LIBERTY HIGH SCHOOL

660 W Walnut St, Lodi, CA 65240

FIRE ALARM REPLACEMENT PROJECT

March 19 at 19	CODE INFORMATION	FIRE ALARM SCOPE OF WORK	PROJECT TEAM	DRAWING INDEX
MEDITION OF THE ACCUMENTATION	THE INTENT OF THE CONSTRUCTION DOCUMENTS IS REPLACE EQUIPMENT IN ACCORDANCE WITH THE CBC 2016. SHOULD ANY CONDITION DEVELOP NOT COVERED BY THE CONSTRUCTION DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH THE CBC 2016, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. ANCHORAGE AND SUPPORTS OF ALL EQUIPMENT TO BE INSTALLED, AS A PART OF THIS PROJECT SHALL BE DETAILED ON CONSTRUCTION DOCUMENTS, EXCEPT THOSE EXEMPT BY 2016 CBC SECTION 1616A. 1.18. EQUIPMENT SUPPORTS AND ANCHORAGE SHALL BE APPROVED BY THE APPROPRIATE DESIGN PROFESSIONAL OF RECORD AND DSA AS A PART OF FIELD REVIEWS/OBSERVATIONS. THE INSPECTOR OF RECORD (IOR) SHALL ASSURE THAT THE ABOVE REQUIREMENTS ARE ENFORCED. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING: 2016 CALIFORNIA ADMINISTRATIVE CODE (CAC) PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR) 2016 CALIFORNIA BUILDING CODE (CBC) PART 2, TITLE 24, CCR BASED ON THE 2015 INTERNATIONAL BUILDING CODE (IBC) 2016 CALIFORNIA ELECTRICAL CODE (CEC) PART 3, TITLE 24, CCR BASED ON THE 2014 NATIONAL ELECTRICAL CODE (NEC)	PROVIDE A MANUALLY AND AUTOMATICALLY ACTIVATED FIRE ALARM SYSTEM INCLUDING FACP, VOICE AMPLIFIERS, POWER SUPPLIES, ANNOUNCING MICROPHONE, INITIATION, NOTIFICATION, CONTROL AND MONITORING DEVICES AS SHOWN ON PLANS AND SPECIFICATIONS. FIRE ALARM DESCRIPTION THIS PROJECT IS TO REPLACE THE EXISTING FIRE ALARM PANELS, INITIATING DEVICES, NOTIFICATION DEVICES, MODULES, POWER SUPPLIES AND REMOTE ANNUNCIATOR PANEL WITH A NEW GAMEWELL E3 FIRE ALARM SYSTEM WITH EMERGENCY VOICE EVACUATION. ALL EXISTING PATHWAY WILL BE RE-USED WHERE POSSIBLE AND NEW WHERE REQUIRED. NEW PATHWAY WILL BE PROVIDED IN AREAS WHERE CABLE CAN NOT BE CONCEALED ABOVE CEILING. CABLE ABOVE CEILING WHEN NOT IN EXISTING CONDUIT WILL BE FREE AIR AND SUPPORTED EVERY 48" WITH J-HOOKS, PAINTED RED. NEW DEVICE BOXES WILL BE REQUIRED AT ALL NEW DEVICES. WHERE EXISTING DEVICE BOXES ARE LOCATED AND A DEVICE IS NOT REQUIRED, THEN PROVIDE COVER PLATES. REMOVE EXISTING DEVICE BOXES WHEN ADDING A NEW DEVICE. DEMOLISH ALL OLD CABLE, FIRE ALARM COMPONENTS AND BACK BOXES FROM SITE. ALL CABLE AND COMPONENTS WILL BE NEW: THIS PROJECT IS TO REPLACE EXISTING FIRE ALARM HEAD END UNIT AND ALL ASSOCIATED	OWNER LODI UNIFIED SCHOOL DISTRICT 1305 E. VINE ST. LODI, CA 95240 CONTACT: LEONARD KAHN (209)331-7225 E-MAIL CONTACT: VBRUM@LODIUSD.NET CONTACT: SCOTT WHEELER: 530-305-927-5784 E-MAIL: SCOTT@ENGENT.COM CONTACT: JESSE WHEELER: 530-927-5630 FAX: 530-886-8557	SHEET NO. SHEET NAME G0.00 COVER SHEET E0.00 SYMBOLS, LEGENDS, NOTES & ABBREVIATIONS E0.01 FIRE ALARM MATRIX, SCHEDULE & NOTES E1.00 SITE PLAN E2.00 FIRE ALARM PLAN - LEVEL B1 E2.01 FIRE ALARM PLAN - LEVEL 01 E3.00 FIRE ALARM RISER E4.00 FIRE ALARM RISER E4.00 FIRE ALARM CALCULATIONS ED1.00 FIRE ALARM DEMO PLAN - SITE PLAN ED1.01 FIRE ALARM DEMO PLAN - LEVEL B1
N/A 1. THE PIRE ALARD SYSTEM SHALL COMPONENT TO ZUGCAL FORMULE ECTRICAL CODE (CRC) ARTICLE 769 AND 2016 CALIFORNIA PIRE CODE, (CPC) SECTION 907. 2. PROVIDE CALIFORNIA PIRE CODE, (CPC) SECTION 907. 3. BEFORE REQUESTING SHALL ARRESTLY SHALE THIS NUMBER CUT SHEETS TO REACT COMPONENT OF THE SYSTEM AND SHAPE CODE (CPC) SECTION 907. 3. BEFORE REQUESTING SHALL ARRESTLY SHAPE SHAPE ALARD TO THE RESTALL FOR THE RESTALL FOR THE PIRE THAT THE SYSTEM AND SECTION 14.4.1. 4. UPON CORPLETION OF THE INSTALLATION OF THE FIRE ALARM SYSTEM A SATISFACTORY TEST COTE SYSTEM AND SHAPE IN THE PROSENCE OF THE DISA PROJECT INSPECTOR 5. PROVIDE A RECORD OF COMPLETION PER CIRC OUT 7.2. 6. ALITOMATIC PIRE ALARM SYSTEMS SHALL IT RANGEMENT THE ALARM, SUPER-PROSPOY AND TROUBLE SOUNLES TO ALAPPROVIDE SUPER-PROSPOY AND TROUBLE SOUNCES TO ALAPPROVIDE SUPER-PROSPOY AND TROUBLE SOUNCES TO ALAPPROVIDE SUPER-PROSPOY AND TROUBLES SHALL TRANSMITT THE ALARM, SUPER-PROSPOY AND TROUBLE SOUNCES TO ALAPPROVIDE SUPER-PROSPOY AND TROUBLES SHALL TRANSMITT THE ALARM, SUPER-PROSPOY AND TROUBLES SHALL TRANSMITT TO ALAPPROVIDE SUPER-PROSPOY AND TROUBLES SHALL TRANSMITT THE ALARM, SUPER-PROSPOY AND TROUBLES SHALL TRANSMITT THE ALARM SUPER-PROSPOY AND TROUBLES SHALL TRANSMITT TO ALARM SUPER-PROSPOY AND TROUBLES SHALL TRANSMITT TO ALARM SUPER-PROSPOY AND TROUBLES SHALL TRANSMITT TO ALARM SUPER-PROSP	PART 4, TITLE 24, CCR BASED ON THE 2015 UNIFORM MECHANICAL CODE (UMC) 2016 CALIFORNIA PLUMBING CODE (CPC) PART 5, TITLE 24, CCR BASED ON THE 2015 UNIFORM PLUMBING CODE (UPC) 2016 CALIFORNIA FIRE CODE (CFC) PART 9, TITLE 24, CCR BASED ON THE 2015 INTERNATIONAL FIRE CODE (IFC) 2016 NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE COMPLIANCE WITH 2016 CALIFORNIA FIRE CODE, CHAPTER 33 - FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION.	DEVICES. FIRE ALARM SYSTEM: CLASS B IDC: CLASS B SLC CIRCUIT: CLASS B NOTIFICATION CIRCUIT: CLASS B	NOTEO	
7 TEST INSPECTION AND MAINTENANCE SHALL COMPLY WITH MEDA 73 CHAPTED 44 DECUMPEMENTS		N/A	 PROVIDE CALIFORNIA FIRE CODE (CFC) SECTION 907. PROVIDE CALIFORNIA STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM INCLUDING MANUFACTURER CUT SHEETS FOR REVIEW. 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 (2016) NFPA 72 SECTION 14.4.1. UPON COMPLETION OF THE INSTALLATION OF THE FIRE ALARM SYSTEM, A SATISFACTORY TEST OF THE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE DSA PROJECT INSPECTOR. PROVIDE A RECORD OF COMPLETION PER CBC 907.7.2. 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 UUFX OR UUIS BY UL OR SHALL MEET THE REQUIREMENTS OF FM STANDARD 3011. 	CAMPUS BUILDING SQUARE FOOTAGE: 13,991 OCCUPANCY GROUP: E: 9-12



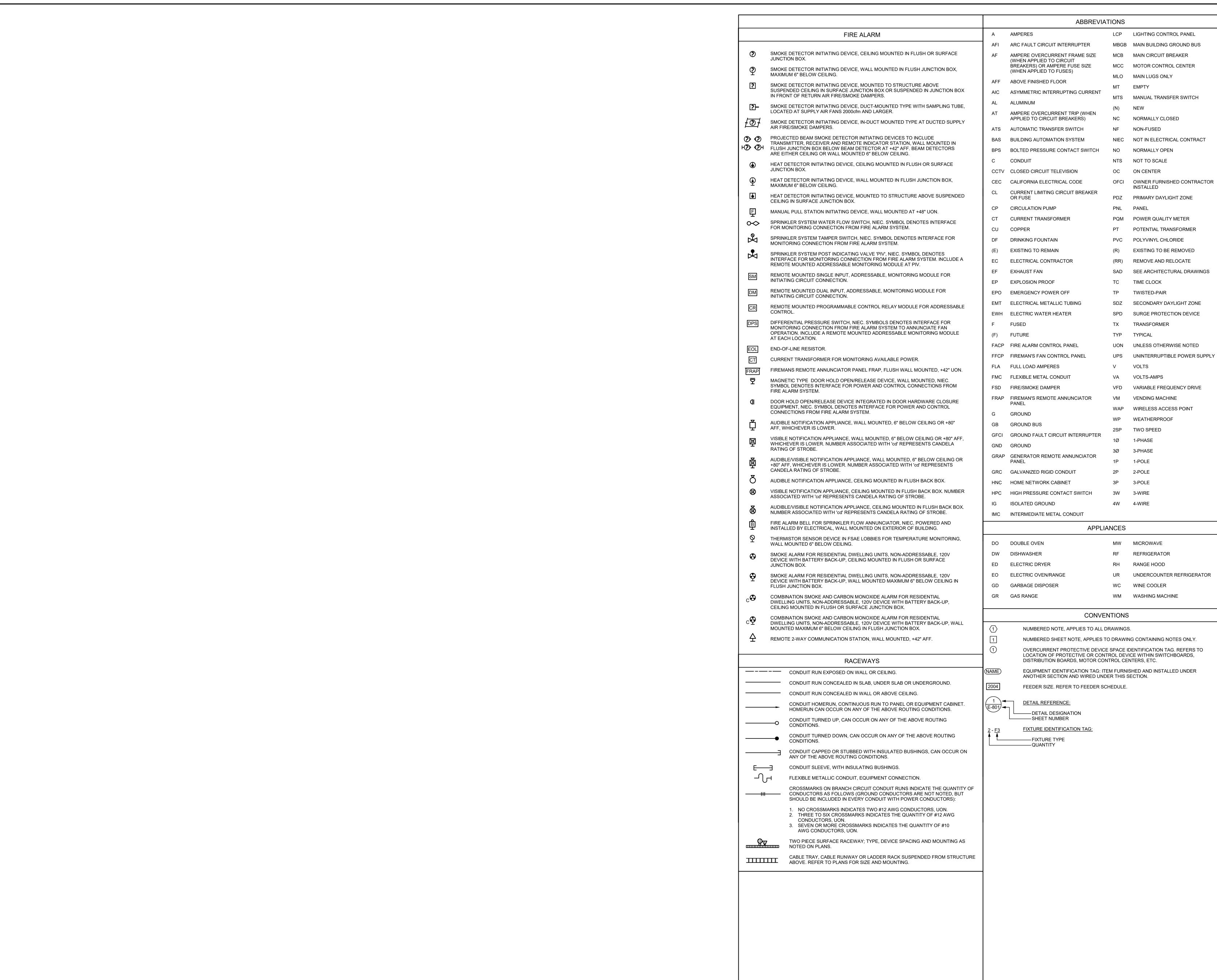
REVISIONS	
# DESCRIPTION	DAT

SCALE: 12" = 1'-0" **DATE:**2019.12.20

COVER SHEET

DRAWING NO.

G0.00



DIV. OF THE S APPL. # 02-1 SS____ FLS___ ACS____ DATE:_____ NIEC NOT IN ELECTRICAL CONTRACT OFCI OWNER FURNISHED CONTRACTOR Engineering Enterprise **CONSULTING ENGINEERS** 1125 HIGH STREET AUBURN, CA 95603

(530) 886-8556

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT

APP. 02-118023 INC:

REVIEWED FOR

DATE: 02/27/2020

SS | FLS | ACS |

IDENTIFIC

REVIVEWED FOR

ره

REVISIONS

DESIGNER:Designer

DATE:2019.12.20

SYMBOLS, LEGENDS, NOTES & **ABBREVIATIONS**

DRAWING NO.

FIRE	ALA	4RN	ИS	YS	TEI	M N	1AT	RI	(, a CHIME
RESULT OF OPERATION	st	OKE DE TEL	STOR LEGISLAND	AT DE TEC	ida liga Scriptific	JL STATION	a sich sich	That Sites	St North Political Politic	LE LOS	LEURIO COLLEGIO COLLE	ORE TO SE	OBOTH RICHARD ON THE PROPERTY OF THE PROPERTY
FACP ALARM	Х		Х		X					Х	Х	Х	
ANNUNCIATE ALARM	Х		Х		Х					Х	Х	Х	
OFF SITE REPORTING ALARM	X		Х		Х					Х	X	Х	
FACP TROUBLE								Х	Х				
ANNUNCIATE TROUBLE								Х	Х				
OFF SITE REPORTING TROUBLE								Х	Х				
AUDIBLE ALARM	Х		Х		Х					Х	Х	Х	
VISUAL ALARM	Х		Х		Х					Х	Х	Х	
FACP SUPERVISORY		Х		Х									
ANNUNCIATE SUPERVISORY		Х		Х									
OFF SITE REPORTING SUPERVISORY		Х		Х									
DEACTIVATE VISUALS							Х						
DEACTIVATE AUDIBLES							Х						_
HVAC SHUTDOWN				Х									
SYSTEM NORMAL						Х							
ELEVATOR RECALL TO 1ST FLOOR											Х	Х	-
ELEVATOR RECALL TO BASEMENT										X			
FIRE HAT												Х	
SOUNDER BASE		Х											

		FIRE A	LARM SYST	EM CABL	E SCHE	DULE
REQUIRED CABLES	CABLE TAG	CABLE	NO. OF CONDUCTORS	COLOR	AWG	CABLE USE
Х	А	GENESIS	2(1PR)	RED/BLACK	#18	BUILDING INITIATION (SLC)
Х	В	GENESIS	2(1PR)	RED/BLACK	#12	NOTIFICATION (NAC)
Х	S	GENESIS	2(1PR)	RED/BLACK	#16	VOICE NOTIFICATION
Х	F	GENESIS	2(1PR)	RED/BLACK	#12	24 VDC POWER
N/A	С	AQUA SEAL	2(1PR)	RED/BLACK	#18	UG BUILDING INITIATION (SLC
N/A	D	AQUA SEAL	2(1PR)	RED/BLACK	#12	UG NOTIFICATION (NAC)
N/A	Е	AQUA SEAL	2(1PR)	RED/BLACK	#16	UG VOICE NOTIFICATION
N/A	G	AQUA SEAL	2(1PR)	RED/BLACK	#12	UG 24 VDC POWER

		FIRE ALARM		J		
REQUIRED COMPONENTS	SYMBOL	EQUIPMENT/DEVICE	MANUFACTURER	MODEL / PART #	CSFM LISTING YEAR	CSFM LISTING NO.
Х	FACP	FIRE ALARM CONTROL PANEL	GAMEWELL	E-3	6/30/2020	7165-1703:0125
Х	AMP	AMPLIFIER	GAMEWELL	AM-50	6/30/2020	7165-1703:0125
Х	BP-X	REMOTE POWER BOOSTER	GAMEWELL	HPF24-S8	6/30/2020	7315-1637:0102
X	<u></u>	INTELLIGENT DUCT DETECTOR	GAMEWELL	XP95	6/30/2020	7272-1703:0155
N/A	•	INTELLIGENT HEAT DETECTOR	GAMEWELL	ATD-L2F	6/30/2020	7270-1703:0115
Х	AH	ATTIC HEAT DETECTOR	GAMEWELL	5622	6/30/2020	7270-1653:0167
Х	②	PHOTO SMOKE DETECTOR	GAMEWELL	ASD-PL3	6/30/2020	7272-1703:0501
Х	© co	FIRE/CO DETECTOR WITH SOUNDER BASE	GAMEWELL SYSTEM SENSOR	MCS-COF B200S	6/30/2020 6/30/2020	7275-1703:0175 7300-1653:0213
N/A	DM	DUAL MONITOR MODULE	GAMEWELL	AMM-2IF	6/30/2020	7300-1703:0107
Х	SM	MONITOR MODULE	GAMEWELL	AMM-4F	6/30/2020	7300-1703:0102
X	IM	ISOLATION MODULE	GAMEWELL	M500X	6/30/2020	7300-1653:0103
Х	CR	CONTROL RELAY	GAMEWELL	AOM-2RF	6/30/2020	7300-1703:0102
Х	F	PULL STATION	GAMEWELL	MS-7	6/30/2020	7150-1703:0119
X		SPEAKER STROBE (CEILING)	SYSTEM SENSOR	SPSCWL	6/30/2020	7320-1653:0505
Х	⊗	STROBE (CEILING)	SYSTEM SENSOR	SCWL	6/30/2020	7125-1653:0504
Х		OUTDOOR SPEAKER	SYSTEM SENSOR	SPWK	6/30/2020	7320-1653:0201
N/A	X	SPEAKER STROBE (WALL)	SYSTEM SENSOR	SPSW	6/30/2020	7320-1653:0201
N/A	×	STROBE (WALL)	SYSTEM SENSOR	SW	6/30/2020	7125-1653:0156
Х	EOLR	END-OF-LINE RELAY	SYSTEM SENSOR	EOLR-1	6/30/2020	7300-1653:0103
x	DOC	DOCUMENT BOX	SPACE AGE TECH	SRD-ACE-11	6/30/2020	7300-0553:0110

NUMBERED SHEET NOTES

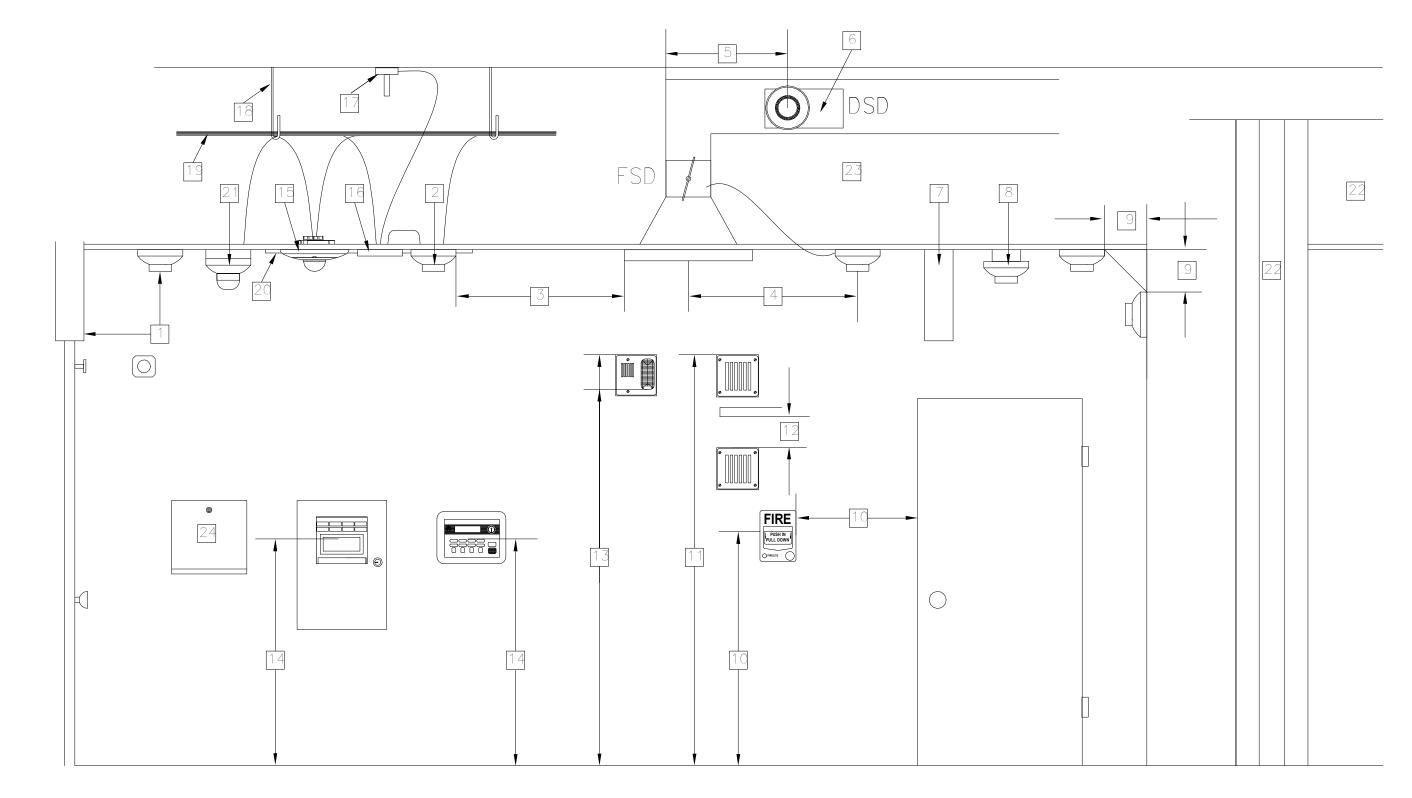
MOUNT DOOR HOLDER SMOKE DETECTOR MAXIMUM 3' FROM DOOR AND A MINIMUM OF 1'. MAXIMUM DISTANCE BETWEEN SMOKE DETECTORS IS 30' AND 15' FROM WALLS, MAXIMUM DISTANCE FROM A CORNER IS 21' WITH CEILING LESS 10' OR LESS.

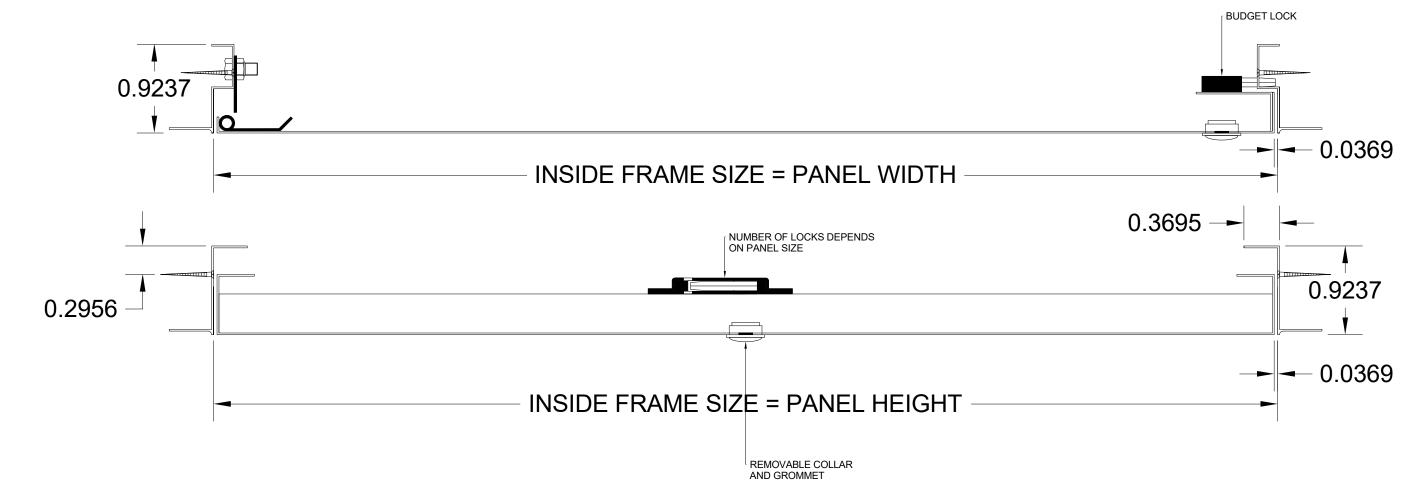
MOUNT SMOKE DETECTOR MINIMUM OF 3' AWAY FROM DIFFUSER VENT.

- 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
- 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 DETECTIONAST TRIGGER HVAC
- SHUT-DOWN BEAM POCKET SPOT DETECTOR ARE REQUIRED FOR BEAMS GREATER THAN 18" BELOW CEILING AND SPACED MORE THAN 8' ON CENERCH BAY FORMED BY BEAM SHALL BE TREATED AS A SEPARATE AREA. BEAMS LESS THAN 12" IN DEPTH AND SPACED LESS THAN 8' ON CENTER SHALL HAVE DETECTORS INSTALLED ON THE BOTTOM OF THE BEAM.
- 7.1. 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 TOP OF BOX AFF, AND NO GREATER THAN 5' FROM
- 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 TOT HE TOP OF THE DEVICE. MOUNT HORN / SPEAKER STROBE AND STROBE ONLY THE THE ENTIRE LENS IS WITHIN 80" AND 96"
- MOUNT FIRE ALARM CONTROL PANELS AND ANNUNCIATORS AT A MAXIMUM OF 60" TO THE TOP OF
- THE CONTROL PANEL OR KEY BOARDSI.1@B8008 CEILING MOUNTED HORN / SPEAKER STROBE MONITOR MODULE
- RATE ANTICIPATOR HEAT DETECTOR, MOUNTED IN ABOVE CEILING / ATTIC SPACE.
- APPROVED WIRE MANAGEMENT, ie 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
- SMOKE / HEAT DETECTION COVERAGE IS REQUIRED IN ALL COMBUSTIBLE AREAS, UNLESS:
- CEILING IS ATTACHED DIRECTLY TO THE UNDERSIDE OF THE SUPPORTING BEAM OR ROOF DECK. CONCEALED SPACE IS ENTIRELY FILLED WITH NON-COMBUSTIBLE INSULATION. THE SMALL CONCEALED SPACE OVER ROOMS THAT DO NOT EXCEED 50 SQ. FT. IN AREA.
- FACING STUD OR SOLID JOIST IS LESS THAN 6". INACCESSIBLE SPACES THAT DO NOT MEET THIS CRITERIA MUST BE MADE ACCESSIBLE AND DETECTION

22.4. SPACES FORMED BY FACING STUDS OR SOLID JOISTS IN WALLS, FLOORS, OR CEILINGS WHERE THE

- MUST BE INSTALLED. NFPA72 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 ACCESS DOOR

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) 201 6 TITLE 24 CALIFORNIA BUILDING CODE
- PART 2, 2016 CALIFORNIA BUILDING CODE (CBC), 201 5 IBC.
- PART 9, 2016 CALIFORNIA FIRE CODE (CFC) BASED 0N 201 5 IFC.
- DOCUMENTATION AND SPECIFICATIONS, INCLUDING STATE FIRE MARSHALL LISTING SHEETS FOR EACH COMPONENT OF THE SYSTEM HAS BEEN APPROVED BY DSA.
- 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.
- 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
- SHALL BE PROVIDED WITHIN THE SPECIFICATION WITHIN THE FIRE ALARM SECTION. AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15DECIBLES (Dba) HAVING A DURATION AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIED
- AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN. THE CONTRACTOR SHALL ADJUST/INSTALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
- 11. 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 55' FROM EACH OTHER SHALL BE
- 12. UNDERGROUND AND EXTERIOR CONDUIT TO HAVE WATERTIGHT FITTINGS AND WIRE TO BE APPROVED FOR WET LOCATIONS.
- 14. 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
- 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. 16. ALL FIRE ALARM CIRCUITS ARE TO BE IN CONDUIT, SURFACE RACEWAY OR OPEN RUN
- NOTED AS EXPOSED ON DESIGN DOCUMENTS.
- SURFACES PER MANUFACTURERS SPECIFICATIONS. NO DEVICE SHALL EXCEED THE WEIGHT OF 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS. 18. 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. 19. 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. 21. 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 UUFX
- 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 6)(NOTPA 72 SECTION 14.4.1.
- REQUIREMENTS. ALL DUCT SMOKE DETECTORS SHALL HAVE A KEYED TEST SWITCH MOUNTED AT 42" A.F.F.. FIELD VERIFY LOCATION.

- PART 3, 2016 CALIFORNIA ELECTRICAL CODE (CEC), 201 5 NEC.
- PART 4, 2016 CALIFORNIA MECHANICAL CONDE (CMC), 201 5 UMC. PART 5, 2016 CALIFORNIA PLUMBING CODE (CPC), 201 5 UPC.
- 2016 NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 13, 72, 80, 90A, 99, AND 101. 2. INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN
- UPON COMPLETION OF INSTALLATION OF THE SYSTEMS, A SATISFACTORY TEST OF THE
- ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED
- PRIOR TO THE FINAL INSPECTION AND/ OR TESTING. ALL PENETRATIONS THROUGH RATED ASSEMBLIES, REQUIRING OPENING PROTECTION ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 Dba ABOVE THE MAXIMUM SOUND LEVEL
- SPACE WITHIN THE BUILDING.
- 13. 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
- SIZED PER CEC. 15. SMOKE DETECTORS SHALL BE NOT CLOSER THAN 1' FROM SPRINKLERS OR 3' FROM ANY
- 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
- 17. FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING

- OR UUIS BY UL OR SHALL MEET THE REQUIREMENTS OF FM STANDARD 3011. BEFORE REQUESTING FINAL APPROVAL OF THE INSTALLATION THE INSTALLING
- TEST, INSPECTION AND MAINTENANCE SHALL COMPLY WITH NFPA 72 CHAPTER 14

FIRE ALARM SYSTEM DESCRIPTION

SCOPE OF THIS PROJECT IS TO PROVIDE A NEW FIRE ALARM PANEL WITH NEW VOICE EVACUATION PANEL, INCLUDING FACP, VOICE AMPLIFIERS, POWER SUPPLIES, MICROPHONE, INITIATION, NOTIFICATION AND CONTROL DEVICES AS SHOWN ON PLANS AND SPECIFICATIONS. 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

REVISIONS

099

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP. 02-118023 INC: REVIEWED FOR

SS D DIFLS D HEST ACS DE

DATE: 02/27/2020

IDENTIFIC

DATE:____

REVIVEWED FOR

SS_____ FLS____ ACS____

The Engineering Enterprise

1125 HIGH STREET

(530) 886-8556

AUBURN, CA 95603

DIV. OF THE S

APPL. # 02-1

DESIGNER:Designer

SCALE: NTS

DATE:2019.12.20

FIRE ALARM MATRIX, SCHEDULE & NOTES

DRAWING NO.

REVIEWED FOR

DESIGNER:

SCALE: 1/16" = 1'-0"

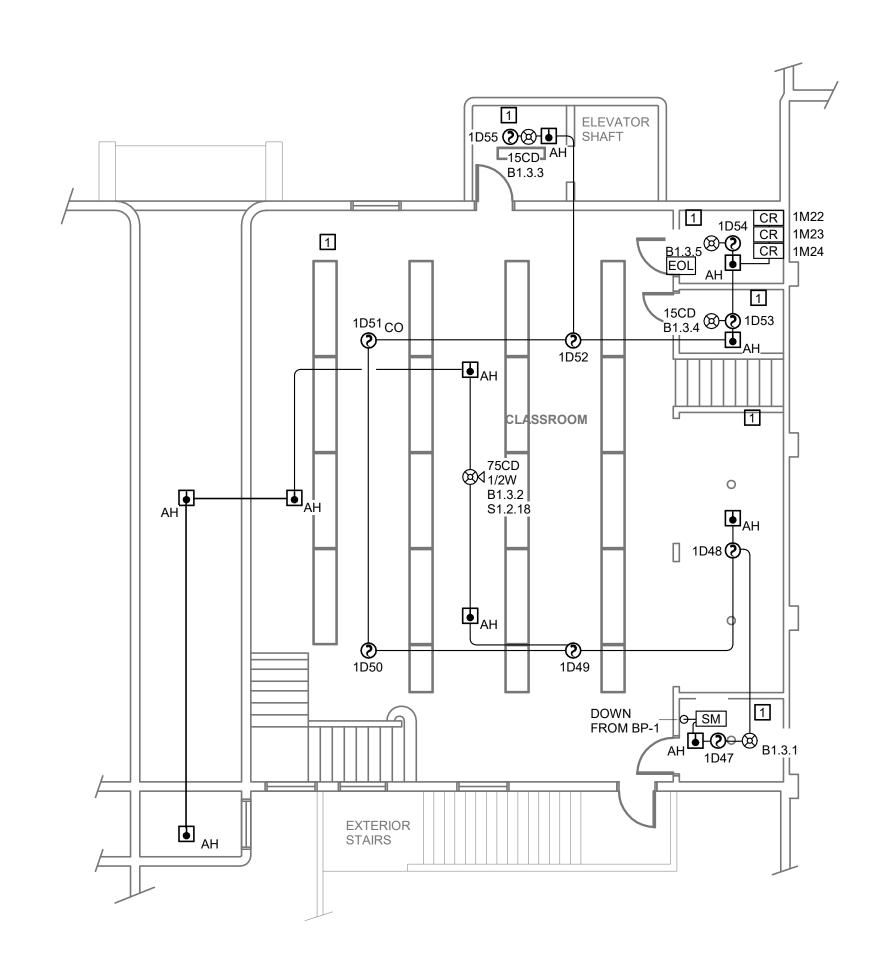
DATE:2019.12.20

SITE PLAN

DRAWING NO.

E1.00

W WALNUT ST ALIFORNIA DSA #02-110280 FACP AMP-1 🗏



1 FIRE ALARM PLAN - LEVEL B1

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
- MANUFACTURES DESIGNATED BACK BOXES, COLOR TO MATCH DEVICE.

 H. REFER TO E3.00 FOR RISER DIAGRAMS.
- I. CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE ALARM SYSTEM PANELS PER LOCATION.
- J. THE FIRE ALARM SYSTEM WILL BE DEMOLISHED AND REPLACED TO THE CURRENT 2016 CFC. THE SYSTEM WILL BE A FULLY AUTOMATIC SYSTEM WITH EMERGENCY VOICE ANNUNCIATION. FULL COVERAGE IN EACH BUILDING SHALL BE PROVIDED. COMMUNICATION WILL BE PROVIDED TO A CENTRAL MONITORING STATION.

NUMBERED SHEET NOTES

1 HARD LID CEILING WITH ATTIC SPACE ABOVE. AH HEAT DETECTORS REQUIRED.

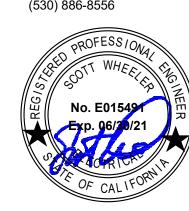
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-118023 INC:

REVIEWED FOR

IDENTIFIC
DIV. OF THE S
APPL. # 02-1

REVIVEWED FOR
_____ FLS____ ACS____





Liberty High School 660 W Walnut St, Lodi, CA 95240

REVISIONS

BESCRIPTION

DATE

DESIGNER:

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

DATE:2019.12.20

FIRE ALARM PLAN -LEVEL B1

DRAWING NO.

E2.00

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
- 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.
- 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
- MANUFACTURES DESIGNATED BACK BOXES, COLOR TO MATCH DEVICE.

 H. REFER TO E3.00 FOR RISER DIAGRAMS.
- I. CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE ALARM SYSTEM PANELS PER LOCATION.
- J. THE FIRE ALARM SYSTEM WILL BE DEMOLISHED AND REPLACED TO THE CURRENT 2016 CFC. THE SYSTEM WILL BE A FULLY AUTOMATIC SYSTEM WITH EMERGENCY VOICE ANNUNCIATION. FULL COVERAGE IN EACH BUILDING SHALL BE PROVIDED. COMMUNICATION WILL BE PROVIDED TO A CENTRAL MONITORING STATION.

NUMBERED SHEET NOTES

- 1 AREAS IN THE BUILDING HAVE 2 LEVELS OF ATTIC SPACE. INSTALL DESIGNATED AH HEATS IN THE 2ND LEVEL ATTIC SPACE.
- 2 ROOF-TOP UNITS. DUCT DETECTOR TO INITIATE HVAC SHUT DOWN.
- 3 DACT WILL TRANSMIT SIGNALS TO OFF SITE MONITORING VIA PHONE LAND LINE WITH A CELLULAR BACK UP.
- 4 T-BAR CEILING WITH ATTIC SPACE ABOVE. AH HEAT DETECTORS REQUIRED.
- 5 HARD LID CEILING WITH ATTIC SPACE ABOVE. AH HEAT DETECTORS REQUIRED.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-118023 INC:
REVIEWED FOR

IDENTIFICATION STAMPFLS ACS
DIV. OF THE STATE ARCHITECT
DATE: 02/27/2020
APPL. # 02-118023 INC: #

REVIVEWED FOR
SS____ FLS___ ACS___
DATE:_____





Liberty High School 660 W Walnut St, Lodi, CA 9524

REVISIONS	
# DESCRIPTION	DA

DESIGNER:

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

DATE:2019.12.20

TITLE:

FIRE ALARM PLAN -LEVEL 01

DRAWING NO.

E2.01

Liberty High School 660 W Walnut St, Lodi, CA 95240

REVISIONS

BESCRIPTION

DAT

DESIGNER:

SCALE: NTS

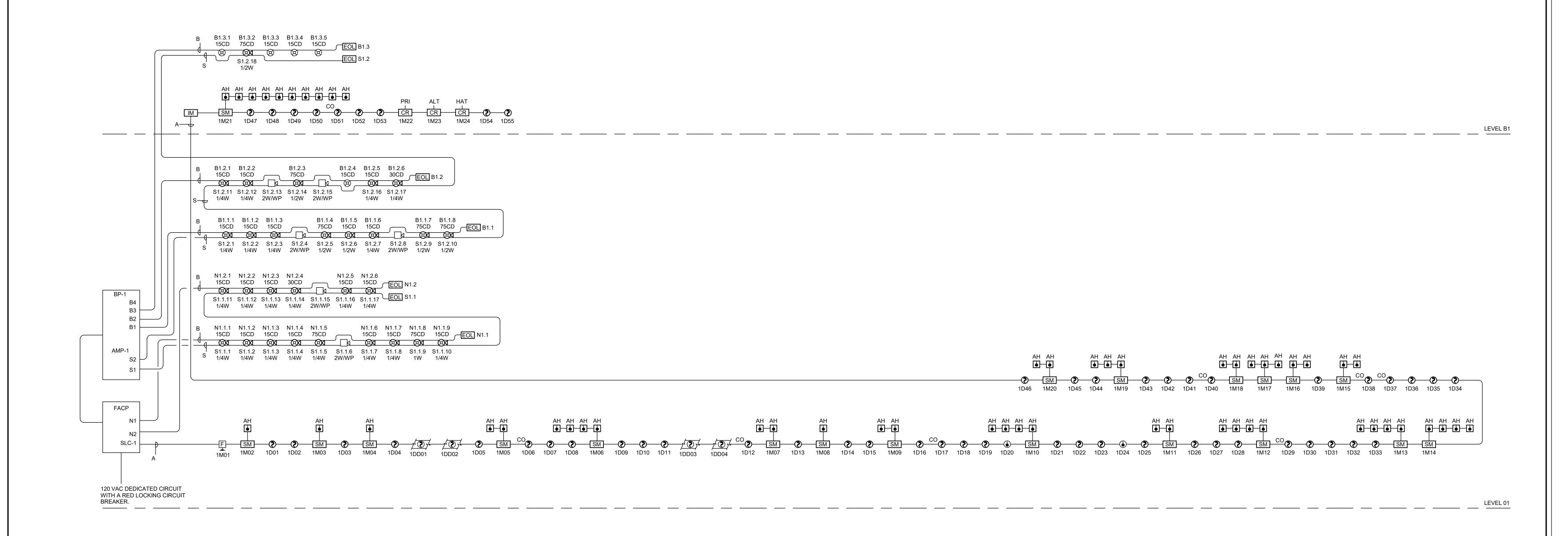
DATE:2019.12.20

TITLE:

FIRE ALARM RISER

DRAWING NO.

E3.00



FIRE ALARM RISER

	LIE	BER	T	Y AM	P	LIFIE	R	1			
		Standby	/ Cı	urrent (amps	5)		Alan	n C	urrent (amps	s)	
Device Type	QTY	Watts	Сι	rrent Draw		Total	Qty	Сι	rrent Draw		Total
. System											
AM-50 1 50 X 0.0860 = 0.0860 0 X 2.2060 =											
			Х		=		0	Х		=	0.0000
			Х		=		0	Х		=	0.0000
2. Speakers											
Total Speaker Watts @ 2	5Vrms	22.5							0.9000	=	0.9000
Total Speaker Watts @ 7	0.7Vrms								0.0000	=	0.0000
		Tot	al S	Standby Loa	ad	0.0860		Γot	al Alarm Loa	ad	3.1060

	U				
		Requ	uired Standby Ti	me	in Hours
Standby Load Current (Amps)	0.0860 Amps	Х	24	=	2.064 AH
		Requ	uired Alarm Time	e in	Hours
Alarm Load Current (Amps)	3.1060 Amps	Χ	15	=	0.777 AH
		To	tal Current Loa	ad	2.84 AH
	*Multiply b	y the	Derating Factor	=	x 1.20
	Total Amp	ere H	ours Required		3.41 AH
	Recommended Batteries:		7AH BATT	ER	IES

^{*}Derating Factor required to compensate for the non-linear discharge characteristic of a battery.

Gamewell FIRE CONTROL INSTRUMENTS By Horseywell E3 Series Co			ent Drav		ı			
	T	otal	Standby	0.452 A		Total	Alarm	7.384 A
			Standby Curre				Alarm Currer	
Device 1. System Device	Qty	-	Draw	Standby	Qty		Draw	Alarm
ntel. Loop Interface, Main Board (ILI-MB-E3)	1	Х	0.08100	0.08100	1	х	0.15000	0.15000
ntel. Loop Interface Supplement Board (ILI-S-E3)	0	Х	0.08100	8	0	х	0.15000	
Intel. Loop Interface Main Board - Apollo (ILI95-MB-E3) Intel. Loop Interface Supplement Board - Apollo (ILI95-S-E3)	0	X	0.05000		0	X	0.09100	
7100 Panel, 1 SLC	1	×	0.05600	0.05600	1	x	0.07600	0.07600
7100 Panel, 1 SLC with DACT	0	х	0.07500		0	х	0.09500	
7100 Panel, 2 SLC	0	Х	0.06500		0	х	0.08500	
7100 Panel, 2 SLC with DACT	0	Х	0.08500		0	Х	0.10500	
2. E3 Optional Modules	1 0	-	0.05000	E-	0	Lv	0.05000	
120V Power Supply Sub-Assembly (PM-9)	0	×	0.03000		0	x	0.05000	
240V Power Supply Sub-Assembly (PM-9G) CD Display & Switch Control (LCD-E3)	0	X	0.02400		0	×	0.02800	
ARCNET Repeater (RPT-E3)	0	X	0.01300		0	x	0.01300	
Digital Communicator (DACT-E3)	1	х	0.01800	0.01800	1	х	0.01800	0.01800
Optional Remote Serial Annunicator (LCD-7100)	0	х	0.05000		0	х	0.07500	
Network LCD Annunicator (NGA)	0	X	0.20000 0.01100	<i>a</i> ,	0	X	0.20000 0.01100	
Auxiliary Switch Sub-Assembly (ASM-16) Remote LED Driver Module (ANU-48)	0	X	0.01100		0	X	0.01100	
Addressable Node Expander (ANX)	ő	x	0.06500		0	x	0.06500	
3. 7100 Optional Modules	5/2	(A		20	le.		2	
ntelligent Network Inferface Module (INI-7100)	0	Х	0.04000	6	0	Х	0.04000	
Printer Transient Module (PTRM)	0	X	0.02000		0	Х	0.02000	
Remote LED Driver Module (LDM-7100) Class A Option Module (CAOM)	0	X	0.03500		0	X	0.20000 0.00100	
Municipal Circuit Option Module (MCOM)	0	Х	0.00100		0	X	0.00100	
. INI-VGC Command Center		1000	0.45000			1	0.45000	
ntel. Network Command Center (INI-VGC) Addressable Switch Sub-assembly (ASM-16)	0	X	0.15000 0.01100		0	X	0.15000 0.01100	
/oice Paging Microphone (Microphone)	0	X	0.00100	8	0	X	0.00100	
irefighter's Telephone (Handset)	0	×	0.02000	3	0	х	0.02000	
Addressable Output Module-Telephone (AOM-TEL)	0	Х	0.00200		0	Х	0.00650	
5. INI-VGX Voice Gateway ntel. Network Voice Gateway (INI-VGX	0	×	0.15000		0	X	0,15000	5
20V Power Supply Sub-Assembly (PM-9)	0	×	0.05000		0	×	0.05000	
240V Power Supply Sub-Assembly (PM-9G)	0	х	0.02700	0.05000	0	х	0.05000	
Amplifier Sub-assembly, 50 watt 25V (AM-50) Amplifier Sub-assembly, 50 watt 70V (AM-50-70)	3	X	0.08600 0.04900	0.25800	3	X	2.20600 2.30000	6.61800
Addressable Output Module-Signal (AOM-2SF)	Ö	×	0.00200	Ŷ v	0	x	0.00650	
Addressable Output Module-Telephone (AOM-TEL)	0	х	0.00200	9) 3	0	х	0.00650	
Addressable Output Module-Audio (AOM-MUX)	0	X	0.00200		0	X	0.00650	
6. INI-VGE Command Center Voice Gateway	1 0		0.45000				0.45000	
Intel. Network Command Voice Gateway (INI-VGE) Addressable Switch Sub-assembly (ASM-16)	0	X	0.15000 0.01100		0	X	0.15000 0.01100	
Voice Paging Microphone (Microphone)	1	x	0.00100	0.00100	1	x	0.00100	0.00100
Firefighter's Telephone (Handset)	0	х	0.02000		0	х	0.02000	
Addressable Output Module-Signal (AOM-2SF)	0	Х	0.00200		0	х	0.00650	
Addressable Output Module-Telephone (AOM-TEL)	0	Х	0.00200		0	Х	0.00650	
Addressable Output Module-Audio (AOM-MUX) 7. Smoke Detectors/Modules	0	X	0.00200		0	Х	0.00650	
ATD-L2F HEAT DETECTOR	2	×	0.00030	0.00060	2	x	0.00650	0.01300
ADB-2F BEAM DETECTOR	0	x	0.00200		0	х	0.08500	3.3,030
XP95 DUCT DETECTOR	0	х	0.00400	3	0	х	0.20000	
MCS-COF CO/SMOKE DETECTOR	0	х	0.00030		0	х	0.00650	
AMM2IF DUAL MONITOR MODULE AMM-4F MONITOR MODULE	30	X	0.00750 0.00038	0.01125	30	X	0.00570 0.00500	0.15000
M500X ISOLATION MODULE	2	X	0.00500	0.01123	2	X	0.00500	0.01000
AOM-2RF RELAY MODULE	0	X	0.00038	0.01000	0	x	0.00650	0.0,000
MS7 PULL STATION	1	х	0.00030	0.00030	1	х	0.00300	0.00300
ASD-PL3 PHOTO SMOKE DETECTOR	53	Х	0.00030	0.01590	53	х	0.00650	0.34450
3. Notification Appliances			F 22 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3		F 300			
	0	х	0.00000		0	Х	0.00000	
	0	Х	0.00000		0	Х	0.00000	
	0	X	0.00000		0	X	0.00000	
	0	Х	0.00000		0	Х	0.00000	
	0	X	0.00000		0	Х	0.00000	
	0	X	0.00000	·	0	X	0.00000	
	0	X	0.00000	-	0	Х	0.00000	
	0	X	0.00000	ý	0	X	0.00000	
	0	X	0.00000		0	X	0.00000	
			Total Standby	2 (2)	U		Total Alarm	
			Load:	0.452 A			Load:	7.384 A

Voltage Drop Calculations

CIRCUIT NAME: NAC Circuit 1
POWER SOURCE: BPS-1
MODEL NUMBER: HPF24S8
BRAND: HPP

 VOLTS: 20.4
 CLASS: CLASS B

 AWG: 12
 TOTAL DEVICES: 8

 POWER: DC
 17.93 % (0.538) AMPS USED

 AMPS: 3
 1.45 % (0.296) VOLTAGE DROP

#	MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
T	1 SPSCWL	15			2	0.041	25	20.346	20.314	20.263	20.183
	2 SPSCWL	15			3	0.041	25	20.296	20.235	20.137	19.982
	3 SPSCWL	15				0.041	25	20.250	20.162	20.021	19.798
	4 SPSCWL	15	5			0.041	25	20.208	20.096	19.916	19.630
	5 SPSCWL	15				0.041	25	20.170	20.036	19.821	19.479
	6 SPSCWL	75			-	0.111	25	20.137	19.983	19.736	19.344
	7 SPSCWL	75				0.111	25	20.115	19.948	19.680	19.254
	8 SPSCWL	75			2	0.111	25	20.104	19.930	19.652	19.209
				7-1	100	100	VOLTAGE [0.296	0.470	0.748	1.191

CIRCUIT NAME: NAC Circuit 2 POWER SOURCE: BPS-1 MODEL NUMBER: HPF24S8 BRAND: HPP

VOLTS: 20.4 CLASS: CLASS B

AWG: 12 TOTAL DEVICES: 6

POWER: DC 11.27 % (0.338) AMPS USED

AMPS: 3 .66 % (0.135) VOLTAGE DROP

#		MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
	1	SPSCWL	15				0.041	25	20.366	20.346	20.314	20.263
	2	SPSCWL	15				0.041	25	20.336	20.299	20.239	20.143
	3	SPSCWL	15			8	0.041	25	20.310	20.258	20.174	20.040
	4	SPSCWL	15			2	0.041	25	20.288	20.224	20.119	19.953
	5	SPSCWL	75				0.111	25	20.271	20.196	20.075	19.883
	6	SPSCWL	30				0.063	25	20.265	20.186	20.059	19.858
	9		-			-37	32	VOLTAGE D	0.135	0.214	0.341	0.542

CIRCUIT NAME: NAC Circuit 3
POWER SOURCE: BPS-1
MODEL NUMBER: HPF24S8
BRAND: HPP

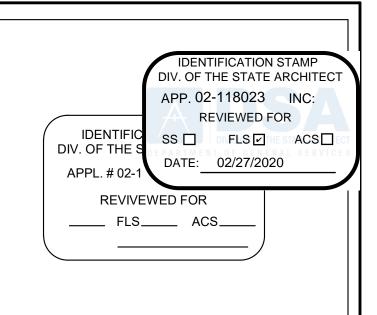
 VOLTS: 20.4
 CLASS: CLASS B

 AWG: 12
 TOTAL DEVICES: 5

 POWER: DC
 12.5 % (0.375) AMPS USED

 AMPS: 3
 .53 % (0.109) VOLTAGE DROP

MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
1 SCW	15				0.066	25	20.362	20.340	20.305	20.248
2 SPSCWL	75				0.111	25	20.331	20.291	20.227	20.123
3 SCW	15				0.066	25	20.311	20.259	20.177	20.043
4 SCW	15			ì	0.066	25	20.298	20.238	20.143	19.990
5 SCW	15				0.066	25	20.291	20.227	20.126	19.963
					10%	VOLTAGE D	0.109	0.173	0.274	0.437





Liberty High School 660 W Walnut St, Lodi, CA 95240

	REVISIONS	
#\	DESCRIPTION	DATE

DESIGNER:Designer

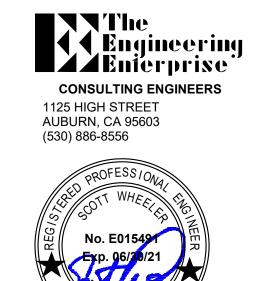
SCALE:

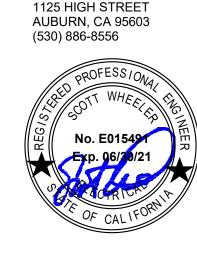
DATE:2019.12.20

FIRE ALARM CALCULATIONS

DRAWING NO.

E4.00





REVISIONS

DESIGNER:

SCALE: 1/16" = 1'-0"

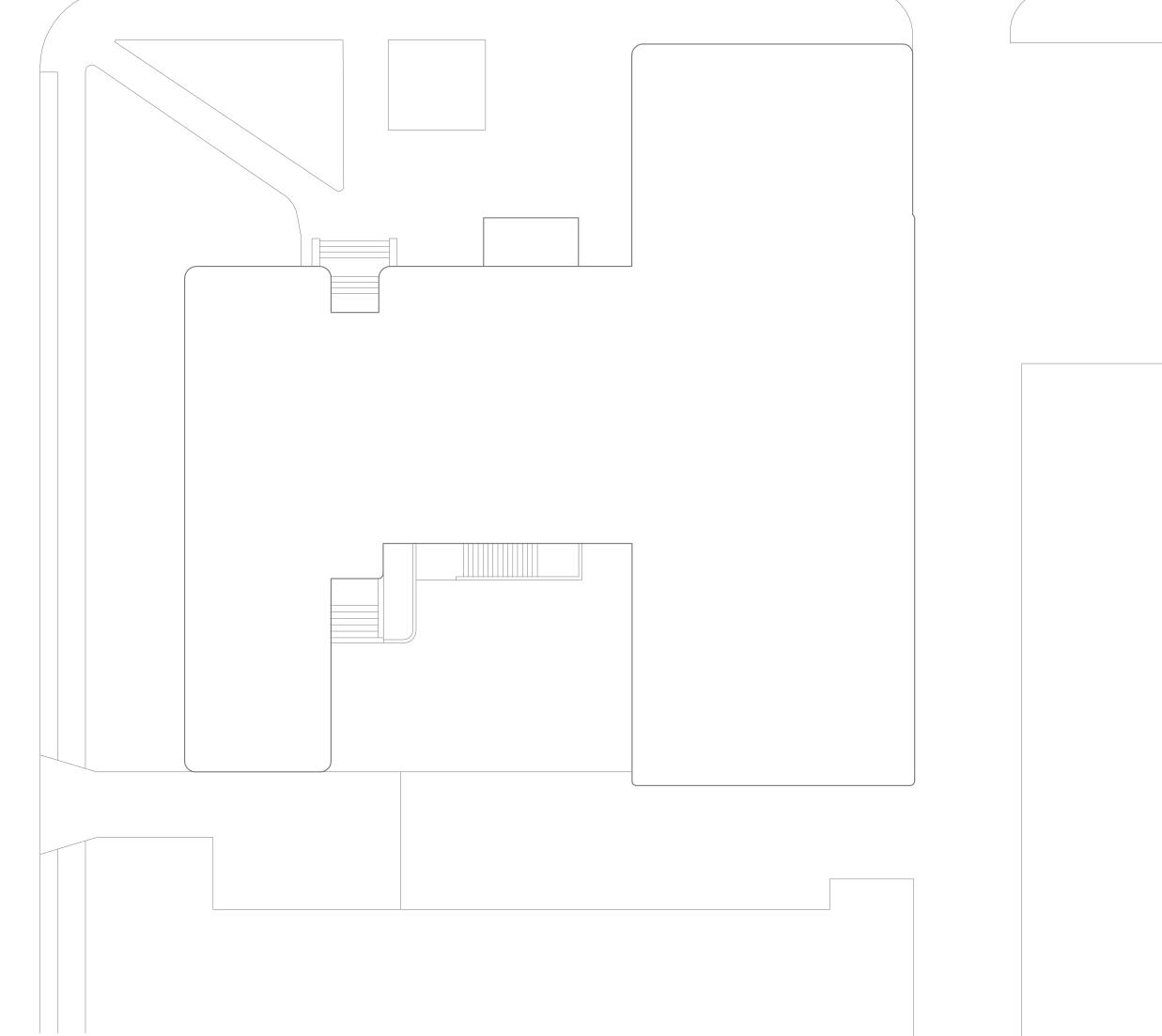
DATE:2019.12.20

FIRE ALARM DEMO PLAN - SITE PLAN

DRAWING NO.

ED1.00

W WALNUT ST



FIRE ALARM DEMO PLAN - SITE PLAN

SCALE: 1/16" = 1'-0"

1 FIRE ALARM DEMO PLAN - LEVEL B1

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.

REVIEWED FOR

IDENTIFICATION STAMPFLS ACS

DIV. OF THE STATE ARCHITECT

DATE: 02/27/2020

APPL. # 02-118023 INC: #

REVIVEWED FOR

REVIVEWED FOR
SS____ FLS___ ACS__
DATE:___

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT

APP. 02-118023 INC:

CONSULTING ENGINEERS

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



Liberty High School 660 W Walnut St, Lodi, CA 95240

REVISIONS

BESCRIPTION

DATE

DESIGNER:

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

DATE:2019.12.20

FIRE ALARM DEMO PLAN - LEVEL B1

DRAWING NO.

ED1.01

FIRE ALARM DEMO PLAN - LEVEL 01

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.
-). REMOVE ALL UNUSED FIRE ALARM CONTROL PANELS, BOOSTER PANELS AND REMOTE ANNUNCIATORS.

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP. 02-118023 INC: REVIEWED FOR IDENTIFIC DIV. OF THE S DATE: 02/27/2020 APPL. # 02-1 REVIVEWED FOR SS____ FLS___ ACS____





REVISIONS

DESIGNER:

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

DATE:2019.12.20

FIRE ALARM DEMO PLAN - LEVEL 01

DRAWING NO.

ED1.02

TURNER ACADEMY

13250 live Oak Rd, Lodi, CA 95242

FIRE ALARM REPLACEMENT PROJECT

CODE INFORMATION	FIRE ALARM SCOPE OF WORK	PROJEC	CT TEAM	DRAWING	SINDEX
THE INTENT OF THE CONSTRUCTION DOCUMENTS IS REPLACE EQUIPMENT IN ACCORDANCE WITH THE CBC 2016. SHOULD ANY CONDITION DEVELOP NOT COVERED BY THE CONSTRUCTION DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH THE CBC 2016, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK.	PROVIDE A MANUALLY AND AUTOMATICALLY ACTIVATED FIRE ALARM SYSTEM INCLUDING FACP, VOICE AMPLIFIERS, POWER SUPPLIES, ANNOUNCING MICROPHONE, INITIATION, NOTIFICATION, CONTROL AND MONITORING DEVICES AS SHOWN ON PLANS AND SPECIFICATIONS.	OWNER LODI UNIFIED SCHOOL DISTRICT 1305 E. VINE ST. LODI, CA 95240 CONTACT: LEONARD KAHN (209)331-7225 E-MAIL CONTACT: VBRUM@LODIUSD.NET	ELECTRICAL ENGINEER: THE ENGINEERING ENTERPRISE 1125 HIGH ST. AUBURN, CA 95603 CONTACT: SCOTT WHEELER: 530-305-927-5784 FAX: 530-886-8557	SHEET NO. G0.0 COVER SHEET F0.00 FIDE ALAPM OVARIOUS MOTES AND MATE	•
ANCHORAGE AND SUPPORTS OF ALL EQUIPMENT TO BE INSTALLED, AS A PART OF THIS PROJECT SHALL BE DETAILED ON CONSTRUCTION DOCUMENTS, EXCEPT THOSE EXEMPT BY 2016 GBC SECTION 1616A.1.18. EQUIPMENT SUPPORTS AND ANCHORAGE SHALL BE APPROVED BY THE APPROPRIATE DESIGN PROFESSIONAL OF RECORD AND DSA AS A PART OF FIELD REVIEWS/OBSERVATIONS. THE INSPECTOR OF RECORD (IOR) SHALL ASSURE THAT THE ABOVE REQUIREMENTS ARE ENFORCED. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE REQUIATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING: 2016 CALIFORNIA ADMINISTRATIVE CODE (CAC) PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR) 2016 CALIFORNIA BUILDING CODE (CBC) PART 2, TITLE 24, CCR BASED ON THE 2015 INTERNATIONAL BUILDING CODE (IBC) 2016 CALIFORNIA BLECTRICAL CODE (CEC) PART 3, TITLE 24, CCR BASED ON THE 2014 NATIONAL ELECTRICAL CODE (NEC) 2016 CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24, CCR BASED ON THE 2015 UNIFORM MECHANICAL CODE (UMC) 2016 CALIFORNIA PLUMBING CODE (CPC) PART 5, TITLE 24, CCR BASED ON THE 2015 UNIFORM MECHANICAL CODE (UMC) 2016 CALIFORNIA PLUMBING CODE (CPC) PART 5, TITLE 24, CCR BASED ON THE 2015 UNIFORM PLUMBING CODE (UPC) 2016 CALIFORNIA FIRE CODE (CFC) PART 9, TITLE 24, CCR BASED ON THE 2015 UNIFORM PLUMBING CODE (UPC) 2016 CALIFORNIA FIRE CODE (CFC) PART 9, TITLE 24, CCR BASED ON THE 2015 UNIFORM PLUMBING CODE (UPC) 2016 CALIFORNIA FIRE CODE (CFC) PART 9, TITLE 24, CCR BASED ON THE 2015 INTERNATIONAL FIRE CODE (IFC) 2016 NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE COMPLIANCE WITH 2016 CALIFORNIA FIRE CODE, CHAPTER 33 - FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION.	FIRE ALARM DESCRIPTION THIS PROJECT IS TO REPLACE THE EXISTING FIRE ALARM PANELS, INITIATING DEVICES, NOTIFICATION DEVICES, MODILLES, POWER SUPPLIES AND REMOTE ANNUNCIATOR PANEL WITH A NEW GAMEWELL E3 FIRE ALARM SYSTEM WITH EMERGENCY VOICE EVACUATION. ALL EXISTING PATHWAY WILL BE RE-USED WHERE POSSIBLE AND NEW WHERE REQUIRED. NEW PATHWAY WILL BE PROVIDED IN AREAS WHERE CABLE CAN NOT BE CONCEALED ABOVE CEILING. CABLE ABOVE CEILING WHEN NOT IN EXISTING CONDUIT WILL BE FREE AIR AND SUPPORTED EVERY 48° WITH J-HOOKS, PAINTED RED. NEW DEVICE BOXES WILL BE REQUIRED AT ALL NEW DEVICES. WHERE EXISTING DEVICE BOXES ARE LOCATED AND A DEVICE IS NOT REQUIRED. THEN PROVIDE COVER PLATES. REMOVE EXISTING DEVICE BOXES WHEN ADDING A NEW DEVICE. DEMOLISH ALL OLD CABLE, FIRE ALARM COMPONENTS AND BACK BOXES FROM SITE. ALL CABLE AND COMPONENTS WILL BE NEW. THIS PROJECT IS TO REPLACE EXISTING FIRE ALARM HEAD END UNIT AND ALL ASSOCIATED DEVICES. FIRE ALARM SYSTEM: CLASS B IDC: CLASS B SLC CIRCUIT: CLASS B NOTIFICATION CIRCUIT: CLASS B		EMAIL: SCOTT@ENGENT.COM CONTACT: JESSE WHEELER: 530-927-5630 FAX: 530-886-8557 EMAIL: JESSE.WHEELER@ENGENT.COM	E0.00 FIRE ALARM SYMBOLS, NOTES, AND MATE E0.01 FIRE ALARM MATRIX, SCHEDULE & NOTES E1.00 SITE PLAN E2.00 FIRE ALARM PLAN - A, B & PORTABLE E3.00 FIRE ALARM RISER E4.01 FIRE ALARM CALCULATIONS ED1.00 FIRE ALARM DEMO PLAN - SITE PLAN ED1.01 FIRE ALARM DEMO PLAN - A, B & PORTAB	
DSA ANCHORAGE AND BRACING NOTES	N/A DEFERRED APPROVALS N/A	2. PROVIDE CALIFORNIA STATE FIRE MARSHAL LIST SYSTEM INCLUDING MANUFACTURER CUT SHEET 3. BEFORE REQUESTING FINAL APPROVAL OF THE INSTALL SYSTEM HAS BEEN INSTALLED AND TESTED SECTION 14.4.1. 4. UPON COMPLETION OF THE INSTALLATION OF THE OF THE SYSTEM SHALL BE MADE IN THE PRESEN 5. PROVIDE A RECORD OF COMPLETION PER CBC 9 6. AUTOMATIC FIRE ALARM SYSTEMS SHALL TRANSSIGNALS TO AN APPROVED SUPERVISING STATION THE SUPERVISING STATION SHALL BE LISTED AS THE REQUIREMENTS OF FM STANDARD 3011.	2016 CALIFORNIA ELECTRICAL CODE (CEC) ARTICLE TION 907. FING NUMBERS FOR EACH COMPONENT OF THE TS FOR REVIEW. INSTALLATION THE INSTALLING CONTRACTOR DSA PROJECT INSPECTOR TO THE EFFECT THAT IN ACCORDANCE WITH THE (2016) NFPA 72 HE FIRE ALARM SYSTEM, A SATISFACTORY TEST INCE OF THE DSA PROJECT INSPECTOR. 2007.7.2. SMIT THE ALARM, SUPERVISORY AND TROUBLE DN AS REQUIRED BY NFPA 72 AND CBC 907.6.5.2. IS EITHER UUFX OR UUIS BY UL OR SHALL MEET DMPLY WITH NFPA 72 CHAPTER 14 REQUIREMENTS. INE. (CFC, 907.6.3). E UNTIL THE NEW SYSTEM IS INSTALLED OR THAT	EXISTING BUIL CAMPUS BUILDING SQUARE FOOTAGE: OCCUPANCY GROUP: FIRE SPRINKLER: YEAR CONSTRUCTED: FLOOR AREAS:	9189 E: K-6 BLDGS.A 1966 NO PROPOSED CHANGE

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-118024 INC:
REVIEWED FOR
SS FLS ACS
DATE: 02/27/2020

REVIVEWED FOR
SS FLS ACS
DATE: DATE:



Turner Academy affokay Colony 13520 Live Oak Rd, Lodi, CA 95240

REVISIONS

DESCRIPTION

DATE

DESIGNER:

SCALE: 12" = 1'-0"

SCALE: 12" = 1'-0"

DATE:2019.12.20

LE:

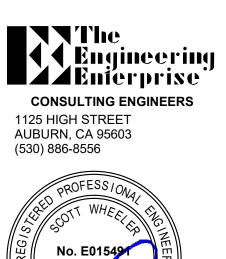
COVER SHEET

DRAWING NO.

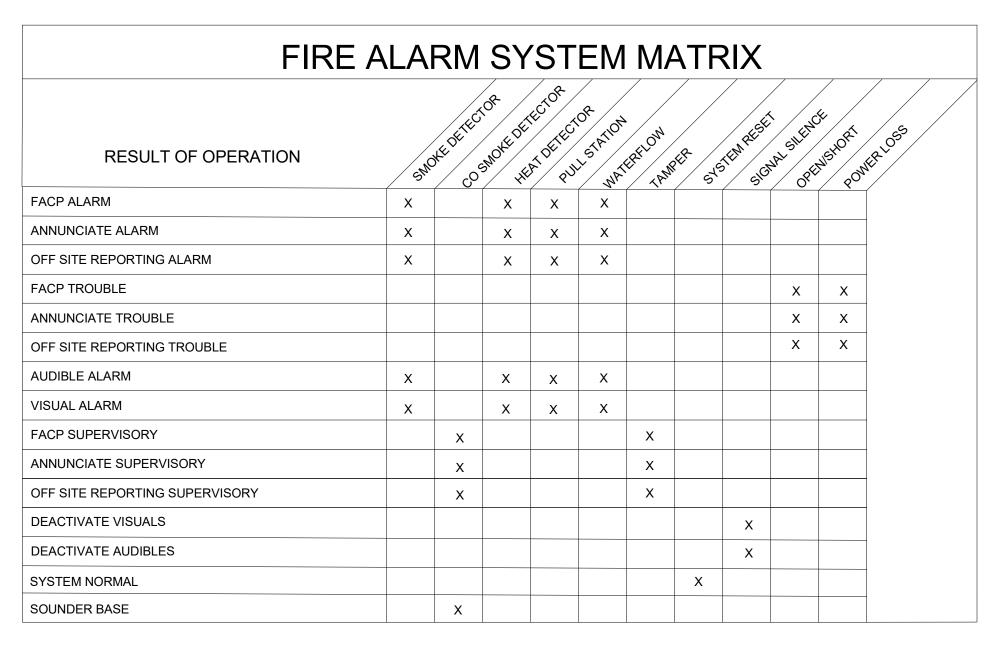
G0.0



IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP. 02-118024 INC: REVIEWED FOR IDENTIFICATION STAMPELS ACS DIV. OF THE STATE ARCHITECT APPL. # 02-11 8024 INC: # SS____ FLS___ ACS____



SYMBOLS, NOTES, **AND MATRIX**



	FIRE ALARM SYSTEM CABLE SCHEDULE									
REQUIRED CABLES	CABLE TAG	CABLE	NO. OF CONDUCTORS	COLOR	AWG	CABLE USE				
X	А	GENESIS	2(1PR)	RED/BLACK	#18	BUILDING INITIATION (SLC)				
X	В	GENESIS	2(1PR)	RED/BLACK	#12	NOTIFICATION (NAC)				
X	S	GENESIS	2(1PR)	RED/BLACK	#16	VOICE NOTIFICATION				
X	F	GENESIS	2(1PR)	RED/BLACK	#12	24 VDC POWER				
N/A	С	AQUA SEAL	2(1PR)	RED/BLACK	#18	UG BUILDING INITIATION (SLC)				
N/A	D	AQUA SEAL	2(1PR)	RED/BLACK	#12	UG NOTIFICATION (NAC)				
N/A	E	AQUA SEAL	2(1PR)	RED/BLACK	#16	UG VOICE NOTIFICATION				
N/A	G	AQUA SEAL	2(1PR)	RED/BLACK	#12	UG 24 VDC POWER				

NUMBERED SHEET NOTES	
LINT DOOD HOLDED ONOVE DETECTOD MAYINI IN OLEDOM DOOD AND A MINIMUM OF AL	_

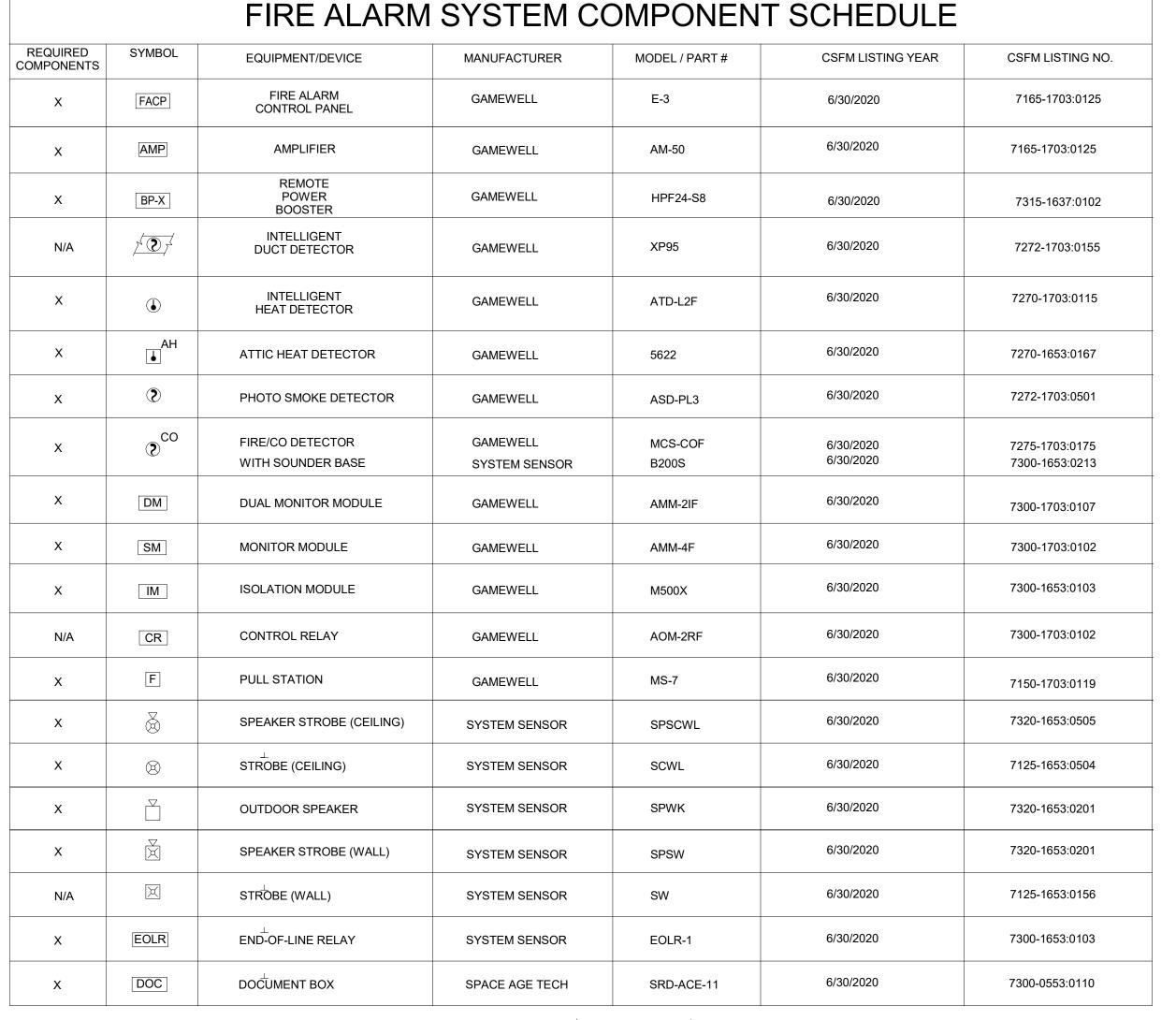
MOUNT DOOR HOLDER SMOKE DETECTOR MAXIMUM 3' FROM DOOR AND A MINIMUM OF 1' MAXIMUM DISTANCE BETWEEN SMOKE DETECTORS IS 30' AND 15' FROM WALLS, MAXIMUM DISTANCE FROM A CORNER IS 21' WITH CEILING LESS 10' OR LESS.

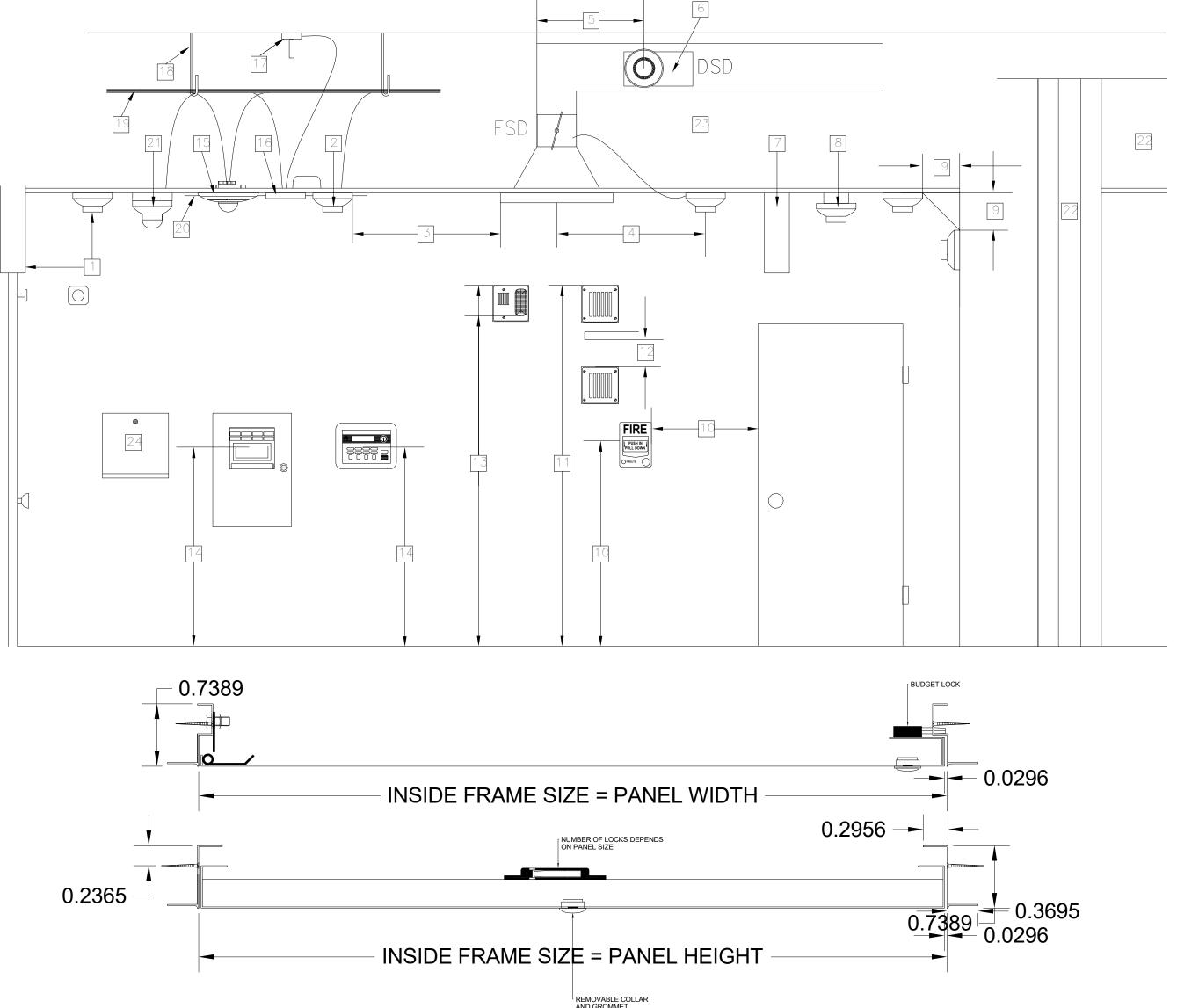
MOUNT SMOKE DETECTOR MINIMUM OF 3' AWAY FROM DIFFUSER VENT.

- 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
- SERVED BY THE AIR DISTRIBUTION SYSTEM IS PROTECTED BY SMOKE DETECTIONAS TRIGGER HVAC BEAM POCKET SPOT DETECTOR ARE REQUIRED FOR BEAMS GREATER THAN 18" BELOW CEILING AND SPACED MORE THAN 8' ON CEN**EACH** BAY FORMED BY BEAM SHALL BE TREATED AS A SEPARATE AREA. BEAMS LESS THAN 12" IN DEPTH AND SPACED LESS THAN 8' ON CENTER SHALL HAVE

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

- DETECTORS INSTALLED ON THE BOTTOM OF THE BEAM. 7.1. 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 TOP OF BOX AFF, AND NO GREATER THAN 5' FROM
- 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 TOT HE TOP OF THE DEVICE.
- MOUNT HORN / SPEAKER STROBE AND STROBE ONLY THE THE ENTIRE LENS IS WITHIN 80" AND 96"
- MOUNT FIRE ALARM CONTROL PANELS AND ANNUNCIATORS AT A MAXIMUM OF 60" TO THE TOP OF THE CONTROL PANEL OR KEY BOARDSI.16383008
- CEILING MOUNTED HORN / SPEAKER STROBE
- RATE ANTICIPATOR HEAT DETECTOR, MOUNTED IN ABOVE CEILING / ATTIC SPACE. APPROVED WIRE MANAGEMENT, ie 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
- 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: CEILING IS ATTACHED DIRECTLY TO THE UNDERSIDE OF THE SUPPORTING BEAM OR ROOF DECK.
- CONCEALED SPACE IS ENTIRELY FILLED WITH NON-COMBUSTIBLE INSULATION. THE SMALL CONCEALED SPACE OVER ROOMS THAT DO NOT EXCEED 50 SQ. FT. IN AREA. 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. NFPA72 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".
- (1) PLASTIC WARNING TAPE (2) LAST 12" AB MATERIAL AT 95% COMPACTION FOR ASPHALT AND CONCRETE, 90% FOR PLANTED AREAS (3) EXISTING SURFACE (4) REPLACE TO MATCH EXISTING SURFACE (5) SAND AT 90% COMPACTION 2-1" SIGNAL SYSTEMS CONDUITS 7) 10 AWG WIRE OR METAL TRACING TAPE PLACED ON TOP OF CONDUITS AND CONTINUOUS THROUGHOUT ENTIRE TRENCH LENGTH AND TERMINATING ON RISER UNISTRUT OR GROUNDING BAR IN GROUND BOX. 6" SAND BEDDING (MIN.)





TYPICAL FIRE ALARM TRENCH DETAIL DETAIL

TYPICAL FIRE ALARM ACCESS DOOR DETAIL

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) 201 6 TITLE 24 CALIFORNIA BUILDING CODE PART 2, 2016 CALIFORNIA BUILDING CODE (CBC), 201 5 IBC.

PART 3, 2016 CALIFORNIA ELECTRICAL CODE (CEC), 201 5 NEC.

PART 4, 2016 CALIFORNIA MECHANICAL CONDE (CMC), 201 5 UMC. PART 5, 2016 CALIFORNIA PLUMBING CODE (CPC), 201 5 UPC.

PRIOR TO THE FINAL INSPECTION AND/ OR TESTING.

PART 9, 2016 CALIFORNIA FIRE CODE (CFC) BASED 0N 201 5 IFC. 2016 NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 13, 72, 80, 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

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 15DECIBLES (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 55' 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 UUFX OR UUIS 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 6)(NOTPA 72 SECTION 14.4.1.

TEST, INSPECTION AND MAINTENANCE SHALL COMPLY WITH NFPA 72 CHAPTER 14 REQUIREMENTS. ALL DUCT SMOKE DETECTORS SHALL HAVE A KEYED TEST SWITCH MOUNTED AT 42"

A.F.F.. FIELD VERIFY LOCATION.

IDENTIFIC

DIV. OF THE STATE ARCHITEC APP. 02-118024 INC: REVIEWED FOR SS D FLS D ACS DIV. OF THE S DATE: 02/27/2020 APPL. # 02-REVIVEWED FOR

SS_____ FLS____ ACS____

DATE:____

IDENTIFICATION STAMP

Engineering Enterprise



1125 HIGH STREET

AUBURN, CA 95603

0 0 urn(520

FIRE ALARM SYSTEM DESCRIPTION

SCOPE OF THIS PROJECT IS TO PROVIDE A NEW FIRE ALARM PANEL WITH NEW VOICE EVACUATION PANEL, INCLUDING FACP, VOICE AMPLIFIERS, POWER SUPPLIES, MICROPHONE, INITIATION, NOTIFICATION AND CONTROL DEVICES AS SHOWN ON PLANS AND SPECIFICATIONS. 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

REVISIONS

DESIGNER:Designer

SCALE: 12" = 1'-0"

DATE:2019.12.20

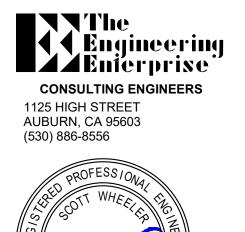
FIRE ALARM MATRIX, SCHEDULE & NOTES

DRAWING NO.

1 EXISTING PATHWAYS.

2 TRENCHING REQUIRED. PROVIDE TWO 1" CONDUIT (UG) FROM BLDG. A TO BLDG B.

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP. 02-118024 INC: REVIEWED FOR DATE: 02/27/2020





REVISIONS

DESIGNER:

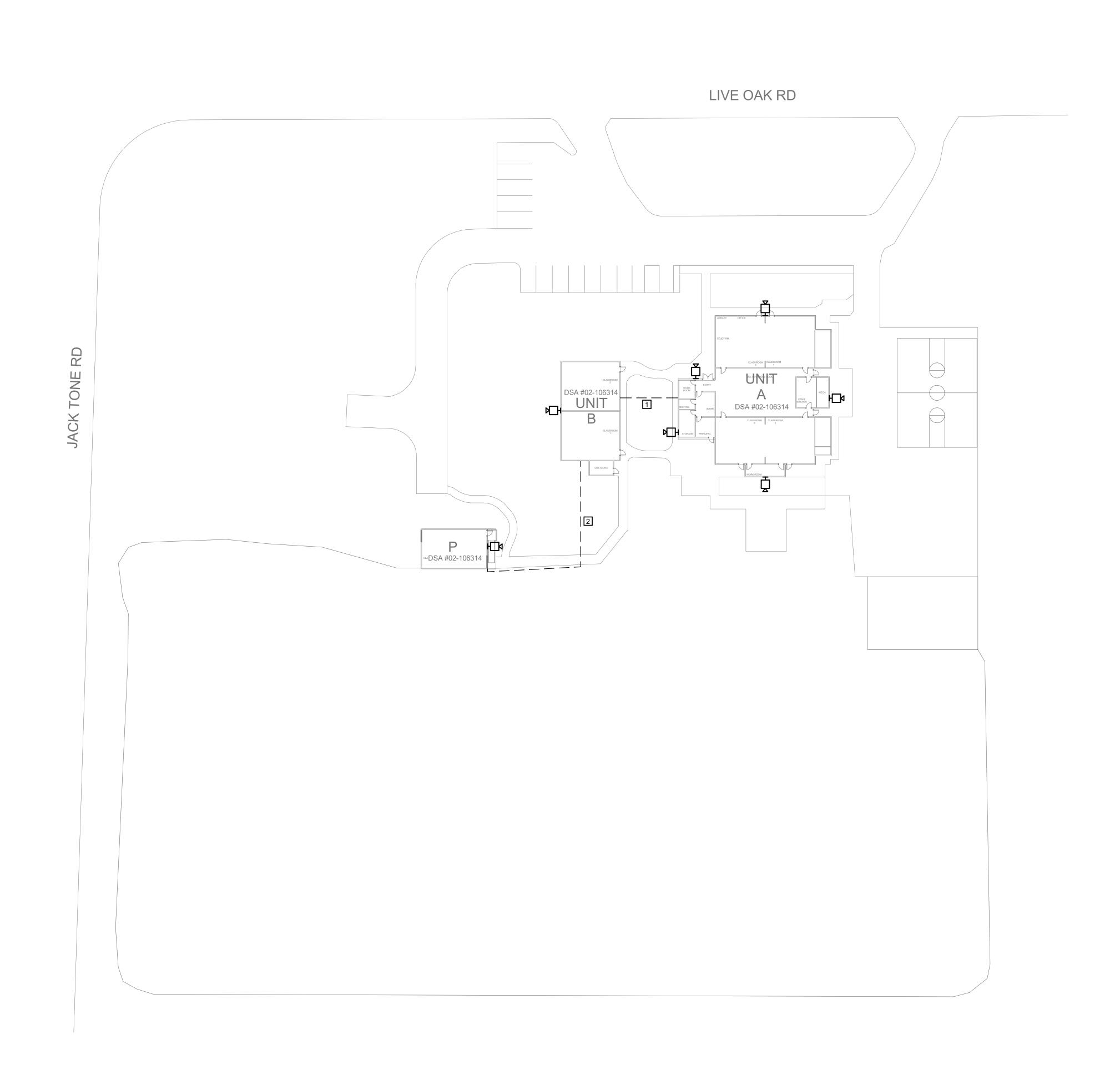
SCALE: 1/32" = 1'-0"

DATE:2019.12.20

SITE PLAN

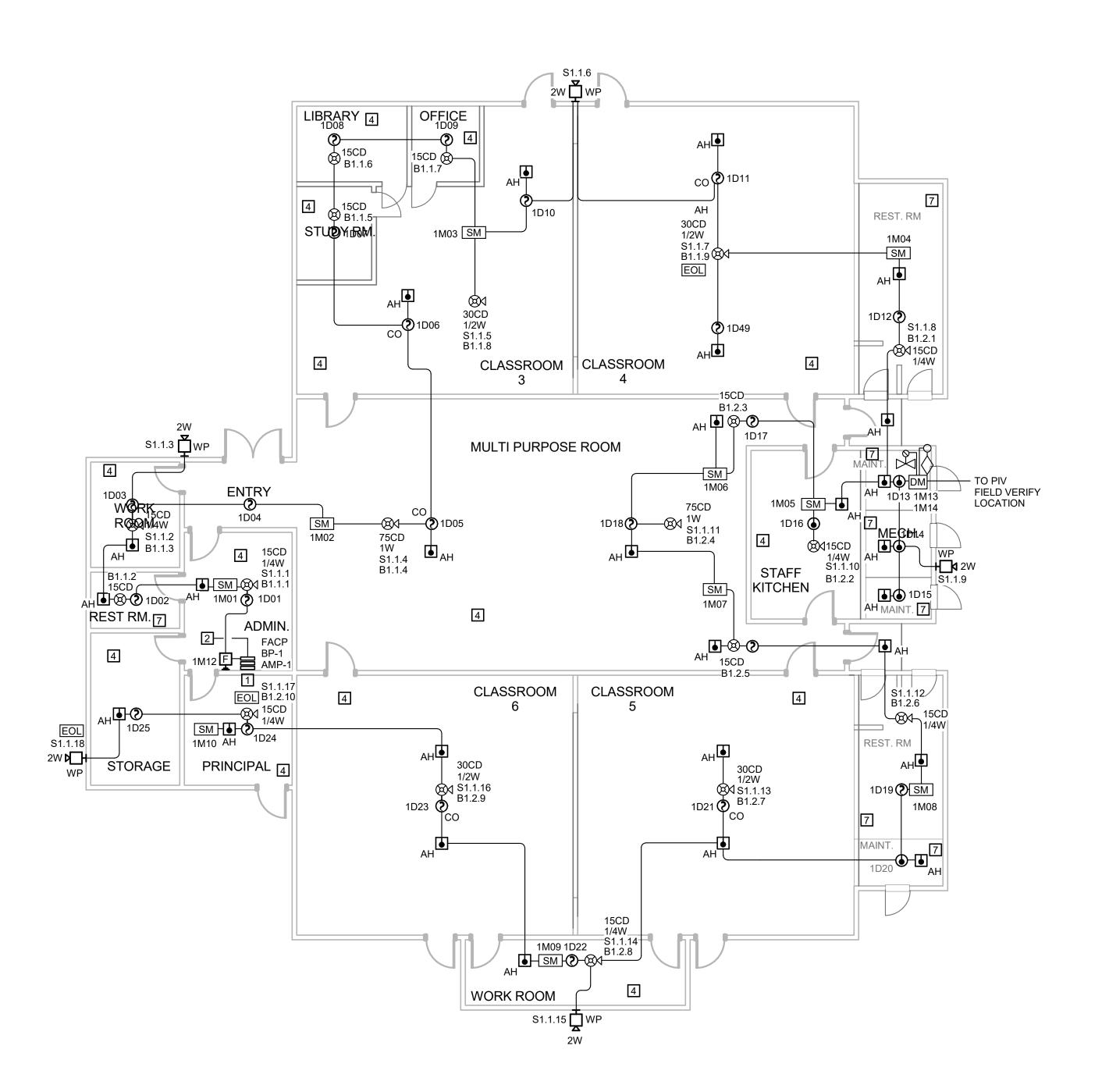
DRAWING NO.

E1.00

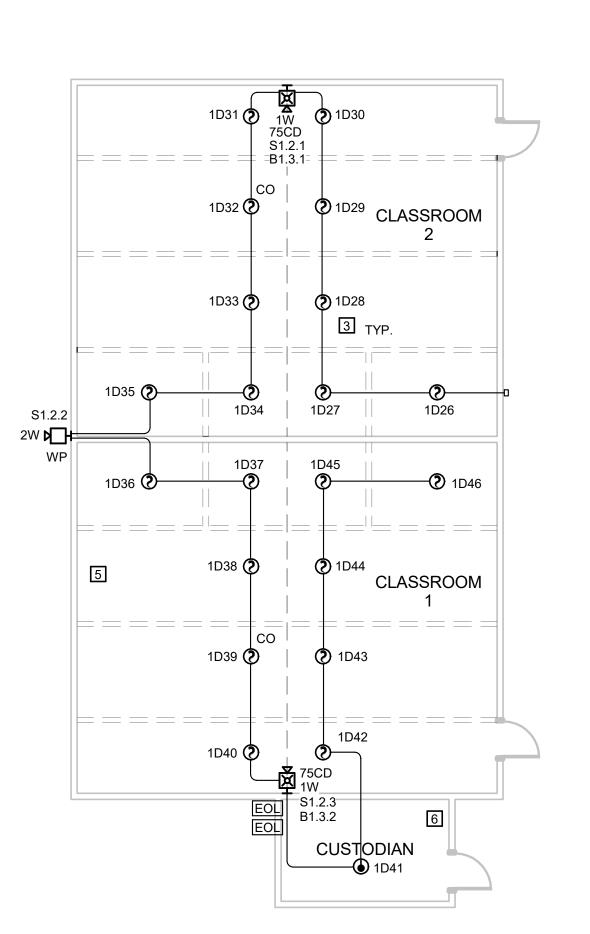


FIRE ALARM SITE PLAN

SCALE: 1/32" = 1'-0"







Building B Fire Alarm Plan

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

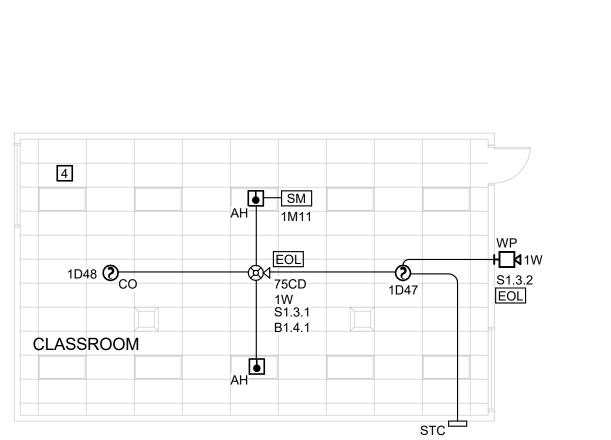
GENERAL SHEET NOTES

- 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
- 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
- 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 MANUFACTURES DESIGNATED BACK BOXES, COLOR TO MATCH DEVICE.
- H. REFER TO E3.00 FOR RISER DIAGRAMS.
- CONTRACTOR SHALL PROVIDE 120V DEDICATED RED LOCKING CIRCUIT BREAKER PER FIRE ALARM SYSTEM PANELS PER LOCATION.
- J. THE FIRE ALARM SYSTEM WILL BE DEMOLISHED AND REPLACED TO THE CURRENT 2016 CFC. THE SYSTEM WILL BE A FULLY AUTOMATIC SYSTEM WITH EMERGENCY VOICE ANNUNCIATION. FULL COVERAGE IN EACH BUILDING SHALL BE PROVIDED. COMMUNICATION WILL BE PROVIDED TO A CENTRAL MONITORING STATION.

NUMBERED SHEET NOTES

- 1 DACT WILL TRANSMIT SIGNALS TO OFF SITE MONITORING VIA PHONE LAND LANE WITH A CELLULAR BACK UP.
- 2 SEE SITE SHEET E1.0 AND RISER DIAGRAM SHEET E3.0 FOR CONDUIT PATHWAYS.
- 3 DEVICES SHALL BE NO MORE THAN 36" FROM PEAK.
- T-BAR CEILING WITH OPEN SPACE ABOVE REQUIRING FA COVERAGE.
- 5 EXPOSED CEILING AND BEAMS. NO AH HEAT DETECTORS REQUIRED.6 EXPOSED CEILING. NO AH HEAT DETECTORS REQUIRED.
- 7 HARD LID CEILING WITH OPEN SPACE ABOVE REQUIRING FA COVERAGE.



Portable Fire Alarm Plan

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

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-118024 INC:
REVIEWED FOR

IDENTIFICATION STAMPFLS ACS
DIV. OF THE STATE ARCHITECT
DATE: 02/27/2020
APPL. # 02-118024 INC: #

REVIVEWED FOR
SS____ FLS___ ACS___
DATE:_____





Turner Academy affokay Colony 13520 Live Oak Rd, Lodi, CA 95240

REVISIONS

DESCRIPTION DATE

DESIGNER:

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

DATE:2019.12.20

FIRE ALARM PLAN -A, B & PORTABLE

DRAWING NO.

E2.00



olony 95240 atrokay (, Lodi, C/ ademy Oak Rd, Turner

REVISIONS DESIGNER:

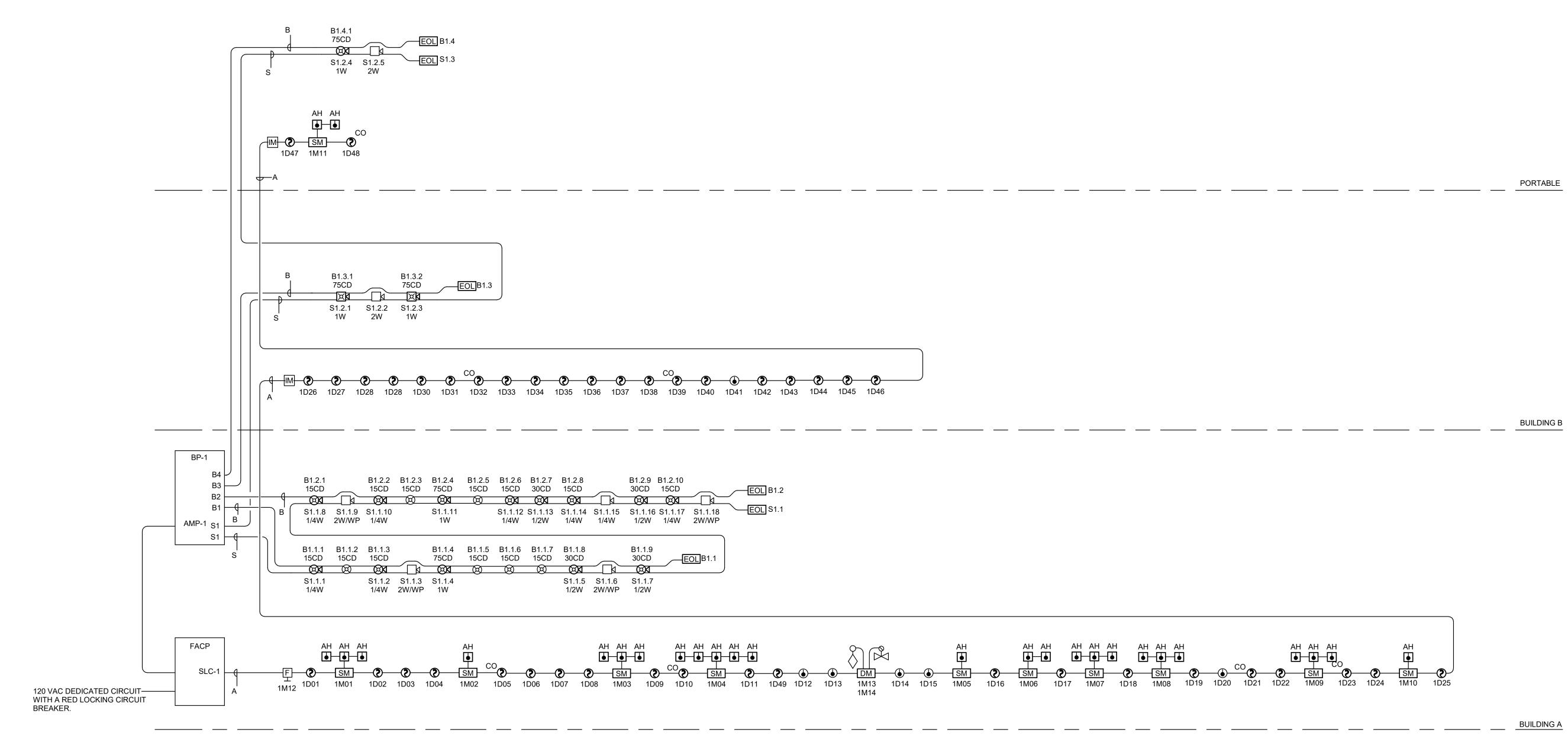
SCALE: NTS

DATE:2019.12.20

FIRE ALARM RISER

DRAWING NO.

E3.00



FIRE ALARM RISER SCALE:NTS

Gamewell Syst	em C	um	ent Drav	٧				
E3 Series Co	ontrol	Par	nel with B	roadband	i			
	Т	otal	Standby	0.432 A		Total	I Alarm	7.217
Pevice	Qty		Standby Curre Draw	ent Standby	Qty		Alarm Curre	nt Alarm
. System Device	any		Dian	otaliday	- saty		Dian	
ntel. Loop Interface, Main Board (ILI-MB-E3)	1	х	0.08100	0.08100	1	х	0.15000	0.1500
ntel. Loop Interface Supplement Board (ILI-S-E3) ntel. Loop Interface Main Board - Apollo (ILI95-MB-E3)	0	X	0.08100		0	Х	0.15000	_
ntel. Loop Interface Supplement Board - Apollo (ILI95-Mb-C3)	0	×	0.05000		0	×	0.09100	_
100 Panel, 1 SLC	1	X	0.05600	0.05600	1	×	0.07600	0.0760
100 Panel, 1 SLC with DACT	ò	ж	0.07500	0.0000	0	×	0.09500	0.0100
7100 Panel, 2 SLC	0	х	0.06500		0	х	0.08500	
7100 Panel, 2 SLC with DACT	0	ж	0.08500		0	х	0.10500	
2. E3 Optional Modules								
20V Power Supply Sub-Assembly (PM-9)	0	х	0.05000		0	х	0.05000	
240V Power Supply Sub-Assembly (PM-9G)	0	х	0.02700		-0	х	0.05000	
CD Display & Switch Control (LCD-E3)	0	х	0.02400		0	х	0.02800	
ARCNET Repeater (RPT-E3)	0	X	0.01300	0.04800	0	X	0.01300	0.0400
Digital Communicator (DACT-E3) Optional Remote Serial Annunicator (LCD-7100)	0	x	0.01800	0.01800	0	×	0.01800	0.0180
Network LCD Annunicator (NGA)	0	X	0.20000		0	X	0.20000	\vdash
Auxiliary Switch Sub-Assembly (ASM-16)	0	×	0.01100		0	×	0.01100	
Remote LED Driver Module (ANU-48)	0	х	0.01100		0	Х	0.01100	
Addressable Node Expander (ANX)	0	Ж	0.06500		0	х	0.06500	
3. 7100 Optional Modules								
ntelligent Network Inferface Module (INI-7100)	0	ж	0.04000		0	х	0.04000	
Printer Transient Module (PTRM)	0	х	0.02000		0	х	0.02000	
Remote LED Driver Module (LDM-7100) Class A Option Module (CAOM)	0	x	0.03500		0	×	0.20000	
Municipal Circuit Option Module (MCOM)	0	×	0.00100		0	×	0.00100	_
I. INI-VGC Command Center								
ntel. Network Command Center (INI-VGC)	0	х	0.15000		0	×	0.15000	
Addressable Switch Sub-assembly (ASM-16)	0	х	0.01100		-0	х	0.01100	
/oice Paging Microphone (Microphone)	0	х			0	Х	0.00100	
Firefighter's Telephone (Handset) Addressable Output Module-Telephone (AOM-TEL)	0	X	0.02000		0	×	0.02000	
5. INI-VGX Voice Gateway	Ų		0.00200			×	UARACKI	
ntel. Network Voice Gateway (INI-VGX)	0	ж	0.15000		0	×	0.15000	
120V Power Supply Sub-Assembly (PM-9)	0	ж	0.05000		0	х	0.05000	
240V Power Supply Sub-Assembly (PM-9G)	0	х	0.02700		0	х	0.05000	
Amplifier Sub-assembly, 50 watt 25V (AM-50)	3	х		0.25800	3	Ж		6.6180
Amplifier Sub-assembly, 50 watt 70V (AM-50-70) Addressable Output Module-Signal (AOM-2SF)	0	X	0.04900		0	×	2.30000 0.00650	_
Addressable Output Module-Telephone (AOM-TEL)	ő	×	0.00200		0	×	0.00650	-
Addressable Output Module-Audio (AOM-MUX)	0	×	0.00200		-0	×	0.00650	
5. INI-VGE Command Center Voice Gateway								
ntel. Network Command Voice Gateway (INI-VGE)	0	х	0.15000		-0	×	0.15000	
Addressable Switch Sub-assembly (ASM-16)	0	х	0.01100		0	х	0.01100	
Voice Paging Microphone (Microphone)	1	х	0.00100	0.00100	- 1	х	0.00100	0.0010
Firefighter's Telephone (Handset)	0	х	0.02000		0	х	0.02000	
Addressable Output Module-Signal (AOM-2SF)	0	х	0.00200		0	X	0.00650	_
Addressable Output Module-Telephone (AOM-TEL) Addressable Output Module-Audio (AOM-MUX)	0	×	0.00200		0	×	0.00650	_
7. Smoke Detectors/Modules	Ü		0.00200		v	^	0.00000	
ATD-L2F HEAT DETECTOR	6	х	0.00030	0.00180	-6	х	0.00650	0.0390
ADB-2F BEAM DETECTOR	0	X	0.00200		0	X	0.08500	
XP95 DUCT DETECTOR	0	х	0.00400		-0	х	0.20000	
MCS-COF CO/SMOKE DETECTOR	5	х	0.00030	0.00150	5	х	0.00650	0.0325
AMM2IF DUAL MONITOR MODULE	0	х	0.00750		0	х	0.00570	
AMNI-4F MONITOR MODULE	11	Х	0.00038	0.00413	11	Х	0.00500	0.0550
M500X ISOLATION MODULE	0	X	0.00500		0	X	0.00500	
AOM-2RF RELAY MODULE MS7 PULL STATION	0	x	0.00038		0	×	0.00650	
ASD-PL3 PHOTO SMOKE DETECTOR	35	X	0.00030	0.01050	35	X	0.00500	0.2275
8. Notification Appliances	99	n	5.00000	2.01000	50	, n.	5.00000	VIEE!
	0	х	0.00000		-0	х	0.00000	
	0	x	0.00000		0	×	0.00000	\vdash
		x			0	_		
	0	_	0.00000		_	X	0.00000	\vdash
	0	х	0.00000		0	X	0.00000	-
	0	х	0.00000		0	х	0.00000	⊢—
	0	х	0.00000		0	х	0.00000	Ь—
	0	х	0.00000		0	х	0.00000	<u> </u>
	0	х	0.00000		0	х	0.00000	<u> </u>
	0	х	0.00000		0	х	0.00000	
	0	х	0.00000		0	х	0.00000	
		1	Total Standby	0.432 A			Total Alarm	7.217
			Load:	9.50£ B			Load:	1.21/

	TII	DNI		RAMI	D		D,	1			
	10	LIA		/ WIAII			N				
	Standby Current (amps) Alarm Current (amps)										
Device Type	QTY	Watts	Cu	rrent Draw		Total	Qty	Сι	urrent Draw		Total
1. System											
AM-50	1	50	Х	0.0860	=	0.0860	0	Х	2.2060	=	2.2060
			Х		=		0	Х		=	0.0000
			Х		=		0	Х		=	0.0000
2. Speakers											
Total Speaker Watts @) 25Vrms	21.5							0.8600	=	0.8600
Total Speaker Watts @	70.7Vrms								0.0000	=	0.0000
		Tot	tal S	tandby Loa	d	0.0860		Tot	al Alarm Lo	ad	3.0660
				0							

	lotal Standby Load	0.0860		otal Alarm L	oad	3.0660
	0					
			Requ	ired Standby	Time	in Hours
Standby Load Current (Amps)	0.0860 A	mps	Х	24	=	2.064 AH
			Requ	ired Alarm Ti	me in	Hours
Alarm Load Current (Amps)	3.0660 A	mps	Χ	15	=	0.767 AH
			To	tal Current L	oad	2.83 AH
		*Multiply b	y the [Derating Fact	or =	x 1.20
		Total Amp	ere Ho	ours Require	d	3.40 AH
	Recommended	Batteries:		7AH BA	ΓΤΕRΙ	ES

*Derating Factor required to compensate for the non-linear discharge characteristic of a battery.

CIRCUIT NAME: NAC Circuit 2 POWER SOURCE: BPS-1 MODEL NUMBER: HPF24S8 BRAND: HPP

 VOLTS: 20.4
 CLASS: CLASS B

 AWG: 12
 TOTAL DEVICES: 10

 POWER: DC
 19.13 % (0.574) AMPS USED

 AMPS: 3
 1.76 % (0.359) VOLTAGE DROP

#	MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
1	SPSCWL	15				0.041	25	20.342	20.308	20.254	20.168
2	SPSCWL	15				0.041	25	20.288	20.223	20.119	19.953
3	SPSCWL	15				0.041	25	20.239	20.145	19.994	19.754
4	SPSCWL	15				0.041	25	20.194	20.073	19.879	19.572
5	SPSCWL	15				0.041	25	20.153	20.008	19.775	19.406
6	SPSCWL	30				0.063	25	20.116	19.949	19.681	19.257
7	SPSCWL	30				0.063	25	20.085	19.900	19.603	19.133
8	SPSCWL	75				0.111	25	20.061	19.861	19.541	19.035
9	SCW	15				0.066	25	20.048	19.840	19.507	18.982
10	SCW	15				0.066	25	20.041	19.829	19.490	18.955
							VOLTAGE (0.359	0.571	0.910	1.445

CIRCUIT NAME: NAC Circuit 4
POWER SOURCE: BPS-1
MODEL NUMBER: HPF24S8
BRAND: HPP

 VOLTS: 20.4
 CLASS: CLASS B

 AWG: 12
 TOTAL DEVICES: 1

 POWER: DC
 5.27 % (0.158) AMPS USED

 AMPS: 3
 .08 % (0.016) VOLTAGE DROP

#	MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
1	SPSW (Stro	75				0.158	25	20.384	20.375	20.360	20.336
							VOLTAGE [0.016	0.025	0.040	0.064

Voltage Drop Calculations

CIRCUIT NAME: NAC Circuit 1 POWER SOURCE: BPS-1 MODEL NUMBER: HPF24S8

BRAND: HPP

 VOLTS: 20.4
 CLASS: CLASS B

 AWG: 12
 TOTAL DEVICES: 9

 POWER: DC
 19.43 % (0.583) AMPS USED

 AMPS: 3
 1.53 % (0.312) VOLTAGE DROP

	MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
1	SPSCWL	15				0.041	25	20.341	20.307	20.252	20.164
2	SPSCWL	15				0.041	25	20.287	20.221	20.114	19.945
3	SPSCWL	30				0.063	25	20.237	20.141	19.987	19.743
4	SPSCWL	30				0.063	25	20.193	20.071	19.876	19.566
5	SPSCWL	75				0.111	25	20.155	20.011	19.781	19.415
6	SCW	15				0.066	25	20.128	19.969	19.714	19.308
7	SCW	15				0.066	25	20.108	19.937	19.664	19.228
8	SCW	15				0.066	25	20.095	19.916	19.630	19.175
9	SCW	15				0.066	25	20.088	19.905	19.613	19.148
							VOLTAGE [0.312	0.495	0.787	1.252

CIRCUIT NAME: NAC Circuit 3
POWER SOURCE: BPS-1
MODEL NUMBER: HPF24S8
BRAND: HPP

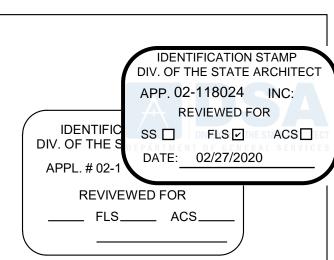
 VOLTS: 20.4
 CLASS: CLASS B

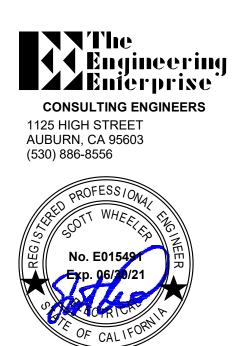
 AWG: 12
 TOTAL DEVICES: 2

 POWER: DC
 10.53 % (0.316) AMPS USED

 AMPS: 3
 .24 % (0.048) VOLTAGE DROP

‡	MODEL	CANDELA	PATTERN	VOLUME	TONE	CURRENT (DISTANCE	12 AWG	14 AWG	16 AWG	18 AWG
1	SPSW (Stro	75				0.158	25	20.368	20.350	20.320	20.272
2	SPSW (Stro	75				0.158	25	20.352	20.325	20.280	20.208
							VOLTAGE [0.048	0.075	0.120	0.192





Turner Academy affokay Colony 13520 Live Oak Rd, Lodi, CA 95240

	REVISIONS	
#	DESCRIPTION	DATE

DESIGNER:Designer

SCALE:

DATE:2019.12.20

FIRE ALARM CALCULATIONS

DRAWING NO.

E4.01





REVISIONS

DESIGNER:

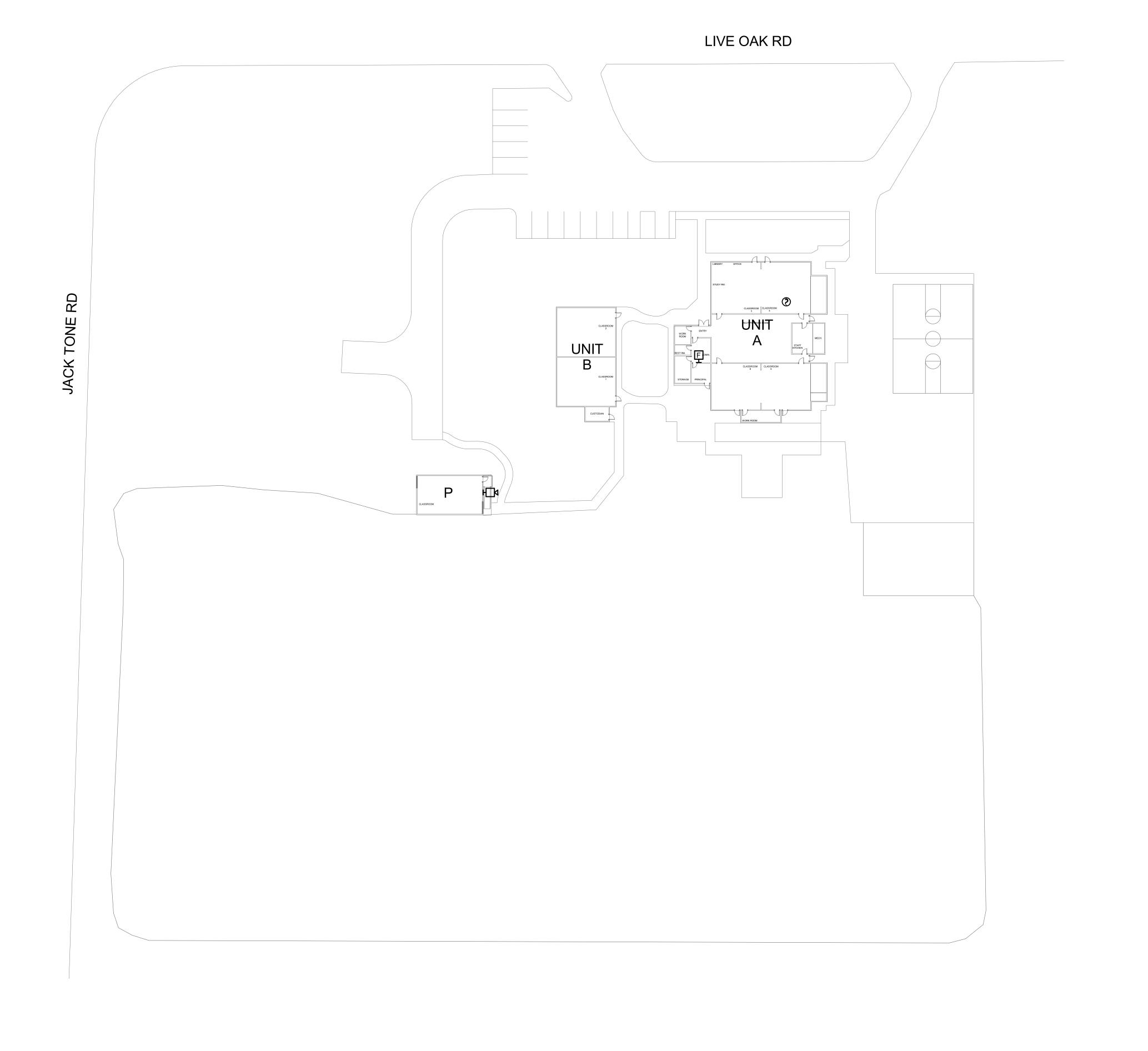
SCALE: 1/32" = 1'-0"

DATE:2019.12.20

FIRE ALARM DEMO PLAN - SITE PLAN

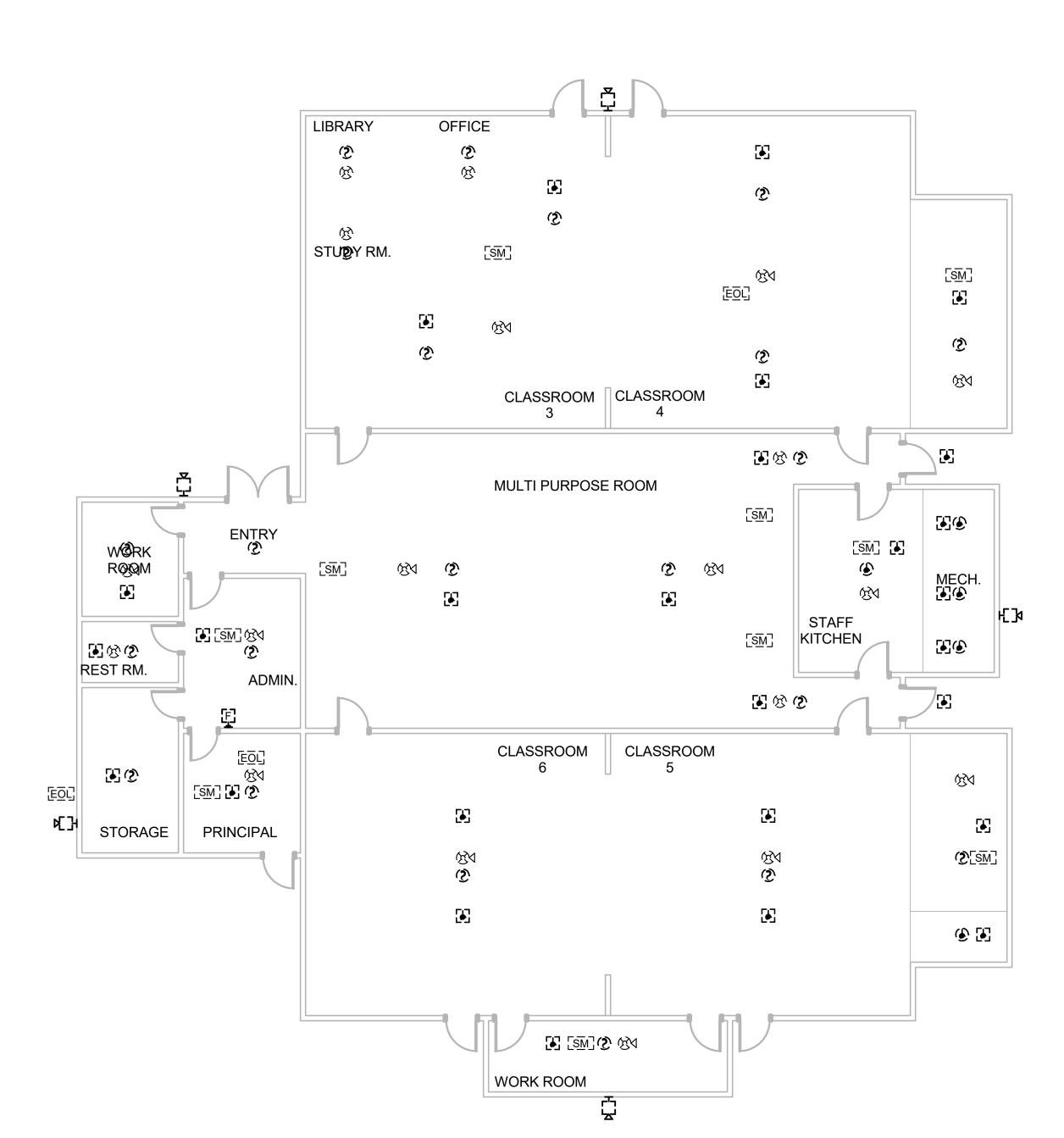
DRAWING NO.

ED1.00

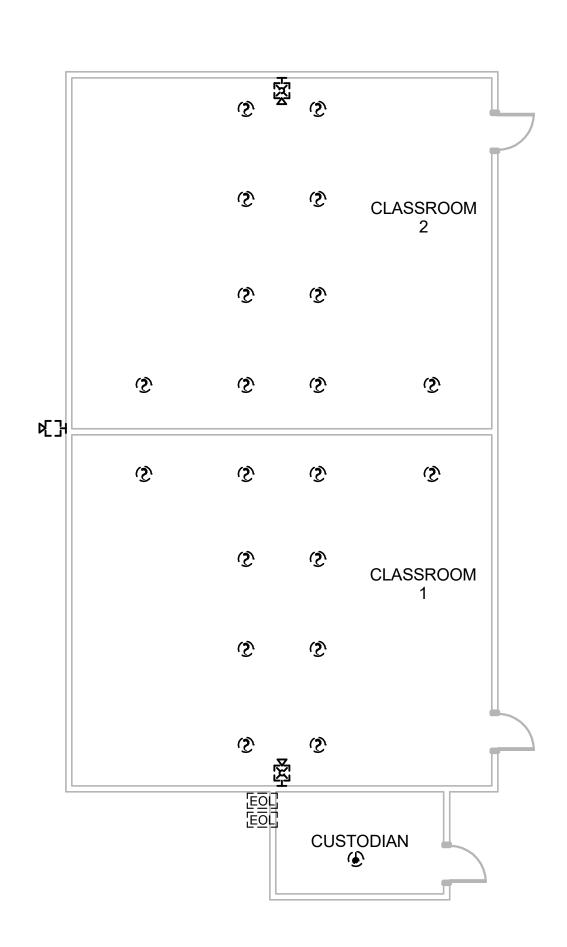


TIRE ALARM DEMO - SITE PLAN

SCALE: 1/32" = 1'-0"

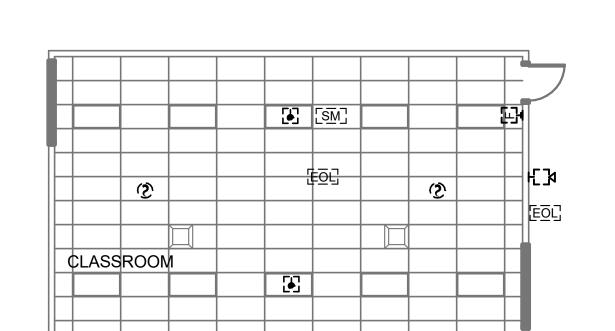






Building B Fire Alarm Demolition Plan

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



Portable 2 Fire Alarm Demolition Plan

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.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-118024 INC:
REVIEWED FOR
IDENTIFICATION STAMPFLS ACS
DIV. OF THE STATE ARCHITECT
DATE: 02/27/2020
APPL. # 02-118024 INC: #

REVIVEWED FOR
SS____ FLS___ ACS___
DATE:____



Turner Academy affokay Colony 13520 Live Oak Rd, Lodi, CA 95240

REVISIONS

BESCRIPTION

DATE

DESIGNER:Designer

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

DATE:2019.12.20

FIRE ALARM DEMO PLAN - A, B & PORTABLE

DRAWING NO.

ED1.01