

00 03 00
STAMPS

FILE NO. 39-50

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES		
APPL. 02 - 116554		
AC <u>-</u>	FLS <u>20</u>	SS <u>-</u>
DATE <u>6-21-18</u>		

Licensed California Contractor	
License # 496881 C-7, C-10	
Bl-JaMar Inc. dba Quality Sound	
2010 E. Fremont St.	
Stockton, CA 95205	
Expiration Date: <u>8/31/2018</u>	
Signature: <u>[Signature]</u>	
James E. Bryan, President	

6/12/2018

ADDENDUM, CONSTRUCTION CHANGE DOCUMENTS, DRAWING, DEFERRED APPROVAL WORKSHEET AND TRANSMITTAL MEMO

Project Name/School: Lodi Middle School (Lodi Unified School District)		DSA File #: 39	- 50
<input type="checkbox"/> Change Order #:	<input type="checkbox"/> Addendum #:	DSA App. 02	- 116554
<input type="checkbox"/> Deferred Approval:	<input checked="" type="checkbox"/> Revision 1 (Sub 1)		

1. MATERIALS RECEIVED:

A. Master: ONE	
B. Copies: —	
C. Print(s) each: —	of sheet(s) #(s): 23
D. Transmittal Letter: ONE	<input type="checkbox"/> Check Set Discarded
Approved Materials:	

2. DIRECTIONS FOR DSA STAFF:

<input type="checkbox"/> Send To: Quality Sound Systems	<input type="checkbox"/> Fax/Scan:		
<input type="checkbox"/> File:	<input type="checkbox"/> Copy for File Needed:		
Please send file to individual listed below:			
Name: David Pattee	<input type="checkbox"/> Architect <input type="checkbox"/> Structural Engineer		
Address: 2010 East Fremont Street	City: Stockton	CA	Zip Code: 95205
Items Sent:			
Fax Sent To:	Fax #:		
Company:	Senders Name:		
Phone #:	# of Pages Faxed:		
Date Sent: 6/21/18	Sender's Initials: AS	<input type="checkbox"/> U.S. Mail	<input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Hand Deliver

3. REMAINING REQUIREMENTS: Please check boxes below that apply.

<input checked="" type="checkbox"/> None	Remarks: Scan/FedEx
<input type="checkbox"/> Additional Information	
<input type="checkbox"/> Construction Change Documents	
<input type="checkbox"/> Corrections – Please return the following items with this transmittal memo: 1) The complete, intact, marked-up review set. 2) One copy and one original of the corrected submittal. 3) Calculations, drawings, and any other requested information. 4) Drawings bearing approval stamps (to avoid re-review).	

NOTES FOR DSA STAFF 6/15/18 SSS _____ Date _____ Approved/Disapproved/Not Required FLS J Okimoto Date 6-21-18 <input checked="" type="checkbox"/> Approved/Disapproved/Not Required ACS _____ Date _____ Approved/Disapproved/Not Required <input type="checkbox"/> SCOPE INCREASE – DSA Staff to Issue New First Approval Letter	DSA APPROVAL STAMP APPROVED DIV. OF THE STATE ARCHITECT SACRAMENTO REGIONAL OFFICE AS FLS 90 00 APP. 0 02-116554 DATE 6-21-18
--	---



SCANNED

QUALITY SOUND
SYSTEMS INTEGRATION
DIVISION OF BI-JAMAR, INC.

Date: June 12, 2018

To: Jared Okimoto
Fire Life Safety Officer 1
Division of the State Architect – Sacramento
1102 Q Street, Suite 5200
Sacramento, CA 95811

Subject: Lodi Middle School, Lodi Unified School District
Revision 1, Carbon Monoxide Detection Addition

DSA File No.: 39-50 **DSA Appl. No.:** 02-116554 **QS Job No.:** 17153E

Mr. Okimoto,

Please find the following items included for revision review and approval. The revision consists of change 5 smoke detectors to combination carbon monoxide / smoke detectors in four science classrooms and one library, due to the presence of fuel burning appliances and/or fuel burning HVAC.

- (1) Signed 23 sheet drawing package. [sheets 1,9,10,16 & 17 are the only sheets affected by the revision]
- (1) Signed product submittal book. [Photoelectric Smoke/CO Detector added to the end of the material list and product information added to the end of the book, item 27.]
- (1) Signed technical specification. [section 2.4.1.1.7. Photoelectric-CO Detector added to page 22]

Please give me a call to discuss any questions you may have regarding the information provided in this revision.

Sincerely,

DAVID J. PATTEE | ENGINEERING
Systems Engineer | NICET #99082, Fire Alarm Systems, Level IV

Bi-Jamar, Inc. dba | **QUALITY SOUND**
2010 East Fremont Street | Stockton, Ca 95205
Office: 209-948-2104 ext. 1054 | Cell: 209-993-1471
dpatee@qualitysound.net or visit us at www.qualitysound.net

DSA - SAC
JUN 15 2018

SCOPE OF WORK

This project will replace the existing manual fire alarm system and connection to the unified intercom system throughout the campus. Additionally, all detection and notification installed during the Cafeteria Remodel (DSA# 02-111649) will be replaced according to current code requirements.

The existing EST3 fire alarm control panel (DSA# 02-111649) will be expanded to include voice evacuation and needed addressable data loop capacity.

The new fire alarm system will be a complete, fully automatic, addressable system with voice evacuation throughout the entire campus.

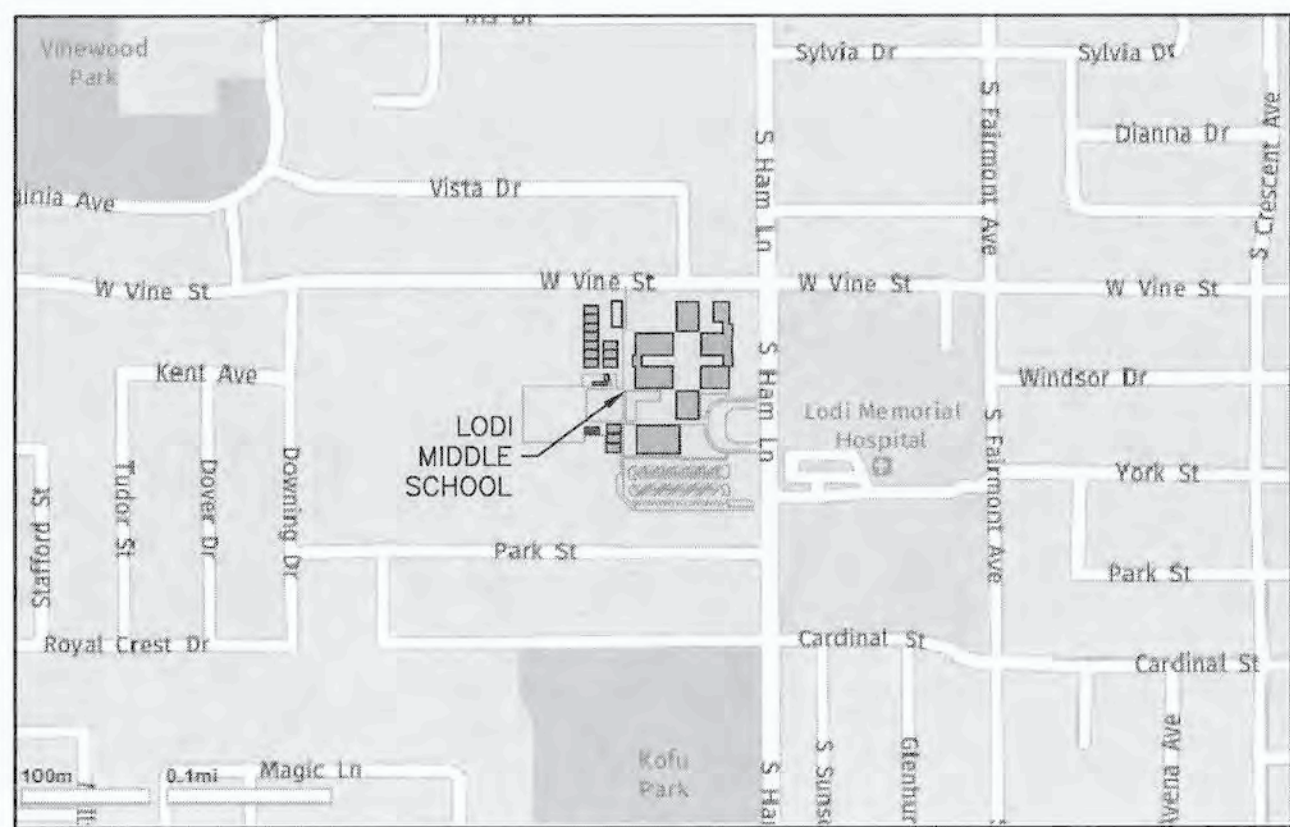
Carbon Monoxide alarms in ~~most~~ classrooms per 2016-CFC, section 915 are not required. Classroom mechanical units are not fuel-burning. Mechanical units for classroom buildings utilize hot water, while portable classrooms utilize electric resistive heating. Combination smoke/carbon monoxide detectors in the ~~science classrooms are provided due to presence of (2) natural gas spigots, per teacher's station in the science classrooms and their possible use with portable Bunsen burners. A combination smoke/carbon monoxide detector is provided in the library due to a fuel burning HVAC unit serving the library. The library may be used for instruction, similar to a classroom.~~

Per DSA IR A-21, QUALITY SOUND, a C-10 licensed contractor, is authorized to design the system within the parameters of their license. Additionally, the installing contractor shall be QUALITY SOUND, IR A-21, 2.2.

BUILDING DATA SCHEDULE

UNIT / BUILDING	DESCRIPTION	OCCUPANCY	CONSTRUCTION TYPE	SPRINKLERS	PAST DSA APP#
A	MULTI-PURPOSE BUILDING	GROUPS E & A	TYPE V-B	PARTIAL (STAGE ONLY)	24025, 51591, 02-109532, 02-111649
B	ADMINISTRATION, LIBRARY	GROUP E	TYPE V-B	NONE	24025, 02-109532, 02-111649
C	CLASSROOMS	GROUP E	TYPE V-B	NONE	24025, 02-109532, 02-111649
D	CLASSROOMS, RESTROOMS	GROUP E	TYPE V-B	NONE	24025, 02-109532, 02-111649
E	CLASSROOMS	GROUP E	TYPE V-B	NONE	24025, 02-111649
F	CLASSROOMS, RESTROOMS	GROUP E	TYPE V-B	PARTIAL (SEE NOTE BELOW)	29702, 02-102227, 02-103249, 02-109532, 02-111649
PORTABLE 27-29	CLASSROOMS	GROUP E	TYPE V-B	NONE	02-102968, 02-109112, 02-111649
PORTABLE 35-37	CLASSROOMS	GROUP E	TYPE V-B	NONE	69156, 02-111649
PORTABLE 38-40	CLASSROOMS	GROUP E	TYPE V-B	NONE	02-102227, 02-111649
PORTABLE 41-44	CLASSROOMS	GROUP E	TYPE V-B	NONE	02-102968, 02-111649

NOTE: UNIT F HAS EXISTING DOMESTIC WATER SUPPLIED SPRINKLERS IN PROJECT STORAGE ROOMS F3,F4,F5,F6 AND JANITOR ROOM F19 ONLY. THESE SPRINKLERS ARE FED FROM THE DOMESTIC WATER SYSTEM AND HAVE GATE VALVES WITH NO WATER FLOW DEVICES. THIS SYSTEM IS EXISTING FROM THE APPROVED 1967 DESIGN.



REFER TO SHEET 1 NOTES FOR GENERAL REQUIREMENTS

REVISIONS	BY
1 INITIAL SUBMITTAL 01/30/18	DJP
2 DSA BACKCHK 04/16/18	DJP
3 CO DETECTION 06/12/18	DJP

QUALITYSOUND
SYSTEMS INTEGRATION
DIVISION OF BI-JAMAR, INC.
2010 East Fremont St., Stockton, CA 95205
Stockton: 209-948-2104
State C-7 & C-10 License No. 496881, ACO 5717



SITE PLAN

FIRE ALARM SYSTEM UPGRADE

LODI MIDDLE SCHOOL
LODI UNIFIED SCHOOL DISTRICT
945 SOUTH HAM LANE,
LODI, CA 95242

ate 01/30/18

scale SHOWN

rawn	LAD
------	-----

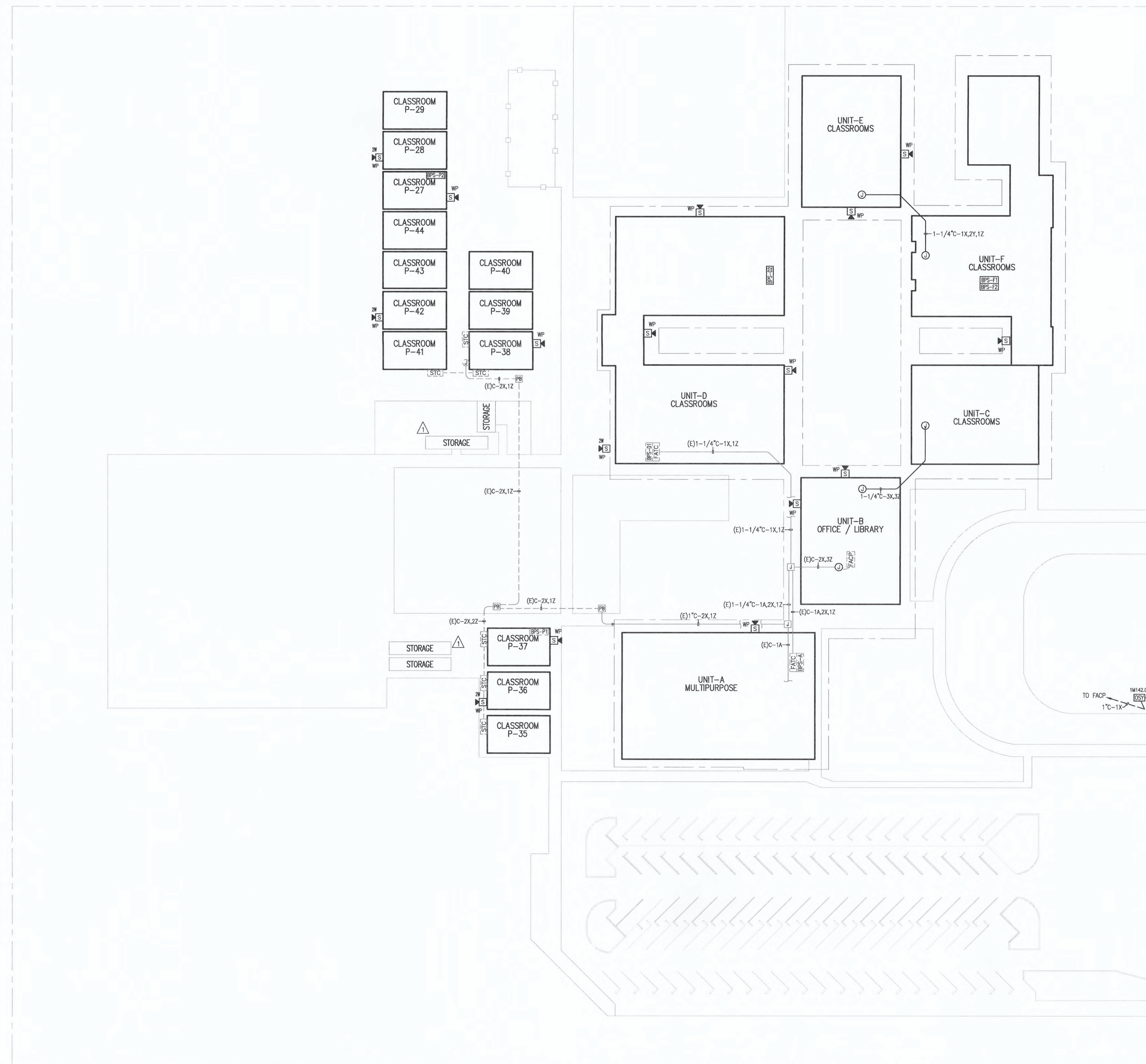
checked DJP

b 17153E

Sheet 2


100

23 Sheets



 **SITE PLAN**
SCALE: 1" = 30'-0"

SCALE: 1" = 30'0"



0 30' 60' 90' 120'

FILE NO. 39-50

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

APPL. 02 -
116554

AC FLS 20 SS
DATE 6-21-18

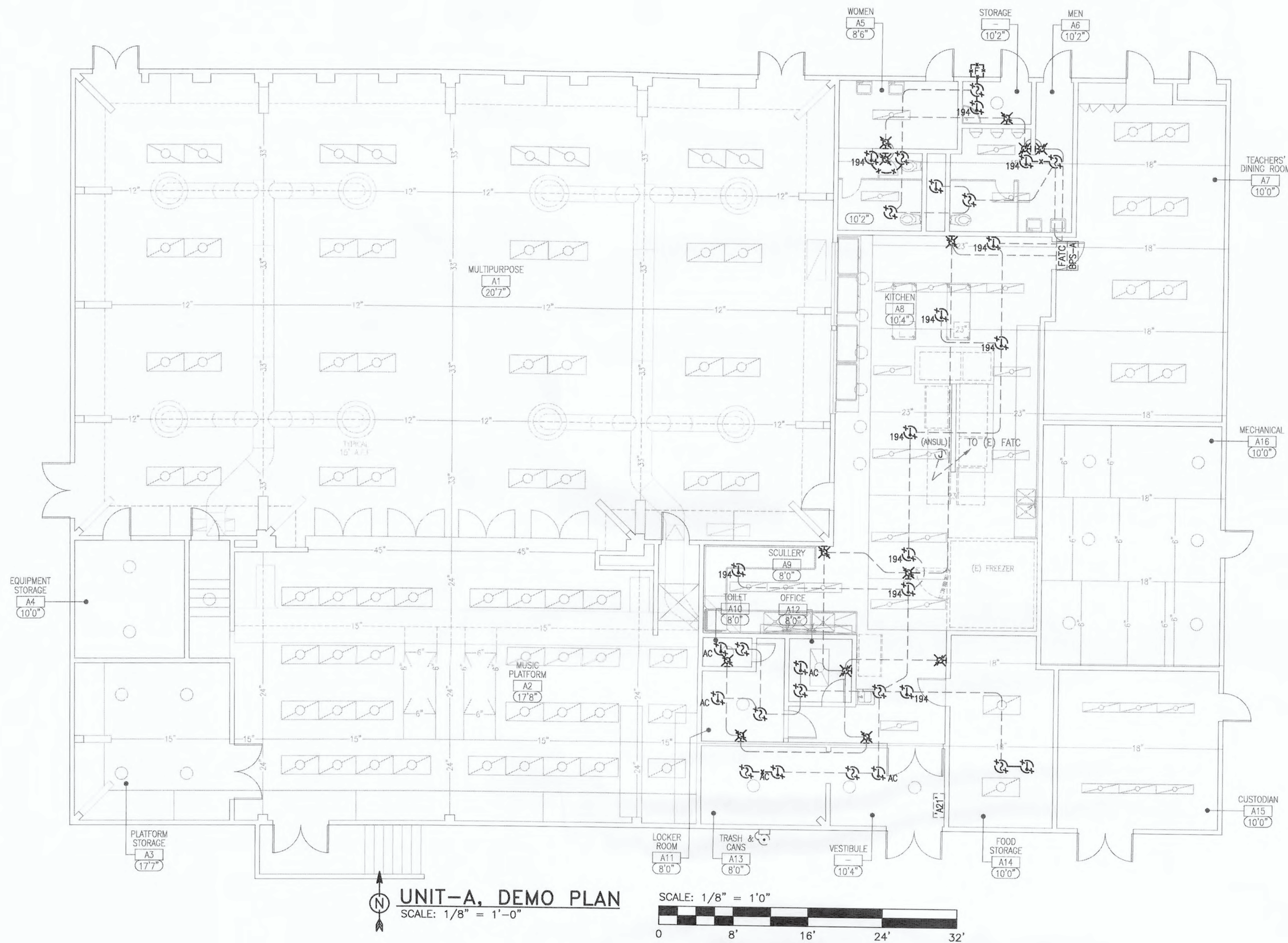
Licensed California Contractor
License # 498881 C-7, C-10
Bi-Jalmar Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95205
Expiration Date: 8/31/2018
Signature: James E. Bryan, President

8/10/2019

SHEET 3 NOTES

REFER TO SHEET 1 NOTES FOR GENERAL REQUIREMENTS

1. SYMBOLS ON THE FLOOR PLANS THAT ARE LIGHT IN COLOR AND DASHED ARE EXISTING. SYMBOLS THAT ARE BOLD WITH X'S ARE TO BE REMOVED.
2. CONDUIT THAT IS LIGHT IN COLOR & DASHED IS EXISTING AND CAN BE REUSED IN PLACE.
3. EXTERIOR MANUAL PULL STATIONS ARE TO BE REMOVED AND PROVIDED WITH AN APPROPRIATE COVER BY THE ELECTRICAL CONTRACTOR.



EXISTING ARCH. KEY

- WOOD STUD WALL
- 18" CEILING BEAM & DEPTH
- GYPSUM CEILING
- EXPOSED DUCT/SUPPLY
- RETURN GRILL

FILE NO. 39-50
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL. 02 -
116554
AC. FLS. SS. -
DATE 6-21-18

Licensed California Contractor
License # 448861 C-7, C-18
Bi-Jamar Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95205
Expiration Date: 8/31/2018
Signature: [Signature]
Title: President

REVISIONS	BY
INITIAL SUBMITTAL 01/30/18	DJP
DSA BACKCHECK 04/16/18	DJP
CO DETECTION 06/12/18	DJP

QUALITY SOUND
SYSTEMS INTEGRATION
DIVISION OF BI-JAMAR, INC.
2010 East Fremont St., Stockton, CA 95205
Stockton 208-946-2104
Fax 208-946-2105
State C-7 & C-18 License No. 448861, ACO 5717



UNIT-A
DEMOLITION
FLOOR PLAN

FIRE ALARM SYSTEM UPGRADE

LODI MIDDLE SCHOOL
LODI UNIFIED SCHOOL DISTRICT
945 SOUTH HAM LANE,
LODI, CA 95242

Date	01/30/18
Scale	SHOWN
Drawn	LAD
Checked	DJP
Job	17153E
Sheet	3
Of	23 Sheets

REFER TO SHEET 1 NOTES FOR GENERAL REQUIREMENTS

- SHEET 4 KEYED NOTES

- | REVISIONS | BY |
|-------------------------------|-----|
| INITIAL SUBMITTAL
01/30/18 | DJP |
| DSA BACKCHK
04/16/18 | DJP |
| NO DETECTION
06/12/18 | DJP |

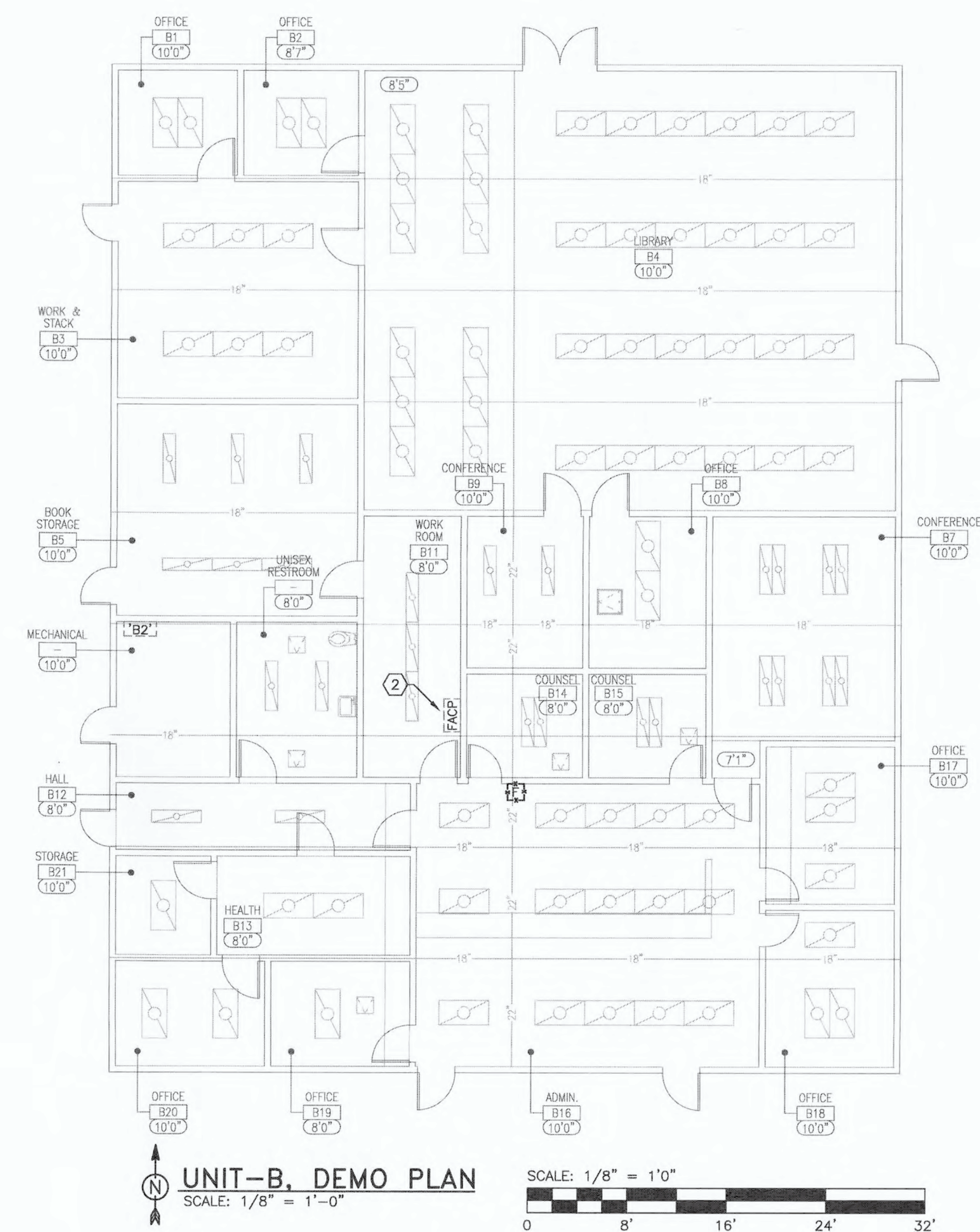


UNITS-B & D
DEMOLITION
FLOOR PLANS

FIRE ALARM SYSTEM UPGRADE

LODI MIDDLE SCHOOL
LODI UNIFIED SCHOOL DISTRICT
945 SOUTH HAM LANE,
LODI, CA 95242

Date	01/30/18
Scale	SHOWN
Drawn	LAD
Checked	DJP
Job	17153E
Sheet	4
Of	23 Sheets



FILE NO. 39-50

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

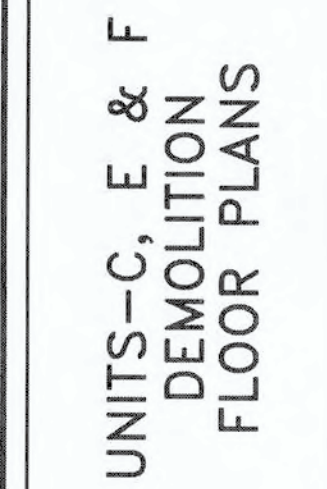
APPL. 02 -
116554

AC. — FLS. 20 SS. —
DATE: 6-21-18

Licensed California Contractor
License # 498981 C-7, C-10
Bi-JaMar Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95205
Expiration Date: 6/31/2018
Signature: [Signature]
Jenna E. Bryan, President

18
6/21/2018

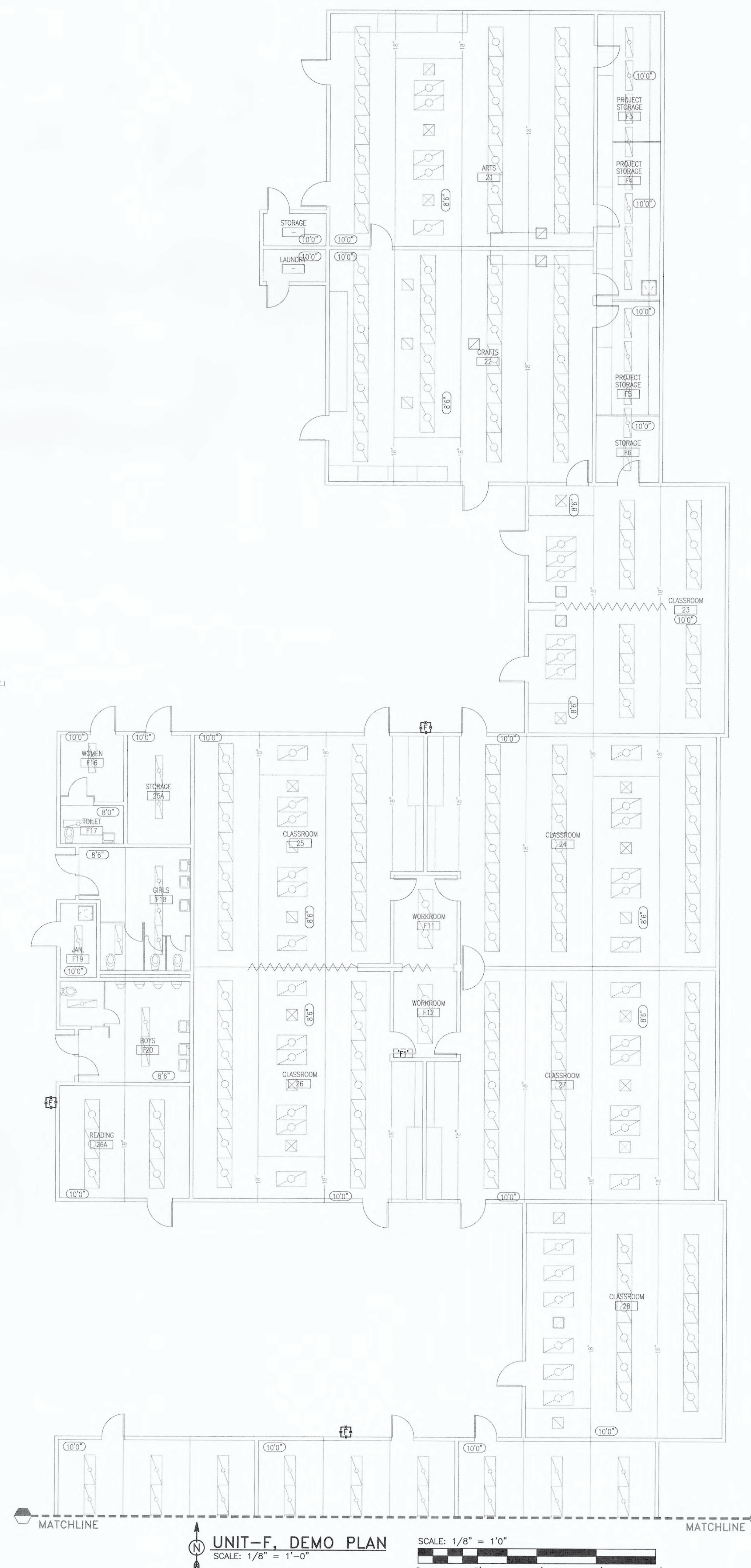
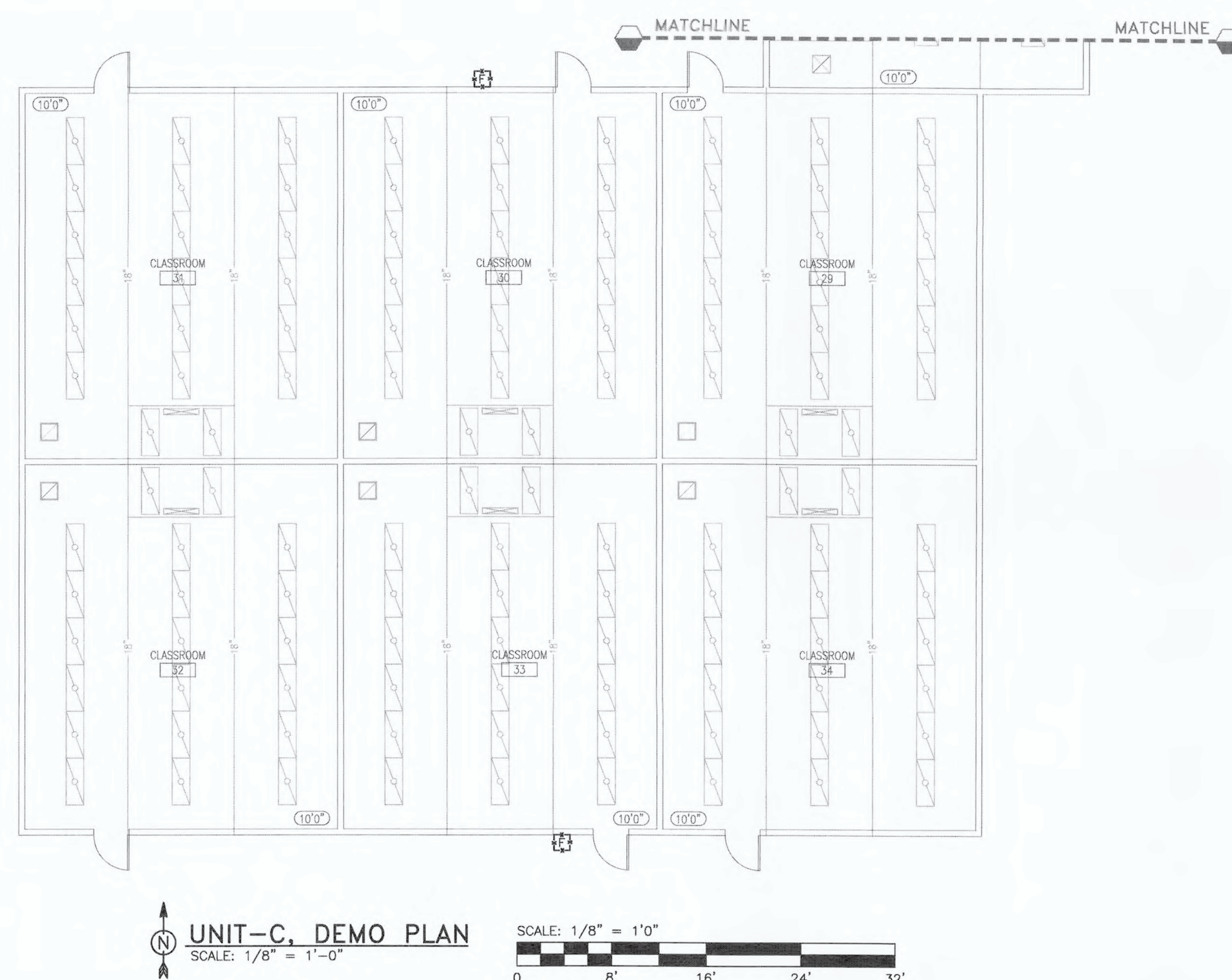
QUALITYSOUND
SYSTEMS INTEGRATION
DIVISION OF B-JAMAR, INC.
2010 East Fremont St., Stockton, CA 95205
Stockton: 209-948-2704
State C-7 & C-10 License No. 4968861, ACO 5717



FIRE ALARM SYSTEM UPGRADE

LODI MIDDLE SCHOOL
LODI UNIFIED SCHOOL DISTRICT
945 SOUTH HAM LANE,
LODI, CA 95242

Date	01/30/18
Scale	SHOWN
Drawn	LAD
Checked	DJP
Job	17153E
Sheet	5
of	23 Sheets



FILE NO. 39-50

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES		
APPL. 02 - 116554		
AC. <u> </u>	FLS. <u>90</u>	SS. <u> </u>
DATE: <u>6-21-18</u>		

Licensed California Contractor
License # 496881 C-7, C-10
Bi-Jamal Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95205
Expiration Date: 6/31/2018
Signature: [Signature]
James K. Hyman, President

6/15/18

SHEET 6 NOTES

REFER TO SHEET 1 NOTES FOR GENERAL REQUIREMENTS

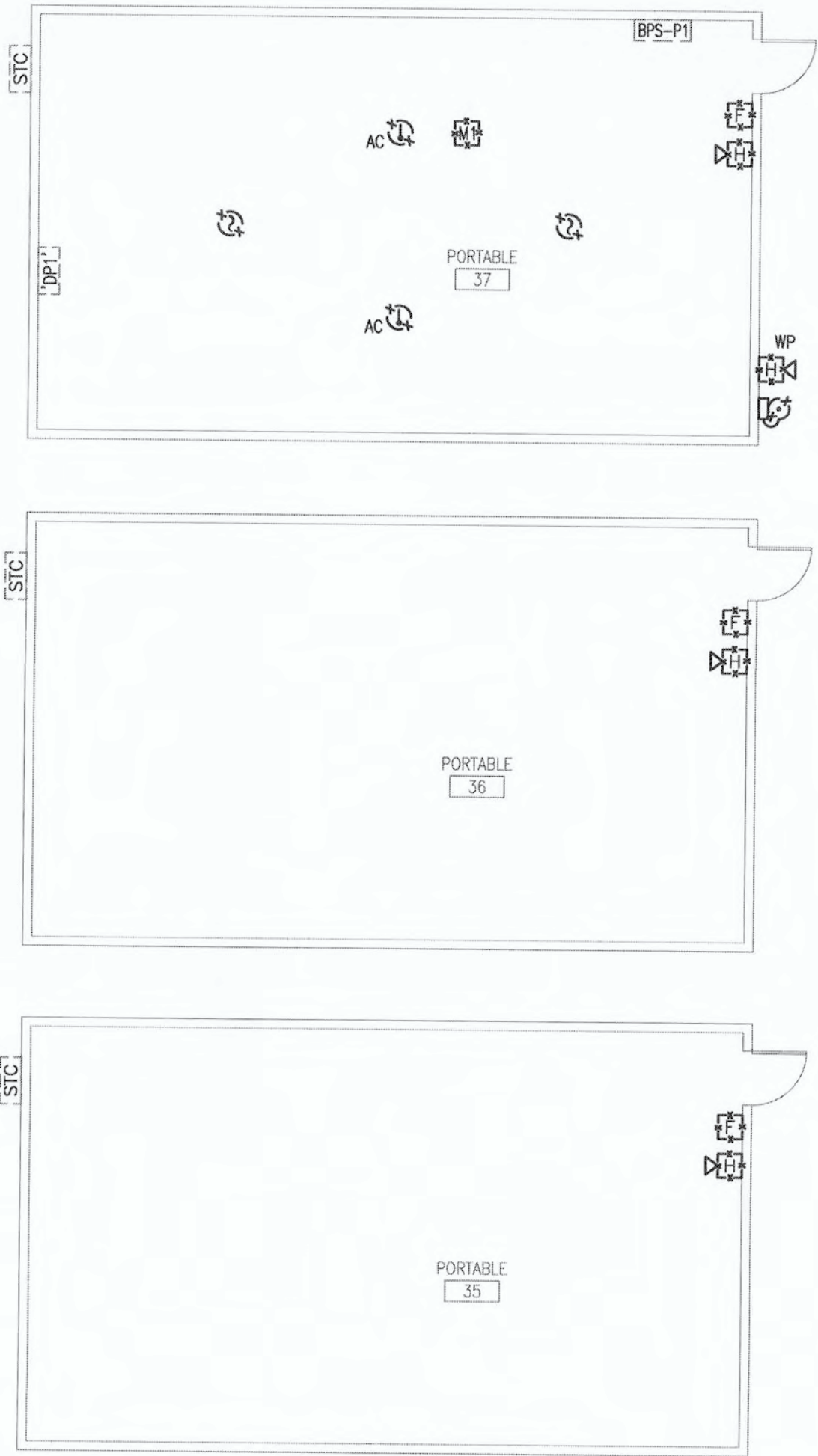
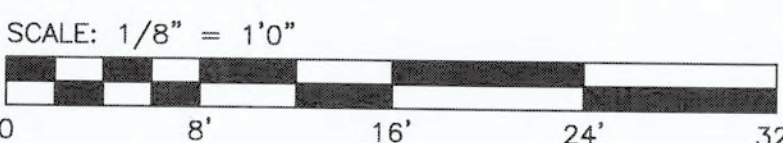
1. SYMBOLS ON THE FLOOR PLANS THAT ARE LIGHT IN COLOR AND DASHED ARE EXISTING. SYMBOLS THAT ARE BOLD WITH X'S ARE TO BE REMOVED.
2. CONDUIT THAT IS LIGHT IN COLOR & DASHED IS EXISTING AND CAN BE REUSED IN PLACE.
3. EXTERIOR MANUAL PULL STATIONS ARE TO BE REMOVED AND PROVIDED WITH AN APPROPRIATE COVER BY THE ELECTRICAL CONTRACTOR.

SHEET 6 KEYED NOTES

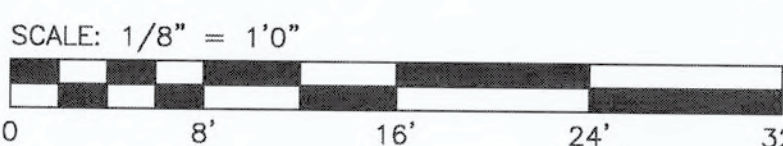
- ① REMOVE EXISTING OBSOLETE POWER SUPPLY AND REPLACE WITH NEW AS INDICATED ON INSTALLATION FLOOR PLANS.



PORTABLES 38-44 & 27-29, DEMO PLAN



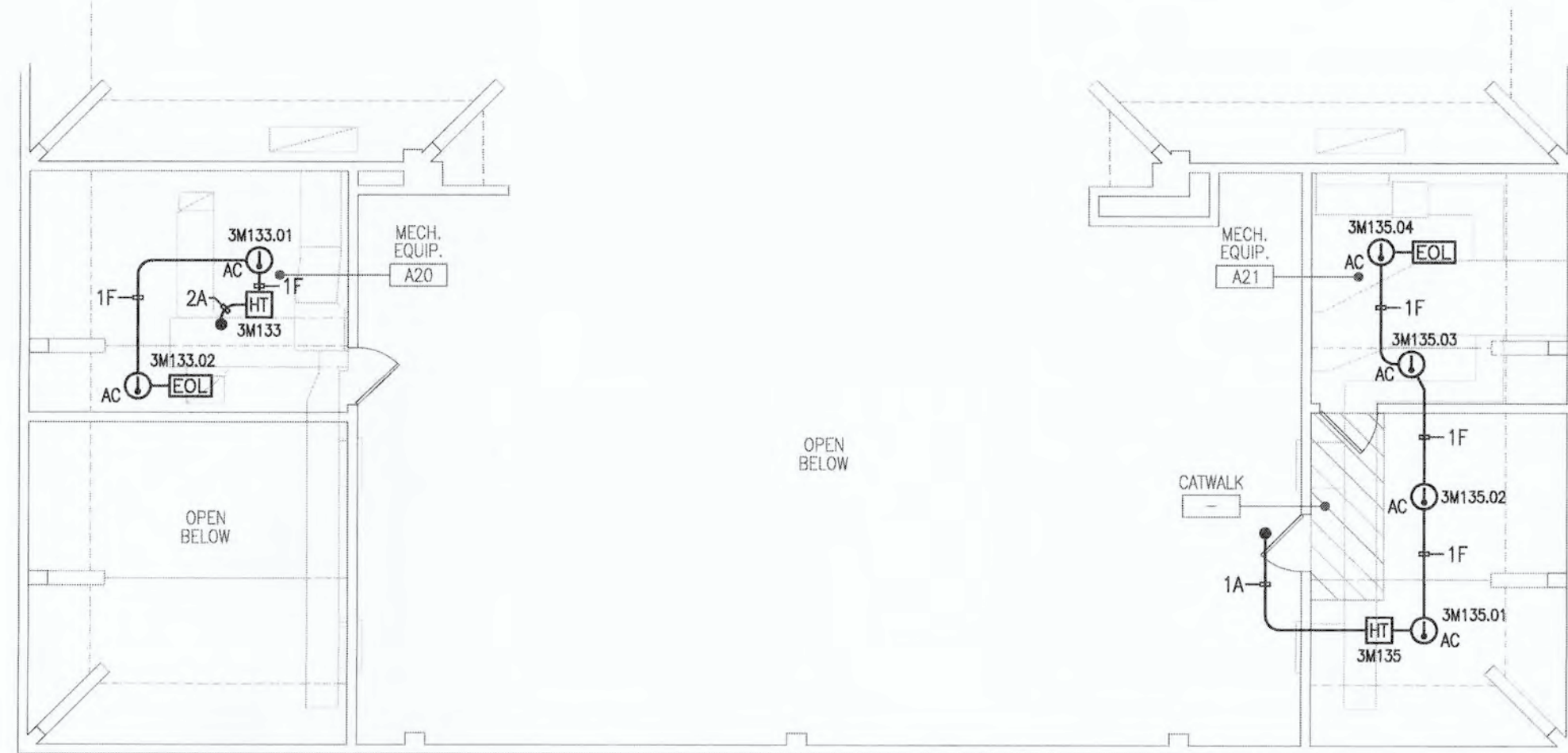
PORTABLES 35-37, DEMO PLAN



FILE NO. 39-50
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL. 02 -
116554
AC - FLS 26 SS -
DATE - 6-21-18

Licensed California Contractor
License # 496861 C-7, C-10
Bi-Jamar Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95205
Expiration Date: 8/31/2018
Signature: [Signature] Date: 6/21/2018

REVISIONS	BY
INITIAL SUBMITTAL	DJP
01/30/18	
04/16/18	DJP
06/12/18	DJP
QUALITY SOUND	
SYSTEMS INTEGRATION	
DIVISION OF BI-JAMAR, INC.	
2010 East Fremont St., Stockton, CA 95205	
Tel: (209) 944-4444 Fax: (209) 944-4445	
State C-7 & C-10 License # 496861, AOC 5717	
PORTABLE CLASSROOMS	
DEMOLITION	
FLOOR PLANS	
FIRE ALARM SYSTEM UPGRADE	
LODI MIDDLE SCHOOL	
LODI UNIFIED SCHOOL DISTRICT	
945 SOUTH HAM LANE,	
LODI, CA 95242	
Date	01/30/18
Scale	SHOWN
Drawn	LAD
Checked	DJP
Job	17153E
Sheet	6
Of	23 Sheets



UNIT-A, MEZZANINE
SCALE: 1/8" = 1'-0"

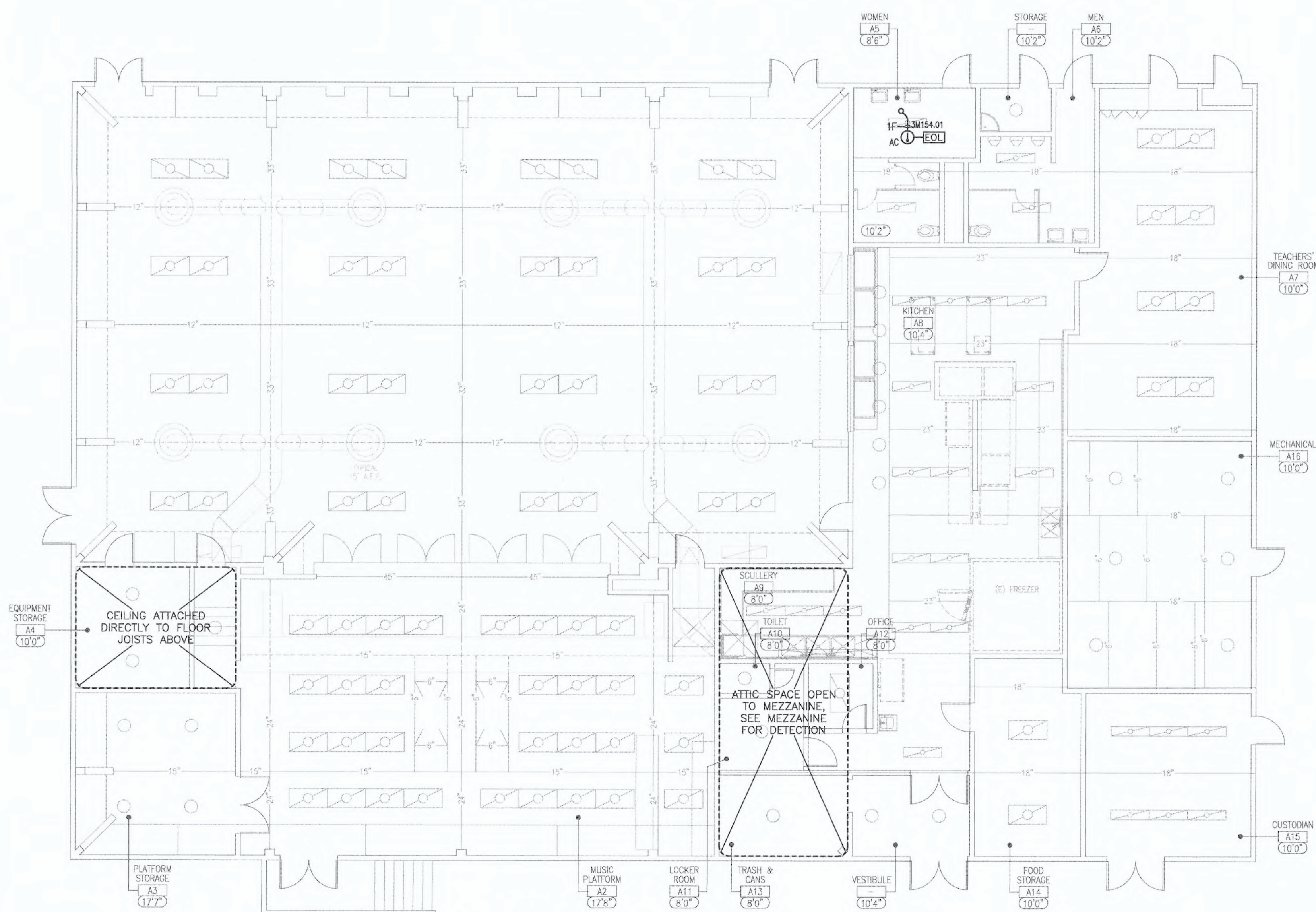
SCALE: 1/8" = 1'-0"
0 8' 16' 24' 32'

SMOKE DETECTOR ON SIDE OF G.L. DETAIL
NO SCALE

12" MAX.

CEILING

Glulam Beam



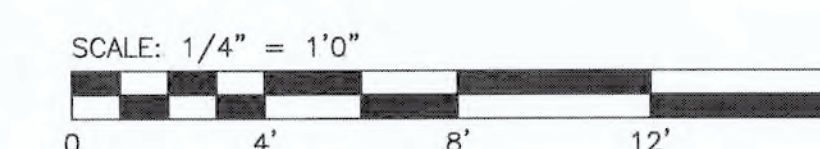
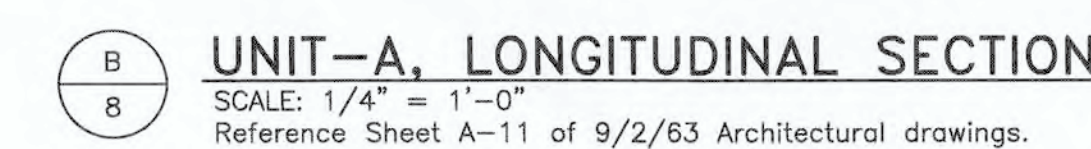
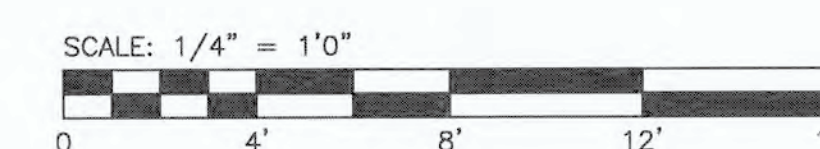
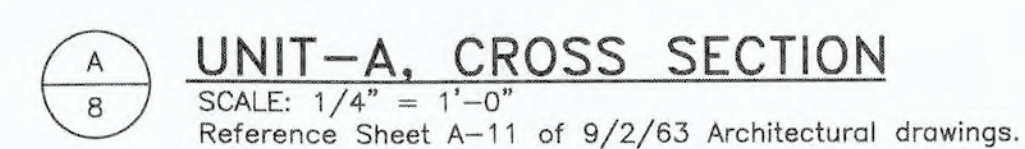
QUALITYSOUND
SYSTEMS INTEGRATION
DIVISION OF B-JAMAR, INC.
2010 East Fremont St., Stockton, CA 95205
Stockton: 209-945-2104
State C-7 & C-10 License No. 496881; AGO 5717



FIRE ALARM SYSTEM UPGRADE

LODI MIDDLE SCHOOL
LODI UNIFIED SCHOOL DISTRICT
945 SOUTH HAM LANE,
LODI, CA 95242

Date	01/30/18
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Sheet	8
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License # 4968861 C-7, C-10
Bi-JaMar Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95205
Expiration Date: 8/31/2018
Signature: [Signature] James E. Brown, President

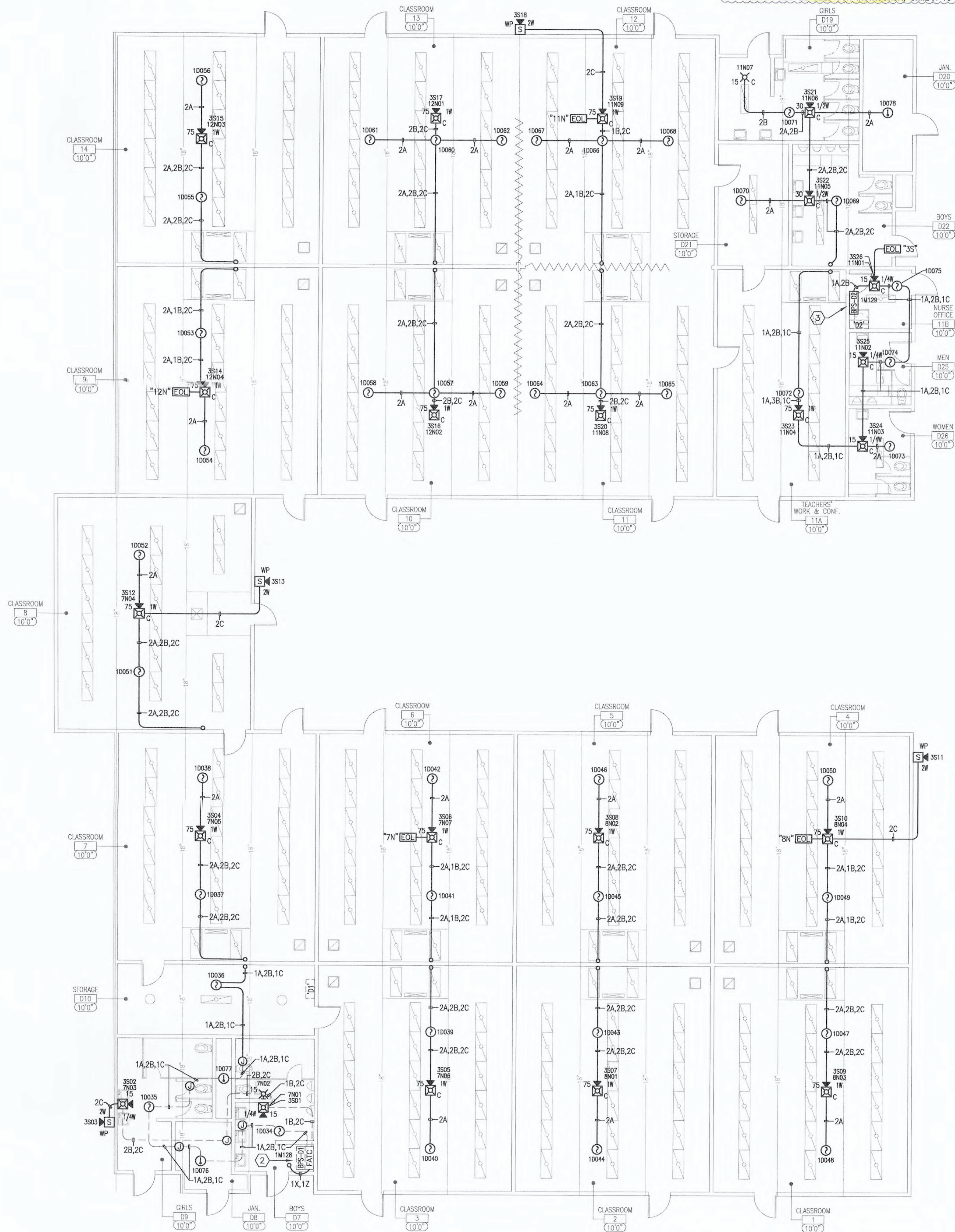
SHEET 9 NOTES

REFER TO SHEET 1 NOTES FOR GENERAL REQUIREMENTS**

- SYMBOLS ON THE FLOOR PLANS THAT ARE LIGHT IN COLOR AND DASHED ARE EXISTING TO REMAIN.
- CONDUIT THAT IS LIGHT IN COLOR & DASHED IS EXISTING AND CAN BE REUSED IN PLACE.
- WHERE DETECTION IS SHOWN IN CONCEALED INACCESSIBLE SPACES, THEY SHALL BE MADE ACCESSIBLE PER 2016-NFPA 72, 17.5.3.1.1.
- ALL INTERCONNECTIONS TO THE FIRE ALARM SYSTEM ARE SHOWN. SEE SEQUENCE OF OPERATIONS ON SHEET 1 FOR MORE INFORMATION.
- THE VISIBLE NOTIFICATION APPLIANCE (NACs) WITHIN COMMON USE AREAS, ADJACENT PRIVATE OFFICE EMPLOYEE WORK AREAS, ARE DESIGNED NOT TO EXCEED 80% OF THEIR CURRENT CAPACITY AND/OR 8% VOLTAGE DROP WHERE 10% IS OTHERWISE ALLOWED.

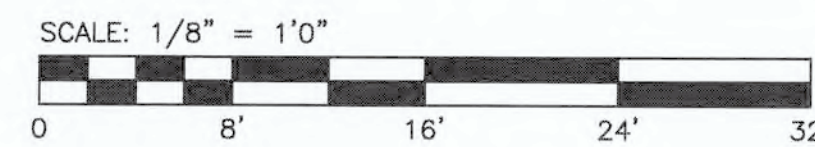
SHEET 9 KEYED NOTES

- REMOVE EXISTING EST3 3-CAB7B BACKBOX AND REPLACE WITH 3-CAB21B BACKBOX. MOUNT THE ENCLOSURE WITH THE TOP OF THE CABINET 72" ABOVE THE FINISHED FLOOR. RECONNECT TO 120VAC 'PANEL B2, CKT4'.
- EXISTING BPS10A, BOOSTER POWER SUPPLY POWERED BY EXISTING 120VAC 'PANEL D1, CKT31'.
- NEW BPS10A, BOOSTER POWER SUPPLY AT EXISTING LOCATION POWERED BY EXISTING 120VAC 'PANEL D2, CKT17'.
- COMBINATION SMOKE/CARBON MONOXIDE DETECTOR REQUIRED DUE TO FUEL BURNING HVAC UNIT SERVING LIBRARY. THE LIBRARY MAY BE USED FOR INSTRUCTION, SIMILAR TO A CLASSROOM.



UNIT-D, FLOOR PLAN

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

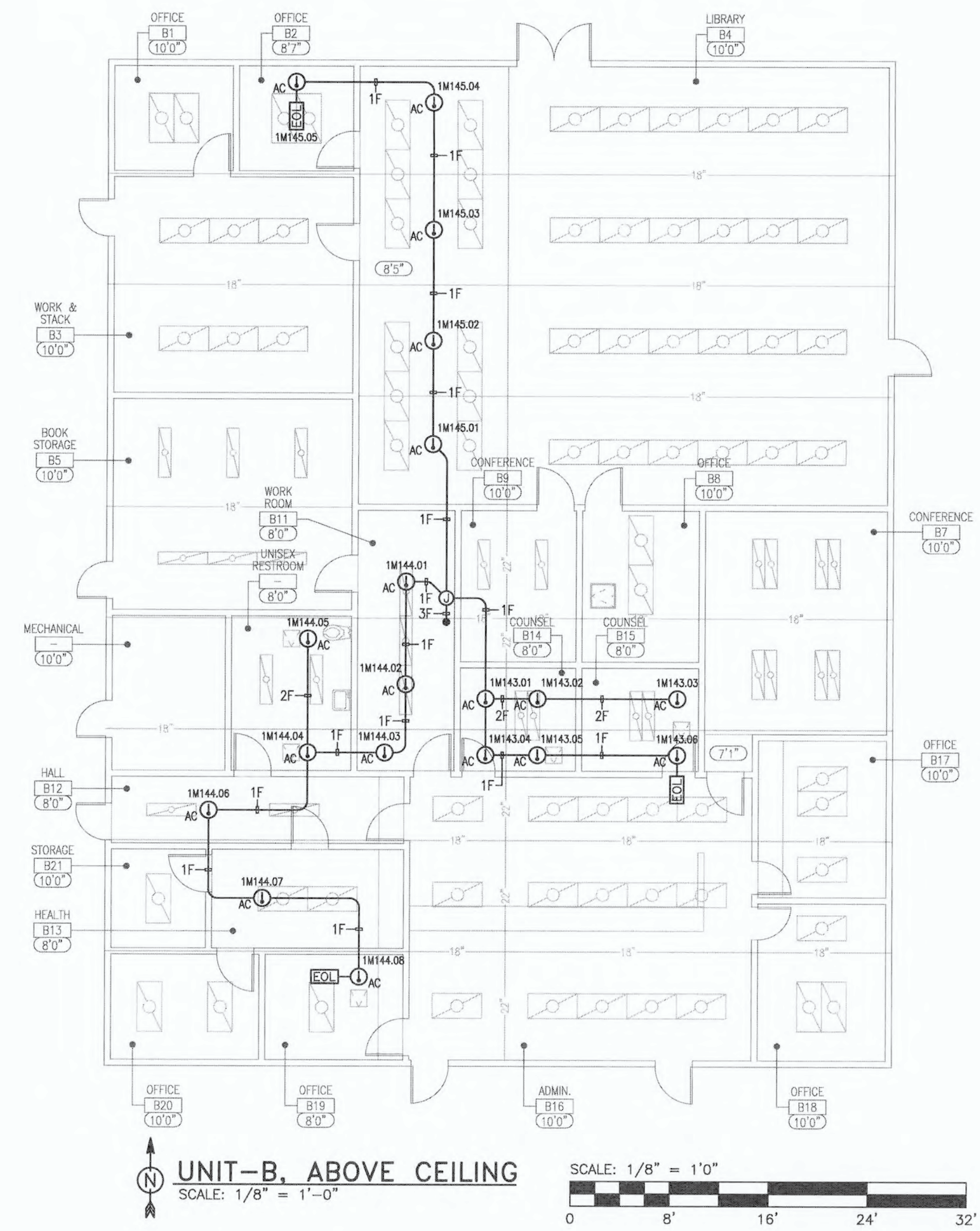


UNIT-D ROOM LIST

ROOM NAME	SQ. FT.
CLASSROOM 1	825
CLASSROOM 2	825
CLASSROOM 3	825
CLASSROOM 4	825
CLASSROOM 5	825
CLASSROOM 6	825
CLASSROOM 7	825
CLASSROOM 8	825
CLASSROOM 9	825
CLASSROOM 10	825
CLASSROOM 11	825
TEACHERS' WORK & CONF. 11A	545
NURSE OFFICE 11B	70
CLASSROOM 12	825
CLASSROOM 13	825
CLASSROOM 14	825
BOYS 07	194
JAN. 08	72
BOYS 09	193
STORAGE D10	256
STORAGE D19	244
JAN. D20	124
STORAGE D21	161
BOYS D22	210
MEN D25	85
WOMEN D26	103

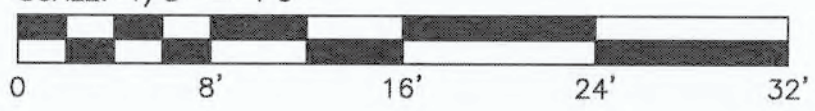
EXISTING ARCH. KEY

- WOOD STUD WALL
- 1" CEILING BEAM & DEPTH
- GYPSUM CEILING



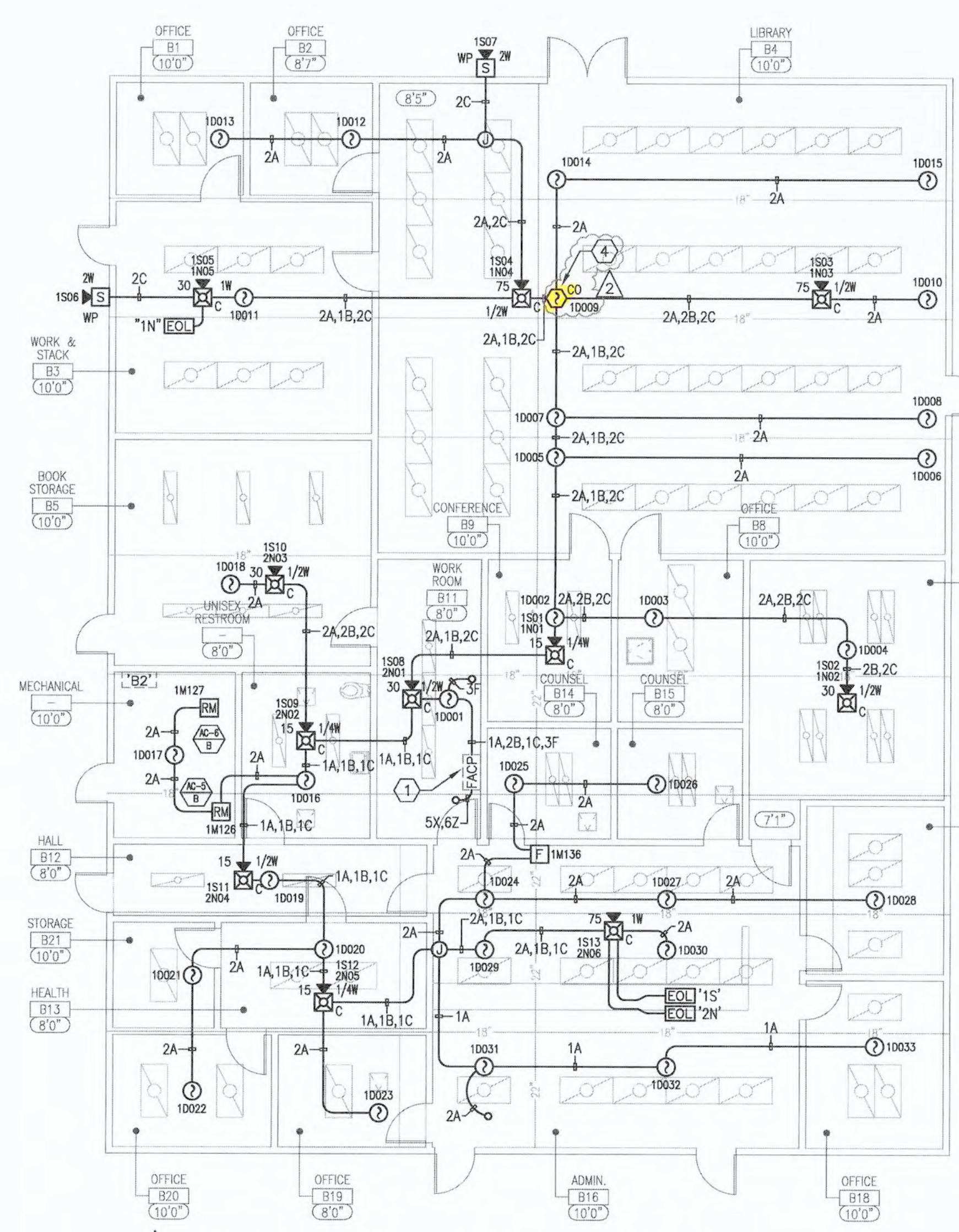
UNIT-B, ABOVE CEILING

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



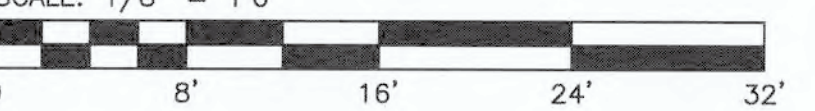
UNIT-B ROOM LIST

ROOM NAME	SQ. FT.
OFFICE B1	82
OFFICE B2	79
WORK & STACK B3	339
LIBRARY B4	1519
BOOK STORAGE B5	331
CONFERENCE B7	229
OFFICE B8	116
WORK ROOM B11	166
HALL B12	126
HEALTH B13	124
COUNSEL B14	79
COUNSEL B15	633
JAN. B16	132
OFFICE B17	95
OFFICE B18	102
STORAGE B21	61
MECHANICAL	115
UNISEX RESTROOM	122



UNIT-B, FLOOR PLAN

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



FILE NO. 39-50
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL. 02 -
AC. - FL. 28 SS. -
DATE 6-21-18

Licensed California Contractor
License # 496881 C-7, C-10
BI-Jamar Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95205
Expiration Date: 6/12/2019
Signature: [Signature] President

SHEET 10 NOTES

REFER TO SHEET 1 NOTES FOR GENERAL REQUIREMENTS**

1. SYMBOLS ON THE FLOOR PLANS THAT ARE LIGHT IN COLOR AND DASHED ARE EXISTING TO REMAIN.
2. CONDUIT THAT IS LIGHT IN COLOR & DASHED IS EXISTING AND CAN BE REUSED IN PLACE.
3. WHERE DETECTION IS SHOWN IN CONCEALED INACCESSIBLE SPACES, THEY SHALL BE MADE ACCESSIBLE PER 2016-NFPA 72, 17.5.3.1.1.
4. ALL INTERCONNECTIONS TO THE FIRE ALARM SYSTEM ARE SHOWN. SEE SEQUENCE OF OPERATIONS ON SHEET 1 FOR MORE INFORMATION.

SHEET 10 KEYED NOTES

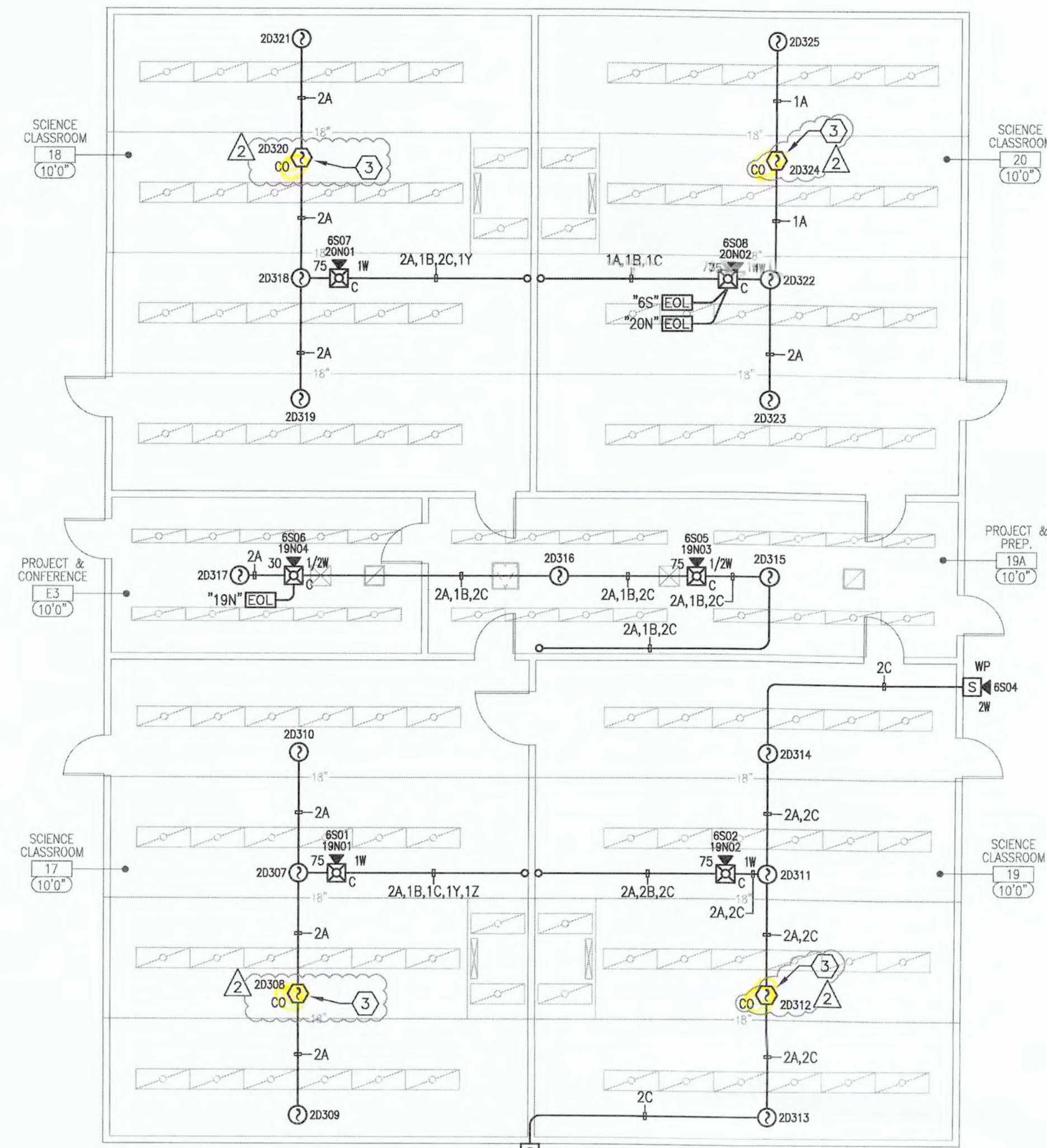
- 1 NEW BPS10A, BOOSTER POWER SUPPLIES POWERED BY NEW 120VAC 'PANEL F1, CKT23'.
- 2 ATTIC SPACE DOES NOT EXCEED 50 FT² IN AREA AND SHALL NOT REQUIRE DETECTION PER 2016-NFPA72, 17.5.3.1.2 (3).
- 3 COMBINATION SMOKE/CARBON MONOXIDE DETECTOR REQUIRED DUE TO PRESENCE OF (2) NATURAL GAS SPIGOTS, PER TEACHERS' STATION IN THE SCIENCE CLASSROOMS AND THEIR POSSIBLE USE WITH PORTABLE BUNSEN BURNERS.

UNIT-E ROOM LIST

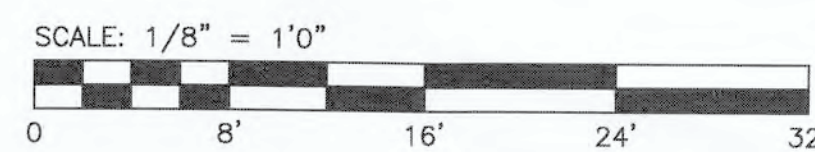
ROOM NAME	SQ. FT.
PROJECT & CONFERENCE E3	287
SCIENCE CLASSROOM 17	1100
SCIENCE CLASSROOM 18	1100
SCIENCE CLASSROOM 19	1100
PROJECT & PREP. 19A	451
SCIENCE CLASSROOM 20	1100

UNIT-F ROOM LIST

ROOM NAME	SQ. FT.
PROJECT STORAGE F3	146
SCIENCE CLASSROOM F4	183
PROJECT STORAGE F5	133
STORAGE F6	78
WORKROOM F11	105
WORKROOM F12	105
WOMEN F16	80
TOILET F17	45
GIRLS F18	223
JAN. F19	50
BOYS F20	220
ARTS 21	1120
CRAFTS 22	1120
CLASSROOM 23	886
CLASSROOM 24	1162
CLASSROOM 25	910
STORAGE 25A	126
CLASSROOM 26	910
READING 26A	286
CLASSROOM 27	1162
CLASSROOM 28	842
LAUNDRY -	38
STORAGE -	38

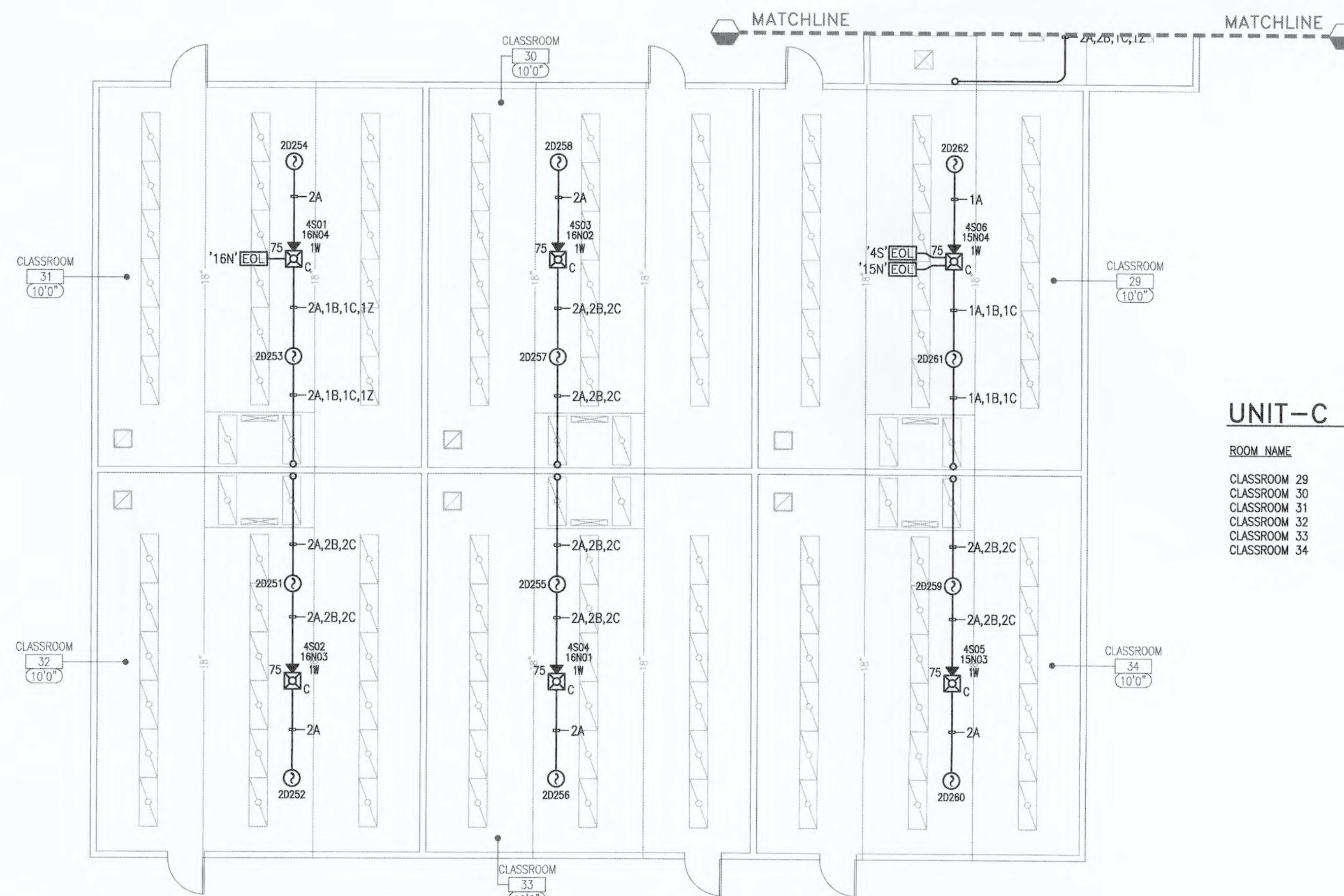


UNIT-E, FLOOR PLAN
SCALE: 1/8" = 1'-0"

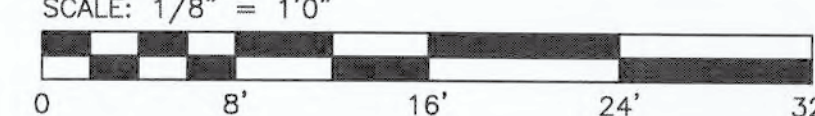


EXISTING ARCH. KEY

- WOOD STUD WALL
- CEILING BEAM & DEPTH
- GYPSUM CEILING

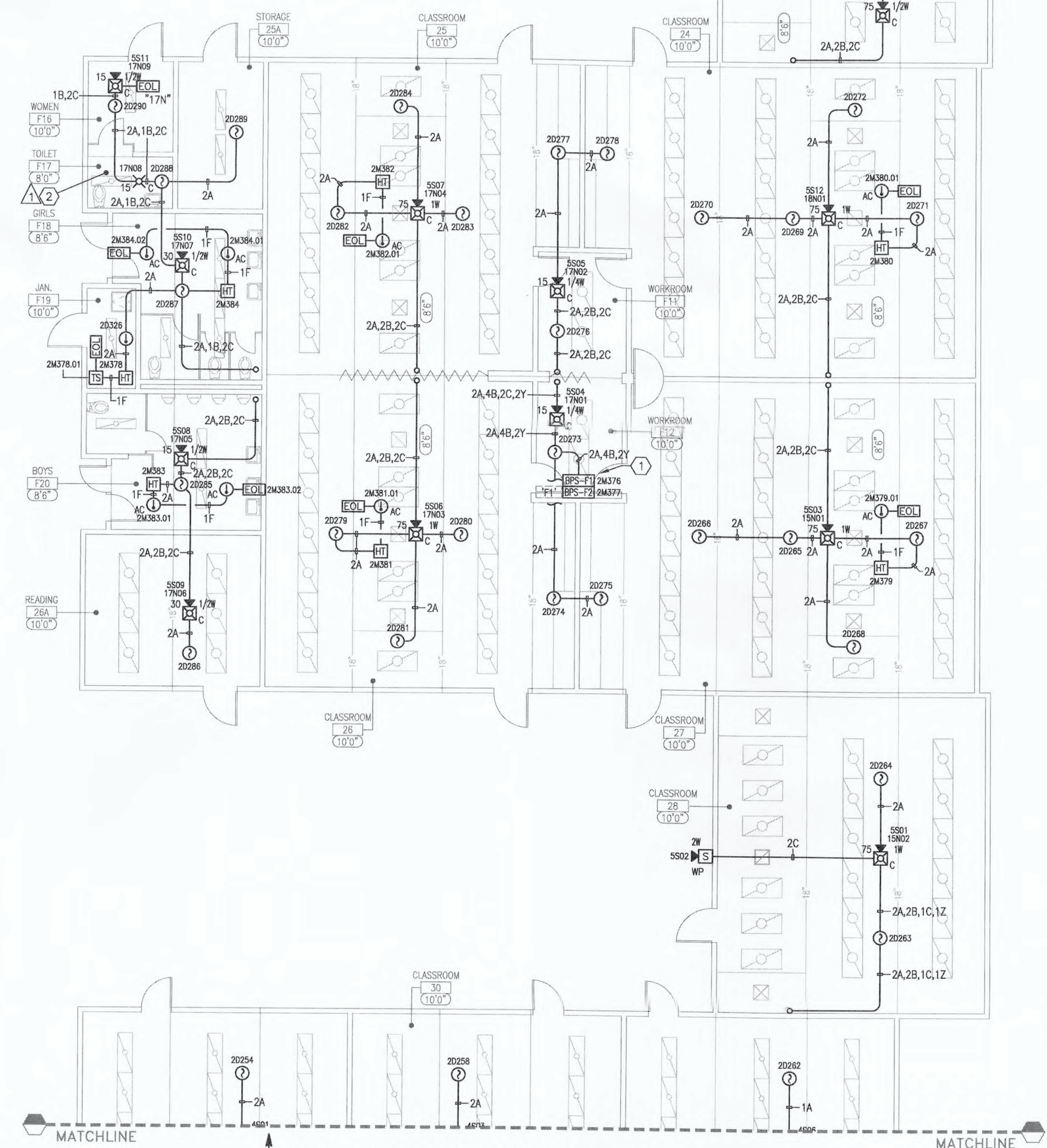


UNIT-C, FLOOR PLAN
SCALE: 1/8" = 1'-0"



UNIT-C ROOM LIST

ROOM NAME	SQ. FT.
CLASSROOM 29	826
CLASSROOM 30	826
CLASSROOM 31	826
CLASSROOM 32	826
CLASSROOM 33	826
CLASSROOM 34	826



UNIT-F, FLOOR PLAN
SCALE: 1/8" = 1'-0"



FILE NO. 39-50
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL. 02 -
116554
AC. - FLS. 20 - SS -
DATE 6-21-18

Licensed California Contractor
License # 496881 C-7, C-10
B-J-Jar Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95205
Expiration Date 9/21/2019
Signature: [Signature]
Date: 6/21/2018

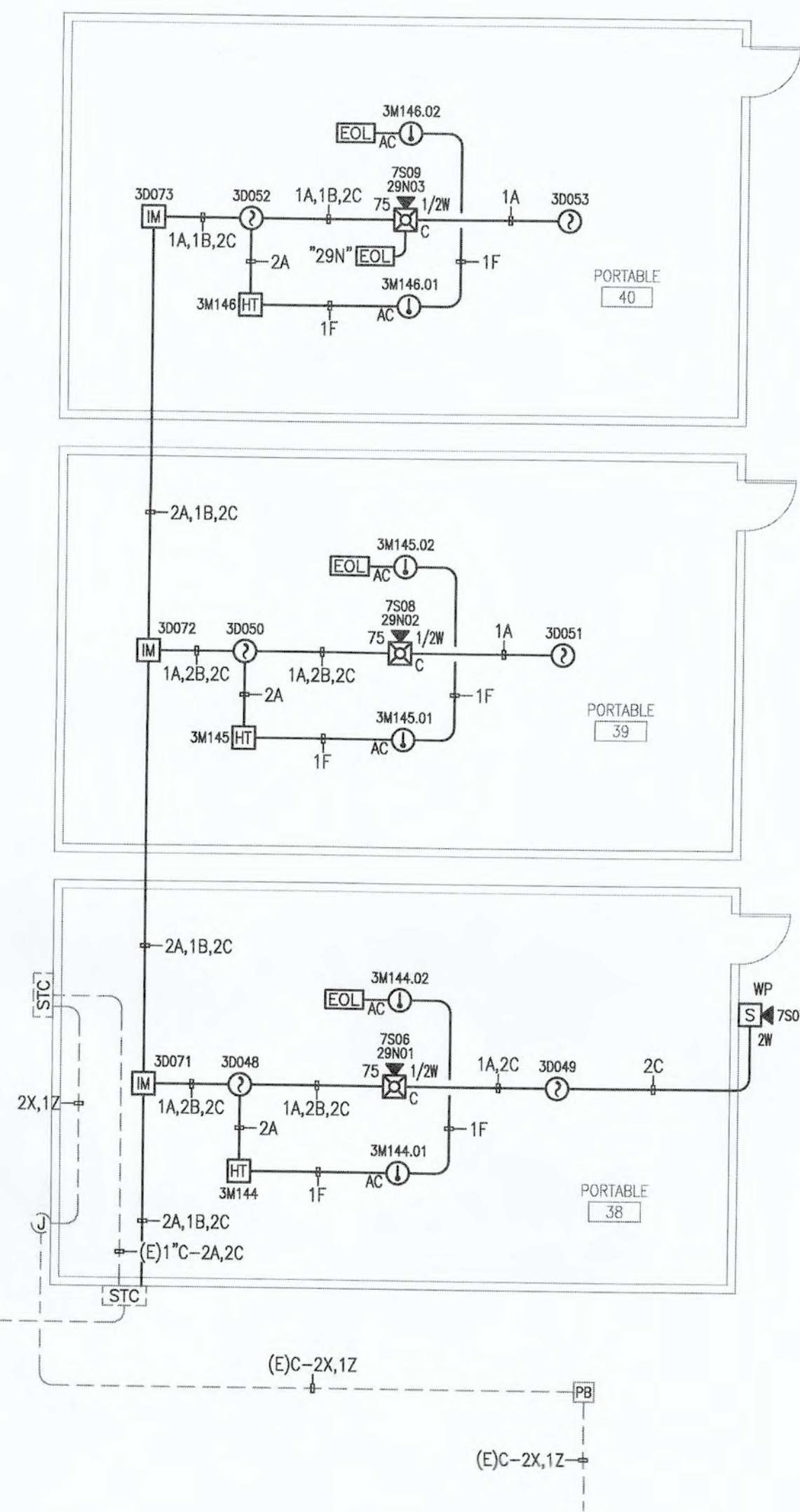
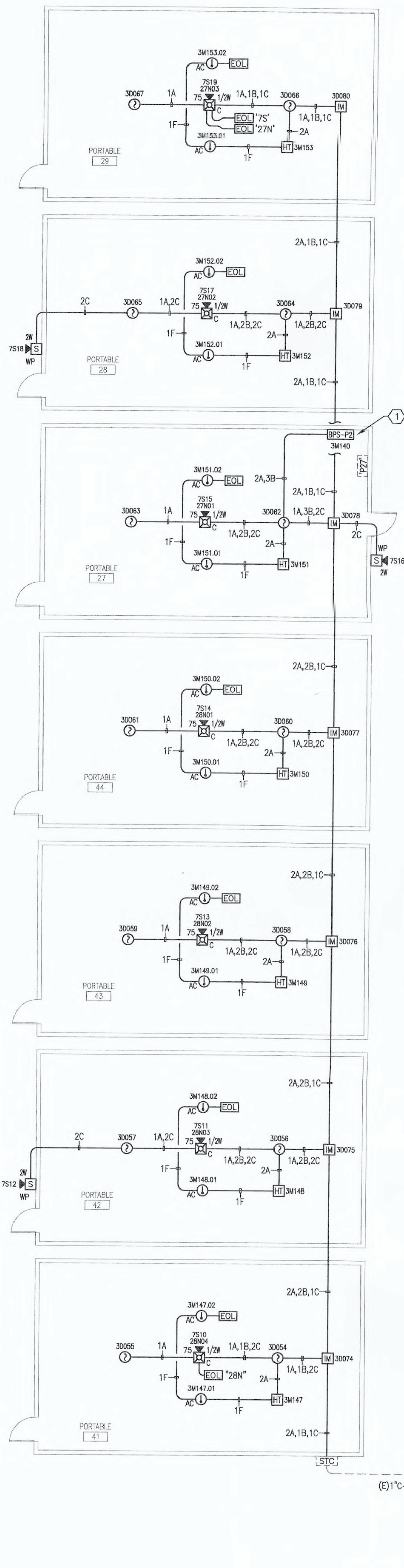
SHEET 11 NOTES

REFER TO SHEET 1 NOTES FOR GENERAL REQUIREMENTS

1. SYMBOLS ON THE FLOOR PLANS THAT ARE LIGHT IN COLOR AND DASHED ARE EXISTING TO REMAIN.
2. CONDUIT THAT IS LIGHT IN COLOR & DASHED IS EXISTING AND CAN BE REUSED IN PLACE.
3. WHERE DETECTION IS SHOWN IN CONCEALED INACCESSIBLE SPACES, THEY SHALL BE MADE ACCESSIBLE PER 2016-NFPA 72, 17.5.3.1.1.
4. ALL INTERCONNECTIONS TO THE FIRE ALARM SYSTEM ARE SHOWN. SEE SEQUENCE OF OPERATIONS ON SHEET 1 FOR MORE INFORMATION.

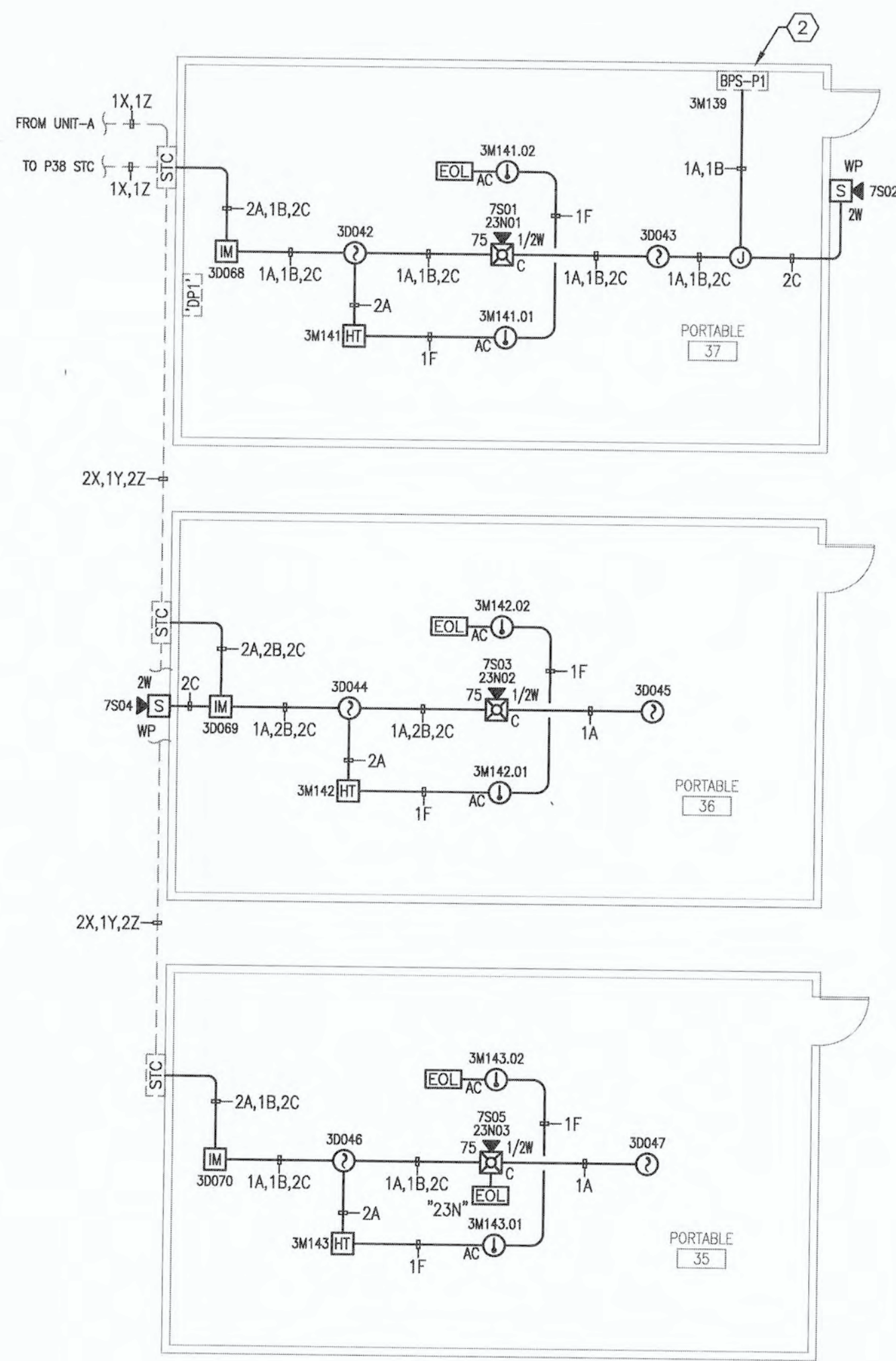
SHEET 11 KEYED NOTES

1. NEW BPS10A, BOOSTER POWER SUPPLY AT EXISTING LOCATION POWERED BY EXISTING 120VAC 'PANEL P27, CKT2'.
2. EXISTING BPS10A, BOOSTER POWER SUPPLY POWERED BY EXISTING 120VAC 'PANEL DP1, CKT11'.



PORTABLE LIST

ROOM NAME	SQ. FT.
PORTABLE 27	914
PORTABLE 28	914
PORTABLE 29	914
PORTABLE 33	914
PORTABLE 34	914
PORTABLE 35	914
PORTABLE 36	914
PORTABLE 37	914
PORTABLE 38	914
PORTABLE 39	914
PORTABLE 40	914
PORTABLE 41	914
PORTABLE 42	914
PORTABLE 43	914
PORTABLE 44	914



PORTABLES 38-44 & 27-29

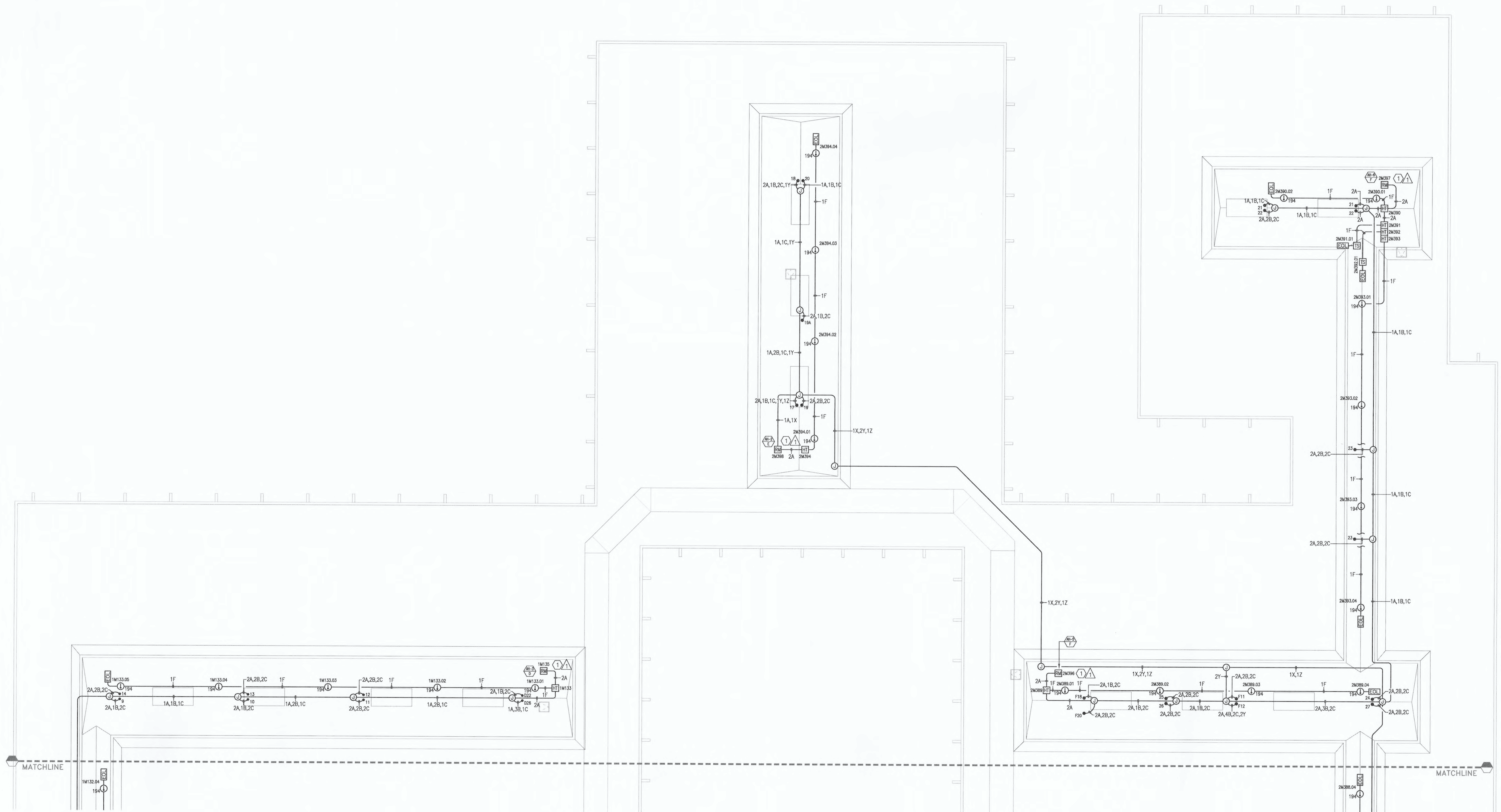
SCALE: 1/8" = 1'-0"

PORTABLES 35-37

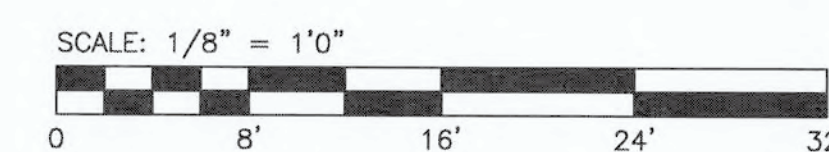
SCALE: 1/8" = 1'-0"

FILE NO. 39-50
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL. 02-
116554
AC - FLS 22 SS -
DATE 6-21-18

Licensed California Contractor
License # 446881 C-7, C-10
BI-JAMAR Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95206
Expiration Date: 8/21/2018
Signature: [Signature]
Date: 6/12/2018



UNITS A THRU F PARTIAL ROOF / MECHANICAL PENTHOUSE FLOOR PLAN
SCALE: 1/8" = 1'-0"



FILE NO. 39-50
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL. 02-
116554
AC. - FLS. - SS. -
DATE 6-21-18
Licensed California Contractor
License # 496881 C-7, C-10
BI-Jamar Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95205
Registration Date 6/21/2018
Signature [Signature]

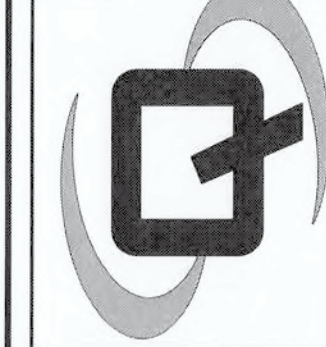
SHEET 13 NOTES

****REFER TO SHEET 1 NOTES FOR GENERAL REQUIREMENTS****

ADDRESSABLE CONTROL RELAY TO INTERFACE WITH FAN CONTROLLER FOR SHUTDOWN ACCORDING TO SEQUENCE OF OPERATION.

INITIAL SUBMITTAL
01/30/18
DJP
04/16/18
DJP
06/12/18
DJP

QUALITYSOUND
SYSTEMS INTEGRATION
DIVISION OF BI-JAMAR, INC.
2010 East Fremont St., Stockton, CA 95205
State C-7 & C-10 License No. 498851, ACO 5717

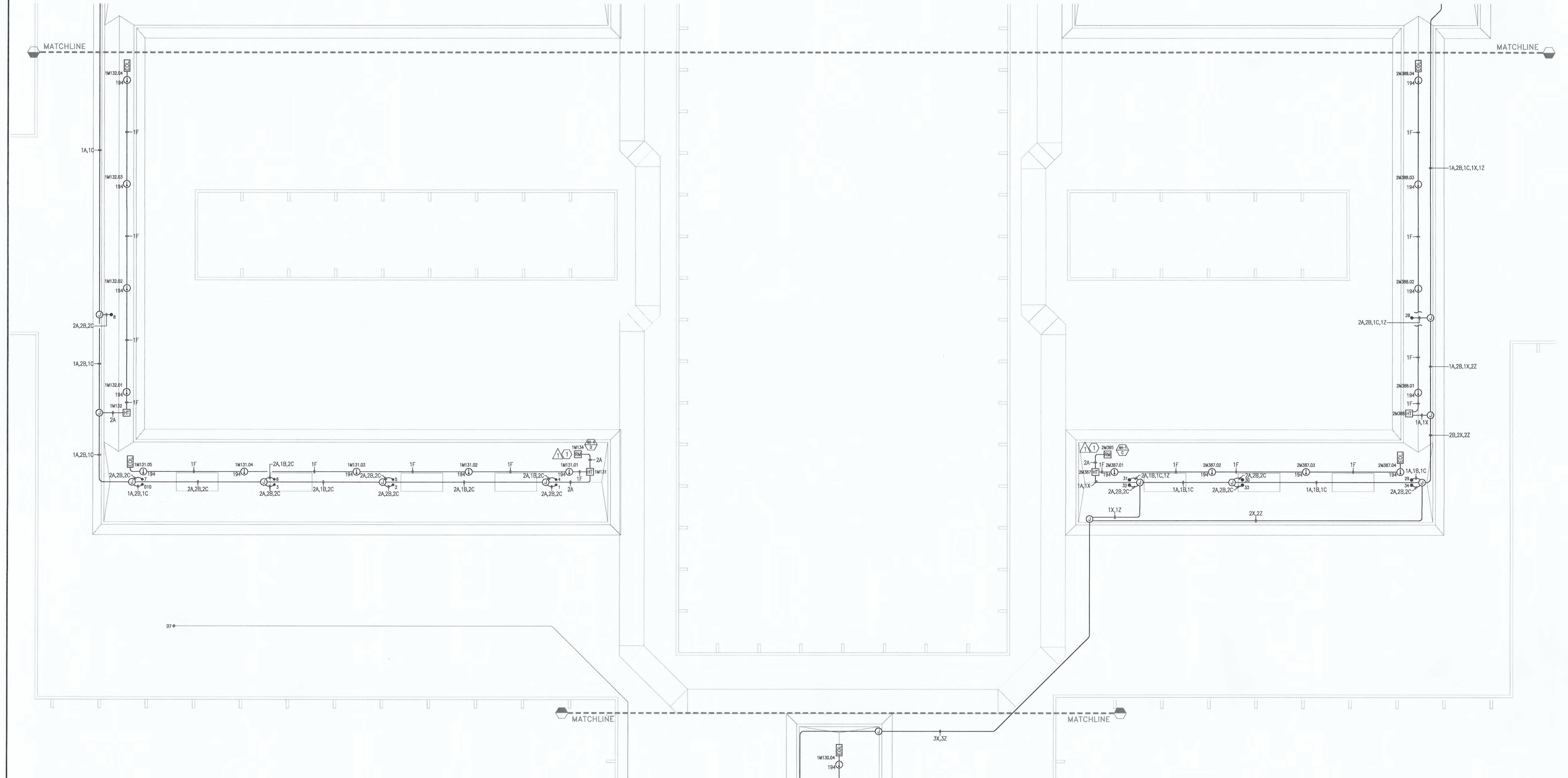


**UNITS-A THRU F
ROOF / MECHANICAL PENTHOUSE
PARTIAL FLOOR PLAN - CENTRAL**

FIRE ALARM SYSTEM UPGRADE

**LODI MIDDLE SCHOOL
LODI UNIFIED SCHOOL DISTRICT
945 SOUTH HAM LANE,
LODI, CA 95242**

Date 01/30/18
Scale SHOWN
Drawn LAD
Checked DJP
Job 17153E
Sheet 13
Of 23 Sheets



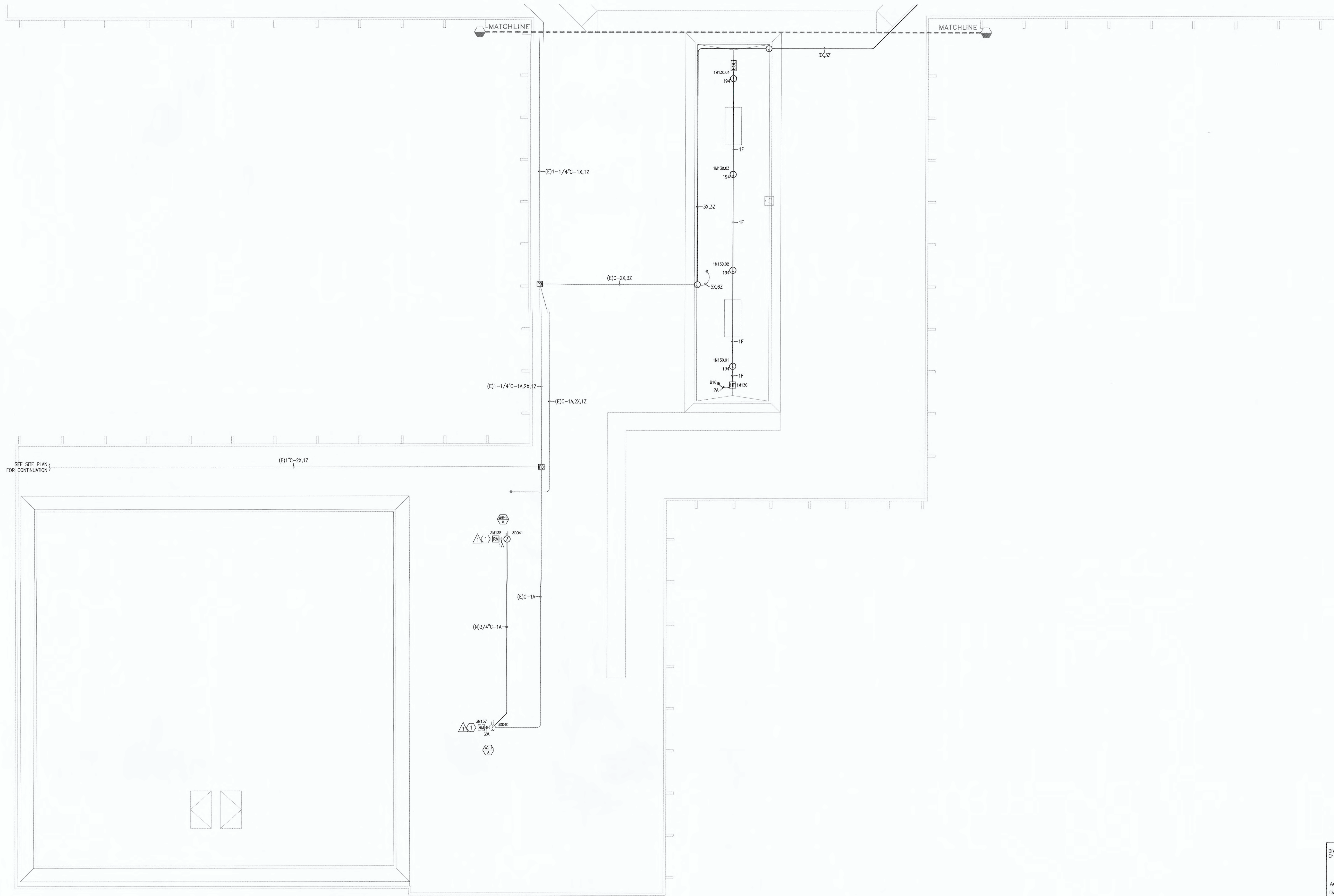
UNITS A THRU F PARTIAL ROOF / MECHANICAL PENTHOUSE FLOOR PLAN
SCALE: 1/8" = 1'-0"

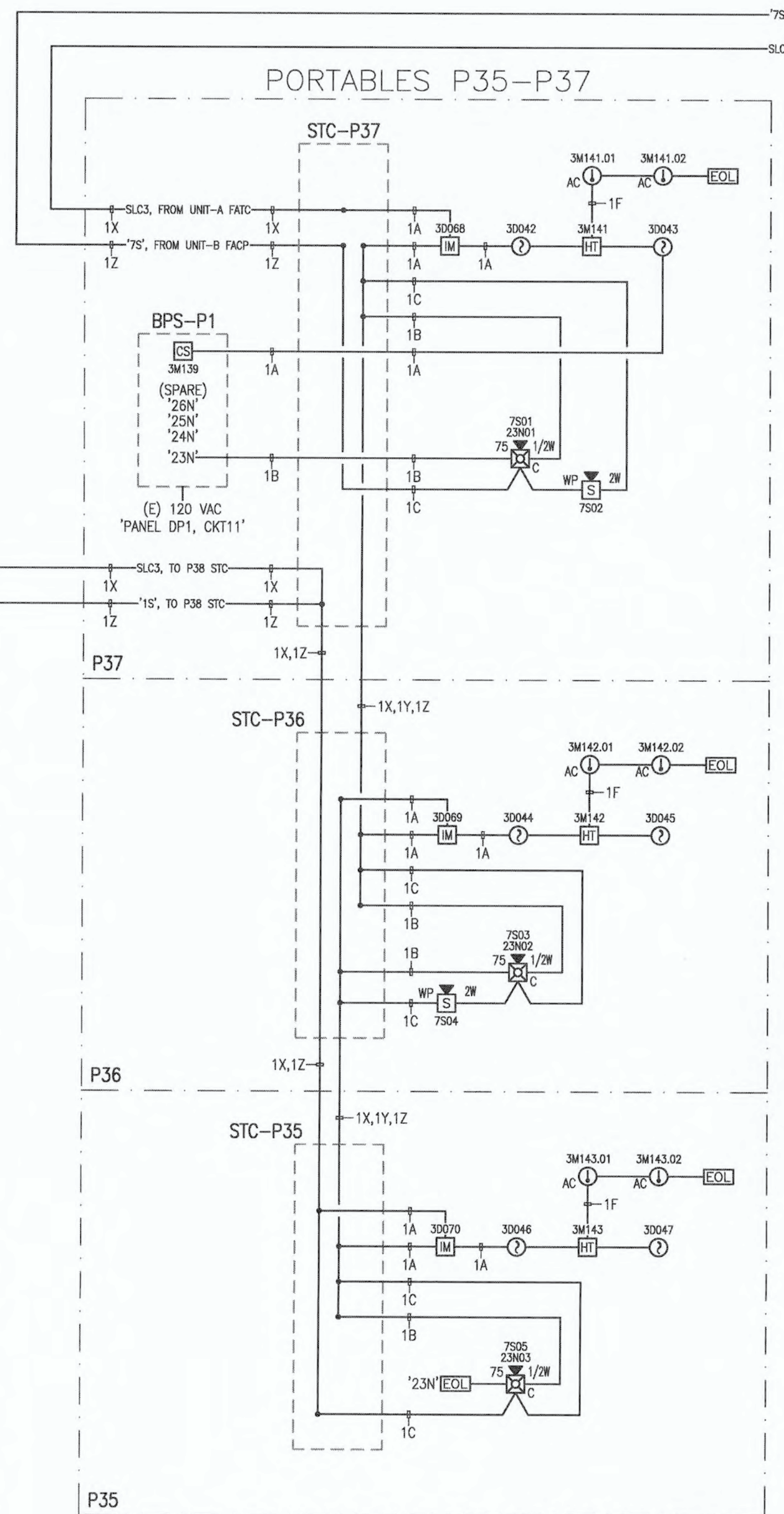
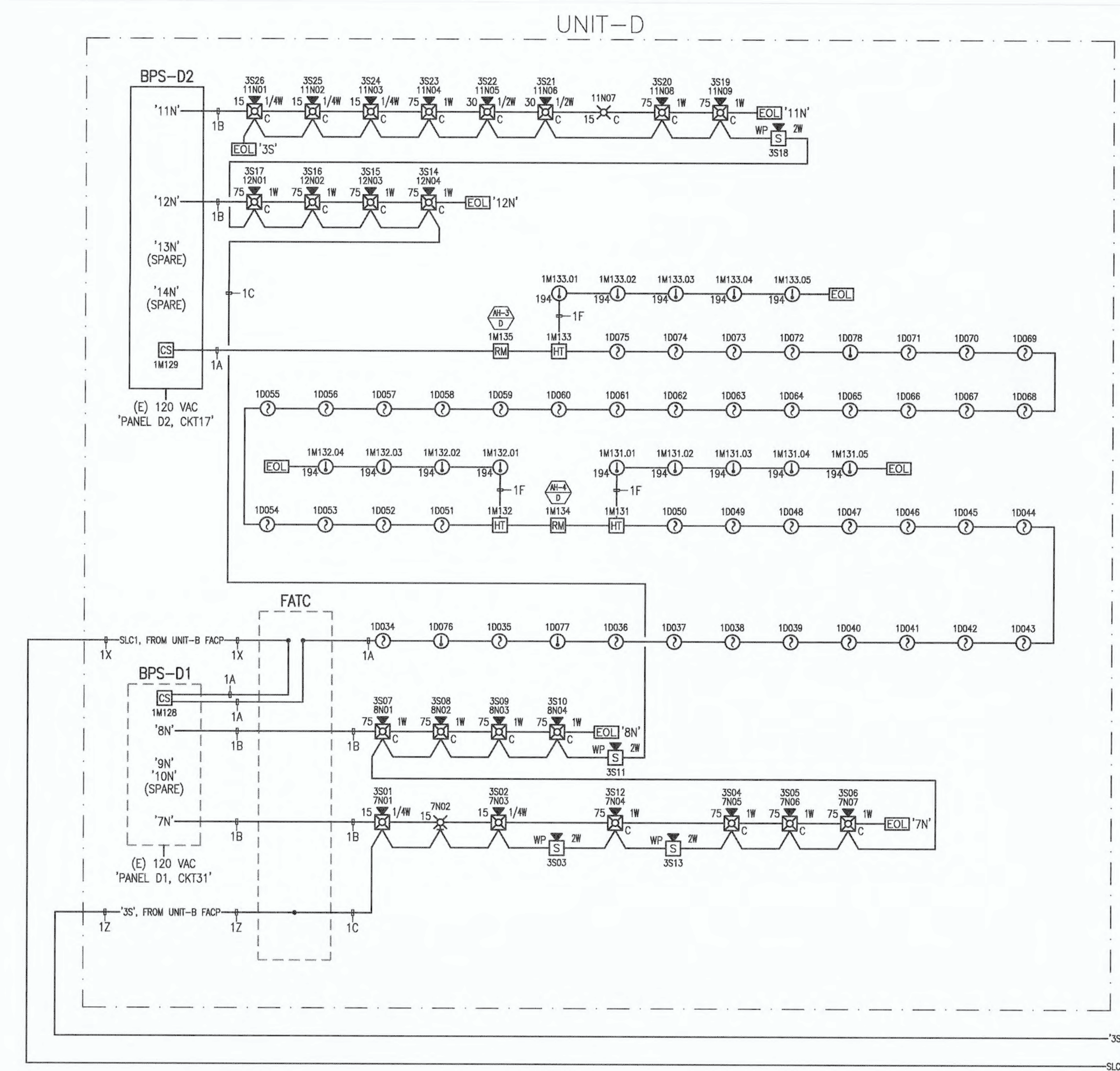
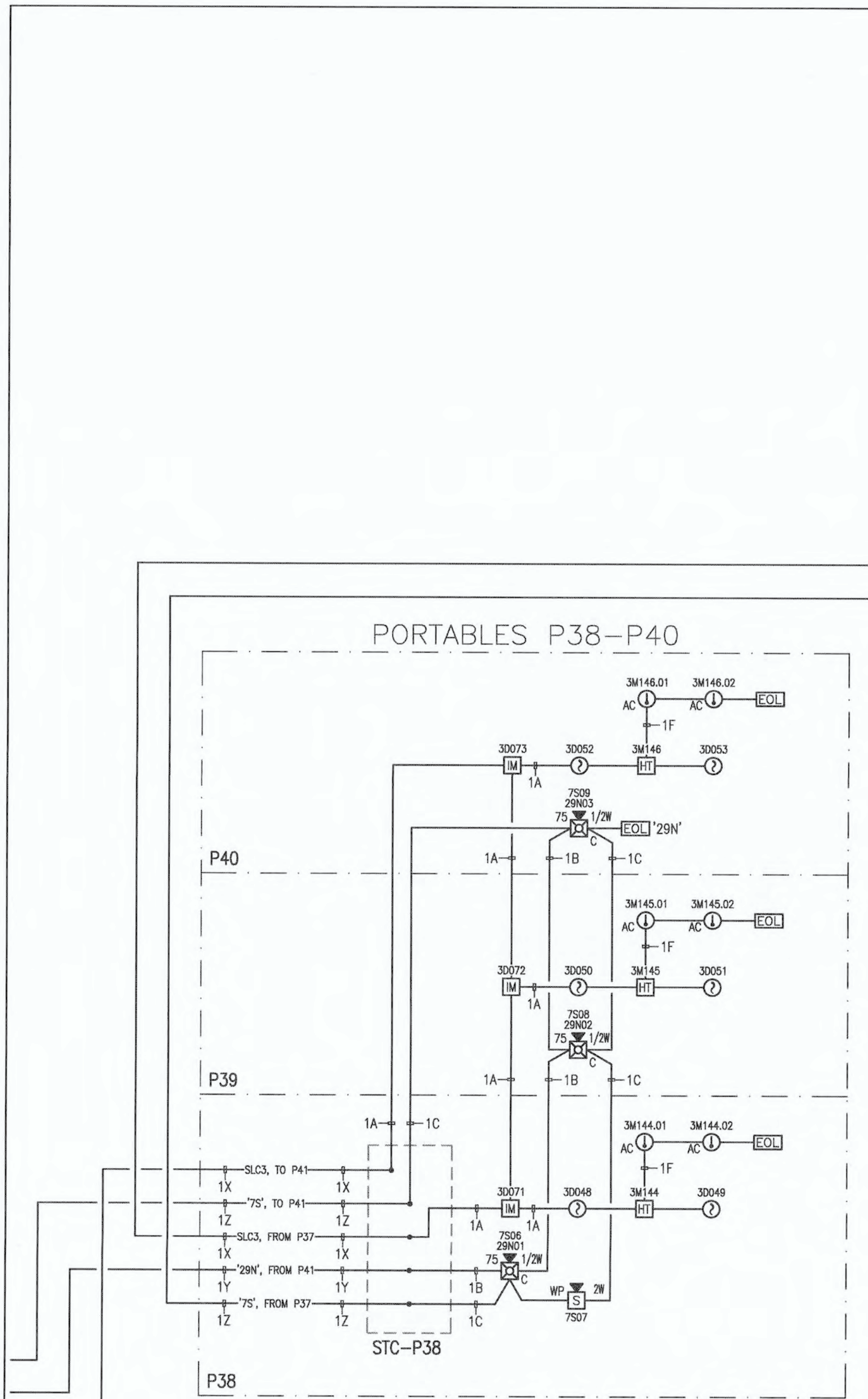
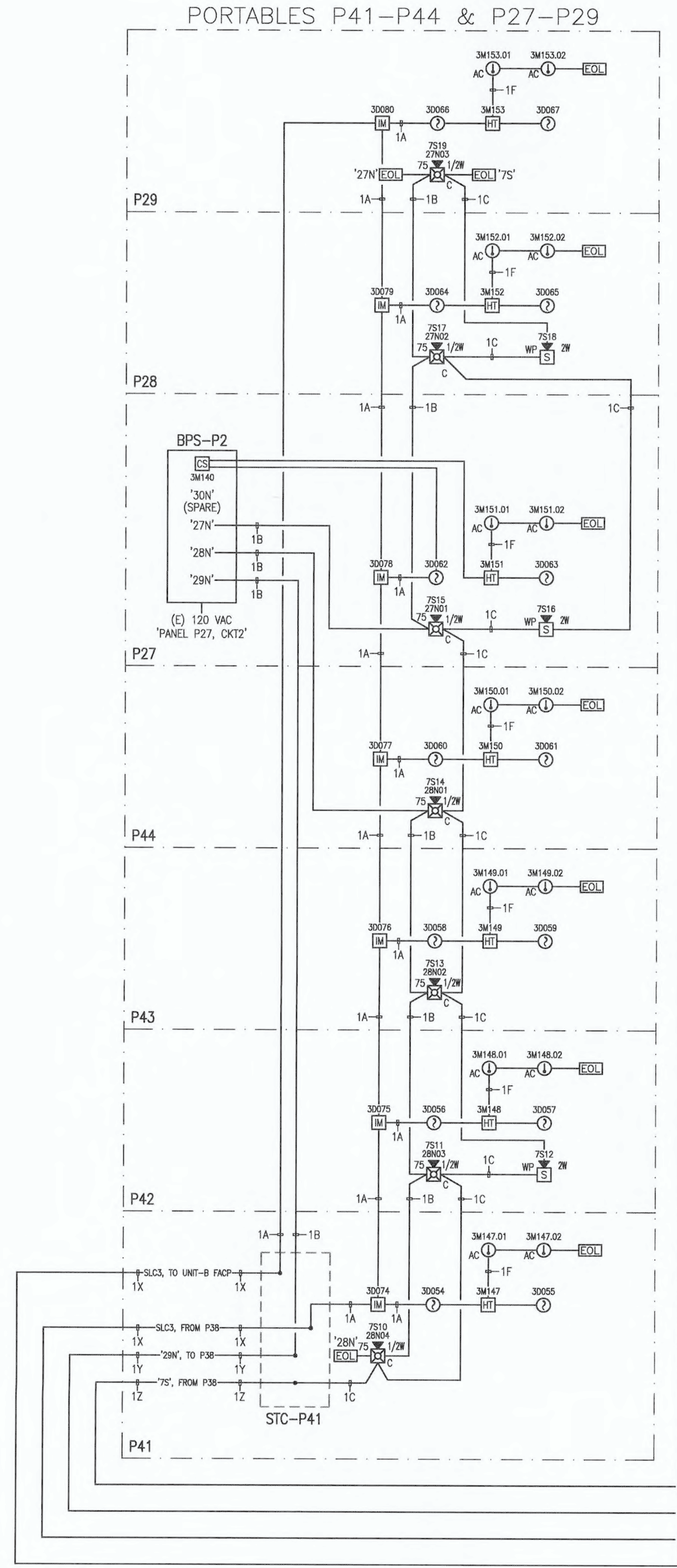
SCALE: 1/8" = 1'-0"
0 8' 16' 24' 32'

FILE NO. 39-50
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL. 02 -
116554
AC. - FLS. 20 - SS. -
DATE 6-21-18

Licensed California Contractor
License # 498851 C-7, C-10
Bi-Jamar Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95205
Expiration Date: 6/30/18
Signature: [Signature]
Name & Title: [Name & Title]

6/12/2018





ONE-LINE RISER DIAGRAM - PART 1 of 3
SCALE: NONE

SHEET 15 NOTES
REFER TO SHEET 1 NOTES FOR GENERAL REQUIREMENTS

SEE ONE-LINE RISER DIAGRAM PART 2 OF 3

FILE NO. 38-50
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL. 02 -
116554
AC - FLS - SS -
DATE - 6-21-18
Licensed California Contractor
Licenses # 448881 C-7, C-18
B-Jamar Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95205
Expiration Date: 6/12/2018
Signature: [Signature]
Title: [Title]

REVISIONS		BY
01/30/18	INITIAL SUBMITTAL	DJP
04/16/18	DSA BACKCHECK	DJP
06/12/18	AS DETECTION	DJP

QUALITY SOUND
SYSTEMS INTEGRATION
DIVISION OF B-JAMAR, INC.
2010 East Fremont St., Stockton, CA 95205
Section: 200-348-2104
State C-7 & C-18 License No. 448881, ACO 9717

ONE-LINE RISER DIAGRAM
PART 1 of 3

FIRE ALARM SYSTEM UPGRADE

LODI MIDDLE SCHOOL
LODI UNIFIED SCHOOL DISTRICT
945 SOUTH HAM LANE,
LODI, CA 95242

Date	01/30/18
Scale	SHOWN
Drawn	LAD
Checked	DJP
Job	17153E
Sheet	15
of	23 Sheets

REVISIONS	BY
INITIAL SUBMITTAL 01/30/18	DJP
ISA BACKLOG 04/16/18	DJP
CO DETECTION 06/12/18	DJP

QUALITYSOUND
SYSTEMS INTEGRATION
DIVISION OF B-JANUAR, INC.
2010 East Fremont St., Stockton, CA 95205
State C-7 & C-10 License No. 469881, ACO 5717

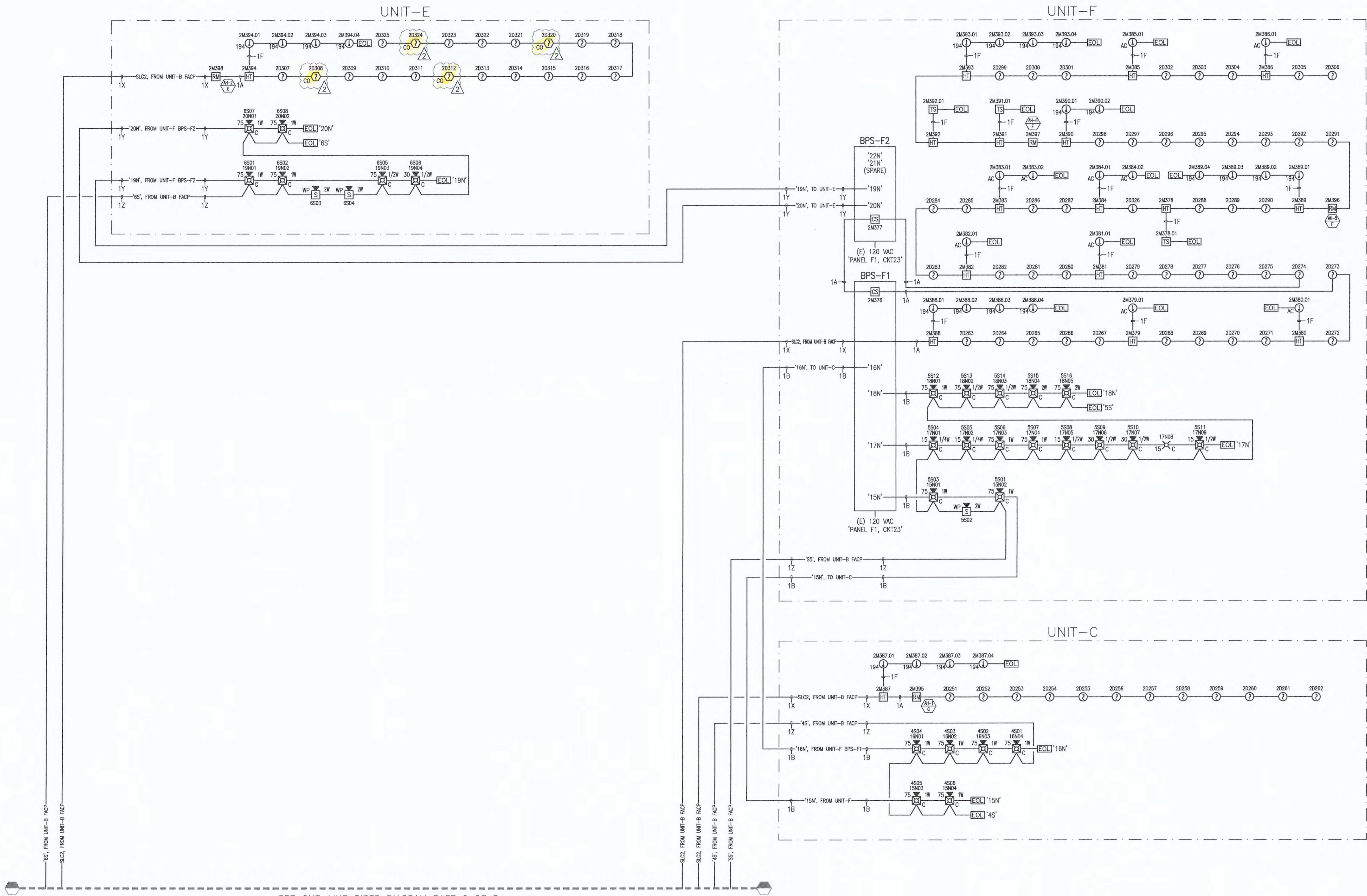


ONE-LINE RISER DIAGRAM
PART 3 of 3

FIRE ALARM SYSTEM UPGRADE

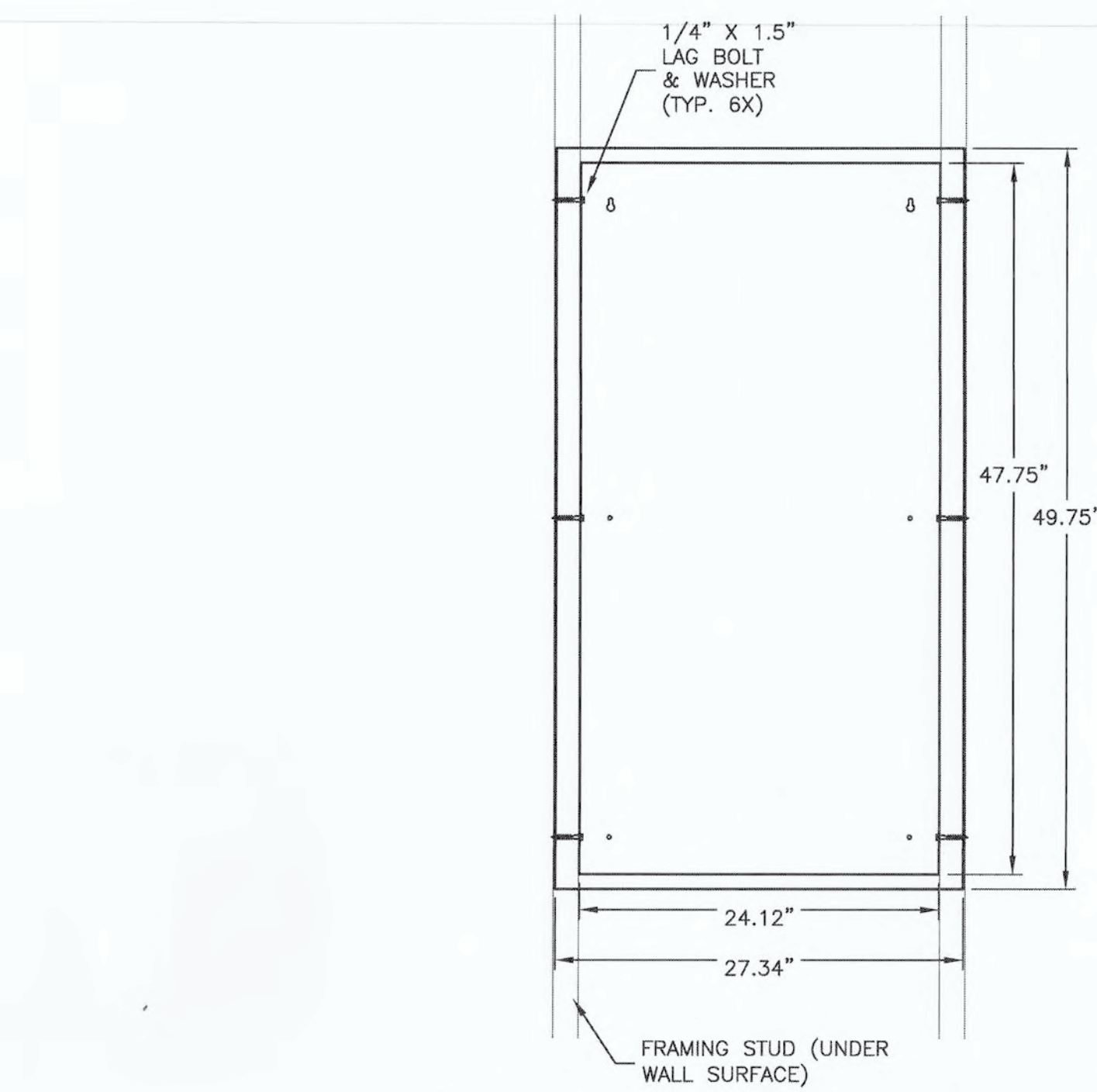
LODI MIDDLE SCHOOL
LODI UNIFIED SCHOOL DISTRICT
945 SOUTH HAM LANE,
LODI, CA 95242

Date	01/30/18
Scale	SHOWN
Drawn	LAD
Checked	DJP
Job	17153E
Sheet	17
of	23 Sheets

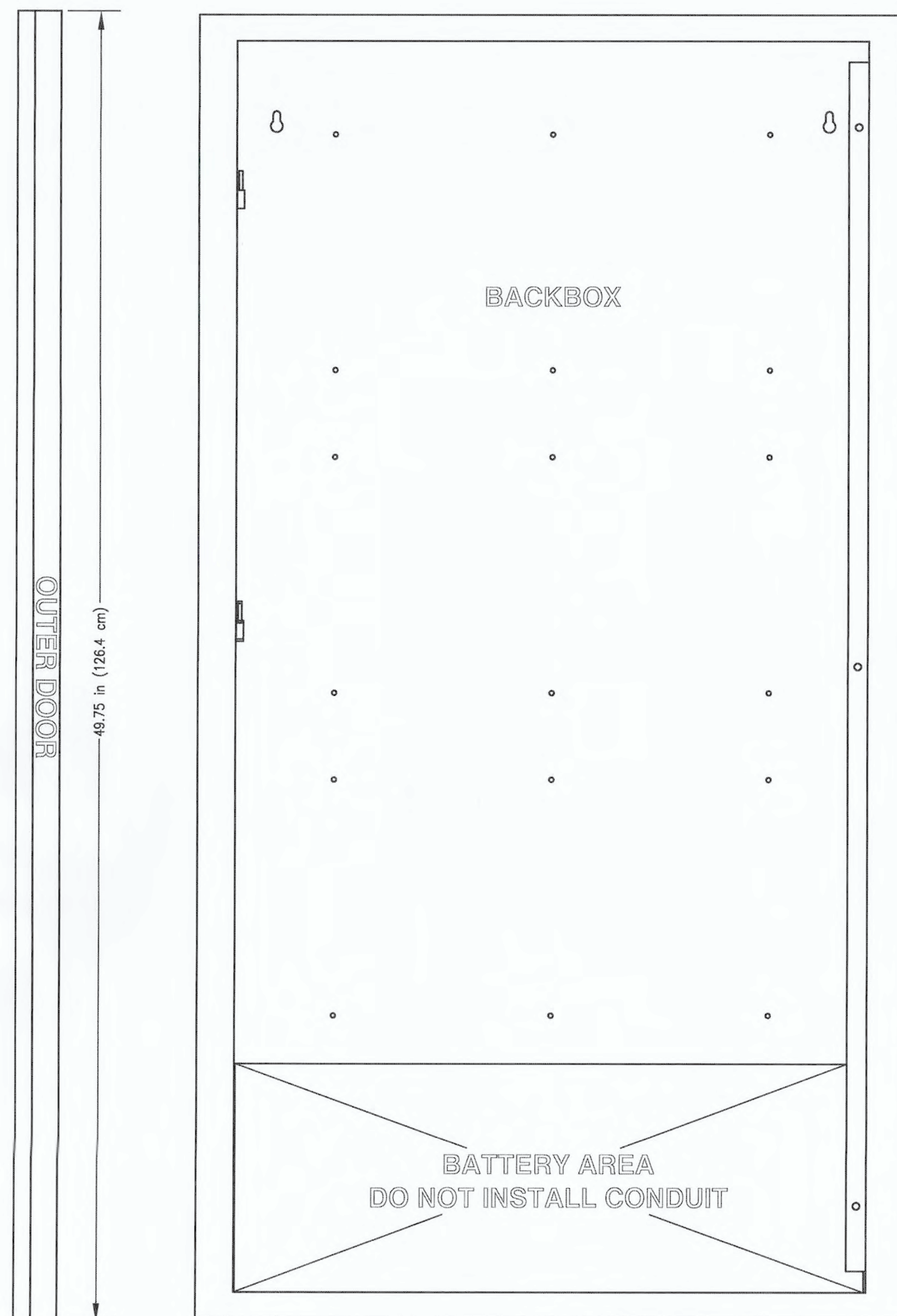
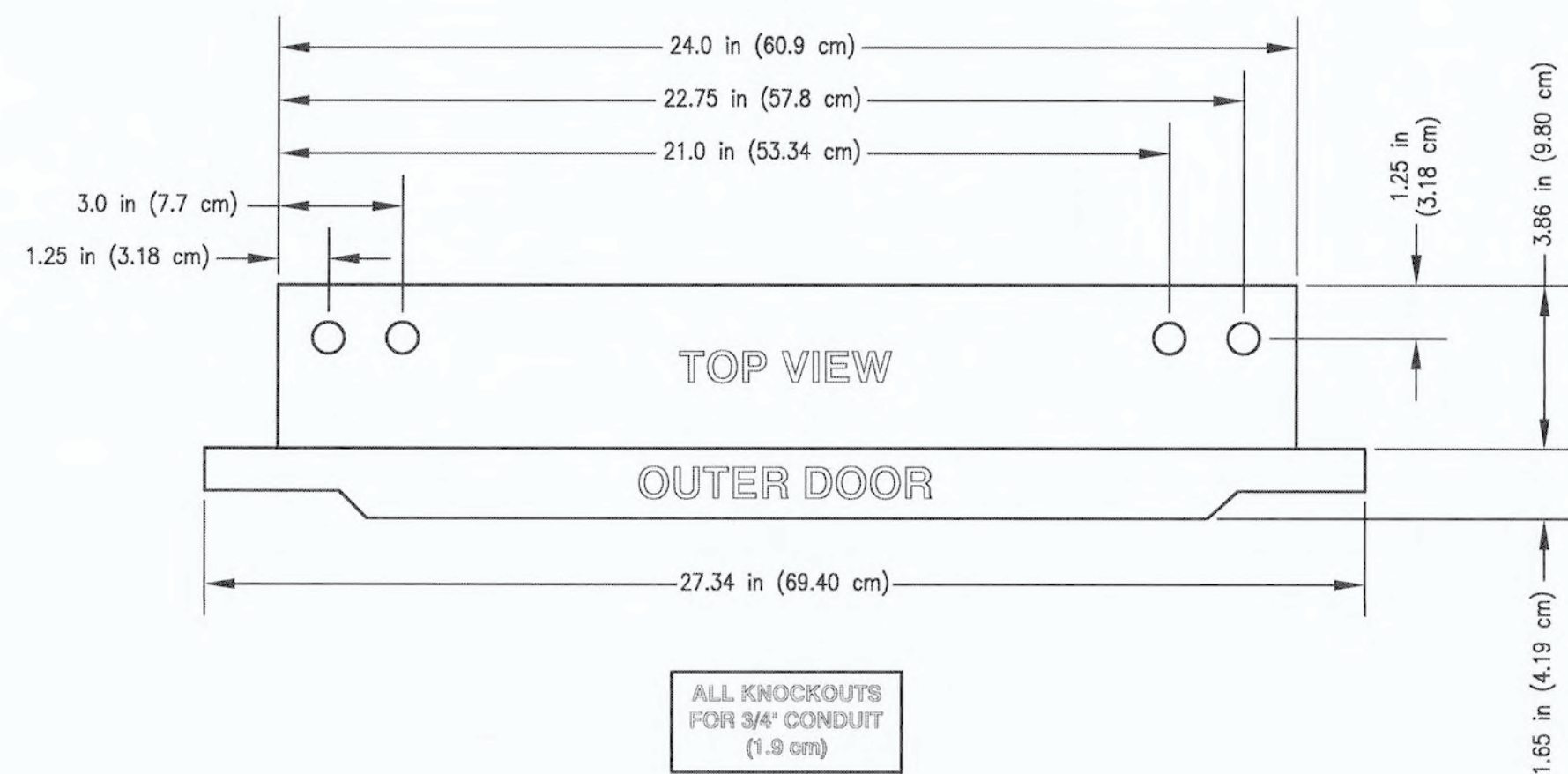


SEE ONE-LINE RISER DIAGRAM PART 2 OF 3

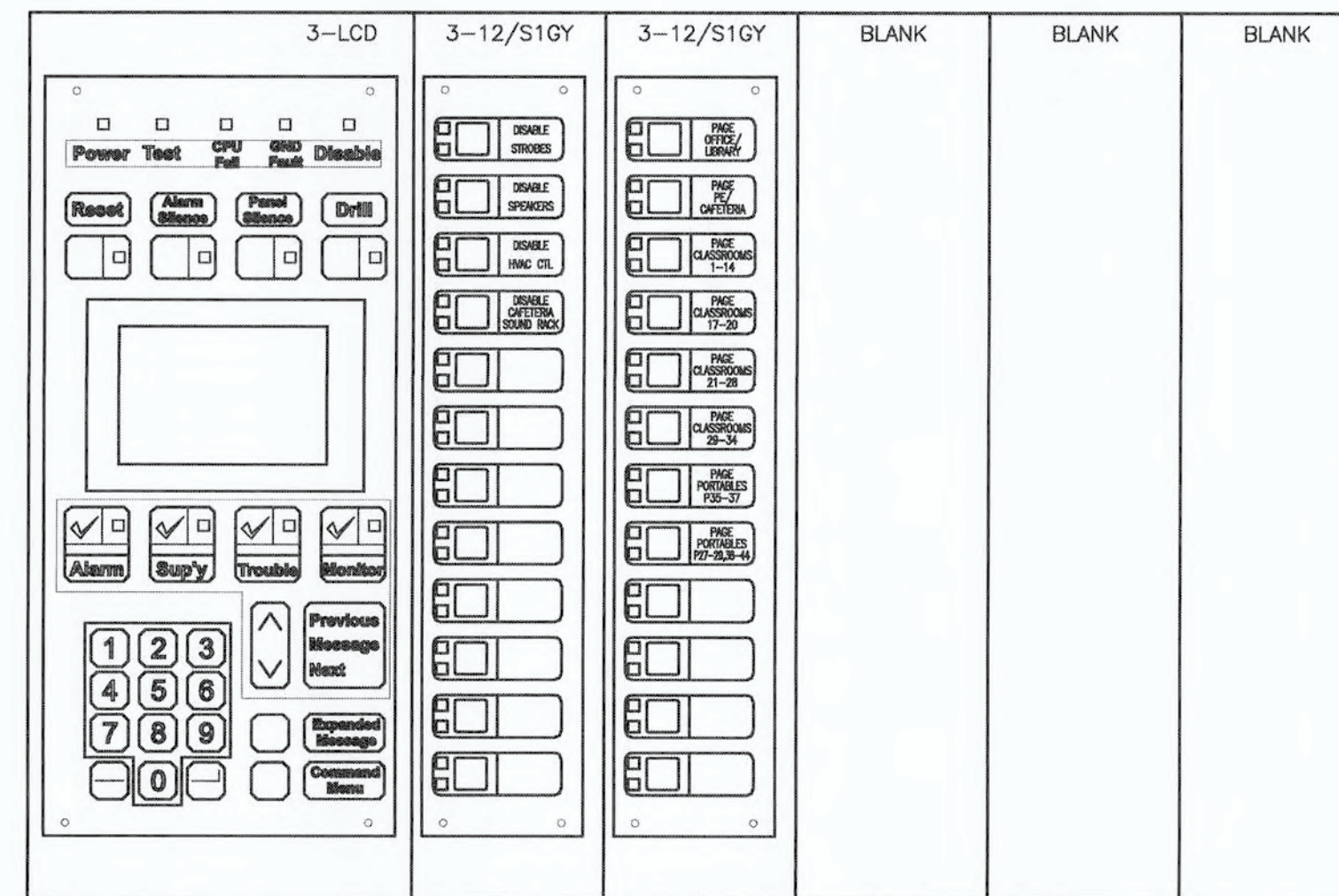
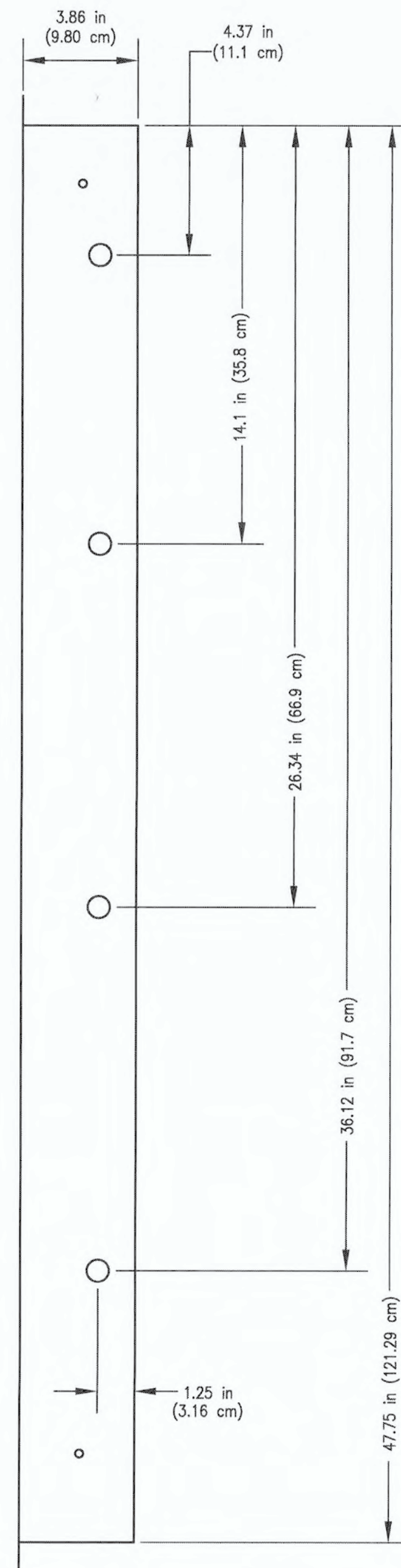
FILE NO. 39-50
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL. 02 -
116554
AC. - FLS. 20 SS. -
DATE 6-21-18
Licensed California Contractor
License # 469881, C-7, C-10
B-Januar Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95205
Expiration Date: 6/30/2018
Signature: [Signature] Daniel R. Bryant, President



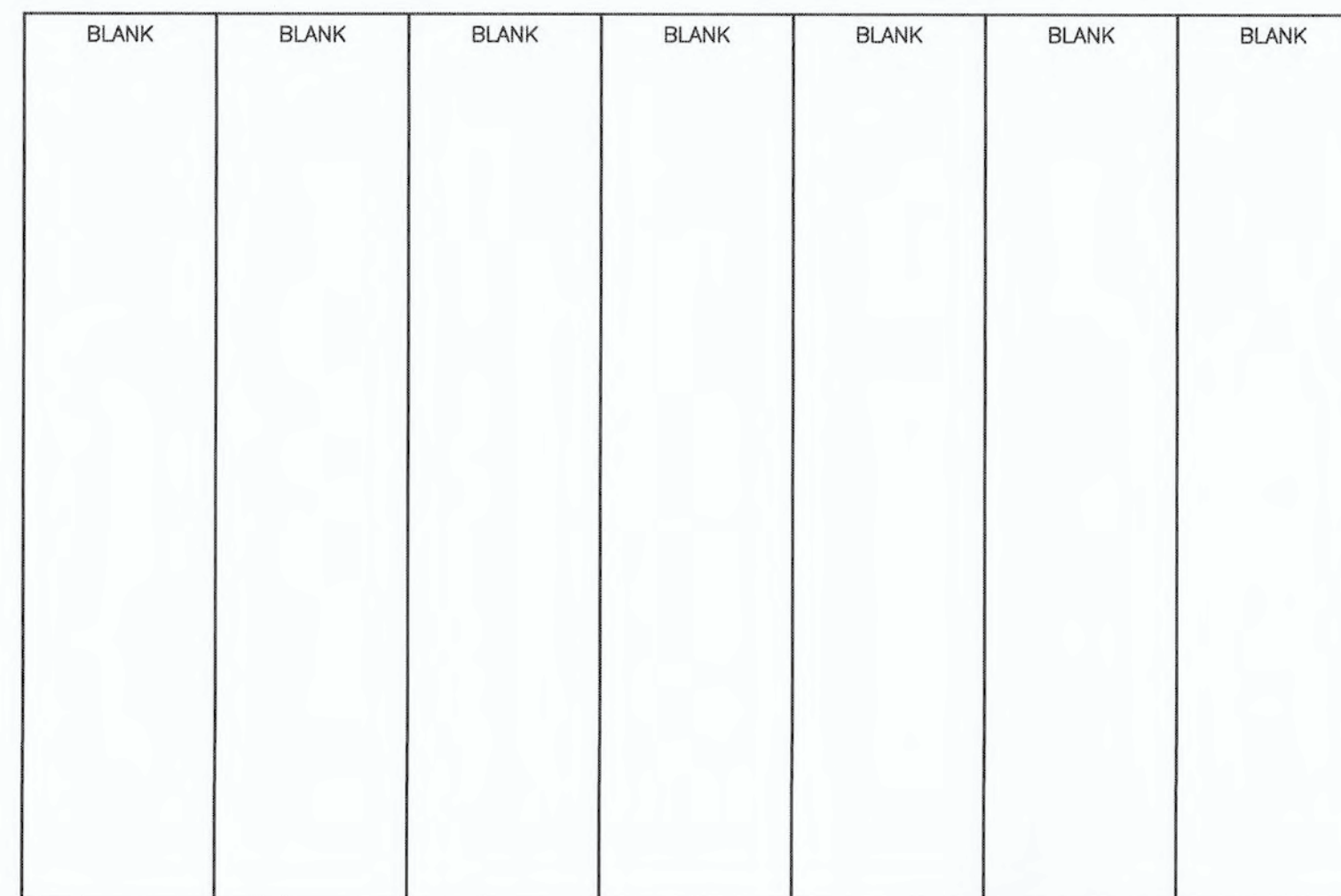
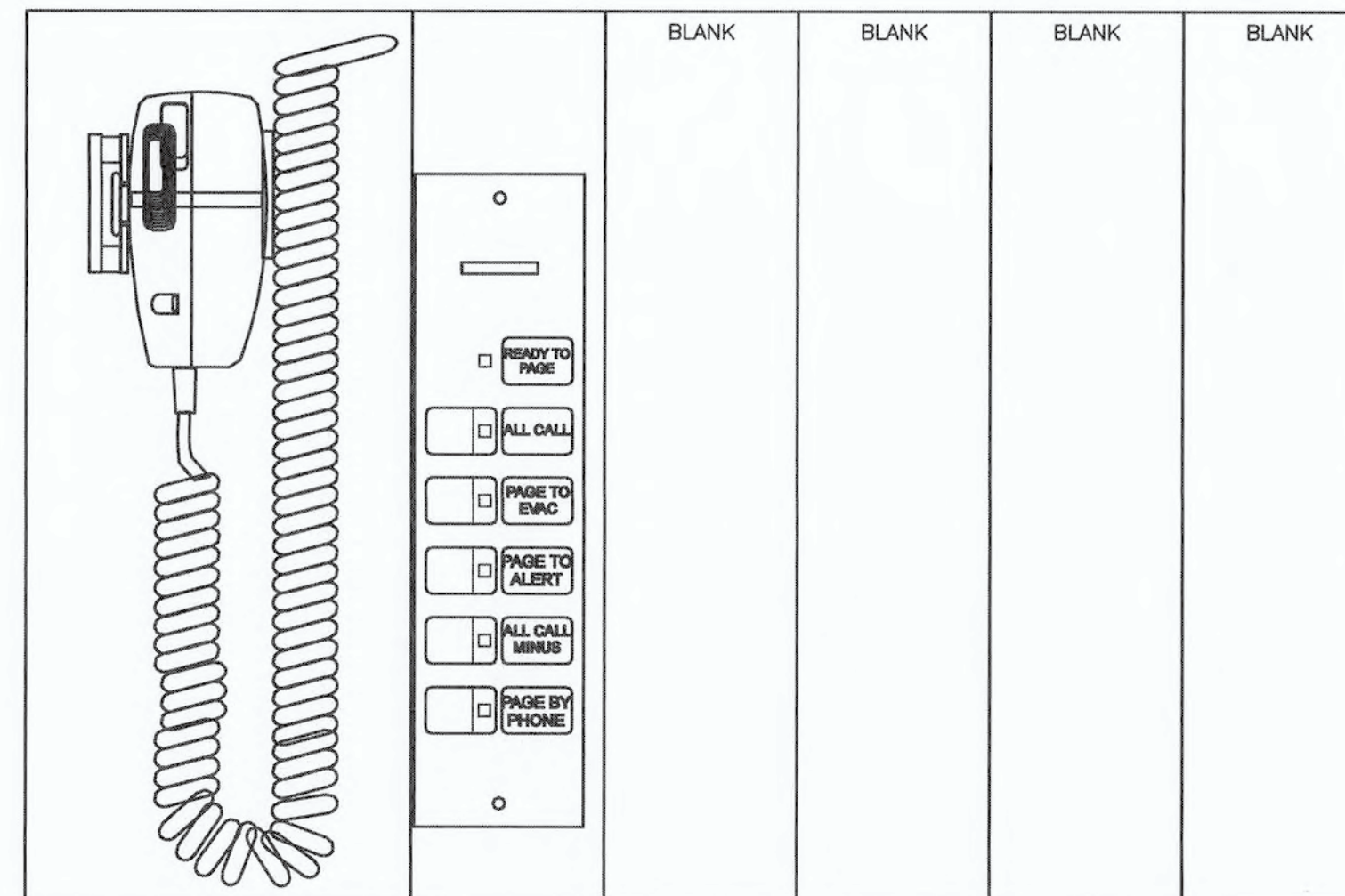
"FACP" BACKBOX ANCHORAGE DETAIL
NO SCALE



"FACP" BACKBOX DIMENSIONS
SCALE: 1/4" = 0'-1"



"FACP" PANEL FRONT DETAIL
SCALE: NONE



SHEET 18 NOTES

REFER TO SHEET 1 NOTES FOR GENERAL REQUIREMENTS

FILE NO. 39-50
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL. 02 -
116554
AC - FLS 20 SS -
DATE 6-21-18
Licensed California Contractor
License # 498881 C-7, C-10
Bi-Jamar Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95205
Expiration Date 6/30/2018
Signature [Signature]

REVISIONS	BY
INITIAL SUBMITTAL 01/30/18	DJP
DSN BACKLOG 04/18/18	DJP
DO DETECTION 06/12/18	DJP
QUALITY SOUND SYSTEMS INTEGRATION DIVISION OF BI-JAMAR, INC. 2010 East Fremont St., Stockton, CA 95205 Stockton 209-548-2704 State C-7 & C-10 License No. 498881, ACO 5717	
FACP MOUNTING & CABINET DETAILS	
FIRE ALARM SYSTEM UPGRADE	
LODI MIDDLE SCHOOL LODI UNIFIED SCHOOL DISTRICT 945 SOUTH HAM LANE, LODI, CA 95242	
Date	01/30/18
Scale	SHOWN
Drawn	LAD
Checked	DJP
Job	17153E
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of	23 Sheets

SHEET 20 NOTES

REFER TO SHEET 1 NOTES FOR GENERAL REQUIREMENTS

REVISIONS

NO.	REVISIONS	BY
1	INITIAL SUBMITTAL 01/30/18	DJP
2	USA BACKLOG 04/15/18	DJP
3	CD DETECTION 06/12/18	DJP

QUALITY SOUND

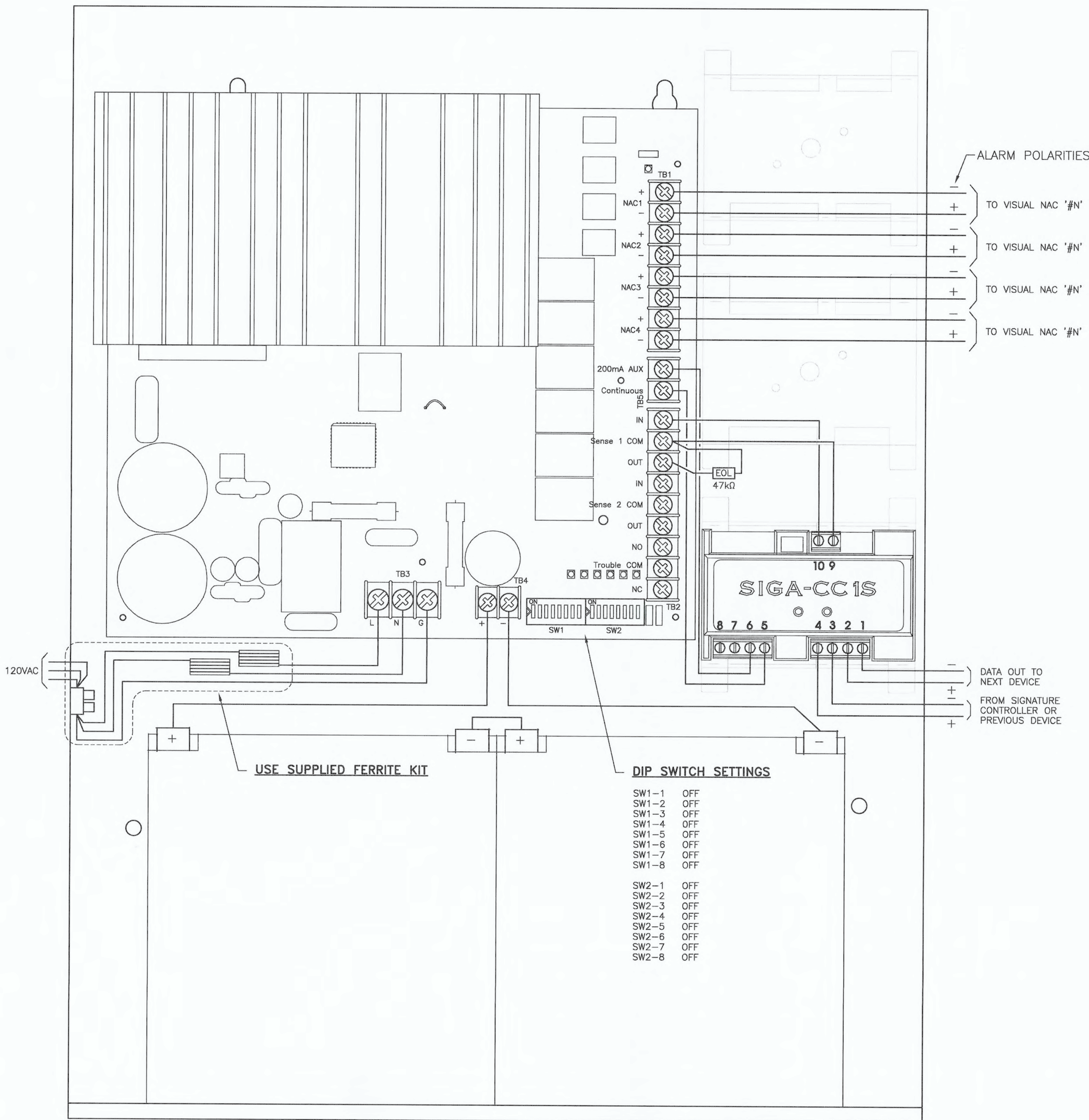
SYSTEMS INTEGRATION
DIVISION OF BI-JAMAR, INC.
2010 East Fremont St., Stockton, CA 95205
Stockton: 209-948-2104
State C-7 & C-10 License No. 458861, ACO 5717

BOOSTER POWER SUPPLY
WIRING DETAILS

FIRE ALARM SYSTEM UPGRADE

LODI MIDDLE SCHOOL
LODI UNIFIED SCHOOL DISTRICT
945 SOUTH HAM LANE,
LODI, CA 95242

Date 01/30/18
Scale SHOWN
Drawn LAD
Checked DJP
Job 17153E
Sheet 20
of 23 Sheets



BPS10A & SIGA-CC1S MODULE DETAIL

NO SCALE

FILE NO. 39-50

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

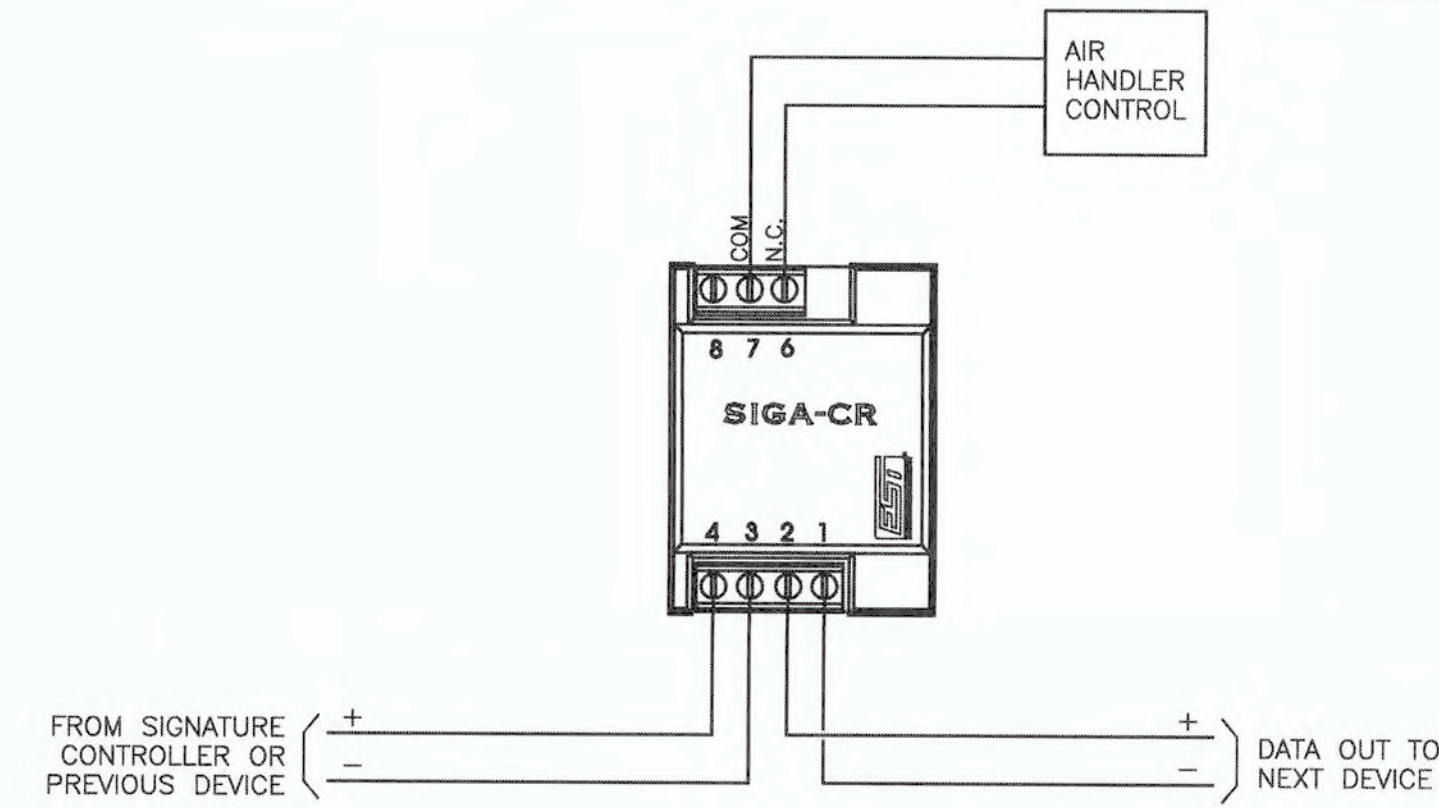
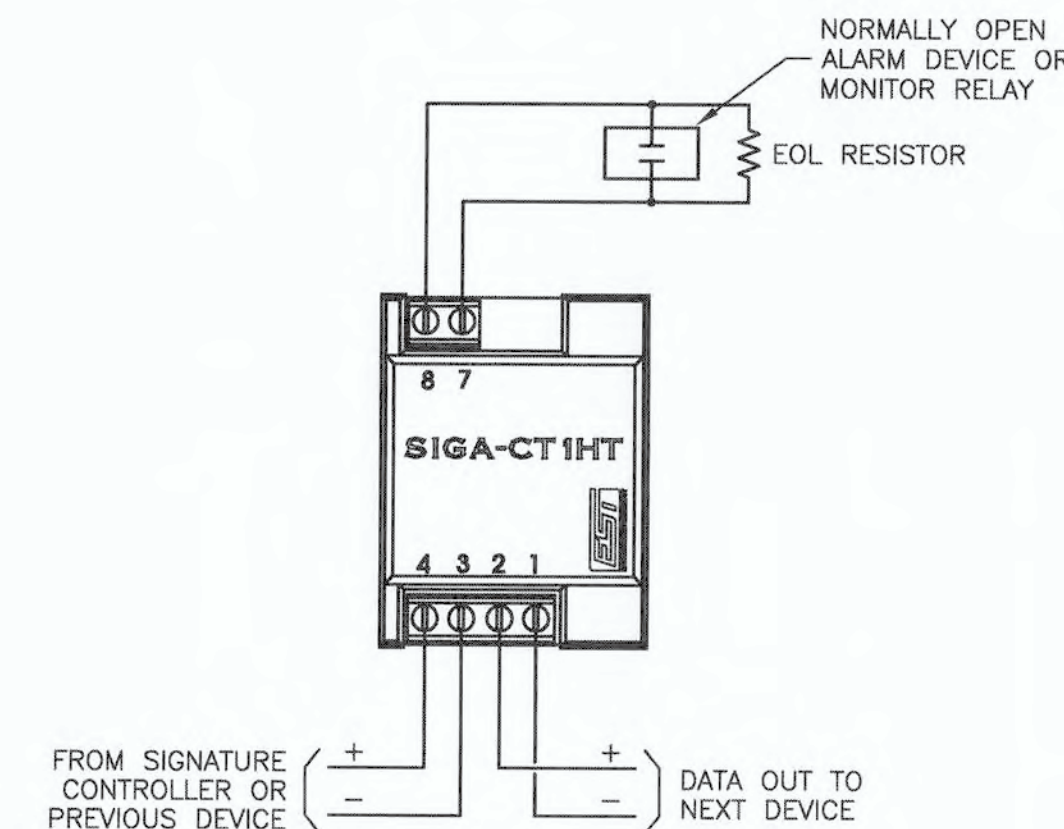
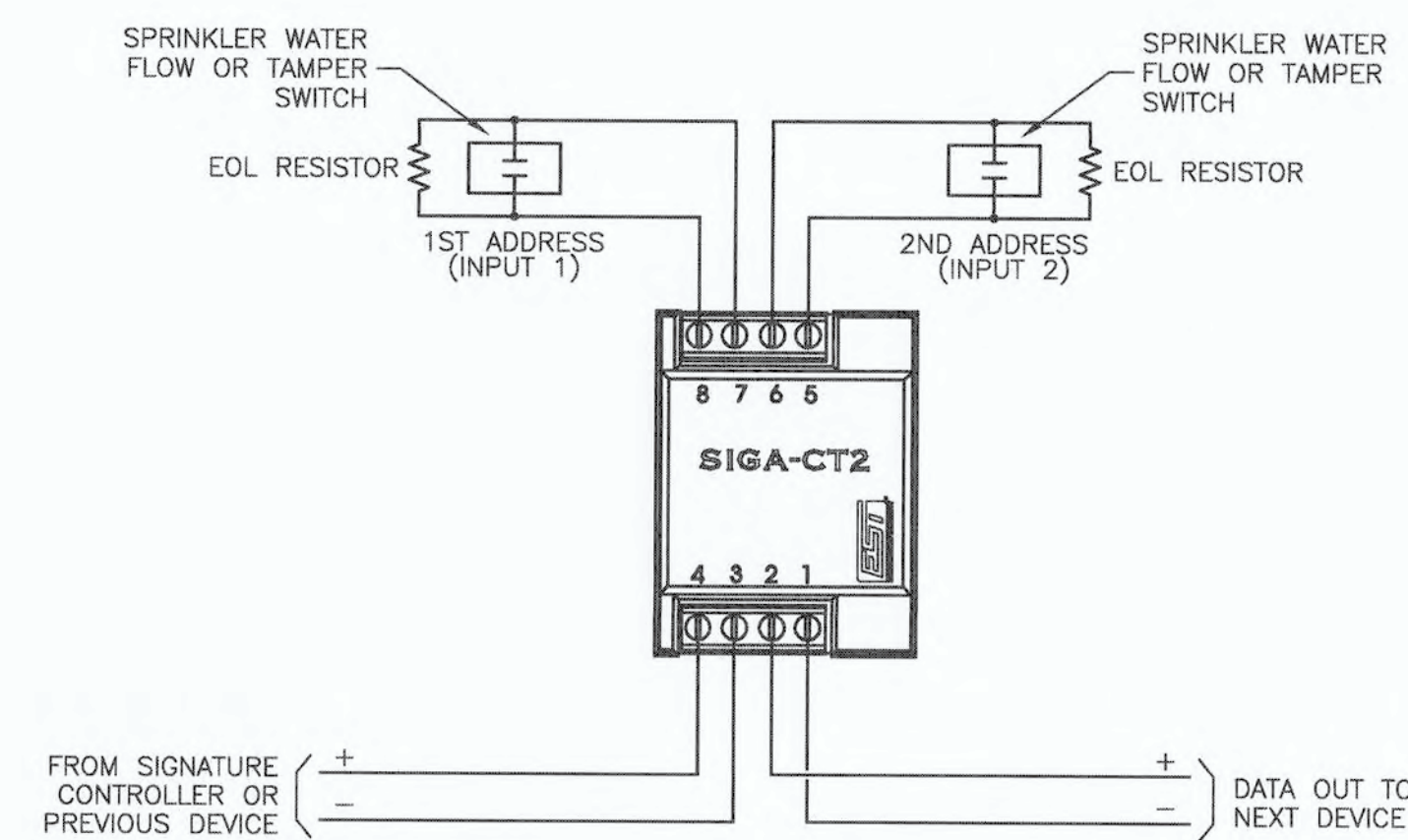
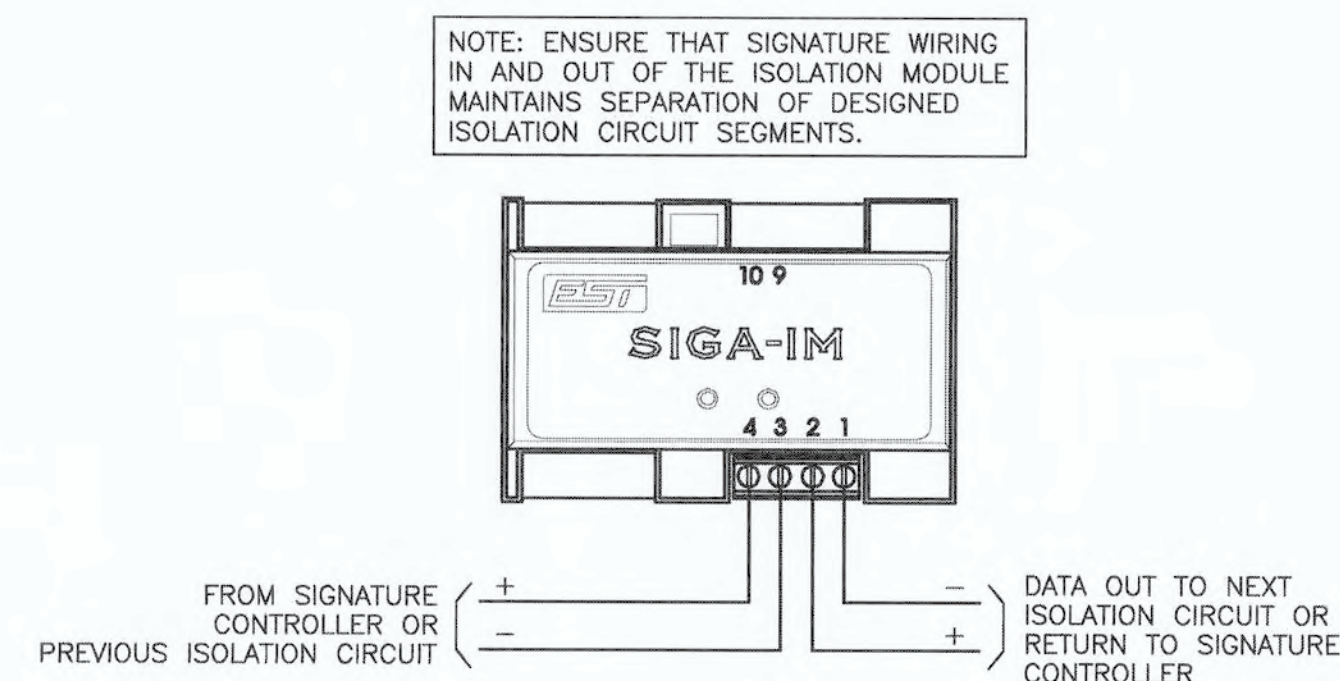
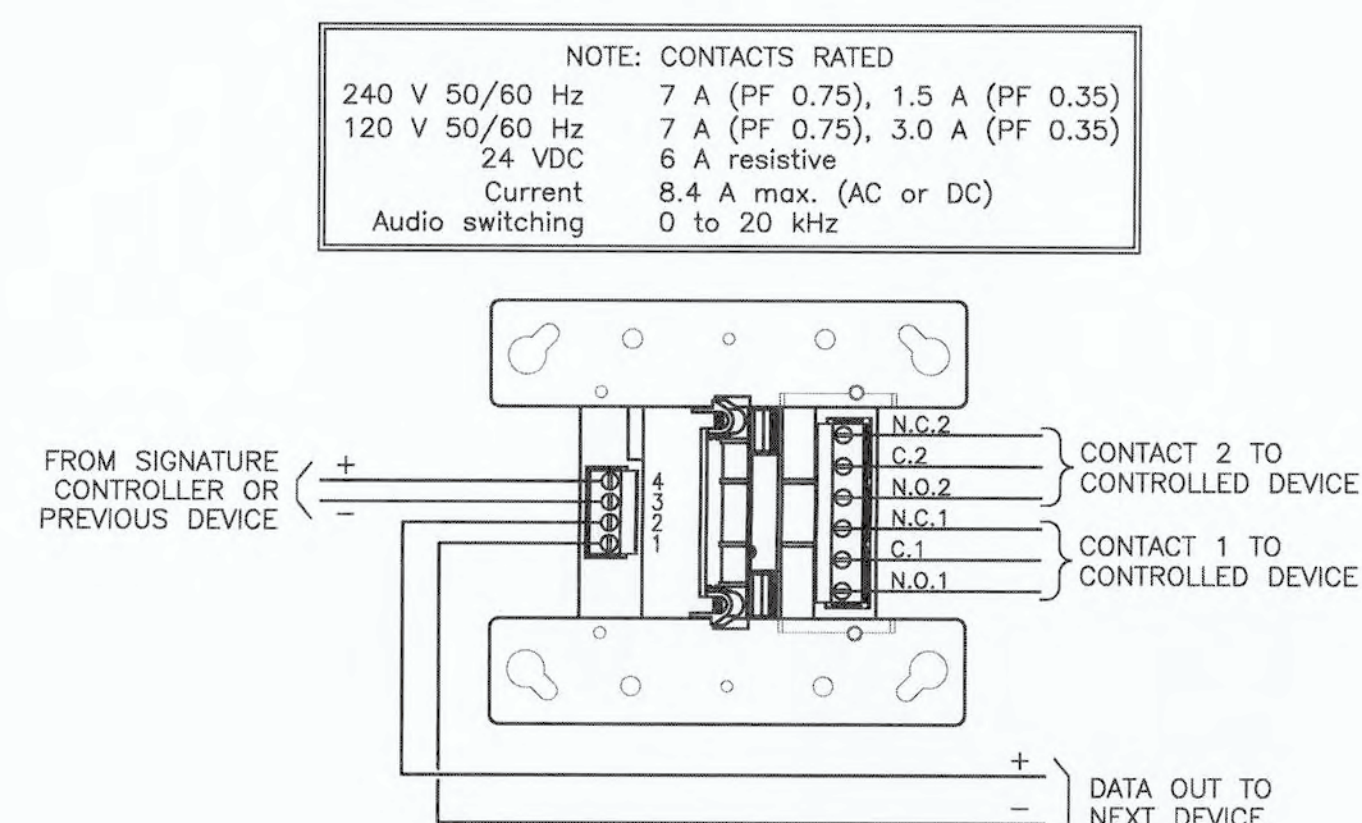
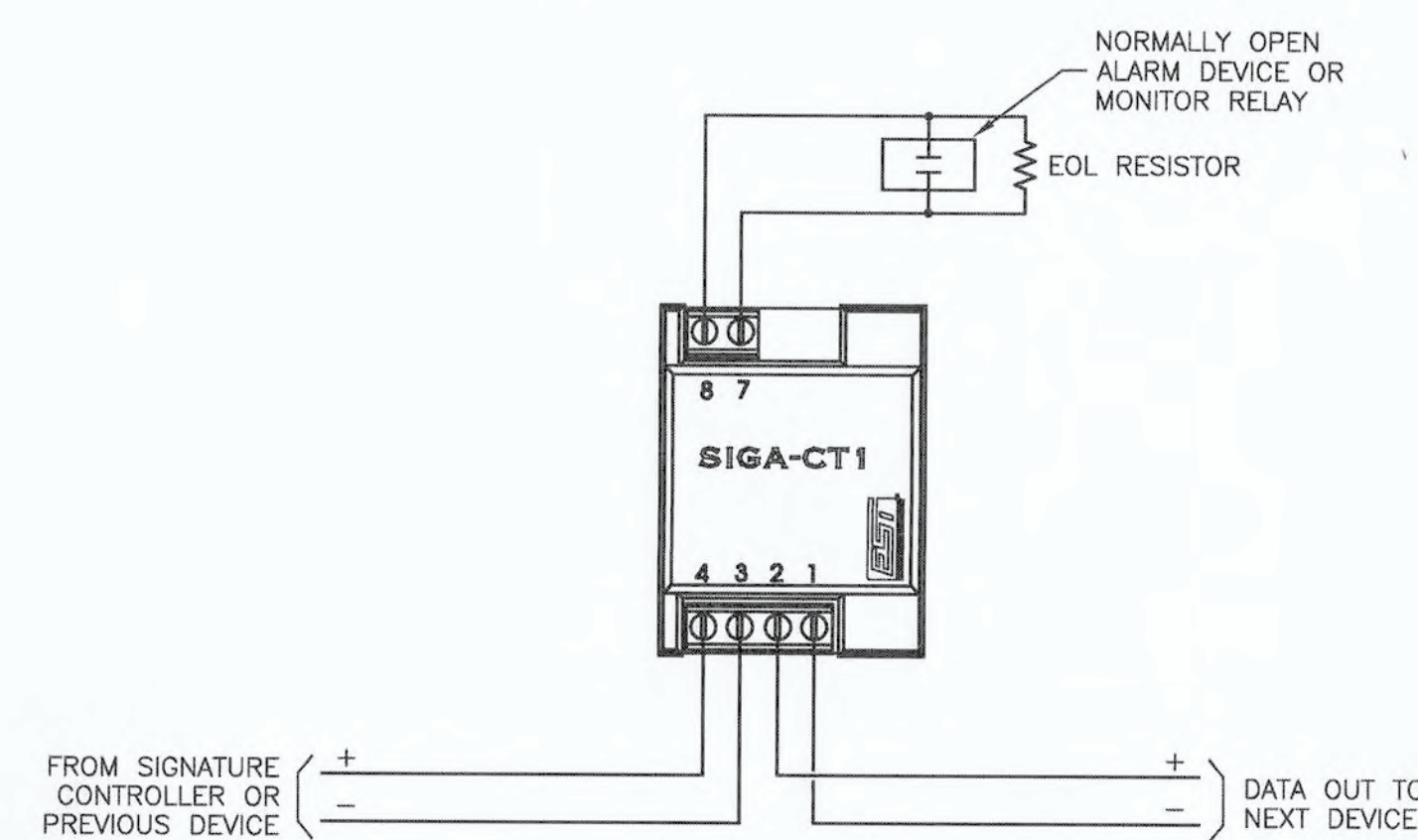
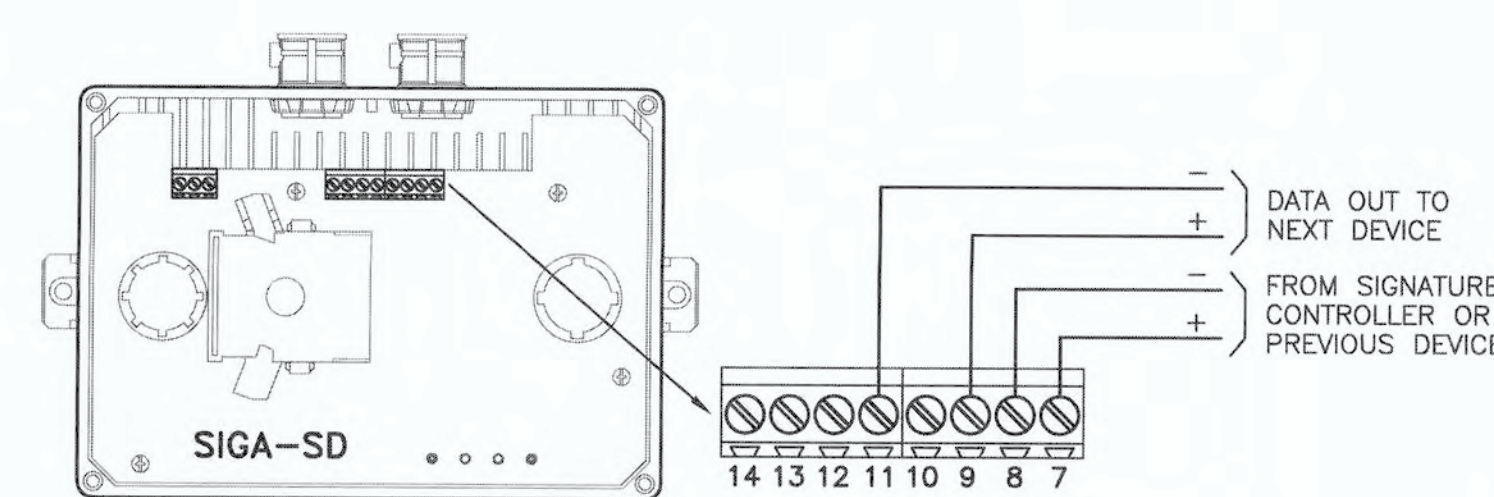
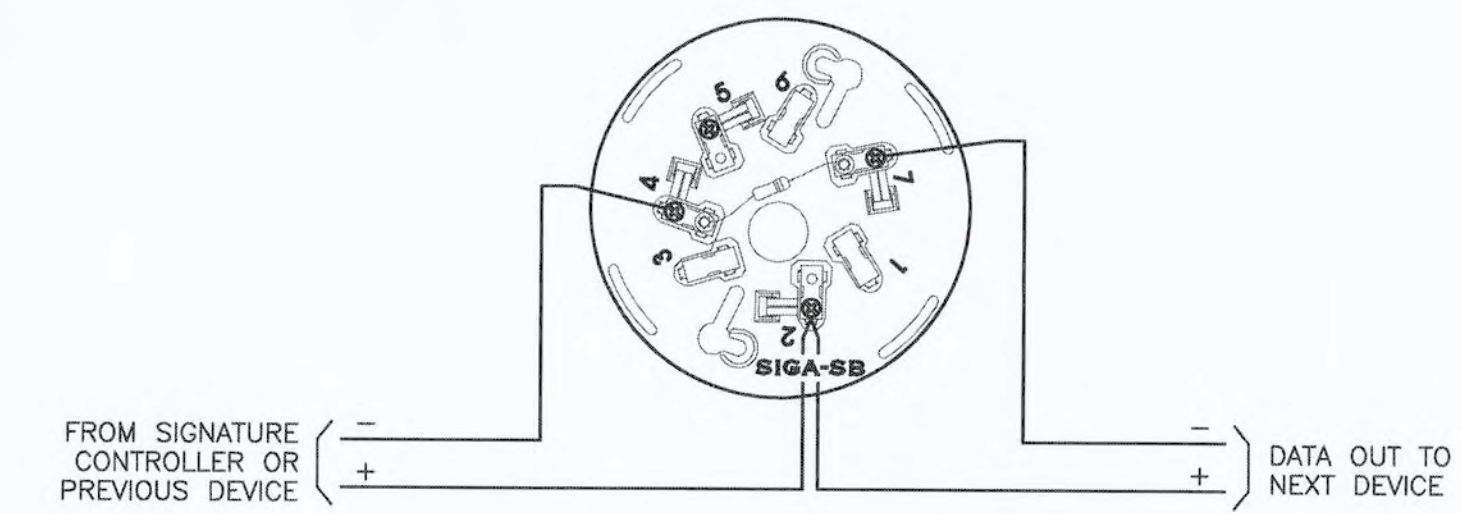
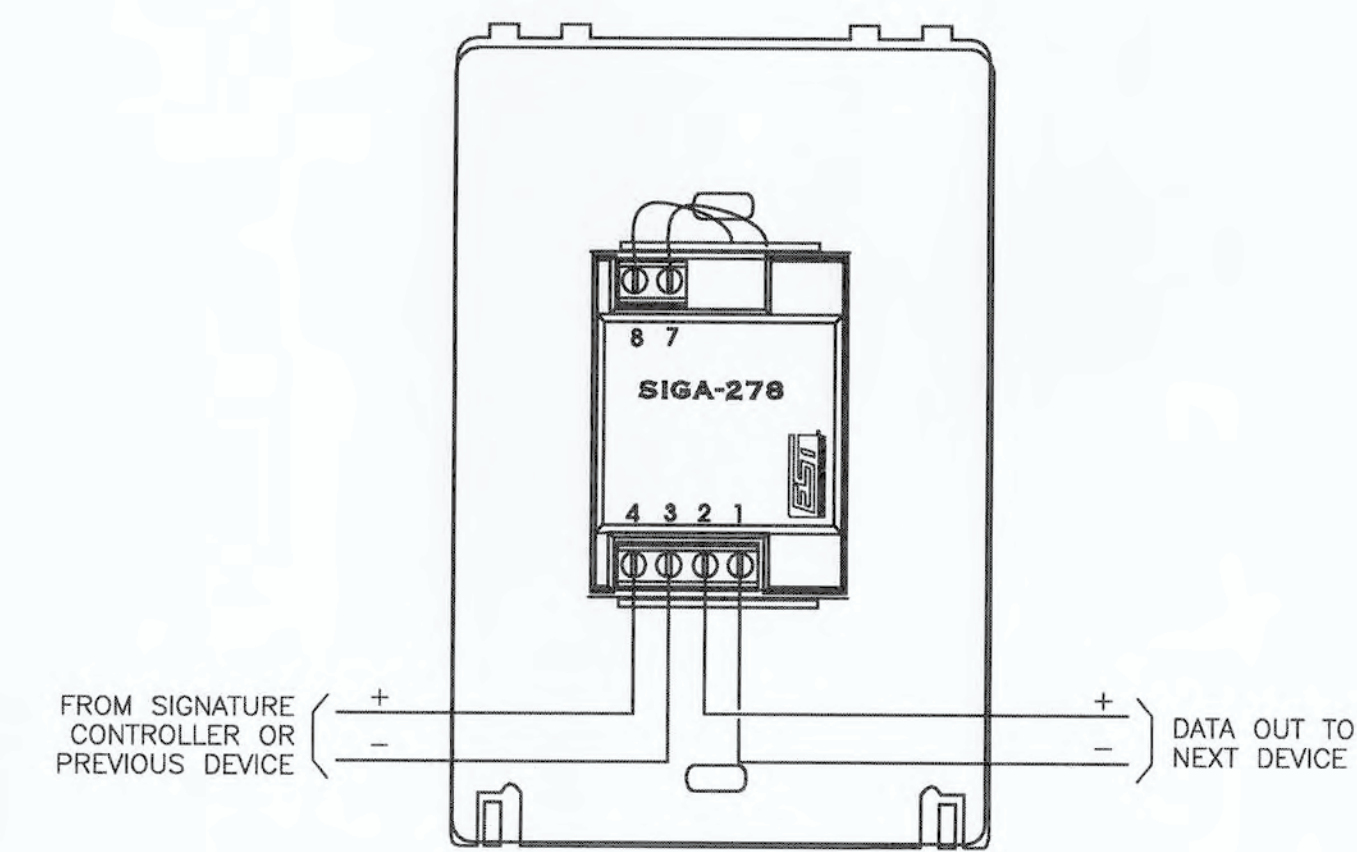
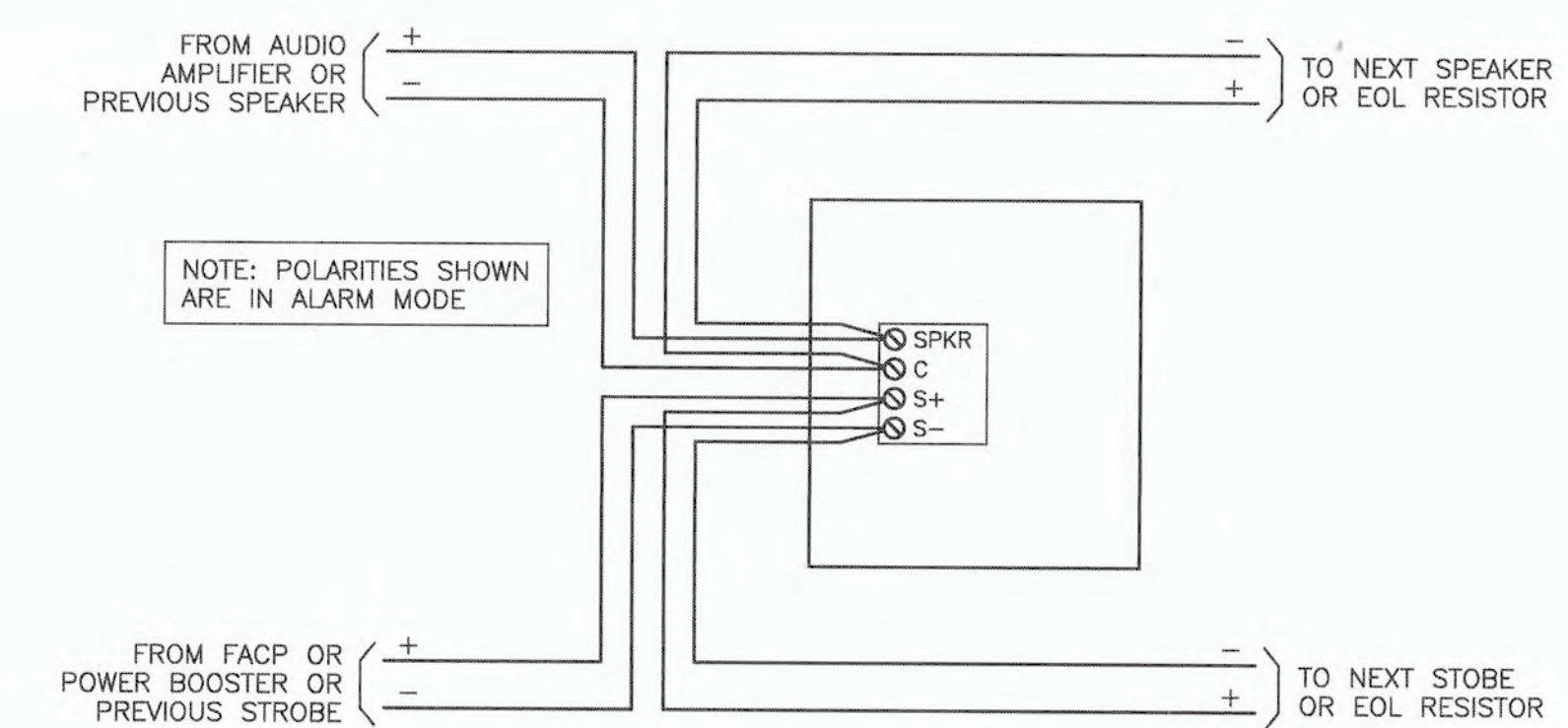
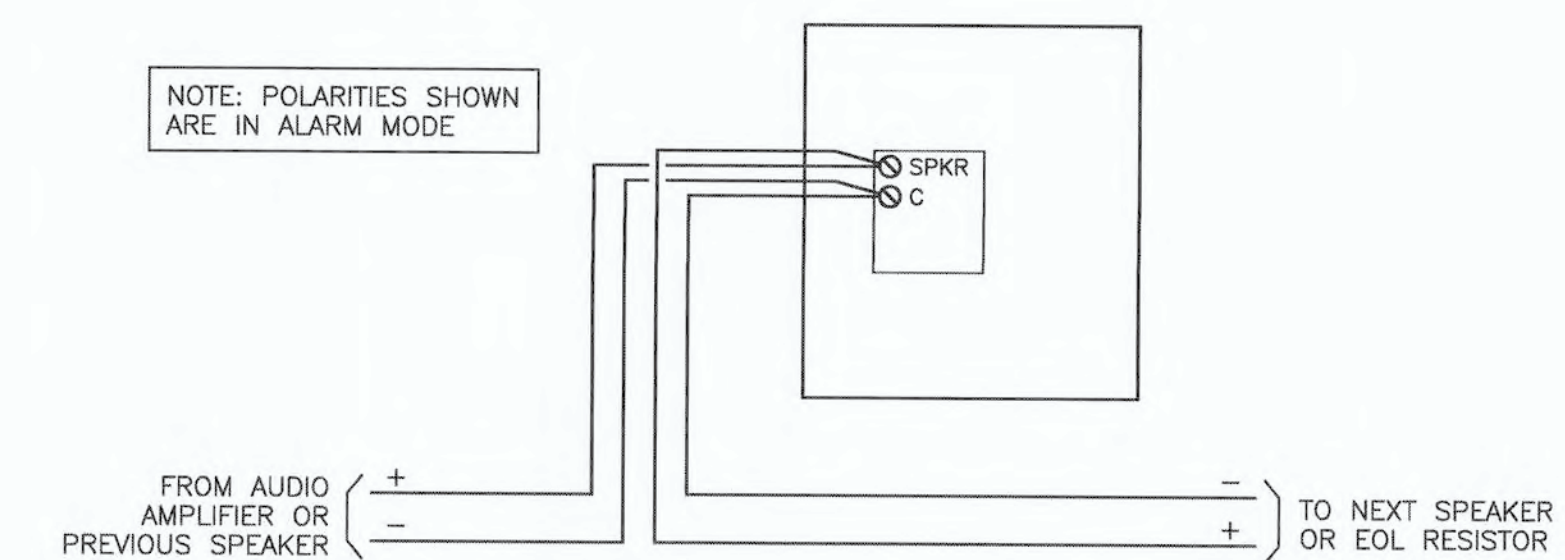
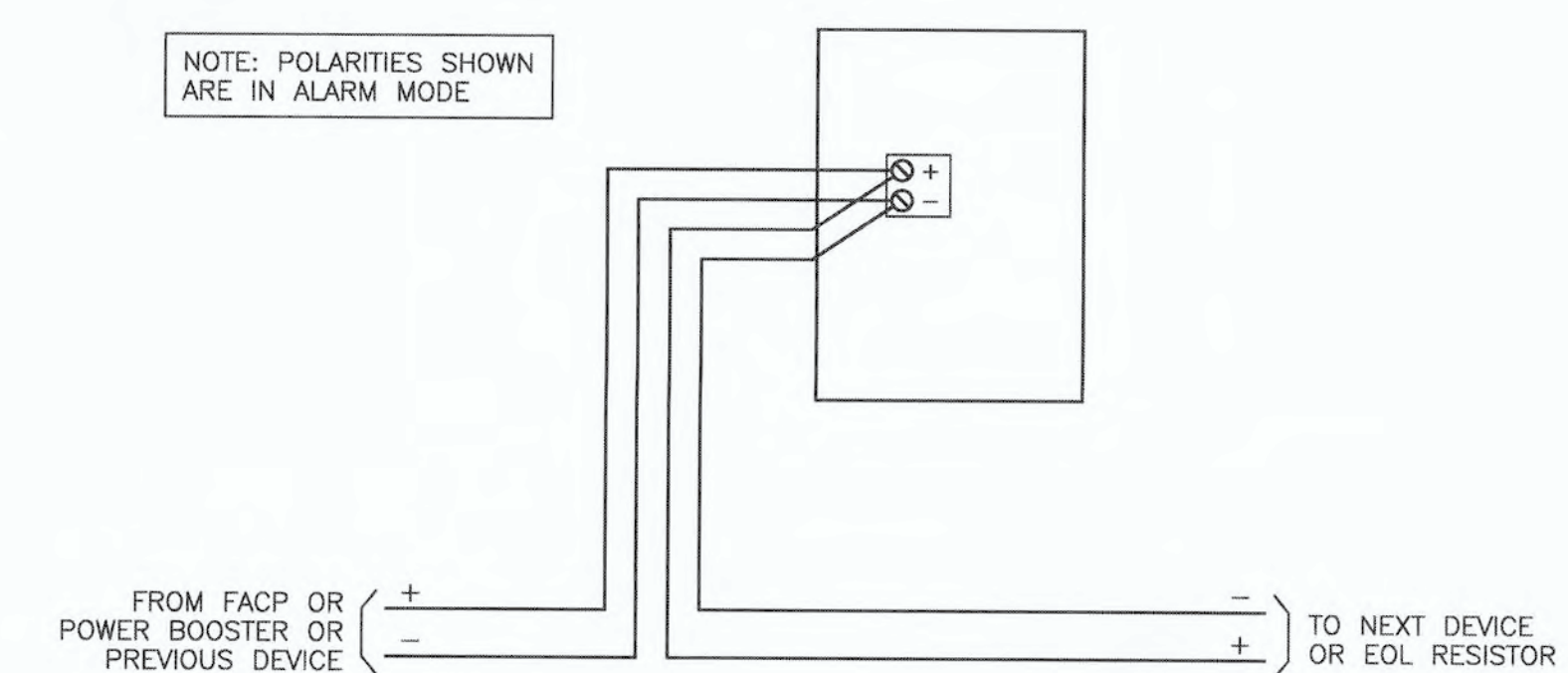
APPL 02 -
116554

AC - FLS 20 SS -
DATE 6-21-18

Licensed California Contractor
License # 490881 C-7, C-10
Bi-Jamar Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95205
Expiration Date: 8/31/2018
Signature: [Signature]

SHEET 21 NOTES

REFER TO SHEET 1 NOTES FOR GENERAL REQUIREMENTS

AIR HANDLER SHUTDOWN CONTROL DETAIL
NO SCALESIGA-CT1HT DETAIL
NO SCALESPRINKLER SYSTEM INTERFACE DETAIL
NO SCALESIGA-IM ISOLATION MODULE DETAIL
NO SCALETYPICAL HIGH POWER FORM-C OUTPUT DETAIL
NO SCALESIGA-CT1 MODULE DETAIL
NO SCALESIGA-SD ADDRESSABLE DUCT SMOKE DETECTOR
NO SCALESIGA-SB ADDRESSABLE DETECTOR BASE DETAIL
NO SCALEMANUAL PULL STATION DETAIL
NO SCALESPEAKER/STROBE WIRING DETAIL
NO SCALESPEAKER WIRING DETAIL
NO SCALESTROBE WIRING DETAIL
NO SCALE

FILE NO. 39-50
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL. 02 - 116554
AC - FLS. 20 SS -
DATE 6-21-18
Licensed California Contractor
License # 490881 C-7, C-10
Bi-JaMar Inc. dba Quality Sound
2010 E. Fremont St.
Stockton, CA 95209
Expiration Date: 9/31/2018
Signature: [Signature]
Date: 6/21/18

QUALITY SOUND
SYSTEMS INTEGRATION
DIVISION OF BI-JAMAR, INC.
2010 East Fremont St., Stockton, CA 95205
State C-7 & C-10 License No. 490881, ACO 5717

DEVICE WIRING DETAILS

FIRE ALARM SYSTEM UPGRADE

LODI MIDDLE SCHOOL
LODI UNIFIED SCHOOL DISTRICT
945 SOUTH HAM LANE,
LODI, CA 95242

Date 01/30/18
Scale SHOWN
Drawn LAD
Checked DJP
Job 17153E
Sheet 21
of 23 Sheets

REVISIONS	BY
0 INITIAL SUBMITTAL 01/30/18	DJF
1 DSA BACKCHK 04/16/18	DJF
2 CO DETECTION 06/12/18	DJF

QUALITYSOUND
SYSTEMS INTEGRATION
DIVISION OF BI-JAMAR, INC.
2010 East Fremont St., Stockton, CA 95205
Stockton: 209-948-2704
State C-7 & C-10 License No. 496881, ACO 5717



INSTALLATION DETAILS

FIRE ALARM SYSTEM UPGRADE

LODI MIDDLE SCHOOL
LODI UNIFIED SCHOOL DISTRICT
945 SOUTH HAM LANE,
LODI, CA 95242

ate 01/30/18

scale SHOWN

rawn	LAD
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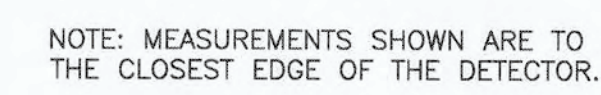
checked DJP

bb 17153E

Sheet 22

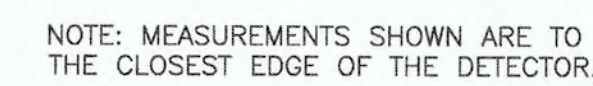
22

23 Sheets

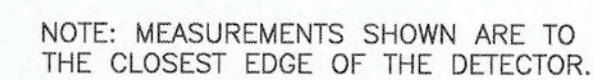
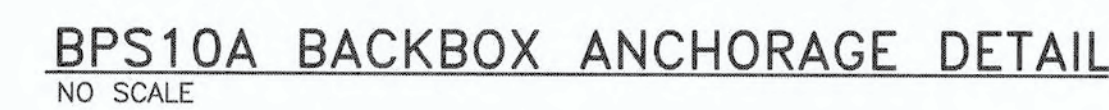


17.7.4.1* IN SPACES SERVED BY AIR-HANDLING SYSTEMS, DETECTORS SHALL NOT BE LOCATED WHERE AIRFLOW PREVENTS OPERATION OF THE DETECTORS.

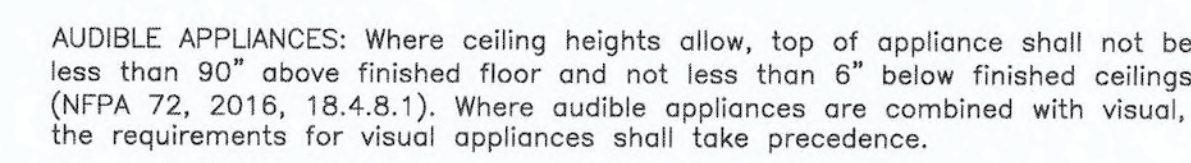
SMOKE OR HEAT DETECTOR AT HVAC OPENING MOUNTING DETAIL
NO SCALE



HEAT DETECTOR MOUNTING DETAIL



SMOKE DETECTOR MOUNTING DETAIL
NO SCALE



VISUAL & AUDIBLE/VISUAL APPLIANCES: The entire lens shall not be less than 80" and not greater than 96" above finished floor (NFPA 72, 2016, 18.5.5.1).

FIRE ALARM BOXES: The operable part of each manual fire alarm box shall be not less than 42" and not more than 48" above floor level (NFPA 72, 2016, 17.14.5).

FIRE ALARM HEIGHT DETAIL
NO SCALE

FILE NO. 39-50

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

APPL. C-2 -
116554

AC - FLS. 80 SS. -
DATE 6-21-18

SHEET 23 NOTES

REFER TO SHEET 1 NOTES FOR GENERAL REQUIREMENTS

EST3 BATTERY CALCULATIONS

Description	Qty	Standby Current (mA)	Total Standby (mA)	Alarm Current (mA)	Total Alarm (mA)
(E) 3-PPS/M Power Supply	1	N/A	N/A	N/A	N/A
(E) 3-CPU3 Central Processor	1	155	155	165	165
(E) 3-LCD LCD Module	1	38	38	38	38
(E) 3-SSDC1 SIGA Controller *	1	144	144	204	204
(E) 3-MODCOM DACT Module	1	80	60	95	95
(E) 3-12S1GY Annunciation Module	1	2	2	36	36
(N) 3-BPS/M Booster Power Supply	1	50	50	50	50
(N) 3-SSDC1 Dual SIGA Controller *	1	264	264	336	336
(N) 3-ASU/4 Audio Source Unit	1	80	80	80	80
(N) 3-2A40x40W Zone Amplifier	4	62	248	2480	9920
(N) 3-12S1GY Annunciation Module	1	2	2	36	36
(N) NAC-1N	1	--	--	579	579
(N) NAC-2N	1	--	--	537	537
TOTALS	--	--	1043	--	12076

* NOTE: The SIGA Device Controller is calculated with the maximum Signature addressable device load

Battery Requirement Calculation for 24 Hours Standby and 15 Minutes Alarm:
Ampere Hours = [(Standby Current x Time)+(Alarm Current x Time)] x Derating Factor
Ampere Hours = [(0.07A x 24 hrs)+(12.076A x 0.25 hrs)] x 1.25
Ampere Hours = 35.1

BATTERIES SUPPLIED: (2) 12 Volts, 40 Ampere Hours (24 Volts, 40 Ampere Hours)

BPS-F2 BATTERY CALCULATIONS

Description	Qty	Standby Current (mA)	Total Standby (mA)	Alarm Current (mA)	Total Alarm (mA)
Control Board	1	70	70	270	270
NAC - 19N	1	--	--	594	594
NAC - 20N	1	--	--	336	336
NAC - 21N (SPARE)	1	--	--	0	0
NAC - 22N (SPARE)	1	--	--	0	0
TOTALS	--	--	70	--	1200

Battery Requirement Calculation for 24 Hours Standby and 15 Minutes Alarm:
Ampere Hours = [(Standby Current x Time)+(Alarm Current x Time)] x Derating Factor
Ampere Hours = [(0.07A x 24 hrs)+(1.2A x 0.25 hrs)] x 1.25
Ampere Hours = 2.5

BATTERIES SUPPLIED: (2) 12 Volts, 7 Ampere Hours (24 Volts, 7 Ampere Hours)

BPS-P1 BATTERY CALCULATIONS

Description	Qty	Standby Current (mA)	Total Standby (mA)	Alarm Current (mA)	Total Alarm (mA)
Control Board	1	70	70	270	270
NAC - 23N	1	--	--	504	504
NAC - 24N (SPARE)	1	--	--	0	0
NAC - 25N (SPARE)	1	--	--	0	0
NAC - 26N (SPARE)	1	--	--	0	0
TOTALS	--	--	70	--	774

Battery Requirement Calculation for 24 Hours Standby and 15 Minutes Alarm:
Ampere Hours = [(Standby Current x Time)+(Alarm Current x Time)] x Derating Factor
Ampere Hours = [(0.07A x 24 hrs)+(0.774A x 0.25 hrs)] x 1.25
Ampere Hours = 2.3

BATTERIES SUPPLIED: (2) 12 Volts, 7 Ampere Hours (24 Volts, 7 Ampere Hours)

BPS-P2 BATTERY CALCULATIONS

Description	Qty	Standby Current (mA)	Total Standby (mA)	Alarm Current (mA)	Total Alarm (mA)
Control Board	1	70	70	270	270
NAC - 27N	1	--	--	504	504
NAC - 28N	1	--	--	672	672
NAC - 29N	1	--	--	504	504
NAC - 30N (SPARE)	1	--	--	0	0
TOTALS	--	--	70	--	1950

Battery Requirement Calculation for 24 Hours Standby and 15 Minutes Alarm:
Ampere Hours = [(Standby Current x Time)+(Alarm Current x Time)] x Derating Factor
Ampere Hours = [(0.07A x 24 hrs)+(1.95A x 0.25 hrs)] x 1.25
Ampere Hours = 2.7

BATTERIES SUPPLIED: (2) 12 Volts, 7 Ampere Hours (24 Volts, 7 Ampere Hours)

BPS-A BATTERY CALCULATIONS

Description	Qty	Standby Current (mA)	Total Standby (mA)	Alarm Current (mA)	Total Alarm (mA)
Control Board	1	70	70	270	270
NAC - 3N	1	--	--	506	506
NAC - 4N	1	--	--	826	826
NAC - 5N	1	--	--	812	812
NAC - 6N	1	--	--	399	399
TOTALS	--	--	70	--	2813

Battery Requirement Calculation for 24 Hours Standby and 15 Minutes Alarm:
Ampere Hours = [(Standby Current x Time)+(Alarm Current x Time)] x Derating Factor
Ampere Hours = [(0.07A x 24 hrs)+(2.813A x 0.25 hrs)] x 1.25
Ampere Hours = 3.0

BATTERIES SUPPLIED: (2) 12 Volts, 7 Ampere Hours (24 Volts, 7 Ampere Hours)

BPS10-D1 BATTERY CALCULATIONS

Description	Qty	Standby Current (mA)	Total Standby (mA)	Alarm Current (mA)	Total Alarm (mA)
Control Board	1	70	70	270	270
NAC - 7N	1	--	--	861	861
NAC - 8N	1	--	--	672	672
NAC - 9N (SPARE)	1	--	--	0	0
NAC - 10N (SPARE)	1	--	--	0	0
TOTALS	--	--	70	--	1803

Battery Requirement Calculation for 24 Hours Standby and 15 Minutes Alarm:
Ampere Hours = [(Standby Current x Time)+(Alarm Current x Time)] x Derating Factor
Ampere Hours = [(0.07A x 24 hrs)+(1.803A x 0.25 hrs)] x 1.25
Ampere Hours = 2.7

BATTERIES SUPPLIED: (2) 12 Volts, 7 Ampere Hours (24 Volts, 7 Ampere Hours)

BPS-D2 BATTERY CALCULATIONS

Description	Qty	Standby Current (mA)	Total Standby (mA)	Alarm Current (mA)	Total Alarm (mA)
Control Board	1	70	70	270	270
NAC - 11N	1	--	--	936	936
NAC - 12N	1	--	--	672	672
NAC - 13N (SPARE)	1	--	--	0	0
NAC - 14N (SPARE)	1	--	--	0	0
TOTALS	--	--	70	--	1878

Battery Requirement Calculation for 24 Hours Standby and 15 Minutes Alarm:
Ampere Hours = [(Standby Current x Time)+(Alarm Current x Time)] x Derating Factor
Ampere Hours = [(0.07A x 24 hrs)+(1.878A x 0.25 hrs)] x 1.25
Ampere Hours = 2.7

BATTERIES SUPPLIED: (2) 12 Volts, 7 Ampere Hours (24 Volts, 7 Ampere Hours)

BPS-F1 BATTERY CALCULATIONS

Description	Qty	Standby Current (mA)	Total Standby (mA)	Alarm Current (mA)	Total Alarm (mA)
Control Board	1	70	70	270	270
NAC - 15N	1	--	--	672	672
NAC - 16N	1	--	--	672	672
NAC - 17N	1	--	--	831	831
NAC - 18N	1	--	--	840	840
TOTALS	--	--	70	--	3285

Battery Requirement Calculation for 24 Hours Standby and 15 Minutes Alarm:
Ampere Hours = [(Standby Current x Time)+(Alarm Current x Time)] x Derating Factor
Ampere Hours = [(0.07A x 24 hrs)+(3.285A x 0.25 hrs)] x 1.25
Ampere Hours = 3.1

BATTERIES SUPPLIED: (2) 12 Volts, 7 Ampere Hours (24 Volts, 7 Ampere Hours)

NAC VOLTAGE DROP CALCULATIONS

CALCULATION: $dV = V - (2L \times K \times dI)$ Where: dV = device Voltage V = previous device voltage (Source Voltage = 24 VDC) K = wire AWG constant (Ω/k') at 167°F; #14 = 3.26 (stranded/worst case) L = wire length dI = current

DEVICE LEGEND: S(x) = Strobe (where 'x' is candela)

SS(x) = Speaker/Strobe (where 'x' is candela)

S = Speaker

WPS = Weatherproof Speaker

CEIL = Ceiling Mounted

CIRCUIT: 12N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROP
12N01	SS75-CEIL	168	672	14	185	23.19	3.38
12N02	SS75-CEIL	168	504	14	80	22.93	4.47
12N03	SS75-CEIL	168	336	14	110	22.69	5.48
12N04	SS75-CEIL	168	168	14	85	22.59	5.86

CIRCUIT: 15N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROP
15N01	SS75-CEIL	168	672	14	155	23.32	2.83
15N02	SS75-CEIL	168	504	14	170	22.76	5.16
15N03	SS75-CEIL	168	336	14	125	22.49	6.30
15N04	SS75-CEIL	168	168	14	75	22.41	6.64

CIRCUIT: 16N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROP
16N01	SS75-CEIL	168	672	14	270	22.82	4.93
16N02	SS75-CEIL	168	504	14	80	22.55	6.02
16N03	SS75-CEIL	168	336	14	100	22.34	6.94
16N04	SS75-CEIL	168	168	14	80	22.25	7.30

CIRCUIT: 17N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROP
17N01	SS15-CEIL	63	831	14	25	23.86	0.66
17N02	SS15-CEIL	63	768	14	40	23.66	1.40
17N03	SS75-CEIL	168	705	14	80	23.30	2.93
17N04	SS75-CEIL	168	537	14	75	23.03	4.03
17N05	SS15-CEIL	63	369	14	85	22.83	4.88
17N06	SS30-CEIL	90	306	14	40	22.75	5.21
17N07	SS30-CEIL	90	216	14	80	22.64	5.68
17N08	S15-CEIL	63	126	14	35	22.61	5.80
17N09	SS15-CEIL	63	63	14	30	22.60	5.85

CIRCUIT: 18N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROP
18N01	SS75-CEIL	168	840	14	125	23.32	2.85
18N02	SS75-CEIL	168	672	14	100	22.88	4.68
18N03	SS75-CEIL	168	504	14	95	22.67	5.98
18N04	SS75-CEIL	168	336	14	145	22.25	7.30
18N05	SS75-CEIL	168	168	14	70	22.17	7.62

CIRCUIT: 19N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROP
19N01	SS75-CEIL	168	594	14	205	23.21	3.31
19N02	SS75-CEIL	168	426	14	80	22.98	4.23
19N03	SS75-CEIL	168	258	14	105	22.81	4.97
19N04	SS30-CEIL	90	90	14	80	22.76	5.17

CIRCUIT: 20N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROP
20N01	SS75-CEIL	168	336	14	245	23.46	2.24
20N02	SS75-CEIL	168	168	14	80	23.38	2.60

CIRCUIT: 23N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROP
23N01	SS75-CEIL	168	504	14	45	23.85	0.62
23N02	SS75-CEIL	168	336	14	100	23.63	1.53
23N03	SS75-CEIL	168	168	14	100	23.52	1.99

CIRCUIT: 27N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROP
27N01	SS75-CEIL	168	504	14	45	23.85	0.62
27N02	SS75-CEIL	168	336	14	75	23.69	1.30
27N03	SS75-CEIL	168	168	14	75	23.61	1.64

CIRCUIT: 28N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROP
28N01	SS75-CEIL	168	672	14	85	23.63	1.55
28N02	SS75-CEIL	168	504	14	75	23.38	2.58
28N03	SS75-CEIL	168	336	14	75	23.22	3.26
28N04	SS75-CEIL	168	168	14	80	23.13	3.63

CIRCUIT: 29N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROP
29N01	SS75-CEIL	168	504	14	215	23.29	2.94
29N02	SS75-CEIL	168	336	14	75	23.13	3.63
29N03	SS75-CEIL	168	168	14	75	23.05	3.97

CIRCUIT: 11N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROP
11N01	SS15-CEIL	63	579	14	40	23.85	0.63
11N02	SS30-CEIL	90	516	14	50	23.68	1.33
11N03	SS75-CEIL	168	426	14	95	23.42	2.43
11N04	SS75-CEIL	168	258	14	40	23.35	2.71
11N05	SS30-CEIL	90	90	14	40	23.33	2.81

CIRCUIT: 22N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROP
22N01	SS30-CEIL	90	537	14	25	23.91	0.36
22N02	SS15-CEIL	63	447	14	30	23.83	0.73
22N03	SS30-CEIL	90	384	14	30	23.75	1.04
22N04	SS15-CEIL	63	294	14	45	23.66	1.40
22N05	SS15-CEIL	63	231	14	30	23.62	1.59
22N06	SS75-CEIL	168	168	14	45	23.57	1.80

CIRCUIT: 32N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)	SECTION CURRENT (mA)	WIRE AWG	LENGTH (ft)	DEVICE VDC	PERCENT DROP
32N01	SS75-CEIL	168	506	14	30	23.90	0.41
32N02	SS30-CEIL	90	338	14	55	23.78	0.92
32N03	S15	59	248	14	75	23.66	1.42
32N04	SS15	65	189	14	20	23.63	1.53
32N05	S15	59	124	14	40	23.60	1.68
32N06	SS15	65	65	14	20	23.59	1.70

CIRCUIT: 42N

DEVICE ID NO.	DEVICE TYPE	DEVICE CURRENT (mA)
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