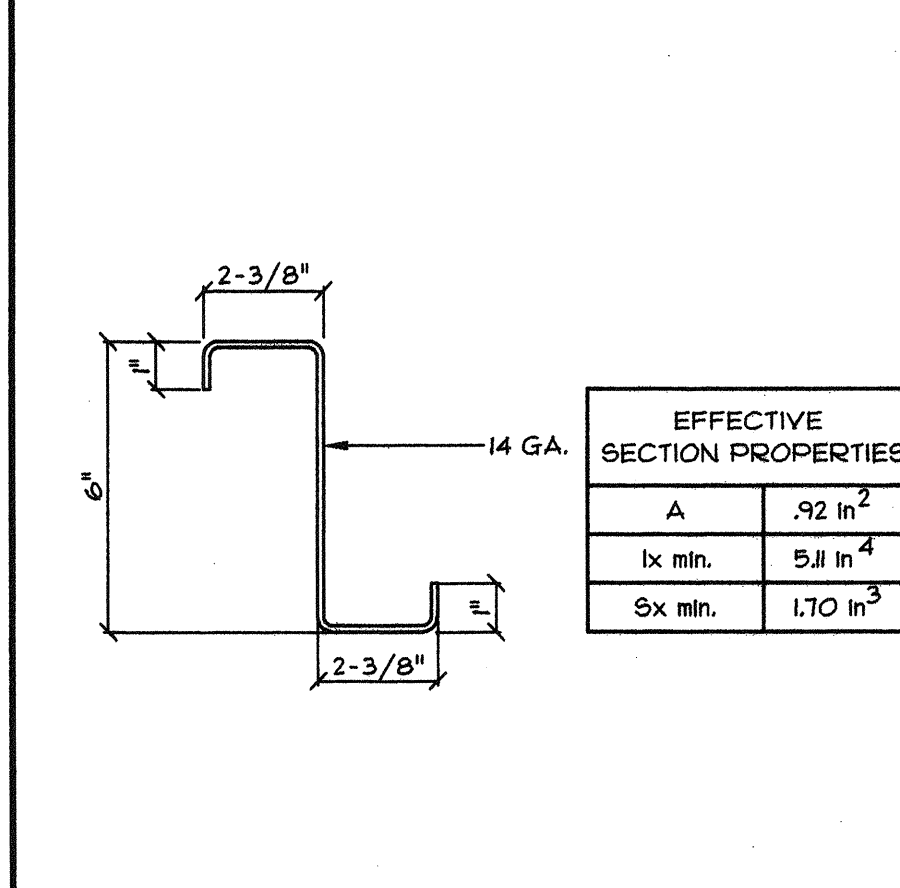
7 CEILING BEAM SECTION
SCALE: 3/4"=1'-0"



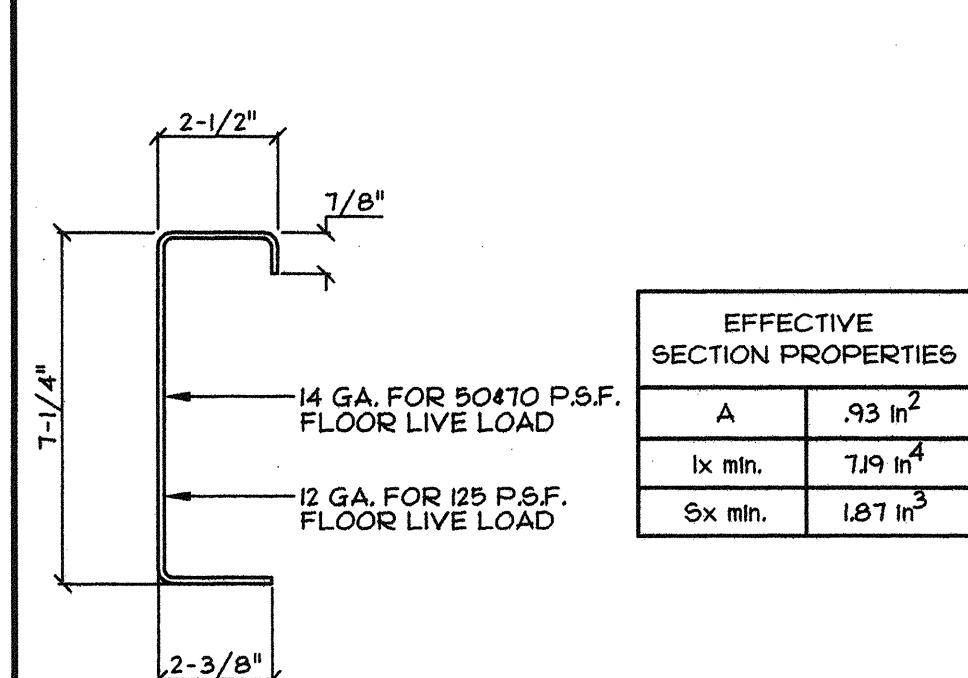
9 GUTTER BEAM SECTION
SCALE: 3/4"=1'-0"



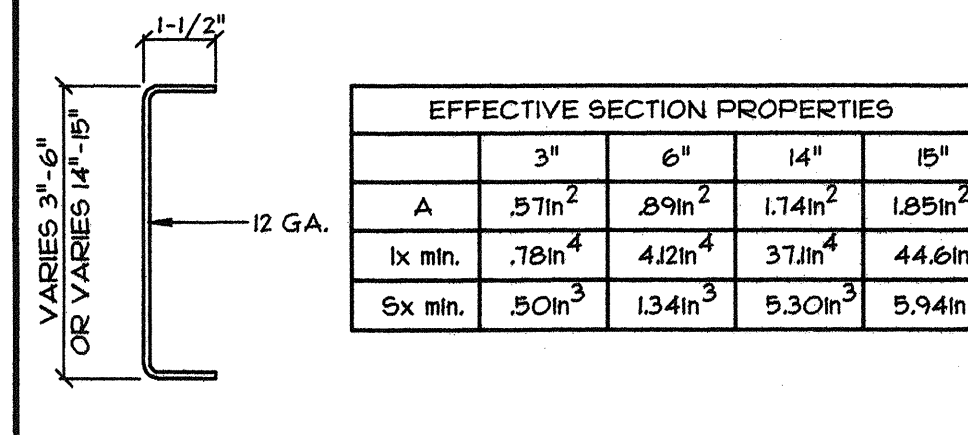
11 HVAC HOLE @ ROOF BEAM
SCALE: 1-1/2"=1'-0"



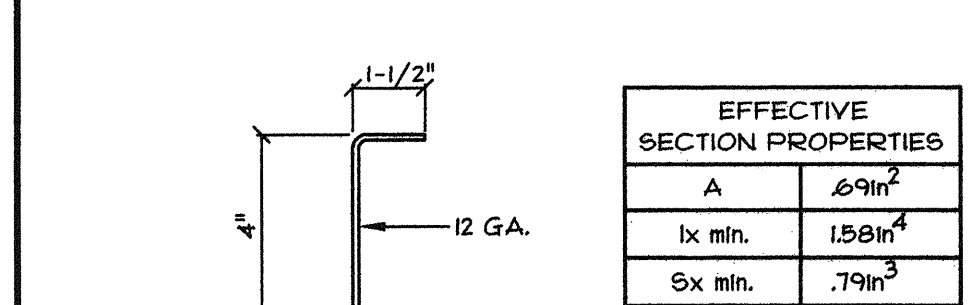
2 ROOF PURLIN SECTION
SCALE: 3/4"=1'-0"



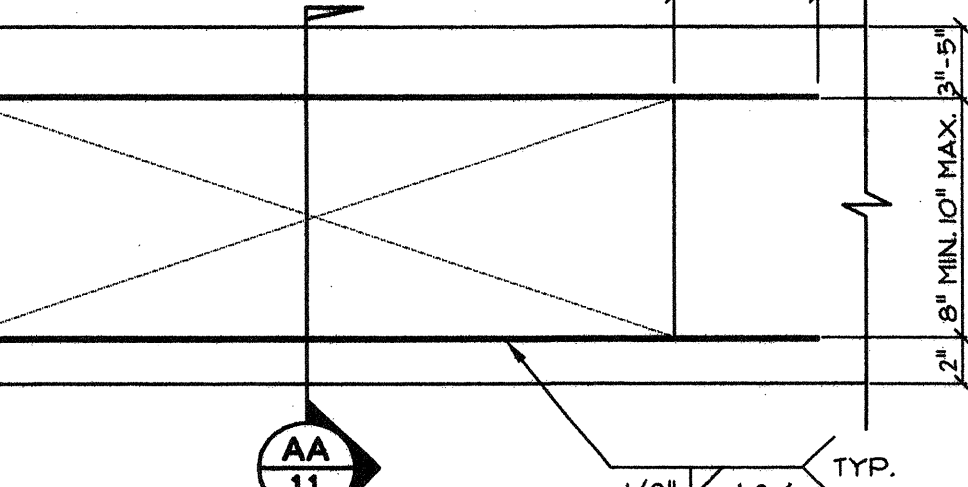
5 FLOOR JOIST SECTION
SCALE: 3/4"=1'-0"



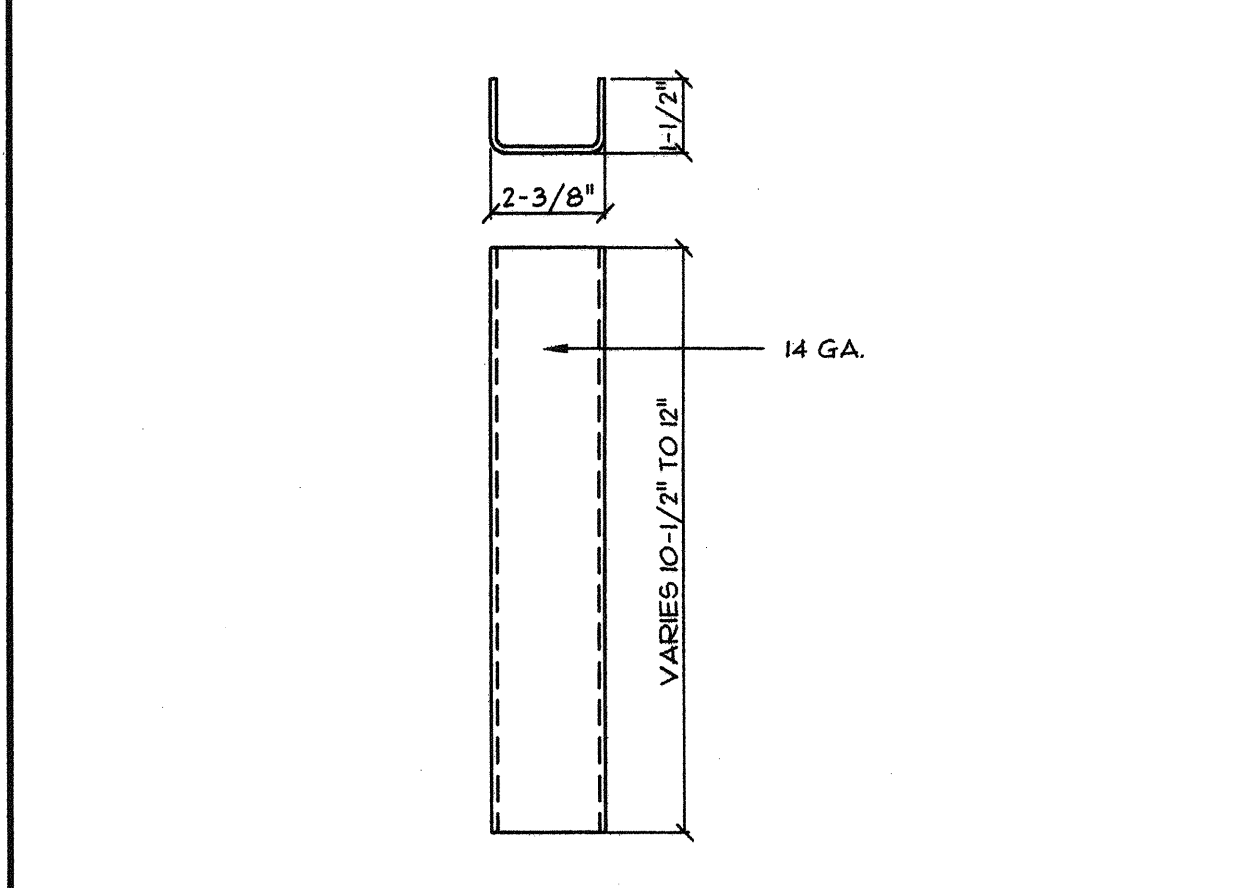
8 OVERHANG BEAM
SCALE: 3/4"=1'-0"



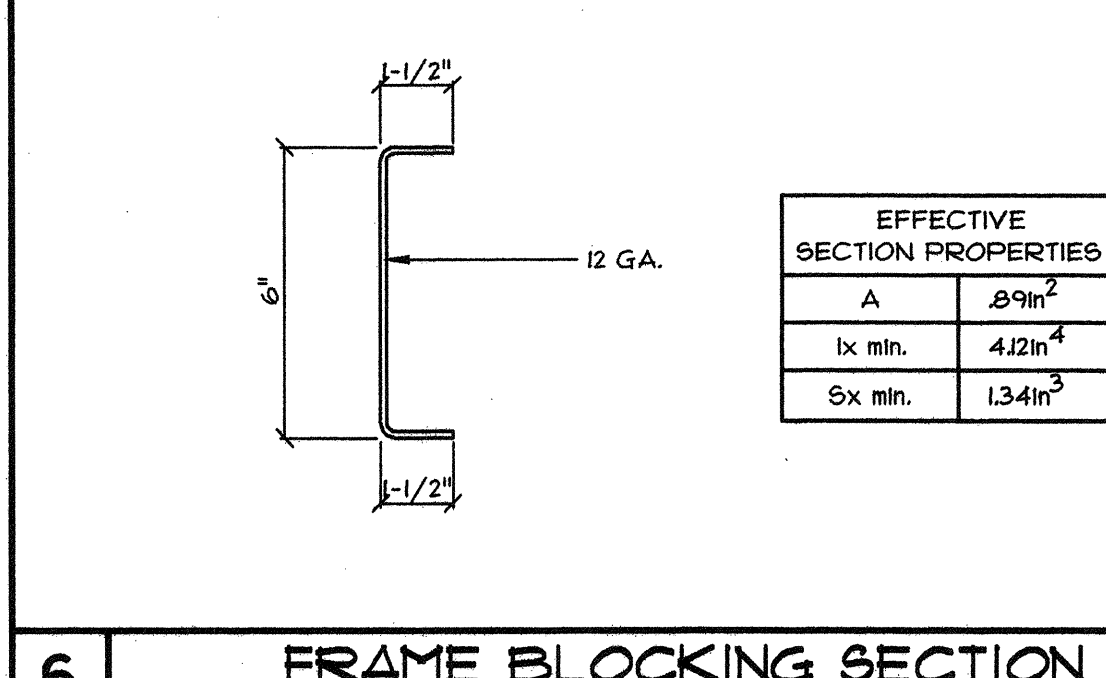
10 INTERMEDIATE CHANNELS
SCALE: 3/4"=1'-0"



12 APPROVALS



3 ROOF BEAM STIFFENER
SCALE: 3/4"=1'-0"



6 FRAME BLOCKING SECTION
SCALE: 3/4"=1'-0"

- ALL STRUCTURAL STEEL SHALL BE ASTM A570 GRADE 36, UNLESS OTHERWISE NOTED.
 - STRUCTURAL STEEL TUBING SHALL BE ASTM A500 GRADE B F_y=46.
 - ALL MACHINE BOLTS SHALL BE ASTM A307.
 - WELDING SHALL BE DONE PER C.B.C. SECTION 2209A & AWS D 11.
 - WELDING INSPECTION TO BE PER C.B.C. SECTION 2212A.5.
 - SEE TESTS AND INSPECTIONS REPORT SHEET AO FOR REQUIREMENTS.
 - LIGHT GAGE METAL & FRAMING THICKNESSES
- | GAGE | DESIGN THICKNESS |
|--------------|------------------|
| 7 GA. STEEL | .1793" |
| 10 GA. STEEL | .1345" |
| 12 GA. STEEL | .1046" |
| 14 GA. STEEL | .0741" |
8. MINIMUM STEEL THICKNESS SHALL NOT BE LESS THAN 95% OF THE DESIGN THICKNESS PER C.B.C. SECTION 2230 (A3.4) "DELIVERED MINIMUM THICKNESS"

STEEL SPECIFICATION

- ALL STRUCTURAL PLYWOOD SHALL BE MANUFACTURED TO C.B.C. STANDARD 23-2 (BASED ON PRODUCT STANDARD PS1-83) AND INSPECTED AND GRADE MARKED AT THE MILL BY AN APPROVED QUALITY CONTROL AGENCY SUCH AS APA OR TECO.
- ROOF SHEATHING SHALL BE 4x8x15/32" GRADE MARKED 32/16 SPAN INDEX, EXP. I OR 19/32" GRADE MARKED 40/20 SPAN INDEX, EXP. I.
- FLOOR SHEATHING SHALL BE 4x8x15/32" GRADE MARKED 32/16 SPAN INDEX, EXP. I OR 19/32" GRADE MARKED 40/20 SPAN INDEX, EXP. I.
- WALL SHEATHING SHALL BE 3/8" T-11 APA EXTERIOR TYPE 303 GROUP II, MDO EXTERIOR GROUP II OR OPTIONAL 5/8" T-11 APA EXTERIOR SIDING.
- SEE 2/83 FOR FASTENER SCHEDULE

SHEATHING / PLYWOOD SPECIFICATION

DIVISION OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES 02 117640 APPL 8-5-98 DATE 4/11/98	IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES APPL 8-5-98 DATE 7-29-96
--	---

DESIGN CRITERIA	
ROOF: DEAD LOAD -	8.0 PSF
ROOF: LIVE LOAD -	20.0 PSF (SNOW)
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FLOOR: LIVE LOAD -	50.0 PSF
WALLS: DEAD LOAD -	8.0 PSF
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qs=16.4 PSF; Ce=1.06; Cq AS REQ.	
SEISMIC: ZONE 4, R=6, C=2.75	

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JH Lawder, Inc.
Structural Engineers
421 14th Street
Stockton, CA 95215
(209) 521-1143 FAX (209) 521-1166

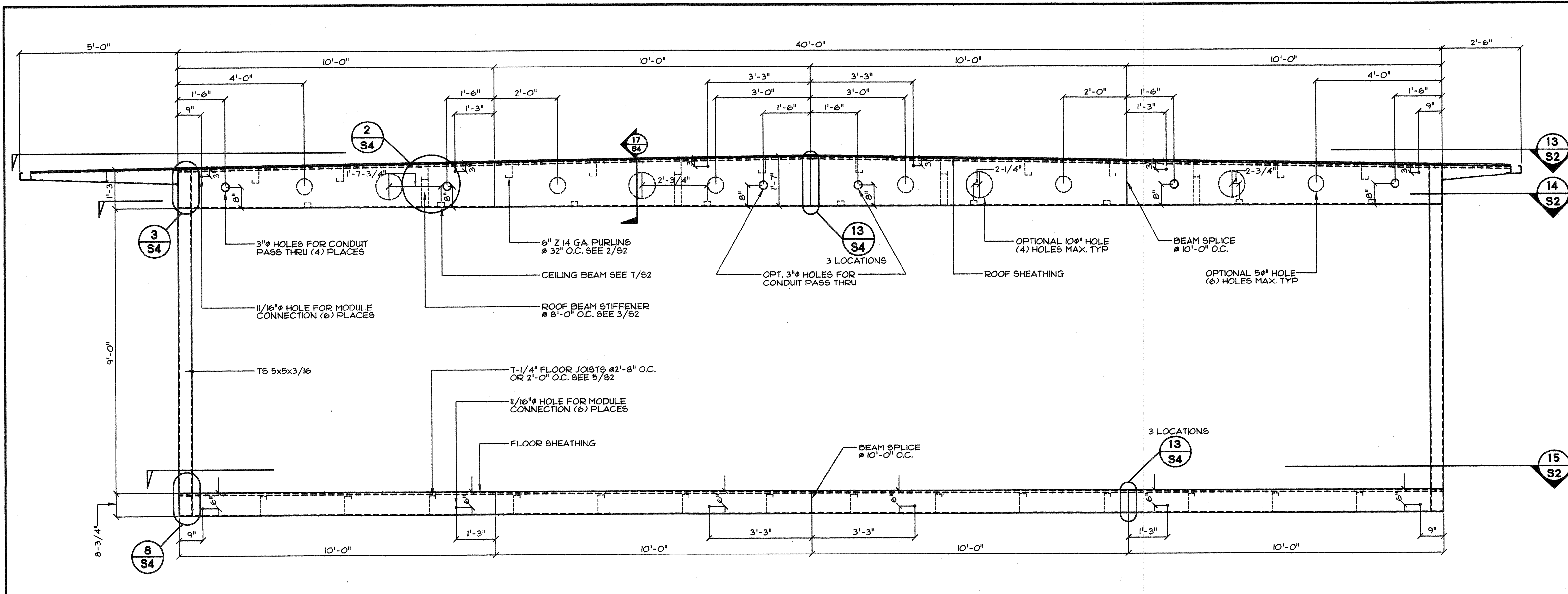
ENVIROPLEX, INC.
4777 E. CARPENTER ROAD STOCKTON, CA. 95215

24' x 40' RELOCATABLE CLASSROOMS FOR MOBILE MODULAR MANAGEMENT CORP.

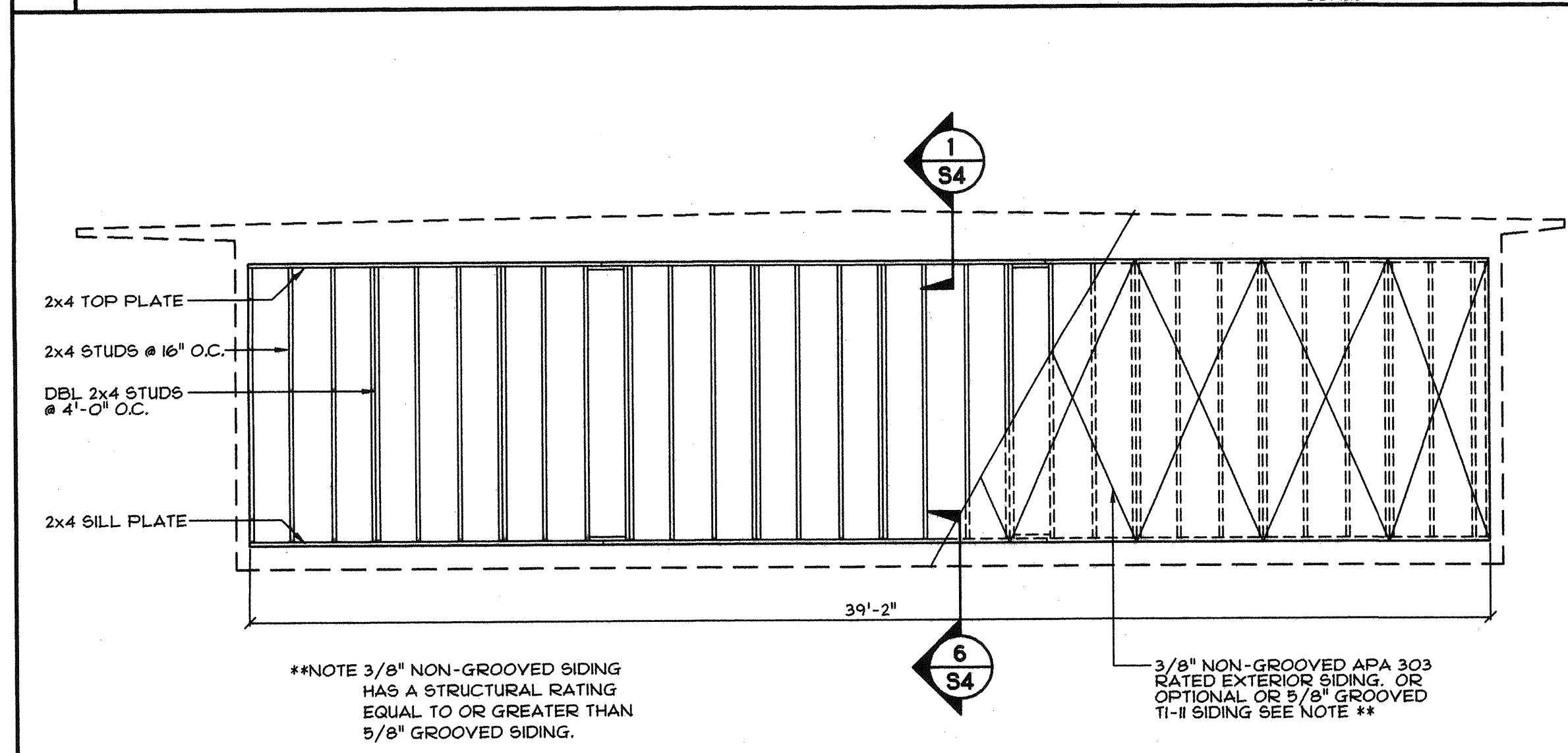
ROOF-CEILING-FLOOR FRAMING PLANS
STRUCTURAL STEEL PROPERTIES - NOTES

REVISION DATE:	BY:

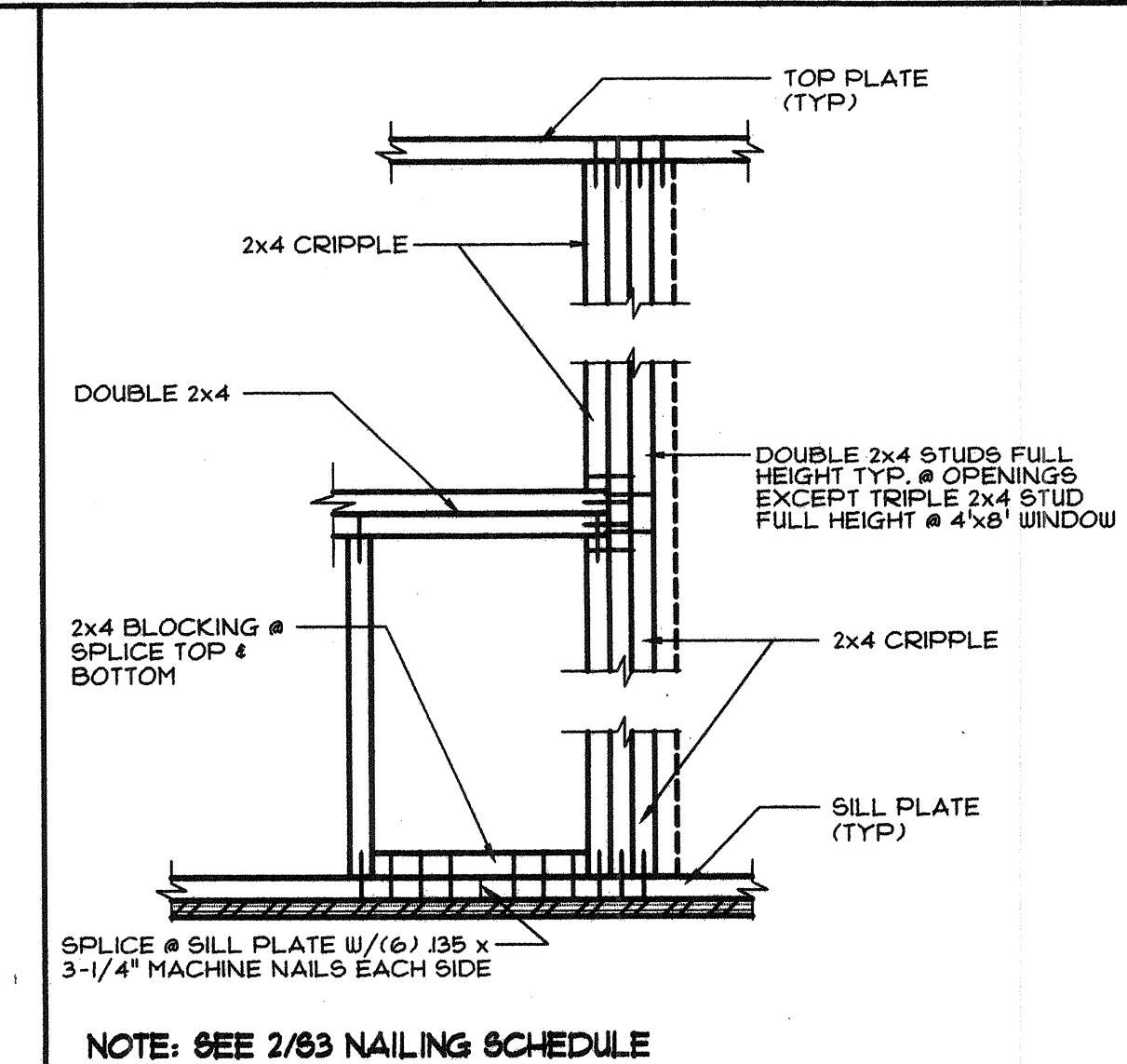
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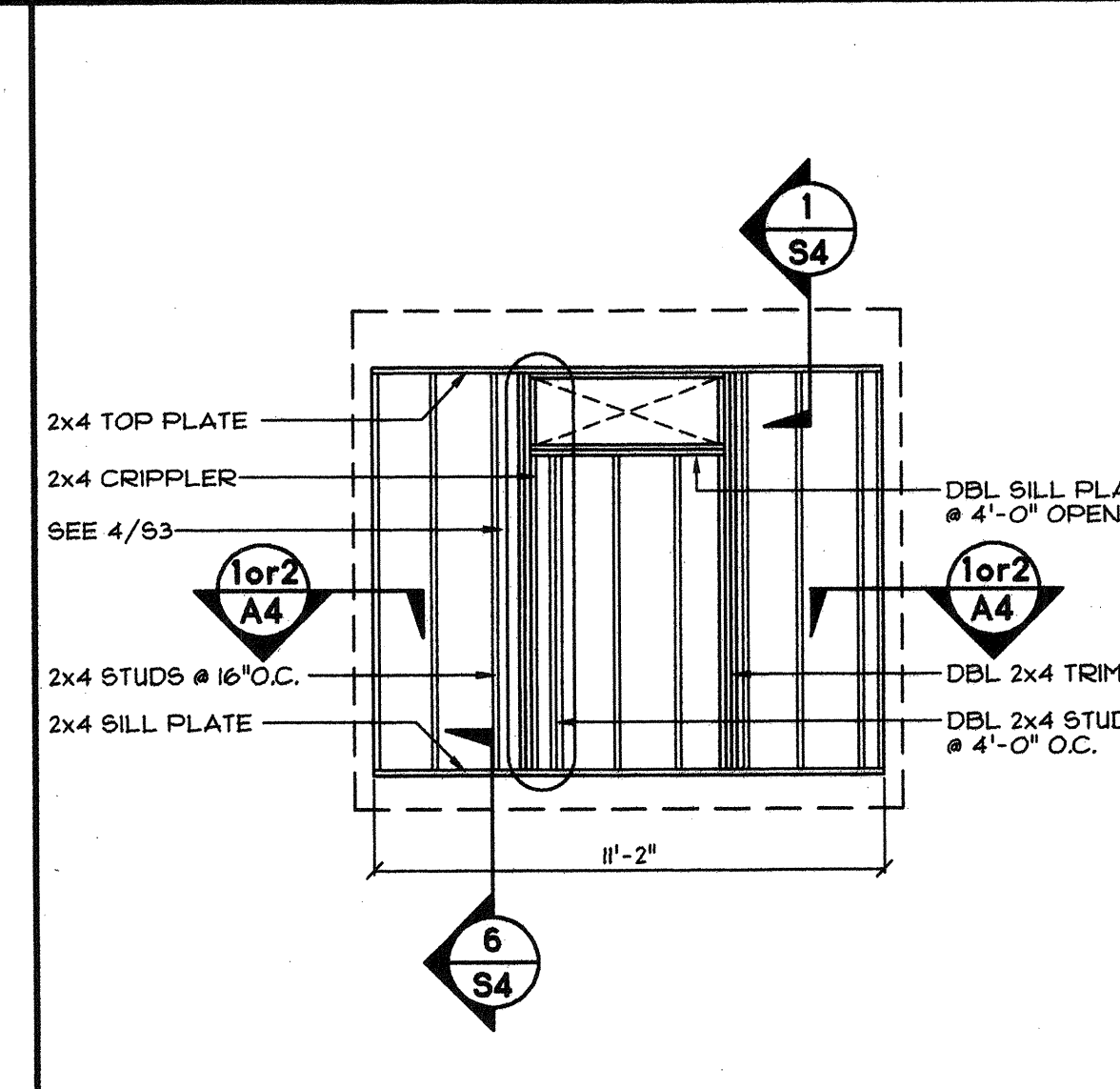
1 LONGITUDINAL BUILDING ELEVATION
SCALE: 1/2"=1'-0"



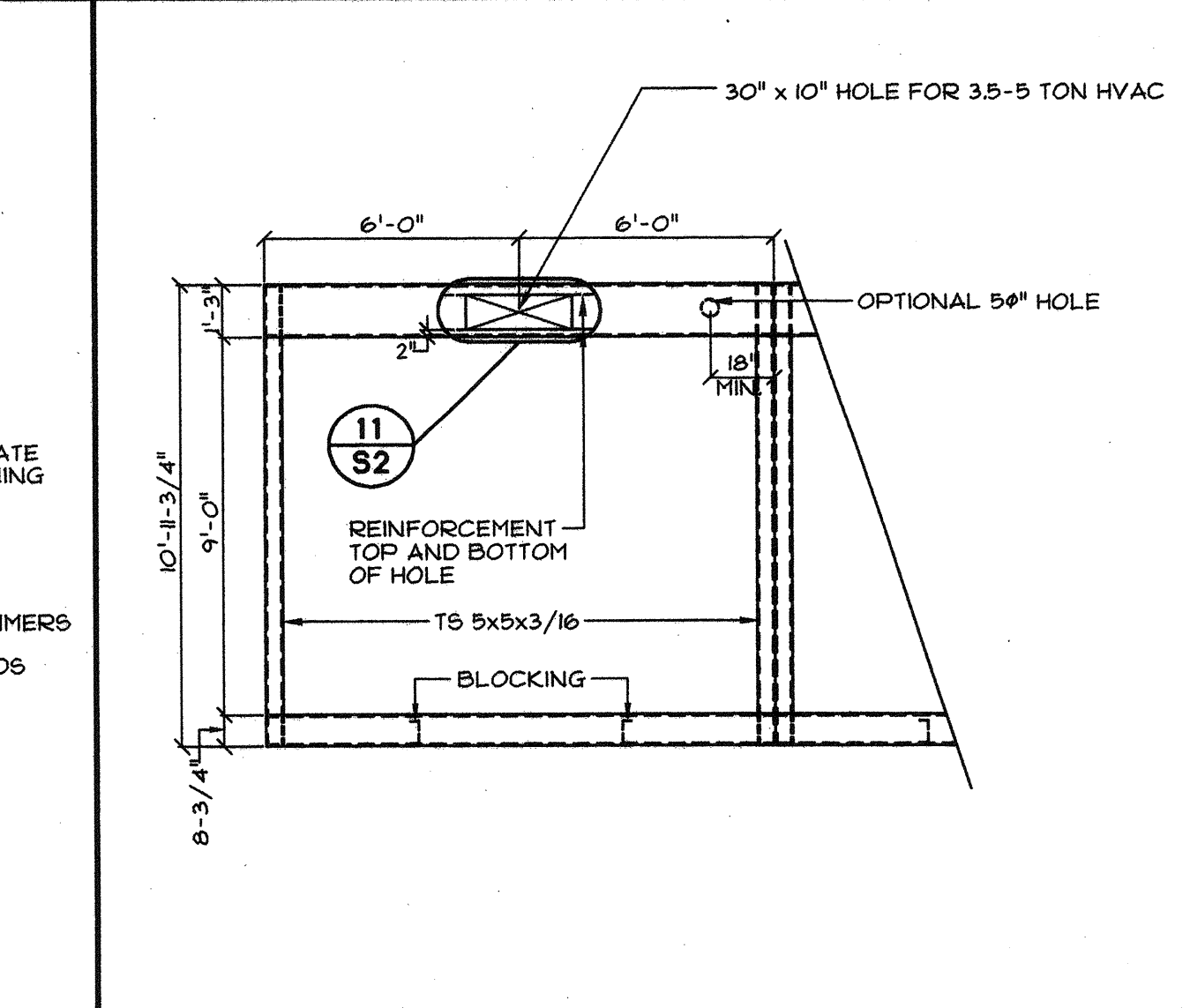
3 WALL FRAMING ELEVATION @ 40'-0" SIDE
SCALE: 1/4"=1'-0"



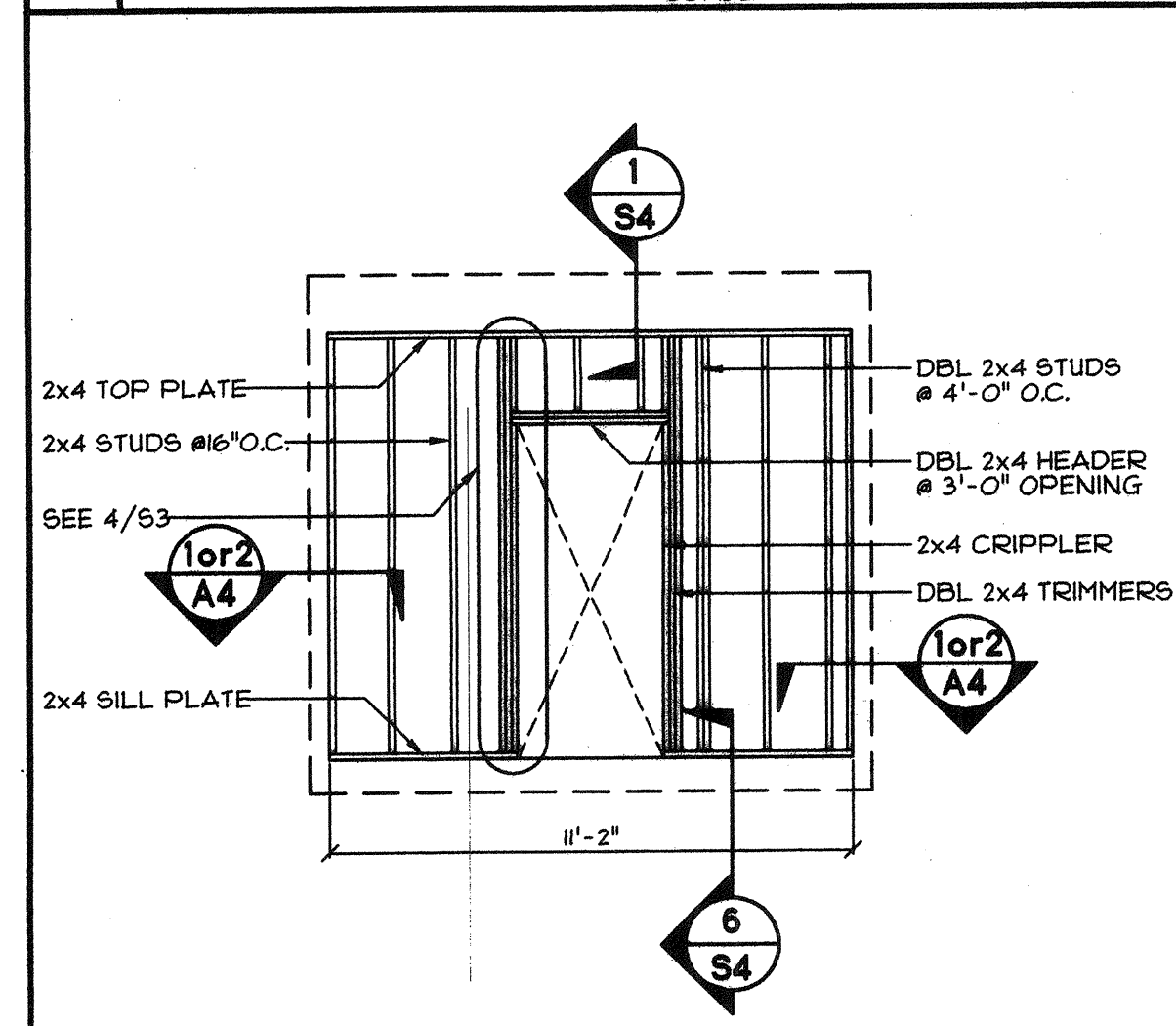
4 NAILING SCHEDULE
SCALE: 1"=1'-0"



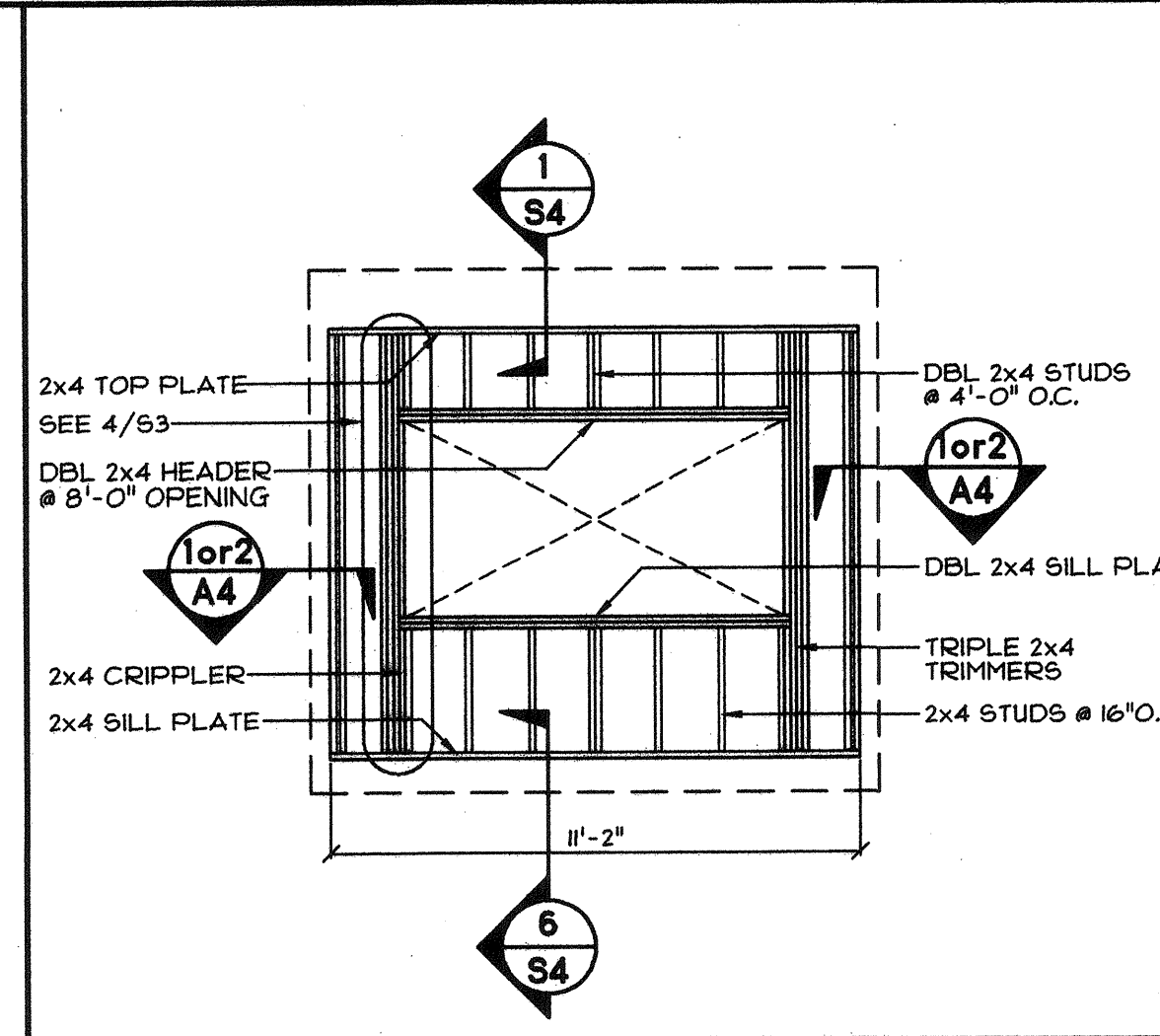
5 OPTIONAL WINDOW WALL FRAMING
SCALE: 1/4"=1'-0"



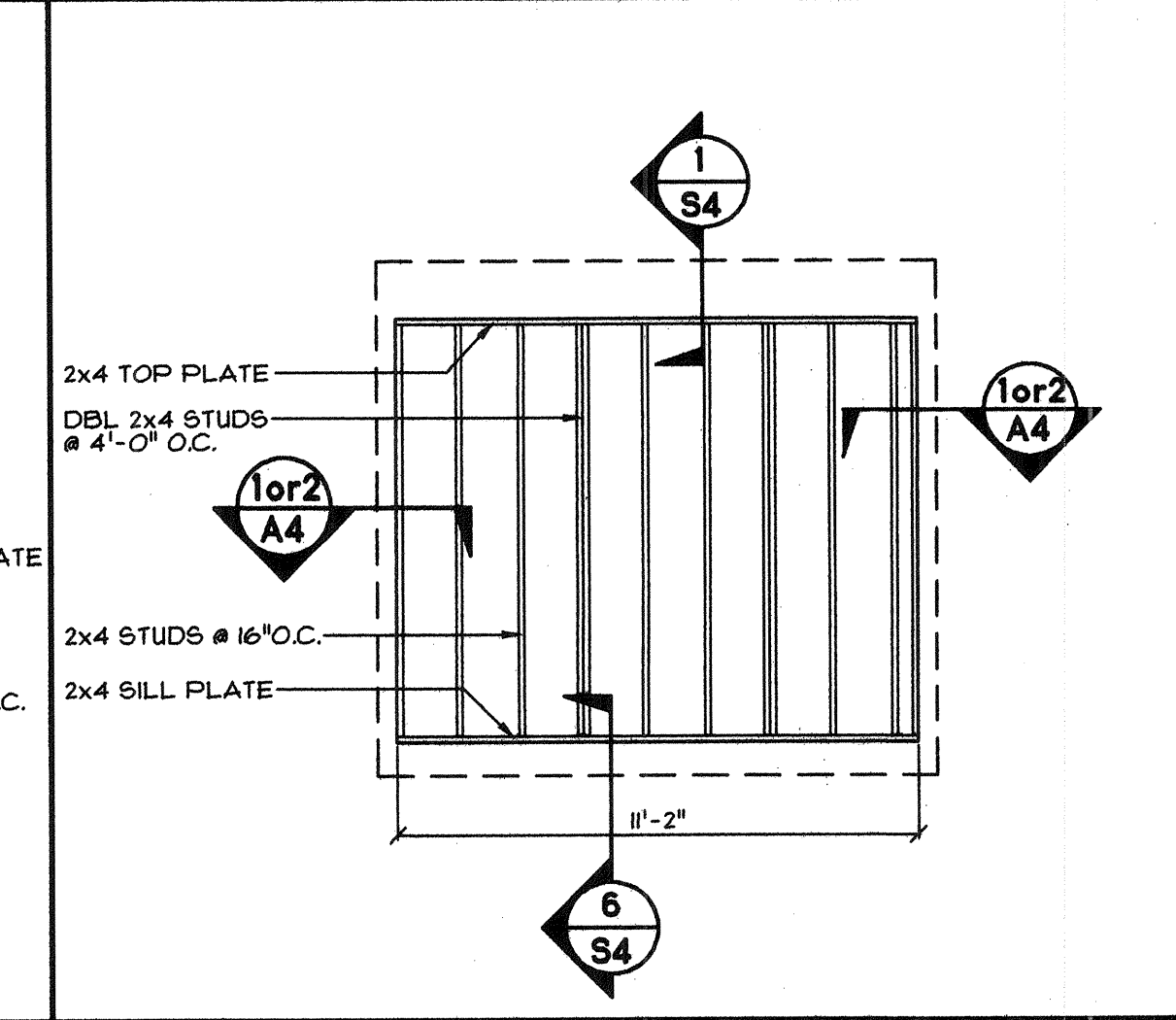
6 END FRAME ELEVATION
SCALE: 1/4"=1'-0"



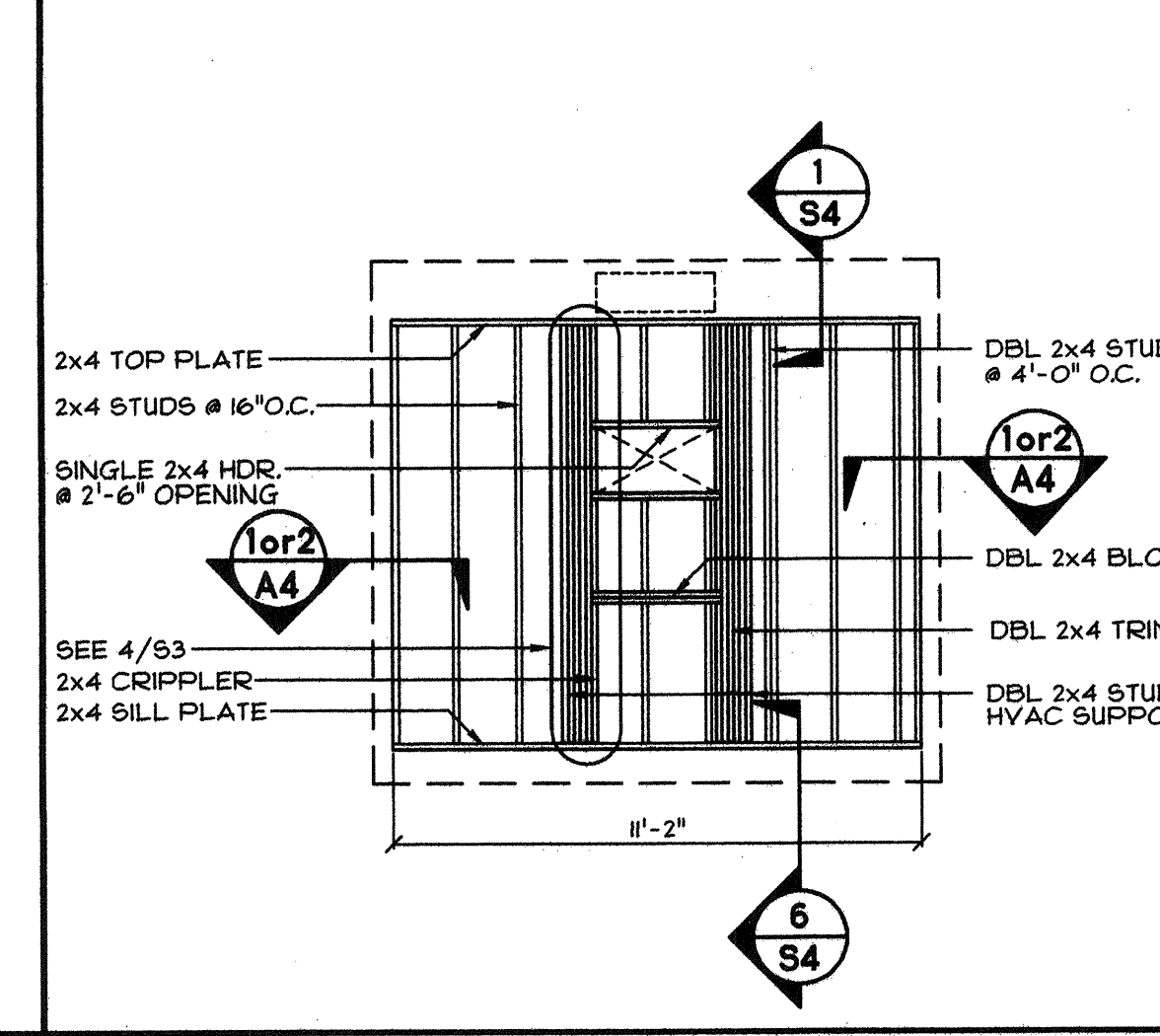
7 DOOR WALL FRAMING
SCALE: 1/4"=1'-0"



8 WINDOW WALL FRAMING
SCALE: 1/4"=1'-0"



9 WALL FRAMING @ 12'-0" WALL
SCALE: 1/4"=1'-0"



10 HVAC WALL FRAMING - DUCTED
SCALE: 1/4"=1'-0"

DIVISION OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02 117640
APPL 6-5-86
DATE 7-27-96

DESIGN CRITERIA

ROOF: DEAD LOAD - 8.0 PSF
ROOF: LIVE LOAD - 20.0 PSF (SNOW)

FLOOR: DEAD LOAD - 8.0 PSF
FLOOR: LIVE LOAD - 50.0 PSF

WALLS: DEAD LOAD - 8.0 PSF
WIND: 80 MPH; EXPOSURE: C
qs=16.4 PSF; Ce=1.06; Cq AS REQ.
SEISMIC: ZONE 4, Rw=6, C=2.75

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11 APPROVALS

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421 14th STREET
MIDWEST, CA 95304
(209) 521-1143 FAX (209) 521-1188

ENVIROPLEX, INC.
4777 E. CARPENTER ROAD STOCKTON, CA. 95215
24' x 40' RELOCATABLE CLASSROOMS FOR MOBILE MODULAR MANAGEMENT CORP.

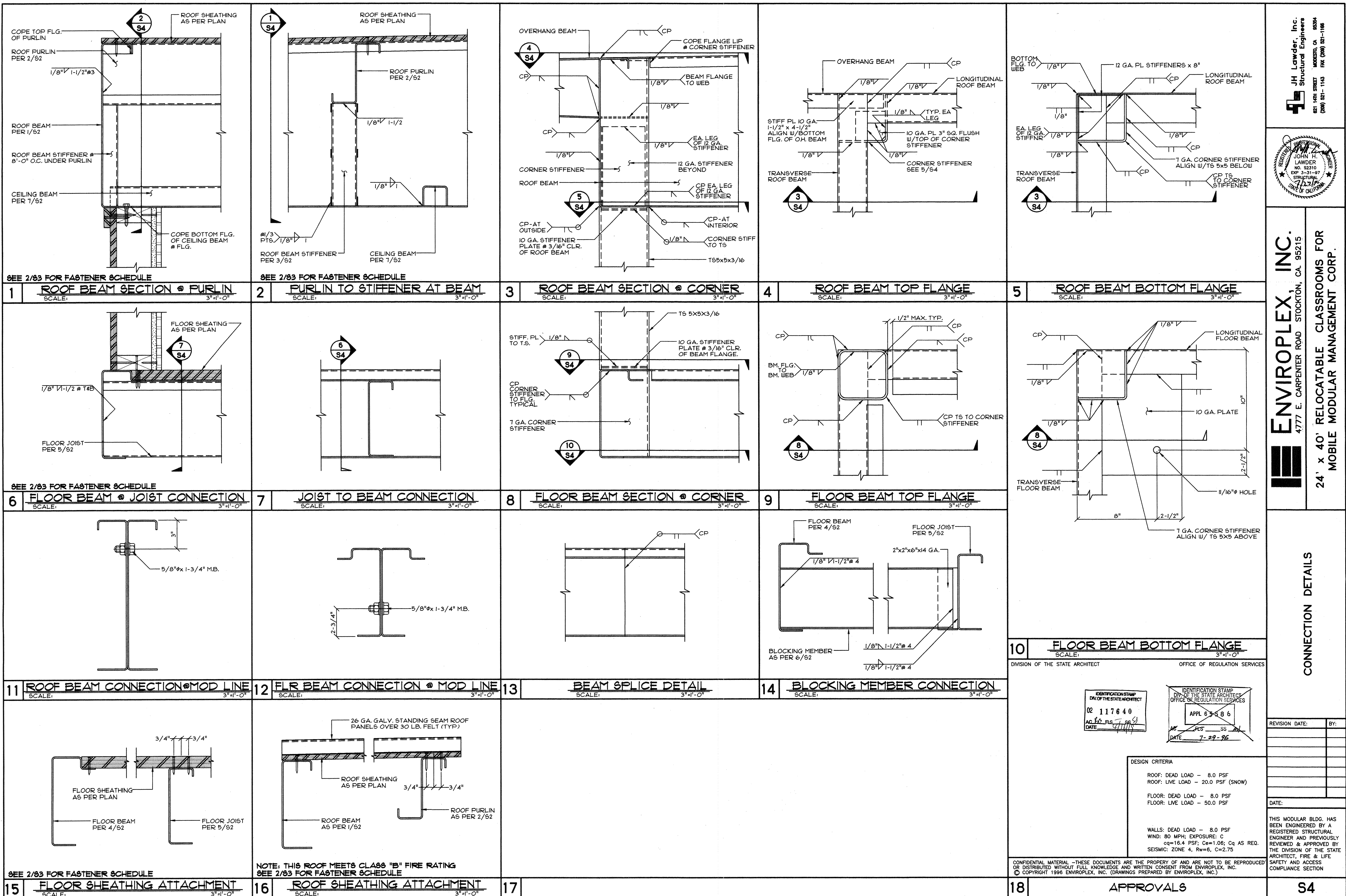
LONGITUDINAL BUILDING SECTION
WALL FRAMING ELEVATIONS-END
FRAME ELEVATION-NAIL SCHEDULE

REVISION DATE: BY:

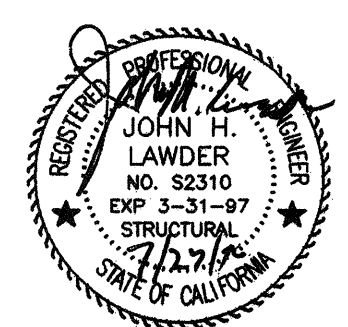
DATE:

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S3



JH Lawder, Inc.
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Modesto, CA 95354
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ENVIROPLEX, INC.
4777 E. CARPENTER ROAD STOCKTON, CA 95215
24' x 40' RELOCATABLE CLASSROOMS FOR
MOBILE MODULAR MANAGEMENT CORP.

CONNECTION DETAILS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02 117640
AC 62 FLS 66 S2
DATE 7/11/96

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL 63586
AC 62 FLS 66 S2
DATE 7-29-96

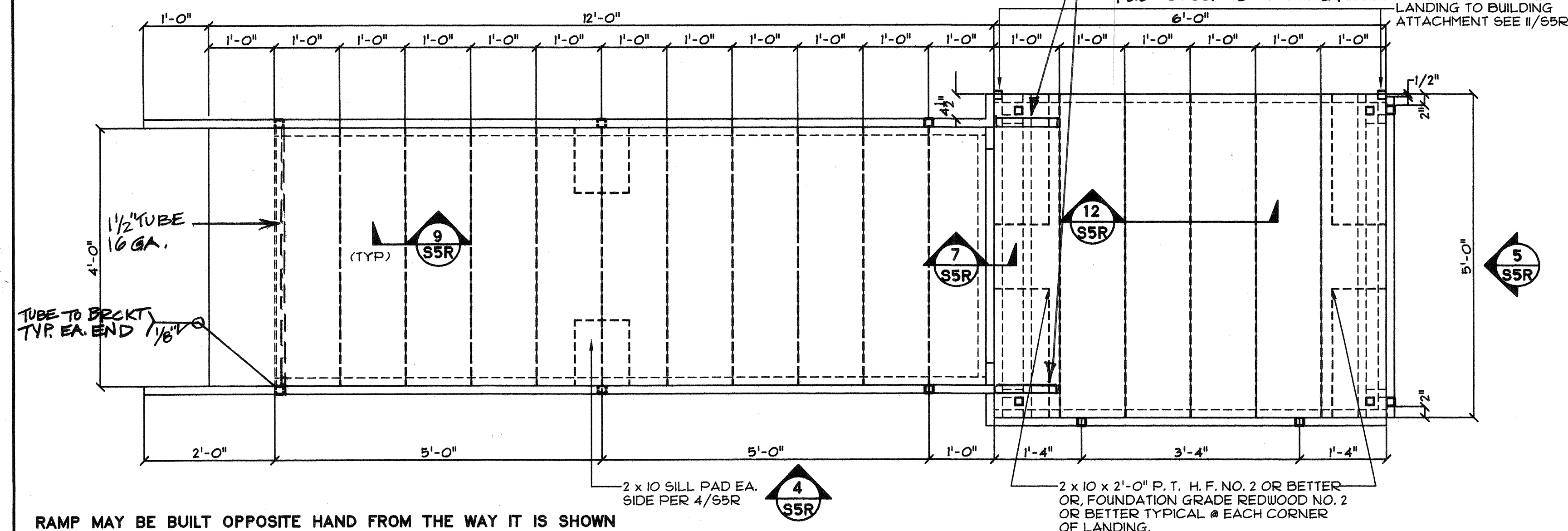
DESIGN CRITERIA
ROOF: DEAD LOAD - 8.0 PSF
ROOF: LIVE LOAD - 20.0 PSF (SNOW)
FLOOR: DEAD LOAD - 8.0 PSF
FLOOR: LIVE LOAD - 50.0 PSF

WALLS: DEAD LOAD - 8.0 PSF
WIND: 80 MPH; EXPOSURE: C
cq=16.4 PSF; Ce=1.06; Cq AS REQ.
SEISMIC: ZONE 4, Rw=6, C=2.75

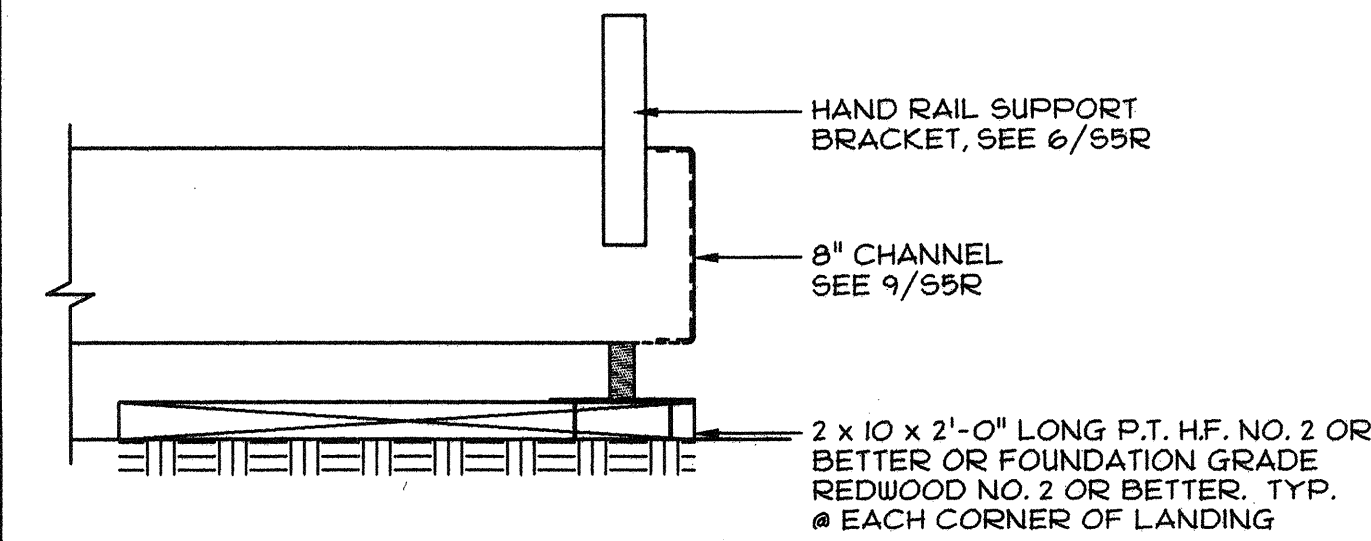
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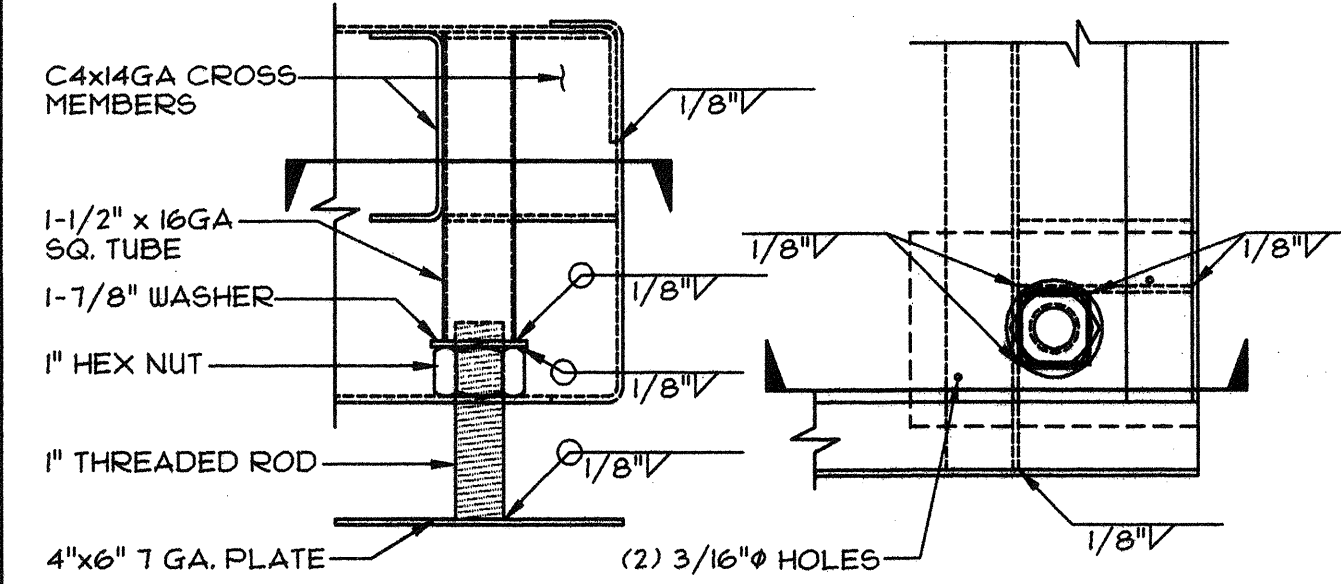
MODIFY RAMP HANDRAILS PER MOBILE MODULAR
HANDRAIL EXTENSION DRAWING DSA # 04-115384
PER SHEET 2 RAMP LANDING PLAN & DETAIL 7
6'-0" LANDING TO BUILDING
ATTACHMENT SEE II/55R



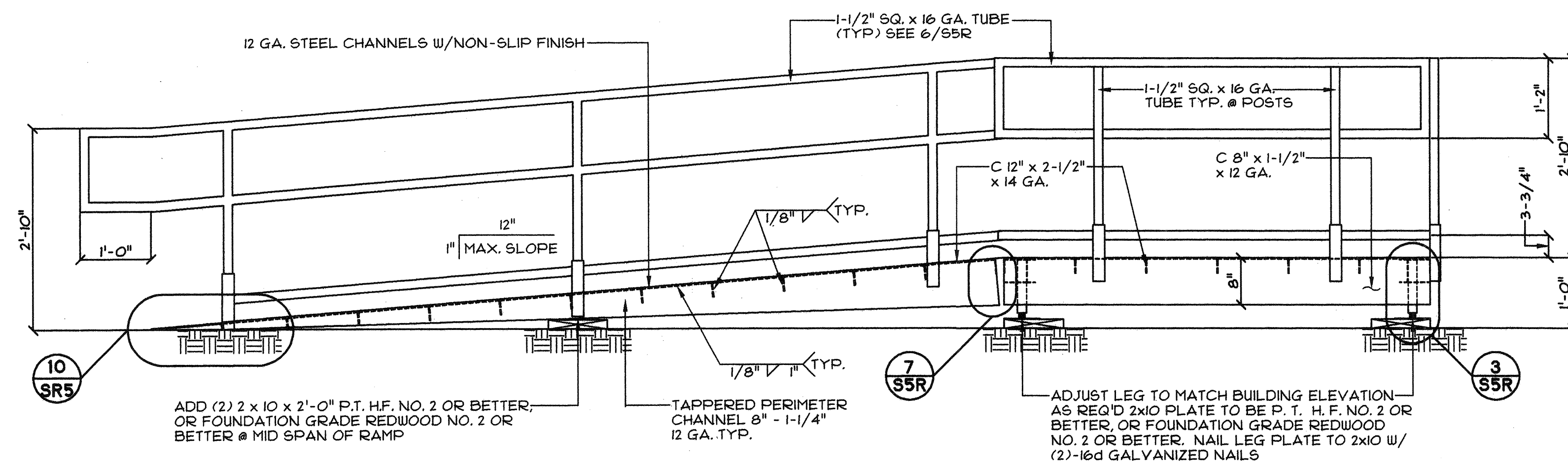
1 | RAMP/LANDING FRAMING PLAN
SCALE: 3/4"=1'-0"



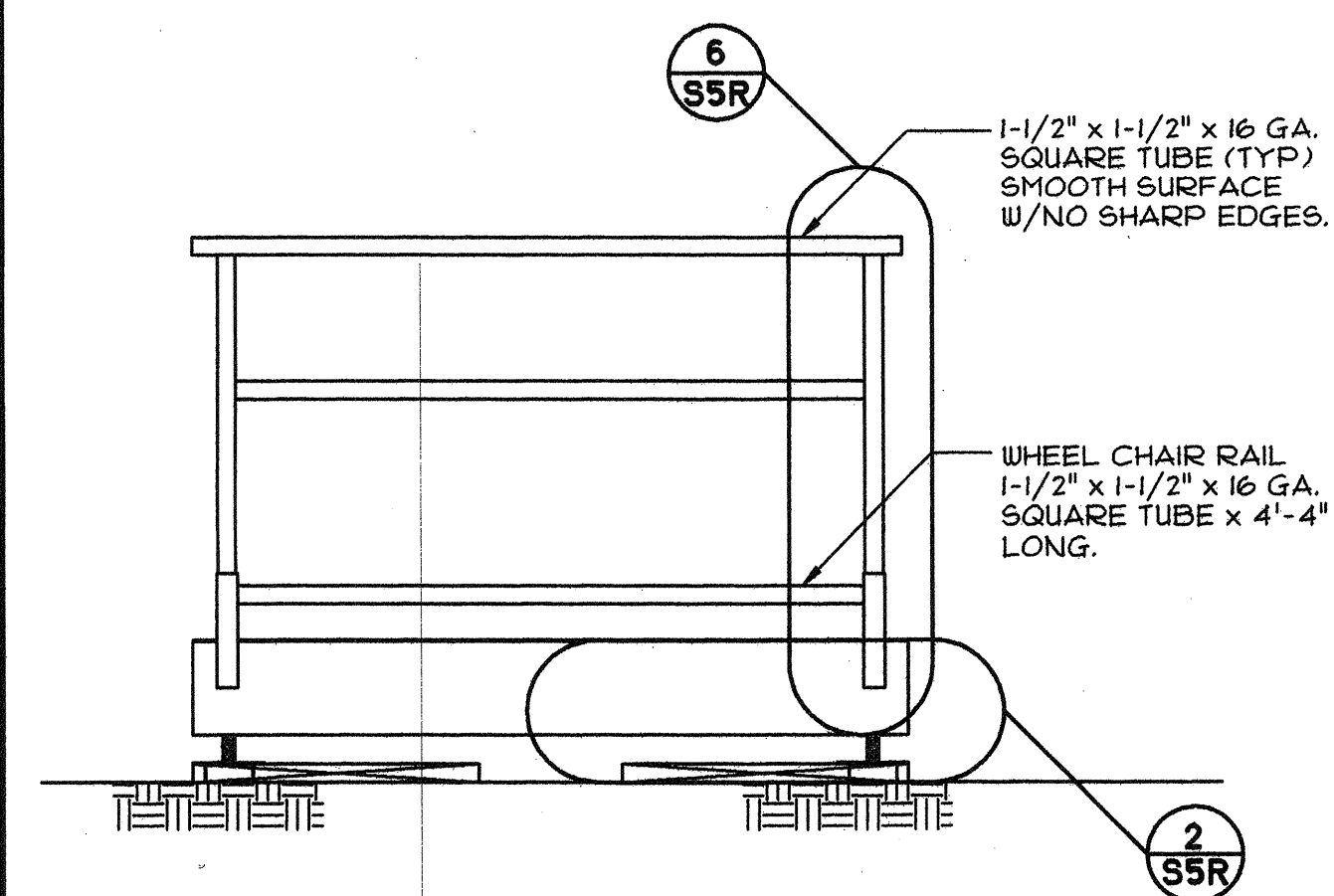
2 LANDING BASE
SCALE: 1-1/2" = 1'-0"



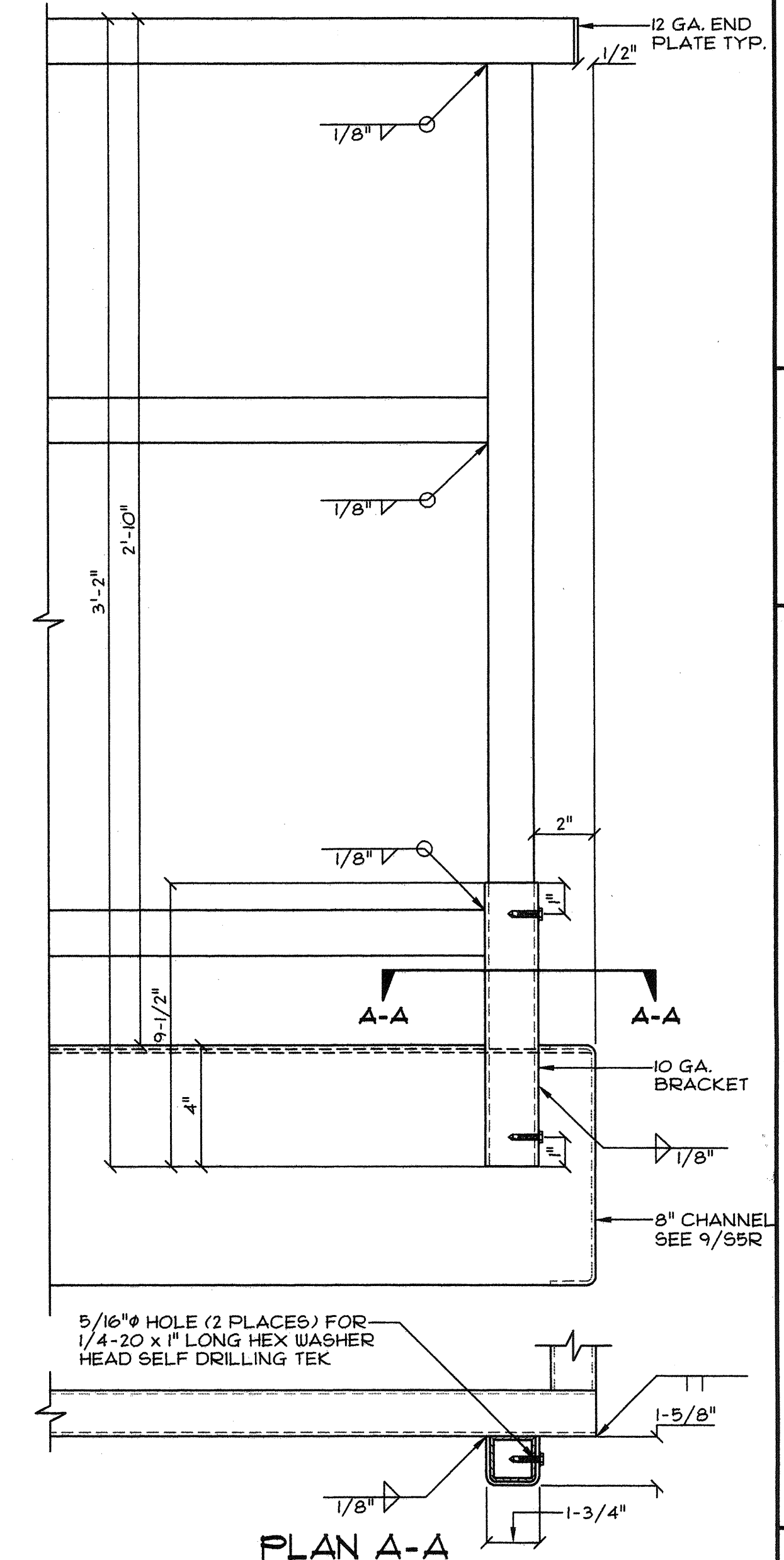
3 ADJUSTABLE LEG & BASE DETAIL



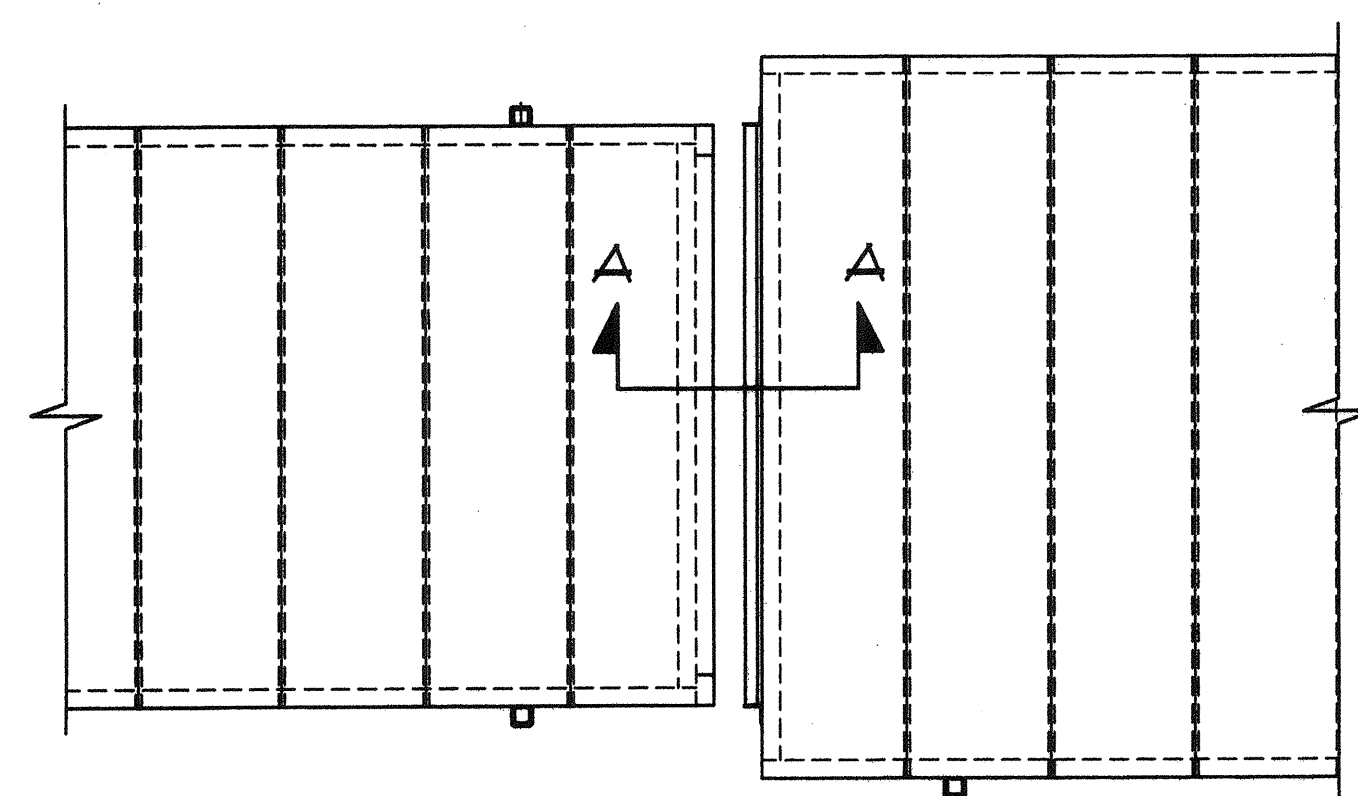
4 RAMP/LANDING SIDE ELEVATION
SCALE: 3/4"=1'-0"



5		<u>END ELEVATION</u> SCALE: 3/4"=1'-0"
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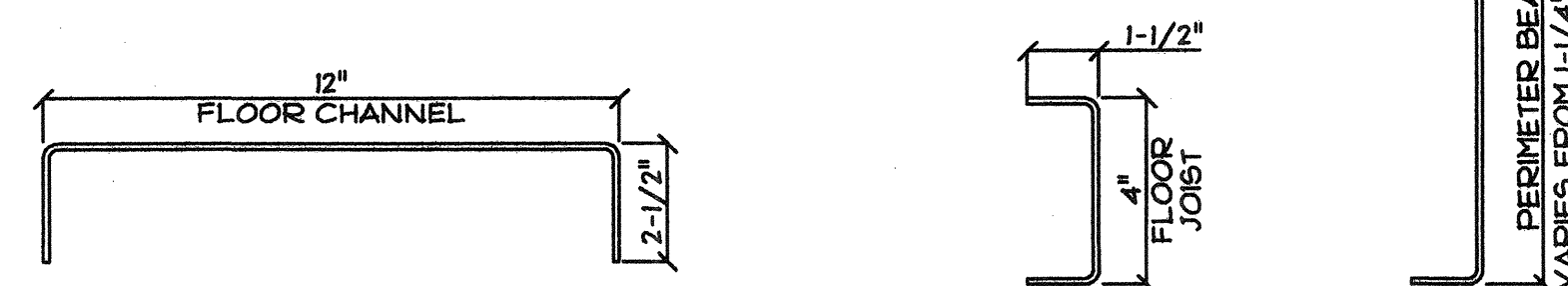
6 HANDRAIL SUPPORT BRACKET
SCALE: $3'' = 1'-0''$



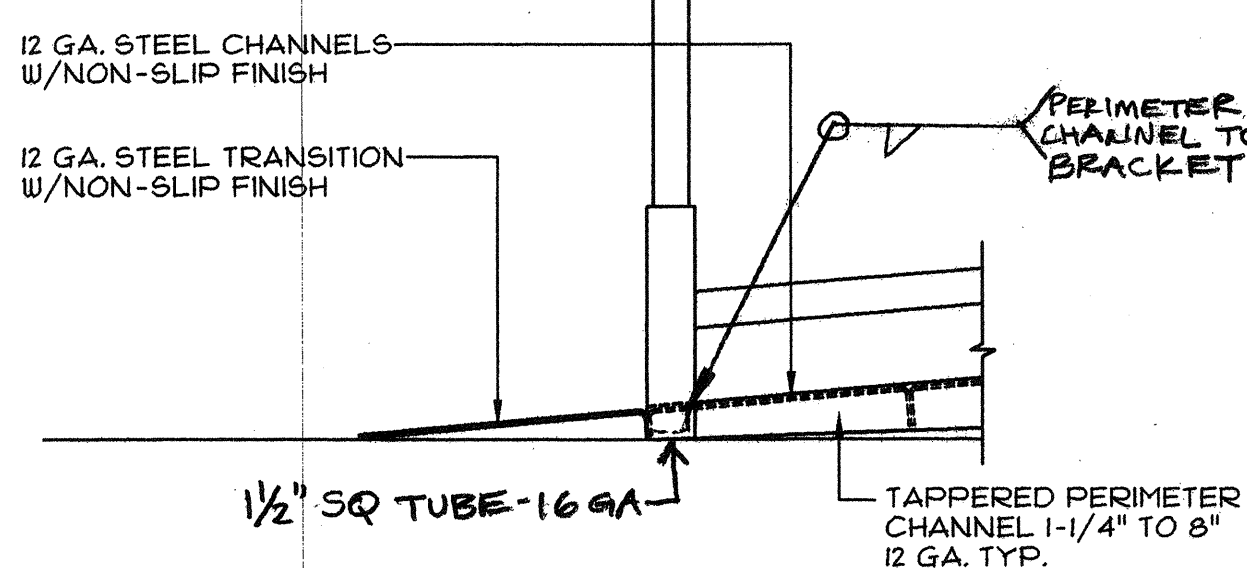
SECTION A-A
SCALE: 1-1/2"=1'-0"

PER SHEET 2 RAMP LANDING PLAN & DETAIL 7

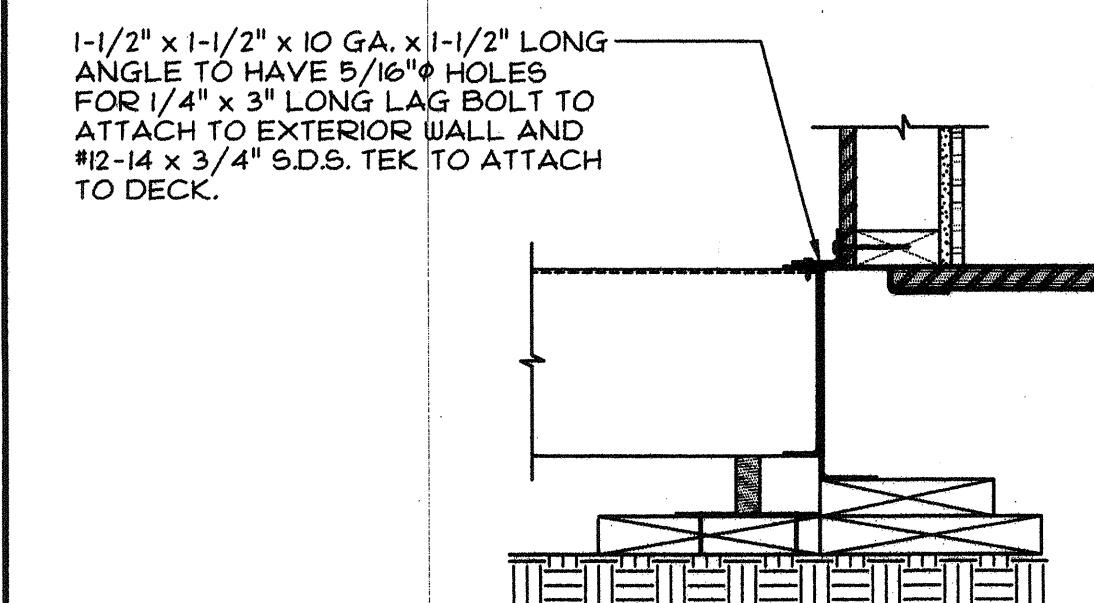
EFFECTIVE		SECTION		PROPERTIES	
FLOOR	CHANNELS	FLOOR	JOIST	PERIMETER	BEAM
A (IN ²)	12"	4"		1-1/4"	8"
I _x (IN ⁴)	1.51	.35		.69	1.10
S _x MIN (IN ³)	1.52	.62		1.58	8.36
S _x MIN (IN ³)	.75	.33		.79	2.12
T (IN)	.105"(12 GA.)	.06"(16 GA.)		.105"(12 GA.)	.105"(12 GA.)



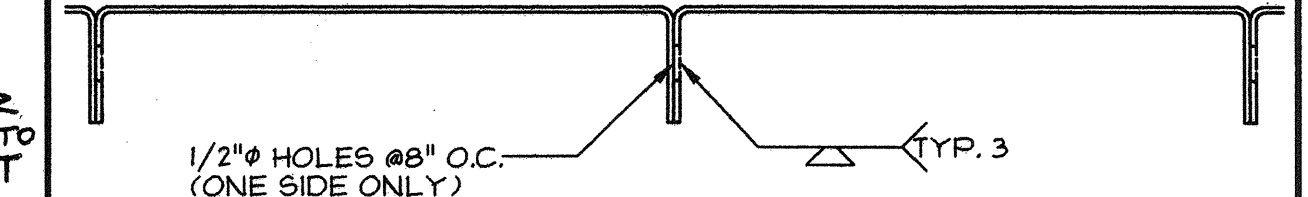
FLOOR CHANNEL AND PERIMETER BEAM



10	<u>Ø-CLEARANCE TRANSITION</u> SCALE: 1-1/2"=1'-0"
----	--



11	LANDING ATTACHMENT TO BUILDING SCALE: 1-1/2"=1'-0"
----	---



12	<u>FLOOR CHANNEL ATTACHMENT</u>
----	---------------------------------

DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT

02 117640

AC *FM* FLS *SS* *3*
DATE *4/16/11*

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES


APPL 6 5 5 8 6

AC W FLS W SS AN
DATE 7-29-86

DESIGN CRITERIA

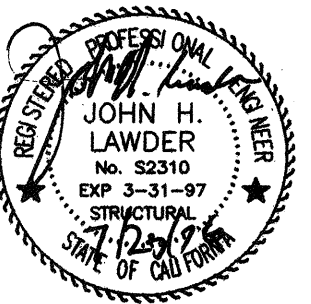
RAMP: DEAD LOAD - 5.0 PSF
RAMP: LIVE LOAD - 100.0 PSF

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(209) 521-1143 FAX (209) 521-1166



ENVIROPLEX, INC.
1777 E. CARPENTER ROAD STOCKTON, CA. 95215

**24' x 40' RELOCATABLE CLASSROOMS FOR
MOBILE MODULAR MANAGEMENT CORP.**

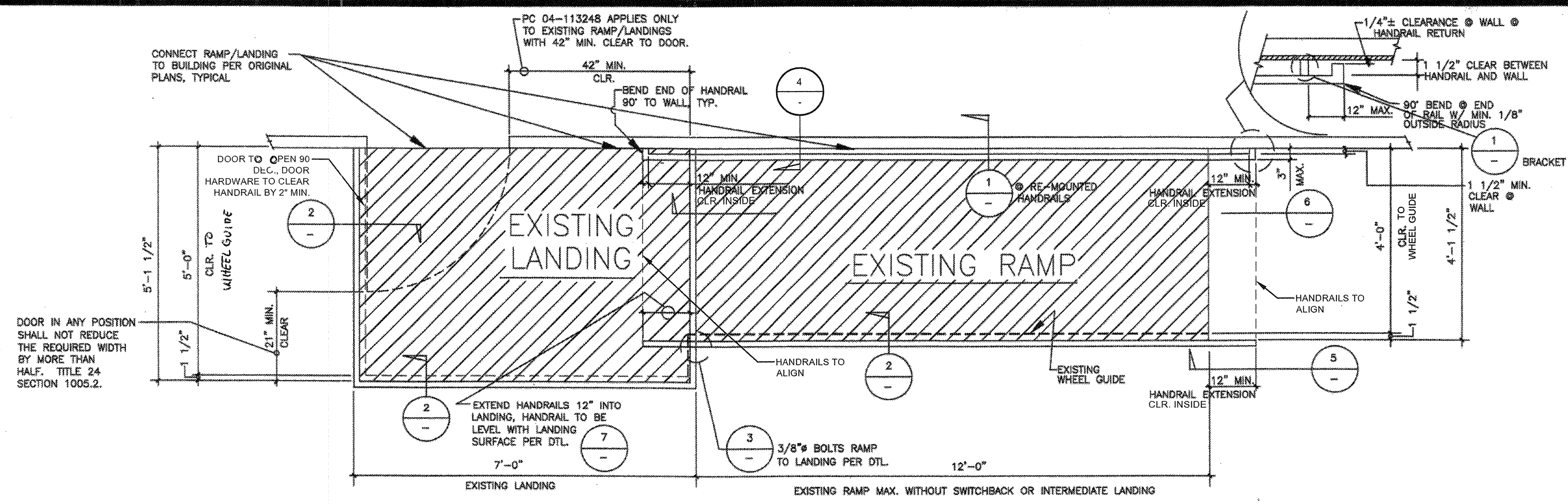
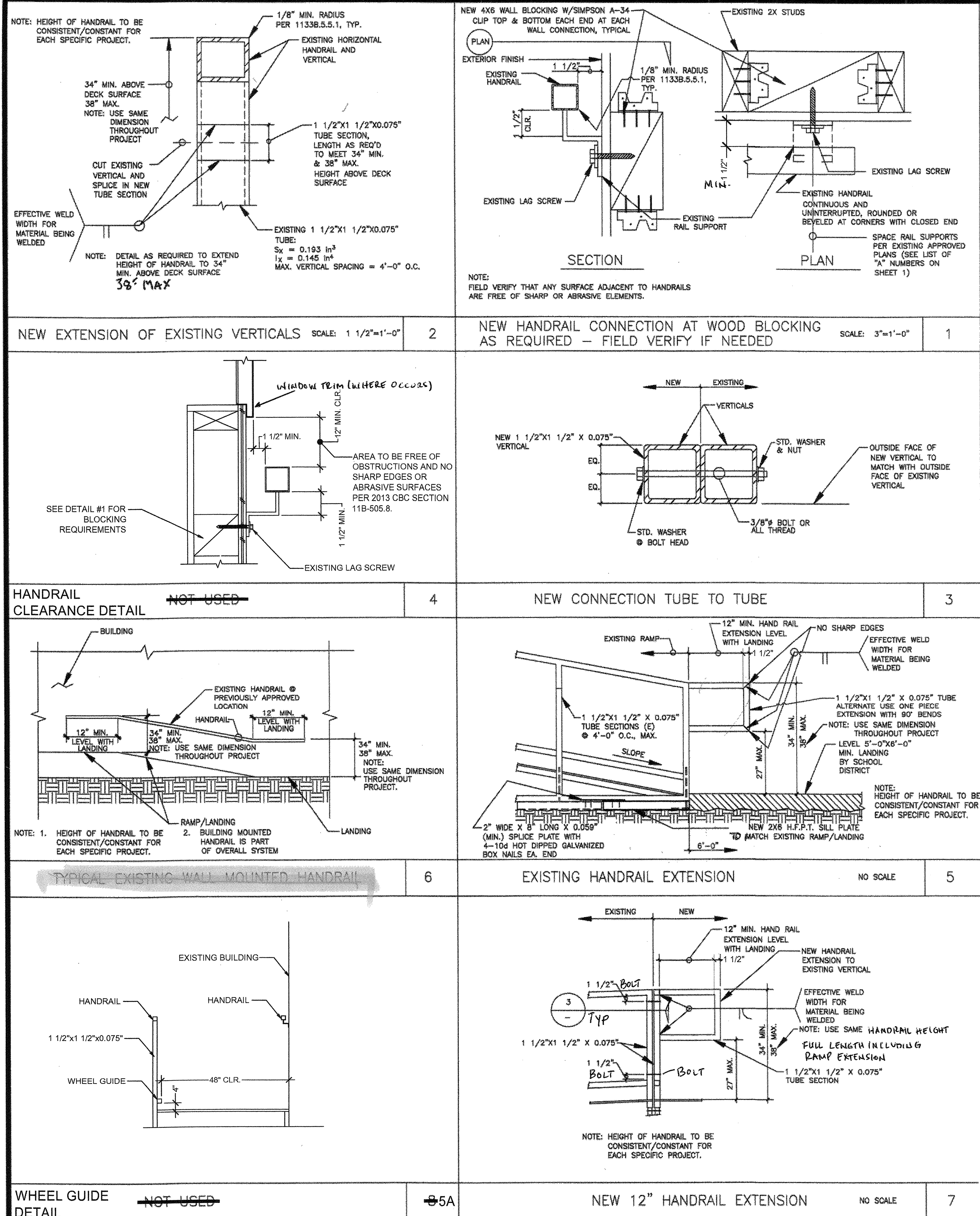
HANDICAP ACCESS RAMP

REVISION	DATE	BY
----------	------	----

DATE: _____

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S5R



RAMP/LANDING PLAN - SEE SHEET 1 FOR LIST OF DSA APPLICATION/PC NUMBERS THIS PLAN APPLIES TOO

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

NOTES:

2012 INTERNATIONAL BUILDING CODE (IBC)/2013 CALIFORNIA BUILDING CODE (CBC)

DESIGN LOADS:
RAMP LIVE LOAD: 100 PSF
WIND LOAD: 110 MPH EXPOSURE "C", K_z = 1.0
WIND PER ASCE 7-10 CHAPTER 29, STRUCTURAL CATEGORY II

SEISMIC:
S₁ = 2.85
S₂ = 1.24
S₃ = 1.80
S₄ = 1.24
F₀ = 1.0
F₁ = 1.5
F₂ = 1.0
F₃ = 3.5
SEISMIC DESIGN CATEGORY = E

NO SNOW LOADING
NO FLOOD LOADING
HANDRAIL & GUARD RAIL LOADS:
50#/FT
200# POINT LOAD

ALLOWABLE SOIL BEARING = 1000 PSF

STEEL:
TYPICAL TUBE STEEL ASTM A500 GRADE A (F_y = 36KSI FOR SHAPED TUBING & F_y = 33 KSI FOR ROUND TUBING)
TUBE STEEL FOR HANDRAIL POSTS SHALL CONFORM TO ASTM A500 GRADE A
ALL STEEL TO BE COATED WITH A RUST INHIBITIVE COATING
STEEL PLATE ASTM A36

BOLTS: ASTM A307 (GALVANIZED)
WELDS: ALL WELDING SHALL CONFORM TO "AMERICAN WELDING SOCIETY D-1.3-08 FOR SHEET STEEL"
ELECTRODES SHALL BE E70XX.

GENERAL NOTES:

1) RAMP HAVING SLOPES STEEPER THAN 1 VERTICAL TO 20 HORIZONTAL SHALL HAVE LANDINGS AT TOP AND BOTTOM AND AT LEAST ONE INTERMEDIATE LANDING SHALL BE PROVIDED FOR EACH 30° OF RISE, PER CBC 11B-405.7.

2) LOCATION OF LANDINGS.
LANDINGS SHALL BE PROVIDED AT TOP AND BOTTOM OF EACH RAMP. INTERMEDIATE LANDINGS SHALL BE PROVIDED AT INTERVALS NOT EXCEEDING 30 INCHES OF VERTICAL RISE AND AT EACH CHANGE OF DIRECTION. LANDINGS ARE NOT CONSIDERED IN DETERMINING THE MAXIMUM HORIZONTAL DISTANCE OF EACH RAMP.

NOTE: EXAMPLES OF RAMP DIMENSIONS ARE:

SLOPE	MAX. RISE (INCHES)	MAX. HORIZONTAL PROJECTION
1:12	30	30'-0"
1:16	30	40'-0"
1:20	30	50'-0"
1:15	30	37'-6"

3) SIZE OF TOP LANDINGS. TOP LANDINGS SHALL NOT BE LESS THAN 60 INCHES WIDE AND SHALL HAVE A LENGTH OF NOT LESS THAN 60 INCHES IN THE DIRECTION OF RAMP RUN, PER CBC 11B-405.7.2 AND .3.

4) THE SURFACE OF RAMP SHALL BE ROUGHED OR SHALL BE OF SUP-RESISTANT MATERIAL, TYP. FOR LANDINGS & STAIRS.

5) RAMP REQUIREMENTS SHALL BE PER CBC 11B-405.

6) RAMP AND STAIRWAYS USED AS EXIT SHALL CONFORM TO CBC SEC. 1009 SEC. 1010, CHAPTER 11B AND 11B-405.5.

7) HANDRAILS AND GUARDRAILS SHALL CONFORM TO CBC 11B-405.8 (RAMP), 11B-504 (STAIRS).

8) LANDING WIDTH. AT BOTTOM AND INTERMEDIATE LANDINGS, THE WIDTH SHALL BE AT LEAST THE SAME AS REQUIRED FOR RAMP, CBC 11B-405.7A.

9) THE WIDTH OF RAMP SHALL BE AS REQUIRED PER STAIRWAYS AND EXITS. 11B-405.5.

10) SLOPE RAMP AND LANDINGS AS REQUIRED TO PREVENT ACCUMULATION OF WATER ON WALKING SURFACES.

11) ALL WORK SHALL CONFORM TO TITLE 24 CALIFORNIA CODE OF REGULATIONS (CCR).

12) CHANGES TO APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR CONSTRUCTION CHANGES APPROVED BY THE DIVISION OF THE STATE ARCHITECT AS REQUIRED BY SECTION 4-338, PART 1 TITLE 24, CCR.

13) A PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DIVISION OF STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4.342 PART 1 TITLE 24 CCR.

IN PLANT: SHOP WELDING INSPECTION AND MATERIAL VERIFICATION

SITE CONSTRUCTION: CLASS 4

DSA NOTES:

1. COMPLIANCE WITH TITLE 24 FOR PARTS 1-6 & 9.
• NOTE: DSA DOES NOT ENFORCE PART 7 (OSHA) FOR ELEVATORS.

2. TITLE 24 PARTS 1-5 MUST BE KEPT ON SITE DURING CONSTRUCTION.

3. ADDENDA MUST BE SIGNED BY ARCHITECT AND APPROVED BY DSA

4. SUBSTITUTIONS AFFECTING ACS, FLS AND SS SHALL BE CONSIDERED AS A CONSTRUCTION CHANGE, AND SHALL BE APPROVED BY DSA PRIOR TO FABRICATION AND INSTALLATION.

• SUBSTITUTIONS SHALL BE FOR ANY MATERIAL, SYSTEM OR PRODUCT THAT WOULD OTHERWISE BE REVIEWABLE DURING ROUTINE PLAN CHECK BY DSA - SSS, FLS, ACS OR ENERGY.

5. CONSTRUCTION CHANGES CDD'S MUST BE SIGNED BY ALL THE FOLLOWING:
• A/E OF RECORD
• OWNER (CONSTRUCTION CHANGES)
• STRUCTURAL ENGINEER (WHEN APPLICABLE)
• DELEGATED PROFESSIONAL ENGINEER (WHEN APPLICABLE)
• DSA

6. A NOTE THAT THE PROJECT INSPECTOR MUST BE EMPLOYED BY THE OWNER AND APPROVED BY ALL OF THE FOLLOWING:
• A/E OF RECORD
• DSA

7. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE DSA APPROVED DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CONSTRUCTION CHANGE DOCUMENT, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE REPAIR WORK.

DATE SIGNED
FEB 06 2017

SITE SPECIFIC APPROVAL

DSA PC STAMP
PRE-CHECK (PC) DOCUMENT
A SEPARATE PROJECT APPLICATION FOR CONSTRUCTION IS REQUIRED.

APPROVAL - PC ENGINEER OF RECORD

DATE SIGNED
OCT 20 2014

STRUCTURAL ENGINEERS, INC.
4091 RIVERSIDE DRIVE, SUITE 114
CHINO, CALIFORNIA 91710
(909) 613-0234
Fax: (909) 613-0238

MEMBER
STRUCTURAL ENGINEERS
ASSOCIATION OF CALIFORNIA
AMERICAN CONCRETE
INSTITUTE
(800) 613-0234
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REVISIONS

NO.	DESCRIPTION	DATE	BY

MOBILE MODULAR
MANAGEMENT
11450 MISSION BLVD.
MIRA LOMA, CA 91752

TYPICAL PLAN, DETAILS &
SPECIFICATIONS

PC - 113248

DATE SIGNED
OCT 20 2014

DRAWN

CHECKED

DATE
10 JUN 2014

SCALE

JOB NO.

2

OF 3 SHEETS