### ROSEMEAD SCHOOL DISTRICT

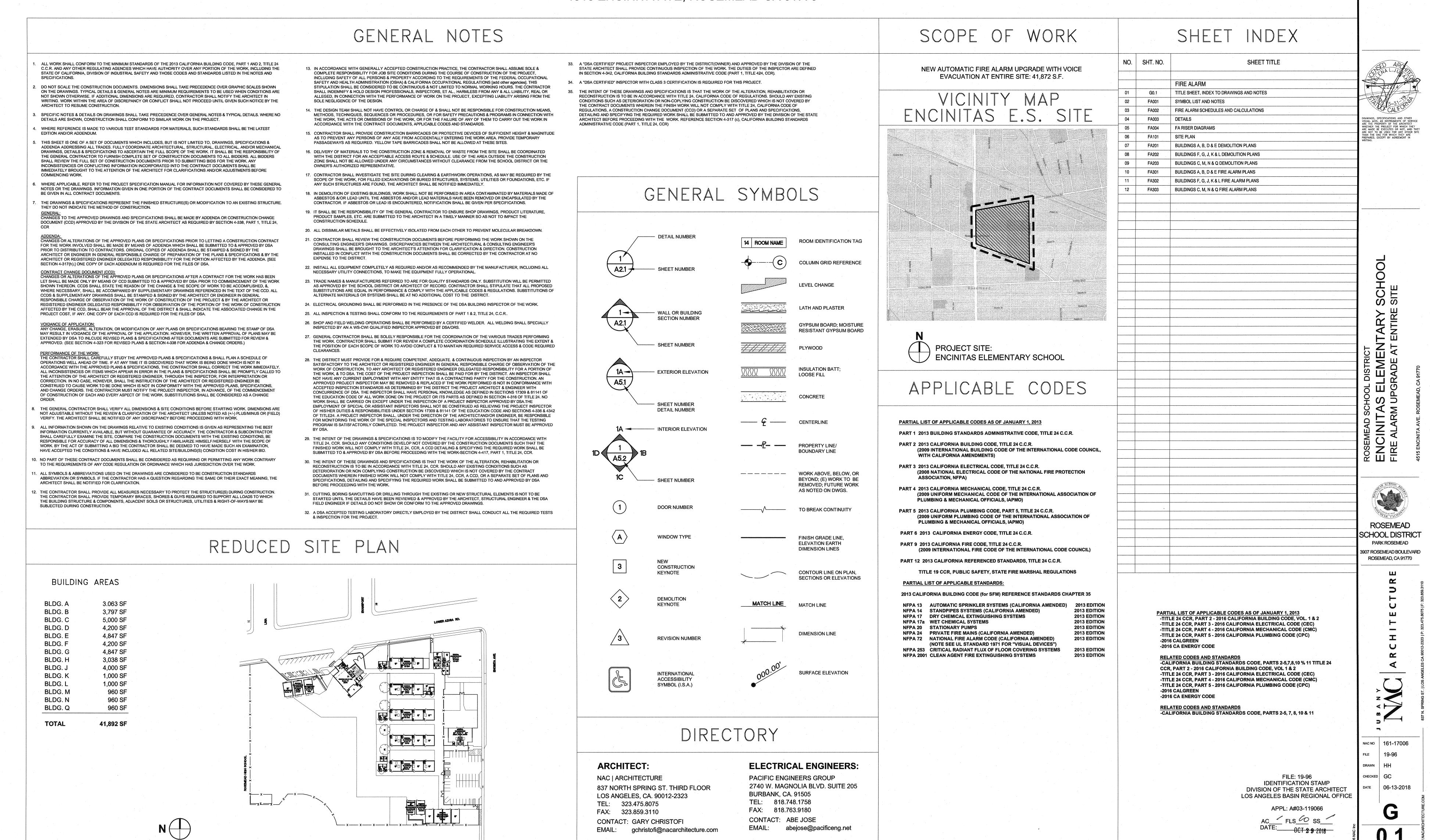
# FIRE ALARM UPGRADE

AT ENTIRE SITE

OF THE

# ENCINITAS ELEMENTARY SCHOOL

4515 ENCINITA AVE, ROSEMEAD CA 91770



TITLE SHEET, INDEX TO DRAWINGS AND NOTES

EMEAI CINITAL

CHECKED AJ 06-13-2018

## **SECTION A-A**

### THROUGH - PENETRATION FIRESTOP SYSTEM

June 15, 2005 F Ratings - 1, 2, 3 and 4 Hr (See Items 2 and 3 T Ratings - 0, 1, 2, 3 and 4 Hr (See Item 3) L Ratings At Ambinet — less than 1 CFM/sq f L Rating At 400 F - less than 1 CFM/sq ft

1. Wall Assembly - The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features: A. Studs — Wall framing may consist of either wood studs (max 2 hr fire rated assemblies) or steel channel studs. Wood studs consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.

B. Gypsum Board\* — Nom 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in. (660 mm).

2. Through Penetrant — One Metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in. (0 mm) (point contact) to max 2 in. (51 mm). Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used: A. Steel Pipe - Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe - Nom 24 in. (610 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. (305 mm) diam (or smaller) or Class

c. Conduit — Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing. Copper Tubing - Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing. Copper Pipe - Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

Through Penetrating Product\* - Flexible Metal Piping - The following types of steel flexible metal gas piping may be used: 1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

OMEGA FLEX INC 2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly. TITEFLEX CORF

A BUNDY CO 3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly. WARD MFG INC

3. Fill, Void or Cavity Material\* — Caulk or Sealant — Min 5/8. 1—1/4,1—7/8 and 2—1/2in. (16, 32, 48, and 64 mm) thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the fire stop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following tables. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is

Max Pipe or Conduit Diam In. (mm)	F Rating Hr	T Rating Hr
1 (25)	1 or 2	0+, 1 or 2
1 (25)	3 or 4	3 or 4
4 (102)	1 or 2	0
6 (152)	3 or 4	0
12 (305)	1 or 2	0
12 (303)	1 01 2	1 0

+ When copper pipe is used. T Rating is 0 hr. 3M COMPANY - CP 25WB+ caulk or FB-3000 WT sealant, \* Bearing the UL Classification Marking

### **GENERAL FIRE ALARM NOTES**

**ELECTRICAL DEMOLITION WORK** 

INCLUDE ALL DEMOLITION WORK AS PART OF THIS CONTRACT. EXISTING FIRE

ALARM SYSTEM MUST REMAIN IN OPERATION DURING INSTALLATION OF THE

NEW SYSTEM. IF EVER IT IS NECESSARY TO SHUT-OFF THE EXISTING SYSTEM

DUE TO INTERCONNECTION WITH THE NEW PANELS AND DEVICES, A FIRE WATCH

ALL USABLE EXISTING FIRE ALARM COMPONENTS REMOVED FROM THIS PROJECT

SALVAGE. THE LOCAL LAUSD ELECTRICAL SUPERVISOR SHOULD BE CONSULTED

CIRCUITS AND WIRING SHOULD BE REMOVED COMPLETELY RATHER THAN LABELED.

SHOULD BE RETURNED TO LOCAL MAINTENANCE AND OPERATIONS AREAS FOR

3. IN WALL OR UNDERGROUND CONDUITS OF EXISTING FIRE ALARM SYSTEM SHALL

BE ABANDONED IN PLACE. PROVIDE BLANK COVER/CAP. ALL ABANDONED

SHALL BE PROVIDED FOR THE DURATION OF THE SHUT DOWN AND UNTIL THE

NEW SYSTEM BECOMES OPERATIONAL.

1. REMOVAL OF (E) FACP @ MAIN BUILDING.

TO DETERMINE IF ANY COMPONENTS ARE SALVAGEABLE.

- 1. THE SYSTEM SHALL CONFORM TO CALIFORNIA CODE OF REGULATIONS (CCR) TITLES 19 & 24 AS APPLICABLE TO THIS PROJECT.
- 2. UPON COMPLETION OF SYSTEM INSTALLATION, THE SYSTEM SHALL BE TESTED IN THE PRESENCE OF AND IN A MANNER ACCEPTABLE TO DSA/IOR. CONTRACTOR TO SUPPLY NECESSARY TESTING EQUIPMENT INCLUDING A "DECIMETER" TO CHECK ACCEPTABLE NOISE LEVELS OF AUDIBLE DEVICES, PROVIDE TEST RESULTS PER NFPA 72 TO ARCHITECT, DSA, INSPECTOR OF RECORD, OWNER AND TO THE LOCAL FIRE AUTHORITY.
- 3. PENETRATIONS OF ALL FIRE-RATED WALLS SHALL BE PROTECTED IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE, PART 2. PROVIDE DETAILS AND DESIGN NUMBERS.
- 4. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDA OR A CONSTRUCTION CHANGE DOCUMENTS (CCD) APPROVED BY THE OFFICE OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
- 5. A PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE OFFICE OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342,
- 6. AUTOMATIC VOICE EVACUATION FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION AS REQUIRED BY NFPA 72 AS AMENDED BY THE ARTICLE 91. THE SUPERVISING STATION SHALL BE LISTED AS EITHER UUFX OR UUJS BY UNDERWRITERS LABORATORY OR SHALL MEET THE REQUIREMENTS OF FACTORY MUTUAL RESEARCH APPROVAL STANDARD 3011.
- 7. LOCATION AND PLACEMENT OF FIRE ALARM DEVICES ARE NOT TO BE CONSIDERED DIAGRAMMATIC IN NATURE. ANY CHANGE IN THE LOCATION OR PLACEMENT OF BOTH DETECTION AND NOTIFICATION DEVICES MUST BE REVIEWED AND APPROVED BY DSA FLS. FINAL APPROVAL OF DEVICE PLACEMENT IS SUBJECT TO FIELD
- VERIFICATION OF CODE COMPLIANCE. 8. ALL WIRING, INITIATING DEVICES AND ANNUNCIATOR PANEL SHALL BE SUPERVISED TO THE PRINCIPAL POINT OF ANNUNCIATION.
- 9. ALL TERMINATIONS IN TERMINAL CABINETS SHALL BE ON TERMINAL BLOCKS.
- 10. EXISTING FIRE ALARM SYSTEM SHALL REMAIN OPERATIONAL UNTIL THE NEW SYSTEM IS ACCEPTED BY SCHOOL DISTRICT; OTHERWISE HUMAN 24 HOURS FIRE WATCH SHALL BE PROVIDED BY FIRE ALARM CONTRACTOR.
- 11. SPEAKER INTELLIGIBILITY SHALL BE MEASURED AND PART OF ACCEPTANCE TEST.

### **GENERAL NOTES**

MAY BE LOCATED UNDER A CABINET CONTAINING BATTERIES.

- 1. "THE FIRE ALARM SYSTEM SHALL CONFORM TO ARTICLE 760 OF THE CALIFORNIA ELECTRICAL CODE, CURRENT CALIFORNIA TITLE 24 REQUIREMENTS, CALIFORNIA FIRE CODE, NFPA 72 AND 101 STANDARDS, AMERICAN WITH DISABILITY ACT (ADA) REQUIREMENTS."
- "PANELS MUST NOT BE MOUNTED HIGHER THAN 6 FEET AND SYSTEM STATUS DISPLAYS ARE TO BE AT EYE LEVEL (+60"" AFF). NO EQUIPMENT OR RACEWAY
- AT LEAST ONE TERMINATION CABINET IN EACH BUILDING FOR TERMINATION OF ALL FIRE ALARM WIRING. PROVIDE A MAIN TERMINAL CABINET IN MAIN BUILDING FOR ROUTING ALL FIRE ALARM SYSTEM WIRING FOR ENTIRE SCHOOL "CONTRACTOR SHALL INSTALL AND FURNISH A COMPLETE ADDRESSABLE FIRE
- CONDUITS AND DEVICES REQUIRED FOR SATISFACTORY OPERATION OF SYSTEM.' PROVIDE 120 VAC 20A DEDICATED CIRCUIT(S) FOR EACH CIRCUIT FEEDING FIRE ALARM EQUIPMENT. CIRCUIT BREAKER AT PANEL BOARD SHALL BE EQUIPPED WITH A HANDLE LOCK-ON DEVICE, AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL". CIRCUIT NUMBER, ELECTRICAL PANEL NAME AND LOCATION SHALL BE PERMANENTLY AND CLEARLY MARKED ON THE INSIDE SURFACE OF FIRE ALARM UNIT. ACCESS TO CIRCUIT BREAKER(S) SHALL BE RESTRICTED TO AUTHORIZED PERSONNEL ONLY. PROVIDE SURGE SUPPRESSOR AT INPUT OF FIRE ALARM UNIT.

ALARM VOICE EVACUATION SYSTEM, INCLUDING BUT NOT LIMITED TO WIRING,

- 6. ALL EXPOSED CONDUITS AND BOXES WITH THE EXCEPTION OF THOSE IN UNOCCUPIED AREAS LIKE JANITOR OR UTILITY ROOMS, SHALL BE PAINTED TO MATCH THE SURFACES WHERE INSTALLED.
- 7. THE REPRESENTATION OF PHYSICAL PLACEMENT OF EXISTING CONDUITS HAS BEEN DEVELOPED FROM THE BEST INFORMATION AVAILABLE TO THE DISTRICT AT THE TIME THE DRAWINGS WERE PREPARED. THE DISTRICT PROVIDES THIS ONLY AS A GENERAL GUIDELINE FOR THE CONVENIENCE OF BIDDERS/CONTRACTORS AND DOES NOT GUARANTEE OR WARRANT IN ANY WAY EXPRESSLY OR IMPLIEDLY, THE ACCURACY OF THESE REPRESENTATIONS. NOTHING IN THIS DISCLAIMER AFFECTS IN ANY WAY THE DUTY OF THE CONTRACTOR TO FURNISH ACCURATE "AS BUILT" DRAWINGS AFTER THE COMPLETION OF THE CONTRACT.
- 8. IN EXISTING BUILDINGS, CONTRACTORS SHALL NOT WORK IN AREAS CONTAMINATED BY MATERIALS MADE OF ASBESTOS UNTIL THE ASBESTOS MATERIALS HAVE BEEN REMOVED OR ENCAPSULATED.
- REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND EQUIPMENT AND MATERIAL APPROVED FOR USE UNDER THIS CONTRACT.
- 10. CONTRACTOR SHALL NOT DISMANTLE OR REMOVE EXISTING FIRE ALARM SYSTEM DEVICES UNTIL THE NEW FIRE ALARM SYSTEM IS COMPLETELY OPERATIONAL AND THE UNUSED EXISTING SYSTEM DEVICES MUST BE REMOVED TO COMPLETE THE PROJECT. ALL ABANDONED CIRCUITS AND WIRING SHOULD BE REMOVED COMPLETELY RATHER THAN LABELED.
- 11. QUANTITY OF WIRES SHOWN IN ALL CONDUITS IS FOR GENERAL GUIDELINE. SUPPLIER OF FA SYSTEM SHALL PREPARE CONSTRUCTION DRAWINGS SHOWING SHOWING ALL NECESSARY WIRES AND CABLES AND VERIFY SIZES OF ALL CONDUITS SHOWN.
- 12. DRAWINGS DO NOT SHOW ALL THE NECESSARY J-BOXES AND PULL BOXES WHICH WILL BE REQUIRED THROUGHOUT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL THESE BOXES AS NECESSARY TO TERMINATE CONDUITS AND RACEWAYS. PAINT BOXES TO MATCH COLOR OF THE FINISHED SURFACE THAT THE BOXES ARE ATTACHED BUILDINGS.
- 13. ALL JUNCTION BOXES AND DEVICES INDICATED ON BUILDING EXTERIORS SHALL BE WEATHERPROOF TYPE.
- 14. FIRE ALARM WIRES SHALL BE COPPER TYPE THWN/THHN.
- 15. WHEN ALL FIRE ALARM DEVICES ARE INSTALLED AND PROGRAMMING IS COMPLETE, THE FIRE ALARM DEVICE MAP IN THE SCHOOL MAIN OFFICE SHOULD BE UPDATED TO INDICATE TO SCHOOL PERSONNEL THE LOCATIONS OF THE NEW DEVICES.
- NOT CONTAIN SPLICES. CONDUCTORS SHALL BE PULLED THROUGH. TERMINATIONS SHALL BE PERFORMED, ON DEVICE TERMINALS, TERMINAL BLOCKS IN CABINETS AND EQUIPMENT TERMINALS.

16. SPLICING OF FA SYSTEM WIRING IS NOT ALLOWED. JUNCTION BOXES SHALL

- 17. LABEL DESCRIPTIONS" INDICATING DEVICE TYPE AND LOCATION THAT ARE DISPLAYED ON THE FIRE ALARM LCD DISPLAY SHOULD BE CLEAR AND EASILY UNDERSTOOD BY THE OFFICE STAFF. DESCRIPTIONS SHOULD BE BASED ON THE STAFFS UNDERSTANDING OF THE SITE AND NOT ON INFORMATION TAKEN FROM PRINTS.
- 18. PROVIDE 24 HOURS FIRE WATCH DURING CONSTRUCTION, SHOULD EXISTING SYSTEM NEED TO BE INTERRUPTED. INCLUDE ALL COST IN ORIGINAL BID.
- 19. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THE TYPE OF CEILING CONSTRUCTION AND TO PROVIDE THE PROPER TYPE OF BOX MOUNTING AND SUPPORT FOR FIRE ALARM INITIATION DEVICES.

MEP Component Anchorage Note All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA approved construction documents. Where no detail is indicated, the following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2013 CBC, Sections

- All permanent equipment and components
- 2. Temporary or movable equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water. 3. Movable equipment which is stationed in one place for more than 8 hours and heavier than 400
- The following mechanical and electrical components shall be positively attached to the structure, but the attachment need not be detailed on the plans. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit.
- A. Components weighing less than 400 pounds and have a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component. B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5

For those elements that do not require details on the approved drawings, the installation shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and the DSA District Structural Engineer. The project inspector will verify that all components

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-10 Section 13.3 as defined in ASCE 7-10 Section 13.6.5.6, 13.6.7,

13.6.8, and 2013 CBC, Sections 1616A.1.23, 1616A.1.24, 1616A.1.25 and 1616A.1.26. The method of showing bracing and attachments to the structure for the identified distribution system are as

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

MP□ MD□ PP□ E□ - Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #)

- Option 3: Shall comply with the SMACNA Seismic Restraint Manual, OSHPD

Edition (2009), including any addenda. Fasteners and other attachments not Edition, are detailed on the approved drawings with project specific notes Level \_\_\_\_ and Connection Level \_\_\_\_ for the project and conditions.

FIRE ALARM SYSTEM DESCRIPTION

FIRE ALARM SUBMITTAL CONSISTS OF COMPLETE FULLY AUTOMATIC VOICE EVACUATION FIRE ALARM SYSTEM PER DSA POLICY CFC907.2.3.

> **IDENTIFICATION STAMP** DIVISION OF THE STATE ARCHITECT

> > APPL: A# 03-119066

LOS ANGELES BASIN REGIONAL OFFICE

SYMBOL LIST AND NOTES

FIRE ALARM WALL MOUNTED SPEAKER WITH STROBE LIGHT, CANDELA RATING AS INDICATED. +96" TO TOP OF STROBE LIGHT. "A" DENOTES AUDIBLE FIRE ALARM SIGNAL CIRCUIT AND "V" DENOTE VISUAL FIRE ALARM SIGNAL CIRCUIT. "15cd" DENOTES CANDELA RATING WITH 1/2 WATT SPEAKER TAPPED. CEILING MOUNTED SPEAKER/STROBE, CANDELA RATING AS INDICATED WITH 1/2 WATT SPEAKER TAPPED. FIRE ALARM MANUAL PULL STATION. PROVIDE MONITOR MODULE TO EACH DEVICE, +48". "S1-1" DENOTES LOOP MODULE (SLC #1) IDENTIFICATION NUMBER.

WP A1-1 DEF[2] EXTERIOR W.P. FIRE ALARM SPEAKER. "A1-1" DENOTES AUDIBLE FA SIGNAL CIRCUIT NUMBER. FIRE ALARM STROBE. MOUNT AT +96" TO TOP OF STROBE. CANDELA RATING AS INDICATED. "V2-1" DENOTES FIRE ALARM SIGNAL CIRCUIT NUMBER. "15cd" DENOTES 15cd CANDELA RATING. 15cd

CEILING MOUNTED STROBE. CANDELA RATING AS INDICATED ADDRESSABLE SMOKE DETECTOR, PHOTOELECTRIC TYPE. "S1-1" DENOTES LOOP DETECTOR

FIRE ALARM SYMBOL LIST

ADDRESSABLE HEAT DETECTOR MOUNTED IN CEILING. "S1-1" DENOTES LOOP DETECTOR

ADDRESSABLE HEAT DETECTOR MOUNTED IN CEILING WITH ACCESS PANEL. "S1-1" DENOTES LOOP ETECTOR IDENTIFICATION NUMBER.

MONITOR MODULE. "S1-1" DENOTES LOOP DETECTOR IDENTIFICATION NUMBER. CONTROL RELAY MODULE. "S1-1" DENOTES LOOP DETECTOR IDENTIFICATION NUMBER.

LINEAR HEAT DETECTOR MOUNTED IN ATTIC SPACE. FIRE ALARM TERMINAL CABINET WITH TERMINAL STRIPS. 14"x14"x3.5" DEEP "1F2,32PT."

MAIN FIRE ALARM CONTROL PANEL

FIRE ALARM

#OF DEVICE~

CKT #-\

CANDELA-

RATING

V2−1 I5cd

V2−1 DSS

REMOTE POWER SUPPLY. VOICE EVAC VOICE EVACUATION PANEL (AMPLIFLEX)

MAIN FIRE ALARM TERMINAL CABINET WITH TERMINAL STRIPS 24"x24"x6"DEEP.

W.P. WEATHERPROOF.

EXISTING TO REMAIN. EOL END OF LINE RESISTOR. FA ANNUN FIRE ALARM ANNUNCIATOR PANEL. PULLBOX, WEATHERPROOF.

RA REMOTE AMPLIFIER. SLC SIGNALLING LINE CIRCUIT. DISCONNECT AND REMOVE EXISTING DEVICES

DISCONNECT AND REMOVE EXISTING FIRE ALARM STROBE, HORN/STROBE AND HORNS INCLUDING ASSOCIATED CONDUIT AND WIRES. PATCH AND PAINT WALL TO MATCH EXISTING WALL COLOR. DISCONNECT AND REMOVE EXISTING FIRE ALARM SMOKE, HEAT DETECTOR AND PULL STATION INCLUDING ASSOCIATED CONDUIT AND WIRES. PATCH AND PAINT

WALL/CEILING TO MATCH EXISTING WALL/CEILING COLOR. DISCONNECT AND REMOVE EXISTING FIRE ALARM ANNUNCIATOR PANEL. REMOVE POWER SUPPLY AND MAIN FIRE ALARM CONTROL PANEL INCLUDING ASSOCIATED

CONDUIT AND WIRES. PATCH AND PAINT WALL TO MATCH EXISTING WALL COLOR

#### FIRE ALARM CABLE AND WIRING

"F" CABLE - "WEST PENN" NO. D980, 1 PAIR #18 NON-SHIELDED - FIRE ALARM ADDRESSABLE LOOP.

"FW" CABLE - "WEST PENN" NO. AQC225, 1 PAIR #16 NON-SHIELDED - FIRE ALARM ADDRESSABLE LOOP (UNDERGROUND) "A" CABLE - 2#14 TWISTED PAIR, AUDIO CABLE (SPEAKER).

"AW" CABLE - 2#14 TWISTED PAIR, AUDIO CABLE WET LOCATION (AUDIO).

"V" CABLE - 2#12 AWG-FIRE ALARM VISUAL CIRCUIT CABLE. "S" CABLE - 2#14 TWISTED PAIR SYNC CABLE, WET LOCATION.

"Q" CABLE - 2#14 TWISTED PAIR AMPLIFIER CABLE, WET LOCATION.

"T" CABLE - CAT-5, 4 PAIR#24 TELEPHONE CABLE. ——F,A,V—— 3/4"C, WITH ONE "F" CABLE, ONE "N" CABLE AND ONE "V" CABLE.

F 3/4" CONDUIT WITH ONE "F" CABLE ----2F---- 3/4" CONDUIT WITH TWO "F" CABLES

----V----- 3/4" CONDUIT WITH ONE "V" CABLE ----2V---- 3/4" CONDUIT WITH TWO "V" CABLES

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

----NW---- 3/4" CONDUIT WITH ONE "NW" CABLE.

RE ALARM CONTROL PANEL "MFACI

COMPONENT

INEAR HEAT DETECTOR

SYMBOLS

——2NW—— 3/4" CONDUIT WITH TWO "NW" CABLES. -2F,2A,2V- 1-1/2" CONDUIT WITH TWO "F", TWO "A", TWO "V" CABLES.

-2A,2V- 1" CONDUIT WITH TWO "A", TWO "V" CABLES. -F,A,2V- 1" CONDUIT WITH ONE "F", ONE "A", TWO "V" CABLES

		FIRE ALARM ANNUNCIATOR	ANN-80	7120-0075:0211
		FIRE ALARM POWER SUPPLY	FCPS-24FS6	7315-0075:0206
		VOICE EVAC PANEL	ECC-50/100	6911-0075:0226
		UDACT	DACT-UD2	7165-0075:0217
	Ē	PULL STATION	BG-12LX	7150-0075:0184
		REMOTE LOCAL OPERATOR CONSOLE	ECC-LOC	7300-0075:0227
		REMOTE AMPLIFIER	ECC-50DA	7300-0075:0227
	(cd) <b>\</b> SS <b>&lt;</b>	CEILING MOUNTED SPEAKER/STROBE	SYSTEM SENSOR SPSCRL	7320–1653:0505
·	WP D®	VOICE EVAC EXTERIOR SPEAKER	SYSTEM SENSOR SPRK WITH MWBB BACKBOX	7320–1653:0201
		SPEAKER - STROBE (15cd)	SYSTEM SENSOR SPSRL	7320-1653:0505
	(cd)\$\frac{\sigma}{\sigma}	SPEAKER - STROBE (75cd)	SYSTEM SENSOR SPSRL	7320-1653:0505
		SPEAKER - STROBE (110cd)	SYSTEM SENSOR SPSRL	7320-1653:0505
		STROBE (15cd)	SYSTEM SENSOR SRL	7125–1653:0504
	(cd) [S])	STROBE (30cd)	SYSTEM SENSOR SRL	7125–1653:0504
	(ca) (b)	STROBE (75cd)	SYSTEM SENSOR SRL	7125–1653:0504
	(S)	SMOKE DETECTOR, PHOTOELECTRIC	SD355 W/B210LP	7272-0075:0194
	(SC)	SMOKE DETECTOR, CARBON MONOXIDE	SD 355CO W/B210LF	7675-0075:0505
	ММ	MONITOR MODULE	MMF-300	7300-0075:0185
	CR	CONTROL RELAY MODULE	CRF-300	7300-0075:0185
	(H))	HEAT DETECTOR	H355HT(A) W/B210LP	7270-0075:0195

FIRELITE CAT. NO.

MS-9600UDLS

NOTIFIER EPR-M

CSFM NO.

7165-0075:0217

7270-0854:0101

PERFORM THE NECESSARY DEMOLITION WORK WITH GREAT CARE AND WITH SMALL TOOLS IN ORDER NOT TO JEOPARDIZE EXISTING STRUCTURE AND EQUIPMENT TO

SHOULD BE 1/2" HIGH, RED ON WHITE BACKGROUND AND BOLD ENOUGH TO BE

VERIFY CONDUIT STUB UP AREAS OUTSIDE ALL BUILDINGS AND STUB UP AT BEST AREAS TO AVOID EXISTING WINDOWS, VENTS, ETC.

CONSTRUCTION NOTES

HEAT DETECTORS INSTALLED ABOVE SUSPENDED CEILING MUST HAVE THEIR LOCATIONS CLEARLY MARKED BELOW THE CEILING AND BE EASILY ACCESSIBLE. LABEL LETTERING EASILY SEEN BY PERSONNEL FROM THE FLOOR. PROVIDE ACCESS PANEL AT EACH NEW HEAT DETECTOR INSTALLED INSIDE ATTIC OR

CEILING SPACE EXCEPT IN T-BAR CEILING AREAS. INCLUDE IN BID TO PROVIDE TEMPORARY ACCESS OPENING AT NON—T—BAR CEILING AREAS TO INSTALL CONDUITS AND BOXES FOR FIRE ALARM SYSTEM AND PATCH TO MATCH EXISTING FINISH AFTER INSTALLATION. VERIFY EXISTING CEILING BEFORE SUBMITTING BID. CUT WALL AND MODIFY CEILING AS REQUIRED DURING CONDUITS/BOXES INSTALLATION AND PATCH TO MATCH EXISTING.

5. REPLACE DAMAGED CEILING TILES AND CEILING TILES WITH HOLES DUE TO REMOVAL OF EXISTING DEVICES, J-BOX, CONDUITS, WIREMOLD RACEWAYS & ETC.

6. UNLESS SPECIFICALLY APPROVED ON THE DRAWINGS, NO STRUCTURAL MEMBER SHALL BE ALTERED BY CUTTING, BORING, BRAZING, DRILLING, NOTCHING, WELDING AND ETC. WITHOUT THE SEOR AND DSA REVIEW AND APPROVAL

WHEREVER POSSIBLE. CONCEAL NEW CONDUITS AND BOXES IN CEILING, ATTIC SPACE OR WALLS. FISH CONDUITS INSIDE OF STUD WALLS WHERE POSSIBLE. WHERE EXPOSED RACEWAYS AND BOXES HAVE TO BE USED IN FINISHED AREAS, USE "WIREMOLD" TYPE SURFACE RACEWAYS. FOR ONE SD PER CLASSROOM, RUN THE WIREMOLD FROM WALL J-BOX UP TO THE SD ONLY. FOR TWO SD PER CLASSROOM LOCATE THE TWO SD CLOSER TO WALLS WITH A CENTER-TO-CENTER SPACE BETWEEN SD IN COMPLIANCE WITH NFPA-72 AND USE A SHORT PIECE OF WIREMOLD FROM EACH WALL J-BOX TO EACH SD. DO NOT RUN WIREMOLD ACROSS THE CEILING BUT RUN

WHEN RUNNING WIREMOLD RACEWAYS, RUN RACEWAYS HIGH ON WALL AT CEILING LINE OR LOW NEAR FLOOR AND SWEEP DOWN OR UP TO DEVICES. TAKE CARE TO MAKE INSTALLATION NEAT AND UNOBJECTIONABLE. DRAWINGS DO NOT SHOW NECESSARY

10. IF STRUCTURAL MEMBERS NOT INDICATED TO BE REMOVED ARE INTERFERING WITH NEW CONSTRUCTION, OBTAIN WRITTEN AUTHORIZATION FROM ENGINEER BEFORE REMOVING SUCH MEMBERS. DSA APPROVAL REQUIRED.

11. COORDINATE THE DEMOLITION WORK AND NEW CONSTRUCTION TO PERMIT CONTINUED OPERATION OF ALL FACILITIES NECESSARY TO BE KEPT IN OPERATION.

#### CODES, STANDARDS & GUIDES

List of 2016 California Code of Regulations (C.C.R.)

2016 California Building Standards Administrative Code, (CAC), Part 1, Title 24 C.C.R. (CBC), Part 2, Title 24 C.C.R. Volumes 1 & 2, 2016 California Building Code, (Based on 2015 Edition International Building Code with 2016 California Amendments)

(Based on 2014 National Electrical Code with 2017 California 2016 California Mechanical Code, (CMC). Part 4. Title 24 C.C.R. (Based on 2015 IAPMO Uniform Mechanical Code with 2016 California Amendments)

2016 California Plumbing Code, (CPC), Part 5, Title 24 C.C.R. (Based on 2015 IAPMO Uniform Plumbing Code with 2016 California Amendments) 2016 California Energy Code, Part 6, Title 24 C.C.R.

(Based on 2015 International Fire Code with 2016 California Amendments) 2016 California Existing Building Code, (CFC), Part 10, Title 24 C.C.R. (Based on 2015 International Existing Building Code with 2016 California Amendments)

2016 California Green Building Standards Code, 2016 California Reference Standards,

Applicable Standards and Guide: Dry Chemical Extinguishing Systems

Wet Chemical Extinguishing Systems Installation of Stationary Pumps for Fire Protection 2016 Edition NFPA 24 Installation of Private Fire Service Mains and Their Appurtenances 2016 Edition NFPA 72 National Fire Alarm Code (California Amended)

2012 Edition NFPA 2001

Federal Codes and Standards:

Americans with Disabilities Act (ADA), Title II or Title III

Title III: ADA Standards for Accessible Design (Appendix A of 28 CFR, Part 36)

1616A.1.18 through 1616A.1.26 and ASCE 7-10 Chapter 13, 26 and 30

pounds are required to be anchored with temporary attachments.

pounds per foot, which are suspended from a roof or floor or hung from a wall.

and equipment have been anchored in accordance with above requirements. Piping, Ductwork, and Electrical Distribution System Bracing Note

MP□ MD□ PP□ E — Option 1: Detailed on the approved drawings with project specific notes and

specifically identified in the SMACNA Seismic Restraint Manual, OSHPD and details. The details shall account for the applicable Seismic Hazard

AC\_\_\_\_ FLS\_\_\_\_ SS\_\_\_ DATE:\_\_\_\_\_\_0CT\_29\_2018\_\_\_\_

ALONG WALLS.

7. SEAL AND CAULK AS REQUIRED AT ALL PENETRATIONS.

INTERMEDIATE BOXES. INCLUDE ALL NECESSARY FITTINGS, PULL AND J-BOXES IN BID.

Applicable Codes Effective January 1, 2017

(CEC), Part 3, Title 24 C.C.R. 2016 California Electrical Code,

(Based on 2015 Edition California Energy Commission Building Energy Efficiency Standards) 2016 California Fire Code, (CFC), Part 9, Title 24 C.C.R.

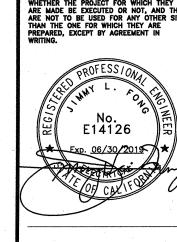
(CFC), Part 11, Title 24 C.C.R. Part 12, Title 24 C.C.R. (Partial List — See CBC Chapter 35 and CFC Chapter 45)

2016 Edition NFPA 13 Installation of Sprinkler System (California Amendments) 2016 Edition NFPA 14 Installation of Standpipe and Hose Systems 2017 Edition NFPA 17 2016 Edition NFPA 17A 2016 Edition NFPA 20

(Note see UL Standard 1971 for "Visual Devices") 2015 Edition NFPA 253 Critical Radiant Flux of Floor Covering Systems Clean Agent Fire Extinguishing Systems

Title II: Uniform Federal Accessibility Standards (UFAS) or ADA Standards for Accessible Design (Appendix A of 28 CFR, Part 36).

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):



ROSEMEAD

SCHOOL DISTRICT 3907 ROSEMEAD BOULEVARD

ROSEMEAD, CA 91770

NAC NO 161-17006 DRAWN HY CHECKED AJ

DATE 06-13-2018

FIRE ALARM SCHEDULES AND CALCULATIONS

FIRE ALARM SIGNAL CIRCUIT SCHEDULE QUAN. QUAN. QUAN. STROBE STROBE STROBE STROBE STROBE TOTAL WIRE DISTANCE TO MFACP TO POWER PERCENT 30 cd 30cd 75cd AMPS SIZE 15 cd 75 cd 15cd (IN FEET) EXTENDER VOLTAGE RPS-A 0.46 #12 RPS-A 0.74 #12 0.57 #12 0.44 #12 200 RPS-F RPS-F V8 0.35 #12 385 RPS-F RPS-C 0.76 #12 0.33 #12 500 RPS-C RPS-C RPS-C

I = TOTAL CURRENT FLOW IN ALARM CONDITION
L = LENGTH OF CIRCUIT FROM SUPPLY TO LAST DEVICE (IN FEET)
21.6 = RESISTIVITY OF COPPER CONDUCTOR PER CIRCULAR MILL

Quantity	Device Type	Model Number		Standby Current	Total Standby Current	Alarm Current	Total Ala Curre
1	ECC50/25			0.06500	0.06500	2.00000	2.000
30	Speaker 25V	Speaker - 1/2 Watt Tap		0.00000	0.00000	0.02000	0.600
18	Speaker 25V	Speaker - 2 Watt Tap		0.00000	0.00000	0.08000	1.440
2	Speaker 25V	Speaker - 1/4 Watt Tap		0.00000	0.00000	0.01000	0.020
					Standby Load		Alarm Lo
					0.065		4.0
	Standby Load:	0.065	Amps		Alarm Load:	4.060	Amps
	Standby Time:	24	Hours		Alarm Time:	15	Minutes
	Total Standby Load:	1.56	Amp*Hou	rs To	otal Alarm Load:	1.02	Amp*Hours
	Batteries Provided:	(2) BAT-12180		A۱	vailable Battery:	14.40	A.H.
	Battery Size:	18.00	A.H.	Load	I (ALM + STBY)	2.58	A.H.
	De-Rated Size(80%):	14.40	A.H.		Spare Capacity	11.83	A.H.

REMOTE A	MPLIFIER - AMP	<u>-G</u>					
ECC 50DA							
	·			Standby	Total Standby	Alarm	Total Ala
Quantity D	evice Type	Model Number		Current	Current	Current	Curre
1 E	CC 50DA/25			0.06500	0.06500	2.00000	2.000
5 S	peaker 25V	Speaker - 1/2 Watt Tap		0.00000	0.00000	0.02000	0.1000
	peaker 25V	Speaker - 2 Watt Tap		0.00000	0.00000	0.08000	0.4000
	peaker 25V	Speaker - 1 Watt Tap		0.00000	0.00000	0.04000	0.080
2 S	peaker 25V	Speaker - 1/4 Watt Tap		0.00000	0.00000	0.01000	0.020
			STATE OF THE PARTY		Standby Load		Alarm Lo
		•			0.065		2.6
	Standby Load:	0.065	Amps		Alarm Load:	2.620	Amps
	Standby Time:	24	Hours		Alarm Time:	15	Minutes
Т	otal Standby Load:	1.56	Amp*Hour	s To	tal Alarm Load:	0.66	Amp*Hours
	Batteries Provided:	(2) BAT-12180		Av	ailable Battery:	14.40	A.H.
	Battery Size:	18.00	A.H.	Load	(ALM + STBY)	2.22	A.H.
De	e-Rated Size(80%):	14.40	A.H.		Spare Capacity -	12.19	

	BATTERY CALCULATIONS PANEL MFACP "FIRELITE MS-9600 UDLS"				
		STAN	IDBY	ALA	RM
QTY.	DESCRIPTION	DEVICE	AMPS	DEVICE	AMPS
1	MS-9600 UDLS CPU	0.29000	0.29000	0.53000	0.53000
6	ADDR. INPUT MOD	0.00055	0.00330	0.00055	0.00330
4	MINI-INPUT MODULE	0.00055	0.00220	0.00055	0.00220
25	ADDR. RELAY MODULE	0.00055	0.01375	0.00055	0.01375
6	ADDR. MANUAL PULL SATTION	0.00055	0.00330	0.00055	0.00330
91	ADDR. HEAT DETECTOR	0.00055	0.05005	0.00055	0.05005
83	ADDR. PHOTO SMOKE DET	0.00055	0.04565	0.00055	0.04565
56	ADD. CARBON MONOXIDE SMOKE DETECTOR	0.00055	0.03080	0.00055	0.03080
1	SLC EXPANDER	0.05500	0.05500	0.05500	0.05500
1	REMOTE MICROPHONE ECC-RM	0.02000	0.02000	0.02500	0.02500
1	LED ANNUNCIATOR (ANN-80)	0.03500	0.03500	0.14500	0.14500
1	UDACT-UD2	0.03500	0.03500	0.20000	0.20000
1	VOICE CONTROL MODULE	0.07000	0.07000	0.10000	0.10000
1	50 WATT AMPLIFIER ECC-50	0.01000	0.01000	0.10000	0.10000
TOTAL			0.6641		1.3041
		STANDBY	•	ALARM	·
		24 HOURS	15.9372	15 MIN.	0.1087
		TOTAL	16.05	A.H.	
- 7	BATTERY WITH 10% DERATING INCLUDED:		17.65	A.H.	
	BATTERY:			A.H.	
1.	SPARE:		7.35	A.H.	

MONITORING COMPANY: (UUFX) GS FIRE TECHNOLOGY INC. TEL. NO. 760-241-3683 LIC. NO. 847681

	VOICE EVACUATION CONTROL PANEL SPEAKER CIRCUIT LOAD CALCULATION											MFG. RE	MFG. REC. MAXIMUM LOSS IS: -0.5dB		
SPEAKER CIRCUIT DESCRIPTION				WIRE	CIRCUIT	AP	PLIANCES QUAN	TITIES / TAP VALU	IES	TOTAL	ESTIMATED		MAXIMUM	TOTAL	
			PANEL	GAUGE	VOLTAGE	SPEAKER	SPEAKER	SPEAKER	SPEAKER	CIRCUIT	CIRCUIT	ACTUAL	ALLOWABLE	CIRCUIT	
AMPLIFIER#	AMPLIFIER LOCATION	CIRCUIT LOCATION	CIRCUIT	(18, 16, 14	(25 OR	TAPPED AT	TAPPED AT	TAPPED AT	TAPPED AT	LOAD	LENGTH	WIRE/LOSS	CKT. LENGTH	RESISTANCE	
			NUMBER	12)	70 VRMS)	0.25 Watts	0.5 Watts	1 Watt	2 Watts	(WATTS)	(FEET)	(dB)	(FEET)	(OHMS)	
AMP-A	CLOSET RM A17 BUILD+ING A	BUILDING A	A1	14 AWG	25 Vrms	2	3	0	1	4.00 Watts	340 ft.	-0.10 dB	12,453 ft.	1.8 Ohm	
AMP-A	CLOSET RM A17 BUILD+ING A	BUILDING B, D, E	A2	14 AWG	25 Vrms		12	0	8	22.00 Watts	390 ft.	-0.60 dB	2,264 ft.	2.0 Ohm	
AMP-A	CLOSET RM A17 BUILD+ING A	BUILDING F, G, H	- A3	14 AWG	25 Vrms		10	0	6	17.00 Watts	440 ft.	-0.52 dB	2,930 ft.	2.3 Ohm	
AMP-A	CLOSET RM A17 BUILD+ING A	RELO CLASSROOM	A4	14 AWG	25 Vrms		5	0	3	8.50 Watts	680 ft.	-0.41 dB	5,860 ft.	3.5 Ohm	

		REMOTE AMPLIFIER	R (RA) SI	PEAKER	CIRCUIT	LOAD CA	ALCULATION	ON				MFG. RE	C. MAXIMUM LOS	S IS: -0.5dB
	SPEAKER CIRCUIT DESCRIPTION			WIRE	CIRCUIT	AP	PLIANCES QUANT	TITIES / TAP VALU	ES	TOTAL	ESTIMATED		MAXIMUM	TOTAL
			PANEL	GAUGE	VOLTAGE	SPEAKER	SPEAKER	SPEAKER	SPEAKER	CIRCUIT	CIRCUIT	ACTUAL	ALLOWABLE	CIRCUIT
AMPLIFIER#	AMPLIFIER LOCATION	CIRCUIT LOCATION	CIRCUIT	(18, 16, 14	(25 OR	TAPPED AT	TAPPED AT	TAPPED AT	TAPPED AT	LOAD	LENGTH	WIRE/LOSS	CKT. LENGTH	RESISTANC
			NUMBER	12)	70 VRMS)	0.25 Watts	0.5 Watts	1 Watt	2 Watts	(WATTS)	(FEET)	(dB)	(FEET)	(OHMS)
AMP-C	BUILDING C	BUILDING C	A5	14 AWG	25 Vrms	2	2	2	3	9.50 Watts	260 ft.	-0.18 dB	5,243 ft.	1.4 Oh
AMP-C	BUILDING C	RELO CLASSROOM	A6	14 AWG	25 Vrms		3		2	5.50 Watts	5 ft.	0.00 dB	9,057 ft.	0.0 OI

LUMP SUM METHOD WAS USED TO CALCULATE MAXIMUM ALLOWABLE CIRCUIT LENGTH. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS. IF THE ACTUAL CIRCUIT LENGTH IS GOING TO EXCEED THE MAXIMUM ALLOWABLE CIRCUIT LENGTH, CONTACT YOUR LOCAL TRI-SIGNAL INTEGRATION BRANCH.

> FIRE ALARM SYSTEM DESCRIPTION FIRE ALARM SUBMITTAL CONSISTS OF COMPLETE FULLY AUTOMATIC

IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT LOS ANGELES BASIN REGIONAL OFFICE

APPL: A# 03-119066

AC\_\_\_ FLS\_\_\_ SS\_\_\_ DATE:\_\_\_\_\_\_ OCT 2 9 2018

VOICE EVACUATION FIRE ALARM SYSTEM PER DSA POLICY CFC907.2.3.

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILLS VOLTAGE DROP =  $\frac{\text{(I) } \text{X (L) } \text{X 21.6}}{\text{(CM)}}$ 

			SUPERVISORY	CURRENT, A	ALARM CURF	RENT, A
EQUIPMENT MODEL		QUANTITY	UNIT	TOTAL	UNIT	TOTAL
POWER SUPPLY 24FS6		1	0.04	0.04	0.16	0.16
15cd ALARM STROBE LIG	GHT 24 VDC (WALL)	0	0	0	0.043	C
75cd ALARM STROBE LIG	GHT 24 VDC (CEILING)	16	0	0	0.111	1.776
30cd ALARM STROBE LIG	GHT 24 VDC (CEILING/WALL)	2	0	0	0.063	0.126
15cd ALARM STROBE LIG	2	0	0	0.041	0.082	
STANDBY AH ALARM AH	0.96 0.54		SUB TOTAL HOURS	0.04 24.00	SUB TOTAL HOURS	2.14 <sup>4</sup> 0.25
TOTAL	1.50		AH STANDBY		AH ALARM	0.536
	7 AH BATTERY PACK	PROVIDED			(0.25 HRS. = 1	15 MIN.)

						,	
VOICE EVACUATION							
DEVICE / ACTION	MANUAL PULL STATION	AREA SMOKE DETECTORS	AREA SMOKE DETECTOR CARBON MONOXIDE	AREA HEAT DETECTORS	POWER FAILURE	KITCHEN FIRE SUPPRESSION	NOTES
ANNUNICIATE ALARM AT FACP AND REMOTE ANNUNCIATOR	×	×	×	X			
ANNUNICIATE SUPERVISORY CONDITION AT FACP AND REMOTE ANNUNCIATOR	×	×	×	×	×	×	
ANNUNICIATE TROUBLE AT FACP AND REMOTE ANNUNCIATOR	×	×	×	×	×	×	[1]
ACTIVATE AUDIBLE/VISUAL SIGNAL THROUGHTOUT SCHOOL (ALARM)	×	×	×	×		×	
CONTACT CENTRAL STATION (UDACT)	×	×	×	×	×	×	
SHUT DOWN		×	X	×		·	[2]

BUILDING"D"

ALARM AH

BUILDING "C"

**EQUIPMENT MODEL** 

15cd ALARM STROBE LIGHT 24 VDC (WALL)

75cd ALARM STROBE LIGHT 24 VDC (WALL)

75cd ALARM STROBE LIGHT 24 VDC (CEILING)

15cd ALARM STROBE LIGHT 24 VDC (CEILING)

30cd ALARM STROBE LIGHT 24 VDC (CEILING/WALL)

POWER SUPPLY 24FS6

STANDBY AH

ALARM AH

EQUIPMENT MODEL

15cd ALARM STROBE LIGHT 24 VDC (WALL)

75cd ALARM STROBE LIGHT 24 VDC (WALL)

75cd ALARM STROBE LIGHT 24 VDC (CEILING)

15cd ALARM STROBE LIGHT 24 VDC (CEILING)

30cd ALARM STROBE LIGHT 24 VDC (CEILING/WALL)

POWER SUPPLY 24FS6

BATTERY CALCULATIONS - POWER EXTENDER RPS-A

7 AH BATTERY PACK PROVIDED

7 AH BATTERY PACK PROVIDED

BATTERY CALCULATIONS - POWER EXTENDER RPS-C

0.16

0.043

0.107

0.111

0.063

0.041

 0.04
 SUB TOTAL
 2.531

 24.00
 HOURS
 0.25

 0.96
 AH ALARM
 0.63275

SUPERVISORY CURRENT, A ALARM CURRENT, A

(0.25 HRS. = 15 MIN.)

0.043

0.107

0.111

0.063

0.041

 24.00
 HOURS
 0.25

 0.96
 AH ALARM
 0.31425

(0.25 HRS. = 15 MIN.)

0.04 SUB TOTAL

AH STANDBY

SUB TOTAL

HOURS AH STANDBY 0.387

1.332

0.041

0.172

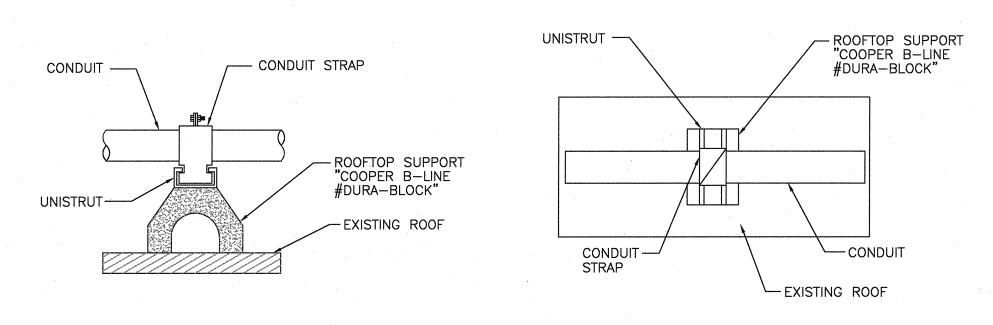
0.214

0.333

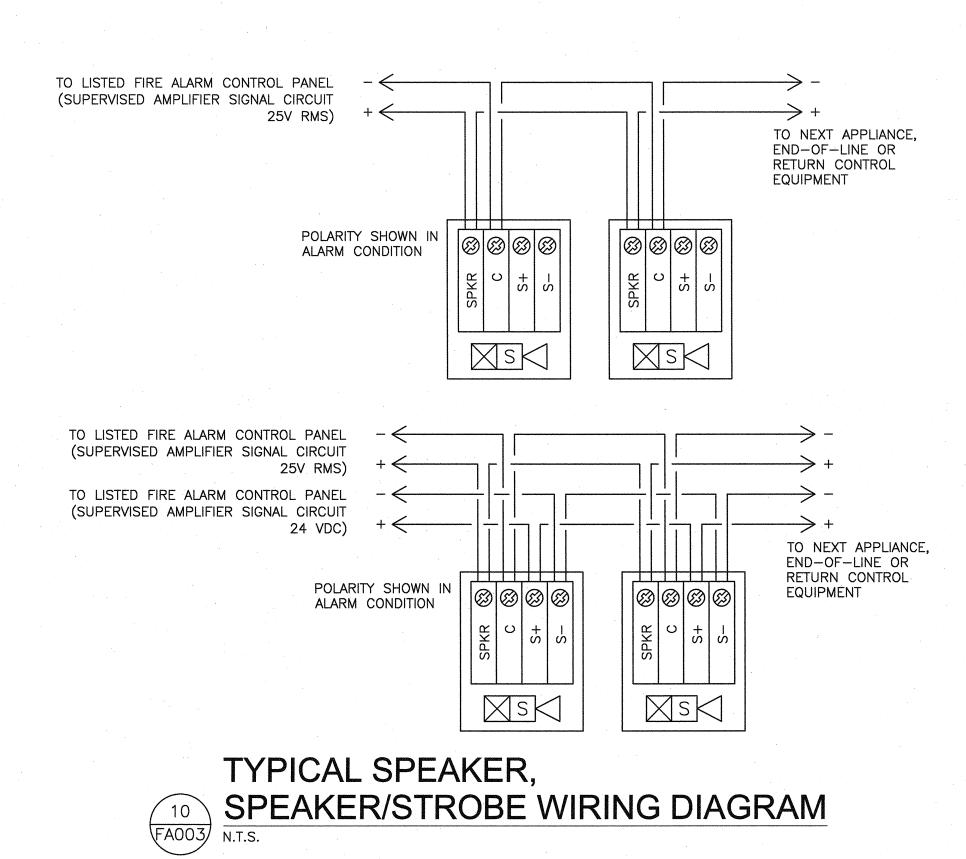
0.378

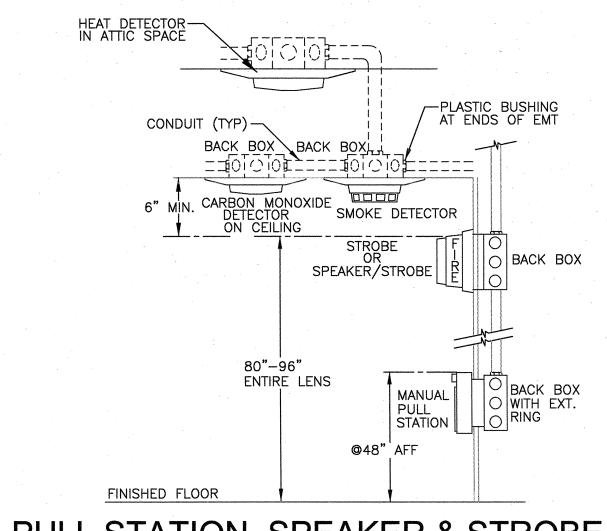
[1] INDICATE TROUBLE ON WIRING FAULT OR DEVICE AS REQUIRED. [2] SHUT DOWN ONLY AIR HANDLER EQUIPMENT IN THE BUILDING OR AREA WHERE ALARM CONDITION OCCURS.



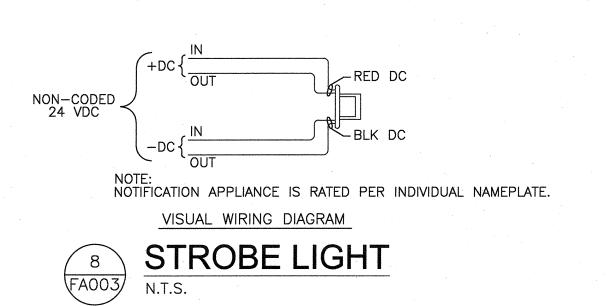


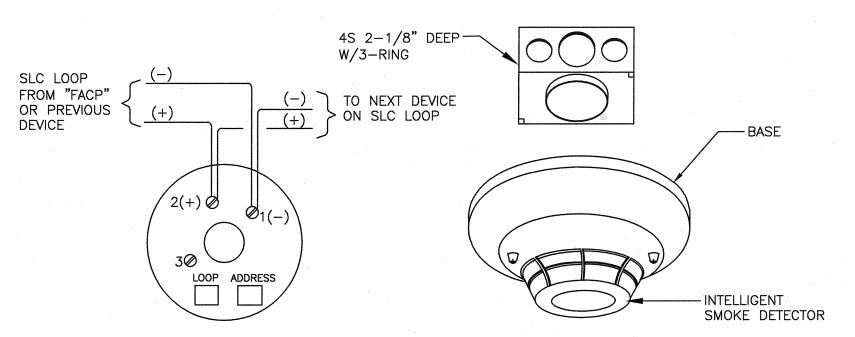
CONDUIT SUPPORT ON ROOF 11 FA003



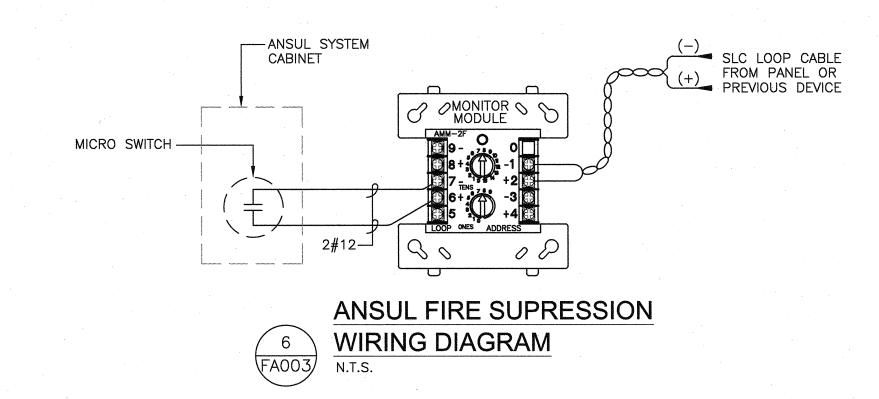


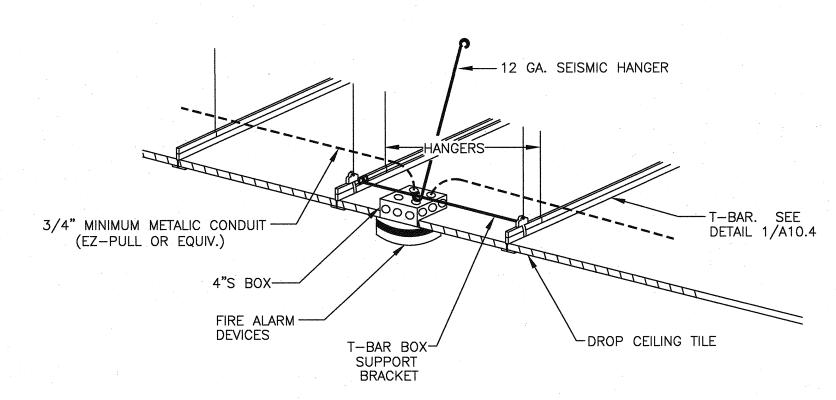
PULL STATION, SPEAKER & STROBE HEIGHT REQUIREMENTS



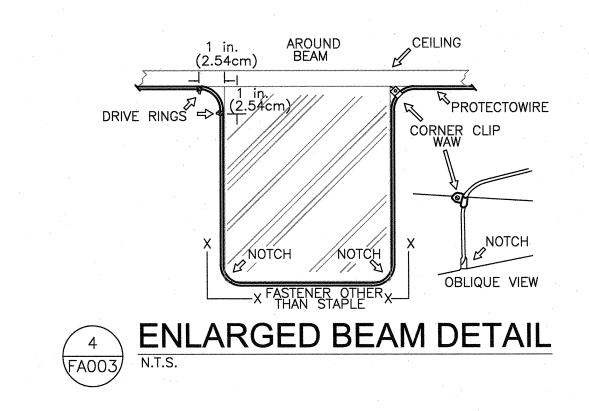


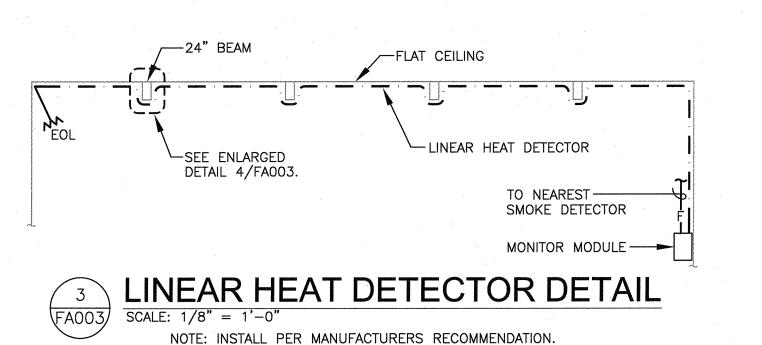


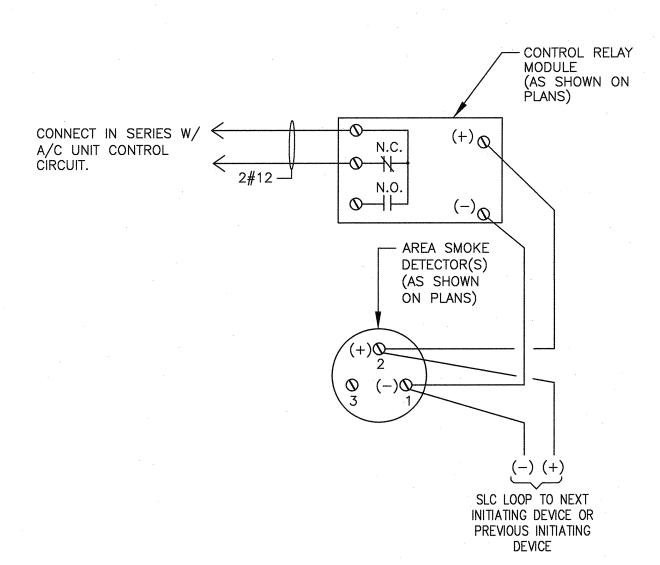




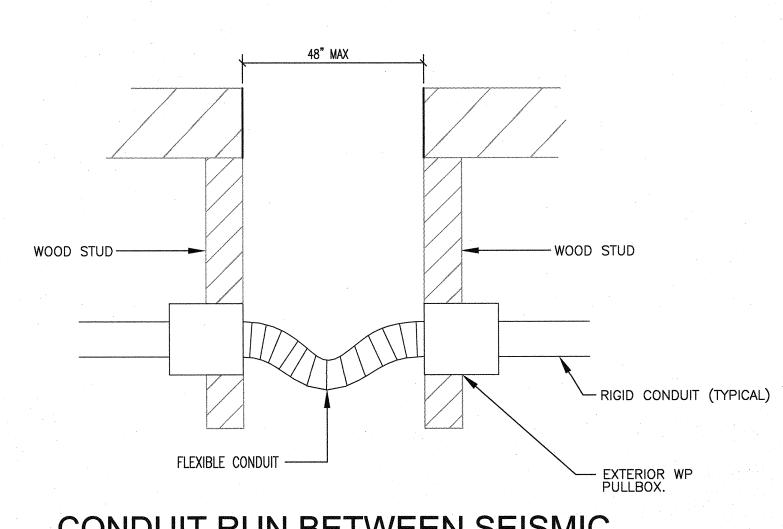
TYPICAL (SMOKE/HEAT DETECTOR,/ SPEAKER-STROBE CEILING MOUNT INSTALLATION DETAIL FA003 N.T.S.







# TYPICAL A/C UNIT SHUT DOWN CONTROLS N.T.S.



CONDUIT RUN BETWEEN SEISMIC JOINT OR DIFFERENT STRUCTURE FA003 N.T.S.

> IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT LOS ANGELES BASIN REGIONAL OFFICE APPL: A# 03-119066 AC\_\_\_ FLS\_\_\_ SS\_\_\_ DATE:\_\_\_\_\_\_ OCT 2 9 2018

CHECKED AJ

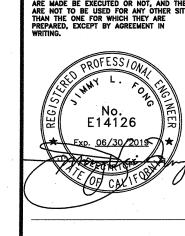
NAC NO 161-17006

DATE 06-13-2018

ROSEMEAD SCHOOL DISTRICT

3907 ROSEMEAD BOULEVARD

ROSEMEAD, CA 91770



ROSEMEAD SCHOOL DISTRICT

3907 ROSEMEAD BOULEVARD ROSEMEAD, CA 91770

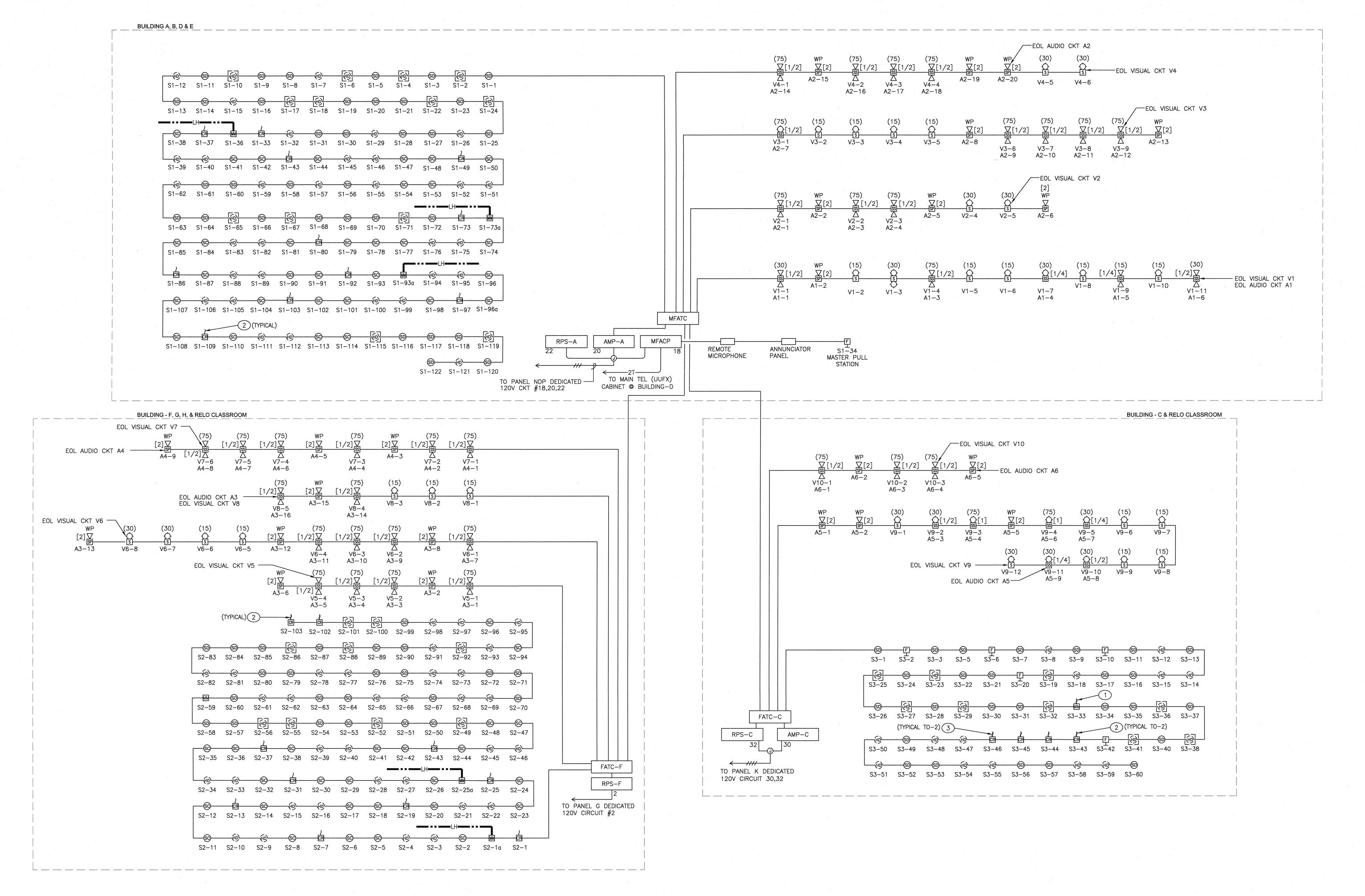
NAC NO 161-17006 DRAWN HY

CHECKED AJ DIVISION OF THE STATE ARCHITECT LOS ANGELES BASIN REGIONAL OFFICE DATE 06-13-2018

IDENTIFICATION STAMP

APPL: A# 03-119066

AC / FLS 60 SS / DATE: 0CT 2 9 2018



# FIRE ALARM RISER DIAGRAM

### KEYED NOTES

- 1) CONNECT WIRES TO EXISTING ANSUL FIRE SUPPRESSION SYSTEM.
- 2 CONNECT WIRES TO EXISTING AC UNIT ON ROOF FOR AUTOMATIC SHUT-OFF.
- 3 CONNECT WIRES TO EXISTING SMOKE FIRE DAMPER VENT.

KEYED NOTES

1) 2"C, (3)F, (3)A, (3)V, (1)S, (1)Q (FIRE ALARM).

2) 2"C, (2)F, (3)A, (2)V, (2)S (FIRE ALARM).

3 1-1/2"C, (2)F, (2)A, (1)V (FIRE ALARM).

4 2"C, (2)F, (3)A, (1)V, (2)S (FIRE ALARM).

5 1-1/2"C, (1)F, (1)A, (1)V (FIRE ALARM).

70 1-1/2°C, (2)F, (1)A, (1)V (FIRE ALARM).

7 1-1/2"C, (2)F, (3)A, (3)V, (2)S (FIRE ALARM).

9 1-1/2"C, (1)F, (1)FW, (1)A, (1)AW, (2)V (FIRE ALARM).

(12) WEATHERPROOF FIRE ALARM PULLBOX, MOUNT ABOVE ARCADE WITH UNISTRUT CHANNEL SUPPORT. 16"X16"X8" DEEP WITH TAMPERPROOF SCREW.

(14) WEATHERPROOF FIRE ALARM PULLBOX, MOUNT HIGH ON WALL WITH UNISTRUT CHANNEL SUPPORT. 16"X16"X8" DEEP WITH TAMPERPROOF SCREW.

(1) (E)2"C, PULL-IN (1)FW, (1)AW, (1)V (FIRE ALARM).

13 INTERCEPT AND EXTEND EXISTING 2" CONDUIT RISER.

(15) 2"C, (3)F, (2)A, (1)V, (1)S, (1)Q (FIRE ALARM).

(16) 1-1/2"C, (2)F, (2)A, (1)V (FIRE ALARM).

(18) 1-1/2"C, (1)F, (1)S, (1)Q (FIRE ALARM).

(19) 1-1/2"C, (1)FW, (1)AW, (1)V (FIRE ALARM).

(17) 2"C, (1)F, (1)S, (1)Q (FIRE ALARM).

6 2"C, (1)F, (2)A, (2)S (FIRE ALARM).

8 2"C, (1)F, (2)A, (2)V (FIRE ALARM).

10 2"C, (1)FW, (1)AW, (1)V (FIRE ALARM).

ROSEMEAD SCHOOL DISTRICT

ENCINITAS ELEMENTARY SCHOOL
FIRE ALARM UPGRADE AT ENTIRE SITE

SCHOOL DISTRICT

3907 ROSEMEAD BOULEVARD

ROSEMEAD, CA 91770

NAC NO 161-17006

FA-101

DRAWN HY CHECKED AJ

LOS ANGELES BASIN REGIONAL OFFICE DATE 06-13-2018

AC\_\_\_\_FLS\_\_\_\_\_ SS\_\_\_\_ DATE:\_\_\_\_\_\_0CT **2 9** 2018

IDENTIFICATION STAMP

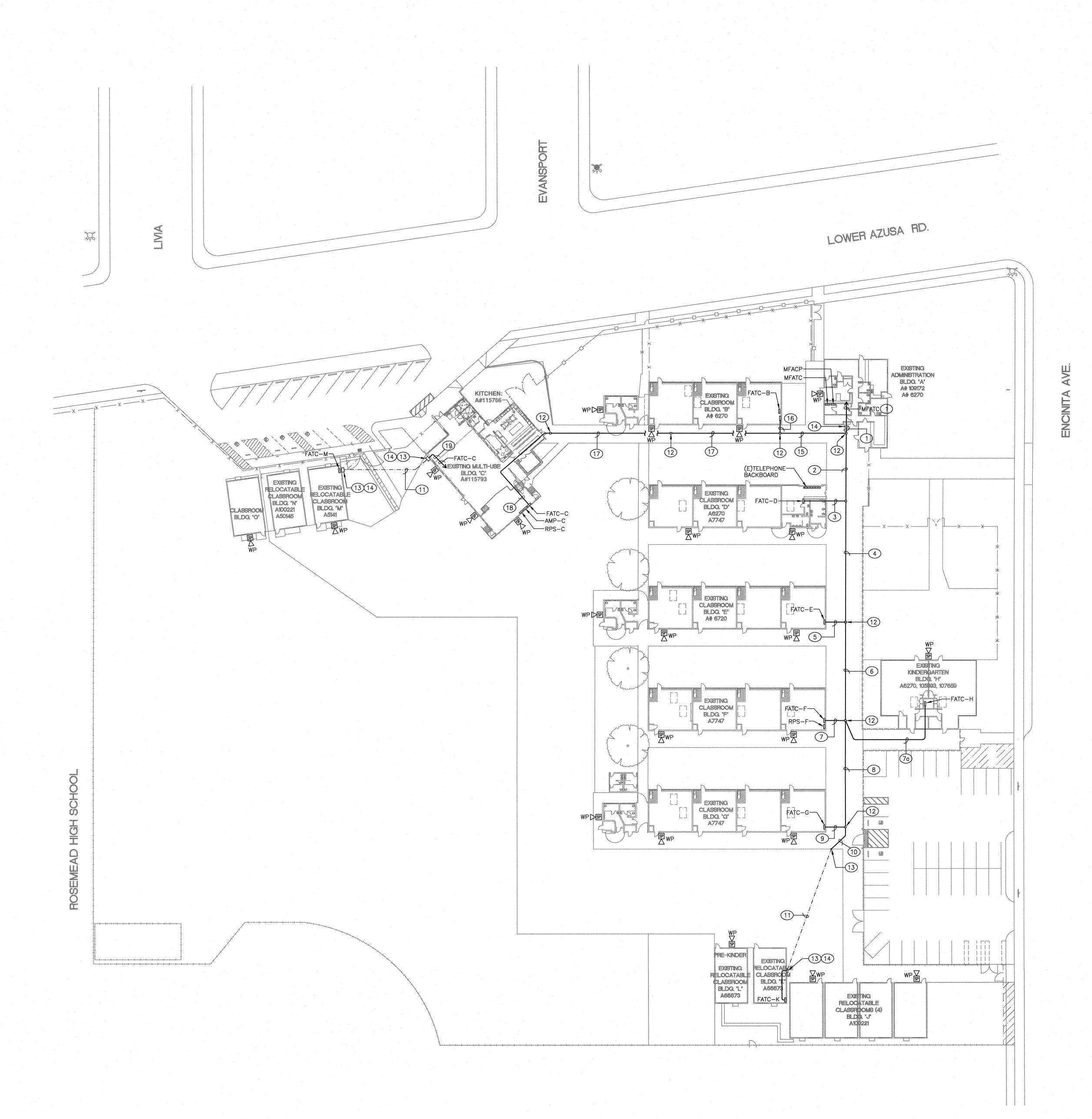
DIVISION OF THE STATE ARCHITECT

APPL: A# 03-119066

FIRE ALARM SYSTEM DESCRIPTION

FIRE ALARM SUBMITTAL CONSISTS OF COMPLETE FULLY AUTOMATIC VOICE EVACUATION FIRE ALARM SYSTEM IN THE ENTIRE SCHOOL BUILDINGS PER DSA POLICY CFC907.2.3.





**ELECTRICAL DEMOLITION WORK** 

REMOVAL OF ALL EXISTING FIRE ALARM DEVICES AND ASSOCIATED WIRES AS INDICATED IN THE DRAWINGS.

3. REMOVAL OF EXPOSED CONDUITS BETWEEN BUILDINGS AND WITHIN BLDGS.

4. ALL EXISTING DEVICES/OUTLETS NOT USED SHALL BE REMOVED AND BOXES BLANKED OFF.

REMOVAL OF EXISTING FIRE ALARM CONTROL PANEL, F.A. TERMINAL CABINETS, FIRE ALARM ANNUNCIATOR AND POWER SUPPLIES. SAVE AND DELIVER TO DISTRICT MAINTENANCE OFFICE FOR STORAGE & FUTURE USE.

INCLUDING ASSOCIATED WIRES/CABLES. PATCH AND REPAIR ALL AFFECTED CEILING TO MATCH EXISTING. PROVIDE BLANK COVER PLATES FOR ALL J-BOXES.

EXISTING FIRE ALARM HEAT DETECTOR (IN ATTIC).

C(i) EXISTING FIRE ALARM HEAT DETECTOR (ON CEILING).

(XR) EXISTING FIRE ALARM DEVICE TO BE DEMOLISHED

PAINT TO MATCH CEILING SPACE.

EXISTING FIRE ALARM EXTERIOR HORN.

[L] EXISTING FIRE ALARM STROBE.

EXISTING FIRE ALARM SMOKE DETECTOR.

ROSEMEAD SCHOOL DISTRICT

3907 ROSEMEAD BOULEVARD

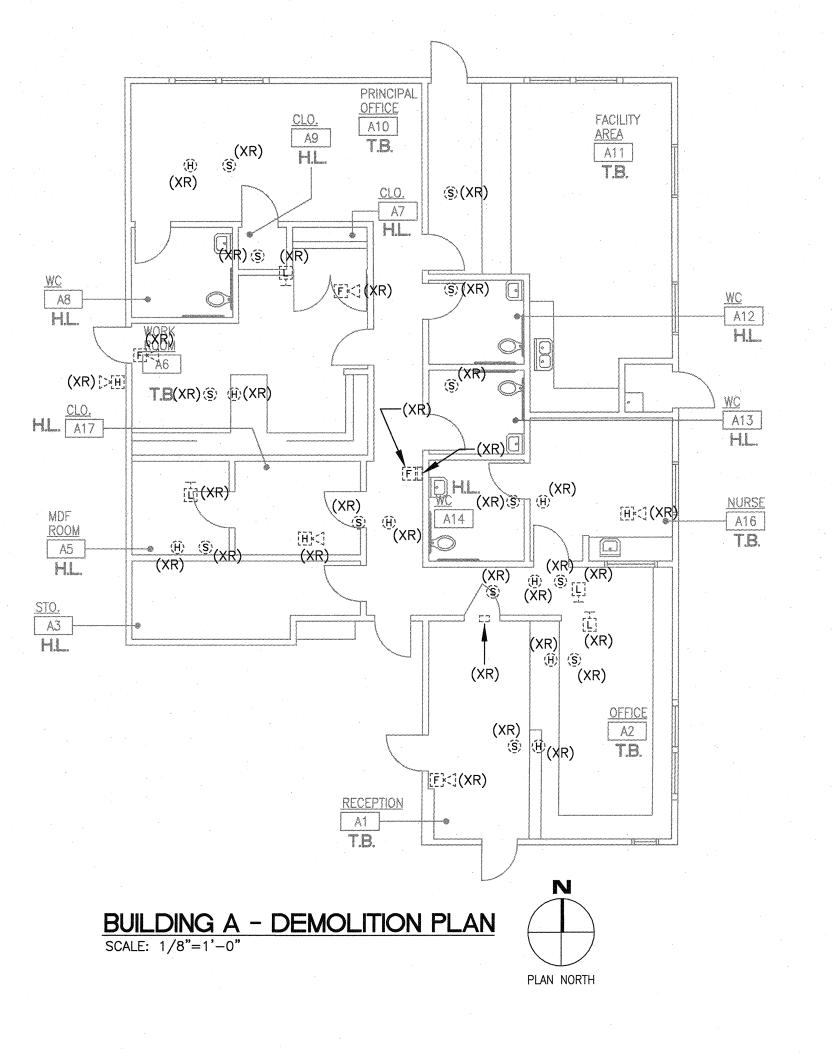
ROSEMEAD, CA 91770

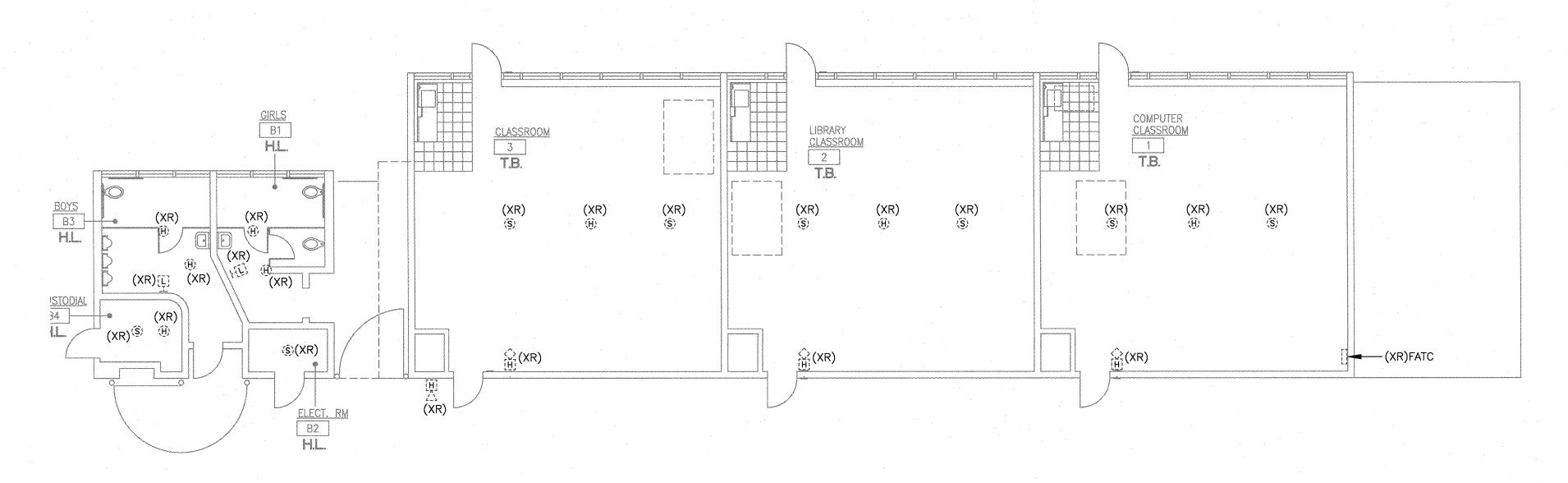
NAC NO 161-17006 DRAWN HY

CHECKED AJ DIVISION OF THE STATE ARCHITECT LOS ANGELES BASIN REGIONAL OFFICE DATE 06-13-2018

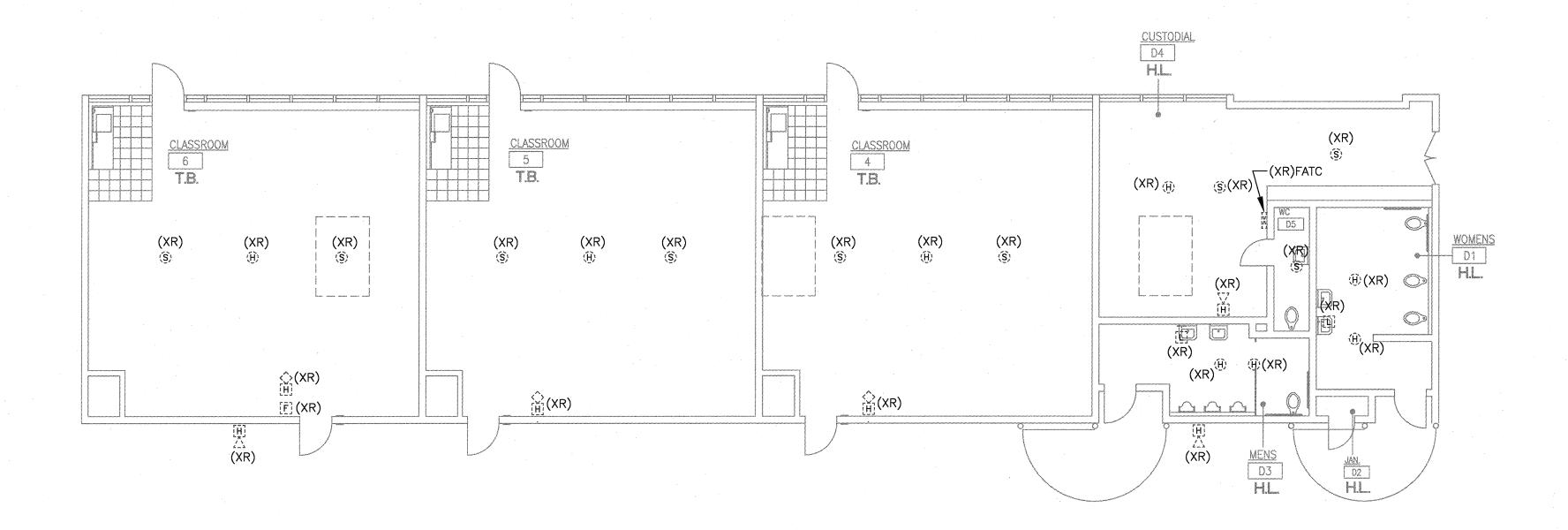
APPL: A# 03-119066 AC\_\_\_ FLS\_\_\_\_ SS\_\_\_ DATE:\_\_\_\_\_\_ OCT 2 9 2018 FA-201

IDENTIFICATION STAMP

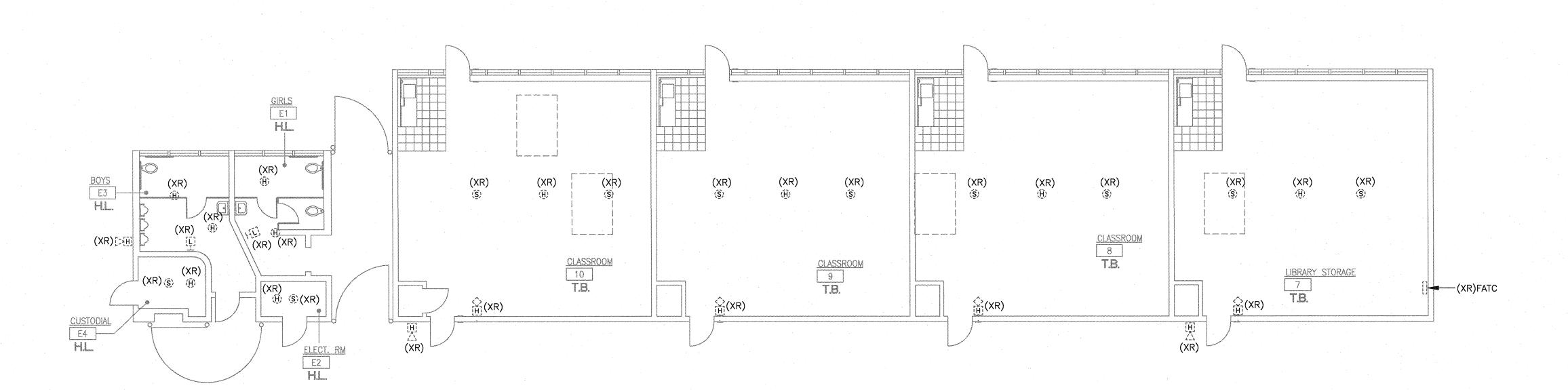




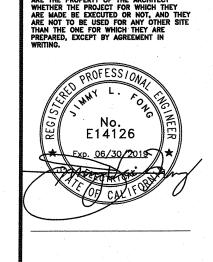








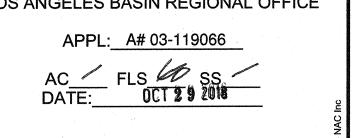


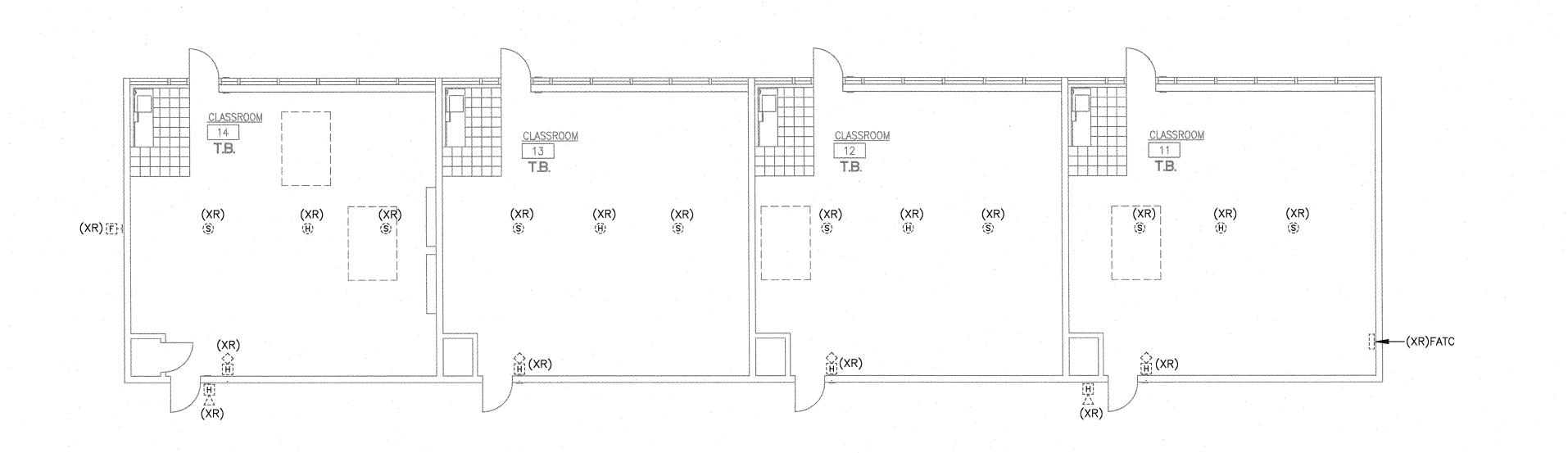


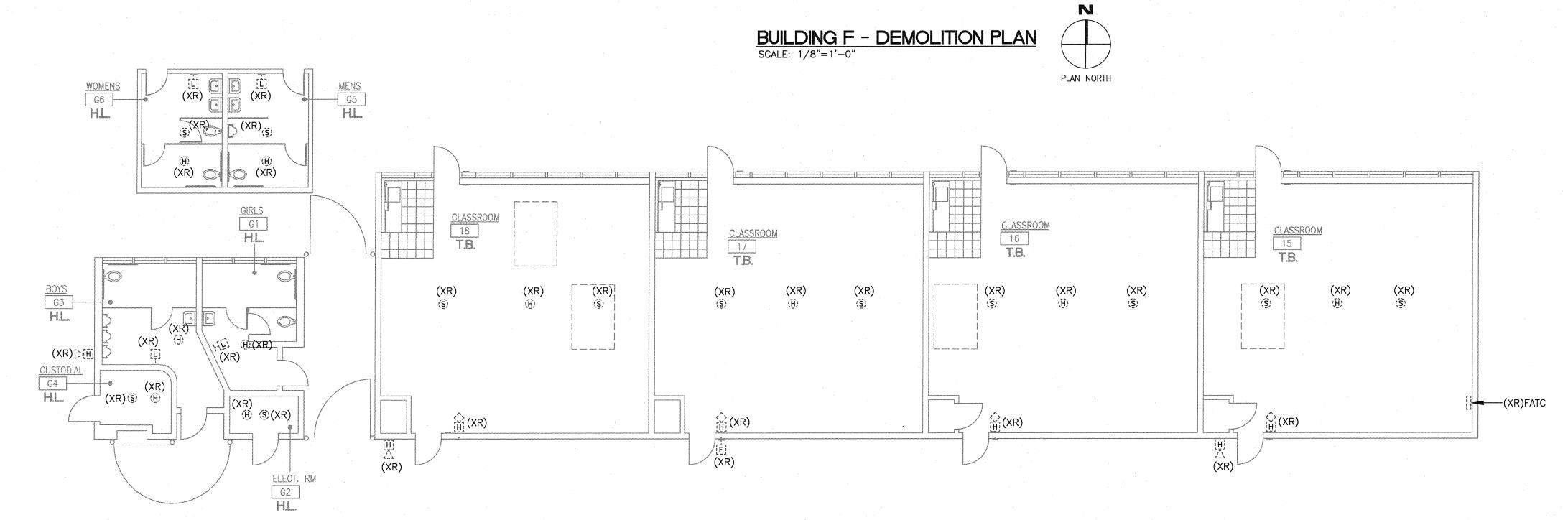
ROSEMEAD SCHOOL DISTRICT 3907 ROSEMEAD BOULEVARD ROSEMEAD, CA 91770

NAC NO 161-17006

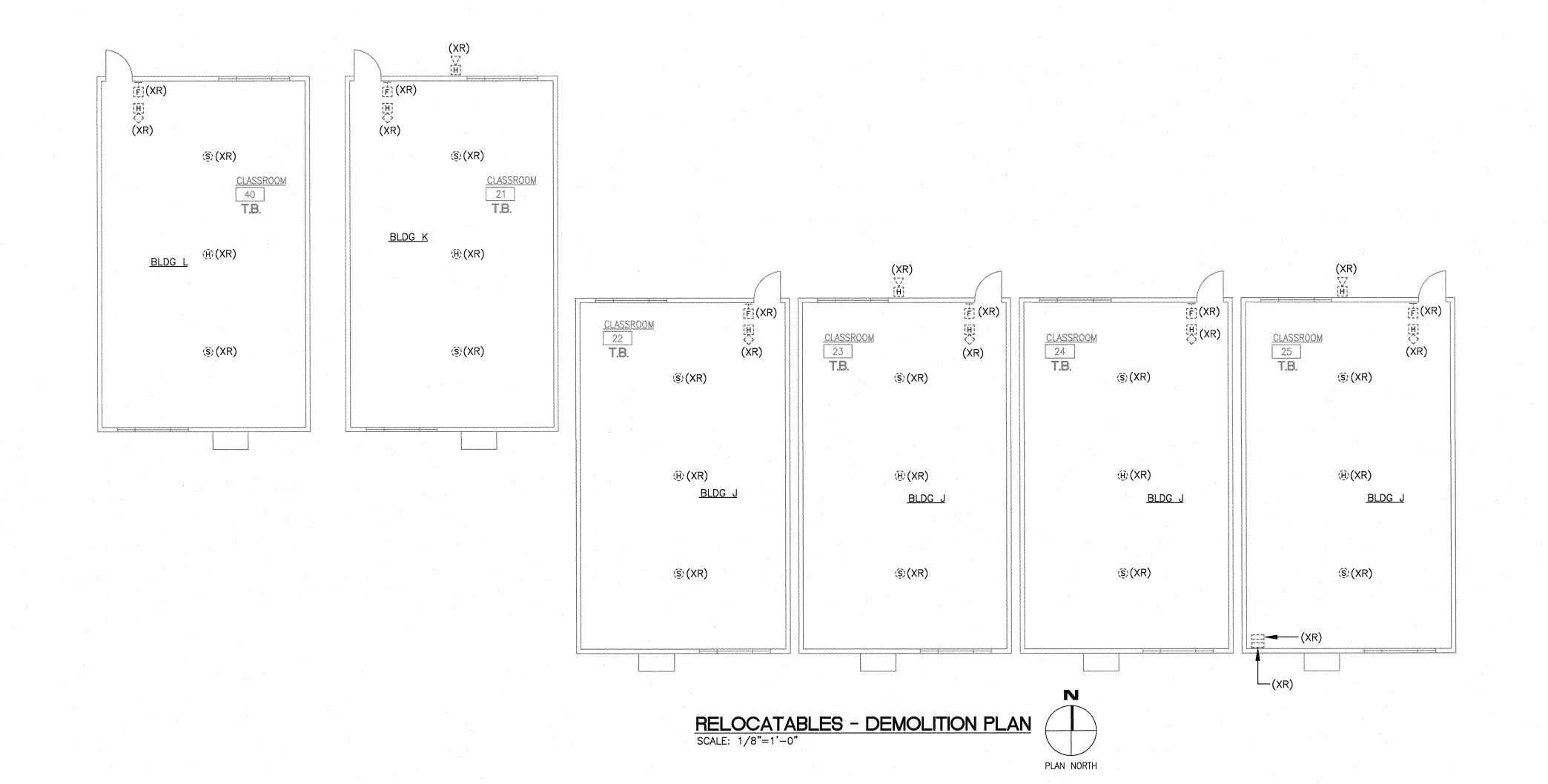
19-96 DRAWN HY CHECKED AJ DATE 06-13-2018











**ELECTRICAL DEMOLITION WORK** 

INCLUDE ALL DEMOLITION WORK AS PART OF THIS CONTRACT. EXISTING FIRE ALARM SYSTEM MUST REMAIN IN OPERATION DURING INSTALLATION OF THE NEW SYSTEM.

REMOVAL OF ALL EXISTING FIRE ALARM DEVICES AND ASSOCIATED WIRES AS INDICATED IN THE DRAWINGS.

2. ALL USABLE EXISTING FIRE ALARM COMPONENTS REMOVED FROM THIS PROJECT SHOULD BE RETURNED TO LOCAL MAINTENANCE AND OPERATIONS AREAS FOR SALVAGE. THE LOCAL DISTRICT SUPERVISOR SHOULD BE CONSULTED TO

DETERMINE IF ANY COMPONENTS ARE SALVAGEABLE. 3. REMOVAL OF EXPOSED CONDUITS BETWEEN BUILDINGS AND WITHIN BLDGS.

4. ALL EXISTING DEVICES/OUTLETS NOT USED SHALL BE REMOVED AND BOXES BLANKED OFF.

5. REMOVAL OF EXISTING FIRE ALARM CONTROL PANEL, F.A. TERMINAL CABINETS, FIRE ALARM ANNUNCIATOR AND POWER SUPPLIES. SAVE AND DELIVER TO DISTRICT MAINTENANCE OFFICE FOR STORAGE & FUTURE USE.

(XR) EXISTING FIRE ALARM DEVICE TO BE DEMOLISHED INCLUDING ASSOCIATED WIRES/CABLES. PATCH AND REPAIR ALL AFFECTED CEILING TO MATCH EXISTING. PROVIDE BLANK COVER PLATES FOR ALL J-BOXES. PAINT TO MATCH CEILING SPACE.

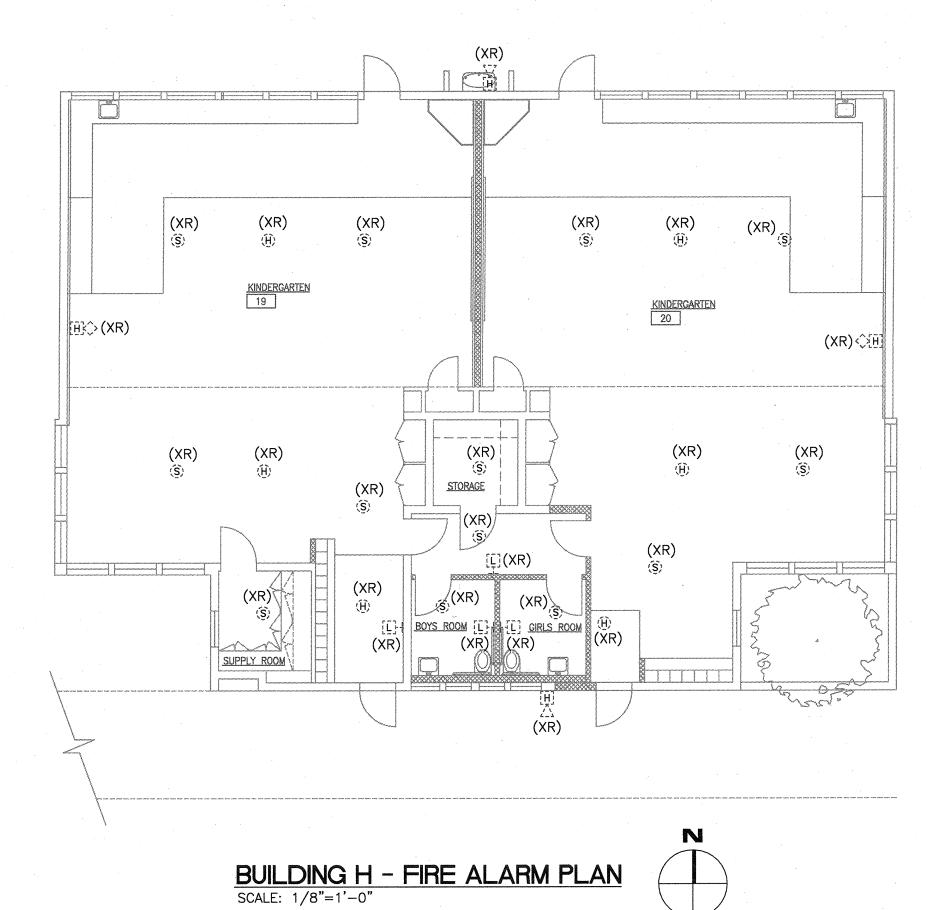
© EXISTING FIRE ALARM SMOKE DETECTOR.

EXISTING FIRE ALARM HEAT DETECTOR (IN ATTIC).

EXISTING FIRE ALARM EXTERIOR HORN.

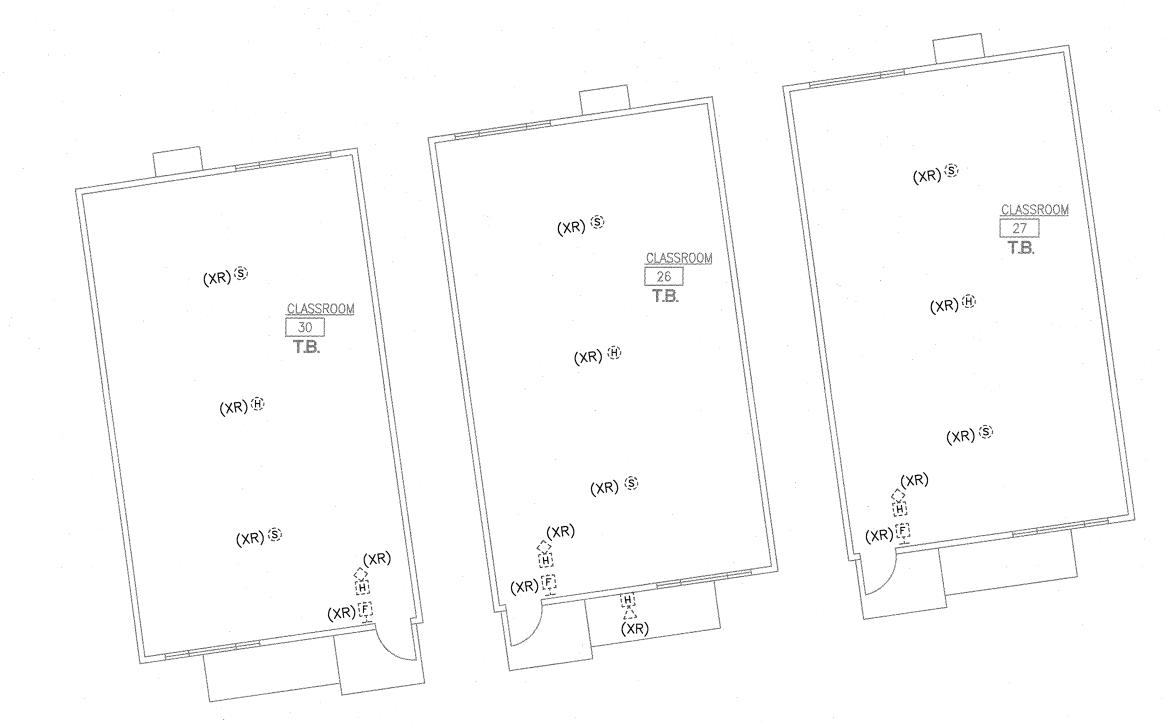
EXISTING FIRE ALARM STROBE.

C(1) EXISTING FIRE ALARM HEAT DETECTOR (ON CEILING).



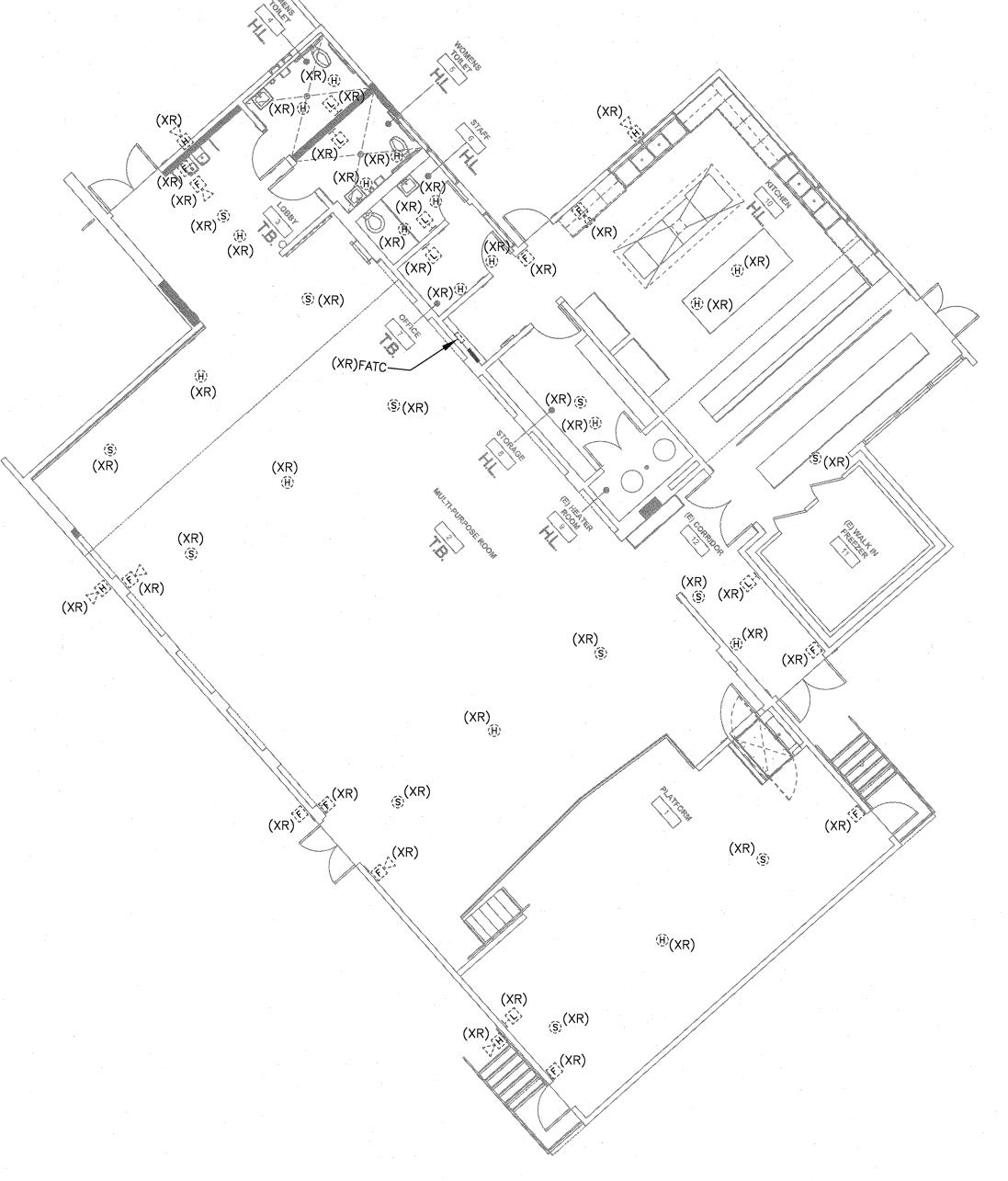
IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT LOS ANGELES BASIN REGIONAL OFFICE

PLAN NORTH



BUILDINGS M, N & Q - DEMOLITION PLAN SCALE: 1/8"=1'-0"

PLAN NORTH



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

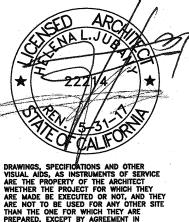


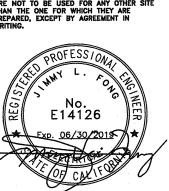
#### **ELECTRICAL DEMOLITION WORK**

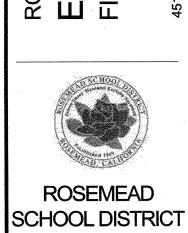
INCLUDE ALL DEMOLITION WORK AS PART OF THIS CONTRACT. EXISTING FIRE ALARM SYSTEM MUST REMAIN IN OPERATION DURING INSTALLATION OF THE NEW SYSTEM.

- REMOVAL OF ALL EXISTING FIRE ALARM DEVICES AND ASSOCIATED WIRES AS INDICATED IN THE DRAWINGS.
- ALL USABLE EXISTING FIRE ALARM COMPONENTS REMOVED FROM THIS PROJECT SHOULD BE RETURNED TO LOCAL MAINTENANCE AND OPERATIONS AREAS FOR SALVAGE. THE LOCAL DISTRICT SUPERVISOR SHOULD BE CONSULTED TO DETERMINE IF ANY COMPONENTS ARE SALVAGEABLE.
- 3. REMOVAL OF EXPOSED CONDUITS BETWEEN BUILDINGS AND WITHIN BLDGS.
- ALL EXISTING DEVICES/OUTLETS NOT USED SHALL BE REMOVED AND BOXES BLANKED OFF.
- 5. REMOVAL OF EXISTING FIRE ALARM CONTROL PANEL, F.A. TERMINAL CABINETS, FIRE ALARM ANNUNCIATOR AND POWER SUPPLIES. SAVE AND DELIVER TO DISTRICT MAINTENANCE OFFICE FOR STORAGE & FUTURE USE.

- (XR) EXISTING FIRE ALARM DEVICE TO BE DEMOLISHED INCLUDING ASSOCIATED WIRES/CABLES. PATCH AND REPAIR ALL AFFECTED CEILING TO MATCH EXISTING. PROVIDE BLANK COVER PLATES FOR ALL J-BOXES. PAINT TO MATCH CEILING SPACE.
- (\$) EXISTING FIRE ALARM SMOKE DETECTOR.
- (IN ATTIC).
- EXISTING FIRE ALARM EXTERIOR HORN.
- [L] EXISTING FIRE ALARM STROBE.
- C(+) EXISTING FIRE ALARM HEAT DETECTOR (ON CEILING).







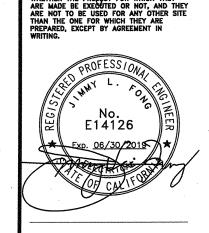
3907 ROSEMEAD BOULEVARD ROSEMEAD, CA 91770

NAC NO 161-17006 19-96

DATE 06-13-2018

DRAWN HY IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT LOS ANGELES BASIN REGIONAL OFFICE CHECKED AJ

APPL: A# 03-119066 AC / FLS 60 SS / DATE: 0CT 2 9 2018



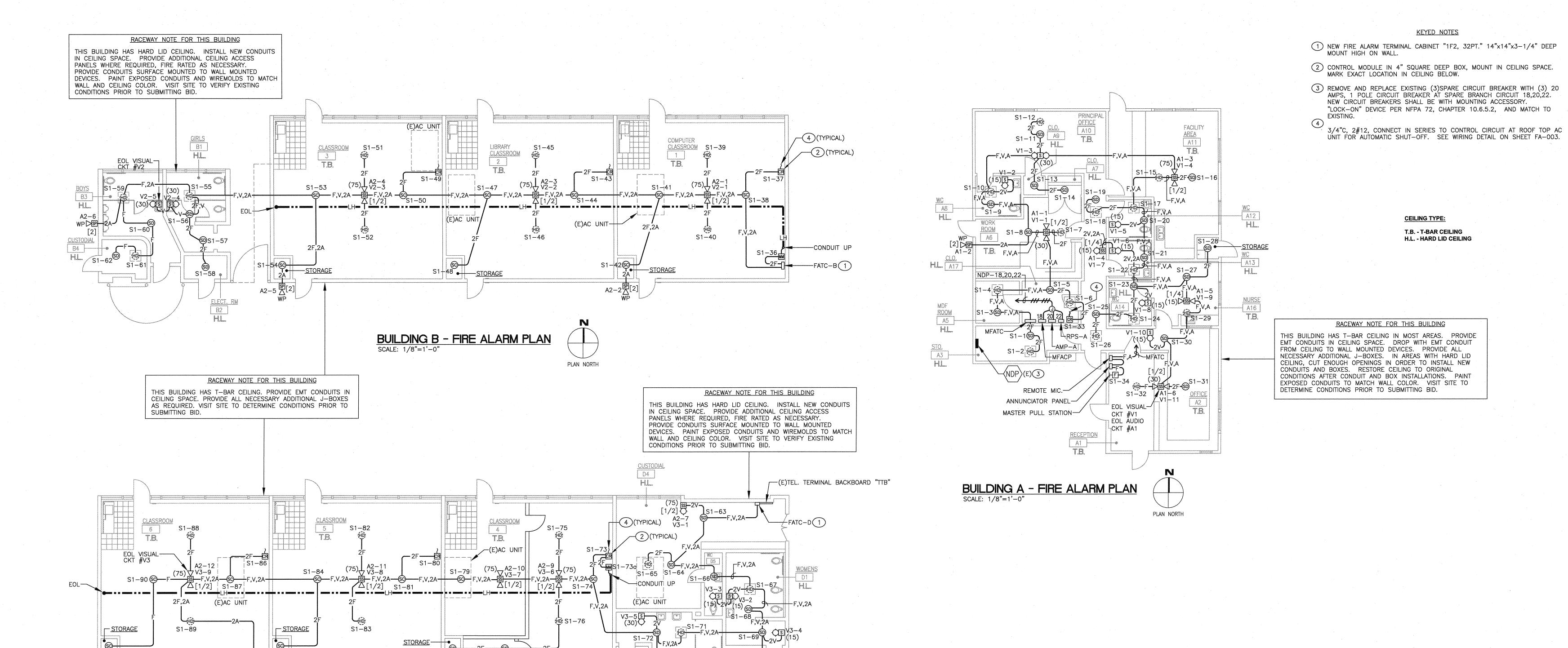
ROSEMEAD

SCHOOL DISTRICT 3907 ROSEMEAD BOULEVARD

ROSEMEAD, CA 91770

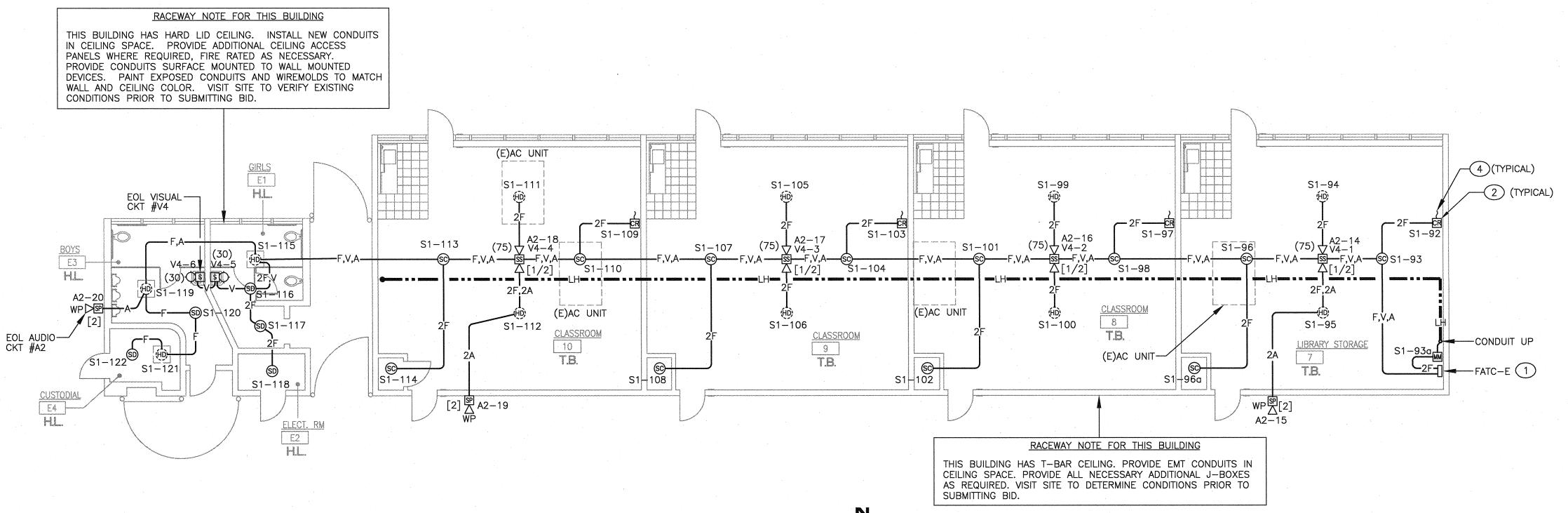
NAC NO 161-17006 CHECKED AJ DATE 06-13-2018





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

/ A2-13 🖔 [2]



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



**IDENTIFICATION STAMP** DIVISION OF THE STATE ARCHITECT LOS ANGELES BASIN REGIONAL OFFICE APPL: A# 03-119066

KEY PLAN

BUILDINGS PER DSA POLICY CFC907.2.3.

PLAN NORTH

FIRE ALARM SYSTEM DESCRIPTION

FIRE ALARM SUBMITTAL CONSISTS OF COMPLETE FULLY AUTOMATIC VOICE EVACUATION FIRE ALARM SYSTEM IN THE ENTIRE SCHOOL

AC\_\_\_ FLS\_\_\_\_ SS\_\_\_ DATE:\_\_\_\_\_\_\_ OCT 2 9 2018

S2-80 ເຄັ

WP PULLBOX 8"X8"X6" DEEP (TYPICAL)

1." FLEXIBLE CONDUIT—— (TYPICAL). SEE DETAIL FA—003.

FLEXIBLE CONDUIT — WITH F,V,A CABLES

RACEWAY NOTE FOR THIS BUILDING

THIS BUILDING HAS T-BAR CEILING. PROVIDE EMT CONDUITS IN CEILING SPACE. PROVIDE ALL NECESSARY ADDITIONAL J-BOXES AS REQUIRED. VISIT SITE TO DETERMINE CONDITIONS PRIOR TO S2-71 🖲

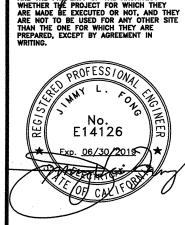
S2-72 (

PLAN NORTH

FIRE ALARM SYSTEM DESCRIPTION FIRE ALARM SUBMITTAL CONSISTS OF COMPLETE FULLY AUTOMATIC

VOICE EVACUATION FIRE ALARM SYSTEM IN THE ENTIRE SCHOOL

BUILDINGS PER DSA POLICY CFC907.2.3.



ROSEMEAD

SCHOOL DISTRICT

3907 ROSEMEAD BOULEVARD ROSEMEAD, CA 91770

NAC NO 161-17006 19-96 DRAWN HY

CHECKED AJ

IDENTIFICATION STAMP

DIVISION OF THE STATE ARCHITECT LOS ANGELES BASIN REGIONAL OFFICE

APPL: A# 03-119066

AC\_\_\_ FLS\_\_\_\_ SS\_\_\_ DATE: 0CT 2 9 2018

DATE 06-13-2018

5) 3/4"C, 2#12, CONNECT IN SERIES TO CONTROL CIRCUIT AT ROOF TOP AC UNIT FOR AUTOMATIC SHUT-OFF. SEE WIRING DETAIL ON SHEET FA-003.

6) 3/4"C, 2#12, CONNECT IN SERIES TO (E)SMOKE FIRE DAMPER VENT MOTOR POWER SUPPLY (120V). SEE WIRING DETAIL FA003.

**CEILING TYPE:** 

T.B. - T-BAR CEILING H.L. - HARD LID CEILING

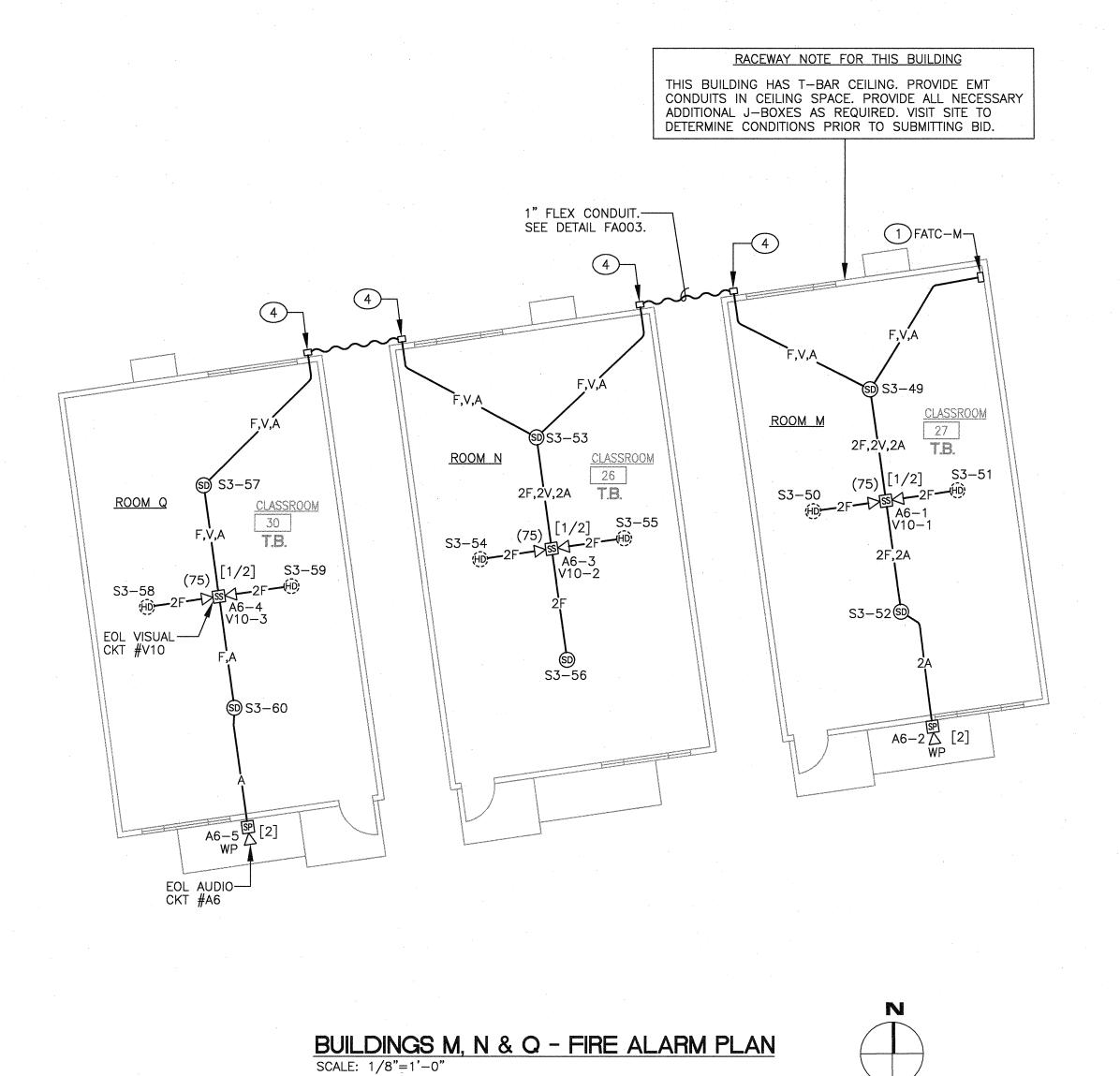
7 HEAT DETECTOR, INSTALL UNDERNEATH PLATFORM.

ROSEMEAD SCHOOL DISTRICT

3907 ROSEMEAD BOULEVARD ROSEMEAD, CA 91770

NAC NO 161-17006 19-96

DATE 06-13-2018

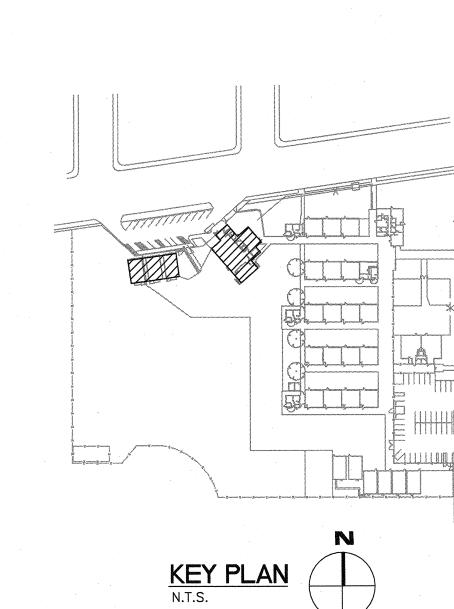


PLAN NORTH

THIS BUILDING HAS T-BAR CEILING IN MOST AREAS. PROVIDE EMT CONDUITS IN CEILING SPACE. DROP WITH EMT CONDUIT FROM CEILING TO WALL MOUNTED DEVICES. PROVIDE ALL NECESSARY ADDITIONAL J-BOXES. IN AREAS WITH HARD LID CEILING, CUT ENOUGH OPENINGS IN ORDER TO INSTALL NEW CONDUITS AND BOXES. RESTORE CEILING TO ORIGINAL CONDITIONS AFTER CONDUIT AND BOX INSTALLATIONS. PAINT EXPOSED CONDUITS TO MATCH WALL COLOR. VISIT SITE TO DETERMINE CONDITIONS PRIOR TO SUBMITTING BID. 2F,2V,2A—<sup>)</sup> (E)SMOKE FIRE-DAMPER VENT

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

PLAN NORTH



RACEWAY NOTE FOR THIS BUILDING

FIRE ALARM SYSTEM DESCRIPTION FIRE ALARM SUBMITTAL CONSISTS OF COMPLETE FULLY AUTOMATIC VOICE EVACUATION FIRE ALARM SYSTEM IN THE ENTIRE SCHOOL BUILDINGS PER DSA POLICY CFC907.2.3.

> **IDENTIFICATION STAMP** DIVISION OF THE STATE ARCHITECT LOS ANGELES BASIN REGIONAL OFFICE

> > APPL: A# 03-119066 AC / FLS / SS / DATE: 0CT 2 9 2018