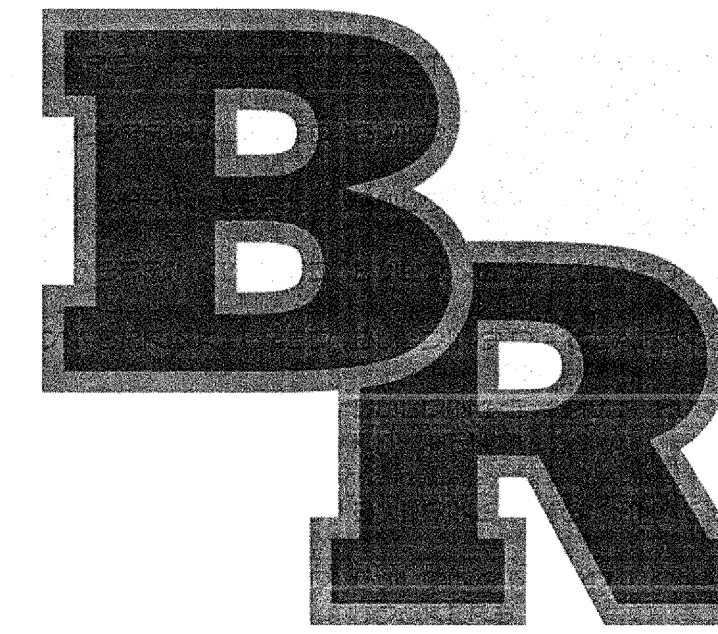




NEVADA JOINT UNION HIGH SCHOOL DISTRICT NEW FIRE ALARM SYSTEM FOR BEAR RIVER HIGH SCHOOL



ARCHITECT'S STATEMENT

THESE DRAWINGS AND/OR SPECIFICATIONS AND/OR CALCULATIONS FOR THE ITEMS LISTED BELOW HAVE BEEN PREPARED BY THESE DESIGN PROFESSIONALS WHO ARE LICENSED AND AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. THESE DOCUMENTS HAVE BEEN EXAMINED BY ME AND HAVE BEEN FOUND TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME.

THE ITEMS LISTED BELOW ARE ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT FOR WHICH I AM THE INDIVIDUAL DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE (OR FOR WHICH I HAVE BEEN DELEGATED RESPONSIBILITY FOR THIS PORTION OF THE WORK).

LIST OF ITEMS REVIEWED AND ACCEPTED: (SEE BELOW)

ELECTRICAL (SHEETS FA-01 THRU FA-5.1)

PROJECT NOTES

- DO NOT SCALE THE CONSTRUCTION DOCUMENTS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED GRAPHICS.
- SPECIFICATIONS, DRAWINGS, AND DETAILS TAKE PRECEDENCE OVER THESE GENERAL NOTES.
- VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK. NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO PROCEEDING.
- DO NOT MODIFY, CUT, OR OTHERWISE COMPROMISE THE INTEGRITY OF STRUCTURAL ELEMENTS.
- DIVISION 1 - THERMAL AND MOISTURE PROTECTION
- FLASH, CAULK, AND SEAL WHERE SHOWN IN DRAWINGS AND WHERE REQUIRED TO PREVENT THE INFILTRATION OF MOISTURE.
- PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE SEALED WITH FIRE STOPPING.

PROJECT INFORMATION

SCOPE: REPLACEMENT OF EXISTING FIRE ALARM SYSTEM

SITE: 11130 MAGNOLIA ROAD GRASS VALLEY CA 95949

OWNER'S REPRESENTATIVE: PAUL PALMER (DISTRICT DIRECTOR)
NEVADA JOINT UNION HIGH SCHOOL DISTRICT
(530) 273-9351 EXT.#227

ZONING: P - PUBLIC

OCCUPANCY: EXISTING A, B, E, S OCCUPANCIES
(NO CHANGES TO EXISTING OCCUPANCY PROPOSED)

CONSTRUCTION TYPE: VARIES - TYPE VN

AREA OF WORK: EXISTING BUILDINGS:

NON-SPRINKLERED BUILDING A - ADMINISTRATION/CLASSROOMS

NON-SPRINKLERED BUILDING B - CLASSROOMS

(E) SPRINKLERED BUILDING C - CLASSROOMS

NON-SPRINKLERED BUILDING D - CLASSROOMS

NON-SPRINKLERED BUILDING E - MULTIPURPOSE, CLASSROOMS, KITCHEN

NON-SPRINKLERED BUILDING F - GYMNASIUM

(E) SPRINKLERED BUILDING F ADDITION - GYMNASIUM, LOBBY, LOCKERS

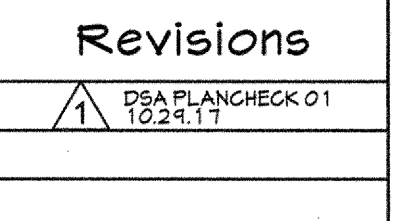
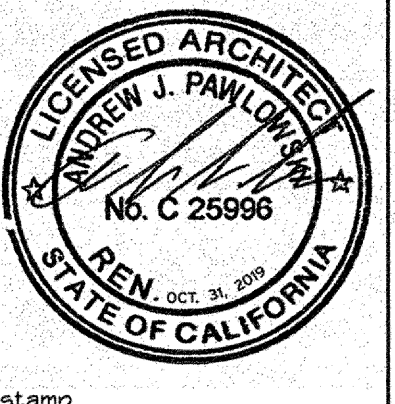
NON-SPRINKLERED BUILDINGS G - RELOCATABLE CLASSROOMS

(E) SPRINKLERED BUILDING L - LIBRARY/CLASSROOMS

(E) SPRINKLERED BUILDING PERFORMING ARTS - ASSEMBLY

NON-SPRINKLERED BUILDING N - POOL ENCLOSURE

NO ADDITIONAL BUILDING AREA PROPOSED



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steline architecture
Andrew J. Pawlowski - ARCHITECT, LEED AP
644 Zion St.
Nevada City, California 95959
530.478.9415 - 1
530.478.9416 - 1
www.stelinearch.com

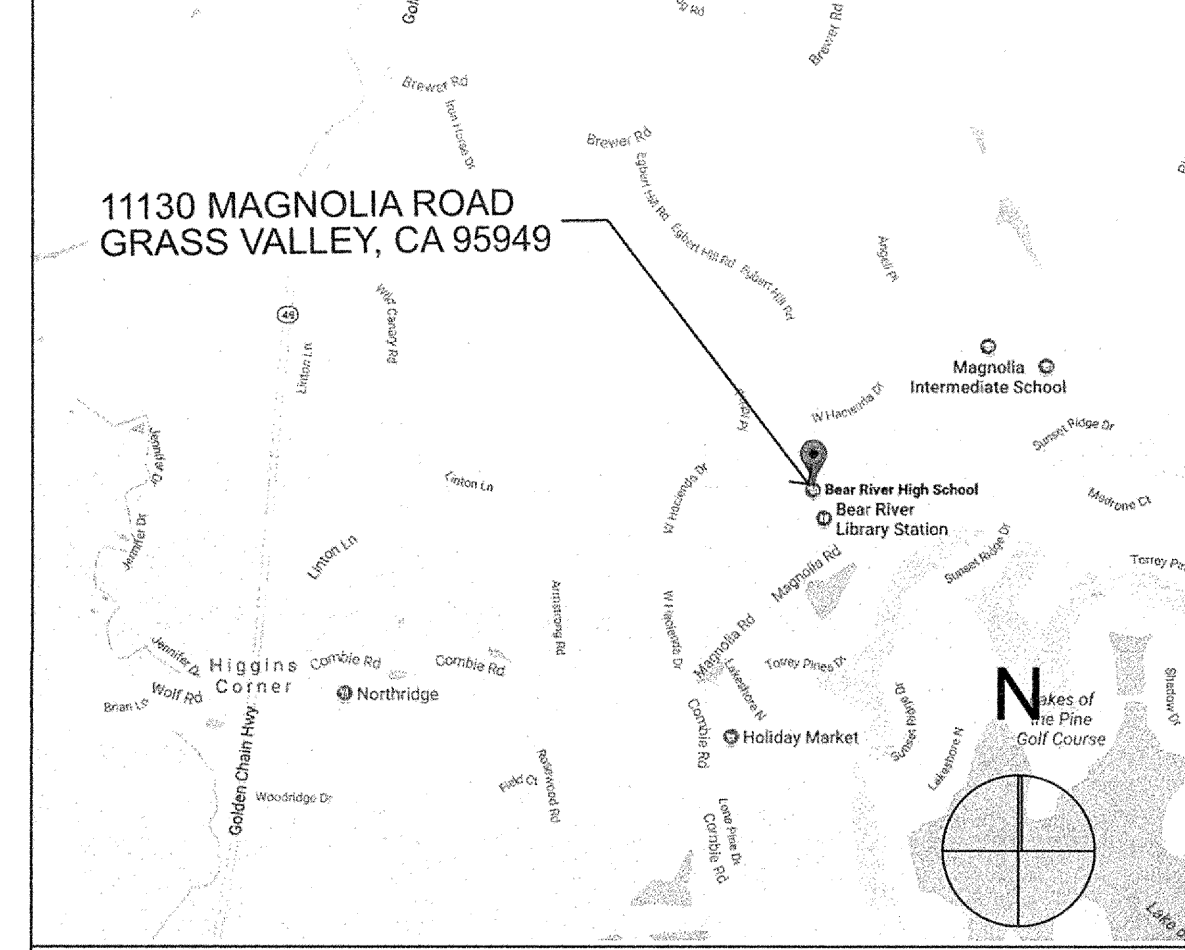
CODE ANALYSIS

- Applicable Codes**
Effective January 1, 2017
- Title 19 CCR, Public Safety, State Fire Marshal Regulations
 - Title 24 CCR, Part 1 - 2016 Building Standards Administrative Code
 - Title 24 CCR, Part 2 - 2016 California Building Code, Vol. 1 & 2 (CBC) (2015 IRC, as amended by CA)
 - Title 24 CCR, Part 3 - 2016 California Electrical Code (CEC) (2014 NEC, as amended by CA)
 - Title 24 CCR, Part 4 - 2016 California Mechanical Code (CMC) (2015 IMFMC UMC, as amended by CA)
 - Title 24 CCR, Part 5 - 2016 California Plumbing Code (CPC) (2015 IAPMO UPC, as amended by CA)
 - Title 24 CCR, Part 6 - 2016 California Energy Code
 - Title 24 CCR, Part 9 - 2016 California Fire Code (FC) (2015 IFC, as amended by CA)
 - Title 24 CCR, Part 11 - 2016 California Green Building Standards Code
 - Title 24 CCR, Part 12 - 2016 California Referenced Standards (partial list - see CBC Ch. 15 and CPC Ch. 80)
 - 2016 NFPA 13, Installation of Sprinkler Systems (CA amended)
 - 2013 NFPA 16, Installation of Standpipe and Hose Systems
 - 2013 NFPA 17A, Wet Chemical Extinguishing Systems
 - 2016 NFPA 20, Installation of Stationary Pumps for Fire Protection
 - 2013 NFPA 22, Water Tanks for Private Fire Protection
 - 2016 NFPA 24, Installation of Private Fire Service Mains
 - 2016 NFPA 72, National Fire Alarm Code (CA amended); See UL Std 1971 for "Visual Devices"
 - 2016 NFPA 80, Fire Door and Other Opening Protectives
 - 2015 NFPA 2001, Clean Agent Fire Extinguishing Systems
 - 2005 UL 300, Class I Hood Fire Suppression Systems
 - 2003 UL 464, Audible Signal Appliances
 - 1999 UL 521, Heat Detectors for Fire Protective Signaling Systems
 - 2012 ICC 300, Bleachers, Folding and Telescopic Seating, and Grandstands (ICC 300-2012)

SHEET INDEX

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- FA-2.6 BLDG L - FIRE ALARM PLAN
- FA-2.7 BLDG M & N - FIRE ALARM PLAN
- FA-2.8 PERFORMING ARTS BLDG - FIRE ALARM PLAN
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- FA-3.4 EXISTING BUILDING M & N - FIRE ALARM PLAN
- FA-3.5 EXISTING PERFORMING ARTS BLDG - FIRE ALARM PLAN
- FA-4.1 FIRE ALARM RISER DIAGRAM
- FA-4.2 FIRE ALARM RISER DIAGRAM
- FA-5.1 FIRE ALARM DETAILS

VICINITY MAP



PROJECT DIRECTORY

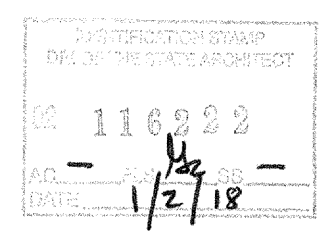
ARCHITECT:
SITELINE ARCHITECTURE
ANDREW PAWLONSKI, #C25996
644 ZION STREET
NEVADA CITY, CA 95959
(530) 478-9415
FAX: (530) 478-9416

ELECTRICAL ENGINEER:
THE ENGINEERING ENTERPRISE
SCOTT WHEELER
1125 HIGH STREET
AUBURN, CA
95603
(530) 886-8556 ext. #102
FAX: (530) 886-8557

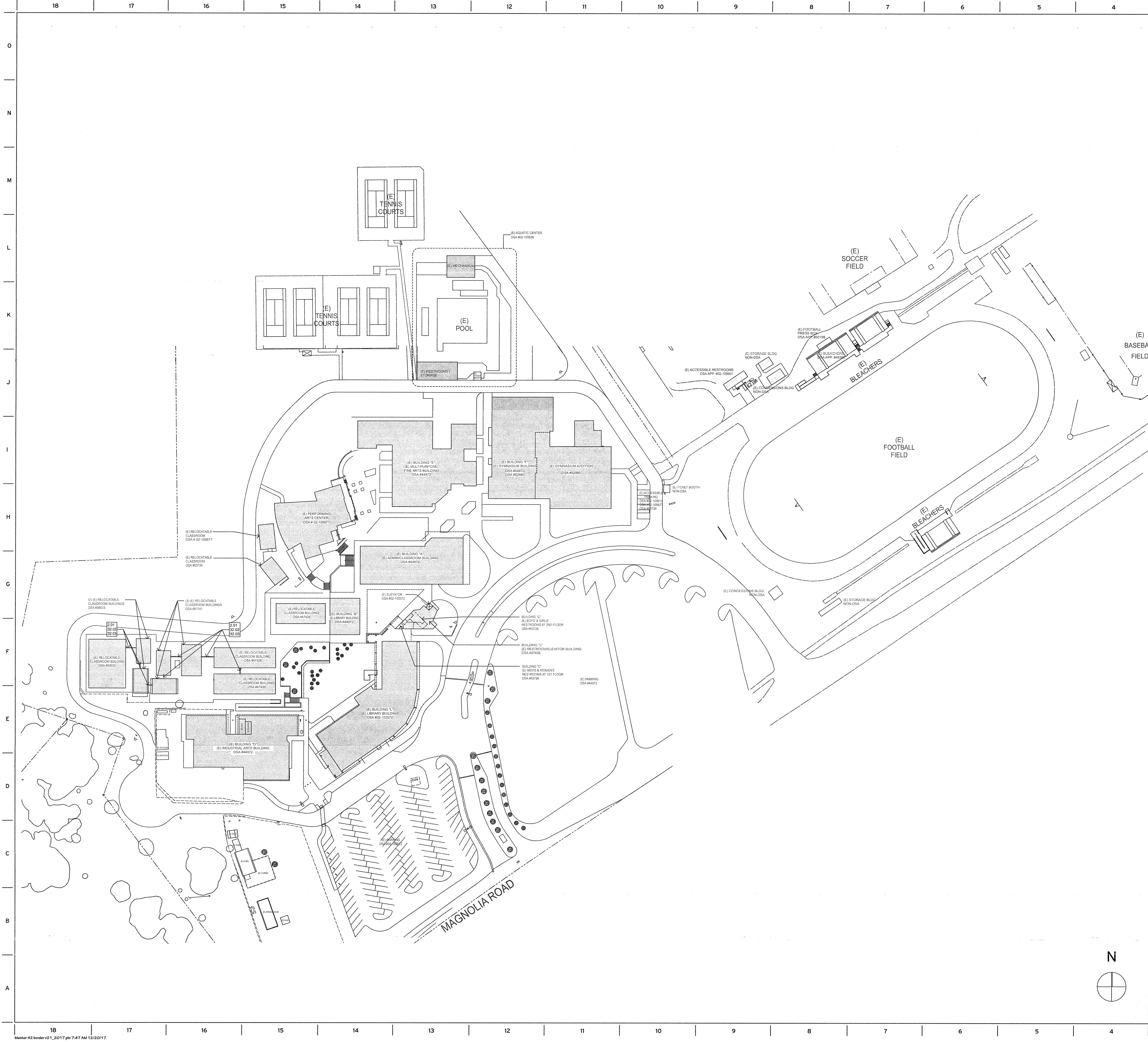
APPROVALS

NEW FIRE ALARM SYSTEM
for
BEAR RIVER HIGH SCHOOL
11130 MAGNOLIA ROAD, GRASS VALLEY, CA # 21-1750-85

CRG / RAB
AJP
12/20/17
1" = 100'-0"
66357-28
17-169



COVER SHEET
A-0

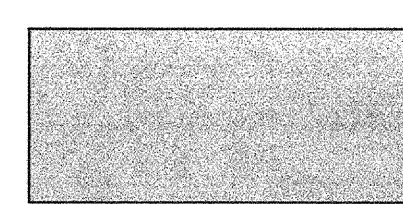
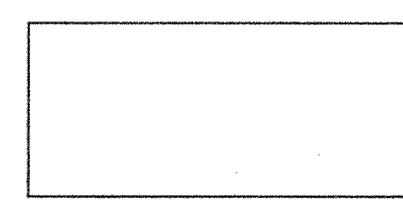


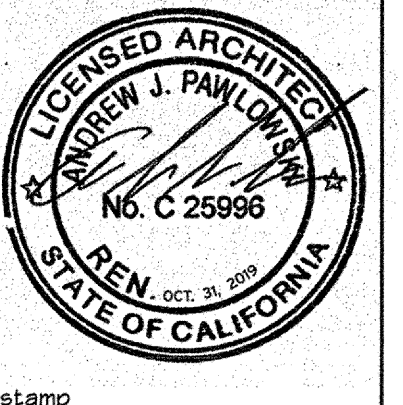
SITE NOTES

SITE KEYNOTES

- DIVISION 02**
2.01 **EXISTING CONDITIONS**
SAWCUT AND REMOVE PORTIONS OF EXISTING PAVING AS REQUIRED BY NEW WORK
- DIVISION 92**
92.01 **EXTERIOR IMPROVEMENTS**
REPAIR AND REPLACE EXISTING IRRIGATION AS REQUIRED BY NEW TRENCHING
- 92.02 **BACKFILL TRENCHING PER SPECIFICATIONS, PATCH A/C PAVING AS REQUIRED BY NEW WORK**
- 92.03 **REPAIR (E) CONCRETE WALK AS REQUIRED BY NEW WORK. DOWEL NEW WORK TO EXISTING, #3 BAR @ 18" o.c.**

LEGEND

-  (E) BUILDING WITH (N) FIRE ALARM SYSTEM
-  (E) BUILDING (NO WORK)



Revisions	
1	DSA PLANCHUCK 01 12/24/17

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siteline architecture
Andrew J. Palmer, Architect, LEED AP
644 Zion St.
Nevada City, California 95959
530.476.9405 - 1
www.sitelinearch.com

NEW FIRE ALARM SYSTEM
for
BEAR RIVER HIGH SCHOOL
11130 MAGNOLIA ROAD, GRASS VALLEY, APN# 21-1730-85

CRG / RAB	
Checked by:	AJP
Date:	12/20/17
Scale:	1" = 60'-0"
Project Tracking #:	66357-28
Job #:	17-169

SITE PLAN
A-1
sheet:

FIRE ALARM SYSTEM OPERATING MATRIX										
RESULT OF OPERATION	PULL STATION	HEAT DETECTOR	DUCT DETECTOR	AREA SMOKE DETECTOR	SYSTEM RESET	SIGNAL SILENCE	OPEN CIRCUIT, SHORT, ETC.	POWER LOSS	SPRINK VALVE TAMPER	WATER FLOW ALARM
FACP ALARM	X	X		X						X
ANNUNCIATE ALARM	X	X		X						X
OFF SITE REPORTING ALARM	X	X	X	X					X	X
FACP TROUBLE						X	X	X		X
ANNUNCIATE TROUBLE			X			X	X	X		
OFF SITE REPORTING TROUBLE						X	X	X	X	
AUDIBLE ALARM	X	X		X						X
VISUAL ALARM	X	X		X						X
SUPERVISING STATION	X	X	X	X			X		X	
HVAC SHUTDOWN			X							
DEACTIVATE AUDIBLES					X	X				
DEACTIVATE VISUALS					X	X				
SYSTEM NORMAL					X					
ACTIVATE FIRE SPRINKLER BELL										X
FIRE SMOKE DAMPER SHUTDOWN			X	X						

FIRE ALARM SYSTEM CABLE SCHEDULE					
CABLE TAG	CABLE	NO. OF CONDUCTORS	COLOR	AWG	CABLE USE
A	GENESIS	2(1PR)	RED/BLACK	#16	BUILDING INITIATION (SLC)
B	GENESIS	2(1PR)	RED/BLACK	#12	VISUAL NOTIFICATION
C	GENESIS	2(1PR)	RED/BLACK	#18	MONITORED CIRCUIT
D	AQUA SEAL	2(1PR)	RED/BLACK	#18	UG INITIATION
E	AQUA SEAL	2(1PR)	RED/BLACK	#12	UG VISUAL NOTIFICATION
F	AQUA SEAL	2(1PR)	RED/BLACK	#16	UG VOICE NOTIFICATION
S	THHN	2	RED/BLACK	#12	POWER
S	GENESIS	2(1PR) OAS	RED/BLACK	#16	VOICE NOTIFICATION
FIBER		4 STRAND 62.5/125MMF			NETWORK CABLING

FIRE ALARM SYSTEM COMPONENT SCHEDULE					
SYMBOL	EQUIPMENT/DEVICE	MANUFACTURER	MODEL / PART #	CSFM LISTING YEAR	CSFM LISTING NO.
[FACP]	FIRE ALARM CONTROL PANEL	GAMEWELL - FCI	E3	6/30/2018	7165-1703.0125
[AMP-X]	FIRE ALARM VOICE AMPLIFIER	GAMEWELL - FCI	AM-50 SERIES	6/30/2018	7165-1703.0125
[LOC]	FIRE ALARM VOICE REMOTE MICROPHONE WITH LCD	GAMEWELL - FCI	LOC	6/30/2018	7165-1703.0125
[BP-X]	FIRE ALARM BOOSTER PANEL	GAMEWELL - FCI	HPFF8	6/30/2018	7315-1637.0102
[P]	ADDRESSABLE PHOTO-ELECTRIC SMOKE DETECTOR	GAMEWELL - FCI	ASD-PL2F	6/30/2018	7272-1703.0121
[H]	ADDRESSABLE HEAT DETECTOR (135F)	GAMEWELL - FCI	ATD-L2F	6/30/2018	7270-1703.0115
[HXX]	CONVENTIONAL HEAT DETECTOR (160F) AHJ ATTIC HEAT UH/UNDER FLOOR	GAMEWELL - FCI	5600 SERIES	6/30/2018	7270-1653.0167
[D]	DUCT SMOKE DETECTOR WITH RELAY	GAMEWELL - FCI	DNR WITH ASD-PL2FR	6/30/2018	7272-1703.0121
[BT] [BR]	BEAM SMOKE DETECTOR WITH KEYED REMOTE TEST SWITCH	GAMEWELL - FCI	ABD-2F	6/30/2018	7260-1703.0120
[SM]	ADDRESSABLE SINGLE MONITOR MODULE	GAMEWELL - FCI	AMM-4F	6/30/2018	7300-1703.0102
[DM]	ADDRESSABLE DUAL MONITOR MODULE	GAMEWELL - FCI	AMM-2IF	6/30/2018	7300-1703.0107
[CR]	ADDRESSABLE CONTROL RELAY MODULE	GAMEWELL - FCI	AOM-2SF	6/30/2018	7300-1703.0102
[F]	PULL STATION	GAMEWELL - FCI	MS-7 SERIES	6/30/2018	7150-1703.0119
[SXXcd] 15/30/75/110/135	SPEAKER/STROBE # INDICATES CANDELLA SETTING AS REQ.	SYSTEM SENSOR SPECTR ALERT, SR	SPSRL	6/30/2018	7320-1653.0505
[SXXcd] 15/30/75/110	STROBE # INDICATES CANDELLA SETTING AS REQ.	SYSTEM SENSOR SPECTR ALERT, SR	SRL	6/30/2018	7125-1653.0504
[WP]	WEATHER PROOF SPEAKER	SYSTEM SENSOR SPECTR ALERT, SPRK	SPRK	6/30/2018	7320-1653.201

NOTE: QUANTITIES OF DEVICES SHOWN ON THIS SCHEDULE ARE ESTIMATED DEVICES INSTALLED. THE CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF ALL COMPONENTS SHOWN ON FLOOR PLANS. THESE QUANTITIES, DO NOT INCLUDE SPARE DEVICES. REFER TO SPECIFICATIONS FOR SPARE DEVICE QUANTITIES.

FIRE ALARM NOTES

- WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 STATE CALIFORNIA CODE OF REGULATIONS (CCR) 2016 TITLE 24 CALIFORNIA BUILDING CODE PART 2, 2016 CALIFORNIA BUILDING CODE (CBC), 2015 IBC, PART 3, 2016 CALIFORNIA ELECTRICAL CODE (CEC), 2014 NEC, PART 4, 2016 CALIFORNIA MECHANICAL CODE (CMC), 2015 UMC, PART 5, 2016 CALIFORNIA PLUMBING CODE (CPC), 2015 UPC, PART 9, 2016 CALIFORNIA FIRE CODE (CFC) BASED ON 2015 IFC, 2016 NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 13, 72, 90, 90A, 99, AND 101.
- INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTATION AND SPECIFICATIONS, INCLUDING STATE FIRE MARSHALL LISTING SHEETS FOR EACH COMPONENT OF THE SYSTEM HAS BEEN APPROVED BY DSA.
- UPON COMPLETION OF INSTALLATION OF THE SYSTEMS, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF A DSA PROJECT INSPECTOR.
- A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.
- ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF RECORD.
- DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
- ALL PENETRATIONS THROUGH RATED ASSEMBLIES, REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITHIN THE SPECIFICATION WITHIN THE FIRE ALARM SECTION.
- AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (Dba) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 Dba ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIED SPACE WITHIN THE BUILDING.
- AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.
- THE CONTRACTOR SHALL ADJUST/INSTALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
- VISUAL DEVICES SHOULD NOT EXCEED 2 FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN 1 FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELLA. VISUAL DEVICES WITHIN 5' FROM EACH OTHER SHALL BE SYNCHRONIZED.
- UNDERGROUND AND EXTERIOR CONDUIT TO HAVE WATERTIGHT FITTINGS AND WIRE TO BE APPROVED FOR WET LOCATIONS.
- ALL FIRE ALARM WIRING SHALL BE FLP OR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN.
- PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE THE WIRE. ALL BOXES TO BE SIZED PER CEC.
- SMOKE DETECTORS SHALL BE NOT CLOSER THAN 1' FROM SPRINKLERS OR 3' FROM ANY SUPPLY DIFFUSER. IN AREA OF CONSTRUCTION OR POSSIBLE DAMAGE/CONTAMINATION OF NEWLY INSTALLED FIRE ALARM DEVICES SHALL BE COVERED UNTIL AREA IS READY TO BE TURNED OVER TO THE OWNER.
- ALL FIRE ALARM CIRCUITS ARE TO BE IN CONDUIT, SURFACE RACEWAY OR OPEN RUN ABOVE THE CEILINGS, UNDER FLOORS AND IN WALLS IN A NEAT AND PROTECTED MANNER AS INDICATED ON THE DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS.
- FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO DEVICE SHALL EXCEED THE WEIGHT OF 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.
- A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM A COMMON USE AREA PANEL AND SHALL HAVE OTHER OUTLETS. THE BREAKER SHALL HAVE A RED LOCKING DEVICE TO BLOCK THE HANDLE IN THE "ON" POSITION. THE CIRCUIT BREAKER SHALL BE LABELED "FIRE ALARM CIRCUIT CONTROL". CIRCUIT ID TO BE LABELED AT FIRE PANEL/EXPANDERS.
- THE INSTALLER CONTRACTOR SHALL PROVIDE A RECORD OF COMPLETION PER NFPA 72, FIGURE 10.18.2.1.1.
- THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2.
- SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST.
- OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS. AUTOMATIC FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION AS REQUIRED BY NFPA 72 AND CBC 907.6.5.2. THE SUPERVISING STATION SHALL BE LISTED AS EITHER ULFIP OR ULIS BY UL OR SHALL MEET THE REQUIREMENTS OF FM STANDARD 3011.
- BEFORE REQUESTING FINAL APPROVAL OF THE INSTALLATION THE INSTALLING CONTRACTOR SHALL FURNISH A WRITTEN STATEMENT TO THE DSA PROJECT INSPECTOR TO THE EFFECT THAT THE SYSTEM HAS BEEN INSTALLED AND TESTED IN ACCORDANCE WITH THE (2013) NFPA 72 SECTION 14.4.1.
- TEST, INSPECTION AND MAINTENANCE SHALL COMPLY WITH NFPA 72 CHAPTER 14 REQUIREMENTS.

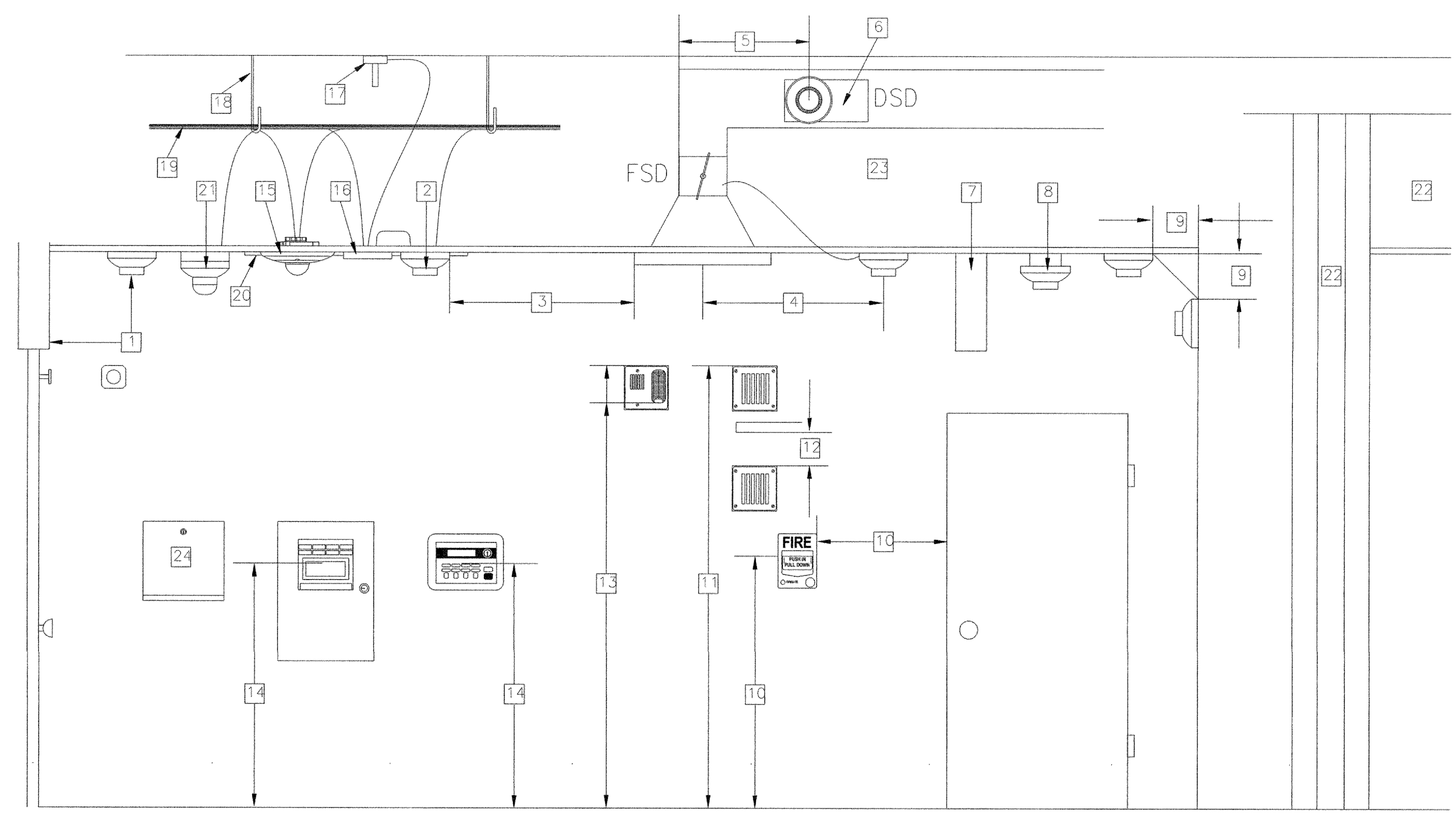
FIRE ALARM SYSTEM DESCRIPTION

SCOPE OF THIS PROJECT IS TO INCORPORATE A NEW FIRE ALARM SYSTEM WITH VOICE EVACUATION, INCLUDING FACP, VOICE AMPLIFIERS, POWER SUPPLIES, MICROPHONE, INITIATION, NOTIFICATION AND CONTROL DEVICES AS SHOWN ON PLANS AND SPECIFICATIONS. IN AREAS WHERE SCOPE OF NEW WORK IS LIMITED TO INSTALLATION OF FIRE ALARM DEVICES, INFRASTRUCTURE, INCLUDING PATHWAY, DEVICE BOXES, ETC., PROVIDE ALL NEW CABLING. CABLING SHALL BE INSTALLED IN CONDUIT OR SURFACE RACEWAY, OR EXPOSED IN ACCESSIBLE CEILING SPACE.

FIRE ALARM SYSTEM: CLASS B
 IDC: CLASS B
 SLC CIRCUIT: CLASS B
 NOTIFICATION CIRCUIT: CLASS B

NUMBERED SHEET NOTES

- MOUNT DOOR HOLDER SMOKE DETECTOR MAXIMUM 3' FROM DOOR AND A MINIMUM OF 1'.
- MAXIMUM DISTANCE BETWEEN SMOKE DETECTORS IS 30' AND 15' FROM WALLS. MAXIMUM DISTANCE FROM A CORNER IS 21' WITH CEILING LESS 10' OR LESS.
- MOUNT SMOKE DETECTOR MINIMUM OF 3' AWAY FROM DIFFUSER VENT.
- MOUNT SMOKE DETECTOR FOR FIRE SMOKE DAMPER (FSD) WITHIN 3' OF SUPPLY VENT.
- DUCT SMOKE DETECTOR SHALL BE MOUNTED 6 TO 10 TIMES THE DIAMETER OF DUCT FROM BEND OR OBSTRUCTION.
- WHERE DUCT SMOKE DETECTORS ARE INSTALLED IN CONCEALED LOCATIONS OR GREATER THAN 10' AFF, DETECTORS SHALL BE PROVIDED WITH A REMOTE INDICATOR OR SUPERVISORY INDICATION ACCEPTABLE WITH AUTHORITY HAVING JURISDICTION (AHJ). ALL HVAC GREATER THAN 2000cfm SHALL HAVE A DUCT DETECTOR IN THE SUPPLY AIR DUCT. GREATER THAN 15,000cfm SHALL HAVE ONE IN BOTH SUPPLY AND RETURN AIR DUCTS. HOWEVER SHALL NOT BE REQUIRED WHERE THE ENTIRE SPACE SERVED BY THE AIR DISTRIBUTION SYSTEM IS PROTECTED BY SMOKE DETECTORS.
- BEAM POCKET SPOT DETECTOR ARE REQUIRED FOR BEAMS GREATER THAN 18" BELOW CEILING AND SPACED MORE THAN 6" ON CENTER. EACH BAY FORMED BY BEAM SHALL BE TREATED AS A SEPARATE AREA. BEAMS LESS THAN 12" IN DEPTH AND SPACED LESS THAN 6" ON CENTER SHALL HAVE DETECTORS INSTALLED ON THE BOTTOM OF THE BEAM.
- OR, CEILINGS WITH BEAM DEPTHS LESS THAN 10 PERCENT OF THE CEILING HEIGHT. SMOOTH CEILING SPACING IS PERMITTED AND DETECTORS PLACED ON THE BOTTOM OF THE BEAM.
- BEAMS EQUAL TO OR GREATER THAN 10 PERCENT OF CEILING HEIGHT WITH BEAM SPACING GREATER THAN 40 PERCENT OF CEILING HEIGHT. SPOT DETECTORS SHALL BE LOCATED IN EACH CELL. NFPA 72 17.7.3.2.4.2
- BEAMS PROJECTING LESS THAN 4" SHALL BE TREATED AS A SMOOTH CEILING.
- SMOKE DETECTORS SHALL BE MOUNTED ON THE CEILING MINIMUM 4" FROM WALL, AND 4" MINIMUM TO 12" MAXIMUM FROM CEILING MOUNTED ON WALL.
- MOUNT MANUAL PULL STATIONS AT 48" TO ACTIVATING CONTROL AFF. AND NO GREATER THAN 5' FROM DOOR.
- MOUNT EXTERNAL HORN AT 90° MINIMUM AND 100° MAXIMUM TO THE TOP OF THE DEVICE.
- FOR APPLICATIONS WHERE THE STRUCTURE IS BELOW 90°, MOUNT HORN AS HIGH AS WITH A MINIMUM OF 6" CLEARANCE TO THE TOP OF THE DEVICE.
- MOUNT HORN / SPEAKER STROBE AND STROBE ONLY THE THE ENTIRE LENS IS WITHIN 60° AND 96° AFF.
- MOUNT FIRE ALARM CONTROL PANELS AND ANNUNCIATORS AT A MAXIMUM OF 48" TO THE TOP OF THE CONTROL PANEL OR KEY BOARDS. CBC 1117B.0 (3).
- CEILING MOUNTED HORN / SPEAKER STROBE
- MONITOR MODULE
- RATE ANTICIPATOR HEAT DETECTOR, MOUNTED IN ABOVE CEILING / ATTIC SPACE.
- APPROVED WIRE MANAGEMENT, IN J-HOOK OR D-RING.
- ABOVE CEILING CIRCUITS ROUTING IN AN ACCESSIBLE ATTIC SPACE.
- NON-ACCESSIBLE CEILINGS MUST USE EITHER EMT OR APPROVED WIREMOLD RACEWAY, AS SHOWN ON PLANS.
- MULTI-CRITERIA PHOTOELECTRIC SMOKE / CO DETECTOR WITH SOUNDER BASE. MOUNT IN AREAS WHERE FOSSIL FUEL IS USED.
- SMOKE / HEAT DETECTION COVERAGE IS REQUIRED IN ALL COMBUSTIBLE AREAS, UNLESS:
 22.1 CEILING IS ATTACHED DIRECTLY TO THE UNDERSIDE OF THE SUPPORTING BEAM OR ROOF DECK.
 22.2 CONCEALED SPACE IS ENTIRELY FILLED WITH NON-COMBUSTIBLE INSULATION.
 22.3 THE SMALL CONCEALED SPACE OVER ROOMS THAT DO NOT EXCEED 50 SQ. FT. IN AREA.
 22.4 SPACES FORMED BY FACING STUDS OR SOLID JOISTS IN WALLS, FLOORS, OR CEILINGS WHERE THE FACING STUD OR SOLID JOIST IS LESS THAN 6".
 INACCESSIBLE SPACES THAT DO NOT MEET THIS CRITERIA MUST BE MADE ACCESSIBLE AND DETECTION MUST BE INSTALLED. NFPA 72 17.5.3.1.1
- DETECTION FOR CONCEALED ACCESSIBLE SPACES ABOVE SUSPENDED CEILING USED AS A RETURN PLENUM SHALL BE PROVIDED AT EACH CONNECTION FROM RETURN AIR PLENUM AT CENTRAL AIR HANDLING UNIT. NFPA 72 17.5.3.1.4
- WITH EVERY NEW FIRE ALARM SYSTEM A DOCUMENTATION CABINET SHALL BE INSTALLED AT THE FIRE ALARM CONTROL PANEL OR AT ANOTHER LOCATION APPROVED BY AHJ. THE CABINET SHALL BE PROMINENTLY LABELED "SYSTEM RECORD DOCUMENTS".



TYPICAL FIRE ALARM DEVICE INSTALLATION REQUIREMENTS

BRHS - NEW FIRE ALARM SYSTEM FOR NJUHS
11130 MAGNOLIA ROAD, GRASS VALLEY

REVISIONS	
#	DESCRIPTION

DESIGNER: Designer
 SCALE: 12" = 1'-0"
 DATE: 12/27/17
 TITLE: SCHEDULES
 DRAWING NO. FA-0.2

110028
 1/2/18

System Power Requirements

E3 Fire Alarm Control Panel with Broadband

Protected Premises: Bear River High School (FACP-1) Date: 9/14/2017
 Address: 11130 Magnolia Rd.
 City: Grass Valley State: CA Zip: 95945

Prepared By: Wayne Cothrin Phone: 530-235-5632
 Address: 1125 High St. Email: wayne@engent.com
 City: Auburn State: CA Zip: 95603

Clear Project Information

Secondary Load Requirements **32.68** Amp Hours

Total Secondary Load from the calculation table below.

Current Draw	Time (hours)	Total (AH)
Secondary Standby Load	24 hours	25.46
Secondary Alarm Load	0.250 hours	1.78
	Total Secondary Load	27.23
	Derating factor	x 1.20
Secondary Load Requirements		32.68 AH

Battery Selection **55.00** Amp Hours
 Select batteries from the
 55 AH Battery (12 volt)

System Power Requirements

E3 Fire Alarm Control Panel with Broadband

Protected Premises: Bear River High School (FACP-2) Date: 9/14/2017
 Address: 11130 Magnolia Rd.
 City: Grass Valley State: CA Zip: 95945

Prepared By: Wayne Cothrin Phone: 530-235-5632
 Address: 1125 High St. Email: wayne@engent.com
 City: Auburn State: CA Zip: 95603

Clear Project Information

Secondary Load Requirements **30.32** Amp Hours

Total Secondary Load from the calculation table below.

Current Draw	Time (hours)	Total (AH)
Secondary Standby Load	24 hours	23.44
Secondary Alarm Load	0.250 hours	1.83
	Total Secondary Load	25.27
	Derating factor	x 1.20
Secondary Load Requirements		30.32 AH

Battery Selection **55.00** Amp Hours
 Select batteries from the
 55 AH Battery (12 volt)

System Power Requirements

E3 Fire Alarm Control Panel with Broadband

Protected Premises: Bear River High School (FACP-3) Date: 9/14/2017
 Address: 11130 Magnolia Rd.
 City: Grass Valley State: CA Zip: 95945

Prepared By: Wayne Cothrin Phone: 530-235-5632
 Address: 1125 High St. Email: wayne@engent.com
 City: Auburn State: CA Zip: 95603

Clear Project Information

Secondary Load Requirements **29.70** Amp Hours

Total Secondary Load from the calculation table below.

Current Draw	Time (hours)	Total (AH)
Secondary Standby Load	24 hours	22.63
Secondary Alarm Load	0.250 hours	2.12
	Total Secondary Load	24.75
	Derating factor	x 1.20
Secondary Load Requirements		29.70 AH

Battery Selection **55.00** Amp Hours
 Select batteries from the
 55 AH Battery (12 volt)

System Power Requirements

E3 Fire Alarm Control Panel with Broadband

Protected Premises: Bear River High School (FACP-4) Date: 9/14/2017
 Address: 11130 Magnolia Rd.
 City: Grass Valley State: CA Zip: 95945

Prepared By: Wayne Cothrin Phone: 530-235-5632
 Address: 1125 High St. Email: wayne@engent.com
 City: Auburn State: CA Zip: 95603

Clear Project Information

Secondary Load Requirements **29.33** Amp Hours

Total Secondary Load from the calculation table below.

Current Draw	Time (hours)	Total (AH)
Secondary Standby Load	24 hours	22.40
Secondary Alarm Load	0.250 hours	2.03
	Total Secondary Load	24.44
	Derating factor	x 1.20
Secondary Load Requirements		29.33 AH

Battery Selection **55.00** Amp Hours
 Select batteries from the
 55 AH Battery (12 volt)

System Current Draw

E3 Series Control Panel with Broadband

Device	Qty	Standby Current	Alarm Current
1. System Device			
Intel Loop Interface, Main Board (ILMB-E3)	1	0.08100	0.15000
2. E3 Optional Modules			
120V Power Supply Sub-Assembly (PM-9)	1	0.05000	0.05000
LCD Display & Switch Control (LCD-E3)	1	0.02400	0.02800
ARCNET Repeater (RPT-E3)	1	0.01300	0.01300
Digital Communicator (DACT-E3)	1	0.01800	0.01800
Network LCD Annunciator (NGA)	1	0.20000	0.20000
3. 7100 Optional Modules			
4. INI-VGC Command Center			
Intel Network Command Center (INI-VGC)	1	0.15000	0.15000
Addressable Switch Sub-assembly (ASM-16)	2	0.01100	0.02200
Voice Paging Microphone (Microphone)	2	0.00100	0.00200
5. INI-VGX Voice Gateway			
Intel Network Voice Gateway (INI-VGX)	1	0.15000	0.15000
Amplifier Sub-assembly, 50 watt 25V (AM-50)	2	0.08600	0.17200
6. INI-VGE Command Center Voice Gateway			
7. Smoke Detectors/Modules			
ASD-PL2F Addressable Smoke Detector	52	0.00030	0.00650
ATD-L2F Addressable Heat Detector	16	0.00020	0.00650
DNR Addressable Duct Detector	20	0.00750	0.00650
AMM-2IF Monitor Module	8	0.00030	0.00520
MS7-AF Manual Pull Station	20	0.00750	0.00570
8. Notification Appliances			
SPSRL15	3	0.00000	0.00000
SPSRL30	2	0.00000	0.00000
SPSRL75	7	0.00000	0.00000
	Total Standby Load	1.061 A	7.101 A

System Current Draw

E3 Series Control Panel with Broadband

Device	Qty	Standby Current	Alarm Current
1. System Device			
Intel Loop Interface, Main Board (ILMB-E3)	1	0.08100	0.15000
2. E3 Optional Modules			
120V Power Supply Sub-Assembly (PM-9)	1	0.05000	0.05000
LCD Display & Switch Control (LCD-E3)	1	0.02400	0.02800
ARCNET Repeater (RPT-E3)	1	0.01300	0.01300
Digital Communicator (DACT-E3)	1	0.01800	0.01800
Network LCD Annunciator (NGA)	1	0.20000	0.20000
3. 7100 Optional Modules			
4. INI-VGC Command Center			
Intel Network Command Center (INI-VGC)	1	0.15000	0.15000
Addressable Switch Sub-assembly (ASM-16)	2	0.01100	0.02200
Voice Paging Microphone (Microphone)	2	0.00100	0.00200
5. INI-VGX Voice Gateway			
Intel Network Voice Gateway (INI-VGX)	1	0.15000	0.15000
Amplifier Sub-assembly, 50 watt 25V (AM-50)	2	0.08600	0.17200
6. INI-VGE Command Center Voice Gateway			
7. Smoke Detectors/Modules			
ASD-PL2F Addressable Smoke Detector	28	0.00030	0.00650
ATD-L2F Addressable Heat Detector	2	0.00020	0.00650
DNR Addressable Duct Detector	2	0.00750	0.00650
AMM-2IF Monitor Module	11	0.00750	0.00570
MS7-AF Manual Pull Station	9	0.00030	0.00270
8. Notification Appliances			
SPSRL15	4	0.00000	0.00000
SPSRL30	6	0.00000	0.00000
SPSRL75	3	0.00000	0.00000
SPSRL110	2	0.00000	0.00000
SR115	5	0.00000	0.00000
SR130	1	0.00000	0.00000
	Total Standby Load	0.977 A	7.316 A

System Current Draw

E3 Series Control Panel with Broadband

Device	Qty	Standby Current	Alarm Current
1. System Device			
Intel Loop Interface, Main Board (ILMB-E3)	1	0.08100	0.15000
2. E3 Optional Modules			
120V Power Supply Sub-Assembly (PM-9)	1	0.05000	0.05000
LCD Display & Switch Control (LCD-E3)	1	0.02400	0.02800
ARCNET Repeater (RPT-E3)	1	0.01300	0.01300
Digital Communicator (DACT-E3)	1	0.01800	0.01800
Network LCD Annunciator (NGA)	1	0.20000	0.20000
3. 7100 Optional Modules			
4. INI-VGC Command Center			
Intel Network Command Center (INI-VGC)	1	0.15000	0.15000
Addressable Switch Sub-assembly (ASM-16)	2	0.01100	0.02200
Voice Paging Microphone (Microphone)	2	0.00100	0.00200
5. INI-VGX Voice Gateway			
Intel Network Voice Gateway (INI-VGX)	1	0.15000	0.15000
Amplifier Sub-assembly, 50 watt 25V (AM-50)	2	0.08600	0.17200
6. INI-VGE Command Center Voice Gateway			
7. Smoke Detectors/Modules			
ASD-PL2F Addressable Smoke Detector	41	0.00030	0.00650
ATD-L2F Addressable Heat Detector	10	0.00020	0.00650
DNR Addressable Duct Detector	2	0.00750	0.00650
AMM-2IF Monitor Module	6	0.00750	0.00570
MS7-AF Manual Pull Station	3	0.00030	0.00270
8. Notification Appliances			
SPSRL15	5	0.00000	0.00000
SPSRL30	2	0.00000	0.00000
SPSRL75	7	0.00000	0.00000
SPSRL110	2	0.00000	0.00000
SR115	10	0.00000	0.00000
SR130	9	0.00000	0.00000
	Total Standby Load	0.943 A	8.500 A

System Current Draw

E3 Series Control Panel with Broadband

Device	Qty	Standby Current	Alarm Current
1. System Device			
Intel Loop Interface, Main Board (ILMB-E3)	1	0.08100	0.15000
2. E3 Optional Modules			
120V Power Supply Sub-Assembly (PM-9)	1	0.05000	0.05000
LCD Display & Switch Control (LCD-E3)	1	0.02400	0.02800
ARCNET Repeater (RPT-E3)	1	0.01300	0.01300
Digital Communicator (DACT-E3)	1	0.01800	0.01800
Network LCD Annunciator (NGA)	1	0.20000	0.20000
3. 7100 Optional Modules			
4. INI-VGC Command Center			
Intel Network Command Center (INI-VGC)	1	0.15000	0.15000
Addressable Switch Sub-assembly (ASM-16)	2	0.01100	0.02200
Voice Paging Microphone (Microphone)	2	0.00100	0.00200
5. INI-VGX Voice Gateway			
Intel Network Voice Gateway (INI-VGX)	1	0.15000	0.15000
Amplifier Sub-assembly, 50 watt 25V (AM-50)	2	0.08600	0.17200
6. INI-VGE Command Center Voice Gateway			
7. Smoke Detectors/Modules			
ASD-PL2F Addressable Smoke Detector	25	0.00030	0.00650
ATD-L2F Addressable Heat Detector	22	0.00020	0.00650
DNR Addressable Duct Detector	5	0.00750	0.00650
AMM-2IF Monitor Module	7	0.00750	0.00570
MS7-AF Manual Pull Station	7	0.00030	0.00270
8. Notification Appliances			
SPSRL15	3	0.00000	0.00000
SPSRL30	5	0.00000	0.00000
SPSRL75	6	0.00000	0.00000
SPSRL110	2	0.00000	0.00000
SR115	4	0.00000	0.00000
SR130	4	0.00000	0.00000
	Total Standby Load	0.934 A	8.136 A

FACP-1 BP-B Calculations

Power Supply: BP-B Location: Bldg A - ROOM 103

Device	cd	LOAD/EA	NAC1	NAC2	NAC3	NAC4	NAC	TOTAL
SPEAKER STROBE	15	60.00	3	9	2			84.00
SPEAKER STROBE	30	83.00	1					166.00
SPEAKER STROBE	75	136.00	2	6				1.088.00
SPEAKER STROBE	110	178.00						
STROBE	15	54.00	4			5		486.00
STROBE	30	74.00						
STROBE	75	121.00						
STROBE	110	162.00						
Notification Appliance Circuit Loading:		751.00	623.00	816.00	390.00			2.580.00
Spare/Future Capacity - 20%:		0.20			270.00			516.00

Notification Appliance Circuit Loading: 751.00
 Spare/Future Capacity - 20%: 0.20

CIRCUIT ID	CIRCUIT CURRENT (AMPS)	DISTANCE (FEET)	AWG	%VD	VD
NAC1	0.75	150	#12	1.55%	0.37
NAC2	0.62	230	#12	1.97%	0.47
NAC3	0.82	275	#12	3.09%	0.74
NAC4	0.39		#12		
NAC			#12		

Battery Calculation

Super.	Alarm
3096.00	3.10
Total Panel Current (mA):	
Hours in Standby:	
Standby Amp Hours:	
Minutes in Alarm:	
Total Alarm Amp Hours:	
Minimum Battery Capacity Required: 1.55 AH	

Provide a 7ah capacity battery

Panel Loading

Panel Capacity (Amps):	Panel Load (Amps):
6.00	3.10

FACP-2 AMP 1

50 Watt Voice Amp

Secondary Power Source Requirements

Device Type	Qty	Current Draw	Total	Qty	Current Draw	Total
1. System						
50W AMP	1	0.0100	0.0100	0	0.2480	
2. Speakers						
Enter Number of Watts @ 25Vrms	0	0.0000		0	0.0400	
Enter Number of Watts @ 70.7Vrms	20.5	0.0000	0.0000	21	0.0450	0.9225
Total Standby Load		0.0100	Total Alarm Load	0.9225		

FACP-4 AMP 1

50 Watt Voice Amp

Secondary Power Source Requirements

Device Type	Qty	Current Draw	Total	Qty	Current Draw	Total
1. System						
50W AMP	1	0.0100	0.0100	0	0.2480	
2. Speakers						
Enter Number of Watts @ 25Vrms	0	0.0000		0	0.0400	
Enter Number of Watts @ 70.7Vrms	35.5	0.0000	0.0000	36	0.0450	1.5975
Total Standby Load		0.0100	Total Alarm Load	1.5975		

FACP-4 PNL B Calculations

Power Supply: FACP-3 Location: Bldg E - ROOM 114

Device	cd	LOAD/EA	NAC1	NAC2	NAC3	NAC4	NAC	TOTAL
SPEAKER STROBE	15	60.00	1					83.00
SPEAKER STROBE	30	83.00	1					166.00
SPEAKER STROBE	75	136.00	2					272.00
SPEAKER STROBE	110	178.00						
STROBE	15	54.00	4					216.00
STROBE	30	74.00						
STROBE	75	121.00						
STROBE	110	162.00						
SPEAKER STROBE	135	209.00						
Notification Appliance Circuit Loading:		571.00						571.00

System Power Requirements

E3 Fire Alarm Control Panel with Broadband

Print Sheet

Protected Premises: Bear River High School (FACP-5) Date: 9/14/2017
 Address: 11130 Magnolia Rd.
 City: Gress Valley State: CA Zip: 95945

Prepared By: Wayne Cothrin Phone: 530-235-5632
 Address: 1125 High St. Email: wayne@engent.com
 City: Auburn State: CA Zip: 95603

Clear Project Information

Secondary Load Requirements **43.93** Amp Hours

Total Secondary Load from the calculation table below:

Current Draw	Time (hours)	Total (Ah)
Secondary Standby Load 1.380 A	x 24 hours Required Standby Time	33.13
Secondary Alarm Load 13.917 A	x 0.250 hours Required Alarm Time (hours)	3.48
	Total Secondary Load	36.61
	Dereating factor x 1.20	
	Secondary Load Requirements	43.93 AH

Battery Selection **55.00** Amp Hours

Select batteries from the list
 55 AH Battery (12 volt)

FACP-5 PNL B Calculations

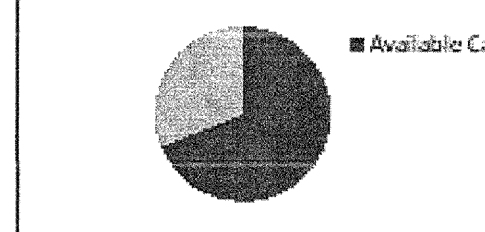
Power Supply: FACP-5 Location: Bldg D - ROOM 118

DEVICE	cd	LOAD/EA	NAC1	NAC2	NAC3	NAC4	NAC	NAC	TOTAL
SPEAKER STROBE	15	83.00	2	3	1				90.00
SPEAKER STROBE	30	83.00							83.00
SPEAKER STROBE	75	136.00	3	2	2				542.00
SPEAKER STROBE	110	179.00	1	1	1				537.00
STROBE	15	54.00			1	1			108.00
STROBE	30	74.00			3				222.00
STROBE	75	121.00							181.50
STROBE	110	162.00							243.00
Notification Appliance Circuit Loading:									707.00
Spare/Future Capacity - 20%:									0.20
									788.00
									787.00
									2,292.00
									452.40

CIRCUIT ID	CIRCUIT CURRENT (AMPS)	DISTANCE (FEET)	AWG	%VD	VD
NAC1	0.71	50	#12	0.49%	0.12
NAC2	0.77	75	#12	0.78%	0.13
NAC3	0.79	110	#12	1.19%	0.23
NAC4			#12		
NAC			#12		
NAC			#12		

Super.	Alarm
Totals Panel Current (mA):	2714.40
Total Panel Current (Amps):	2.71
Hours in Standby:	24
Standby Amp Hours:	30
Minutes in Alarm:	30
Total Alarm Amp Hours:	1.38
Minimum Battery Capacity Required:	1.38 AH

Panel Loading
 Panel Capacity (Amps): 6.00
 Panel Load (Amps): 2.71



Provide a 7ah capacity battery

ALL LOADS ARE EXPRESSED AS mA UNLESS OTHERWISE NOTED

FACP-5 PNL D Calculations

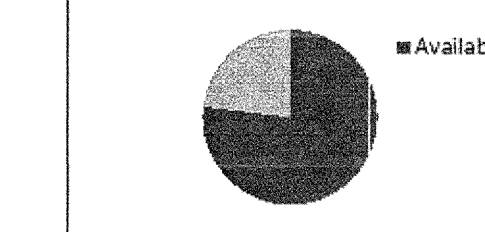
Power Supply: FACP-5 Location: Bldg 3

DEVICE	cd	LOAD/EA	NAC1	NAC2	NAC3	NAC4	NAC	NAC	TOTAL
SPEAKER STROBE	15	80.00							80.00
SPEAKER STROBE	30	83.00							83.00
SPEAKER STROBE	75	136.00	4	4	3				1,495.00
SPEAKER STROBE	110	179.00							1,195.00
STROBE	15	54.00							81.00
STROBE	30	74.00							111.00
STROBE	75	121.00							181.50
STROBE	110	162.00							243.00
Notification Appliance Circuit Loading:									544.00
Spare/Future Capacity - 20%:									0.20
									544.00
									408.00
									1,495.00
									299.20

CIRCUIT ID	CIRCUIT CURRENT (AMPS)	DISTANCE (FEET)	AWG	%VD	VD
NAC1	0.54	100	#12	0.75%	0.18
NAC2	0.54	130	#12	0.97%	0.23
NAC3	0.41	200	#12	1.12%	0.27
NAC4			#12		
NAC			#12		
NAC			#12		

Super.	Alarm
Totals Panel Current (mA):	1795.20
Total Panel Current (Amps):	1.80
Hours in Standby:	24
Standby Amp Hours:	30
Minutes in Alarm:	30
Total Alarm Amp Hours:	0.90
Minimum Battery Capacity Required:	0.9 AH

Panel Loading
 Panel Capacity (Amps): 6.00
 Panel Load (Amps): 1.80



Provide a 7ah capacity battery

ALL LOADS ARE EXPRESSED AS mA UNLESS OTHERWISE NOTED

System Current Draw

E3 Series Control Panel with Broadband

Clear Quantities

Print Sheet

Device	Qty	Standby Current Draw	Alarm Current Draw
1. System Device			
Intel Loop Interface Main Board (LLMB-E3)	1	0.08100	0.15000
2. E3 Optional Modules			
120V Power Supply Sub-Assembly (PM-9)	1	0.05000	0.05000
LCD Display & Switch Control (LCD-E3)	1	0.02400	0.02400
ARCNET Repeater (RPT-E3)	1	0.01300	0.01300
Digital Communicator (DACT-E3)	1	0.01800	0.01800
Network LCD Annunciator (NGA)	1	0.20000	0.20000
3. 7100 Optional Modules			
4. IN-VGC Command Center			
Intel Network Command Center (IN-VGC)	1	0.15000	0.15000
Addressable Switch Sub-assembly (ASM-16)	2	0.01100	0.02200
Voice Paging Microphone (Microphone)	2	0.00100	0.00200
5. IN-VSG Voice Gateway			
Intel Network Voice Gateway (IN-VGX)	1	0.15000	0.15000
Amplifier Sub-assembly 50 watt 25V (AM-50)	4	0.08600	0.34400
6. IN-VGE Command Center Voice Gateway			
7. Smoke Detectors/Modules			
ASD-PLZF Addressable Smoke Detector	162	0.00030	0.04860
ATD-LZF Addressable Heat Detector	36	0.00020	0.00720
DNF Addressable Dual Detector	2	0.00030	0.00060
AMM-3F Monitor Module	36	0.00750	0.27000
8. Notification Appliances			
SPSRL15	11	0.00000	0.00000
SPSRL30	4	0.00000	0.00000
SPSRL75	7	0.00000	0.00000
SPSRL110	3	0.00000	0.00000
SRL15	6	0.00000	0.00000
Total Standby Load:		1.380 A	13.917 A

FACP-5 AMP 3 50 Watt Voice Amp

Secondary Power Source Requirements

Device Type	Qty	Standby Current (amps)	Secondary Alarm Current (amps)
1. System			
50W AMP	1	0.0100	0.2480
2. Speakers			
Enter Number of Watts @ 25Vrms	0	0.0000	0.0400
Enter Number of Watts @ 70.7Vrms	21	0.0000	0.0450
Total Standby Load		0.0100	0.9450

FACP-5 AMP 4 50 Watt Voice Amp

Secondary Power Source Requirements

Device Type	Qty	Standby Current (amps)	Secondary Alarm Current (amps)
1. System			
50W AMP	1	0.0100	0.2480
2. Speakers			
Enter Number of Watts @ 25Vrms	0	0.0000	0.0400
Enter Number of Watts @ 70.7Vrms	19	0.0000	0.0450
Total Standby Load		0.0100	0.8550

FACP-5 AMP 1 50 Watt Voice Amp

Secondary Power Source Requirements

Device Type	Qty	Standby Current (amps)	Secondary Alarm Current (amps)
1. System			
50W AMP	1	0.0100	0.2480
2. Speakers			
Enter Number of Watts @ 25Vrms	0	0.0000	0.0400
Enter Number of Watts @ 70.7Vrms	39	0.0000	0.0450
Total Standby Load		0.0100	1.7550

FACP-5 AMP 2 50 Watt Voice Amp

Secondary Power Source Requirements

Device Type	Qty	Standby Current (amps)	Secondary Alarm Current (amps)
1. System			
50W AMP	1	0.0100	0.2480
2. Speakers			
Enter Number of Watts @ 25Vrms	0	0.0000	0.0400
Enter Number of Watts @ 70.7Vrms	24.5	0.0000	0.0450
Total Standby Load		0.0100	1.1025

FACP-5 PNL E Calculations

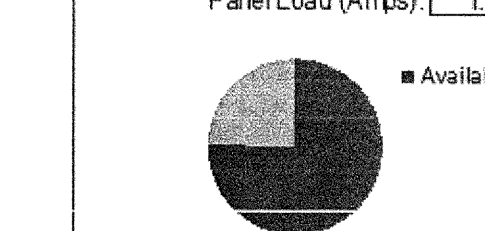
Power Supply: FACP-5 Location: Bldg D - ROOM 118

DEVICE	cd	LOAD/EA	NAC1	NAC2	NAC3	NAC4	NAC	NAC	TOTAL
SPEAKER STROBE	15	60.00							60.00
SPEAKER STROBE	30	83.00							83.00
SPEAKER STROBE	75	136.00	6	6					1,632.00
SPEAKER STROBE	110	179.00							1,195.00
STROBE	15	54.00							81.00
STROBE	30	74.00							111.00
STROBE	75	121.00							181.50
STROBE	110	162.00							243.00
Notification Appliance Circuit Loading:									816.00
Spare/Future Capacity - 20%:									0.20
									816.00
									326.40
									1,632.00
									326.40

CIRCUIT ID	CIRCUIT CURRENT (AMPS)	DISTANCE (FEET)	AWG	%VD	VD
NAC1	0.82	300	#12	3.37%	0.81
NAC2	0.82	200	#12	2.25%	0.54
NAC3			#12		
NAC4			#12		
NAC			#12		
NAC			#12		

Super.	Alarm
Totals Panel Current (mA):	1958.40
Total Panel Current (Amps):	1.96
Hours in Standby:	24
Standby Amp Hours:	30
Minutes in Alarm:	30
Total Alarm Amp Hours:	0.98
Minimum Battery Capacity Required:	0.98 AH

Panel Loading
 Panel Capacity (Amps): 6.00
 Panel Load (Amps): 1.96



Provide a 7ah capacity battery

ALL LOADS ARE EXPRESSED AS mA UNLESS OTHERWISE NOTED

FACP-5 AMP 5 50 Watt Voice Amp

Secondary Power Source Requirements

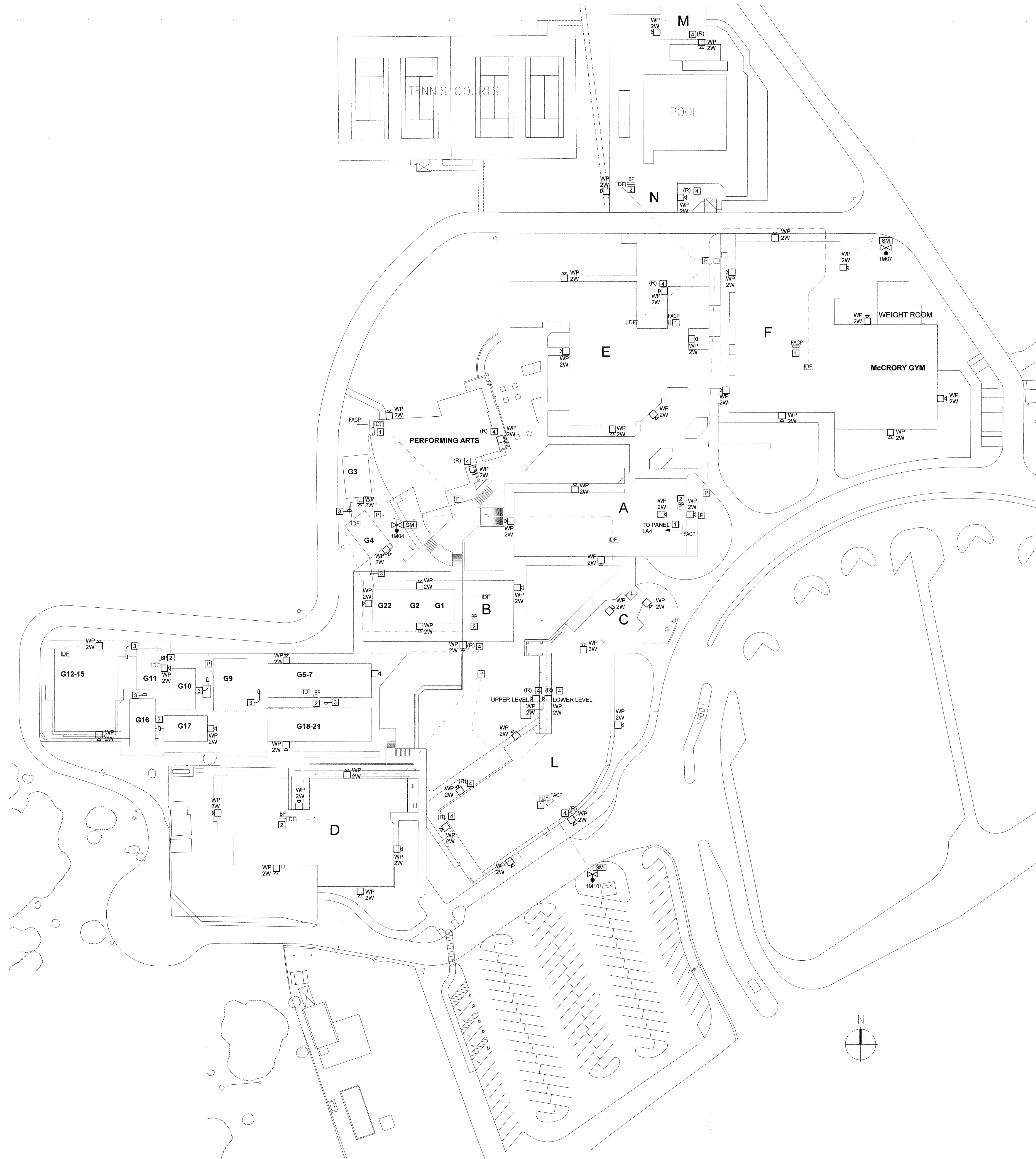
Device Type	Qty	Standby Current (amps)	Secondary Alarm Current (amps)
1. System			
50W AMP	1	0.0100	0.2480
2. Speakers			
Enter Number of Watts @ 25Vrms	0	0.0000	0.0400
Enter Number of Watts @ 70.7Vrms	18	0.0000	0.0450
Total Standby Load		0.0100	0.8100

BRHS - NEW FIRE ALARM SYSTEM FOR NJUHS D 11130 MAGNOLIA ROAD, GRASS VALLEY

REVISIONS

#	DESCRIPTION	DATE

DESIGNER: Designer
 SCALE: 1/8" = 1'-0"
 DATE: 12/27/17
 TITLE:
FIRE ALARM SCHEDULES / BATTERY CALCS
 DRAWING NO.
FA-04

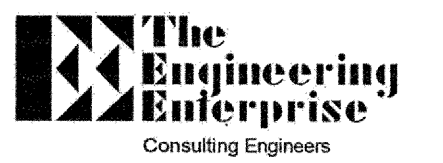


GENERAL SHEET NOTES

A ALL CONDUIT, PULL BOXES AND IDF'S ARE EXISTING UNLESS OTHERWISE NOTED.

NUMBERED SHEET NOTES

- 1 FIRE ALARM CONTROL PANEL, REFERENCE FA4.1 AND FA4.2 FOR POWER, AND ADDITIONAL REQUIREMENTS.
- 2 FIRE ALARM POWER BOOSTER PANEL, REFERENCE FA4.1 AND FA4.2 FOR POWER AND ADDITIONAL REQUIREMENTS.
- 3 PROVIDE ADDITIONAL 1.5" UNDERGROUND CONDUIT FOR FIRE ALARM PATHWAY. PROVIDE A 12"x12"x6" NEMA 3R TERMINAL CABINET ON EACH END OF CONDUIT. STUB CONDUIT IN ABOVE CEILING.
- 4 REMOVE EXISTING WEATHER PROOF HORN AND REPLACE IT WITH A NEW WEATHER PROOF SPEAKER.



1125 HIGH STREET
ALBURN, CA 95603
(530) 886-8556



**BRHS - NEW FIRE ALARM SYSTEM
FOR
NJUHSD
11130 MAGNOLIA ROAD, GRASS VALLEY**

REVISIONS

NO.	DESCRIPTION	DATE

DESIGNER: Designer

SCALE: 1" = 40'-0"

DATE: 12/27/17

TITLE:
FIRE ALARM SITE PLAN

DRAWING NO.

FA-1.1

110558
1/2/18

GENERAL SHEET NOTES

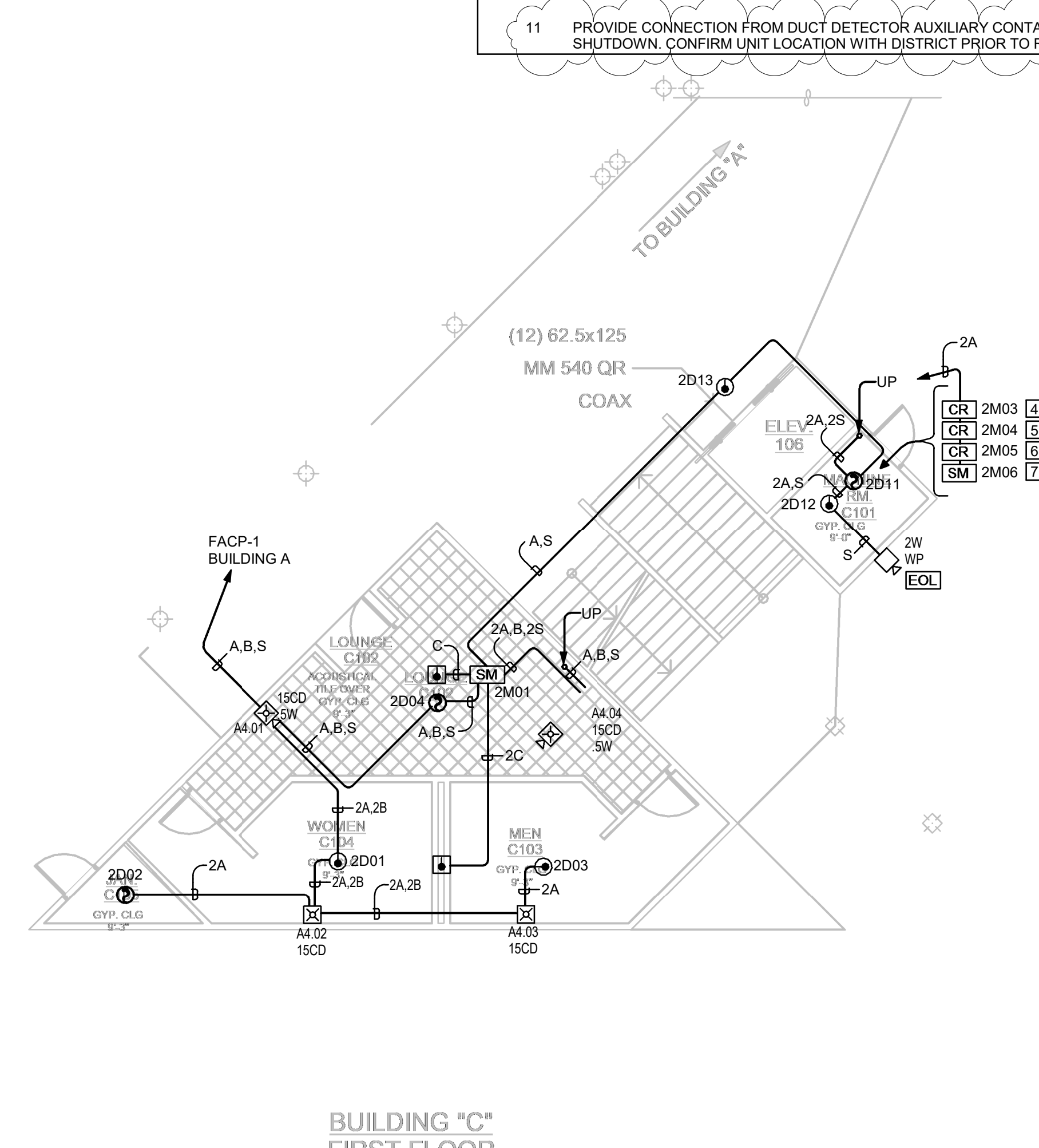
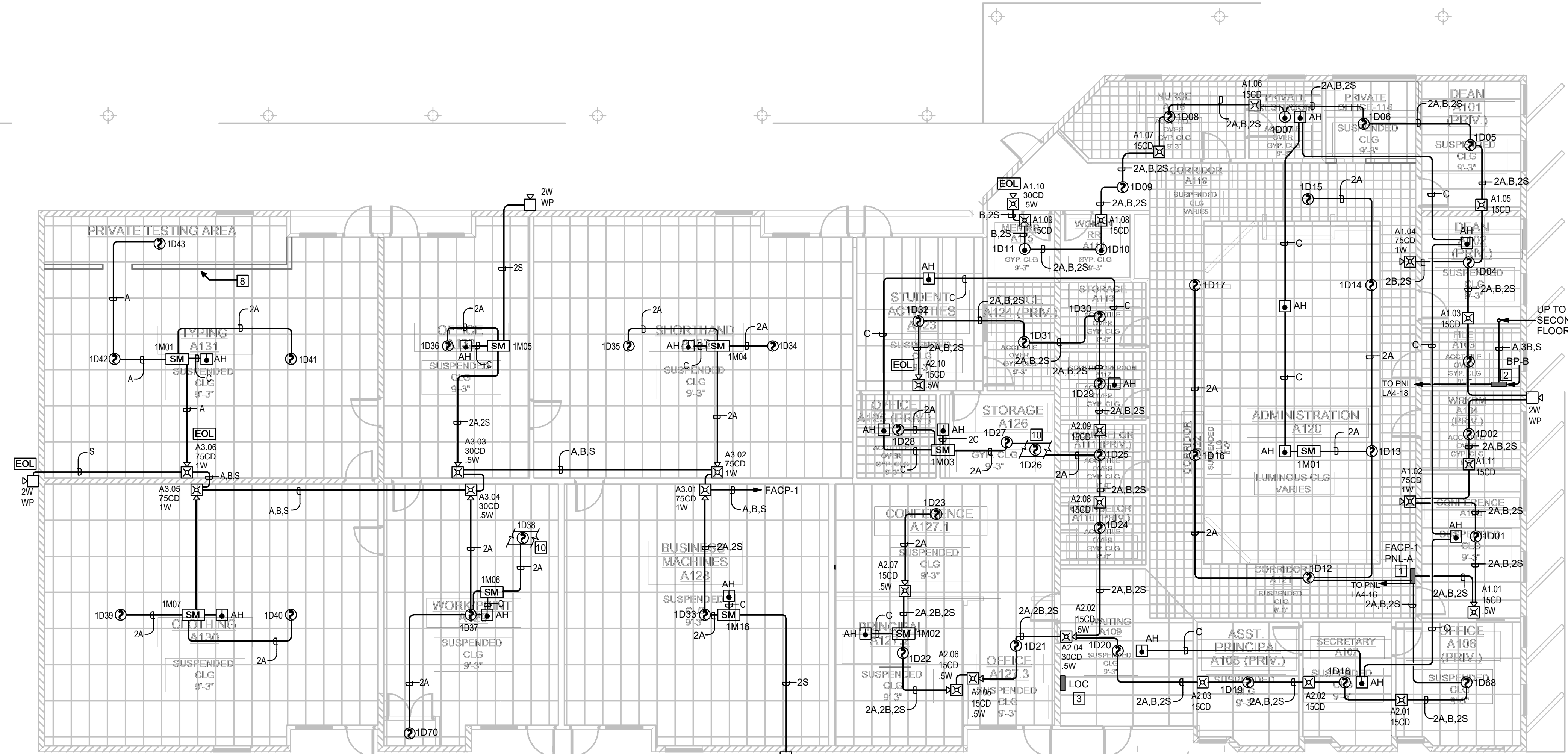
- A FIRE ALARM SYSTEM INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF APPLICABLE CODES, STANDARDS AND STATE REGULATIONS.
- B FIRE ALARM CIRCUITS AND CIRCUIT ROUTING ARE SHOWN SCHEMATICALLY FOR CLARITY ILLUSTRATING THE WIRING CONFIGURATION NECESSARY FOR PROPER CIRCUIT SUPERVISION.
- C COORDINATE CEILING MOUNTED FIRE ALARM DEVICE LOCATIONS WITH NEW LIGHT FIXTURES TO AVOID CONFLICTS.
- D DO NOT INSTALL FIRE ALARM DEVICES BACK TO BACK IN STUD WALLS.
- E INSTALL FIRE ALARM CONDUCTORS IN CONDUIT OR METAL SURFACE RACEWAY WHEN IN EXPOSED SPACES. MINIMUM SIZE OF CONDUIT SHALL BE 0.75". UTILIZE WIREMOLD 700 SERIES SURFACE RACEWAY (IN LIEU OF CONDUIT) FOR AREA WHERE CONDUIT CANNOT BE INSTALLED CONCEALED. CABLE ABOVE ACCESSIBLE CEILING CAN BE INSTALLED FREE AIR WHEN USING APPLICABLE CABLE. SUPPORT ALL FREE AIR CABLE EVERY 48" WITH J-HOOKS.

GENERAL SHEET NOTES

- F ALL SPEAKER, SPEAKER/STROBES SHALL HAVE MINIMUM 0.75" CONDUIT PATHWAYS. USE OF EXISTING 0.5" CONDUIT PATHWAY IS NOT ACCEPTABLE.
- G ENSURE THAT SPEAKER/STROBES ARE MOUNTED IN 5" SQ. X 2 1/8" DEEP BOX, FOR SURFACE MOUNTED DEVICES. FLUSH MOUNTED DEVICES SHALL BE MOUNTED IN THE MANUFACTURERS DESIGNATED BACK BOXES. COLOR TO MATCH DEVICE.
- H REFER TO FA-1.1 OR FA-4.2 FOR RISER DIAGRAMS.
- I CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE ALARM SYSTEM PANELS PER LOCATION.

NUMBERED SHEET NOTES

- 1 CONTRACTOR SHALL PROVIDE AND INSTALL A NEW FIRE ALARM CONTROL PANEL (FACP).
- 2 CONTRACTOR SHALL PROVIDE AND INSTALL A NEW FIRE ALARM BOOSTER PANEL (BP).
- 3 CONTRACTOR SHALL PROVIDE AND INSTALL NEW REMOTE MICROPHONE (LOC), CONNECT TO NEW FACP.
- 4 PRIMARY FLOOR RECALL
- 5 ALTERNATE FLOOR RECALL
- 6 SHUNT TRIP
- 7 MONITOR SHUNT TRIP POWER
- 8 PARTITION IS OVER 8' HIGH, HAS AN OPEN WALK THROUGH WITH WINDOWS THAT EXTEND FROM END TO END; NOTIFICATION DEVICE ON FAR WALL IS VISIBLE FROM WITHIN THE PARTITION.
- 9 DUCT SMOKE DETECTOR TO ACTIVATE FIRE SMOKE DAMPER.
- 10 DUCT SMOKE DETECTOR TO ACTIVATE HVAC SHUT OFF.
- 11 PROVIDE CONNECTION FROM DUCT DETECTOR AUXILIARY CONTACT TO HVAC UNIT FOR SHUTDOWN. CONFIRM UNIT LOCATION WITH DISTRICT PRIOR TO ROUGH-IN.

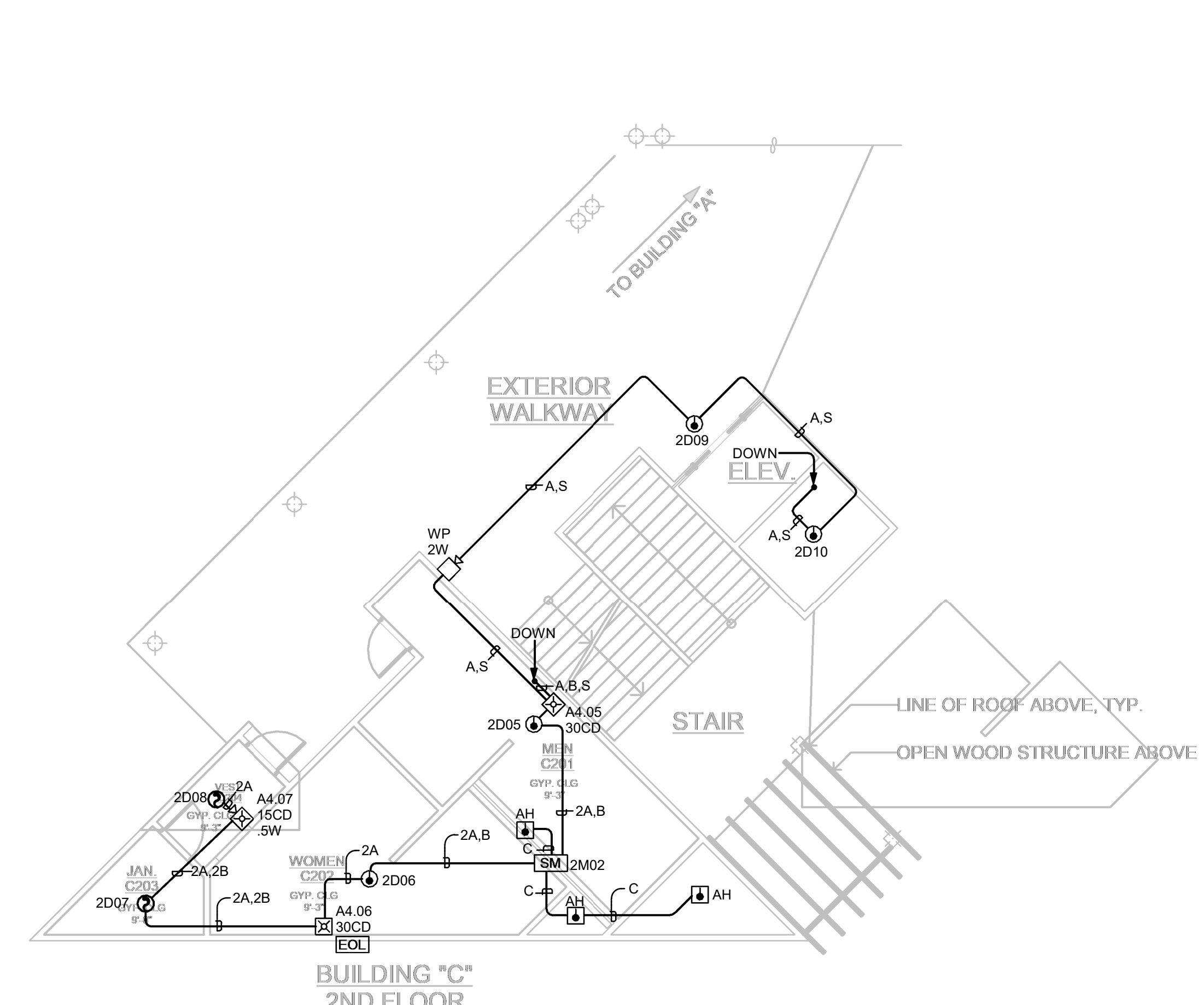
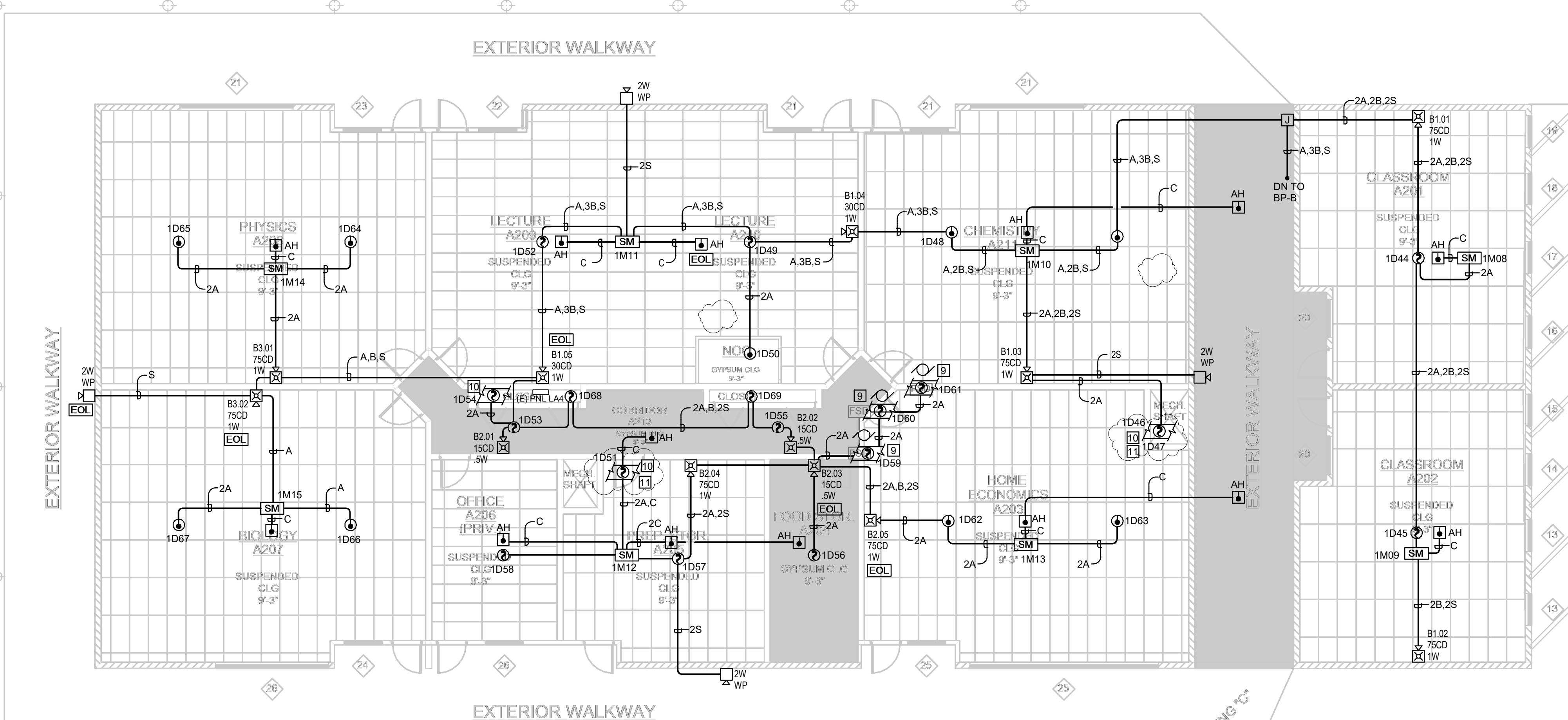


A BUILDING A FIRST FLOOR - FIRE ALARM PLAN

FA-2.1 SCALE: 1/8" = 1'-0"

C BUILDING C FIRST FLOOR - FIRE ALARM PLAN

FA-2.1 SCALE: 1/8" = 1'-0"

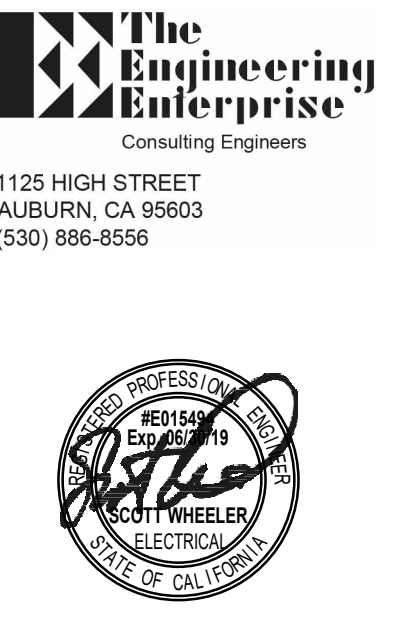


B BUILDING A SECOND FLOOR - FIRE ALARM PLAN

FA-2.1 SCALE: 1/8" = 1'-0"

D BUILDING C SECOND FLOOR - FIRE ALARM PLAN

FA-2.1 SCALE: 1/8" = 1'-0"



BRHS - NEW FIRE ALARM SYSTEM FOR NJUHS
11130 MAGNOLIA ROAD, GRASS VALLEY

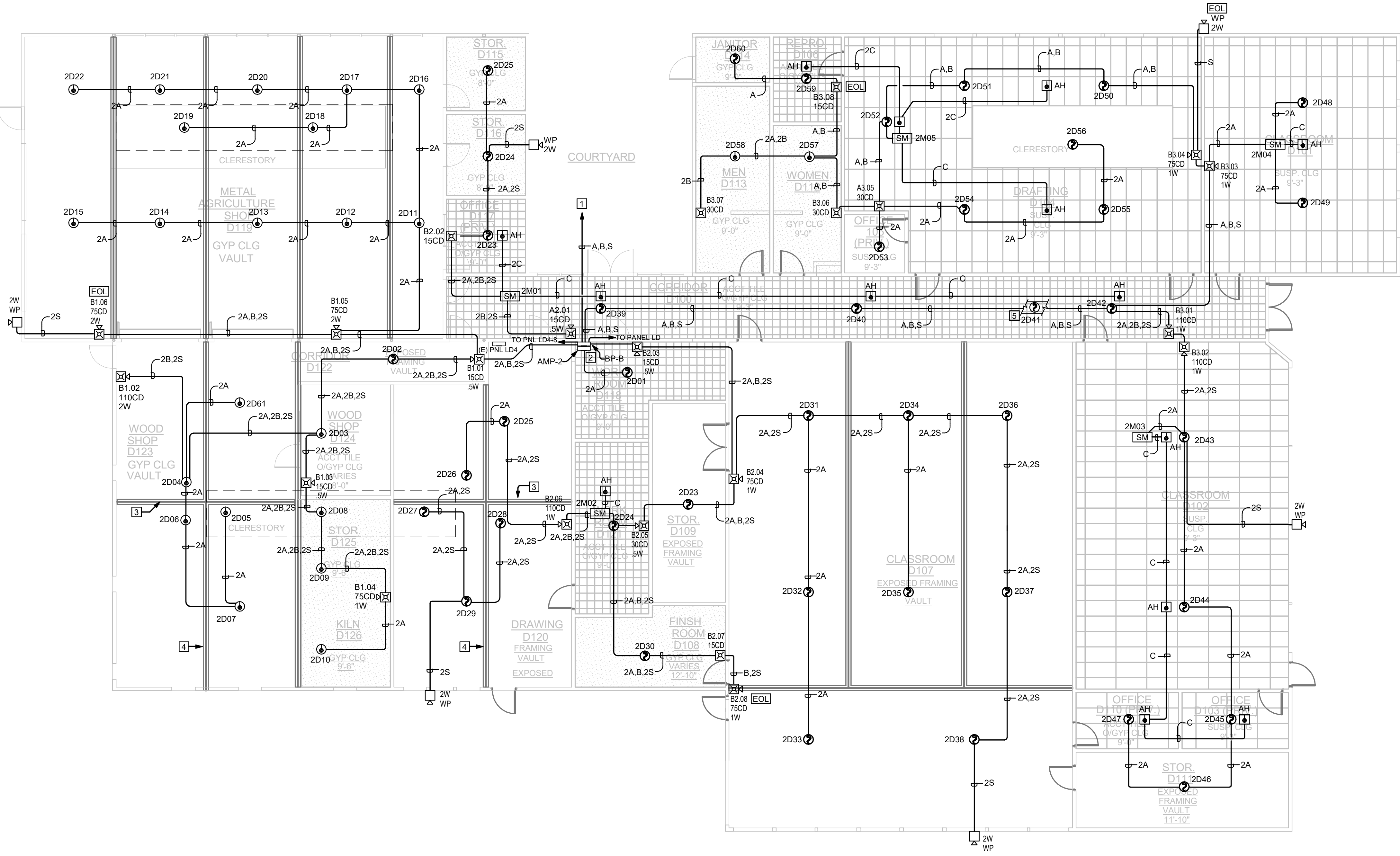
REVISIONS	
NO.	DESCRIPTION
1	Revision 1

DESIGNER: Designer
SCALE: 1/8" = 1'-0"
DATE: 01/08/18
TITLE: **BUILDING A & C - FIRE ALARM PLAN**
DRAWING NO. **FA-2.1**



- ### GENERAL SHEET NOTES
- A FIRE ALARM SYSTEM INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF APPLICABLE CODES, STANDARDS AND STATE REGULATIONS.
 - B FIRE ALARM CIRCUITS AND CIRCUIT ROUTING ARE SHOWN SCHEMATICALLY FOR CLARITY ILLUSTRATING THE WIRING CONFIGURATION NECESSARY FOR PROPER CIRCUIT SUPERVISION.
 - C COORDINATE CEILING MOUNTED FIRE ALARM DEVICE LOCATIONS WITH NEW LIGHT FIXTURES TO AVOID CONFLICTS.
 - D DO NOT INSTALL FIRE ALARM DEVICES BACK TO BACK IN STUD WALLS.
 - E INSTALL FIRE ALARM CONDUCTORS IN CONDUIT OR METAL SURFACE RACEWAY WHEN IN EXPOSED SPACES. MINIMUM SIZE OF CONDUIT SHALL BE 0.75" UTILIZE WIREMOLD 700 SERIES SURFACE RACEWAY (IN LIEU OF CONDUIT) FOR AREA WHERE CONDUIT CANNOT BE INSTALLED CONCEALED. CABLE ABOVE ACCESSIBLE CEILING CAN BE INSTALLED FREE AIR WHEN USING APPLICABLE CABLE. SUPPORT ALL FREE AIR CABLE EVERY 48" WITH J-HOOKS.
 - F ALL SPEAKER, SPEAKER/STROBES SHALL HAVE MINIMUM 0.75" CONDUIT PATHWAYS. USE OF EXISTING 0.5" CONDUIT PATHWAY IS NOT ACCEPTABLE.
 - G ENSURE THAT SPEAKER/STROBES ARE MOUNTED IN 5" SQ. X 2.78" DEEP BOX. FOR SURFACE MOUNTED DEVICES. FLUSH MOUNTED DEVICES SHALL BE MOUNTED IN THE MANUFACTURE DESIGNATED BACK BOXES. COLOR TO MATCH DEVICE.
 - H REFER TO FA-4.1 OR FA-4.2 FOR RISER DIAGRAMS.
 - I CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE ALARM SYSTEM PANELS PER LOCATION.
 - J DETECTORS ON SLOPED CEILINGS SHALL BE LOCATED NO MORE THAN 36" FROM PEAK.

- ### NUMBERED SHEET NOTES
- 1 TO FACP LOCATED IN BUILDING L.
 - 2 CONTRACTOR SHALL PROVIDE AND INSTALL A NEW FIRE ALARM BOOSTER PANEL (BP) AND VOICE AMPLIFIER (AMP).
 - 3 MAIN BEAM INDICATING CEILING 'PEAK'.
 - 4 4"x4" CROSS BEAMS
 - 5 DUCT SMOKE DETECTOR TO ACTIVATE HVAC SHUT OFF.



A BUILDING D - FIRE ALARM PLAN
 FA-2.2 SCALE: 1/8" = 1'-0"

BRHS - NEW FIRE ALARM SYSTEM FOR NjuhSD
11130 MAGNOLIA ROAD, GRASS VALLEY

#	DESCRIPTION	DATE

DESIGNER: Designer
 SCALE: 1/8" = 1'-0"
 DATE: 01/08/18
 TITLE:
BUILDING D - FIRE ALARM PLAN
 DRAWING NO.
FA-2.2

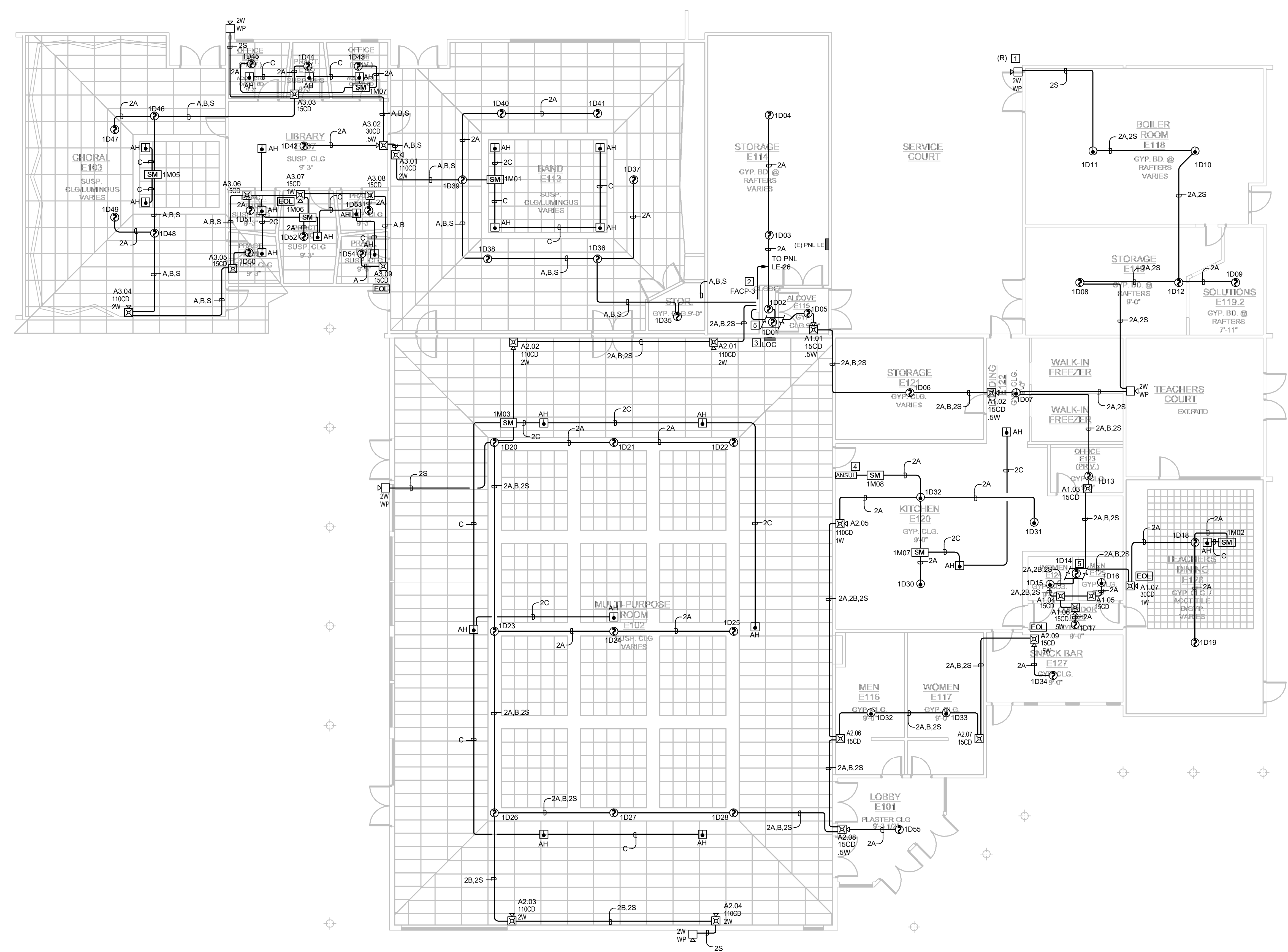


GENERAL SHEET NOTES

- A FIRE ALARM SYSTEM INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF APPLICABLE CODES, STANDARDS AND STATE REGULATIONS.
- B FIRE ALARM CIRCUITS AND CIRCUIT ROUTING ARE SHOWN SCHEMATICALLY FOR CLARITY ILLUSTRATING THE WIRING CONFIGURATION NECESSARY FOR PROPER CIRCUIT SUPERVISION.
- C COORDINATE CEILING MOUNTED FIRE ALARM DEVICE LOCATIONS WITH NEW LIGHT FIXTURES TO AVOID CONFLICTS.
- D DO NOT INSTALL FIRE ALARM DEVICES BACK TO BACK IN STUD WALLS.
- E INSTALL FIRE ALARM CONDUCTORS IN CONDUIT OR METAL SURFACE RACEWAY WHEN IN EXPOSED SPACES. MINIMUM SIZE OF CONDUIT SHALL BE 0.75" UTILIZE WIREMOLD 700 SERIES SURFACE RACEWAY (IN LIEU OF CONDUIT) FOR AREA WHERE CONDUIT CANNOT BE INSTALLED CONCEALED. CABLE ABOVE ACCESSIBLE CEILING CAN BE INSTALLED FREE AIR WHEN USING APPLICABLE CABLE. SUPPORT ALL FREE AIR CABLE EVERY 48" WITH J-HOOKS.
- F ALL SPEAKER, SPEAKER/STROBES SHALL HAVE MINIMUM 0.75" CONDUIT PATHWAYS. USE OF EXISTING 0.5" CONDUIT PATHWAYS IS NOT ACCEPTABLE.
- G ENSURE THAT SPEAKER/STROBES ARE MOUNTED IN 5" SQ. X 2 7/8" DEEP BOX. FOR SURFACE MOUNTED DEVICES. FLUSH MOUNTED DEVICES SHALL BE MOUNTED IN THE MANUFACTURERS DESIGNATED BACK BOXES, COLOR TO MATCH DEVICE.
- H REFER TO FA-4.1 OR FA-4.2 FOR RISER DIAGRAMS.
- I CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE ALARM SYSTEM PANELS PER LOCATION.
- J DETECTORS ON SLOPED CEILING SHALL BE LOCATED NO MORE THAN 36" FROM PEAK.

NUMBERED SHEET NOTES

- 1 REMOVE EXISTING WEATHER PROOF HORN AND REPLACE IT WITH A NEW WEATHER PROOF SPEAKER.
- 2 CONTRACTOR SHALL PROVIDE AND INSTALL A NEW FIRE ALARM CONTROL PANEL (FACP).
- 3 CONTRACTOR SHALL PROVIDE AND INSTALL NEW REMOTE MICROPHONE (LOC). CONNECT TO NEW FACP.
- 4 COORDINATE LOCATION OF HOOD FIRE SUPPRESSION SYSTEM WITH FIRE SUPPRESSION INSTALLATION CONTRACTOR.
- 5 DUCT SMOKE DETECTOR TO ACTIVATE HVAC SHUT OFF.

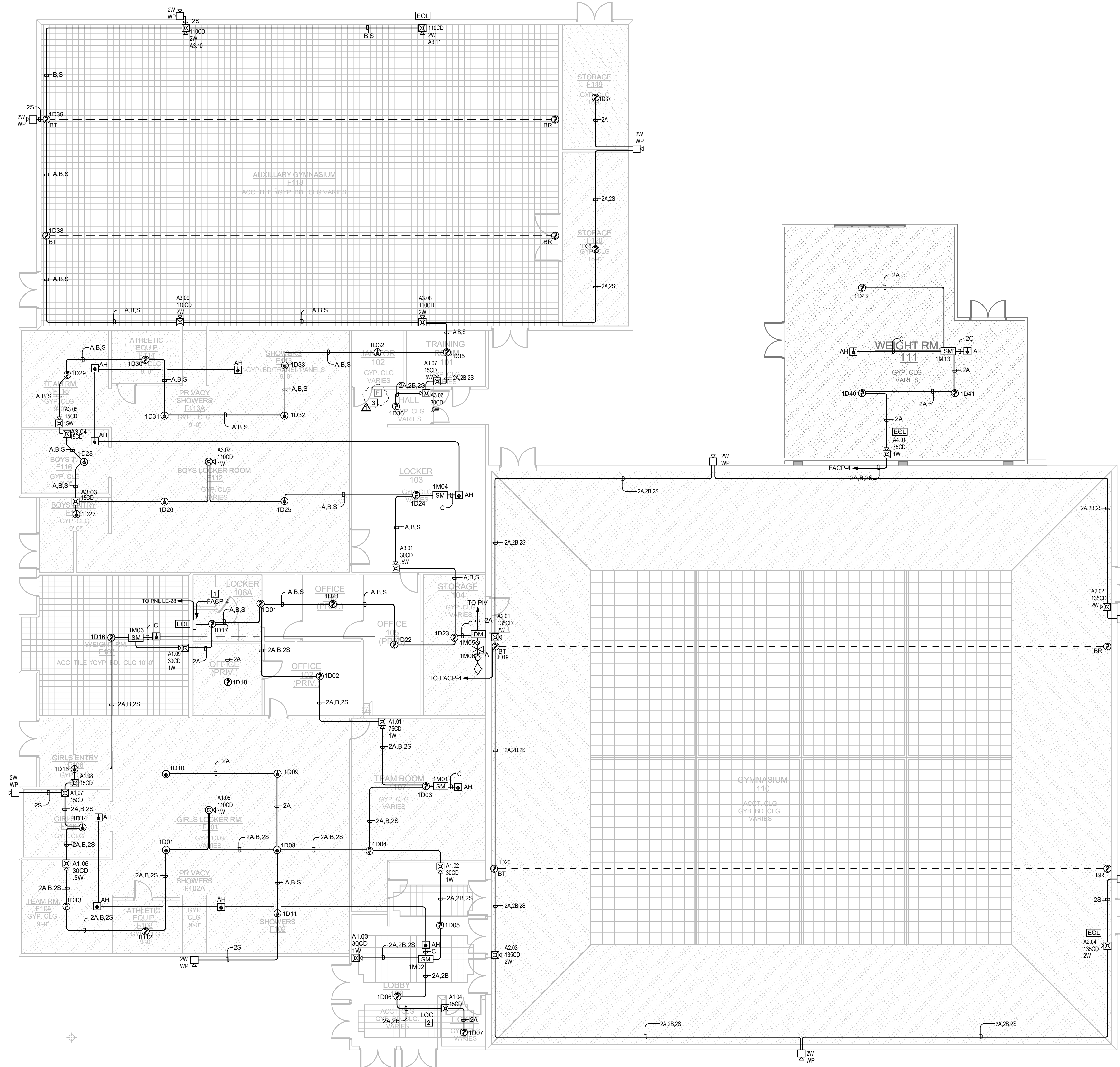


BRHS - NEW FIRE ALARM SYSTEM FOR NJUHSD
11130 MAGNOLIA ROAD, GRASS VALLEY

A BUILDING E - FIRE ALARM PLAN
 FA-2.3 SCALE: 1/8" = 1'-0"

REVISIONS	
#	DESCRIPTION

DESIGNER: Designer
 SCALE: 1/8" = 1'-0"
 DATE: 01/08/18
 TITLE: BUILDING E - FIRE ALARM PLAN
 DRAWING NO. FA-2.3



A BUILDING F - FIRE ALARM PLAN
 FA-24 SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

- A FIRE ALARM SYSTEM INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF APPLICABLE CODES, STANDARDS AND STATE REGULATIONS.
- B FIRE ALARM CIRCUITS AND CIRCUIT ROUTING ARE SHOWN SCHEMATICALLY FOR CLARITY ILLUSTRATING THE WIRING CONFIGURATION NECESSARY FOR PROPER CIRCUIT SUPERVISION.
- C COORDINATE CEILING MOUNTED FIRE ALARM DEVICE LOCATIONS WITH NEW LIGHT FIXTURES TO AVOID CONFLICTS.
- D DO NOT INSTALL FIRE ALARM DEVICES BACK TO BACK IN STUD WALLS.
- E INSTALL FIRE ALARM CONDUCTORS IN CONDUIT OR METAL SURFACE RACEWAY WHEN IN EXPOSED SPACES. MINIMUM SIZE OF CONDUIT SHALL BE 0.75". UTILIZE WIREMOLD 700 SERIES SURFACE RACEWAY (IN LIEU OF CONDUIT) FOR AREA WHERE CONDUIT CANNOT BE INSTALLED CONCEALED. CABLE ABOVE ACCESSIBLE CEILING CAN BE INSTALLED FREE AIR WHEN USING APPLICABLE CABLE. SUPPORT ALL FREE AIR CABLE EVERY 48" WITH J-HOOKS.
- F ALL SPEAKER, SPEAKER/STROBES SHALL HAVE MINIMUM 0.75" CONDUIT PATHWAYS. USE OF EXISTING 0.5" CONDUIT PATHWAY IS NOT ACCEPTABLE.
- G ENSURE THAT SPEAKER/STROBES ARE MOUNTED IN 5" SQ. X 2 7/8" DEEP BOX. FOR SURFACE MOUNTED DEVICES. FLUSH MOUNTED DEVICES SHALL BE MOUNTED IN THE MANUFACTURERS DESIGNATED BACK BOXES, COLOR TO MATCH DEVICE.
- H REFER TO FA-1 OR FA-4.2 FOR RISER DIAGRAMS.
- I CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE ALARM SYSTEM PANELS PER LOCATION.

NUMBERED SHEET NOTES

- 1 CONTRACTOR SHALL PROVIDE AND INSTALL A NEW FIRE ALARM CONTROL PANEL (FACP). LOCATION AS SHOWN MAY NOT BE AS ACT. COORDINATE WITH GENERAL CONTRACTOR. FACP MUST BE IN A LOCATION THAT IS CLOSE TO EXISTING IDF.
- 2 CONTRACTOR SHALL PROVIDE AND INSTALL A NEW REMOTE VOICE COMMUNICATOR. CONNECT TO NEW FACP.
- 3 REMOVE EXISTING FIRE ALARM MANUAL PULL STATION. PROVIDE COVER PLATE TO COVER OPENING.



BRHS - NEW FIRE ALARM SYSTEM FOR NJUHS
11130 MAGNOLIA ROAD, GRASS VALLEY

REVISIONS	
NO.	DESCRIPTION

DESIGNER: Designer
 SCALE: 1/8" = 1'-0"
 DATE: 01/08/18
 TITLE:
BUILDING F & WEIGHT ROOM - FIRE ALARM PLAN
 DRAWING NO.
FA-24

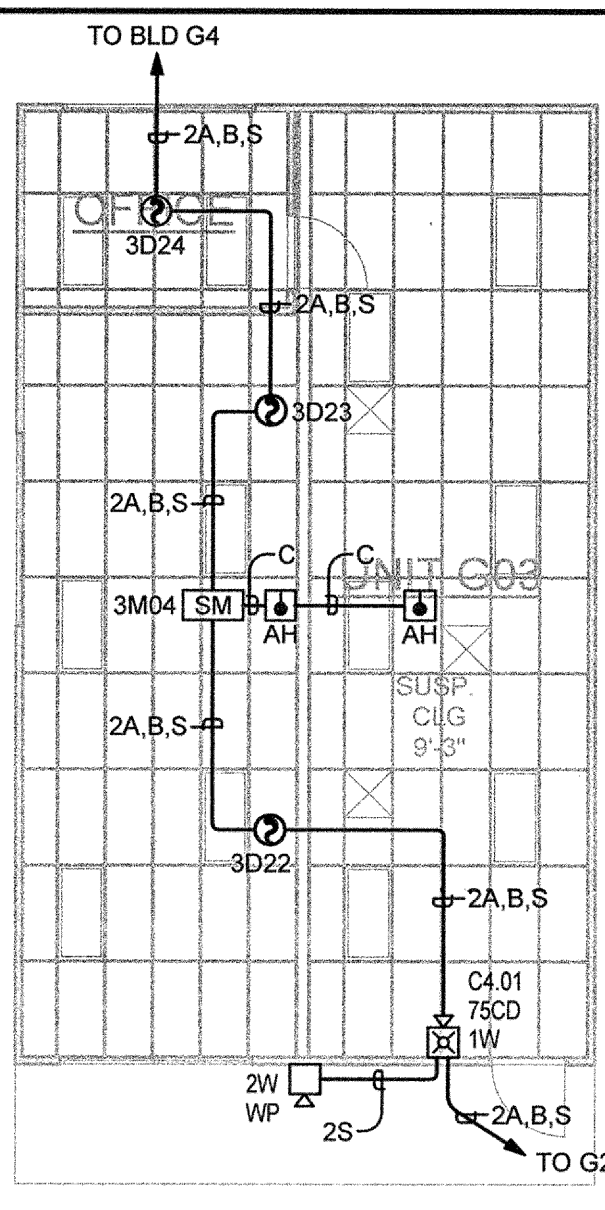


GENERAL SHEET NOTES

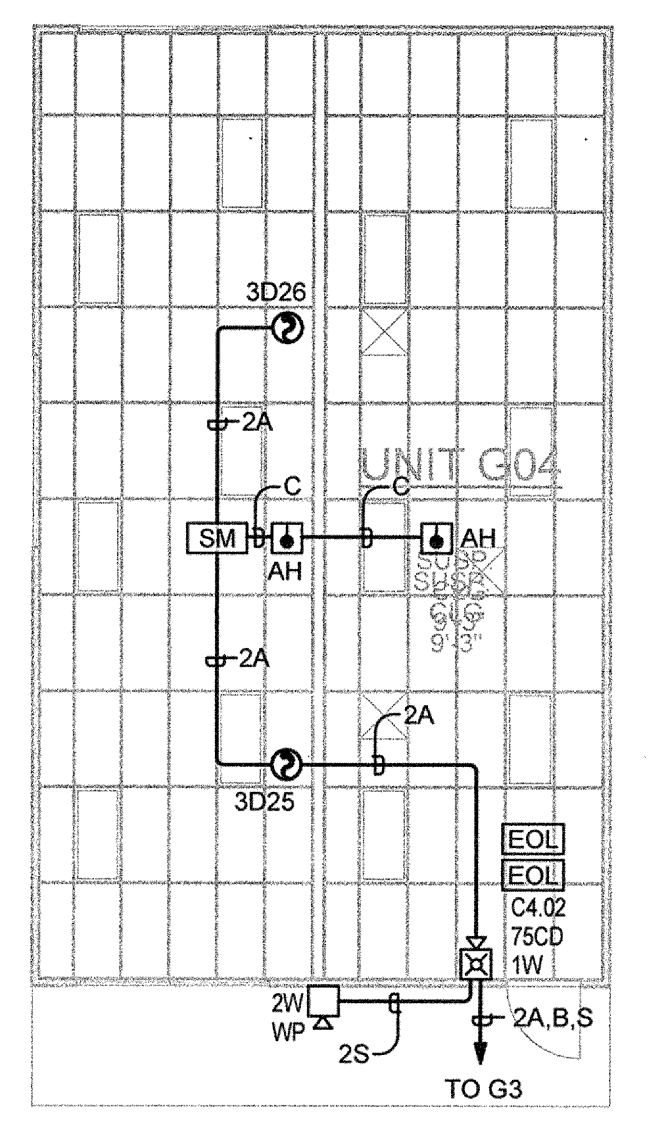
- A FIRE ALARM SYSTEM INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF APPLICABLE CODES, STANDARDS AND STATE REGULATIONS.
- B FIRE ALARM CIRCUITS AND CIRCUIT ROUTING ARE SHOWN SCHEMATICALLY FOR CLARITY ILLUSTRATING THE WIRING CONFIGURATION NECESSARY FOR PROPER CIRCUIT SUPERVISION.
- C COORDINATE CEILING MOUNTED FIRE ALARM DEVICE LOCATIONS WITH NEW LIGHT FIXTURES TO AVOID CONFLICTS.
- D DO NOT INSTALL FIRE ALARM DEVICES BACK TO BACK IN STUD WALLS.
- E INSTALL FIRE ALARM CONDUCTORS IN CONDUIT OR METAL SURFACE RACEWAY WHEN IN EXPOSED SPACES. MINIMUM SIZE OF CONDUIT SHALL BE 0.75". UTILIZE WIREMOLD 700 SERIES SURFACE RACEWAY (IN LIEU OF CONDUIT) FOR AREA WHERE CONDUIT CANNOT BE INSTALLED CONCEALED. CABLE ABOVE ACCESSIBLE CEILING CAN BE INSTALLED FREE AIR WHEN USING APPLICABLE CABLE. SUPPORT ALL FREE AIR CABLE EVERY 48" WITH J-HOOKS.
- F ALL SPEAKER, SPEAKER/STROBES SHALL HAVE MINIMUM 0.75" CONDUIT PATHWAYS. USE OF EXISTING 0.5" CONDUIT PATHWAYS IS NOT ACCEPTABLE.
- G ENSURE THAT SPEAKER/STROBES ARE MOUNTED IN 5" SQ. X 2 7/8" DEEP BOX, FOR SURFACE MOUNTED DEVICES. FLUSH MOUNTED DEVICES SHALL BE MOUNTED IN THE MANUFACTURERS DESIGNATED BACK BOXES, COLOR TO MATCH DEVICE.
- H REFER TO FA-4.1 OR FA-4.2 FOR RISER DIAGRAMS.
- I CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE ALARM SYSTEM PANELS PER LOCATION.

NUMBERED SHEET NOTES

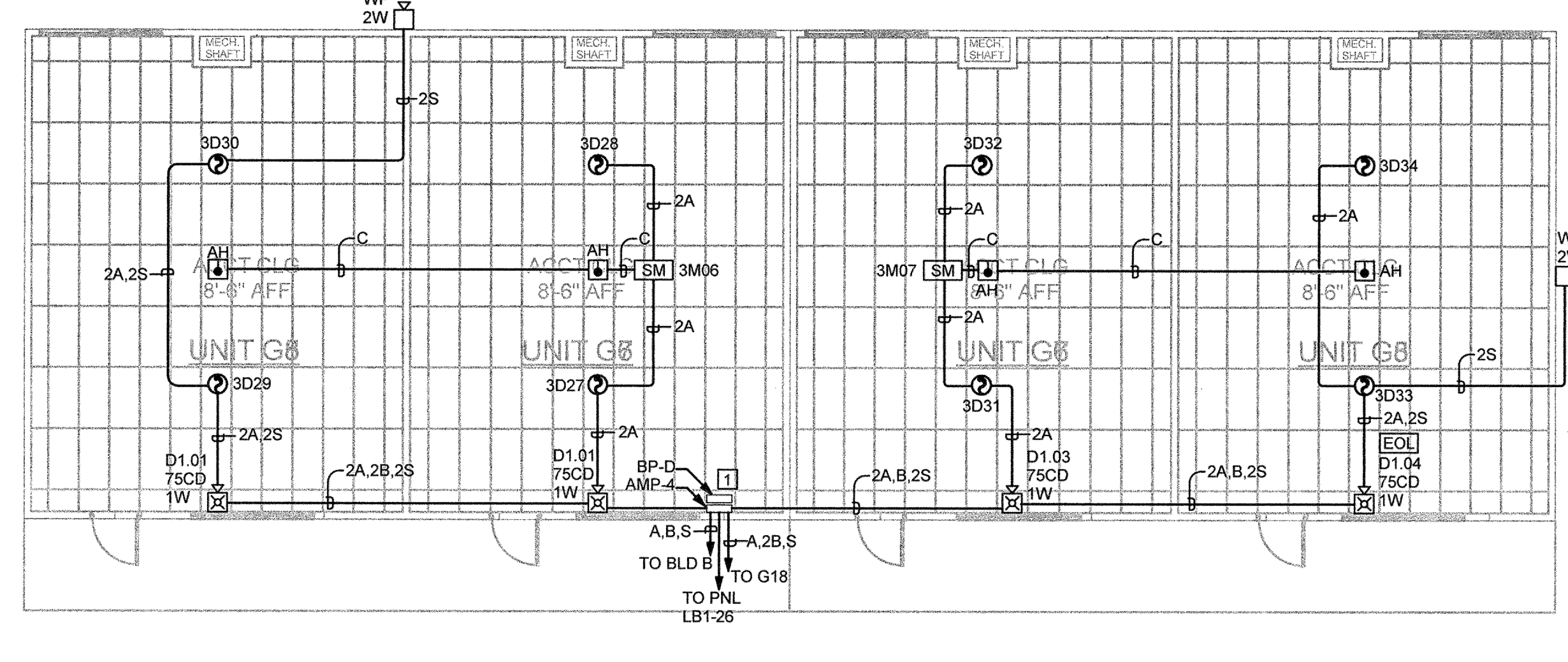
- 1 CONTRACTOR SHALL PROVIDE A NEW FIRE ALARM BOOSTER PANEL (BP) AND VOICE AMPLIFIER (AMP).
- 2 TO PANEL FACP IN BUILDING L, VIA 1.5" UNDERGROUND CONDUIT. SEE SITE PLANS.
- 3 EXTERIOR SPEAKER TO BE PLACED ON BUILDING G17.



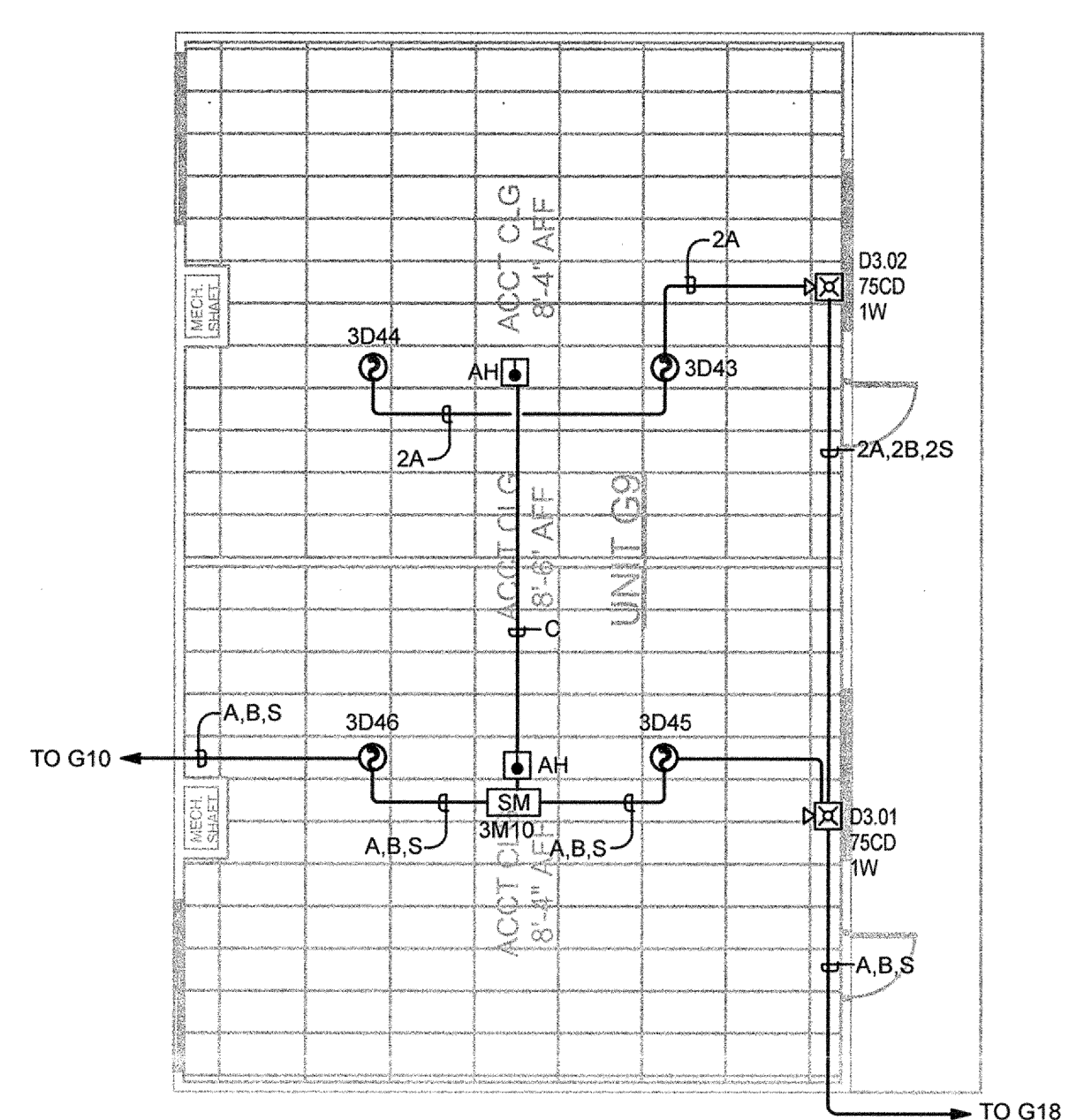
A BUILDING G3
FA-2.5 SCALE: 1/8" = 1'-0"



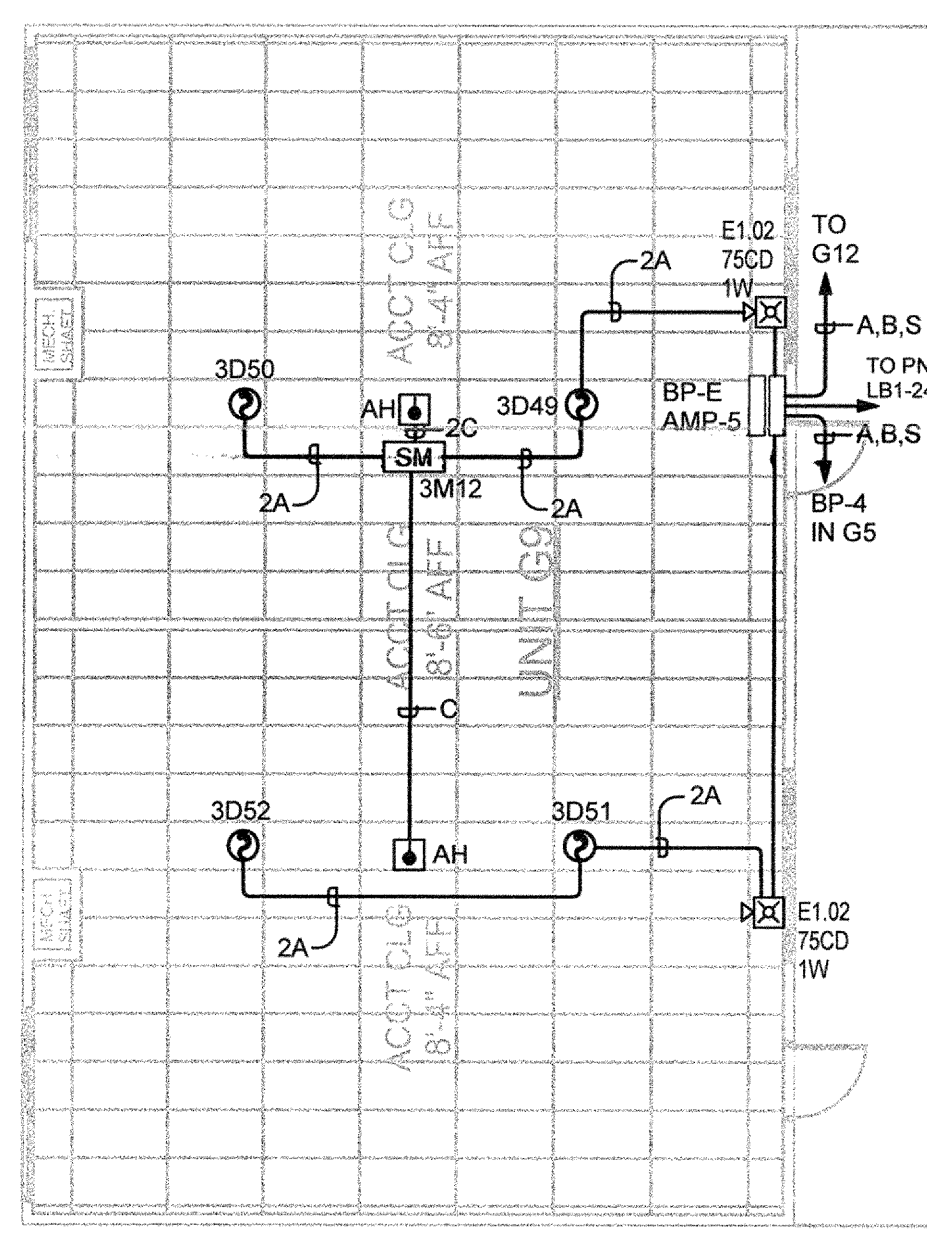
B BUILDING G4
FA-2.5 SCALE: 1/8" = 1'-0"



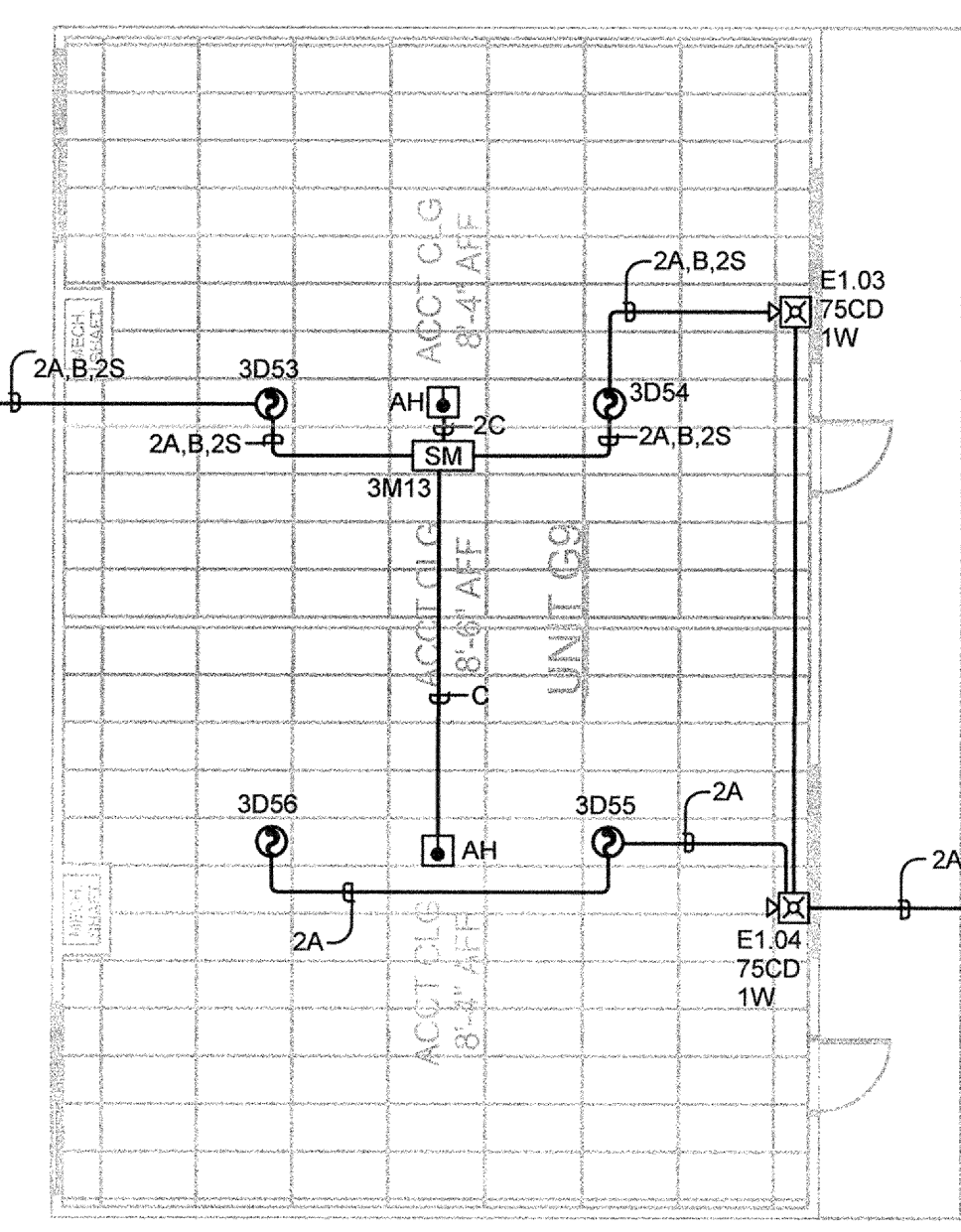
C BUILDING G5
FA-2.5 SCALE: 1/8" = 1'-0"



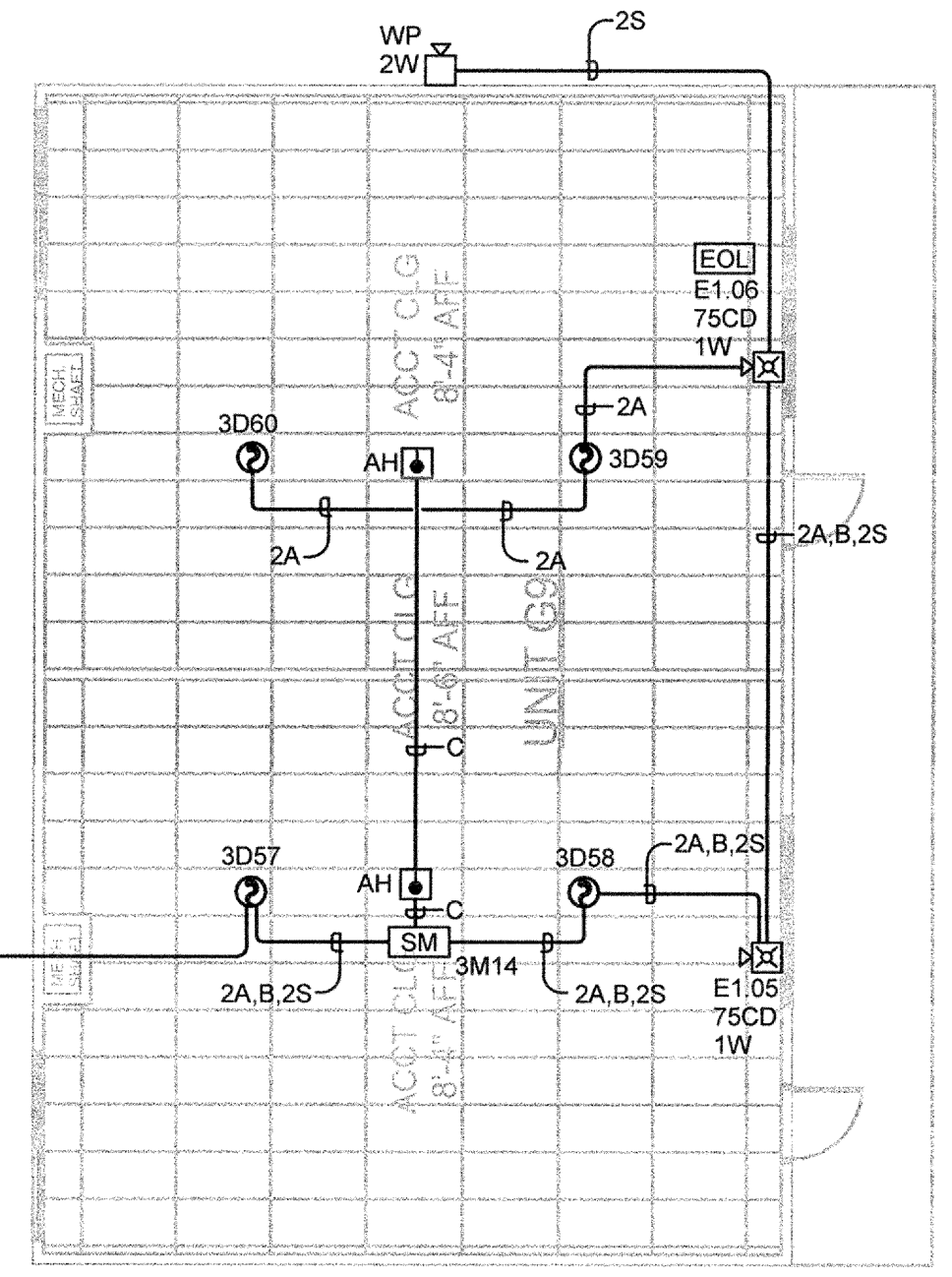
D BUILDING G9
FA-2.5 SCALE: 1/8" = 1'-0"



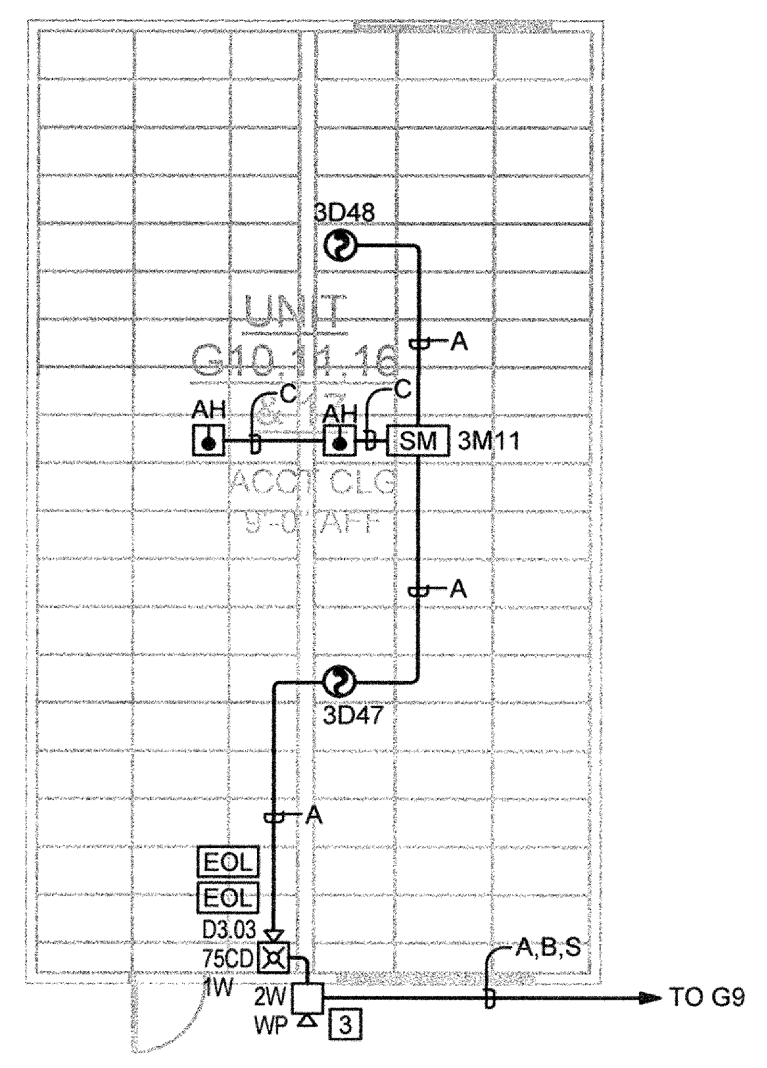
E BUILDING G11
FA-2.5 SCALE: 1/8" = 1'-0"



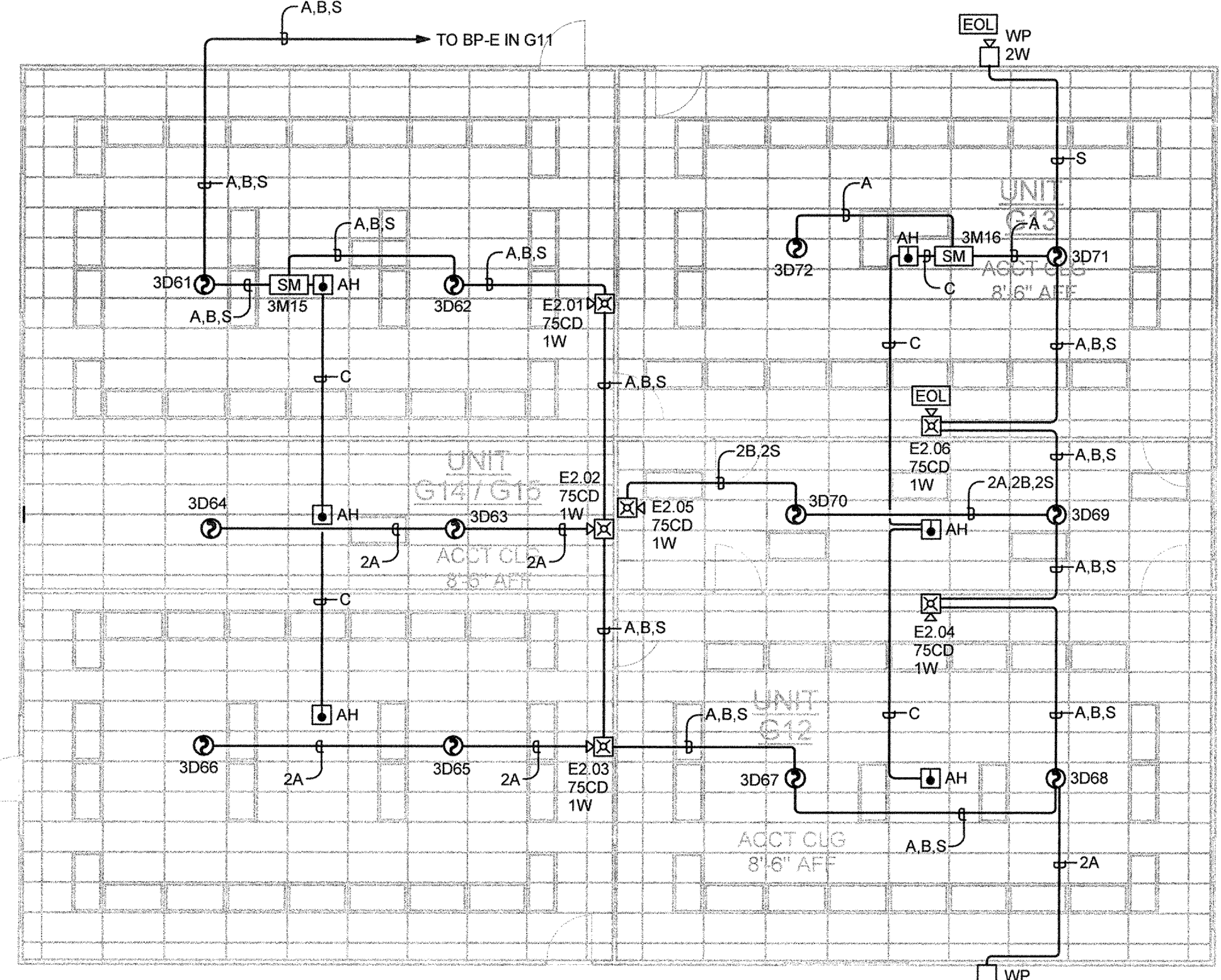
F BUILDING G16
FA-2.5 SCALE: 1/8" = 1'-0"



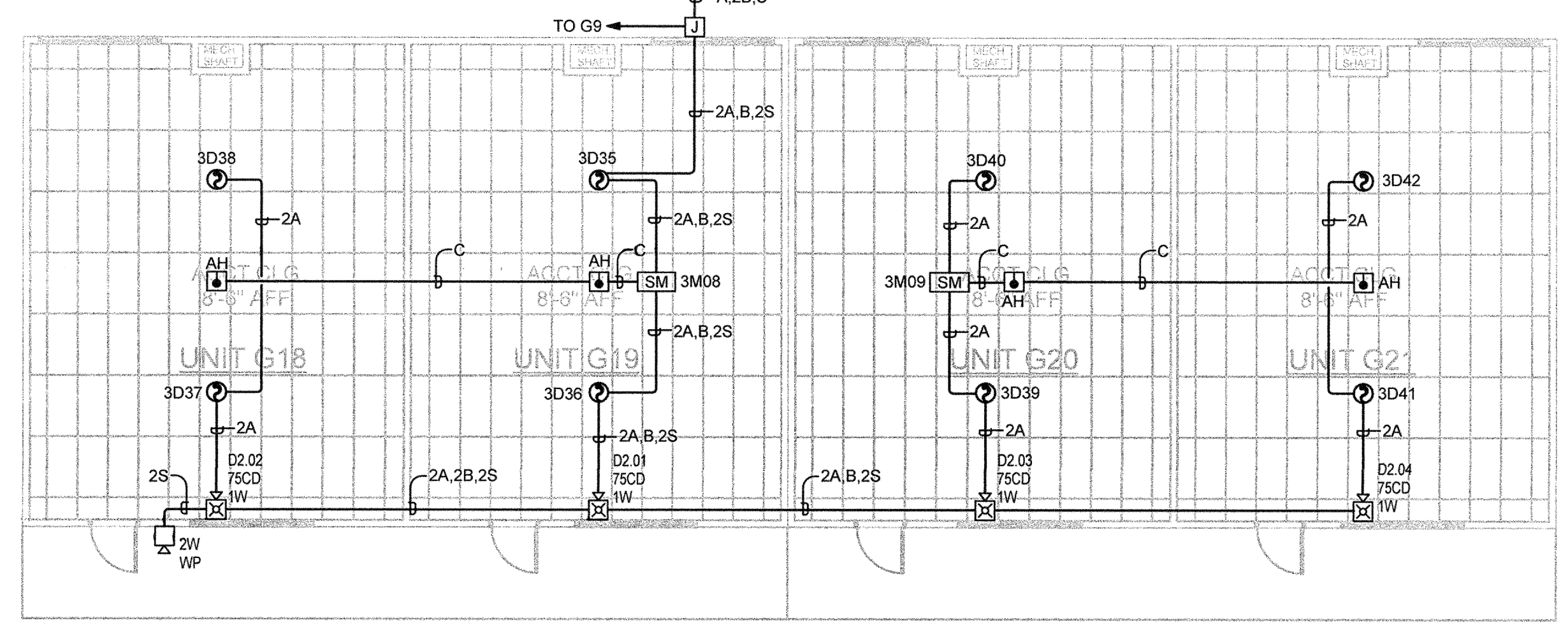
G BUILDING G17
FA-2.5 SCALE: 1/8" = 1'-0"



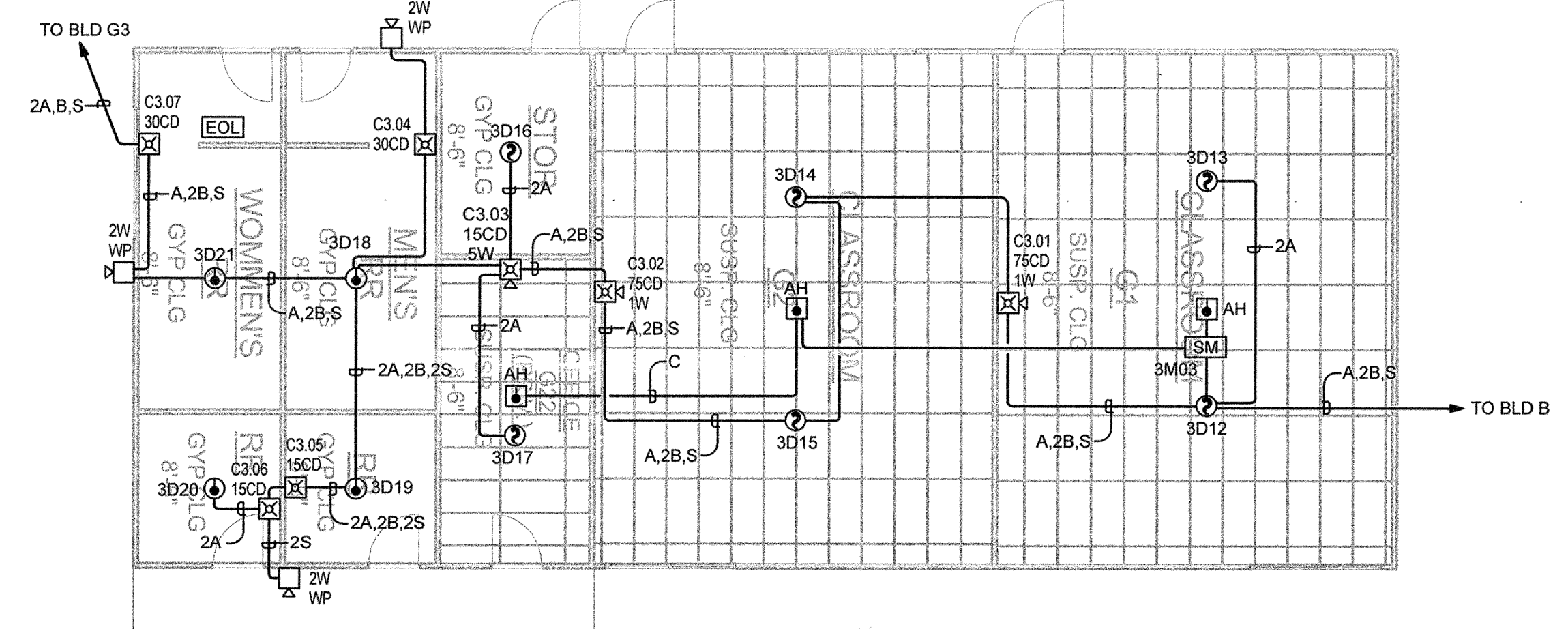
H BUILDING G10
FA-2.5 SCALE: 1/8" = 1'-0"



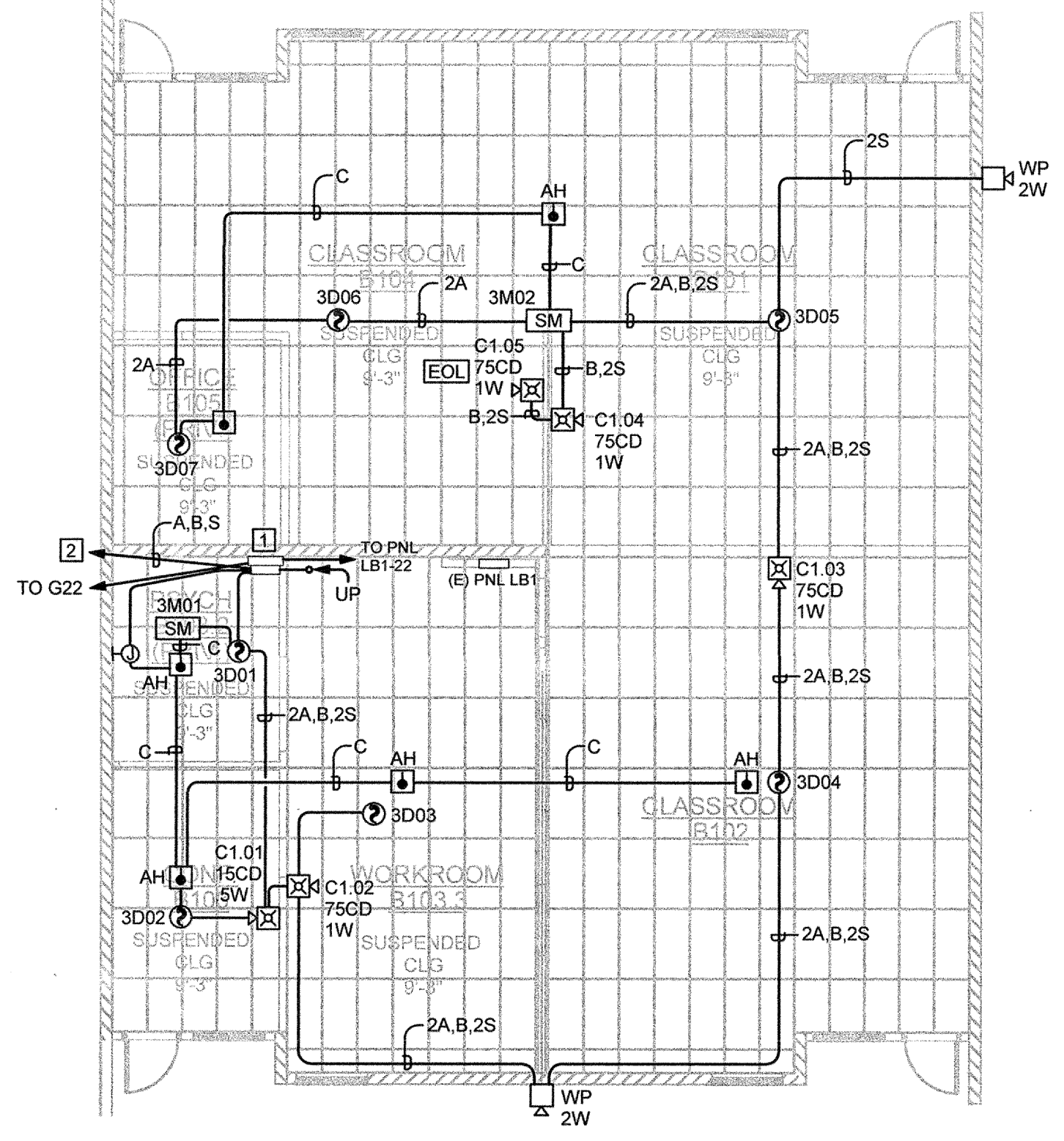
I BUILDING G12
FA-2.5 SCALE: 1/8" = 1'-0"



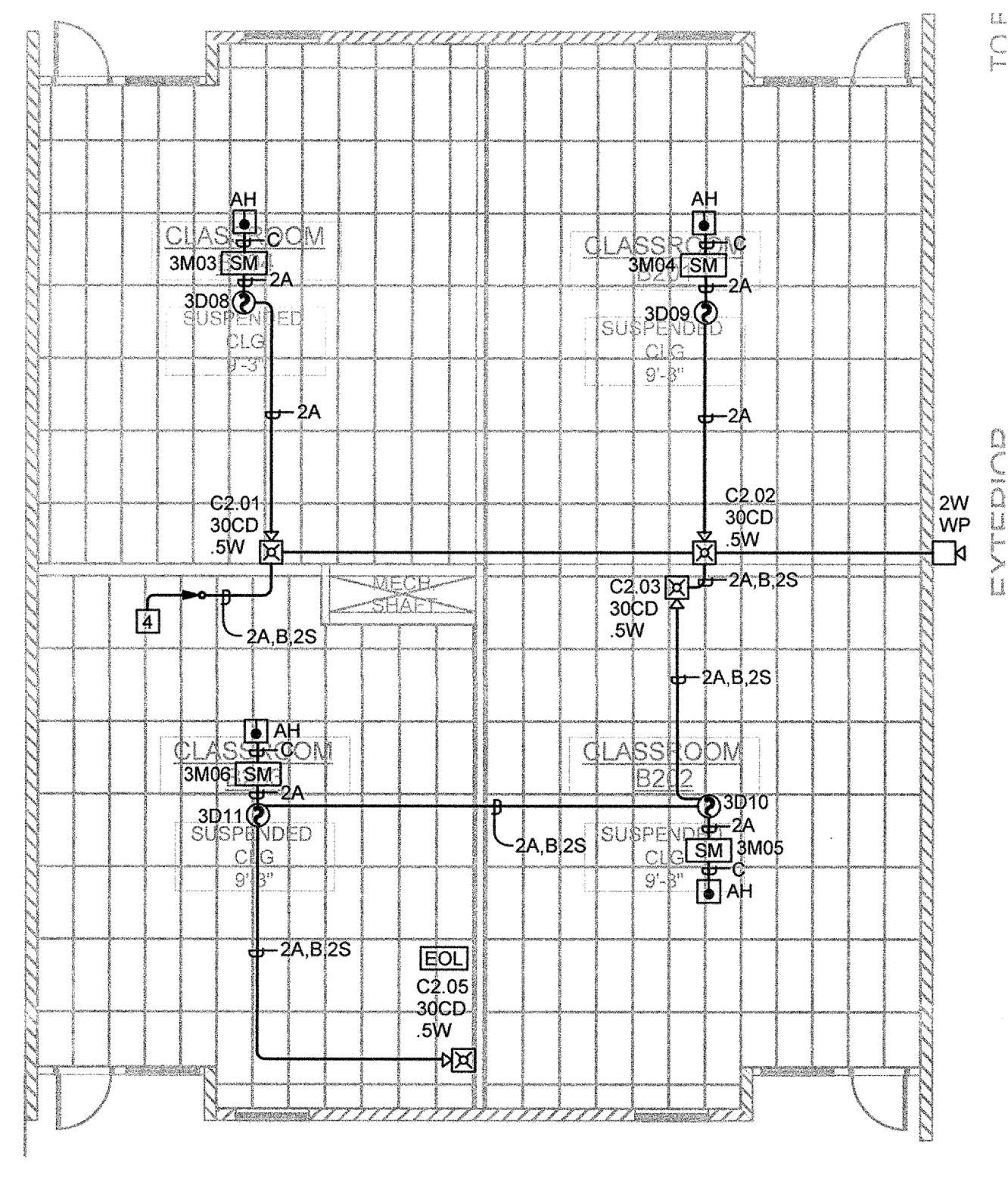
J BUILDING G18
FA-2.5 SCALE: 1/8" = 1'-0"



K BUILDING G22
FA-2.5 SCALE: 1/8" = 1'-0"



L BUILDING B FIRST FLOOR
FA-2.5 SCALE: 1/8" = 1'-0"



M BUILDING B SECOND FLOOR
FA-2.5 SCALE: 1/8" = 1'-0"

BRHS - NEW FIRE ALARM SYSTEM FOR NJUHS
11130 MAGNOLIA ROAD, GRASS VALLEY

REVISIONS	
#	DESCRIPTION

DESIGNER: Designer
SCALE: 1/8" = 1'-0"
DATE: 12/27/17
TITLE: BUILDING G & B - FIRE ALARM PLAN
DRAWING NO. FA-2.5

IDENTIFICATION NUMBER
116922
DATE: 1/2/18

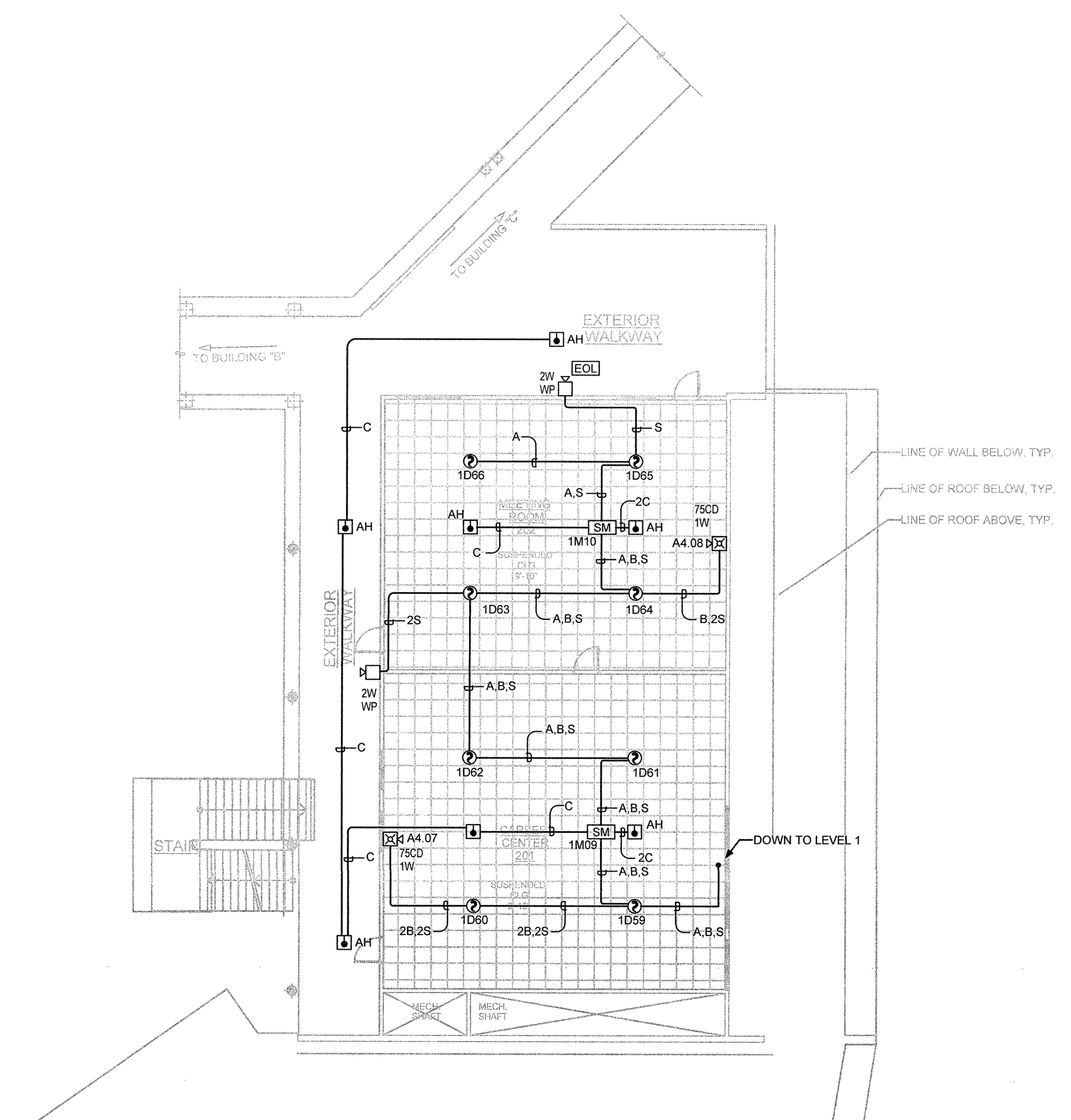
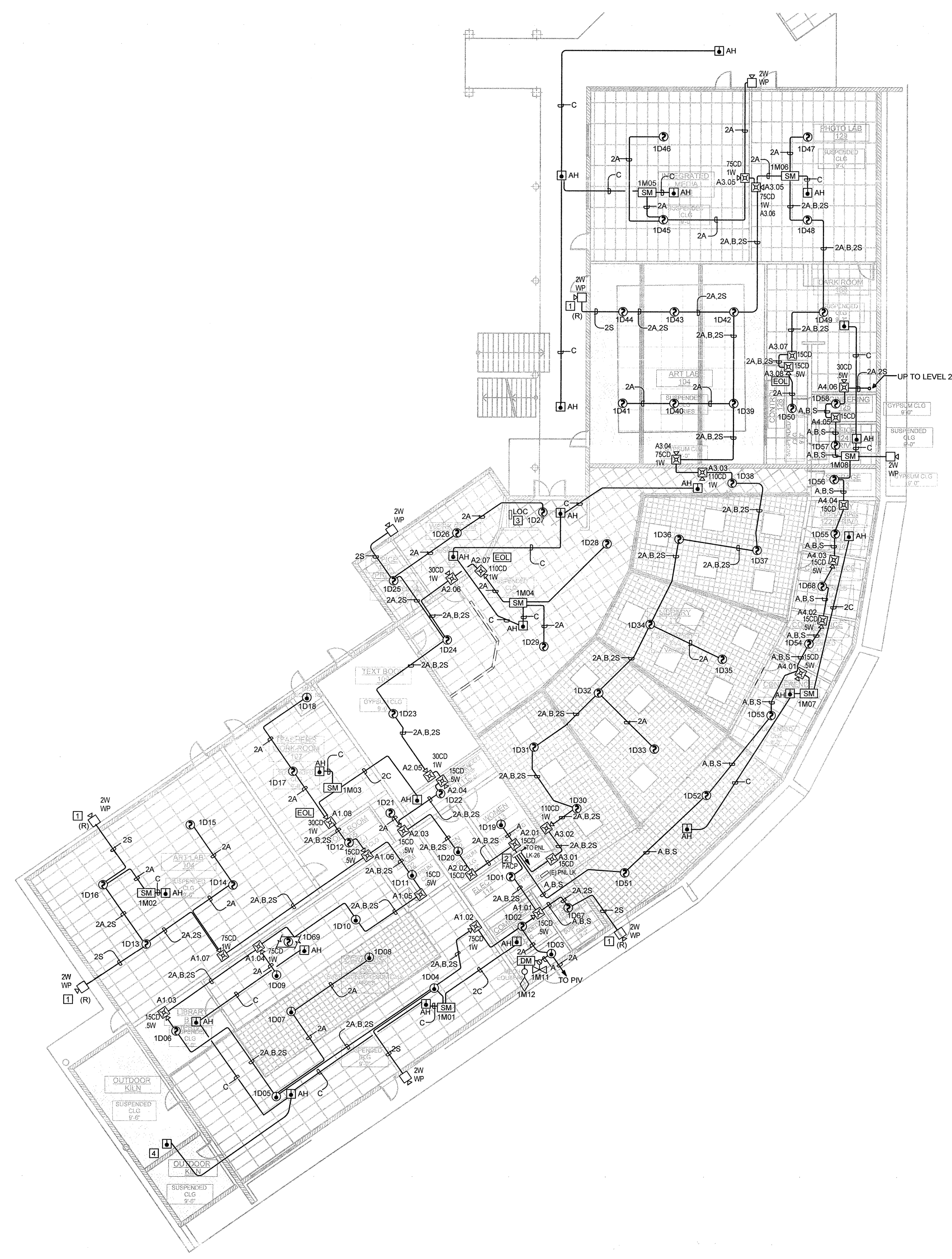


GENERAL SHEET NOTES

- A FIRE ALARM SYSTEM INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF APPLICABLE CODES, STANDARDS AND STATE REGULATIONS.
- B FIRE ALARM CIRCUITS AND CIRCUIT ROUTING ARE SHOWN SCHEMATICALLY FOR CLARITY ILLUSTRATING THE WIRING CONFIGURATION NECESSARY FOR PROPER CIRCUIT SUPERVISION.
- C COORDINATE CEILING MOUNTED FIRE ALARM DEVICE LOCATIONS WITH NEW LIGHT FIXTURES TO AVOID CONFLICTS.
- D DO NOT INSTALL FIRE ALARM DEVICES BACK TO BACK IN STUD WALLS.
- E INSTALL FIRE ALARM CONDUCTORS IN CONDUIT OR METAL SURFACE RACEWAY WHEN IN EXPOSED SPACES. MINIMUM SIZE OF CONDUIT SHALL BE 0.75". UTILIZE WIREMOLD 700 SERIES SURFACE RACEWAY (IN LIEU OF CONDUIT) FOR AREA WHERE CONDUIT CANNOT BE INSTALLED CONCEALED. CABLE ABOVE ACCESSIBLE CEILING CAN BE INSTALLED FREE AIR WHEN USING APPLICABLE CABLE. SUPPORT ALL FREE AIR CABLE EVERY 48" WITH J-HOOKS.
- F ALL SPEAKER, SPEAKER/STROBES SHALL HAVE MINIMUM 0.75" CONDUIT PATHWAYS. USE OF EXISTING 0.5" CONDUIT PATHWAY IS NOT ACCEPTABLE.
- G ENSURE THAT SPEAKER/STROBES ARE MOUNTED IN 5" SQ. X 2 7/8" DEEP BOX, FOR SURFACE MOUNTED DEVICES. FLUSH MOUNTED DEVICES SHALL BE MOUNTED IN THE MANUFACTURERS DESIGNATED BACK BOXES. COLOR TO MATCH DEVICE.
- H REFER TO FA-4.1 OR FA-4.2 FOR RISER DIAGRAMS.
- I CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE ALARM SYSTEM PANELS PER LOCATION.
- J DETECTORS ON SLOPED CEILING SHALL BE LOCATED NO MORE THAN 36" FROM PEAK.

NUMBERED SHEET NOTES

- 1 REMOVE EXISTING WEATHER PROOF HORN AND REPLACE IT WITH A NEW WEATEHR PROOF SPEAKER.
- 2 CONTRACTOR SHALL PROVIDE AND INSTALL A NEW FIRE ALARM CONTROL PANEL (FACP).
- 3 CONTRACTOR SHALL PROVIDE AND INSTALL NEW REMOTE MICROPHONE (LOC). CONNECT TO NEW FACP.
- 4 WALL DOES NOT EXTEND TO CEILING THUS ONLY ONE "ATTIC HEAT" REQUIRED.



A BUILDING L FIRST FLOOR - FIRE ALARM PLAN
 FA-2.6 SCALE: 3/32" = 1'-0"

B BUILDING L SECOND FLOOR - FIRE ALARM PLAN
 FA-2.6 SCALE: 3/32" = 1'-0"

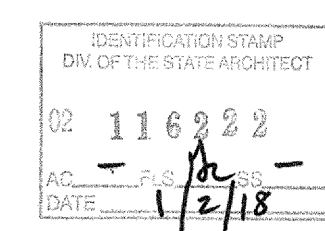
BRHS - NEW FIRE ALARM SYSTEM FOR NJUHS 11130 MAGNOLIA ROAD, GRASS VALLEY

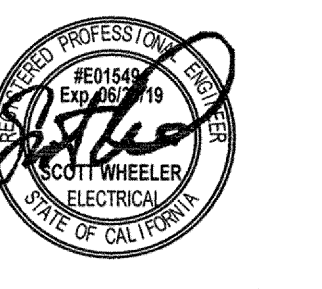
REVISIONS

#	DESCRIPTION	DATE

DESIGNER: Designer
 SCALE: 3/32" = 1'-0"
 DATE: 12/27/17
 TITLE:
BUILDING L - FIRE ALARM PLAN

DRAWING NO.
FA-2.6



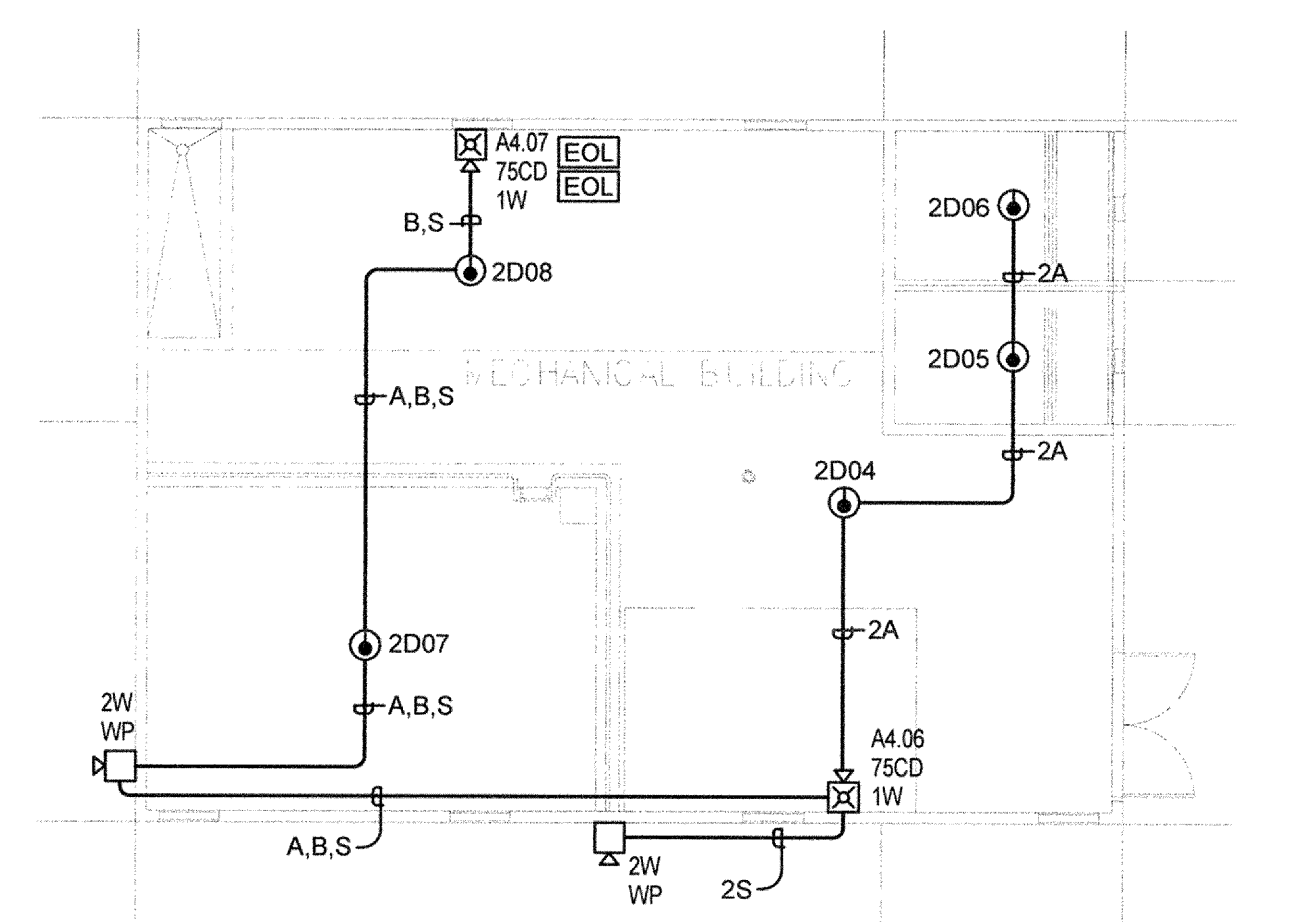


GENERAL SHEET NOTES

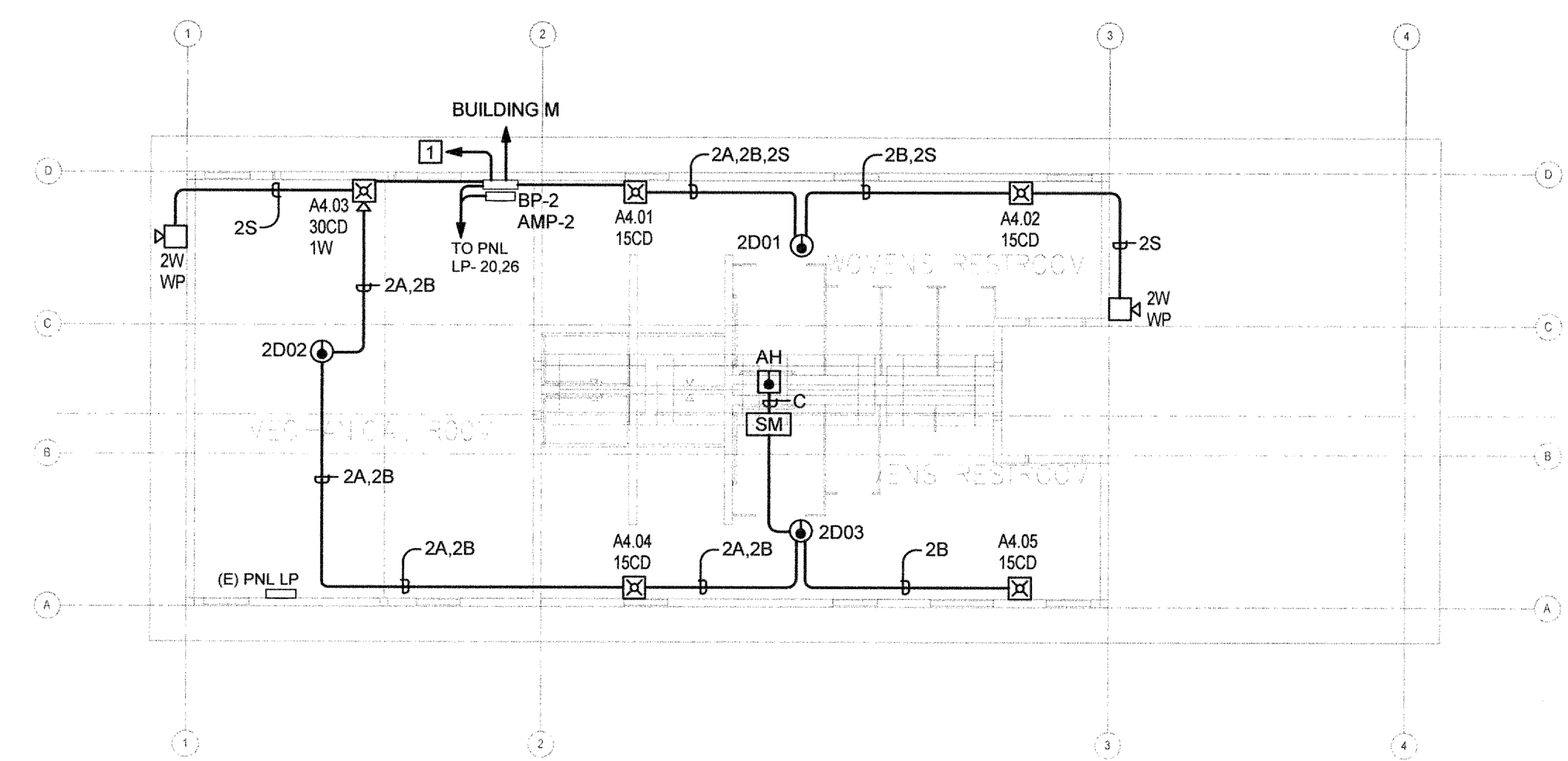
- A FIRE ALARM SYSTEM INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF APPLICABLE CODES, STANDARDS AND STATE REGULATIONS.
- B FIRE ALARM CIRCUITS AND CIRCUIT ROUTING ARE SHOWN SCHEMATICALLY FOR CLARITY ILLUSTRATING THE WIRING CONFIGURATION NECESSARY FOR PROPER CIRCUIT SUPERVISION.
- C COORDINATE CEILING MOUNTED FIRE ALARM DEVICE LOCATIONS WITH NEW LIGHT FIXTURES TO AVOID CONFLICTS.
- D DO NOT INSTALL FIRE ALARM DEVICES BACK TO BACK IN STUD WALLS.
- E INSTALL FIRE ALARM CONDUCTORS IN CONDUIT OR METAL SURFACE RACEWAY WHEN IN EXPOSED SPACES. MINIMUM SIZE OF CONDUIT SHALL BE 0.75". UTILIZE WIREMOLD 700 SERIES SURFACE RACEWAY (IN LIEU OF CONDUIT) FOR AREA WHERE CONDUIT CANNOT BE INSTALLED CONCEALED. CABLE ABOVE ACCESSIBLE CEILING CAN BE INSTALLED FREE AIR WHEN USING APPLICABLE CABLE. SUPPORT ALL FREE AIR CABLE EVERY 48" WITH J-HOOKS.
- F ALL SPEAKER, SPEAKER/STROBES SHALL HAVE MINIMUM 0.75" CONDUIT PATHWAYS. USE OF EXISTING 0.5" CONDUIT PATHWAY IS NOT ACCEPTABLE.
- G ENSURE THAT SPEAKER/STROBES ARE MOUNTED IN 6" SQ. X 2 7/8" DEEP BOX, FOR SURFACE MOUNTED DEVICES. FLUSH MOUNTED DEVICES SHALL BE MOUNTED IN THE MANUFACTURERS DESIGNATED BACK BOXES, COLOR TO MATCH DEVICE.
- H REFER TO FA-4.1 OR FA-4.2 FOR RISER DIAGRAMS.
- I CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE ALARM SYSTEM PANELS PER LOCATION.

NUMBERED SHEET NOTES

- 1 REMOVE EXISTING FACP AND INSTALL A NEW FIRE ALARM BOOSTER PANEL IN ITS PLACE. CONNECT TO NEW FACP-4 LOCATED IN BUILDING F.



A BUILDING M - FIRE ALARM PLAN
 FA-2.7 SCALE: 1/8" = 1'-0"



B BUILDING N - FIRE ALARM PLAN
 FA-2.7 SCALE: 1/8" = 1'-0"

BRHS - NEW FIRE ALARM SYSTEM FOR NJUHSD
11130 MAGNOLIA ROAD, GRASS VALLEY

REVISIONS	
#	DESCRIPTION

DESIGNER: Designer
 SCALE: 1/8" = 1'-0"
 DATE: 12/27/17
 TITLE:
BUILDING M & N - FIRE ALARM

DRAWING NO.
FA-2.7

DATE: 1/2/18

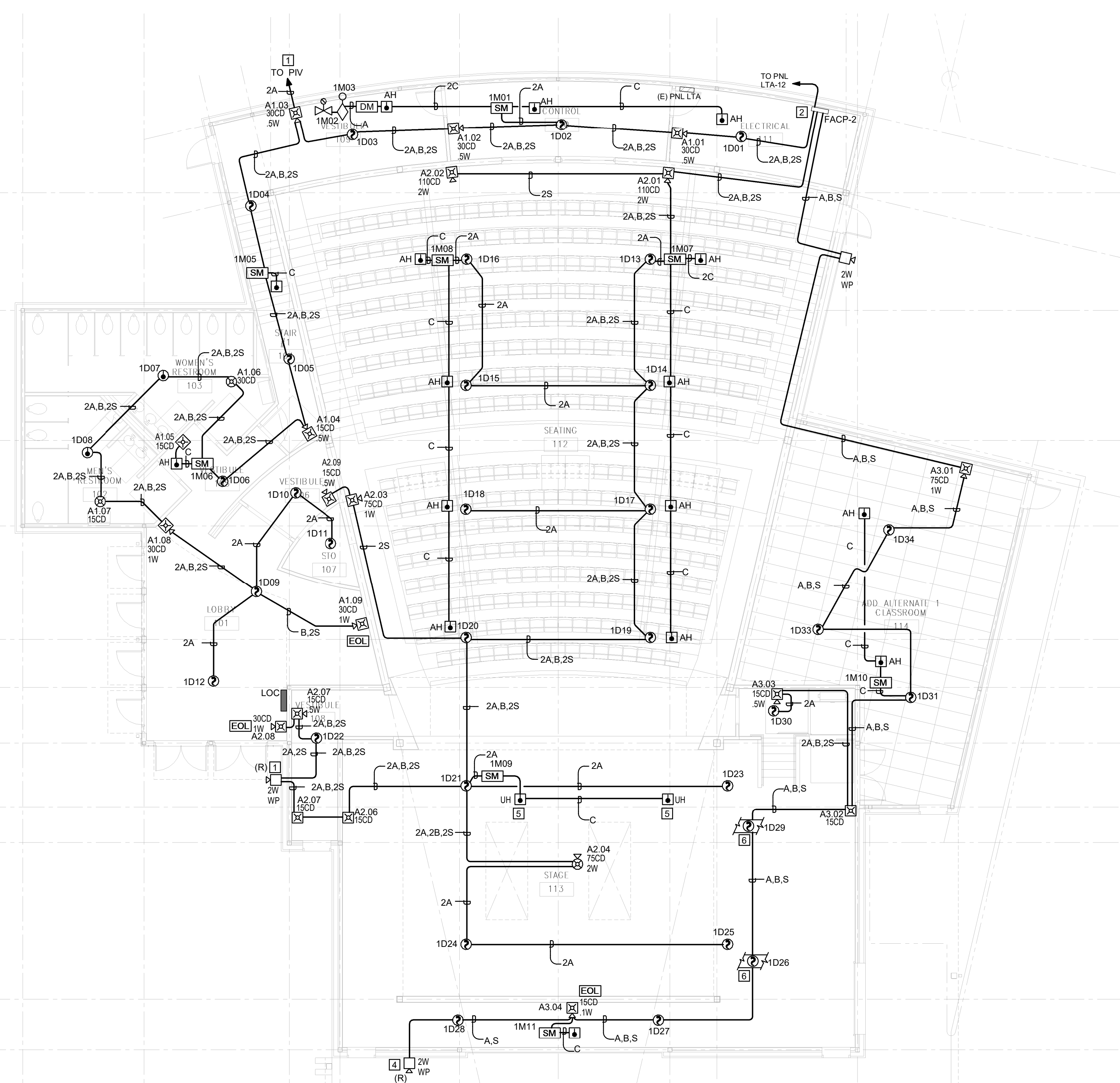


GENERAL SHEET NOTES

- A FIRE ALARM SYSTEM INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF APPLICABLE CODES, STANDARDS AND STATE REGULATIONS.
- B FIRE ALARM CIRCUITS AND CIRCUIT ROUTING ARE SHOWN SCHEMATICALLY FOR CLARITY ILLUSTRATING THE WIRING CONFIGURATION NECESSARY FOR PROPER CIRCUIT SUPERVISION.
- C COORDINATE CEILING MOUNTED FIRE ALARM DEVICE LOCATIONS WITH NEW LIGHT FIXTURES TO AVOID CONFLICTS.
- D DO NOT INSTALL FIRE ALARM DEVICES BACK TO BACK IN STUD WALLS.
- E INSTALL FIRE ALARM CONDUCTORS IN CONDUIT OR METAL SURFACE RACEWAY WHEN IN EXPOSED SPACES. MINIMUM SIZE OF CONDUIT SHALL BE 0.75". UTILIZE WIREMOLD 700 SERIES SURFACE RACEWAY (IN LIEU OF CONDUIT) FOR AREA WHERE CONDUIT CANNOT BE INSTALLED CONCEALED. CABLE ABOVE ACCESSIBLE CEILING CAN BE INSTALLED FREE AIR WHEN USING APPLICABLE CABLE. SUPPORT ALL FREE AIR CABLE EVERY 48" WITH J-HOOKS.
- F ALL SPEAKER, SPEAKER/STROBES SHALL HAVE MINIMUM 0.75" CONDUIT PATHWAYS. USE OF EXISTING 0.5" CONDUIT PATHWAY IS NOT ACCEPTABLE.
- G ENSURE THAT SPEAKER/STROBES ARE MOUNTED IN 5" SQ. X 2.78" DEEP BOX. FOR SURFACE MOUNTED DEVICES. FLUSH MOUNTED DEVICES SHALL BE MOUNTED IN THE MANUFACTURES DESIGNATED BACK BOXES, COLOR TO MATCH DEVICE.
- H REFER TO FA-4.1 OR FA-4.2 FOR RISER DIAGRAMS.
- I CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE ALARM SYSTEM PANELS PER LOCATION.

NUMBERED SHEET NOTES

- 1 REFER TO SITE PLAN FOR EXACT LOCATION.
- 2 CONTRACTOR SHALL PROVIDE AND INSTALL A NEW FIRE ALARM CONTROL PANEL (FACP).
- 3 CONTRACTOR SHALL PROVIDE A NEW FIRE ALARM REMOTE COMMUNICATOR PANEL (LOC), CONNECT TO NEW FACP.
- 4 REMOVE EXISTING WEATHER PROOF HORN AND REPLACE IT WITH A NEW WEATEHR PROOF SPEAKER.
- 5 PLACE DEVICE UNDER THE STAGE.
- 6 DUCT SMOKE DETECTOR TO ACTIVATE HVAC SHUT OFF.



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

REVISIONS

#	DESCRIPTION	DATE

DESIGNER: Designer

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

DATE: 01/08/18

TITLE:

PERFORMING ARTS - FIRE ALARM PLAN

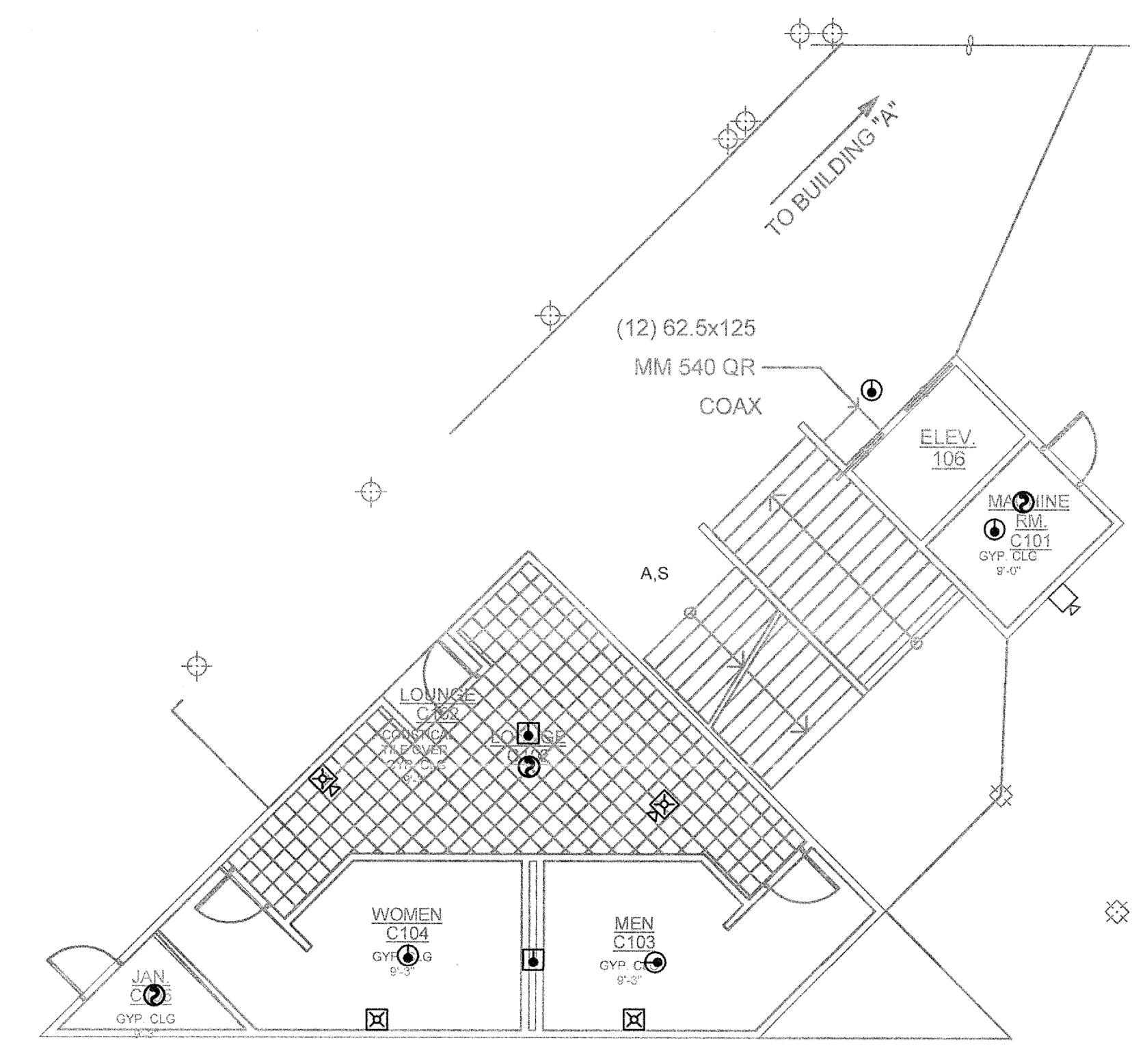
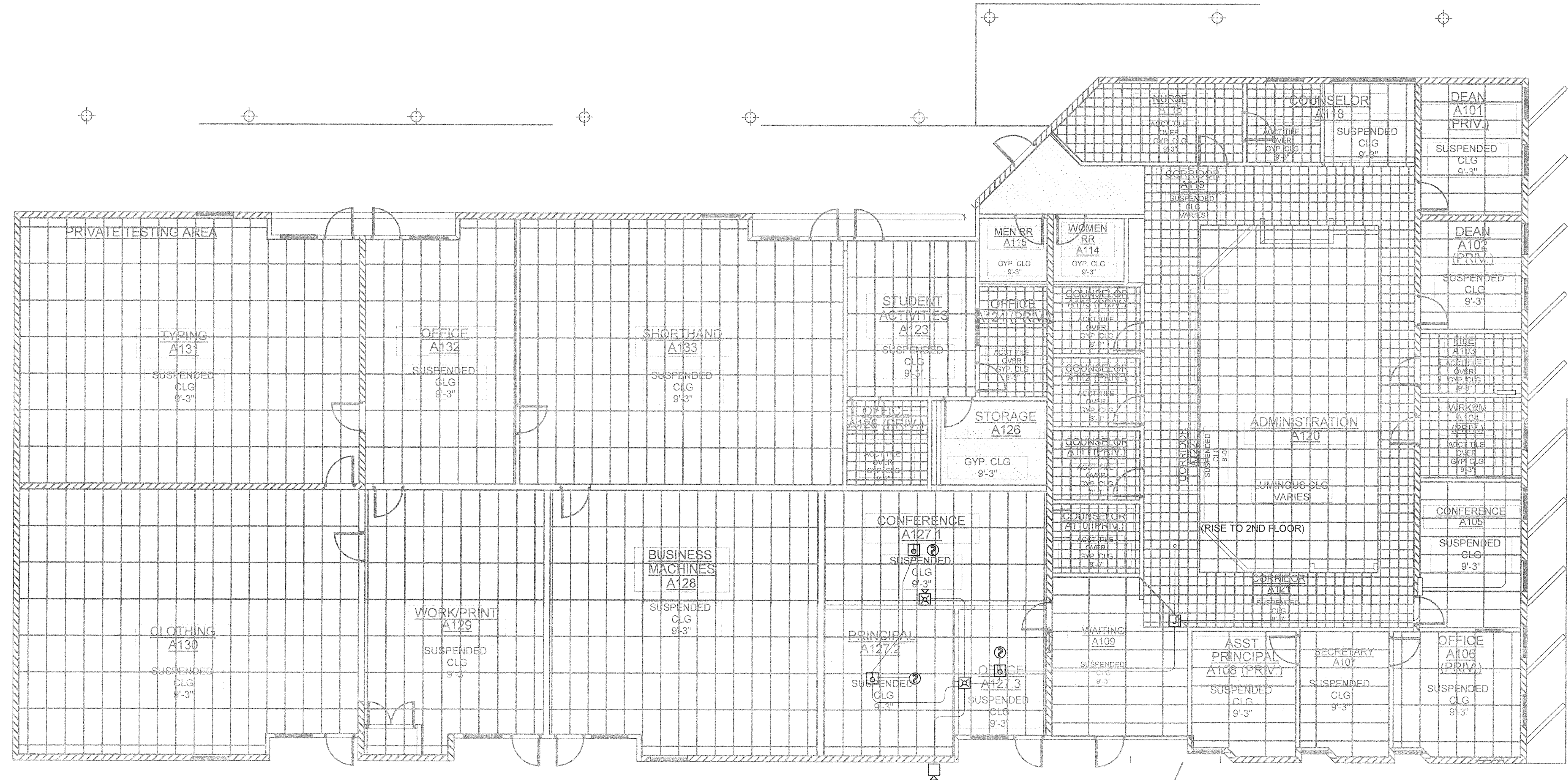
DRAWING NO.

FA-2.8

**BRHS - NEW FIRE ALARM SYSTEM
FOR
NJUHSD
11130 MAGNOLIA ROAD, GRASS VALLEY**

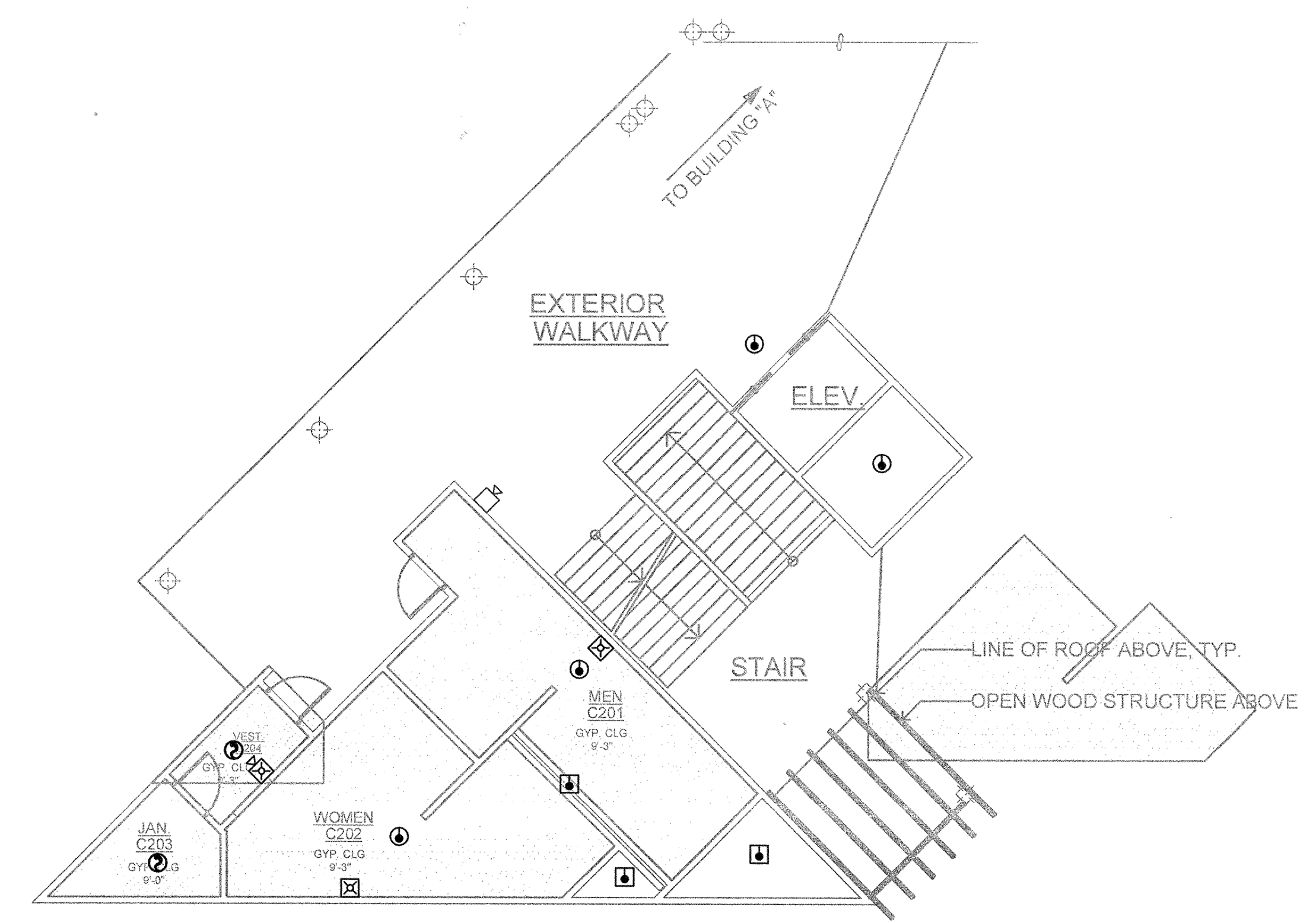
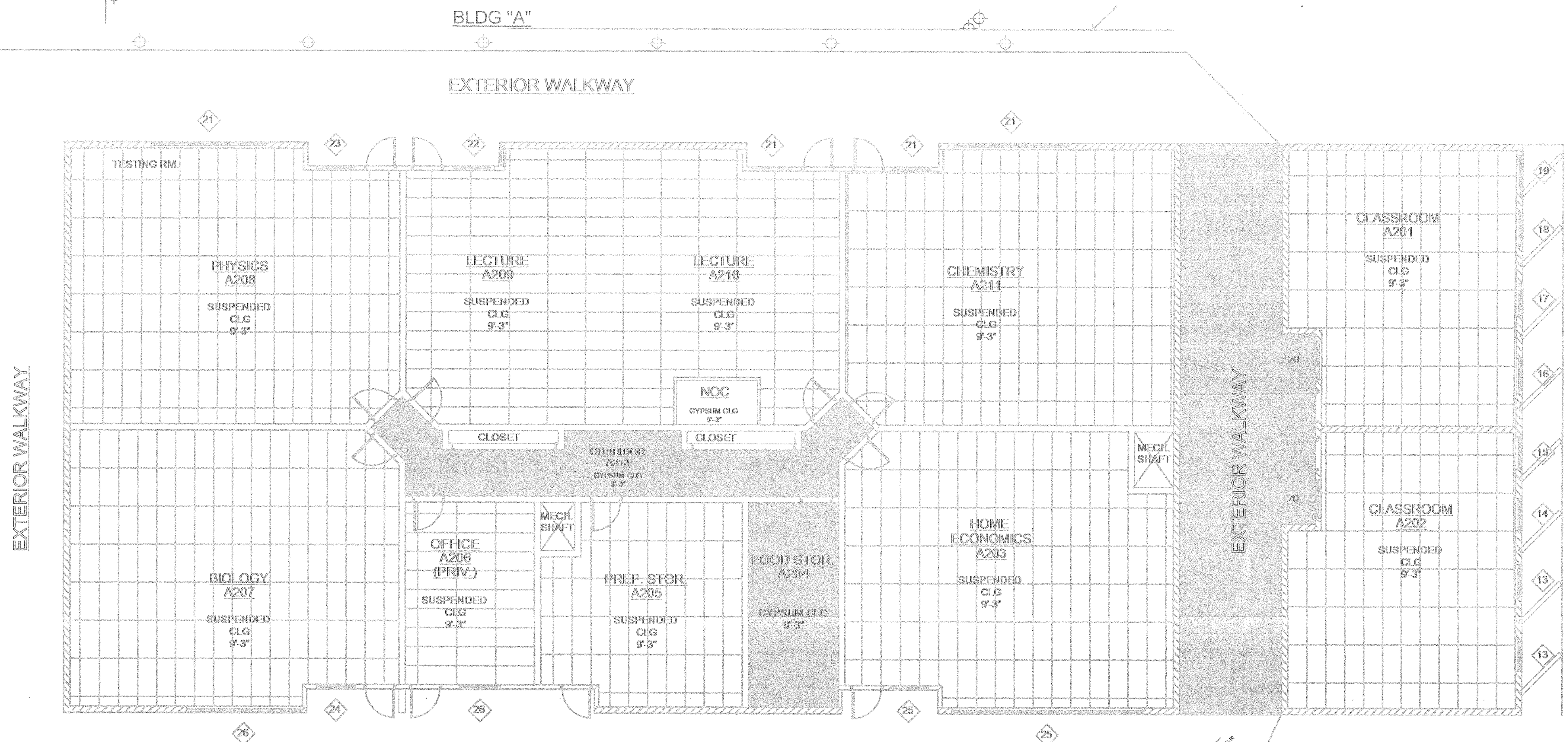
GENERAL SHEET NOTES

- A TO REMOVE ALL UNUSED DEVICES, CIRCUITRY AND CONDUIT BACK TO SOURCE.
- B WHEN A DEVICE IS REMOVED FROM AN EXISTING WALL WHICH WILL REMAIN, PATCH WALL TO MATCH EXISTING OR NEW FINISH.
- C WHERE EXISTING FIRE ALARM DEVICES ARE TO BE REMOVED, THE CONTRACTOR SHALL ALSO REMOVE ALL CONDUCTORS SERVING THE DEVICE. ABANDONED CONDUITS AND BOXES CAN BE RE-USED TO PULL NEW CONDUCTORS THROUGH FOR SERVICE DEVICES DOWN STREAM. DO NOT SPICE IN ABANDONED DEVICE BOXES.
- D REMOVE ALL UNUSED FIRE ALARM CONTROL PANELS, BOOSTER PANELS AND REMOTE ANNUNCIATORS.



A EXISTING BUILDING A FIRST FLOOR - FIRE ALARM PLAN

B EXISTING BUILDING C FIRST FLOOR - FIRE ALARM PLAN



C EXISTING BUILDING A SECOND FLOOR - FIRE ALARM PLAN

D EXISTING BUILDING C SECOND FLOOR - FIRE ALARM PLAN

**BRHS - NEW FIRE ALARM SYSTEM FOR NJUHSJ
 11130 MAGNOLIA ROAD, GRASS VALLEY**

REVISIONS

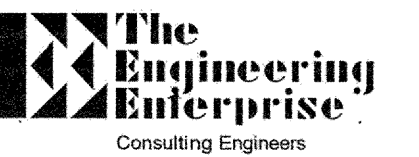
#	DESCRIPTION	DATE

DESIGNER: Designer
 SCALE: 1/8" = 1'-0"
 DATE: 12/27/17
 TITLE:
EXISTING BUILDING A & C - FIRE ALARM PLAN
 DRAWING NO.
FA-3.1

02 116522
 1/2/18

GENERAL SHEET NOTES

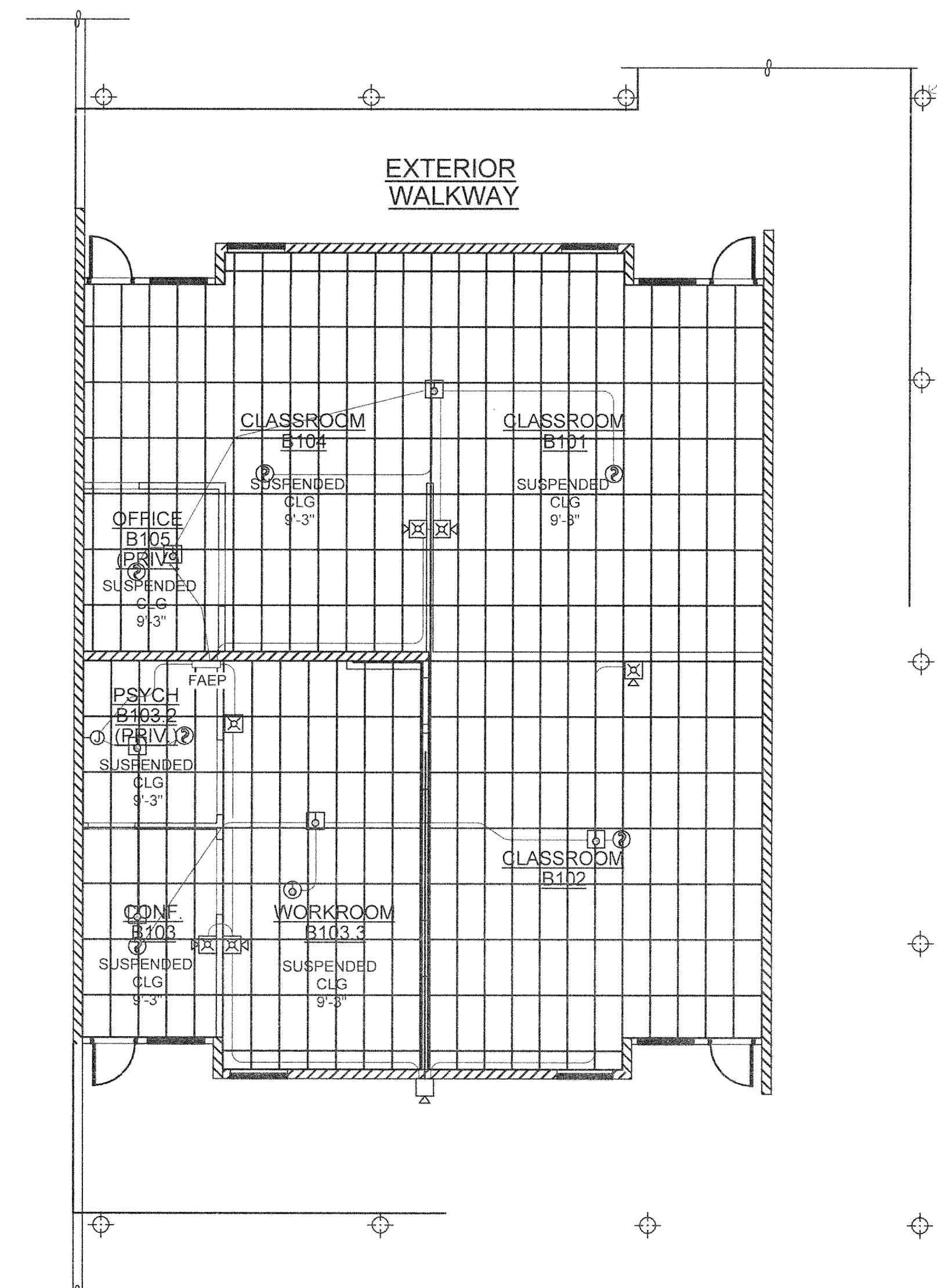
- A TO REMOVE ALL UNUSED DEVICES, CIRCUITRY AND CONDUIT BACK TO SOURCE.
- B WHEN A DEVICE IS REMOVED FROM AN EXISTING WALL WHICH WILL REMAIN, PATCH WALL TO MATCH EXISTING OR NEW FINISH.
- C WHERE EXISTING FIRE ALARM DEVICES ARE TO BE REMOVED, THE CONTRACTOR SHALL ALSO REMOVE ALL CONDUCTORS SERVING THE DEVICE. ABANDONED CONDUITS AND BOXES CAN BE RE-USED TO PULL NEW CONDUCTORS THROUGH FOR SERVICE DEVICES DOWN STREAM. DO NOT SPLICE IN ABANDONED DEVICE BOXES.
- D REMOVE ALL UNUSED FIRE ALARM CONTROL PANELS, BOOSTER PANELS AND REMOTE ANNUNCIATORS.



1125 HIGH STREET
AUBURN, CA 95603
(530) 888-8556



**BRHS - NEW FIRE ALARM SYSTEM
FOR
NJUHSD
11130 MAGNOLIA ROAD, GRASS VALLEY**

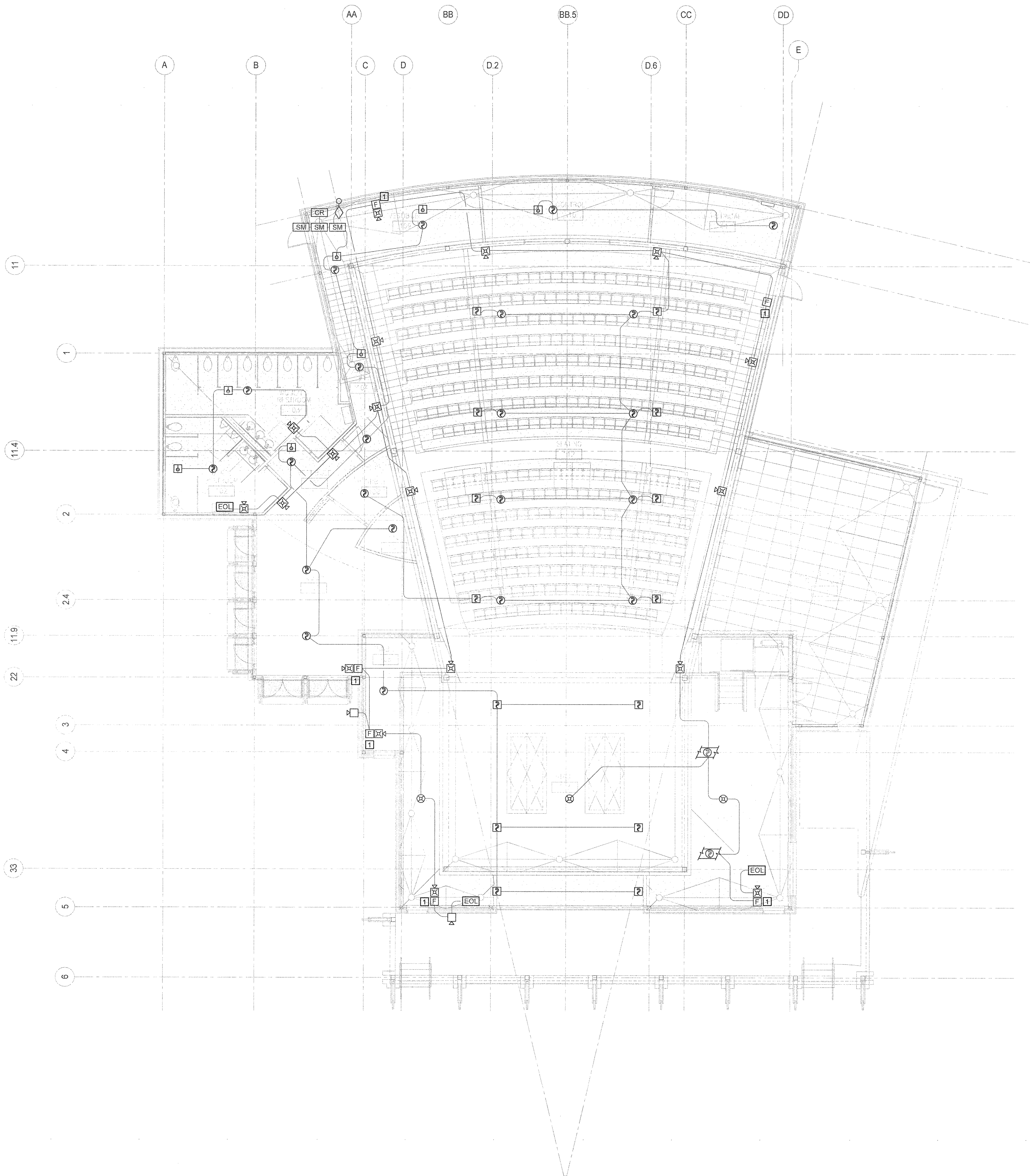


A EXISTING BUILDING B FIRST FLOOR - FIRE ALARM PLAN
FA-3.2 SCALE: 1/8" = 1'-0"

REVISIONS	
#	DESCRIPTION

DESIGNER: Designer
SCALE: 1/8" = 1'-0"
DATE: 12/27/17
TITLE:
EXISTING BUILDING B - FIRE ALARM PLAN
DRAWING NO.
FA-3.2

CONSTRUCTION GROUP
ONE OF THE STEVENS GROUP
02 116322
1/2/18



A EXISTING PERFORMING ARTS - FIRE ALARM PLAN
 FA-3.5 SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

- A TO REMOVE ALL UNUSED DEVICES, CIRCUITRY AND CONDUIT BACK TO SOURCE.
- B WHEN A DEVICE IS REMOVED FROM AN EXISTING WALL WHICH WILL REMAIN, PATCH WALL TO MATCH EXISTING OR NEW FINISH.
- C WHERE EXISTING FIRE ALARM DEVICES ARE TO BE REMOVED, THE CONTRACTOR SHALL ALSO REMOVE ALL CONDUCTORS SERVING THE DEVICE. ABANDONED CONDUITS AND BOXES CAN BE RE-USED TO PULL NEW CONDUCTORS THROUGH FOR SERVICE DEVICES DOWN STREAM. DO NOT SPLICE IN ABANDONED DEVICE BOXES.
- D REMOVE ALL UNUSED FIRE ALARM CONTROL PANELS, BOOSTER PANELS AND REMOTE ANNUNCIATORS.

NUMBERED SHEET NOTES

- 1 REMOVE EXISTING FIRE ALARM MANUAL PULL STATION. PROVIDE COVER PLATE TO COVER OPENING.



1125 HIGH STREET
 AUBURN, CA 95603
 (530) 886-8556



**BRHS - NEW FIRE ALARM SYSTEM
 FOR
 NJUHS
 11130 MAGNOLIA ROAD, GRASS VALLEY**

REVISIONS	
#	DESCRIPTION

DESIGNER: Designer
 SCALE: 1/8" = 1'-0"
 DATE: 12/27/17
 TITLE:
**EXISTING
 PERFORMING
 ARTS - FIRE
 ALARM PLAN**
 DRAWING NO.
FA-3.5

DATE: 1/2/18

