

VICINITY MAP

ORANGE COUNTY FIRE AUTHORITY



NFPA 72 FIRE ALARM SYSTEM

OCFA STAMP

PROJECT INFORMATION REQUIREMENTS PROJECT LOCATION:

100 ELK LANE, SANTA ANA, CA 92701

DETAILED SCOPE OF WORK

NOTE: OCFA WILL ONLY REVIEW WORK OUTLINED IN SCOPE OF WORK

NEW MANUAL AND AUTOMATIC FIRE ALARM SYSTEM PER CFC 2016 AND NFPA 72 02016

SYSTEM INFORMATION

- MANDATORY O VOLUNTARY
- WATER FLOW MONITORING
- OCCUPANT NOTIFICATION
- O VOICE EVACUATION

O 2 WAY COMMUNICATION INITIATING DEVICES

MANUAL PULL 1 NOTIFICATION DEVICES NEW RELOCATED REPLACED HORN/STROBES | 1,112 OTHER DEVICES NEW | RELOCATED | REPLACED

USED FOR FEE CALCULATION

COMMUNICATOR REPLACED

COMMUNICATOR TYPE: ○ POTS ● CELLULAR ○ MESH RADIO SINGLE PATH O DUAL PATH

- SPECIAL CONDITIONS EXTINGUISHING SYSTEM MONITORING
- O DELAYED EGRESS

TAMPER/FLOW 55

- ACCESS CONTROL CROSS ZONING
- OUTDOOR DEVICES
- EXPOSED BEAMS SPECIAL PROCESSES
- HIGH MOVEMENT AIR O ADA ROOMS:

CENTRAL SUPERVISING STATION NAME: CENTRAL MONITORING SERVICES

ADDRESS: 14231 GARDENS ROAD #1 CITY: POWAY STATE: CA ZIP: 92064 PHONE: 858-748-0211

OCCUPANT HISTORY

APPROXIMATE AGE OF BUILDING: NEW OCCUPANT NEW TO BUILDING O OCCUPANT EXISTING TO BUILDING NUMBER OF FLOORS OCCUPIED: 7

OCCUPANCY TYPE (CHECK ALL THAT APPLY)

- * INDICATES SFM REGULATED OCCUPANCY. OCFA PLAN SUBMITTAL REQUIRED # GROUP S MOTOR VEHICLE REPAIR AND AIRCRAFT REPAIR REQUIRE OCFA PLAN
- SUBMITTAL ○ GROUP A1* ○ GROUP A2* ● GROUP A3* ○ GROUP A4* ○ GROUP A5* ● GROUP B ○ GROUP E* ○ GROUP F1 ○ GROUP F2 ○ GROUP H1*
- GROUP H2* \(\cap \) GROUP H3* \(\cap \) GROUP H4* \(\cap \) GROUP H5* \(\cap \) GROUP I1*
- GROUP I2* GROUP I3* GROUP I4* GROUP M GROUP R1* ■ GROUP R2* ○ GROUP R2.1 ○ GROUP R2.2 ○ GROUP R3 ○ GROUP R3.1
- O GROUP R4* O GROUP S1# GROUP S2# O GROUP U

OCCUPANT LOAD

TYPE OF CONSTRUCTION TYPE IA TYPE IB

- O TYPE IIA O TYPE IIB
- TYPE IIIA TYPE IIIB O TYPE IV
- O TYPE VA O TYPE VB

BUILDING INFORMATION AREA: 705,222 SF

HEIGHT: 69'-5"

REVISED 06/10/2020

 RATED CONSTRUCTION HIGH RISE

OCFA STANDARD NOTES

- 1. OCFA INSPECTIONS ARE REQUIRED FOR THIS PROJECT. PLEASE SCHEDULE ALL FIELD INSPECTIONS AT LEAST 48 HOURS IN ADVANCE. INSPECTIONS CANCELED AFTER 1 P.M. ON THE DAY BEFORE THE SCHEDULED DATE WILL BE SUBJECT TO A RE-INSPECTION FEE. CALL OCFA INSPECTION SCHEDULING AT (714) 573-6150 AND PROVIDE THE SERVICE REQUEST NUMBER ON THESE PLANS.
- 2. THE SCOPE OF WORK SHALL BE TESTED BY THE INSTALLER PRIOR TO THE OCFA
- 3. FOR EXTREMELY LARGE SYSTEMS, OCFA MAY REQUIRE THE INSTALLING CONTRACTOR TO PROVIDE A WRITTEN CERTIFICATION BY A DIFFERENT THIRD PARTY LICENSED CONTRACTOR, TO VERIFY ALL OR SPECIFIC PORTIONS OF THE SYSTEM FUNCTION AS APPROVED ON THE PLANS (NFPA 72, 7.5.2).
- 4. THIS SYSTEM WAS DESIGNED AND INSTALLED UNDER THE 2019 CODE REQUIREMENTS.
- APPROVED DRAWINGS AND DOCUMENTS SHALL BE RETAINED. DRAWINGS SHALL BE ACCESSIBLE UPON REQUEST. AFTER FINAL INSPECTION, APPROVED SHOP DRAWINGS AND MAINTENANCE INSTRUCTIONS SHALL BE PROPERLY DELIVERED TO A REPRESENTATIVE OF THE OCCUPYING BUSINESS, WHO SHALL OFFER COPIES TO THE BUILDING OWNER (NFPA 72, 7.5.3 AND 7.7.1).
- 6. WRITTEN RECORDS AND REPORTS OF THE ALARM SYSTEM TESTING FREQUENCIES AND RESULTS, SHALL BE AVAILABLE FOR REVIEW ON THE PREMISES FOR THE OCFA INSPECTOR DURING FIRE INSPECTIONS.
- 7. TESTING AND SERVICE PERSONNEL SHALL BE QUALIFIED AND EXPERIENCED PER NFPA 72, 10.5.3.
- 8. ANY FUTURE MODIFICATIONS TO THE SYSTEM AFTER THIS FINAL OCFA INSPECTION SHALL CAUSE A NEW PLAN TO BE DRAFTED AND SUBMITTED BY THE TENANT OR BUILDING OWNER. THE MODIFICATIONS SHALL NOT BE STARTED UNTIL THE NEW PLANS ARE APPROVED BY OCFA (NFPA 72, 7.5.6.6).
- 9. WHEN THE FIRE ALARM CONTROL UNIT (FACU) PANEL IS IN A ROOM ACCESSED THROUGH A DOOR, A PERMANENT SIGN SHALL BE PROVIDED ON THE DOOR INDICATING, "FIRE ALARM CONTROL UNIT" OR EQUIVALENT. WHEN THERE ARE SUB-PANELS, DOOR SIGNS SHALL ALSO INDICATE WHERE THE MAIN FACU PANEL IS LOCATED.
- 10. A 24-HOUR EMERGENCY RESPONSE PHONE NUMBER SHALL BE PERMANENTLY POSTED AT THE CONTROL PANEL.
- 11. THE CIRCUIT BREAKER POWER DISCONNECT SHALL ONLY BE ACCESSIBLE TO AUTHORIZED PERSONNEL, AND SHALL BE IDENTIFIED AS "FIRE ALARM" (NFPA 72, 10.6.5.2). THE ELECTRICAL PANEL WITH THE FIRE ALARM CIRCUIT SHALL BE IN A SECURE ROOM, OR A CIRCUIT BREAKER LOCKING DEVICE SHALL BE INSTALLED (NFPA 72, 10.6.5.4).
- 12. STORAGE BATTERIES SHALL BE MARKED WITH THE MONTH AND YEAR OF MANUFACTURE (NFPA 72, 10.6.10).
- 13. THE BATTERIES SHALL BE ABLE TO RUN THE SYSTEM IN STAND-BY MODE FOR 24 HOURS WITHOUT BUILDING POWER IN A NON-ALARM CONDITION, AND THEN IMMEDIATELY BE ABLE TO OPERATE ALL DEVICES FOR 5 MINUTES (15 MINUTES IS REQUIRED FOR VOICE EVACUATION SYSTEMS) (NFPA 72, 10.6.7.2.1, CFC 907.1.2).
- 14. IF A 24 HOUR BATTERY TEST WAS NOT REQUIRED, OCFA COULD REQUIRE SHUT DOWN OF THE AC POWER TO VERIFY TROUBLE SIGNALS.
- 15. BATTERIES SHALL BE FULLY CHARGED UNDER NORMAL CONDITIONS AND AFTER A POWER LOSS EVENT DISCHARGE (NFPA 72, 10.6.10.3).
- 16. A BATTERY CHARGER FAILURE SHALL BE DETECTED AS A TROUBLE SIGNAL (NFPA 72, 10.6.10.6.1).
- 17. AN ALARM SIGNAL SHALL OCCUR WITHIN 10 SECONDS AFTER INITIATING DEVICE ACTIVATIONS (NFPA 72, 11.11.1). THE ALARM SIGNALS SHALL BE AUDIBLY DISTINCTIVE FROM ALL OTHER DIFFERENT TYPES OF AUDIBLE SYSTEMS OR ALARMS (NFPA 72,
- 18. ALL AUDIBLE ALARM NOTIFICATION SIGNALS SHALL BE A THREE PULSE TEMPORAL PATTERN (CFC 907.5.2.1.3).
- 19. AUDIBLE ALARM SOUND PRESSURE LEVELS SHALL BE PROVIDED AS SPECIFIED BY CFC 907.5.2.1. AND 907.5.2.1.2
- 20. WHEN MORE THAN TWO VISUAL NOTIFICATION APPLIANCES ARE LOCATED WITHIN THE SAME ROOM OR AREA, THEY SHALL BE SYNCHRONIZED (NFPA 72, 18.5.5.4.2).
- 21. MANUAL PULL STATION KEY(S) SHOULD BE PLACED IN THE MAIN FACU BOX OR
- SPRINKLER HEAD BOX. 22. WHEN TIED TO THE MAIN FIRE ALARM PANEL, DUCT DETECTOR ACTIVATIONS SHALL
- ONLY CAUSE A SUPERVISORY SIGNAL TO THE CENTRAL SUPERVISING STATION. 23. INSPECTION, TESTING AND MAINTENANCE SHALL BE PERFORMED AND MAINTAINED PER
- CHAPTER 14 OF NFPA 72 AND THE MANUFACTURER SPECIFICATIONS. 24. WHERE A BUILDING FIRE ALARM OR MONITORING SYSTEM IS INSTALLED, AUTOMATIC FIRE-EXTINGUISHING SYSTEMS SHALL BE MONITORED TO THE CENTRAL SUPERVISING STATION BY THE BUILDING FIRE ALARM OR WATER FLOW SYSTEM IN ACCORDANCE WITH
- NFPA 72 AND CFC 904.3.5. 25. ELEVATOR RECALL SHALL OPERATE PER THE SIGNALS FOUND IN SEQUENCE OF OPERATIONS ON THIS PLAN (NFPA 72, 21.4).
- 26. ALL FIRE ALARM AND WATER FLOW ALARM SYSTEMS UNDERGOING A CHANGE IN CENTRAL SUPERVISING STATION COMPANIES ARE REQUIRED TO BE IMMEDIATELY TESTED IN THE PRESENCE OF OCFA. THIS IS TO VERIFY THAT NEW COMPANY IS APPROPRIATELY RECEIVING NECESSARY SIGNALS, TRANSMITTING EMERGENCY 911 COMMUNICATIONS, AND THAT DEVICES DEDICATED FOR SUPERVISORY AND TROUBLE SIGNALS DO NOT CAUSE AN EMERGENCY RESPONSE. WHEN THE CHANGE OF THE SUPERVISING STATION COMPANY IS NOT PART OF THE NEW CONSTRUCTION INSPECTION ON THESE PLANS, THE RESPONSIBLE PARTY CAUSING THE CHANGE SHALL COMPLETE A NEW SERVICE REQUEST APPLICATION/FEE PROCESS AT OCFA HEADQUARTERS. THE RESPONSIBLE PARTY IS REQUIRED TO GENERATE THE OCFA INSPECTION. NO PLAN REVIEW IS REQUIRED FOR THIS SCOPE OF WORK (CFC 901.9).

APPLICABLE CODES

- 2019 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS
- APPLICABLE NFPA STANDARDS: LOCALLY ADOPTED ORDINANCES:
- O OCFA GUIDELINE
- O CONDITIONS OF APPROVAL

O ORIGINAL PLAN SR:

COPY OF ORIGINAL APPROVED PLAN REQUIRED TO BE SUBMITTED WITH ALL REVISED

REVISION SCOPE OF WORK

SEE SCOPE OF WORK ON FA-0.0

PROJECT DIRECTORY

CONTRACTOR

BUSINESS NAME: EMCOM INC. CONTACT NAME: JOE ECCHER

ADDRESS: 256 WITHERSPOON WAY, SUITE H _ STATE:<u>CA</u>__ZIP: <u>92020</u>

PHONE: 619-667-1200

FMAIL: JOE@EMCOMINC.COM

LICENSE NUMBER: 820216

PROPERTY OWNER

BUSINESS NAME: ELAN - BUILDING #1

CONTACT NAME: SANTA ANA FIRST STREET LLC ADDRESS: 5120 SHOREHAM PLACE #150

_STATE: CA___ZIP:_92122 CITY: SAN DIEGO

PHONE: 858-5351475 EMAIL:_

SERVICE REQUEST NUMBER

SHEET



ORANGE COUNTY FIRE AUTHORITY NOTES

Fire Alarm, Water Flow Alarm & Signaling Systems

First complete the bottom portion and then copy the notes on the plans

- 1. OCFA inspections are required for this project. Please schedule all field inspections at least 48 hours in advance. Inspections canceled after 1 p.m. on the day before the scheduled date will be subject to a re-inspection fee. Call OCFA inspection scheduling at (714) 573-6150 and provide the service
- request number on these plans.

 2. The scope of work shall be tested by the installer prior to the OCFA inspection to determine the system properly functions as approved on the plans.
- For extremely large systems, OCFA may require the installing contractor to provide a written certification by a different third party licensed contractor, to verify all or specific portions of the system function as approved on the plans (NFPA 72, 7.5.2).
- 4. This system was designed and installed under the 2019 code requirements.
- 5. Approved drawings and documents shall be retained. Drawings shall be accessible upon request. After final inspection, approved shop drawings and maintenance instructions shall be properly delivered to a representative of the occupying business, who shall offer copies to the building owner (NFPA 72, 7.5.3 and 7.7.1).
- 6. Written records and reports of the alarm system testing frequencies and results, shall be available for review on the premises for the OCFA inspector during fire inspections.
- Testing and service personnel shall be qualified and experienced per NFPA 72, 10.5.3.
 Any future modifications to the system after this final OCFA inspection shall cause a new plan to be drafted and submitted by the tenant or building owner. The modifications shall not be started until the new plans are approved by OCFA (NFPA 72, 7.5.6.6).
- 9. When the Fire Alarm Control Unit (FACU) panel is in a room accessed through a door, a permanent sign shall be provided on the door indicating, "Fire Alarm Control Unit" or equivalent. When there are sub-panels, door signs shall also indicate where the main FACU panel is located.
- 10. A 24-hour emergency response phone number shall be permanently posted at the control panel.11. The circuit breaker power disconnect shall only be accessible to authorized personnel, and shall be identified as "FIRE ALARM" (NFPA 72, 10.6.5.2). The electrical panel with the fire alarm circuit shall be in a secure room, or a circuit breaker locking device shall be installed (NFPA 72, 10.6.5.4).
- Storage batteries shall be marked with the month and year of manufacture (NFPA 72, 10.6.10).
 The batteries shall be able to run the system in stand-by mode for 24 hours without building power in a non-alarm condition, and then immediately be able to operate all devices for 5 minutes (15 minutes is required for voice evacuation systems) (NFPA 72, 10.6.7.2.1, CFC 907.1.2).
- 14. If a 24 hour battery test was not required, OCFA could require shut down of the AC power to verify trouble signals.
- 15. Batteries shall be fully charged under normal conditions and after a power loss event discharge (NFPA 72, 10.6.10.3).
- 16. A battery charger failure shall be detected as a trouble signal (NFPA 72, 10.6.10.6.1).
 17. An alarm signal shall occur within 10 seconds after initiating device activations (NFPA 72, 11.11.1).
 The alarm signals shall be audibly distinctive from all other different types of audible systems or alarms (NFPA 72, 10.10).
- 18. All audible alarm notification signals shall be a three pulse temporal pattern (CFC 907.5.2.1.3).
 19. Audible alarm sound pressure levels shall be provided as specified by CFC 907.5.2.1. and 907.5.2.1.2

Fire Alarm, Water Flow Alarm, & Signaling Systems: D-03

January 1, 2020

20. When more than two visual notification appliances are located within the same room or area, they shall be synchronized (NFPA 72, 18.5.5.4.2).21. Manual pull station key(s) should be placed in the main FACU box or sprinkler head box.

- 22. When tied to the main fire alarm panel, duct detector activations shall only cause a supervisory signal to the central supervising station.23. Inspection, testing and maintenance shall be performed and maintained per Chapter 14 of NFPA 72
- and the manufacturer specifications.

 24. Where a building fire alarm or monitoring system is installed, automatic fire-extinguishing systems shall be monitored to the central supervising station by the building fire alarm or water flow system in
- shall be monitored to the central supervising station by the building fire alarm or water flow system in accordance with NFPA 72 and CFC 904.3.5.

 25. Elevator recall shall operate per the signals found in sequence of operations on this plan (NFPA 72,
- 26. All fire alarm and water flow alarm systems undergoing a change in central supervising station companies are required to be immediately tested in the presence of OCFA. This is to verify that new company is appropriately receiving necessary signals, transmitting emergency 911 communications, and that devices dedicated for supervisory and trouble signals do not cause an emergency response. When the change of the supervising station company is not part of the new construction inspection on these plans, the responsible party causing the change shall complete a new Service Request application/fee process at OCFA headquarters. The responsible party is required to generate the OCFA inspection. No plan review is required for this scope of work (CFC 901.9).
- 27. The following must be completed by the designer prior to copying on the plans. List the number of all total devices proposed only for this specific job

otal devices propos	ed only for this specific	c job.			
	This scope of work	only covers the follo	wing quantity of devices:		
Devices below ar	e factored in fee	Devices not factored in fee			
charges		charges			
List the # of Initial	ting Devices	List the # Other Devices			
below:			below:		
Detectors	Duct Detectors	Manual Pull	Tamper/Water Flow		
New/Added: 119	New/Added: 15	New/Added: 1	New/Added: 55		
Relocated:	Relocated:	Relocated:	Relocated:		
Replaced:	Replaced:	Replaced:	Replaced:		
			FACU		
List # of Notificati	on Devices below:		New/Added: 1		
Horns / Strobes			Relocated:		
New/Added: 1,112			Replaced:		
			(Indicate) Dialer Replaced Yes /		
Relocated:			No NEW DIALER		

ced: Extinguishing System Yes / (The Information Above Shall Match the Equipment Legend/Bill of Materials).

- Occupant History and Background: (Provide the information underlined on each below)

 i. Approximate age of the building? (In Years) ____NEW_.
- ii. Occupant will be new to the building? Yes No.
 iii. Number of floors this occupant will occupy? 7
- iv. Occupant is already existing in the building? Yes /(No.)

 If occupant is existing, list the approximate amount of years occupied _____.
- Occupant will be occupying an additional floor? Yes / No.
- Occupant is staying on the current floor level, and occupying new area? Yes / No.
 U.L. Listed Central Supervising Station Facility (CSSF) Information:
- The CSSF Name: <u>CENTRAL MONITORING SERVICES</u> Phone Number: <u>858-748-0211</u> CSSF Address: <u>14231 GARDEN ROAD #1, POWAY, CA 92064</u>

ELAN - BUILDING #1

100 ELK LANE SANTA ANA, CA 92701 FIRE ALARM SYSTEM

SCOPE OF WORK

- NEW FIRE ALARM SYSTEM TO BE INSTALLED FOR NEW RESIDENTIAL APARTMENT BUILDINGS AS REQUIRED BY CODE. FIRE ALARM SYSTEM PROVIDED TO ALERT OCCUPANTS OF FIRE DANGER WITHIN THE BUILDING. SYSTEM SHALL REPORT STATUS TO AN APPROVED CENTRAL STATION VIA MAIN COMMUNICATOR PANEL IN MPOE BUILDING.
- SCOPE:
 NEW SYSTEM SHALL PROVIDE MONITORING OF WATERFLOW/ TAMPER SWITCHES, ACTIVATE AUDIBLE/VISUAL
 NOTIFICATION DEVICES, PROVIDE ELEVATOR RECALL AND SHUNT TRIP AND ACTIVATE AUDIBLE
 SPRINKLER FLOW BELL ON EXTERIOR OF BUILDING.
- SPRINKLER I LOW BLLL
- TYPE OF FA SYSTEM:
 THE SYSTEM INSTALLED SHALL BE A MANUAL / AUTOMATIC SYSTEM



Orange County Fire Authority Fire Prevention Division INFORMATIONAL BULLETIN 05 – 16

Subject: Elevator Recall and Fire Alarm Interface Requirements/Firefighter Emergency Operations (FEO)

Scope: New elevators that have a travel rise that exceeds 80 inches will require FEO recall in accordance with this bulletin. For existing elevators, FEO features will be required to be retrofitted to these latest requirements only when significant changes are proposed to the existing recall alarm equipment or controllers. (This bulletin is a supplement to The OCFA Fire Alarm Signaling Guideline D-03).

Purpose: The information below is required to be shown on fire alarm and water flow monitoring system plans, when submitting plans for approval to The OCFA Planning and Development Section.

Requirements and Sequence of Operations for Plan Review:

Phase One Automatic and Manual Recall:
Phase One cab recall to a predetermined floor level needs to be automatically activated by the hoistway, machine room, or elevator lobby smoke detectors, and a water flow switch signal.
Phase One recall shall also be designed for firefighters to activate manually, by using a key switch

located at the elevator lobby, annunciator key pad and/or fire alarm control panel.

- Phase Two Manual Recall Key Switch Operation:
 Phase Two recall overrides Phase One, and is manually activated from inside the cab by using a key switch. Firefighters are required to press and hold buttons to command the elevator operations.
- switch. Firefighters are required to press and hold buttons to command the elevator operations.

 Firefighter's Hat Lamp and Sounder Indications during Phase One and Phase Two Recall:
- Phase One activation in the cab causes the firefighter hat lamp to glow, and a sounder to activate.
 Upon smoke detector activation within the elevator hoistway or machine room, the Firefighter's hat lamp in the cab will change from a steady glow to flashing off and on. This alerts firefighters to exit
- the cab and not use the elevator(s) for FEO.

 Heat Detector and Power-Shutdown (Shunt Trip Mechanism):
- Heat detector(s) in the machine room shall activate first to prevent sprinkler head activation.
 Hoistway Heat detector(s) are only required when sprinkler system water would damage elevator
- related equipment enough to make the elevator unsafe to use.
 Heat detector activation shall cause a shunt trip mechanism to shut down the power to the elevator(s)
- to prevent FEO usage completely, to ensure firefighter safety.

 Smoke Detection:
- Smoke detectors are not allowed in the hoistway without sprinklers present.
- If the elevator lobby, hoistway, or machine room detectors are only dedicated to activating recall, then the signal is supervisory and therefore does not cause building evacuation.
- Unless codes specifically require a smoke detection system, common area detectors, door holders, or
 duct detectors just activate a supervisory signal. Other circumstances identified during plan review
 may be allowed for common area detectors to cause building evacuation and/or emergency response.
 Associated Alarm Devices and Panel Operations:
- Manual pull boxes do not recall elevators unless mandated by OCFA during plan review. Manual pull boxes shall cause evacuation and an emergency response.
- Dedicated recall devices shall be connected to the fire alarm or water flow panel. If there is no fire alarm or water flow panel, a dedicated stand-alone and signed recall panel is required to be installed.

05-11-16 BA

FLEX CONDUIT. APPROVED FOR USE IN WET/ DAMP CONDITIONS, TO TAMPER SWITCH LOCATION, (PROVIDED AND INSTALLED BY OTHERS) SEE "POINT TO POINT FLEX CONDUIT, APPROVED FOR USE IN DIAGRAM." FOR WIRING WET/ DAMP CONDITIONS, TO TAMPER SWITCH LOCATION. (PROVIDED AND DETAILS OF THE TAMPER INSTALLED BY OTHERS) SWITCHES. (2) 18/2 TRAY CABLE IN CONDUIT Grade (2)18/2 TRAY CABLE IN CONDUIT MIN. OF 18" BELOW (1) WP JUNCTION BOX GRADE APPROVED FOR USE IN WET/ DAMP CONDITIONS (PROVIDED AND EXACT LOCATIONS OF CONDUIT, FLEX CONDUIT, **INSTALLED BY OTHERS)** WP JUNCTION BOX AND TAMPER SWITCHES ARE 3/4" CONDUIT TO BE DETERMINED BY OTHERS, BUT SHALL (PROVIDED AND 18/2 WET LOCATION IN MEET ALL REQUIRED CODES FOR WET/ DAMP INSTALLED BY OTHERS

CONDUIT

FIRE ALAR CONTROL PA	<u>NEL</u>	TOP BOTTOM @ MIN. +80" A.F.F.	AUDIBLE UNIT @ +90" A.F.F.	
	'	I		

SHEET	SHEET DESCRIPTION	SHEET CONTENTS
FA-0.0	TITLE SHEET	NOTES, CODE ANALYSIS, SCOPE OF WORK
FA-0.1	SITE PLAN	BACK FLOW DETAIL
FA-0.1	MATERIALS & PARTS LIST	DEVICE LEGEND AND MATERIAL LIST, WIRE LEGEND, SEQUENCES OF OPS
FA-0.2	SITE PLAN	
FA-1.0	BASEMENT B2 OVERALL FLOOR PLAN	
FA-1.1	BASEMENT B2 FLR PLAN - SEGMENT A	
FA-1.2	BASEMENT B2 FLR PLAN - SEGMENT B	
FA-1.3	BASEMENT B2 FLR PLAN - SEGMENT C	
FA-1.4	BASEMENT B2 FLR PLAN - SEGMENT D	
FA-2.0	BASEMENT B1 OVERALL FLOOR PLAN	
FA-2.1	BASEMENT B1 FLR PLAN - SEGMENT A	
FA-2.2	BASEMENT B1 FLR PLAN - SEGMENT B	
FA-2.3	BASEMENT B1 FLR PLAN - SEGMENT C	
FA-2.4	BASEMENT B1 FLR PLAN - SEGMENT D	
FA-3.0	1ST STORY OVERALL FLOOR PLAN	
FA-3.1	1ST STORY FLR PLAN - SEGMENT A	
FA-3.2	1ST STORY FLR PLAN - SEGMENT B	
FA-3.3	1ST STORY FLR PLAN - SEGMENT C	
FA-3.4	1ST STORY FLR PLAN - SEGMENT D	
FA-4.0	2ND STORY OVERALL FLOOR PLAN	
FA-4.1	2ND STORY FLR PLAN - SEGMENT A	
FA-4.2	2ND STORY FLR PLAN - SEGMENT B	
FA-4.3	2ND STORY FLR PLAN - SEGMENT C	
FA-4.4	2ND STORY FLR PLAN - SEGMENT D	
FA-5.0	3RD STORY OVERALL FLOOR PLAN	
FA-5.1	3RD STORY FLR PLAN - SEGMENT A	
FA-5.2	3RD STORY FLR PLAN - SEGMENT B	
FA-5.3	3RD STORY FLR PLAN - SEGMENT C	
FA-5.4	3RD STORY FLR PLAN - SEGMENT D	
FA-6.0	4TH STORY OVERALL FLOOR PLAN	
FA-6.1	4TH STORY FLR PLAN - SEGMENT A	
FA-6.2	4TH STORY FLR PLAN - SEGMENT B	
FA-6.3	4TH STORY FLR PLAN - SEGMENT C	
FA-6.4	4TH STORY FLR PLAN - SEGMENT D	
FA-7.0	5TH STORY OVERALL FLOOR PLAN	
FA-7.1	5TH STORY FLR PLAN - SEGMENT A	
FA-7.2	5TH STORY FLR PLAN - SEGMENT B	
FA-7.3	5TH STORY FLR PLAN - SEGMENT C	
FA-7.4	5TH STORY FLR PLAN - SEGMENT D	
FA-8.0	6TH STORY OVERALL FLOOR PLAN	
FA-8.1	6TH STORY FLR PLAN - SEGMENT A	
FA-8.2	6TH STORY FLR PLAN - SEGMENT B	
FA-8.3	6TH STORY FLR PLAN - SEGMENT C	
FA-8.4	6TH STORY FLR PLAN - SEGMENT D	
FA-9.0	7TH STORY OVERALL FLOOR PLAN	
FA-9.1	7TH STORY FLR PLAN - SEGMENT A	
FA-9.2	7TH STORY FLR PLAN - SEGMENT B	+
FA-9.3 FA-9.4	7TH STORY FLR PLAN - SEGMENT C 7TH STORY FLR PLAN - SEGMENT D	
FA-10.0	ROOF OVERALL PLAN	
FA-10.1	ROOF PLAN - SEGMENT A	
FA-10.2	ROOF PLAN - SEGMENT B	
FA-10.3	ROOF PLAN - SEGMENT C	
FA-10.4	ROOF PLAN - SEGMENT D	
FA-11.0	SYSTEM RISER DIAGRAM - 1	
FA-11.1	SYSTEM RISER DIAGRAM - 2	
FA-11.2	SYSTEM RISER DIAGRAM - 3	
FA-12.0	BATTERY & VOLTAGE DROP CALCULATIONS - 1	
A-12.1	BATTERY & VOLTAGE DROP CALCULATIONS - 2	
A-12.2	BATTERY & VOLTAGE DROP CALCULATIONS - 3	
A-12.3	BATTERY & VOLTAGE DROP CALCULATIONS - 4	
FA-12.4	BATTERY & VOLTAGE DROP CALCULATIONS - 5	
FA-13.0 FA-14.0	PRE-WIRE FOR FUTURE HEARING IMPAIRED UNITS	
	POINT TO POINT WIRING DETAIL	Tr.

DRAWING INDEX

BUILDING CODE ANALYSIS								
BUILDING (NEW OR EXISTING):	NEW CONSTRUCTION - MIXED USE 310 UNIT RESIDENTIAL BLDG							
OCCUPANCY CLASS:	R-2, B, A-3, S-2							
CONSTRUCTION TYPE:	TYPE IIIA OVER TYPE IA							
NUMBER OF LEVELS/ STORIES:	7 STORIES							
OVERALL HEIGHT OF BUILDING:	69'-5"							
BUILDING TOTAL SQUARE FOOTAGE:	705,222 S.F.							
TYPE OF SYSTEM:	AUTOMATIC FIRE ALARM SYSTEM							
BUILDING IS FULLY SPRINKLERED:	YES (NFPA-13)							
MECHANICAL UPGRADE:	YES							
EMERGENCY GENERATOR:	NO							
OFF-SITE EMERGENCY GENERATOR:	NO							
FIRE PUMP	YES							
RPDA (BACKFLOW DEVICE)	YES							

CENTRAL MONITORING STATION

CENTRAL MONITORING SERVICES

14231 GARDEN ROAD #1

POWAY, CA 92064

PHONE #:858-748-0211

UL#: UUFX S2669-1

APPLICABLE CODES AND REGULATIONS
CALIFORNIA BUILDING CODE, TITLE 24 CALIFORNIA CODE OF REGULATIONS (CCR)
2016 CALIFORNIA BUILDING CODE (CBC), TITLE 24 PART 2
2016 CALIFORNIA ELECTRICAL CODE (CEC), TITLE 24 PART 3
2016 CALIFORNIA MECHANICAL CODE (CMC), TITLE 24 PART 4
2016 CALIFORNIA FIRE CODE (CFC), TITLE 24 PART 9
NATIONAL FIRE PROCTECTION ASSOCIATION
2016 NFPA 72
2016 NFPA 70
2016 NFPA 90A

VICINITY MAP

DERRICK W. EMBE

100 ELK LANE

100 ELK LANE

100 ELK LANE

REGISTERED

SIGNER:

FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O.

DRAWN:

DATE: 11/16/2020 PLOT:
SHEET TITLE:
TITLE SHEET

JOB NO:

CHECKED: JE

ELAN - BUILDING #1

N.T.S.

FA-0.0

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

U.L. SYSTEM NO. WL3001 CABLE THROUGH FRAMED WALL WOOD OR STEEL STUD 1-2 HOUR FIRE RATED GYPSUM WALL BOARD THRU WALL SECTION THRU WALL SECTION

THRU WALL SECTION

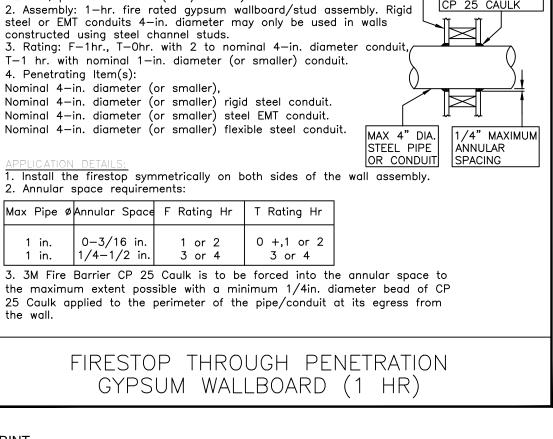
CAULK OR PUTTY FILL MATERIAL INSTALLED TO COMPLETELY FILL ANNULAR SPACE BETWEEN CABLE AND GYPSUM WALLBOARD ON BOTH SIDES OF WALL AND WITH A MINIMUM 1/4" DIAMETER BEAD OF CAULK OR PUTTY APPLIED TO PERIMETER OF CABLE AT ITS EGRESS FROM EACH SIDE OF THE WALL.

DIAMETER OF CIRCULAR THROUGH OPENING TO BE 3/8" TO 5/8" LARGER THAN OUTSIDE OF CABLE.

MINNESOTA MINING & MFC. CO. - CP 25CB+

IRESTOP THROUGH PENETRATION

CABLE THROUGH FRAMED WALL



System Justification: UL Through—Penetration Firestop System No.

WALLBOARD ASSEMBLY

OCATIONS.

						SEQU	ENCE OF OP	ERATIONS									
ACTION:	ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE COMMON TROUBLE SIGNAL	ACTUATE NOTIFICATION APPLIANCES	DELEASE MOD	ACTUATE ELEVATOR SMOKE GUARD	ACTUATE ELEVATOR SHUNT-TRIP	ACTUATE PRIMARY ELEVATOR RECALL. RECALL ELEVATOR TO LEVEL 1 (SEE NOTE#2)	ACTUATE SECONDARY ELEVATOR RECALL. RECALL ELEVATOR TO LEVEL 2 (SEE NOTE#2)	ACTUATE ELEVATOR CAB FIREMEN'S HAT LAMP	SMOKE	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION
MANUAL PULL STATION	•	•					•								•		
SMOKE DETECTOR	•	•					•	•							•		
ELEVATOR LOBBY SMOKE/HEAT DETECTOR 1ST FLR	•	•					•	•	•			•	• (STEADY)		•		
ELEVATOR LOBBY SMOKE/HEAT DETECTOR FLOORS B1,B2 & 2NDTHRU 7TH	•	•					•	•	•		•		• (STEADY)		•		
ELEVATOR MACHINE ROOM HEAT DETECTOR			•	•				•	•	•			• (FLASHES)			•	
ELEVATOR MACHINE ROOM SMOKE DETECTOR			•	•				•					• (FLASHES)			•	
ELEVATOR SHUNT TRIP 120V POWER LOSS			•	•												•	
FIRE SMOKE DAMPER SPOT SMOKE DETECTOR. SEE FSD METHOD OF ACTIVATION NOTE (M-3) ON FLR PLANS	•	•					•	•						•	•		
WATERFLOW SWITCH ACTIVATED	•	•					•								•		
SPRINKLER TAMPER VALVE CLOSED			•	•												•	
SPRINKLER BACK FLOW VALVE CLOSED			•	•												•	
FIRE SMOKE DAMPER DUCT SMOKE DETECTOR (SEE NOTE #1). SEE FSD METHOD OF ACTIVATION NOTE (M-1) ON FLR PLANS.			•	•												•	
FIRE PUMP "RUNNING", "LOSS PHASE" AND "PHASE REVERSAL", "NOT IN AUTOMATIC" STATUS			•	•												•	
SLC LOOP OPEN					•	•											•
SLC LOOP SHORT					•	•											•
SLC LOOP EARTH GROUND					•	•											•
NOTIFICATION CIRCUIT OPEN					•	•											•
NOTIFICATION CIRCUIT SHORT					•	•											•
NOTIFICATION CIRCUIT EARTH GROUND					•	•											•
LOW BATTERY					•	•											•
BOOSTER PANEL AC FAIL					•	•		•									•
BOOSTER PANEL TROUBLE					•	•											•
CELLULAR PANEL TROUBLE					•	•											•
FACP AC FAIL					•	•		•									•

NOTE #1: DUCT DETECTOR RESET BY AND PROVIDED BY MECHANICAL CONTRACTOR.

NOTE#2: SEE OCFA BULLETIN 05-16 ON TITLE SHEET FA-0.0 FOR ELEVATOR RECALL AND FIRE ALARM REQUIREMENTS/ FIREFIGHTERS EMERGENCY OPERATIONS (FEO)

SYMBOL	QTY	DEVICE LEGEND & MAT DESCRIPTION	MANUFACTURE	MODEL	CSFML#	BACKBOX TYPE
STMBUL	QIT	DESCRIPTION	MANUFACTURE	MODEL	CSFML#	BACKBOX ITP
	1	FIRE ALARM SYSTEM CONTROL UNIT	MIRCOM	FX-2003-12NDS	7165-1477:0111	INCLUDED
FACP	1	ISOLATOR QUAD LOOP CONTROLLER	MIRCOM	ALCN-792MISO	7165-1477:0111	
	1	DIGITAL ALARM COMMUNICATOR	MIRCOM	UDACT-300A	7165-1477:0111	
	1	UNIVERSAL BACKBOX	MIRCOM	UB-1024DS	7165-1477:0111	
	1	UNIVERSAL BACKBOX DOOR	MIRCOM	DOX-1024DSR	7165-1477:0111	
	1	BATTERY CABINET	MIRCOM	BC-160		
FAA	1	LCD ANNUNICATOR	MIRCOM	RAXN-LCD	7165-1477:0111	INCLUDED
FAC	1	CELLULAR COMMUNICATION PANEL	TELGUARD	TG-7FS	7300-1402:0109	INCLUDED
	100000	SIGNAL BAY AND	PART SAME AND THE PART OF THE	Martin Control of the		THE SHAREST STREET
BPS	21	BOOSTER POWER SUPPLY PANEL, 10 AMP, 8 OUTPUTS 12V, 26AH RECHARGEABLE LEAD-ACID BATTERIES (FOR FACU)	ALTRONIX POWER SONIC	FIRESWITCH 108 PS-12260	7315-1335:0122	INCLUDED
	42	12V, 12AH RECHARGEABLE LEAD-ACID BATTERIES (FOR FACO)	POWER SONIC	PS-12120		
	$\overline{}$	12V, 12AH RECHARGEABLE LEAD-ACID BATTERIES (FOR CELL PNAEL)	POWER SONIC	PS-1270		
	1		THE RESERVE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAME	The state of the s	7200 0552 0440	
	1	SYSTEM RECORDS CABINET ACE-11	SPACE AGE	SS500685	7300-0553:0110	
③	106	INTELLIGENT PHOTOELECTRIC SMOKE DETECTOR	MIRCOM	MIX-2251AP	7272-1477:0161	4S BOX W/ 3.0 MUDRING
•	13	INTELLIGENT HEAT DETECTOR, FIXED 135 F	MIRCOM	MIX-5251AP	7272-1477:0160	4S BOX W/ 3.0 MUDRING
	119	DETECTOR BASE	SYSTEM SENSOR	B210LP	7300-1653:0109	
F	Loc.	NECONAL DE CONTROLLE : LEGISLO DE VARIO	Comment of the Commen	The state of the s	CONTRACTOR AND ADMINISTRATION	(1) <u>19 1</u> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
F	1	ADDRESSABLE PULL STATION	MIRCOM	MS-700APU	7150-1477:0128	BB-700
505	15	DUCT SMOKE DETECTOR (BY OTHERS)	MU	JST BE CSFM LISTED)	INCLUDED
ММ	51	ADDRESSABLE SINGLE-INPUT MINI MODULE	MIRCOM	MIX-M501MAP	7300-1477:0167	4S BOX
DM	24	ADDRESSABLE DUAL MONITOR MODULE	MIRCOM	MIX-M500DMAP	7300-1477:0126	4S BOX
CR	41	ADDRESSABLE RELAY MODULE	MIRCOM	MIX-M500RAP	7300-1477:0167	4S BOX
R	14	ENCAPSULATED 120VAC, 10 AMP RELAY	AIR PRODUCTS	PAM-1	7300-1004:0101	4S BOX
НЦ	756	HORN LOW FREQ, WALL (WHITE)	SYSTEM SENSOR	HWL-LF	7135-1653:0516	1-GANG
HØKI	31	MULTI-CANDELA HORN-STROBE, WALL (WHITE)	SYSTEM SENSOR	P2WL	7135-1653:0503	1-GANG
c⊠<	232	MULTI-HI CANDELA HORN-STROBE, CEILING (WHITE)	SYSTEM SENSOR	PC2WL	7135-1653:0503	1-GANG
ir HØK	6	MULTI-CANDELA HORN-STROBE WEATHER PROOF, WALL (WHITE)	SYSTEM SENSOR	P2WK	7125-1653:0188	SA-WB8
185cd /P (1)	10	MULTI-HI CANDELA HORN-STROBE WEATHER PROOF, WALL (WHITE)	SYSTEM SENSOR	P2WHK	7125-1653:0188	SA-WBB
\time{\tii}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}	11	MULTI-CANDELA STROBE, WALL (WHITE)	SYSTEM SENSOR	SWL	7125-1653:0504	1-GANG
ď	59	MULTI-CANDELA STROBE, CEILIING (WHITE)	SYSTEM SENSOR	SCWL	7125-1653:0504	1-GANG
<u> </u>	118	DOOR HOLDER	RSG	DH24120	3550-1039:0100	1-GANG
\$	21	SPRINKLER FLOW SWITCH (BY OTHERS)	MU	JST BE CSFM LISTED		
	32	SPRINKLER CONTROL VALVE TAMPER SWITCH (BY OTHERS)	MU	JST BE CSFM LISTED)	
\$	2	OS&Y / BACKFLOW TAMPER SWITCH (BY OTHERS)	MU	JST BE CSFM LISTED)	
FSD ⊕		FIRE SMOKE DAMPERS (BY OTHERS)	MU	JST BE CSFM LISTED)	
		ADA J-BOX				

WIRE TAG	PURPOSE	TYPE
	ADDRESSABLE CIRCUIT	16/2 FPLR
С	ANNUNICATOR	16/4 FPLR
V	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**

REGISTERED

C-7 C-10

CONTRACTOR

NO. 820216

EXP. 05/31/2021

DERRICK M. EMGE

M ELECTRONIC SYSTEMS, INC
 6 WITHERSPOON WAY, SUITE H
 EL CAJON, CA 92020
 (619) 667-1200
 0 # 820216 | EXP. DATE 05/31/2021
 CT: DERRICK EMGE @ 619-667-1200

C-7 C-10 # CONTACT:

ELAN - BUILDING #1 100 ELK LANE SANTA ANA, CA 92701

REV.	DATE		DESCRIPTION	D.B.				
1								
2								
3								
4								
DESIGNER: FUEGO ENGINEERING & DESIGN P.O. BOX 880922 PORT SAINT LUCIE, FL 34988 Carlos Oliveras (619) 610-8637, NICET III #84003 carlos.oliveras@fuegoeng.com								
DESIGN: C.O.			DRAWN:					
CHECKED: JE			JOB NO:					
DATE	:: 11/16/2020		PLOT:					
CHEET TITLE								

SHEET TITLE:
SITE PLAN

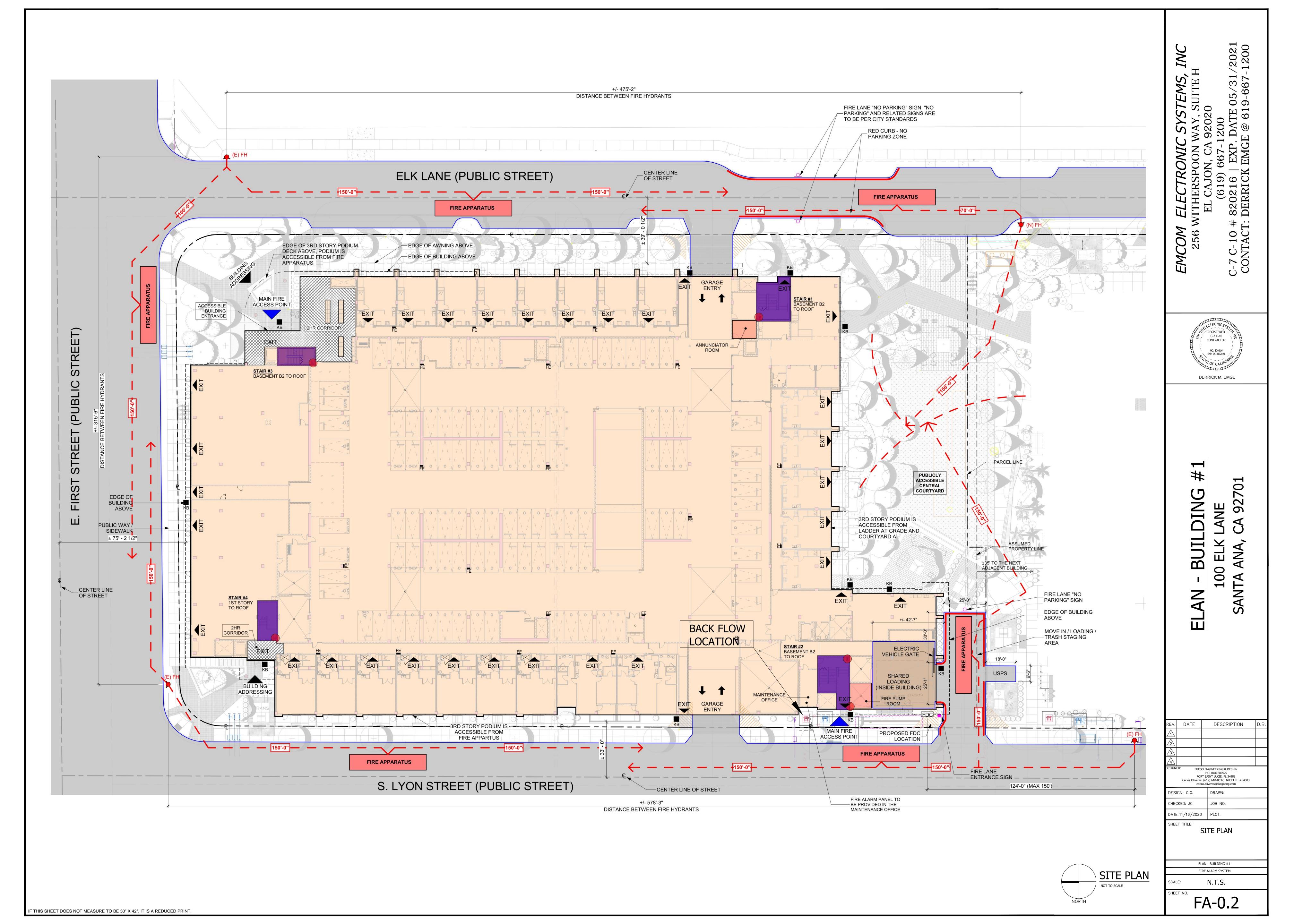
ELAN - BUILDING #1
FIRE ALARM SYSTEM

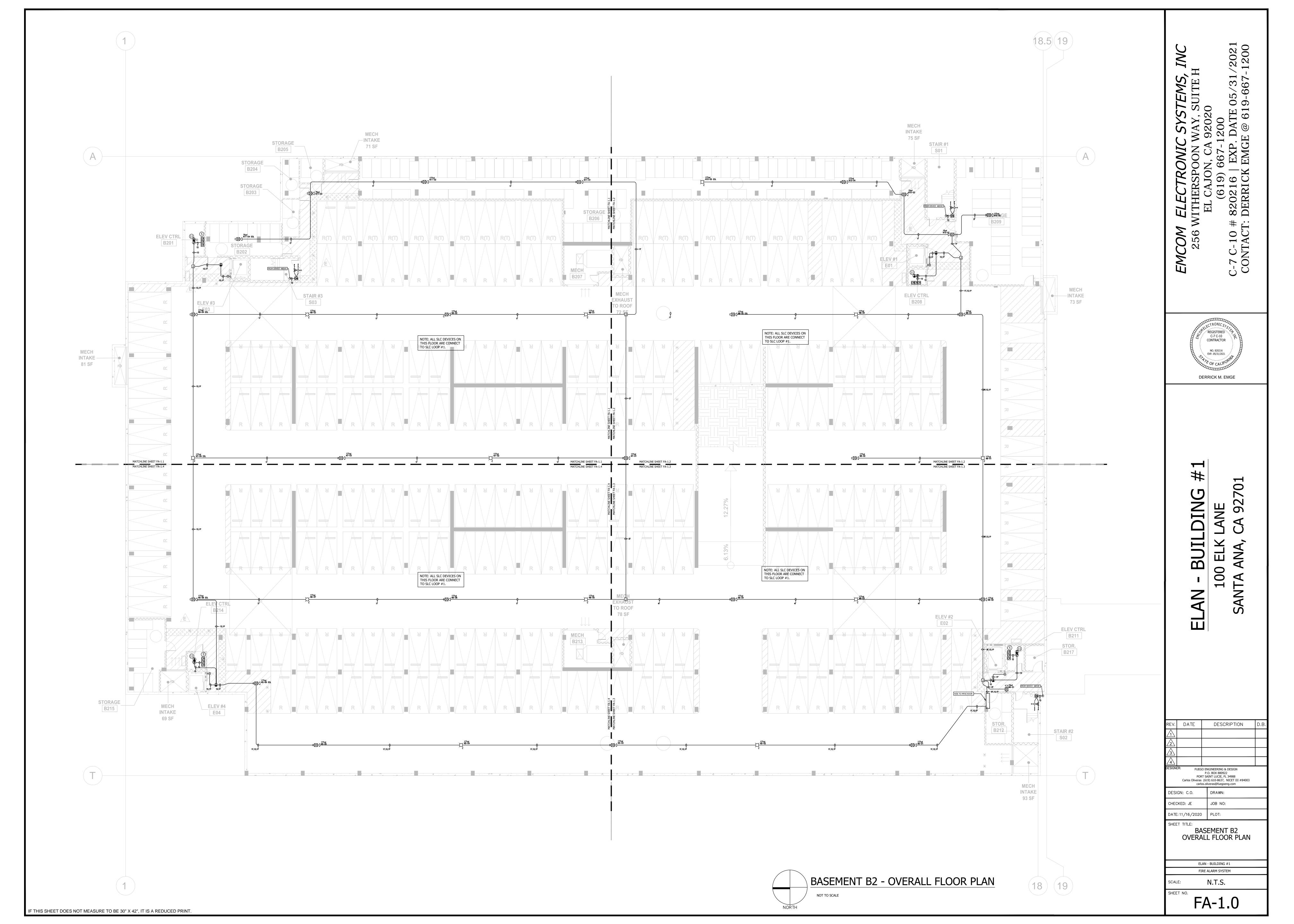
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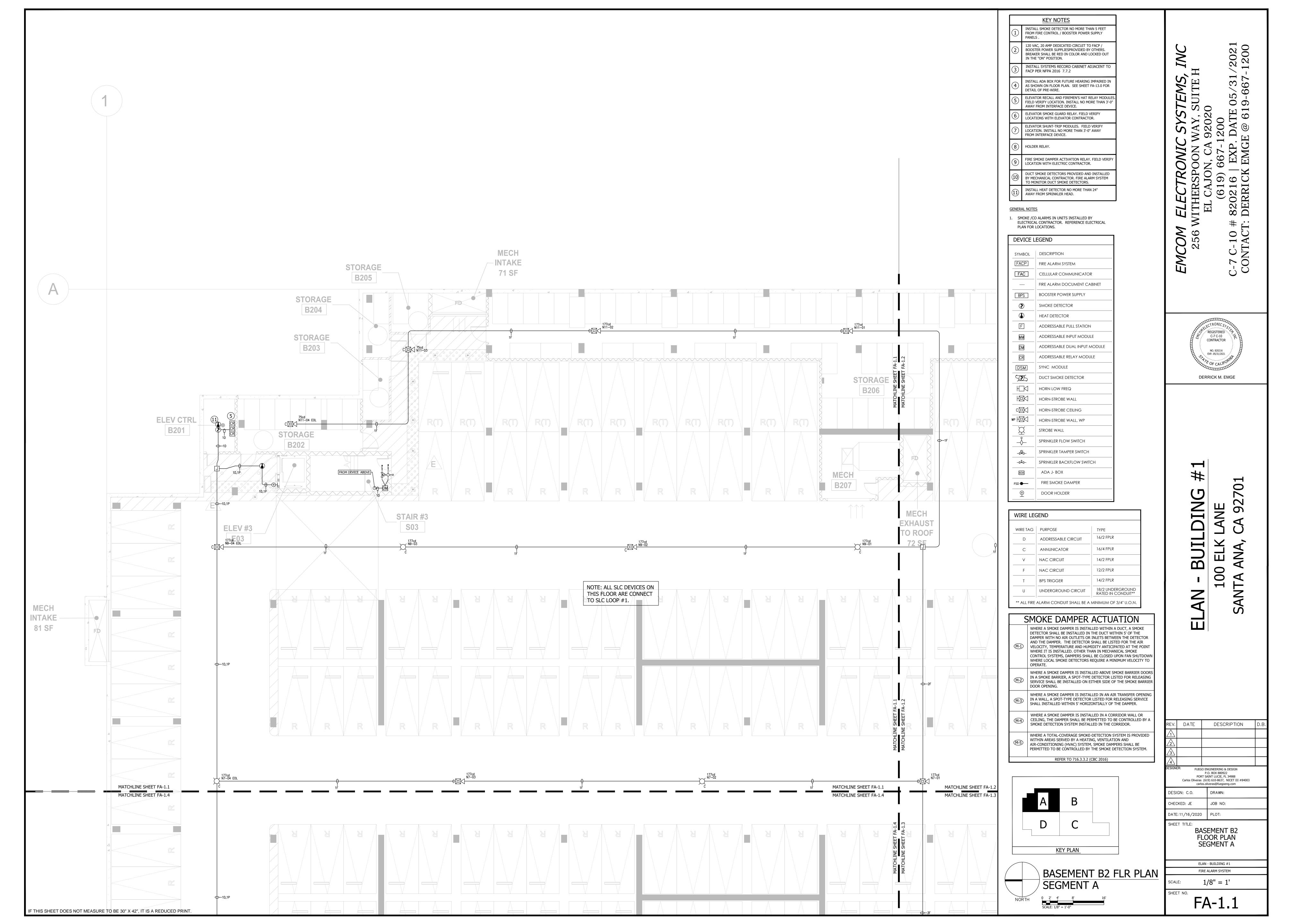
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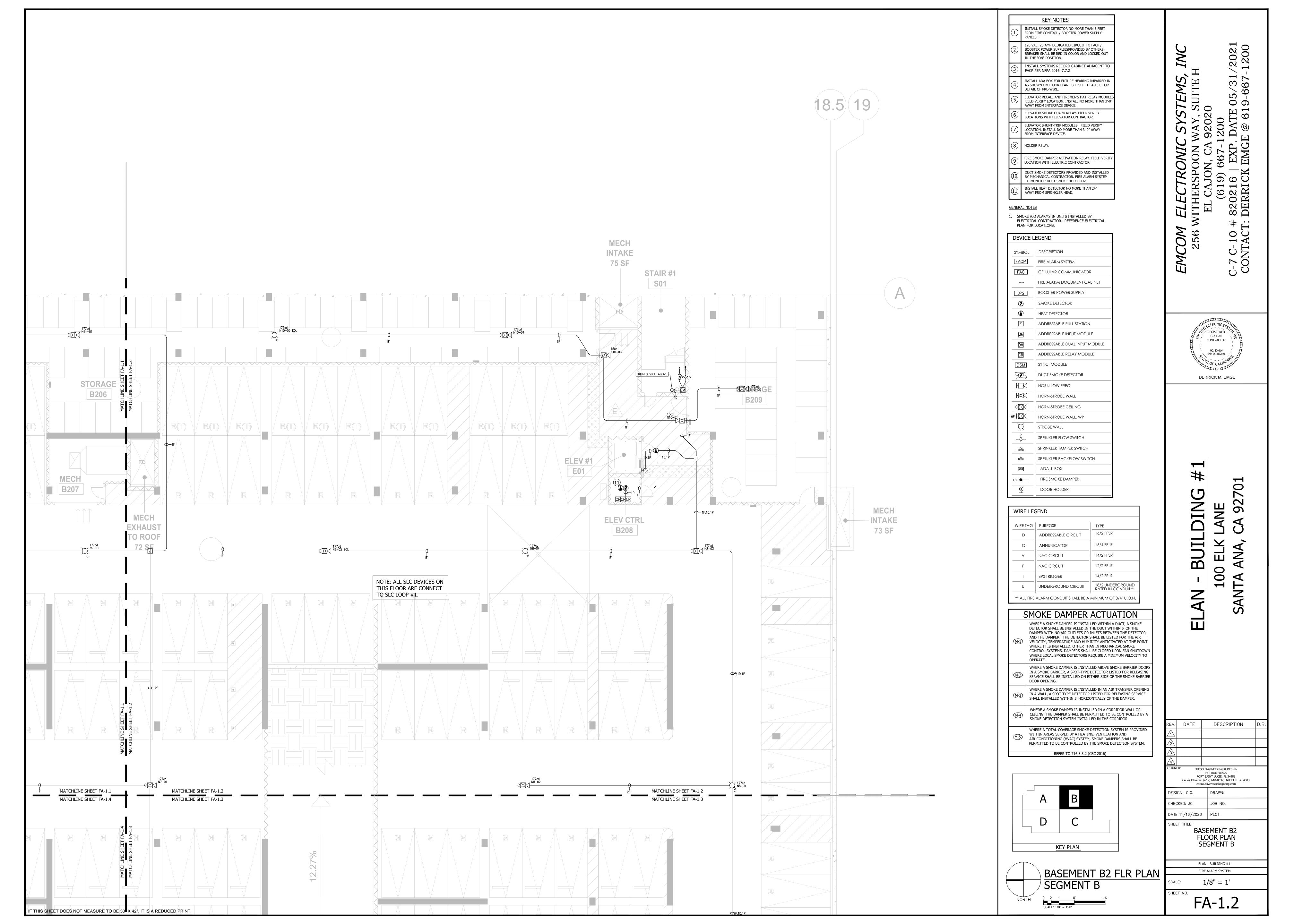
SITE PLAN

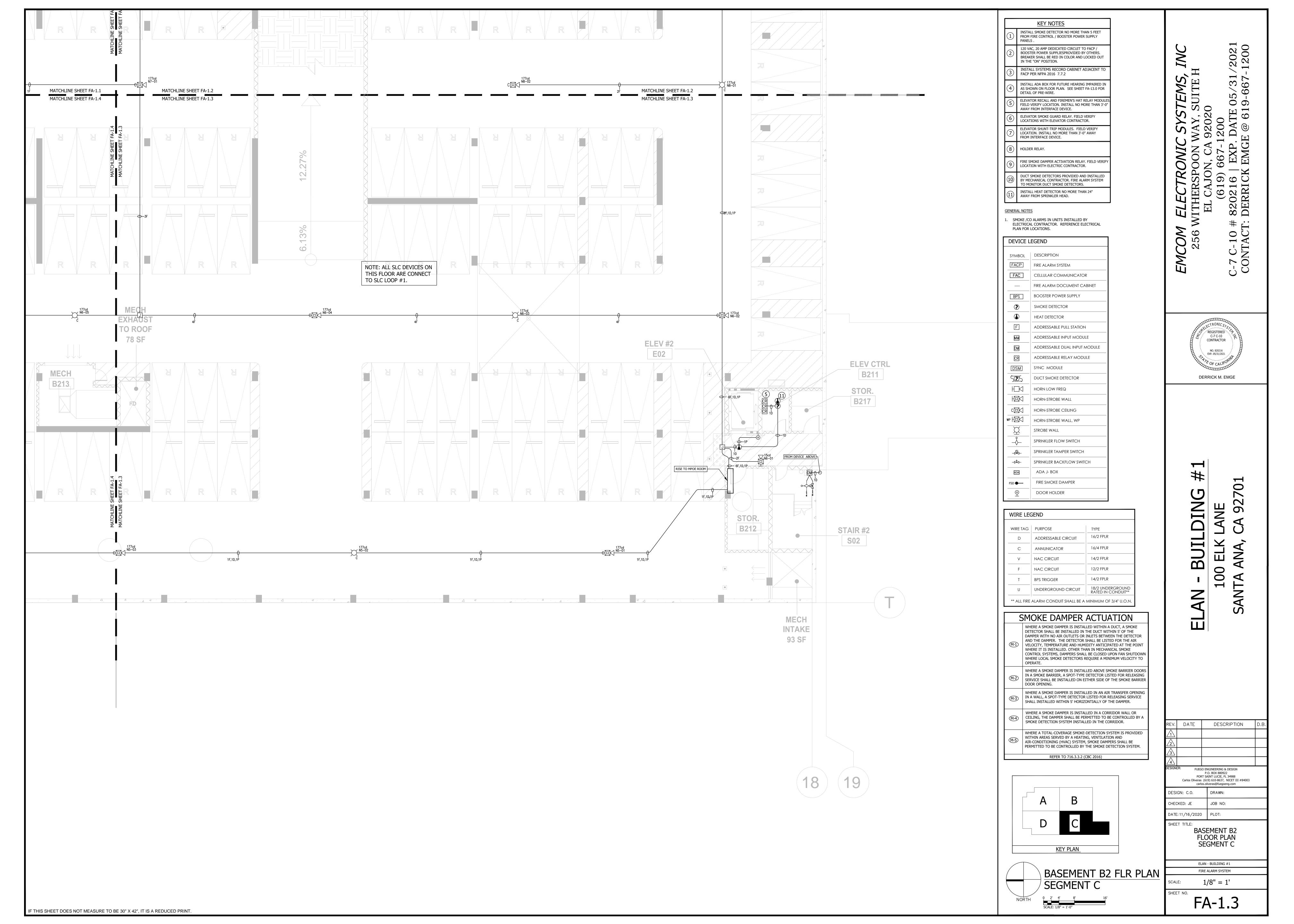
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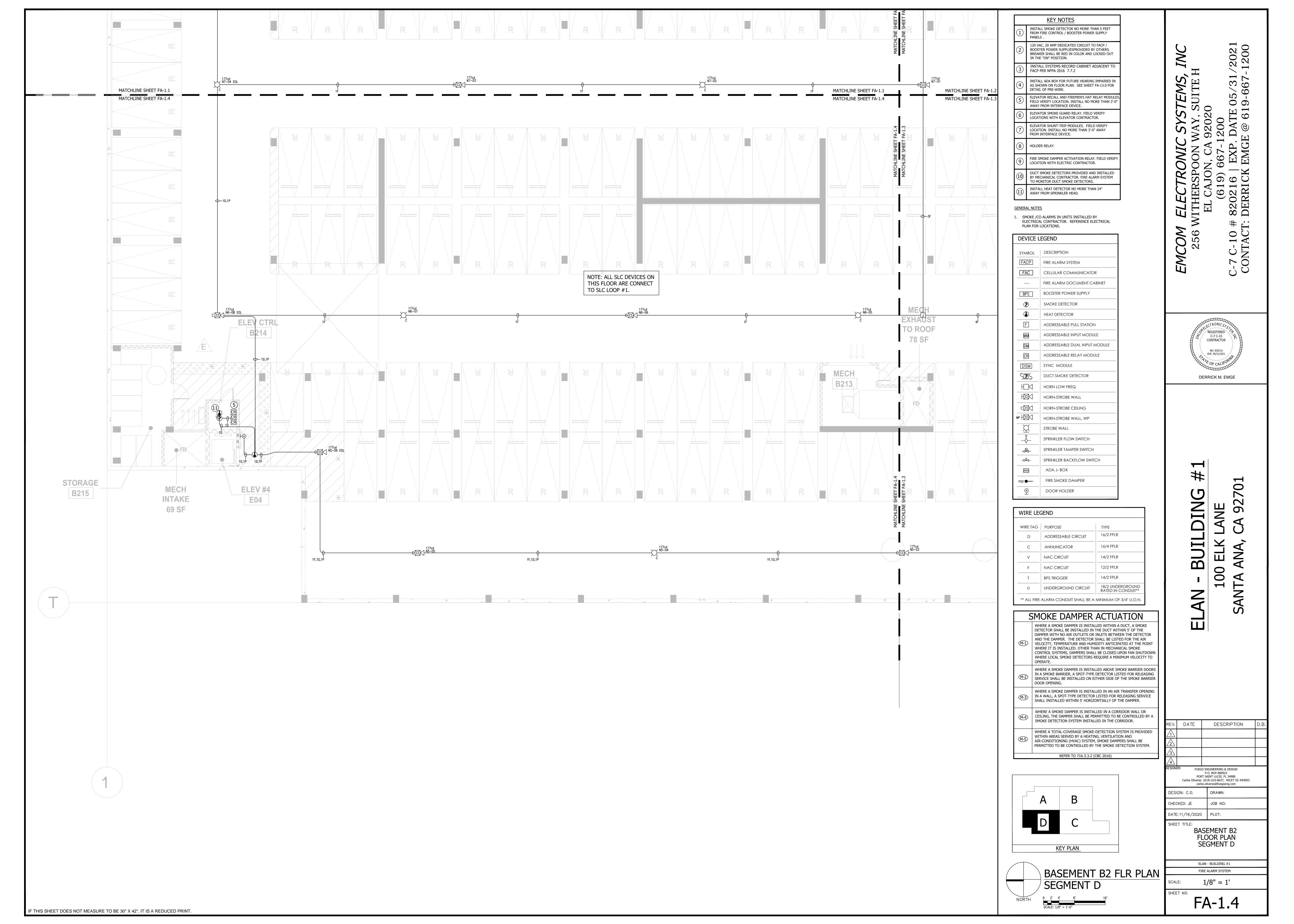


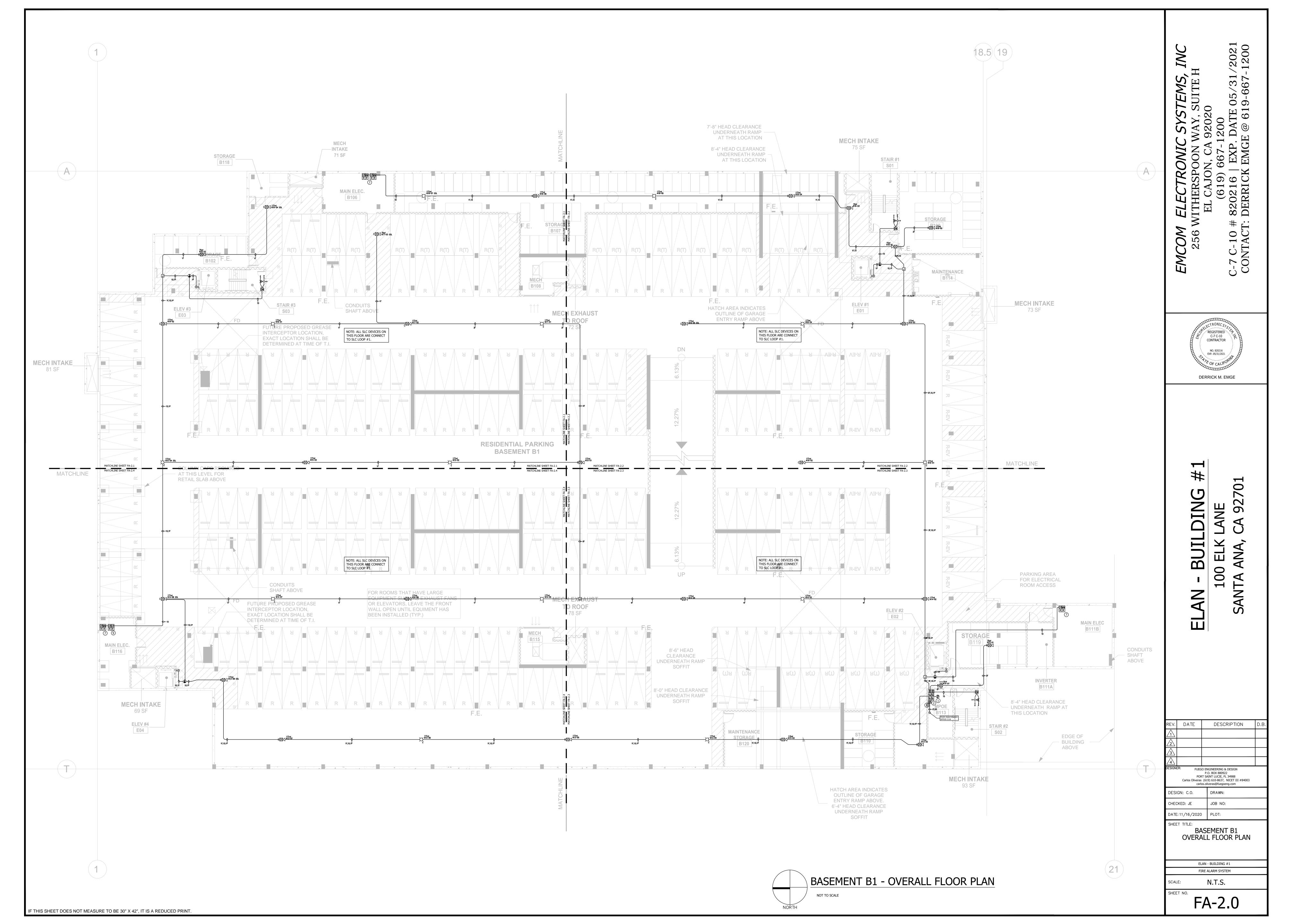


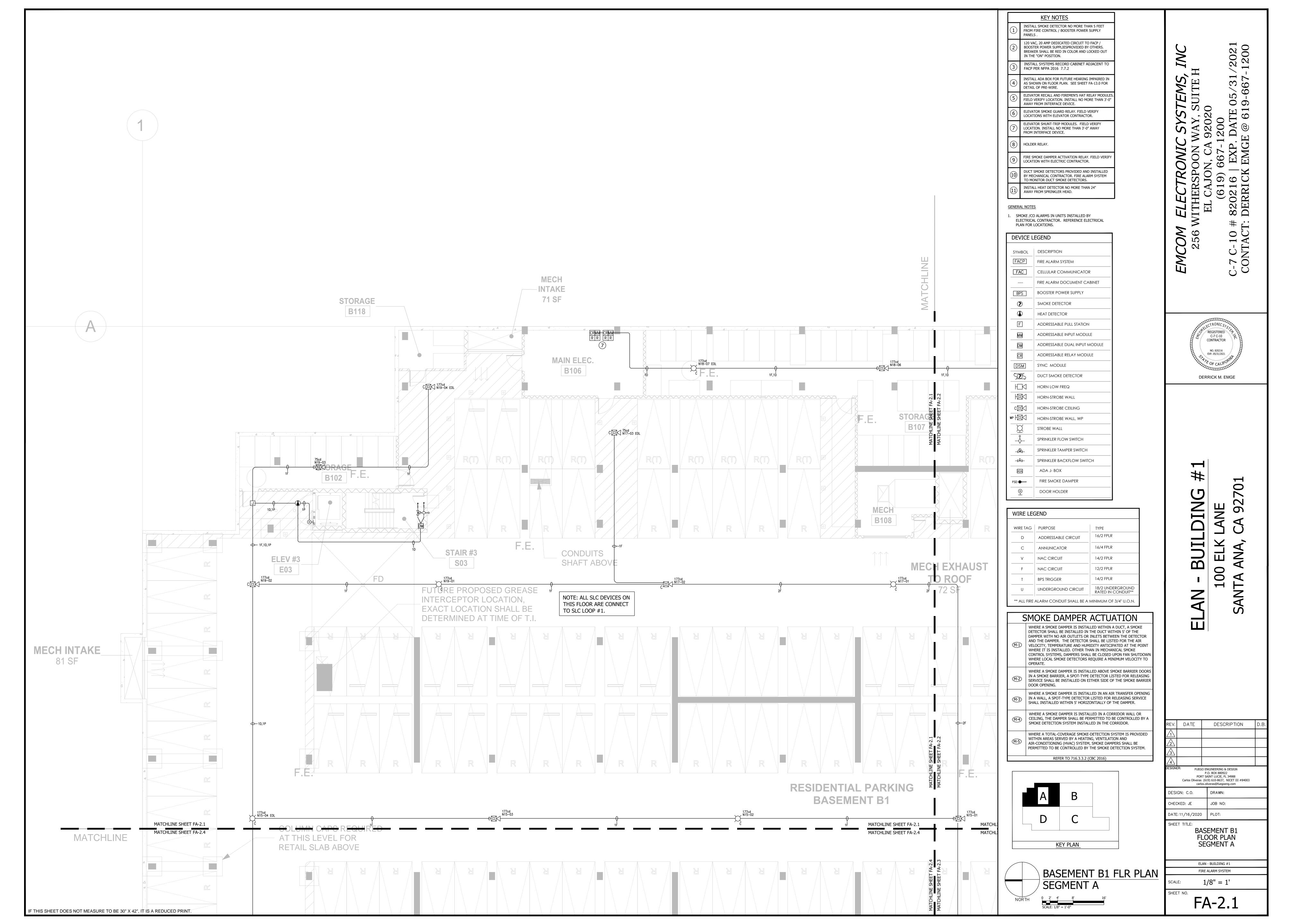


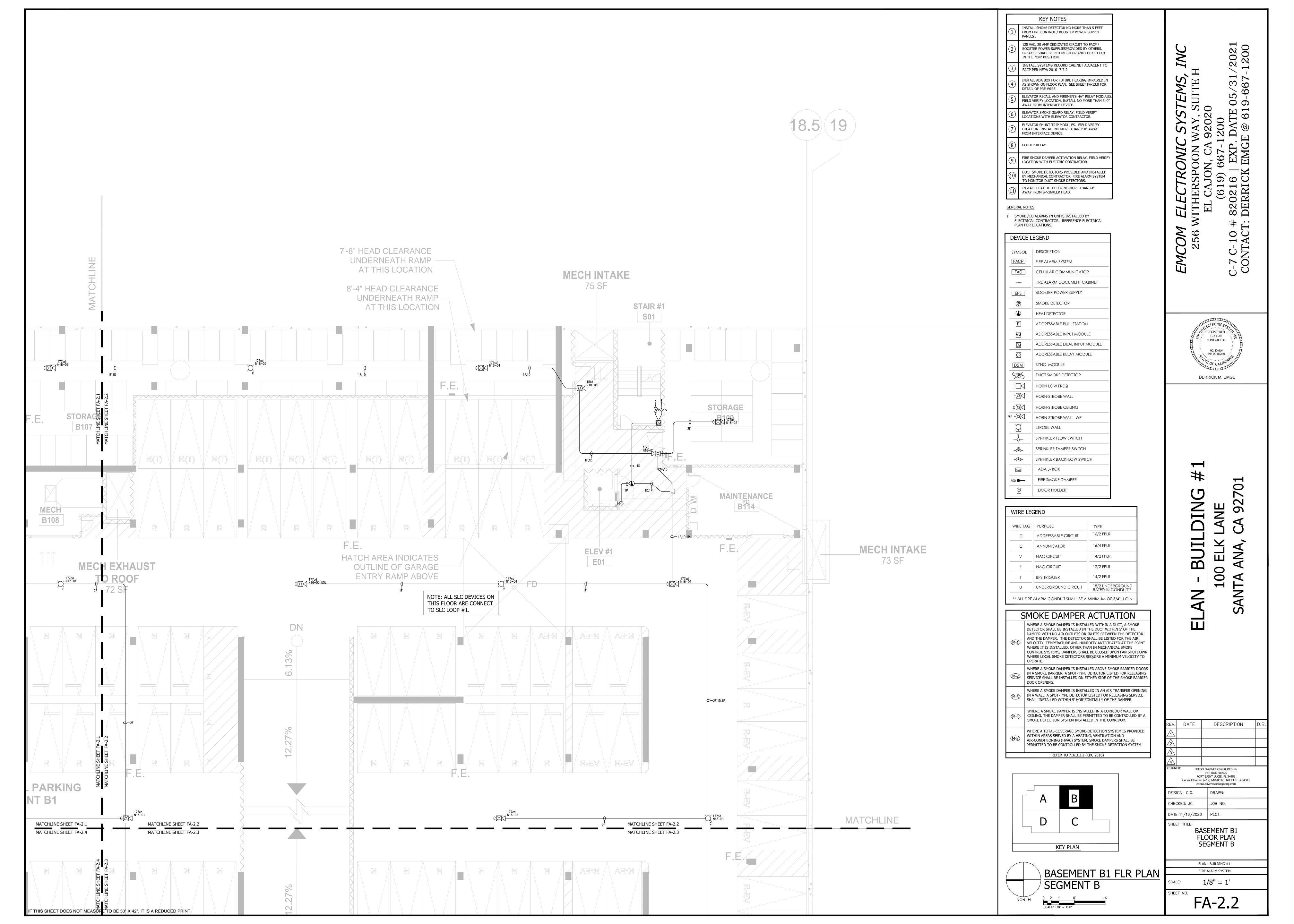


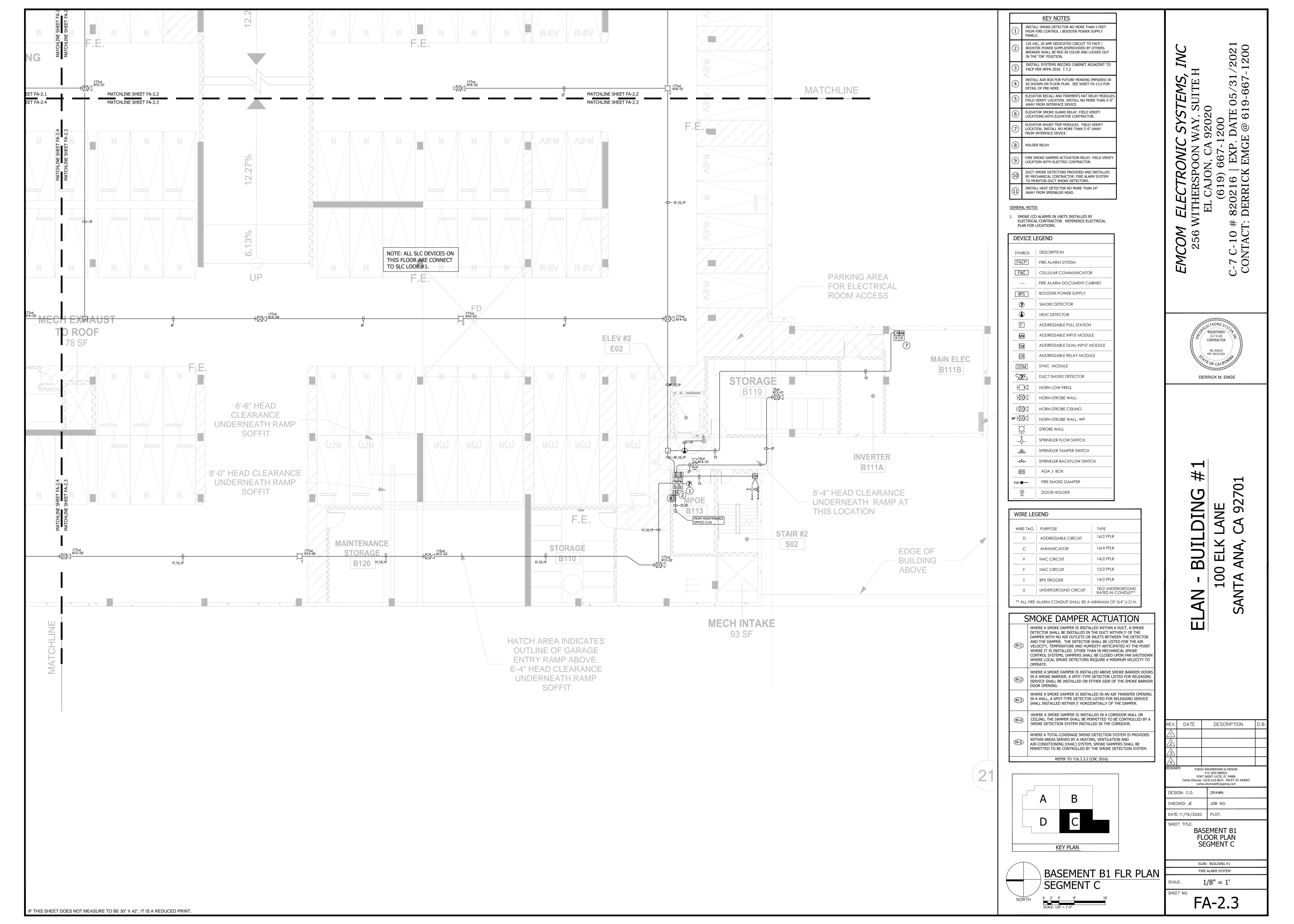


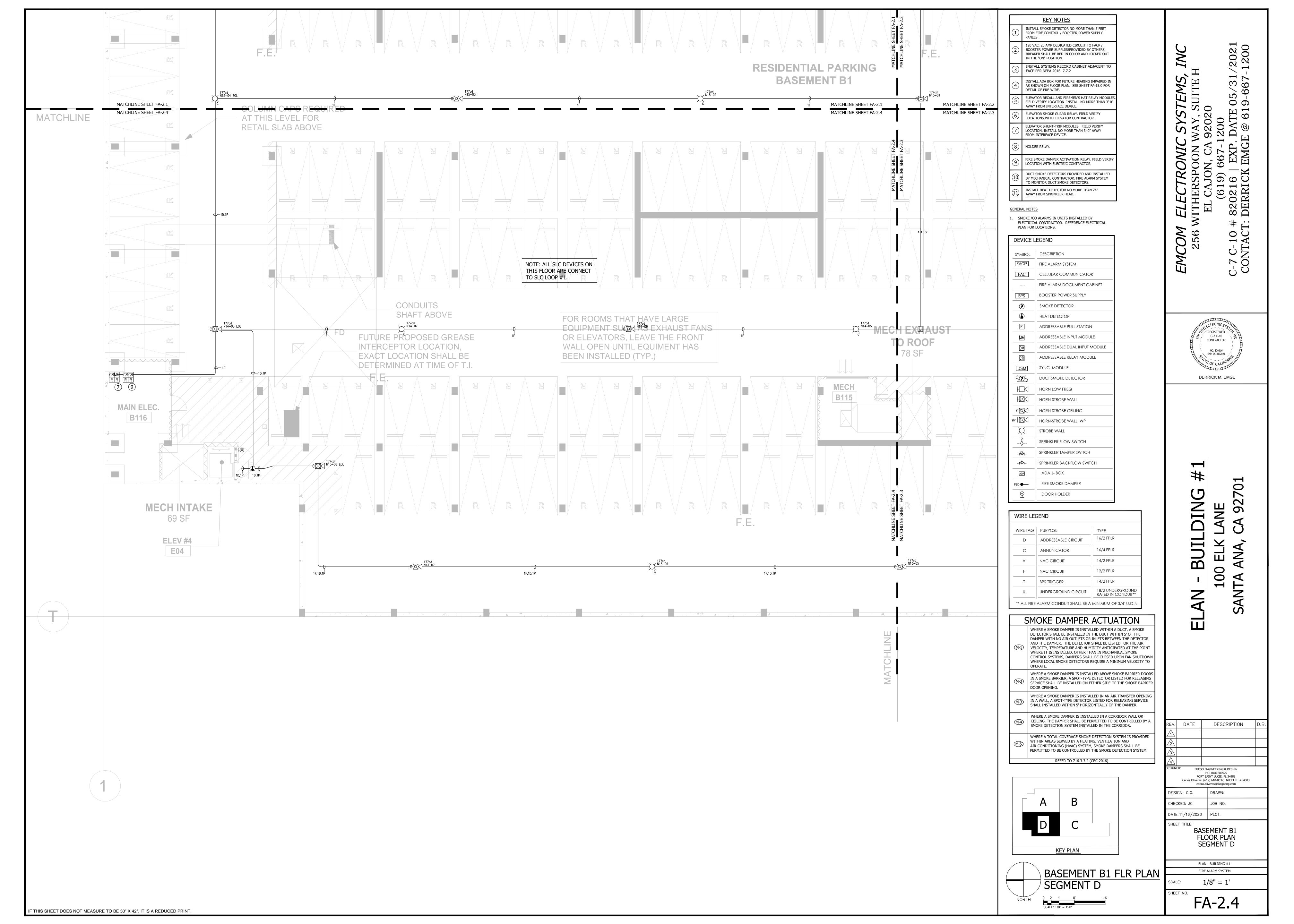


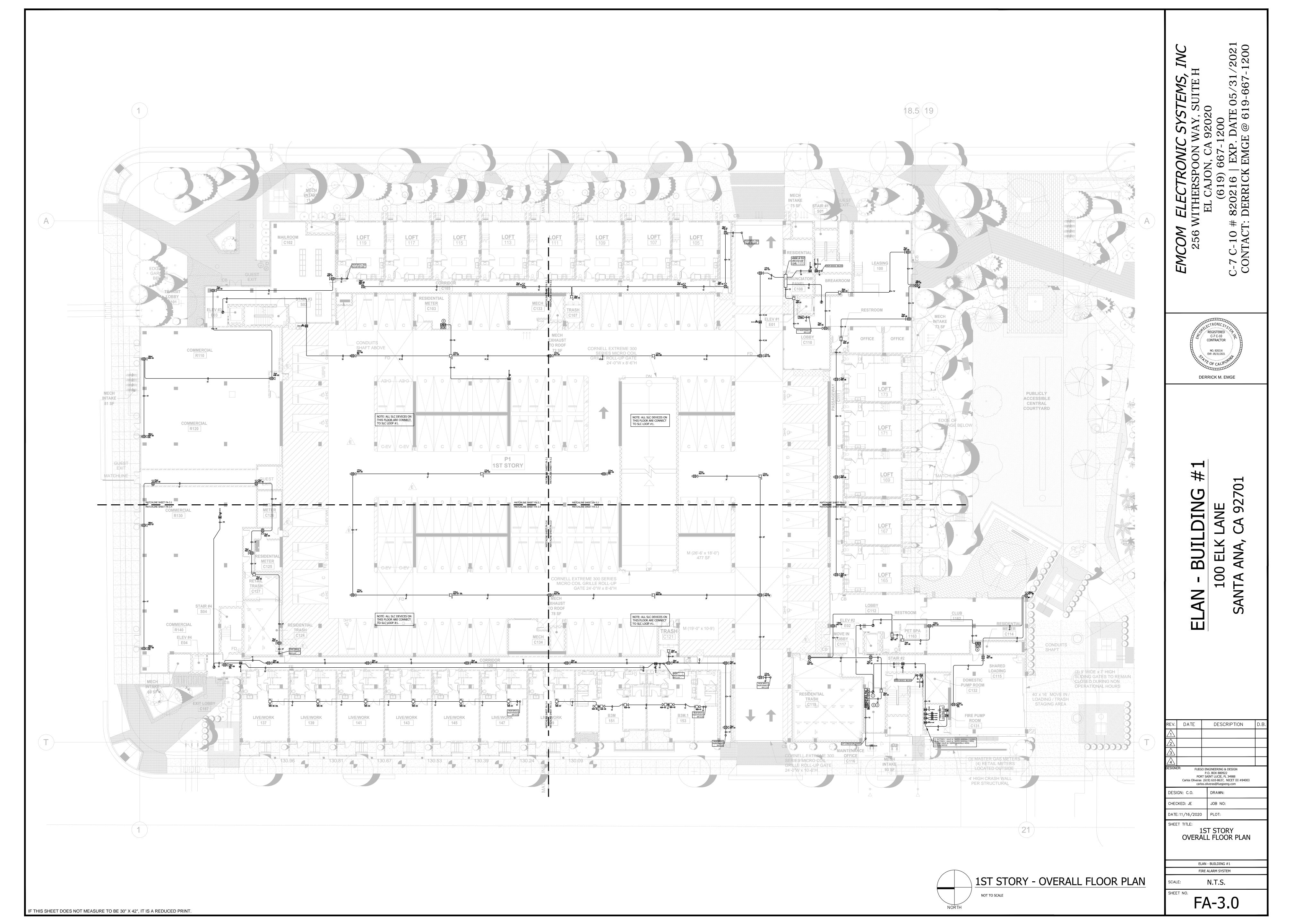


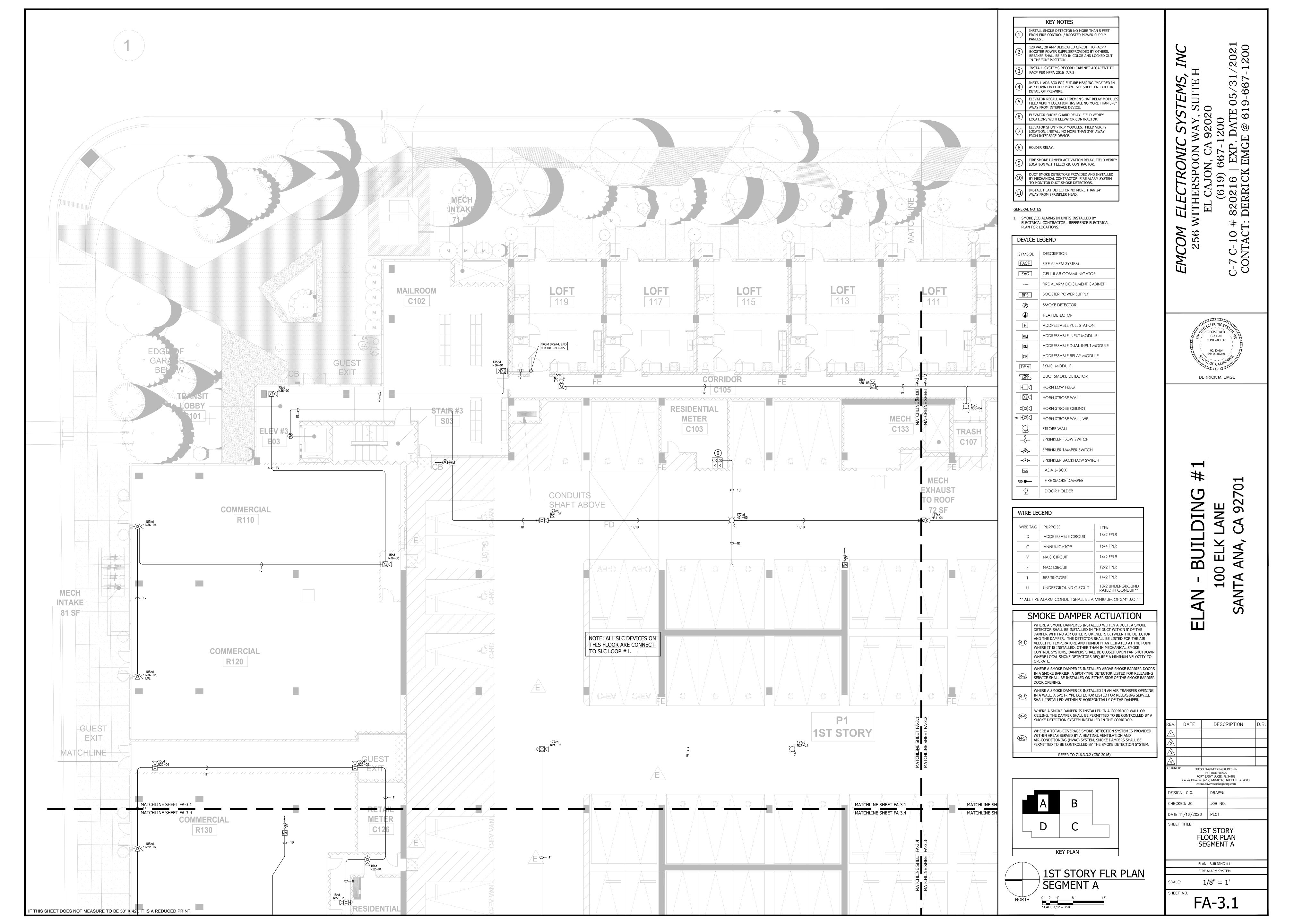


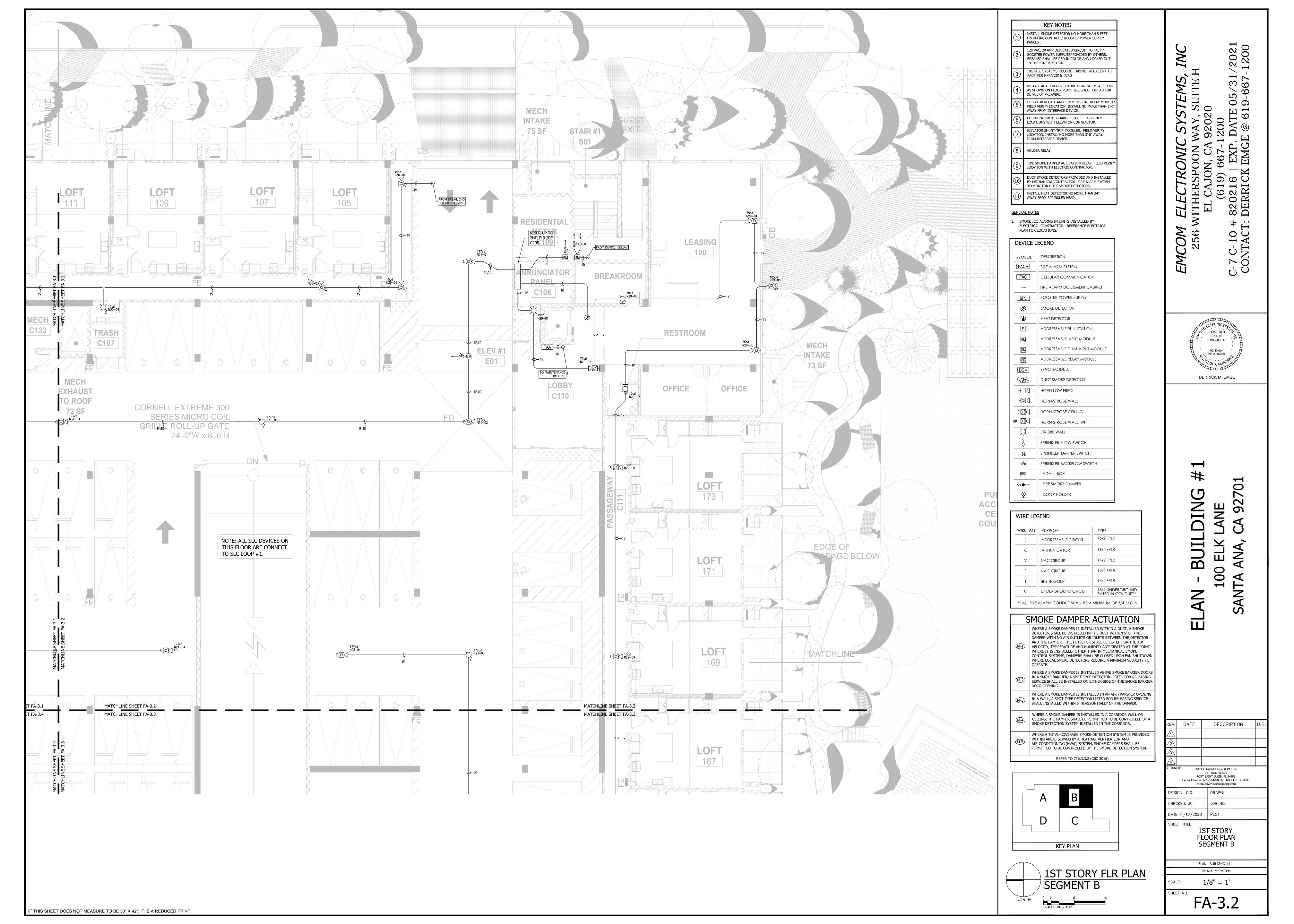


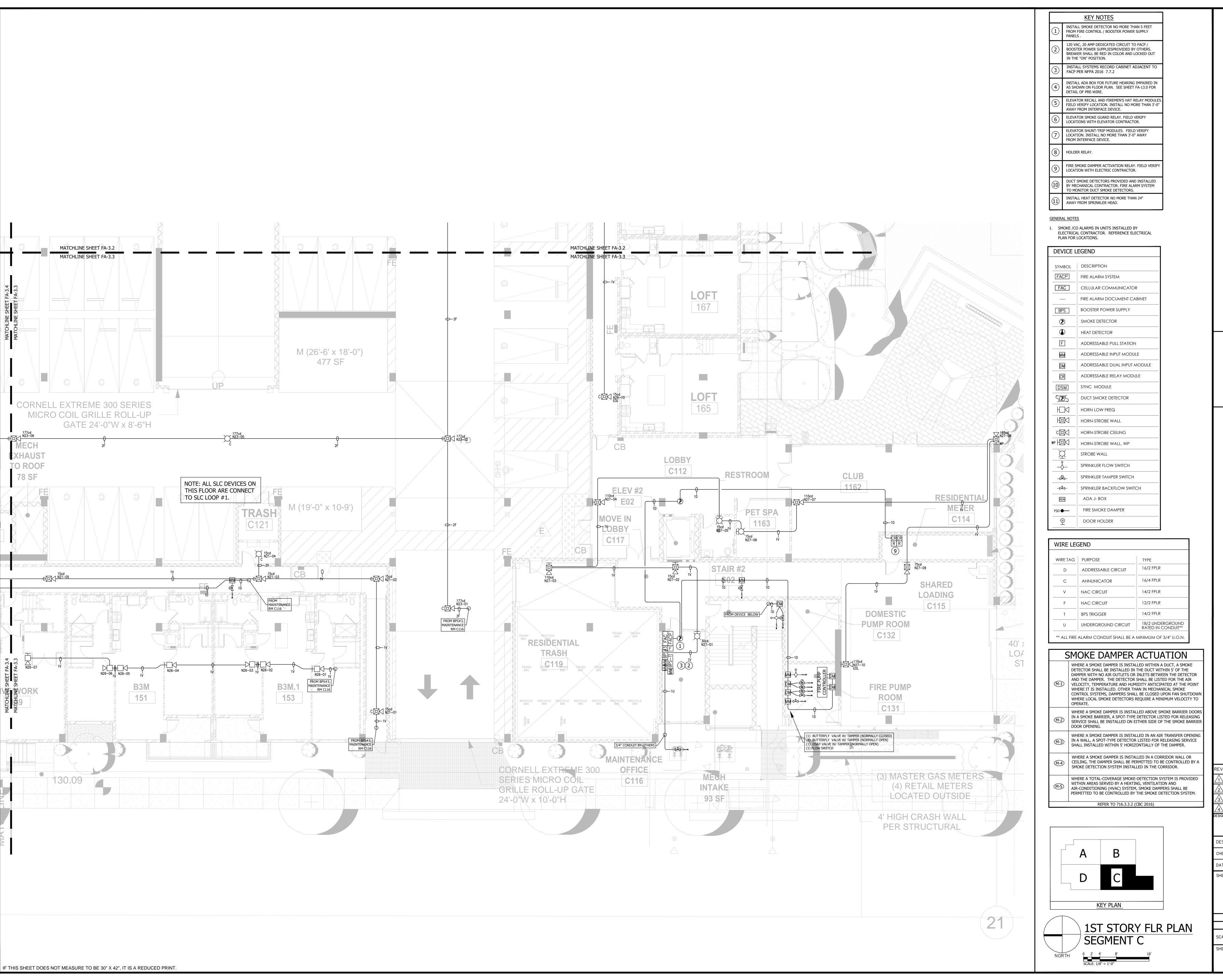












REV. DATE DESCRIPTION D.B.

DESIGNER: FUEGO ENGINEERING & DESIGN
P.O. BOX 880922
PORT SAINT LUCIE, FL 34988
Carlos Oliveras (619) 610-8637, NICET III #84003
carlos.oliveras@fuegoeng.com

DESIGN: C.O. DRAWN:

CHECKED: JE JOB NO:

DATE: 11/16/2020 PLOT:

SHEET TITLE:

1ST STORY
FLOOR PLAN
SEGMENT C

200N WAY, SI 3N, CA 92020 667-1200 EXP. DATE (K EMGE @ 619

> C-7 C-10 CONTACT

REGISTERED

C-7 C-10 CONTRACTOR

EXP. 05/31/2021

DERRICK M. EMGE

DING

ANE

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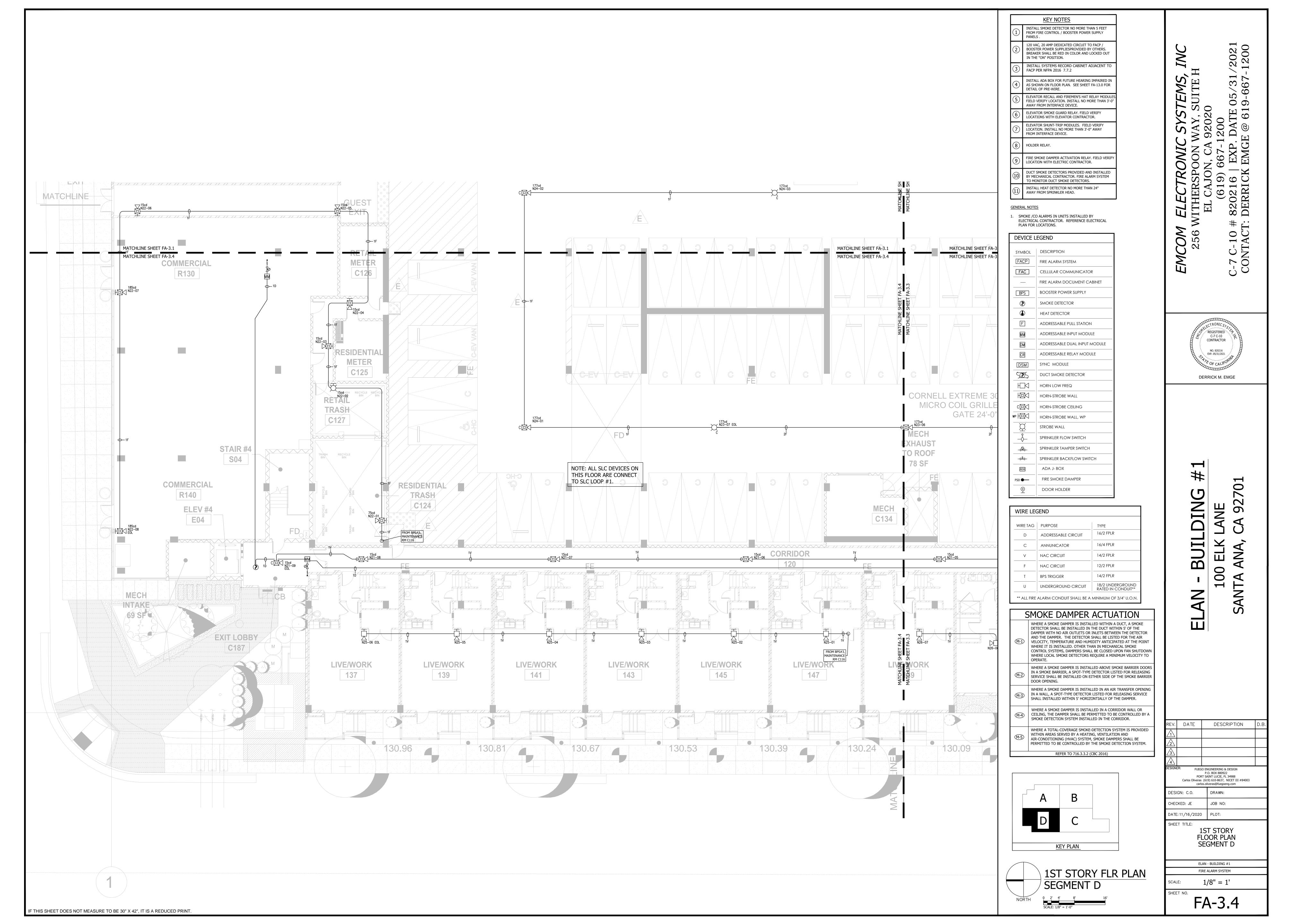
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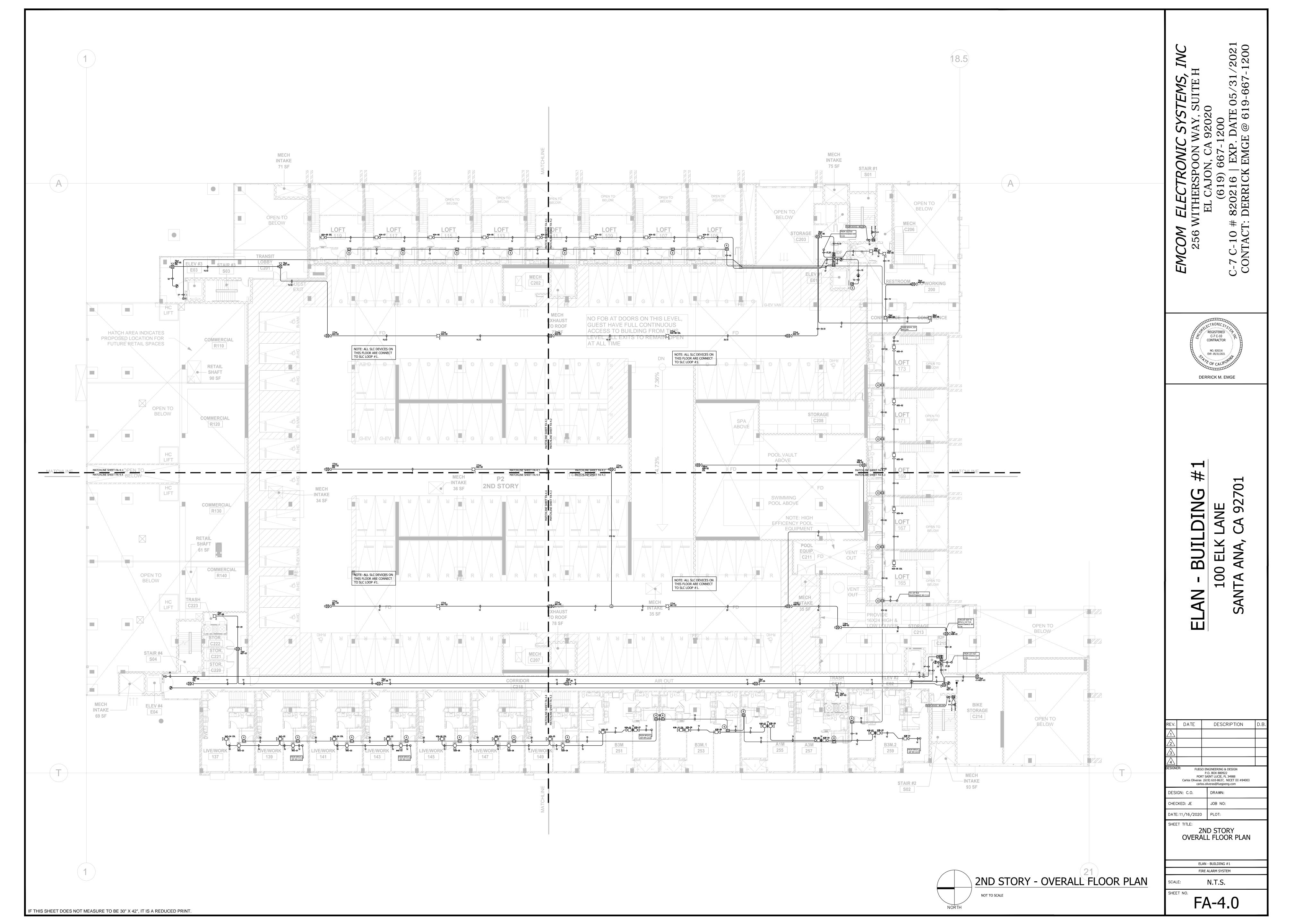
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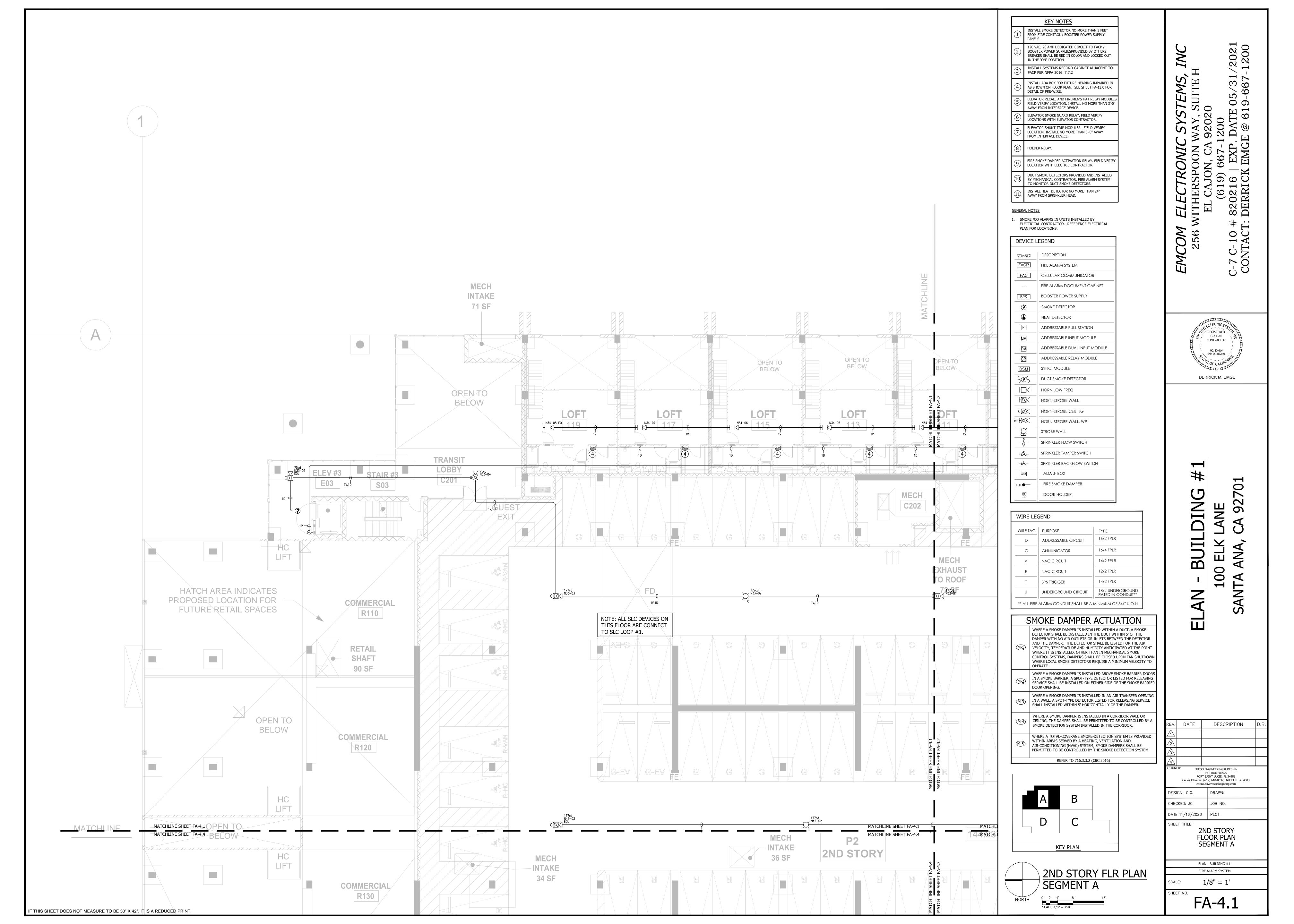
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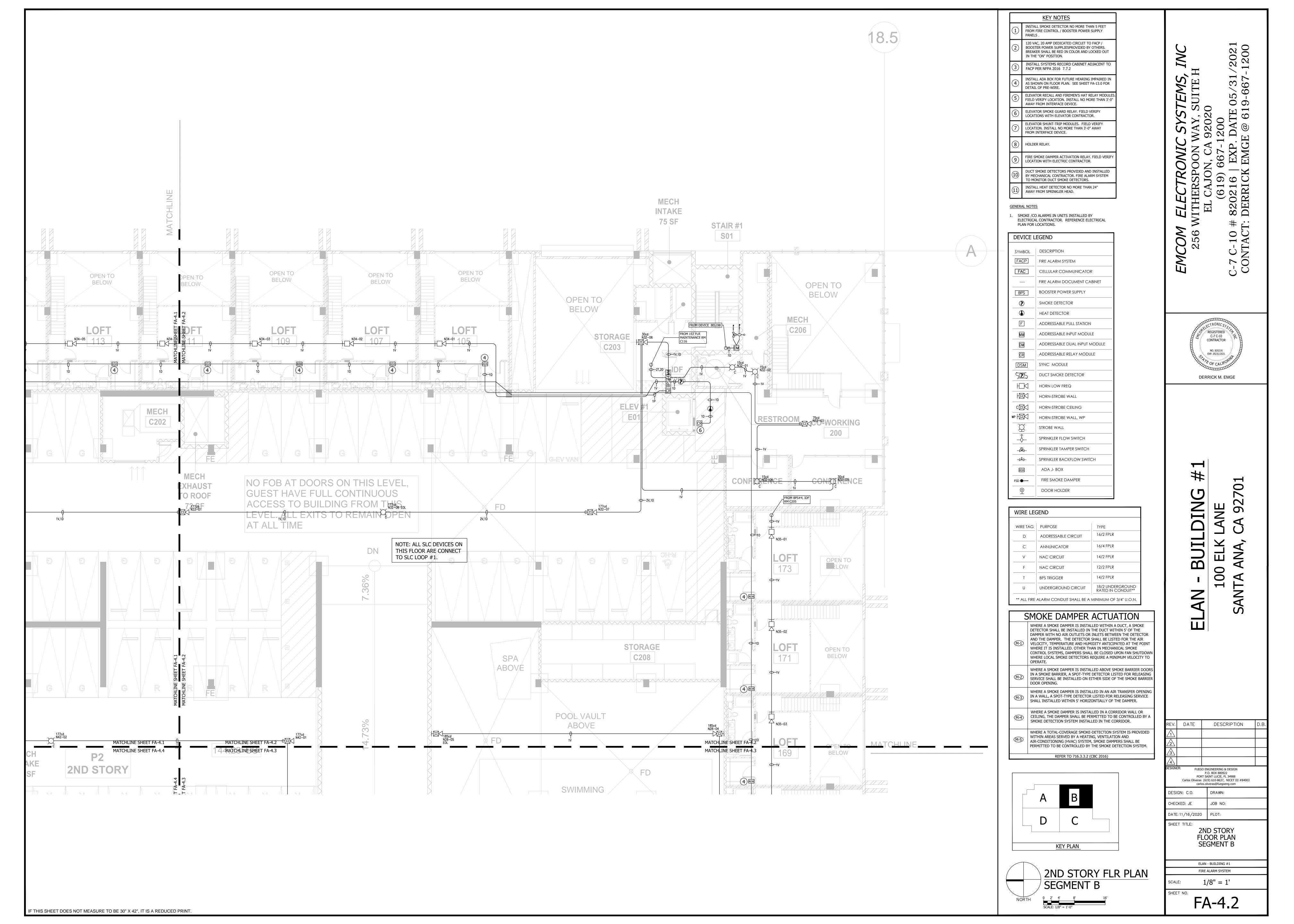
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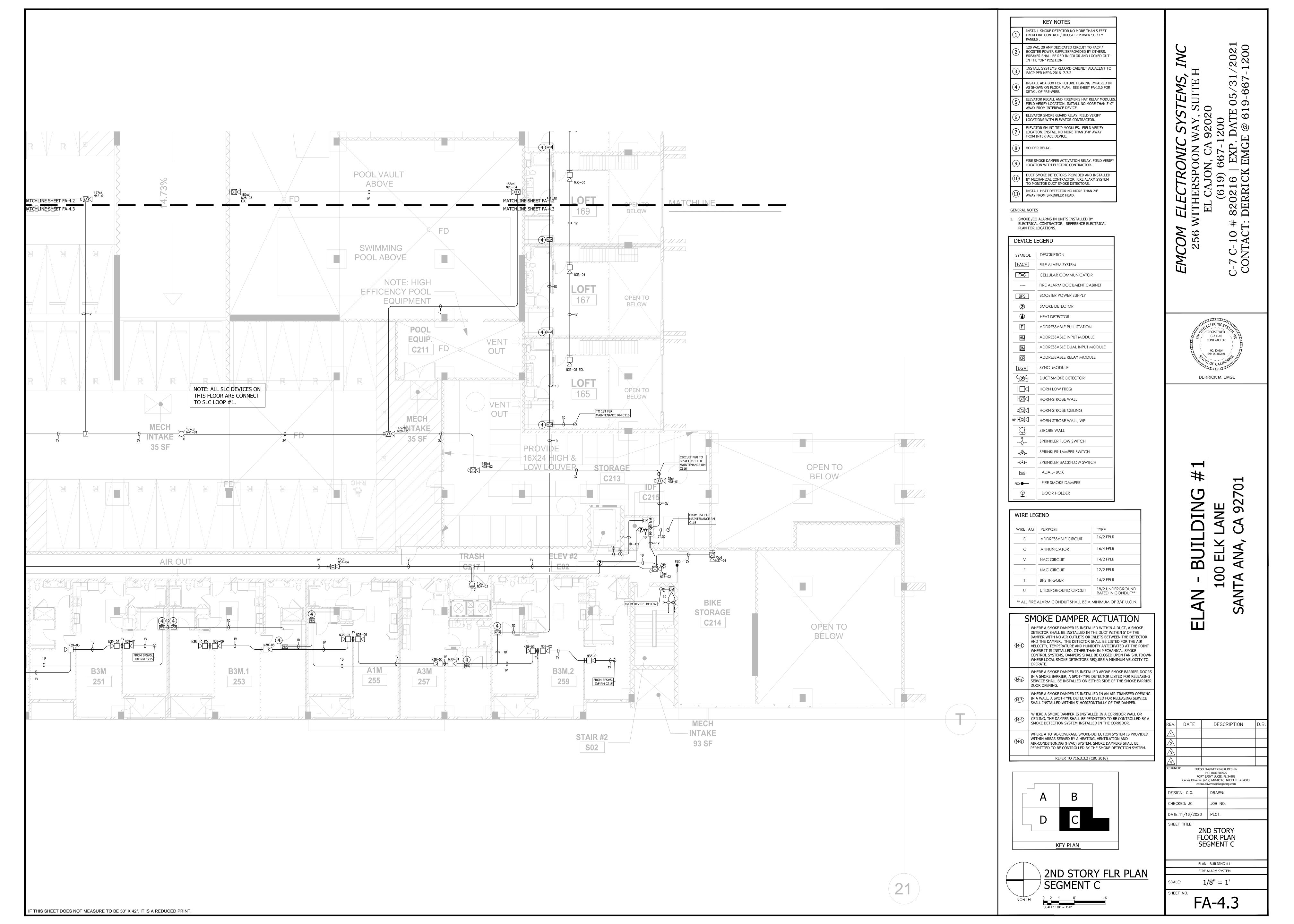
ELAN - BUILDING #1

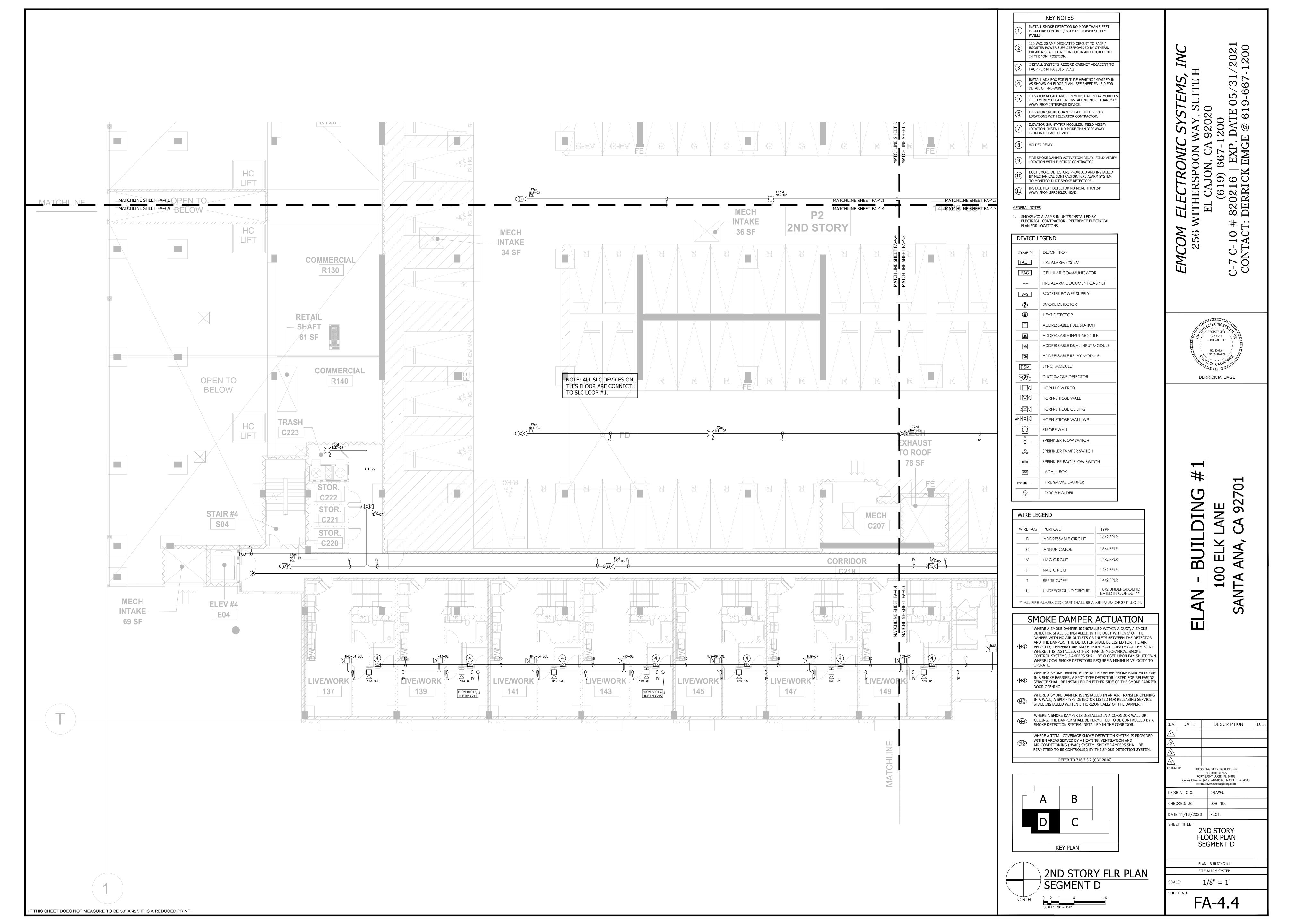


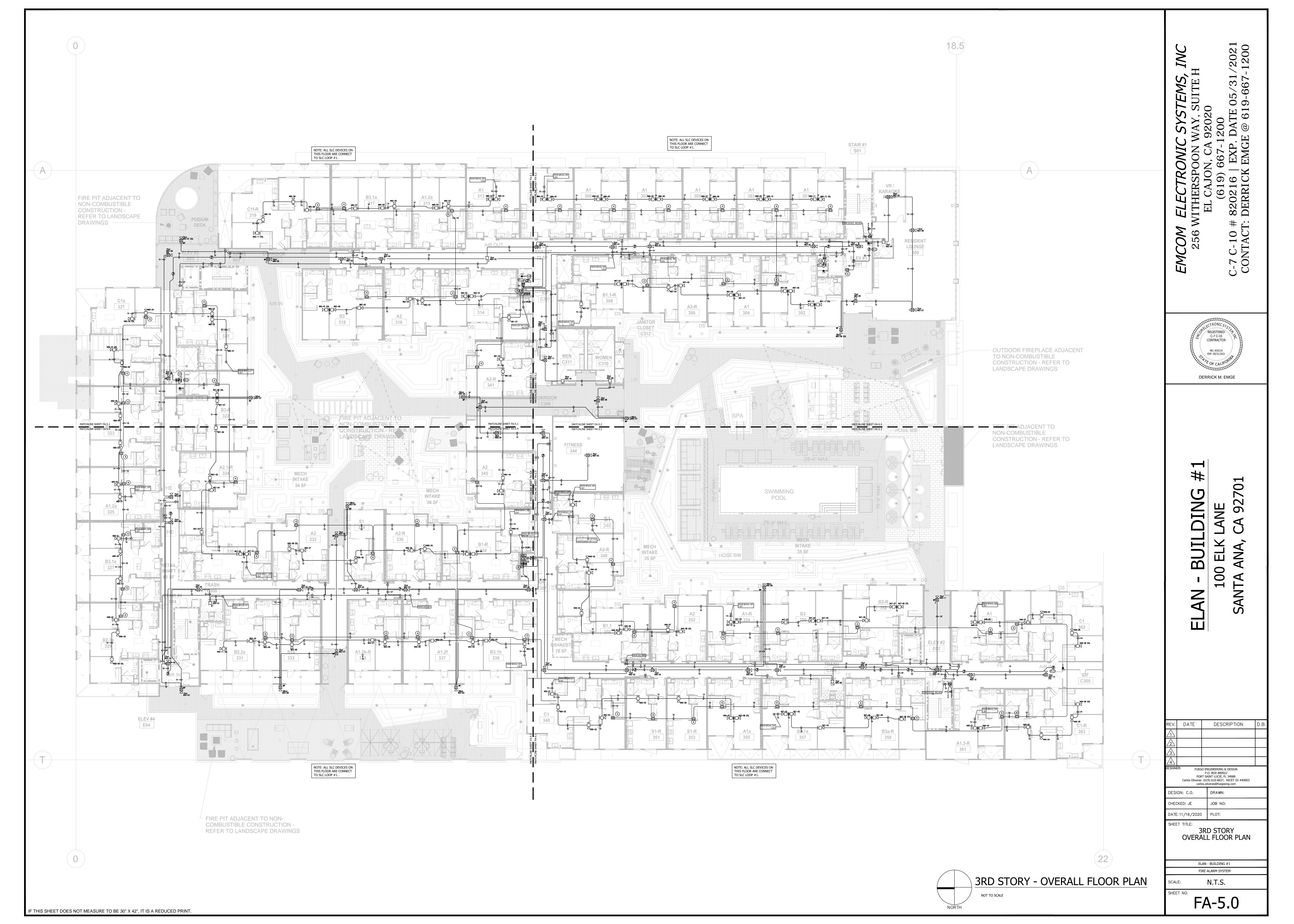


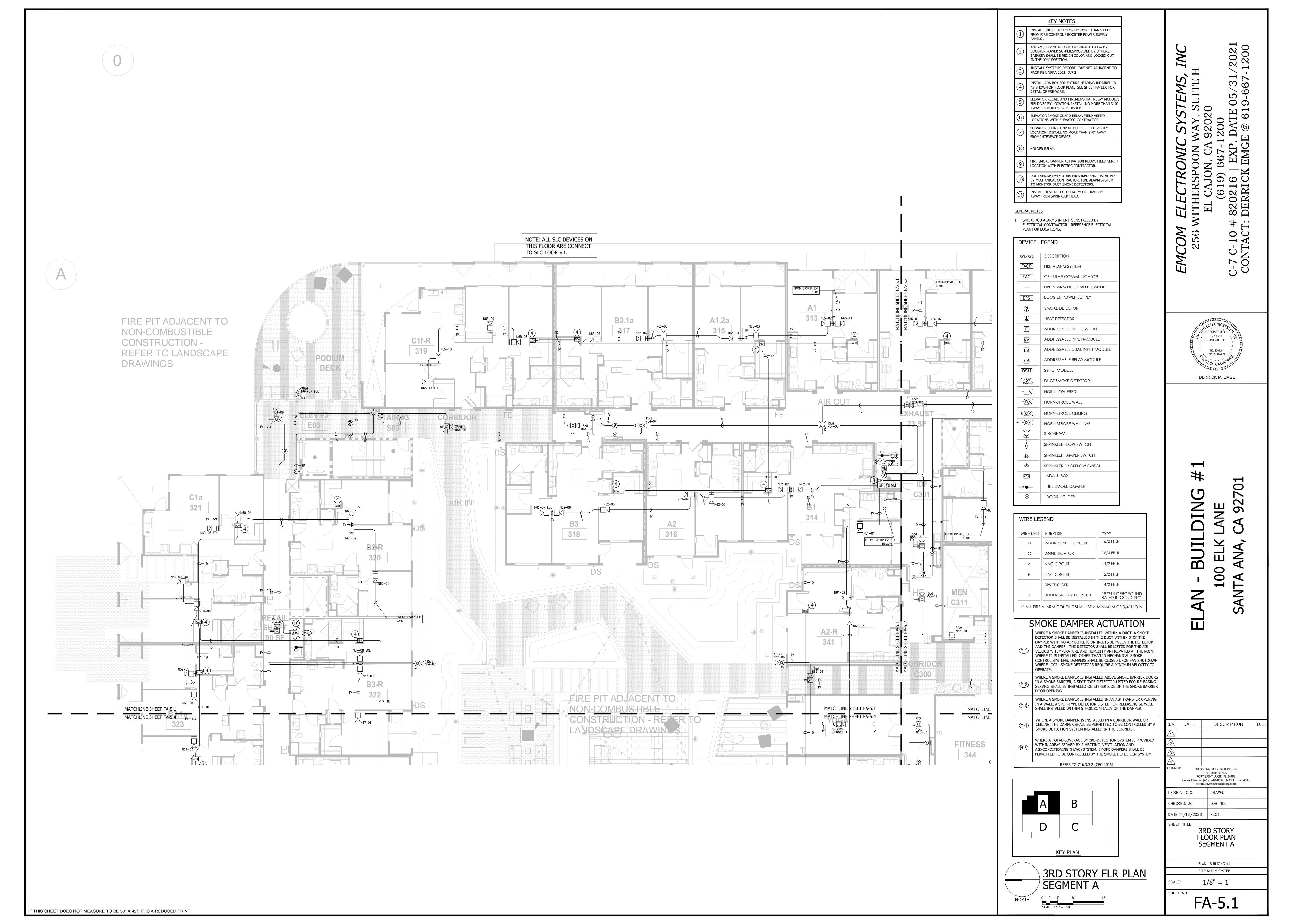


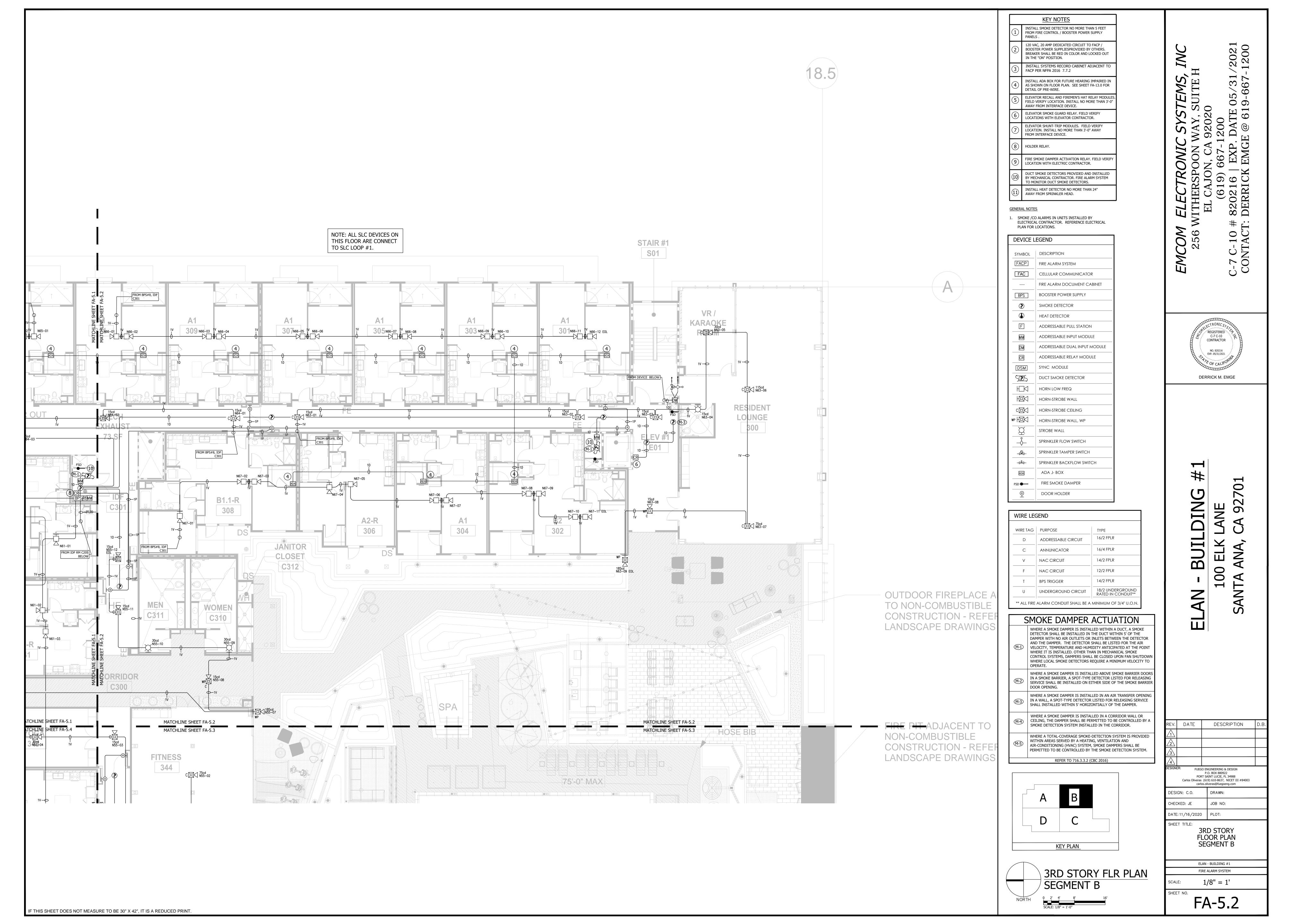


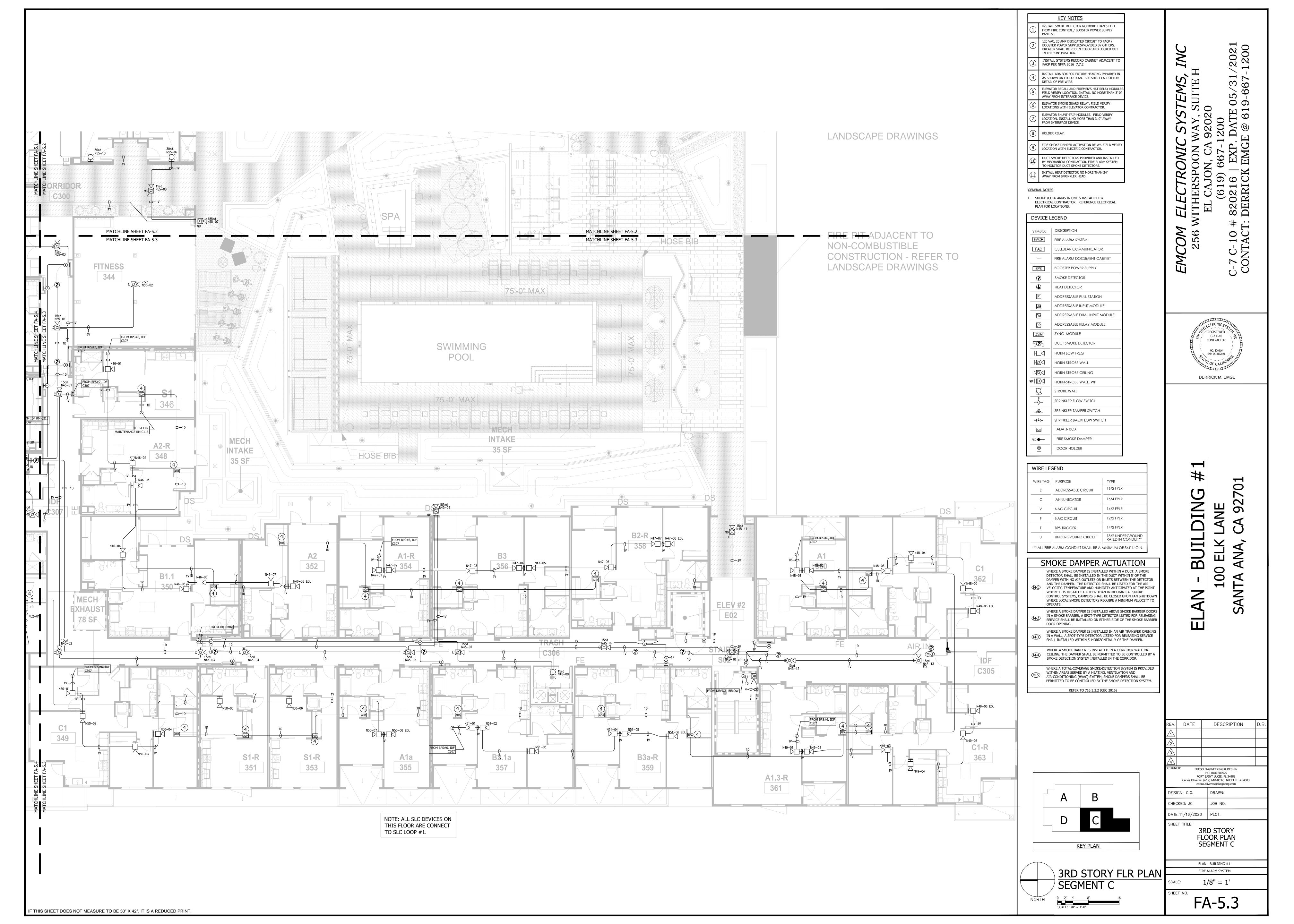


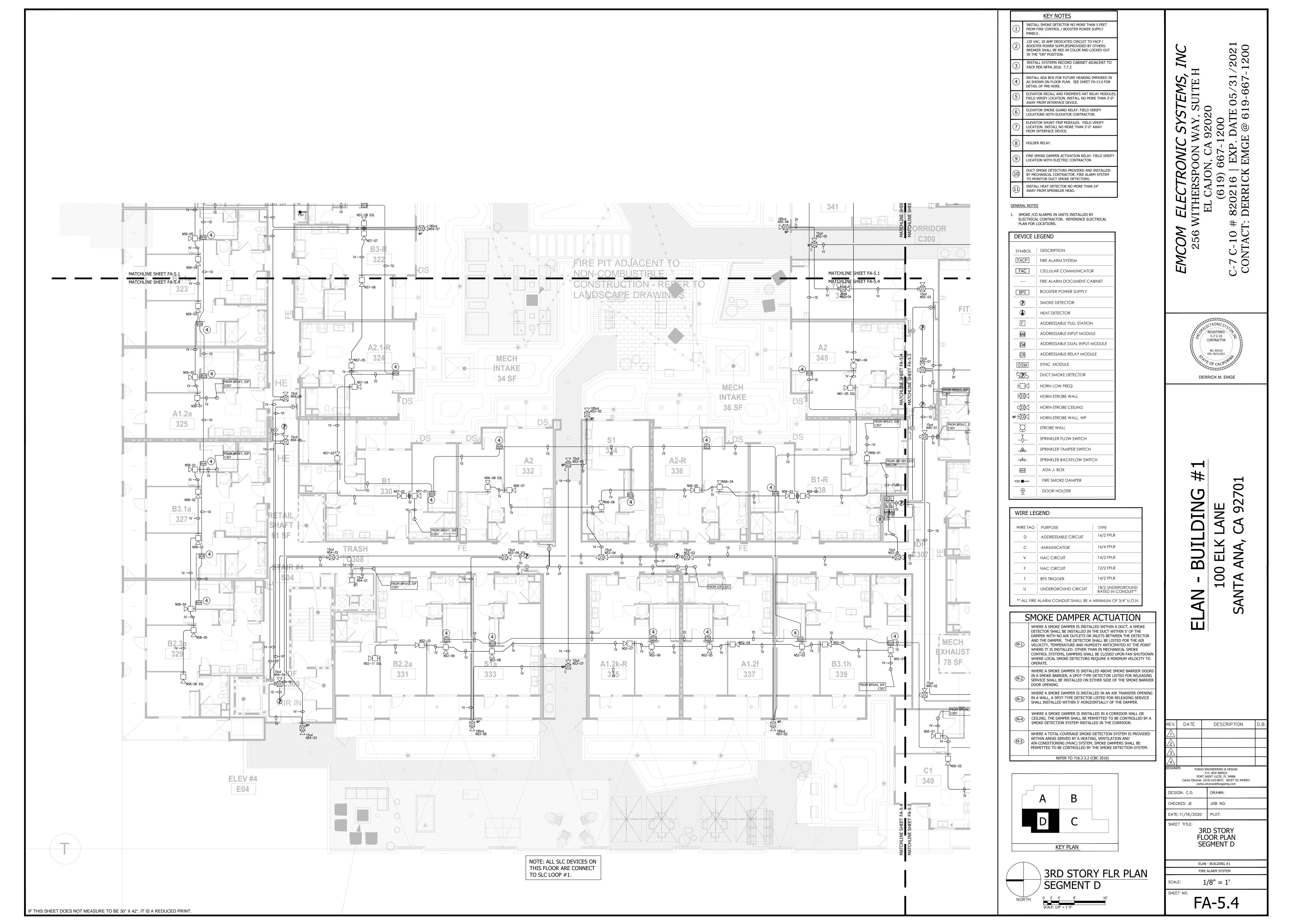


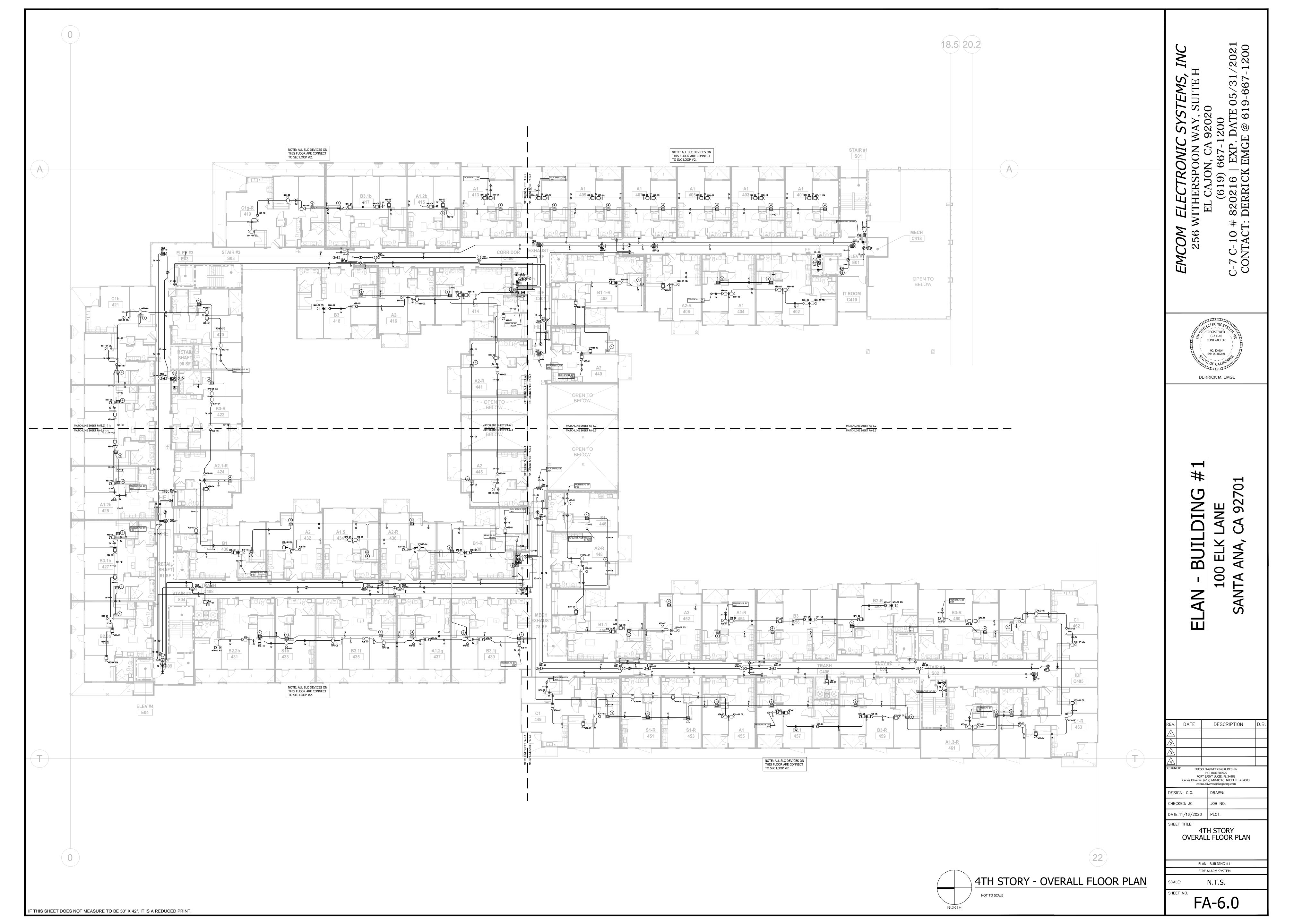


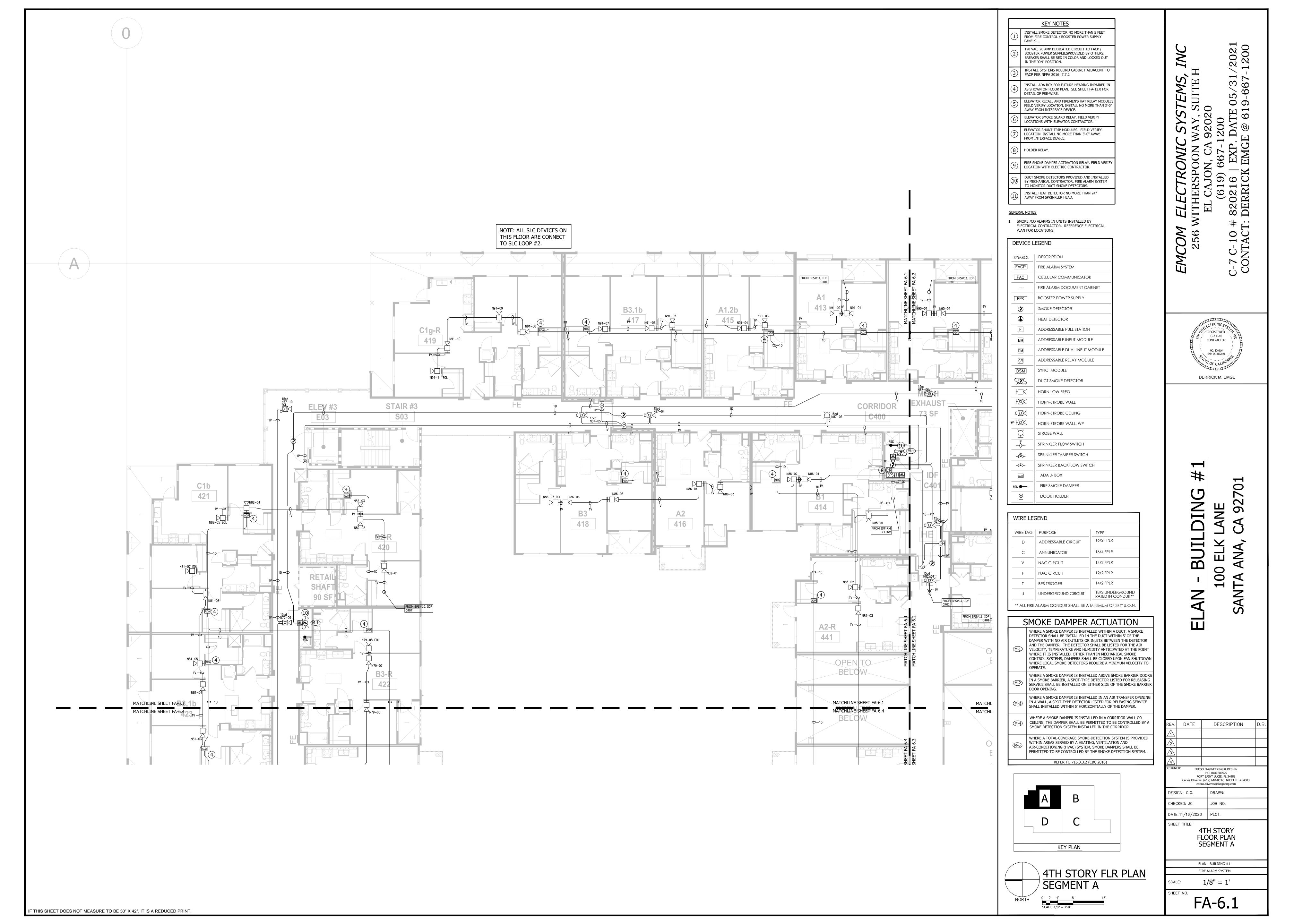


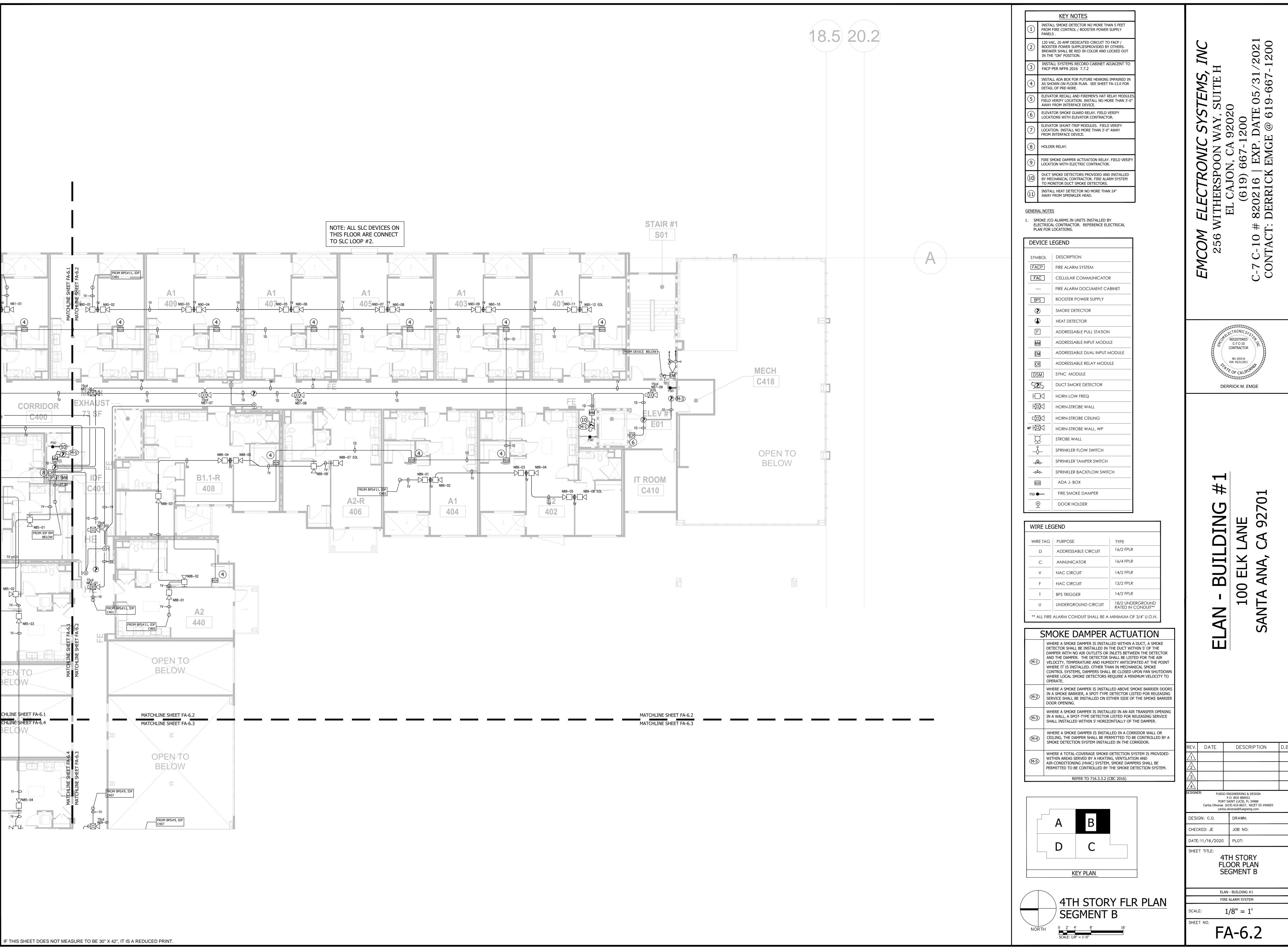


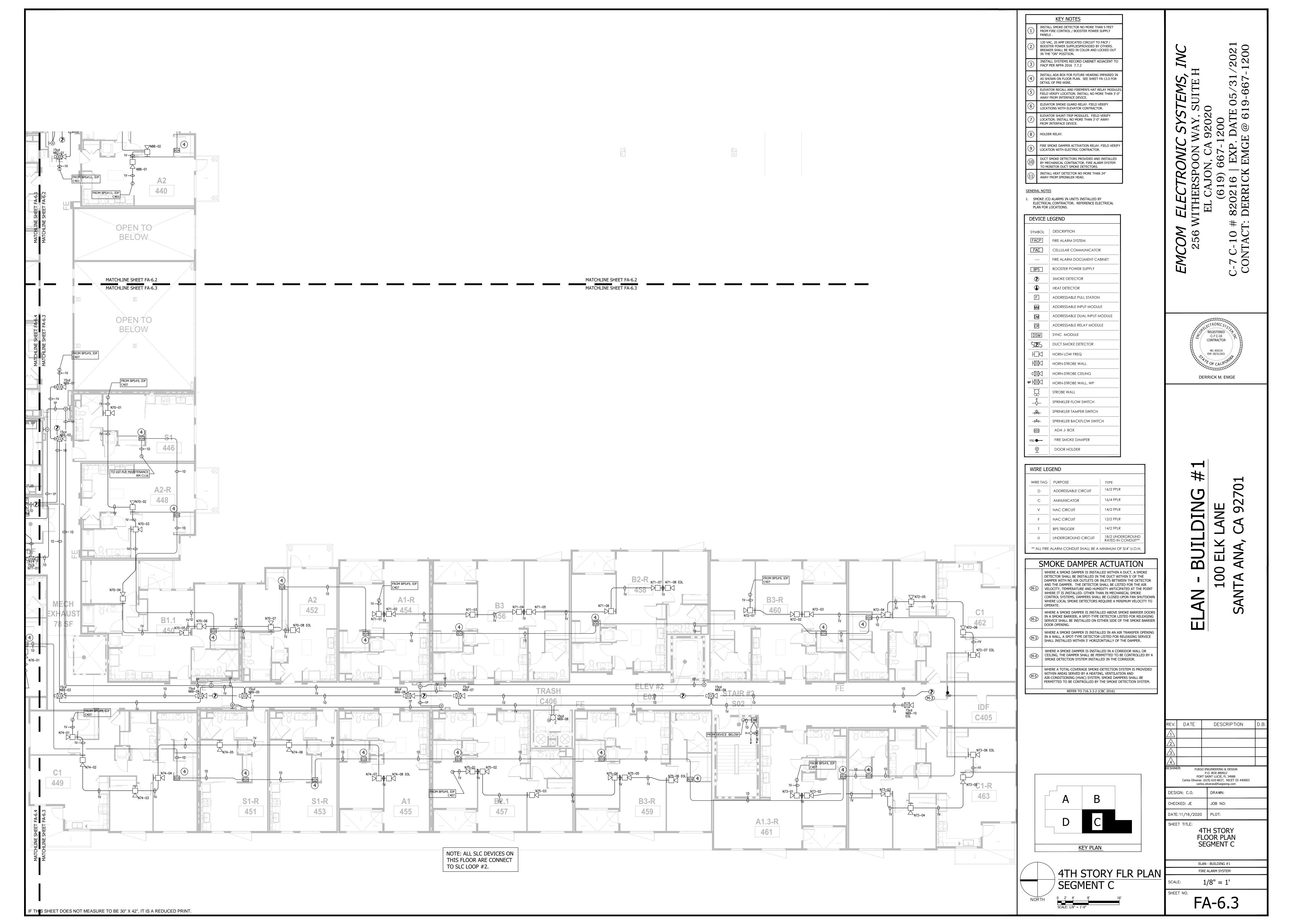


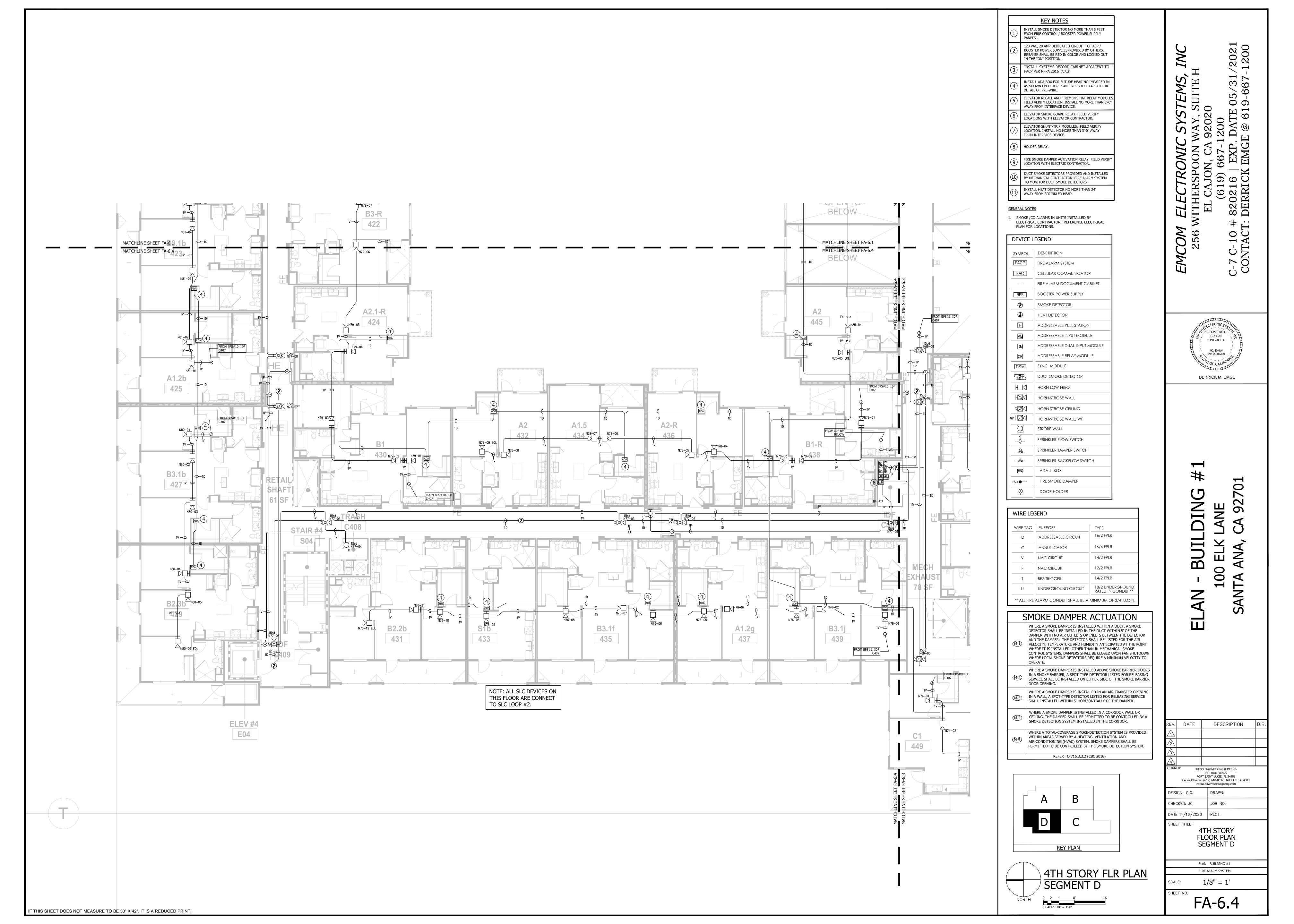


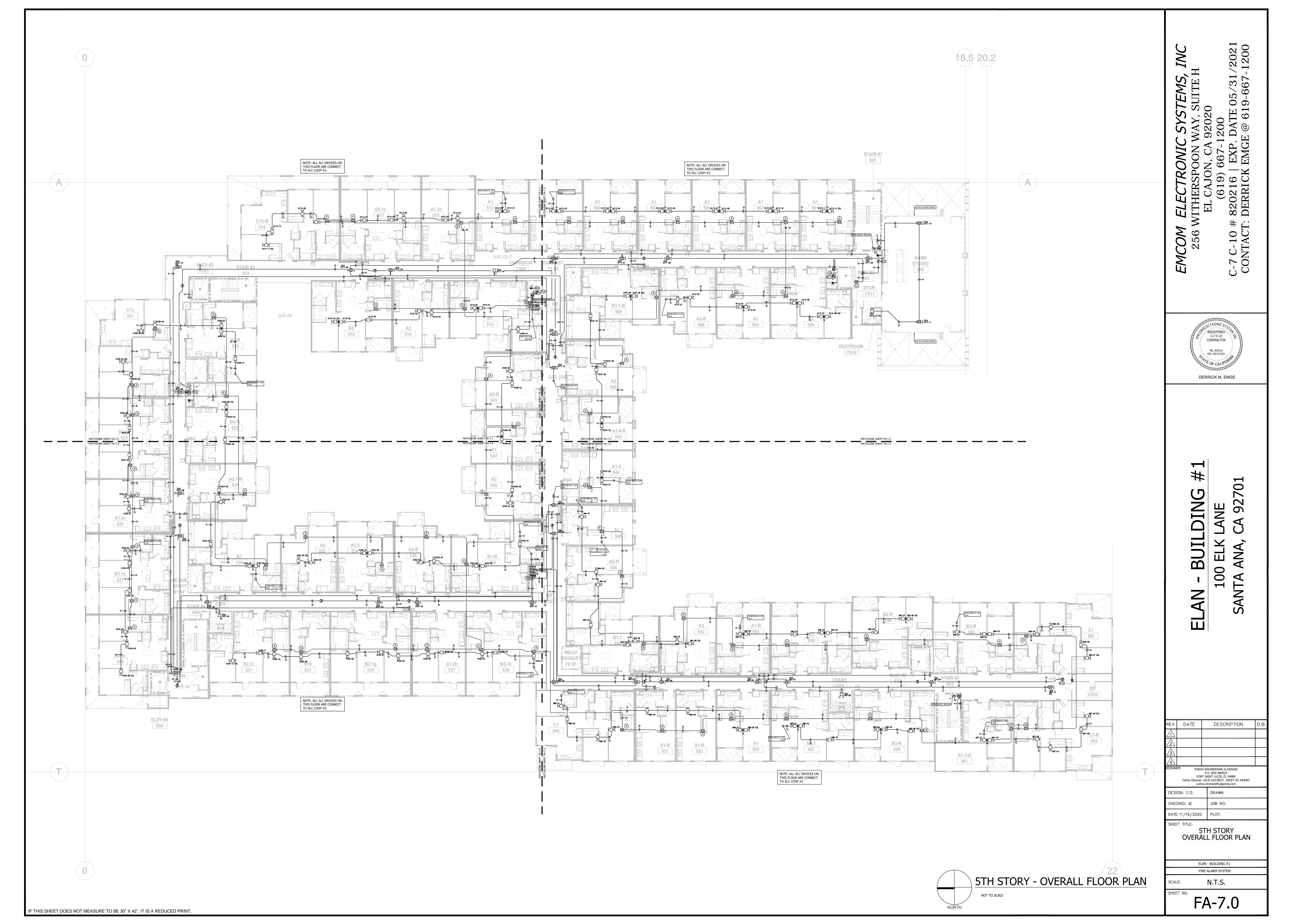


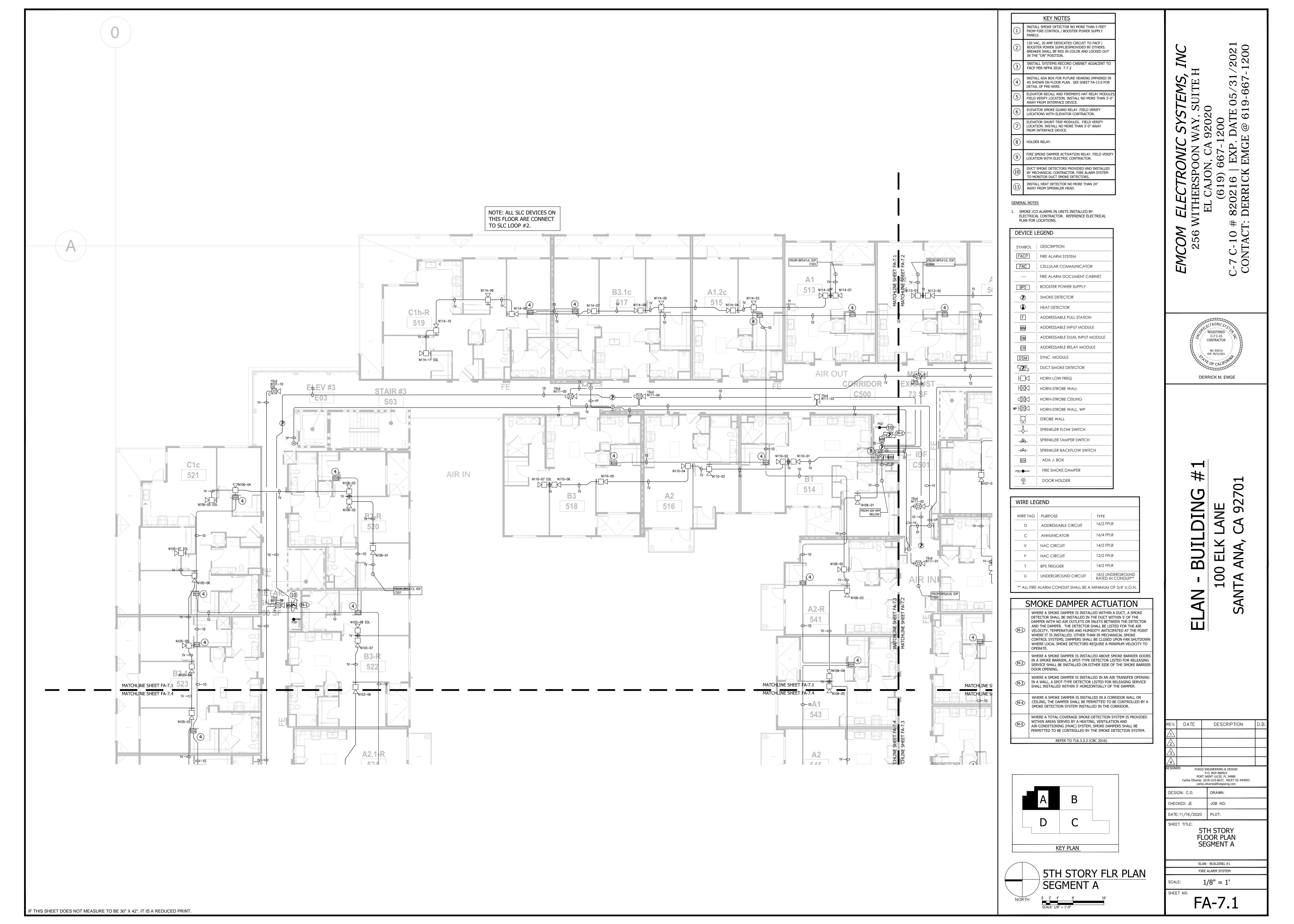


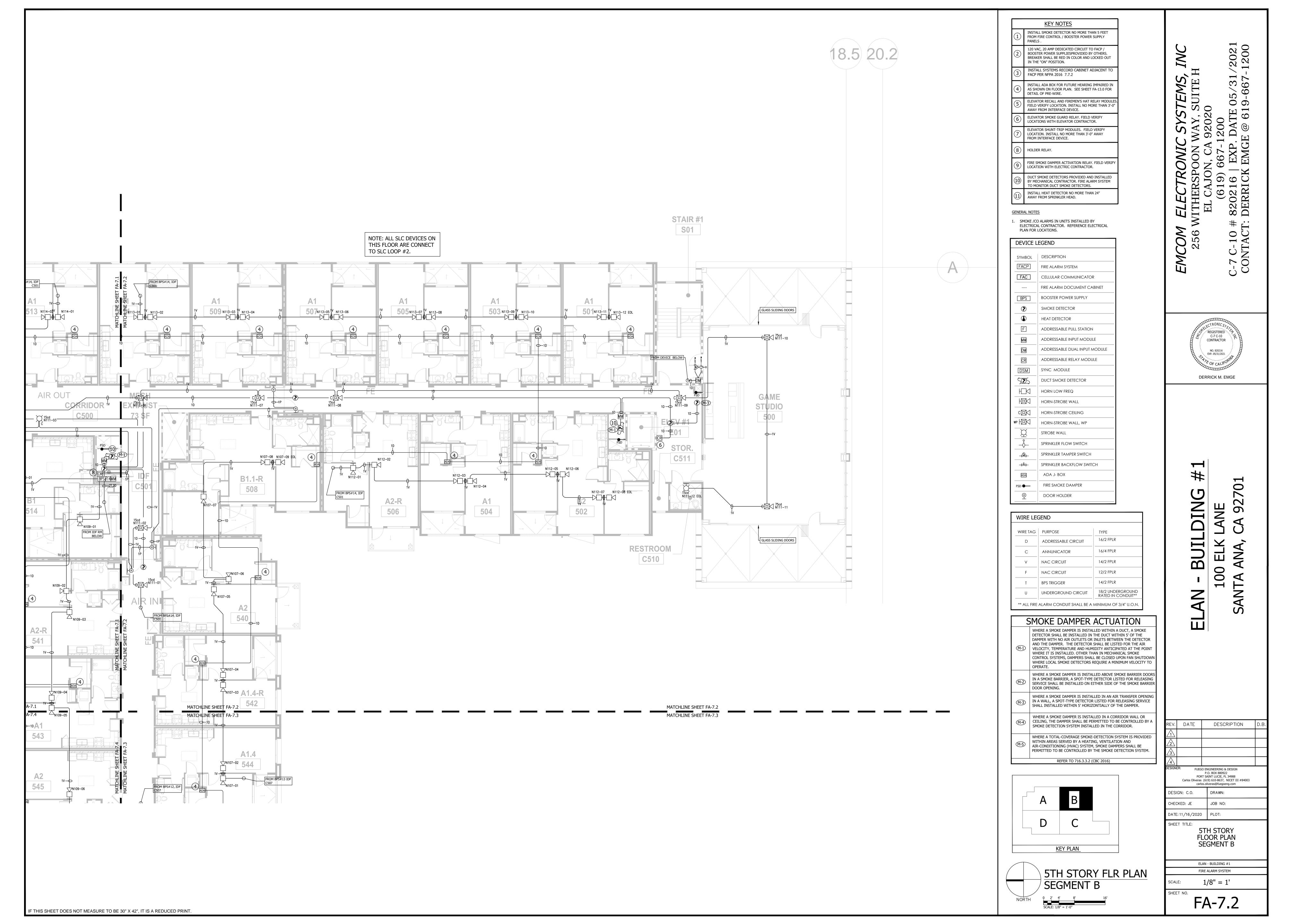


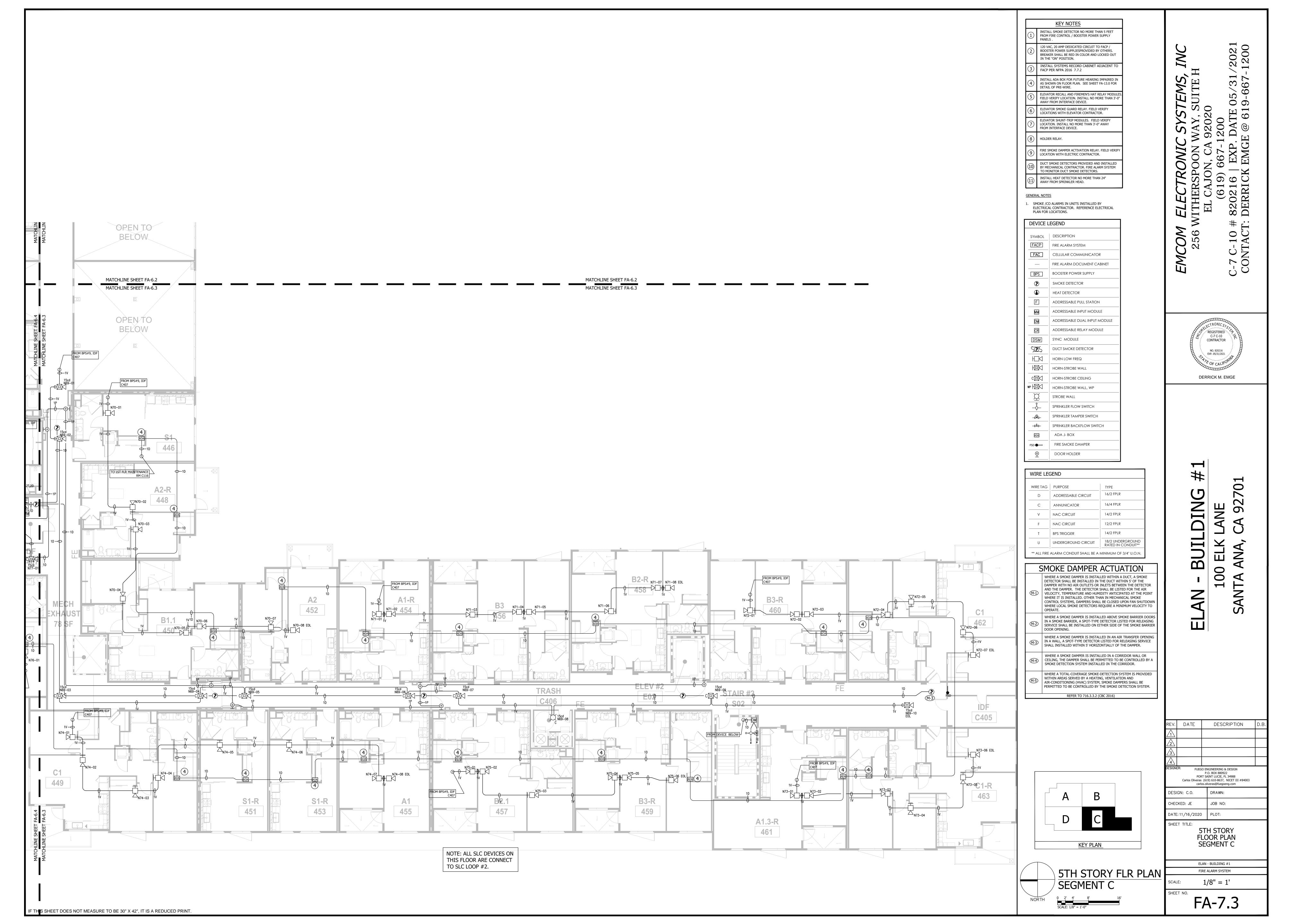


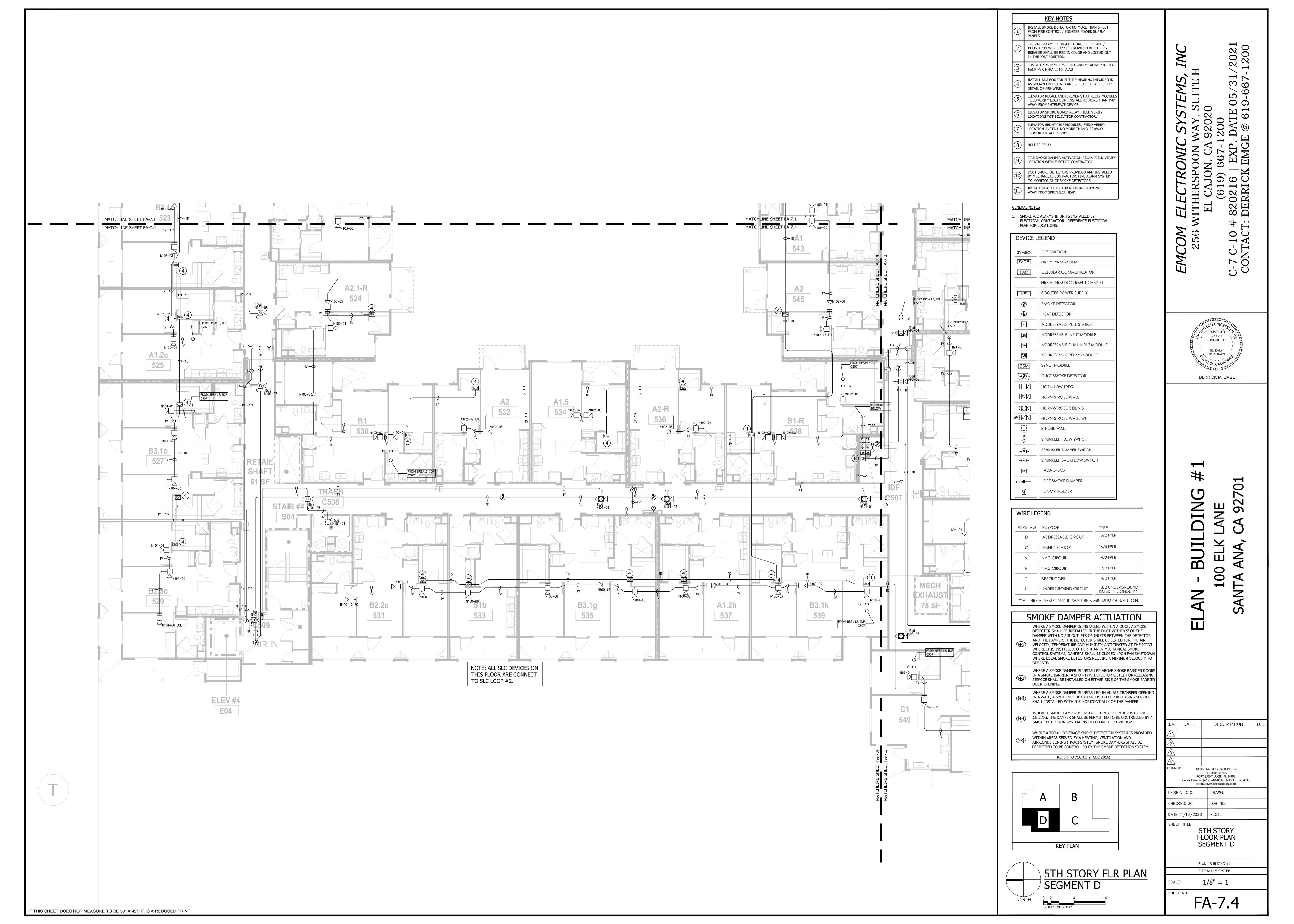


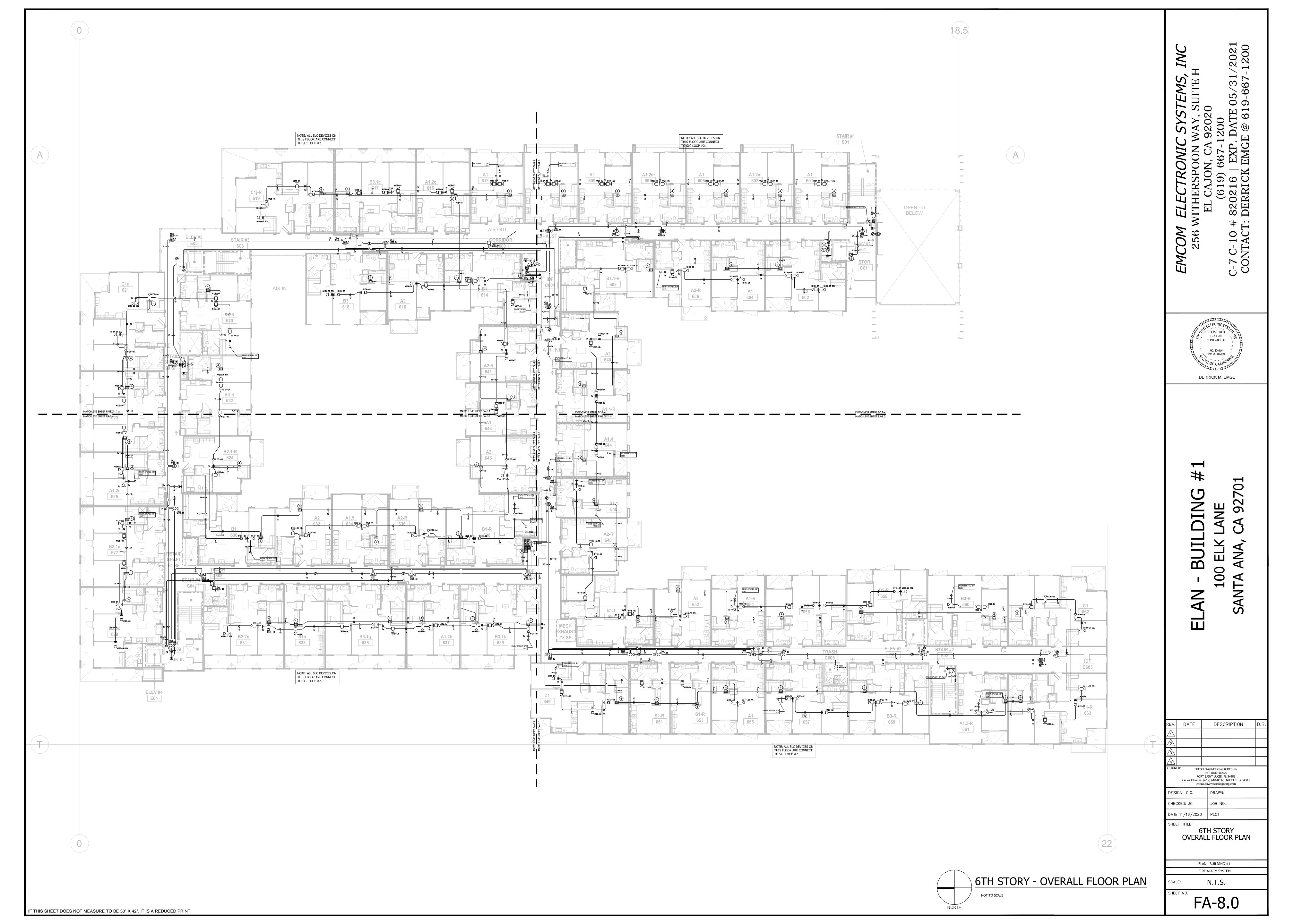


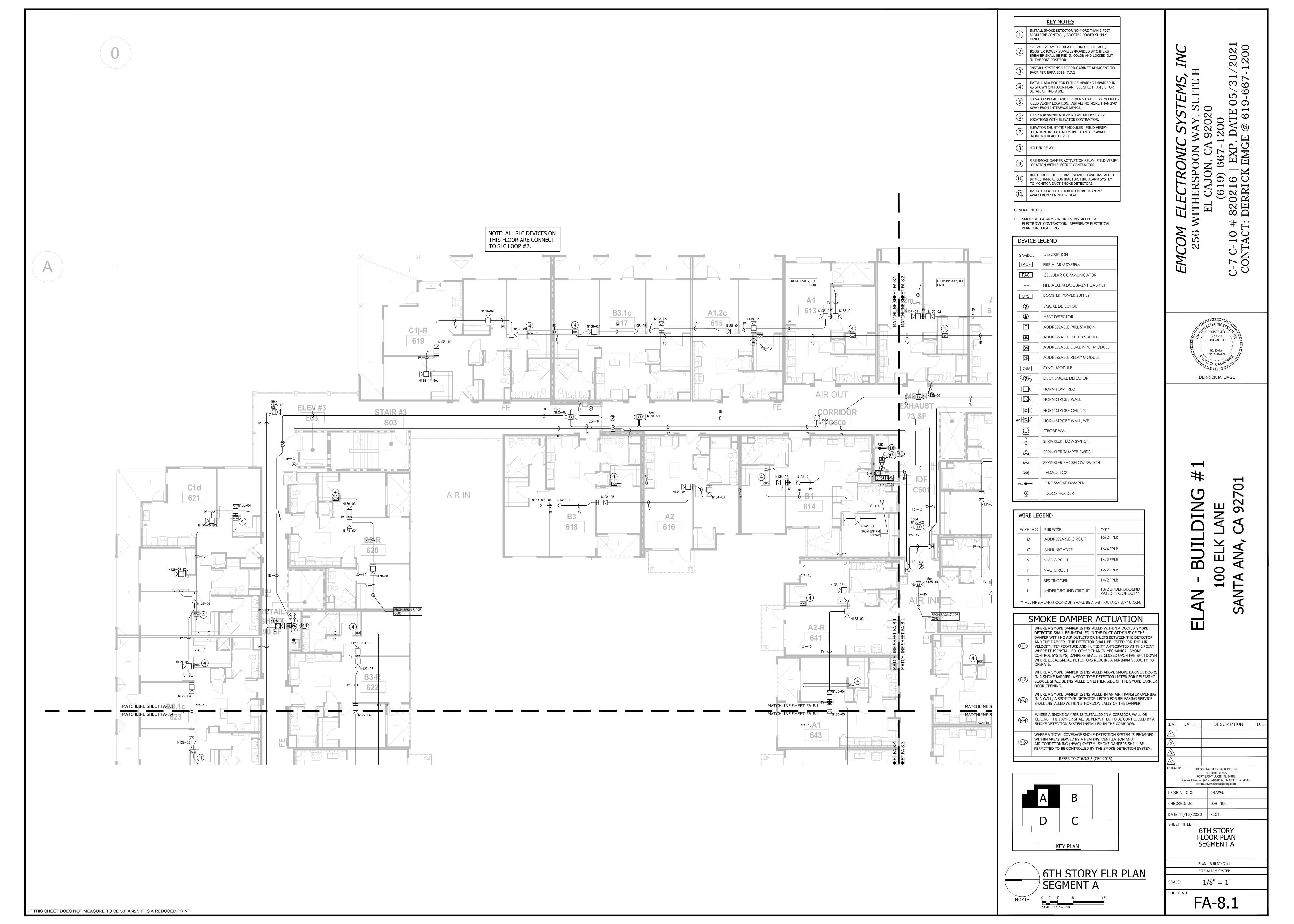


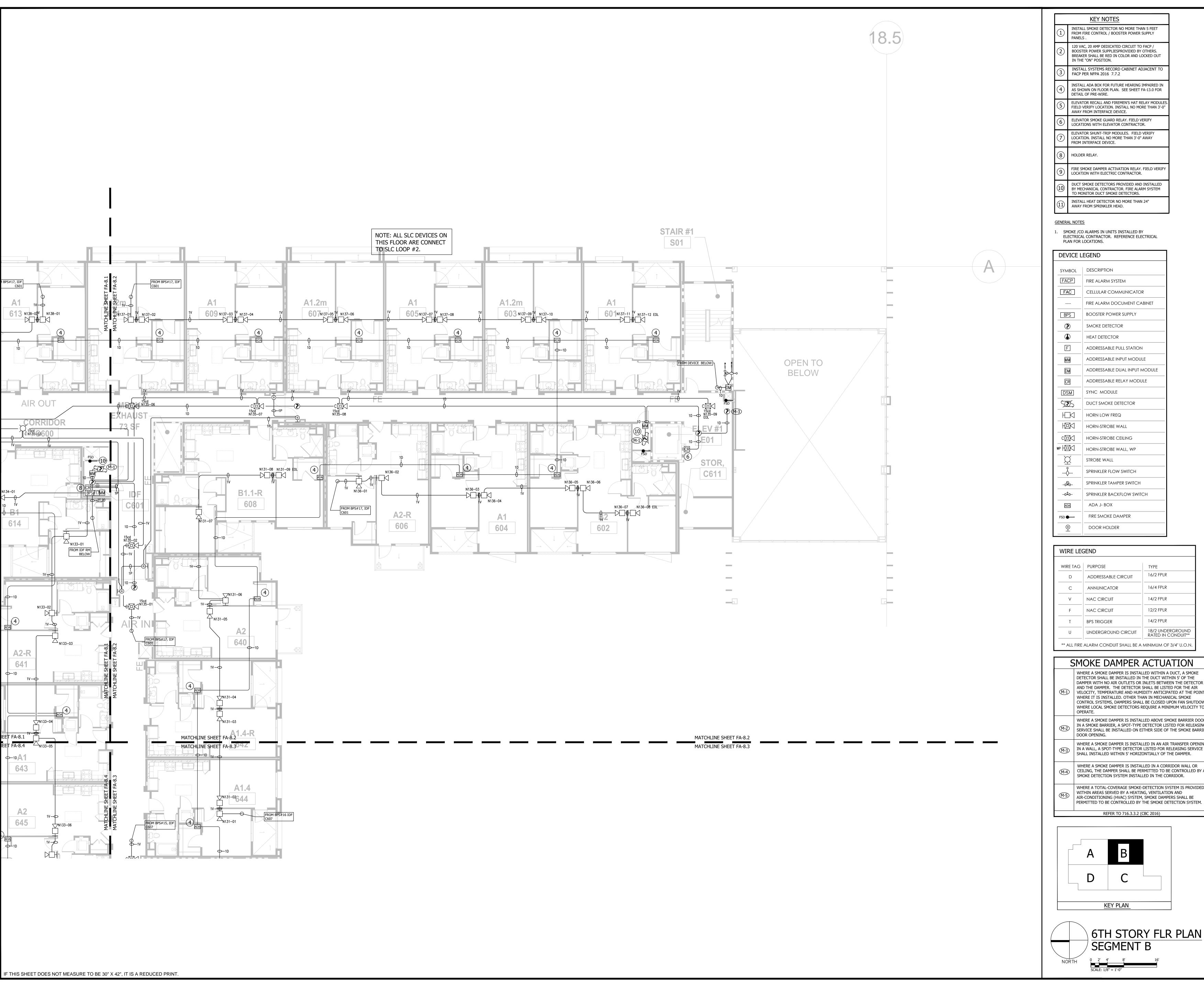


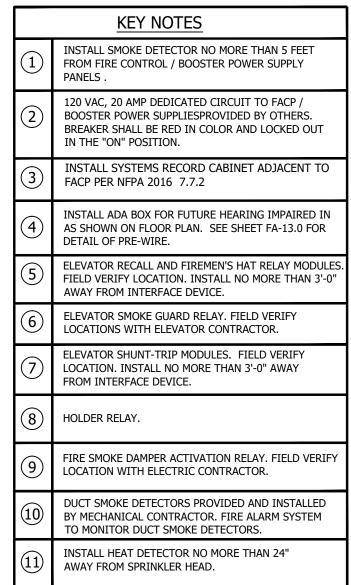










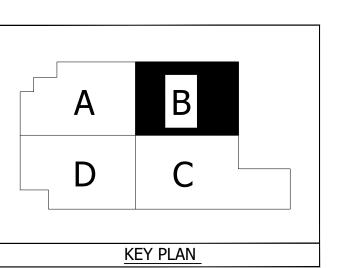


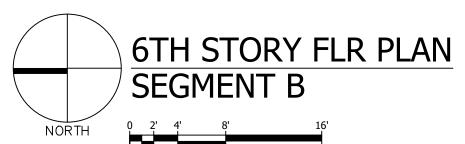
DEVICE L	EGEND
SYMBOL	DESCRIPTION
FACP	FIRE ALARM SYSTEM
FAC	CELLULAR COMMUNICATOR
	FIRE ALARM DOCUMENT CABINET
BPS	BOOSTER POWER SUPPLY
③	SMOKE DETECTOR
•	HEAT DETECTOR
F	ADDRESSABLE PULL STATION
ММ	ADDRESSABLE INPUT MODULE
DM	ADDRESSABLE DUAL INPUT MODULE
CR	ADDRESSABLE RELAY MODULE
DSM	SYNC MODULE
505	DUCT SMOKE DETECTOR
	HORN LOW FREQ
HØKI	HORN-STROBE WALL
c⊠<	HORN-STROBE CEILING
WP HON	HORN-STROBE WALL, WP
<u> </u>	STROBE WALL
\$	SPRINKLER FLOW SWITCH
	SPRINKLER TAMPER SWITCH
	SPRINKLER BACKFLOW SWITCH
ADA	ADA J- BOX
FSD ⊕ —	FIRE SMOKE DAMPER
<u></u> 의	DOOR HOLDER

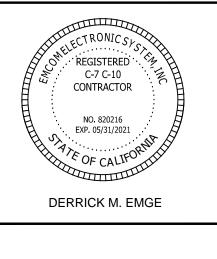
WIRE LEC	GEND	
WIRE TAG	PURPOSE	TYPE
D	ADDRESSABLE CIRCUIT	16/2 FPLR
С	ANNUNICATOR	16/4 FPLR
	NAC CIRCUIT	14/2 FPLR
F	NAC CIRCUIT	12/2 FPLR
T	BPS TRIGGER	14/2 FPLR
U	UNDERGROUND CIRCUIT	18/2 UNDERGROUND RATED IN CONDUIT**
** ALL FIRE	ALARM CONDUIT SHALL BE A	MINIMUM OF 3/4" U.O.N.

WHERE A SMOKE DAMPER IS INSTALLED WITHIN A DUCT, A SMOKE DETECTOR SHALL BE INSTALLED IN THE DUCT WITHIN 5' OF THE DAMPER WITH NO AIR OUTLETS OR INLETS BETWEEN THE DETECTOR AND THE DAMPER. THE DETECTOR SHALL BE LISTED FOR THE AIR M-1) | VELOCITY, TEMPERATURE AND HUMIDITY ANTICIPATED AT THE POINT WHERE IT IS INSTALLED. OTHER THAN IN MECHANICAL SMOKE CONTROL SYSTEMS, DAMPERS SHALL BE CLOSED UPON FAN SHUTDOWN WHERE LOCAL SMOKE DETECTORS REQUIRE A MINIMUM VELOCITY TO

- WHERE A SMOKE DAMPER IS INSTALLED ABOVE SMOKE BARRIER DOORS IN A SMOKE BARRIER, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL BE INSTALLED ON EITHER SIDE OF THE SMOKE BARRIER
- WHERE A SMOKE DAMPER IS INSTALLED IN AN AIR TRANSFER OPENING M-3 IN A WALL, A SPOT-TYPE DETECTOR LISTED FOR RELEASING SERVICE SHALL INSTALLED WITHIN 5' HORIZONTIALLY OF THE DAMPER.
- WHERE A SMOKE DAMPER IS INSTALLED IN A CORRIDOR WALL OR CEILING, THE DAMPER SHALL BE PERMITTED TO BE CONTROLLED BY A SMOKE DETECTION SYSTEM INSTALLED IN THE CORRIDOR. WHERE A TOTAL-COVERAGE SMOKE-DETECTION SYSTEM IS PROVIDED



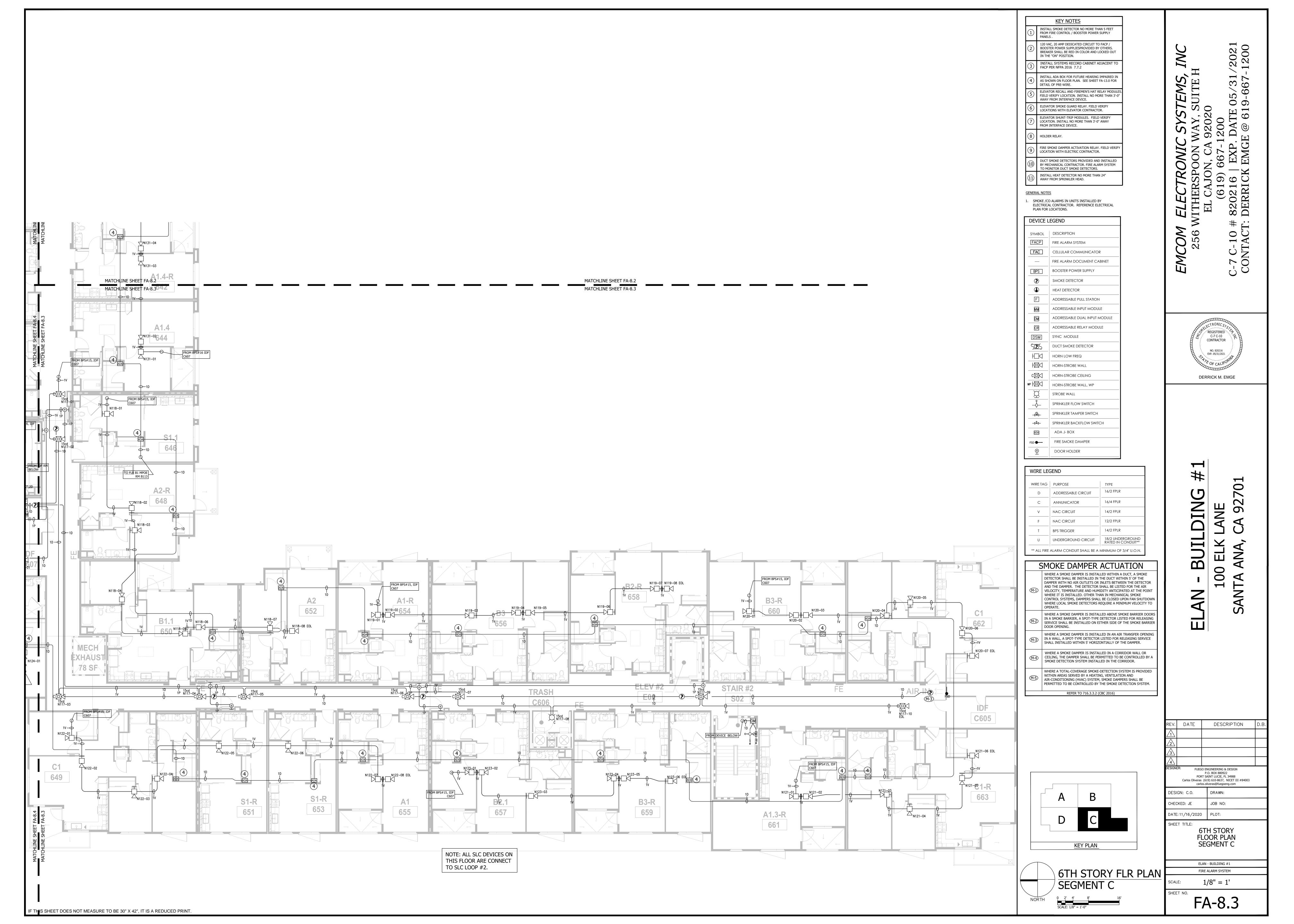


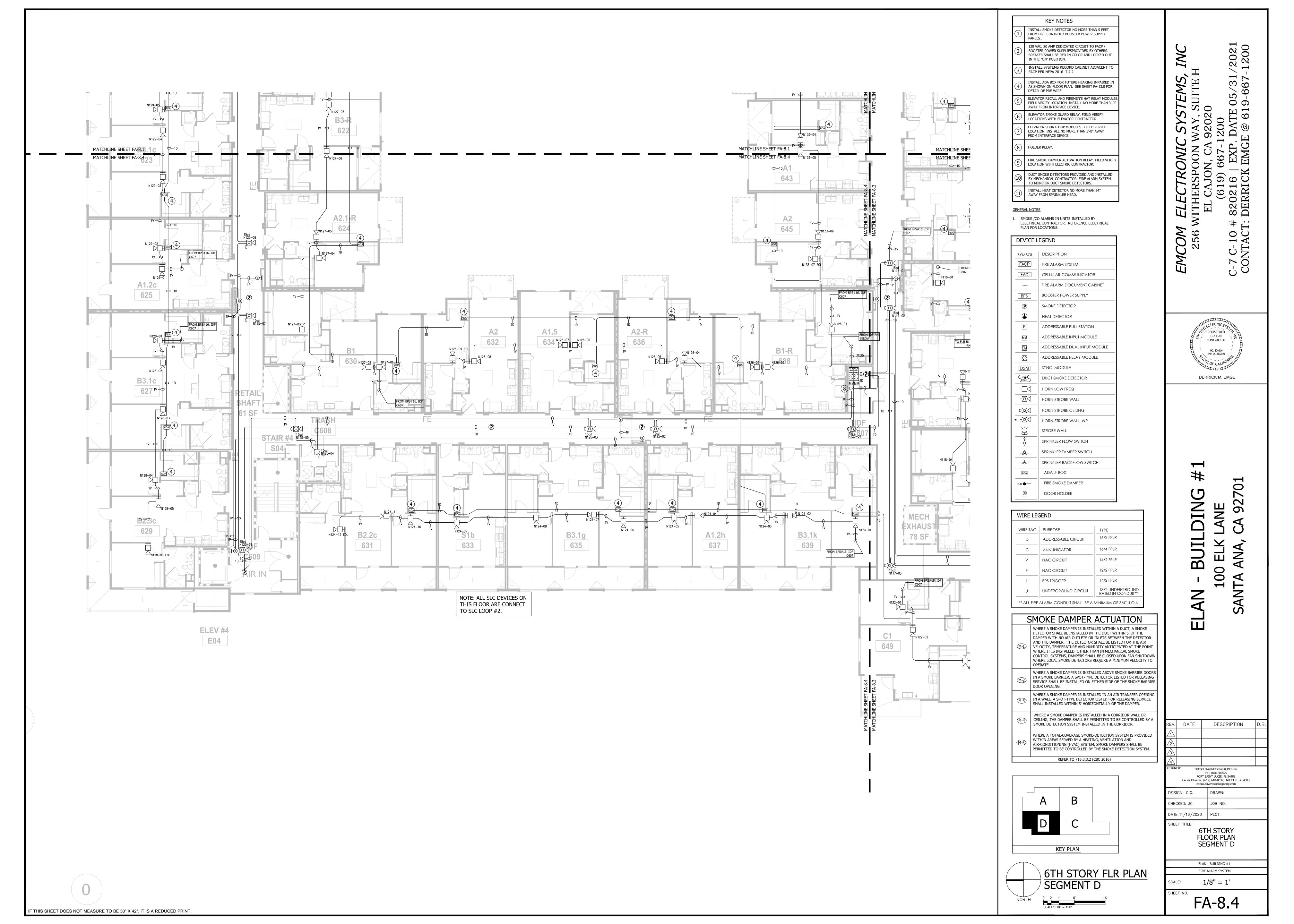


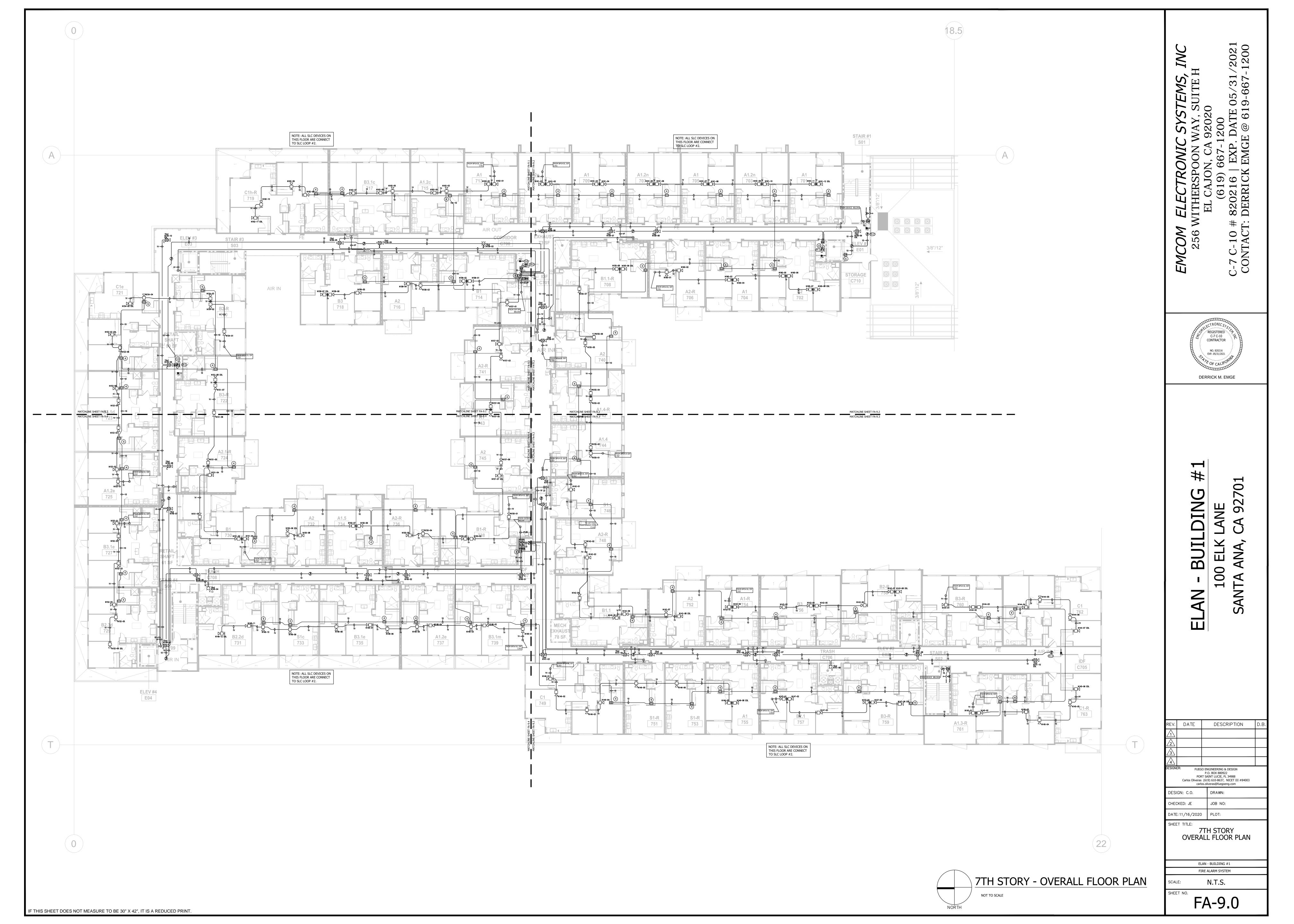
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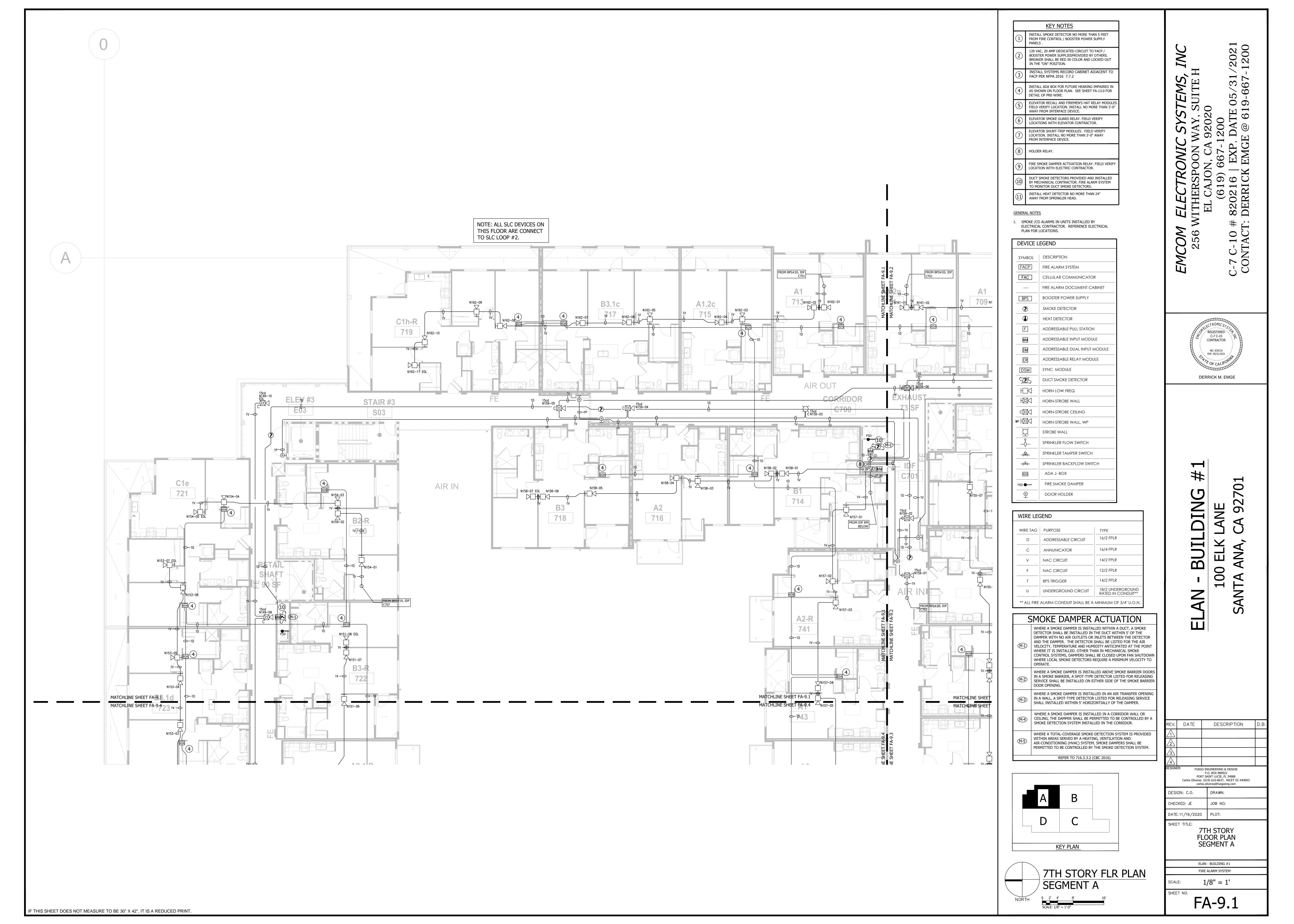
DATE DESCRIPTION P.O. BOX 880922 PORT SAINT LUCIE, FL 34988 Carlos Oliveras (619) 610-8637, NICET III #84003 carlos.oliveras@fuegoeng.com DESIGN: C.O. CHECKED: JE DATE: 11/16/2020 PLOT: SHEET TITLE: 6TH STORY FLOOR PLAN SEGMENT B

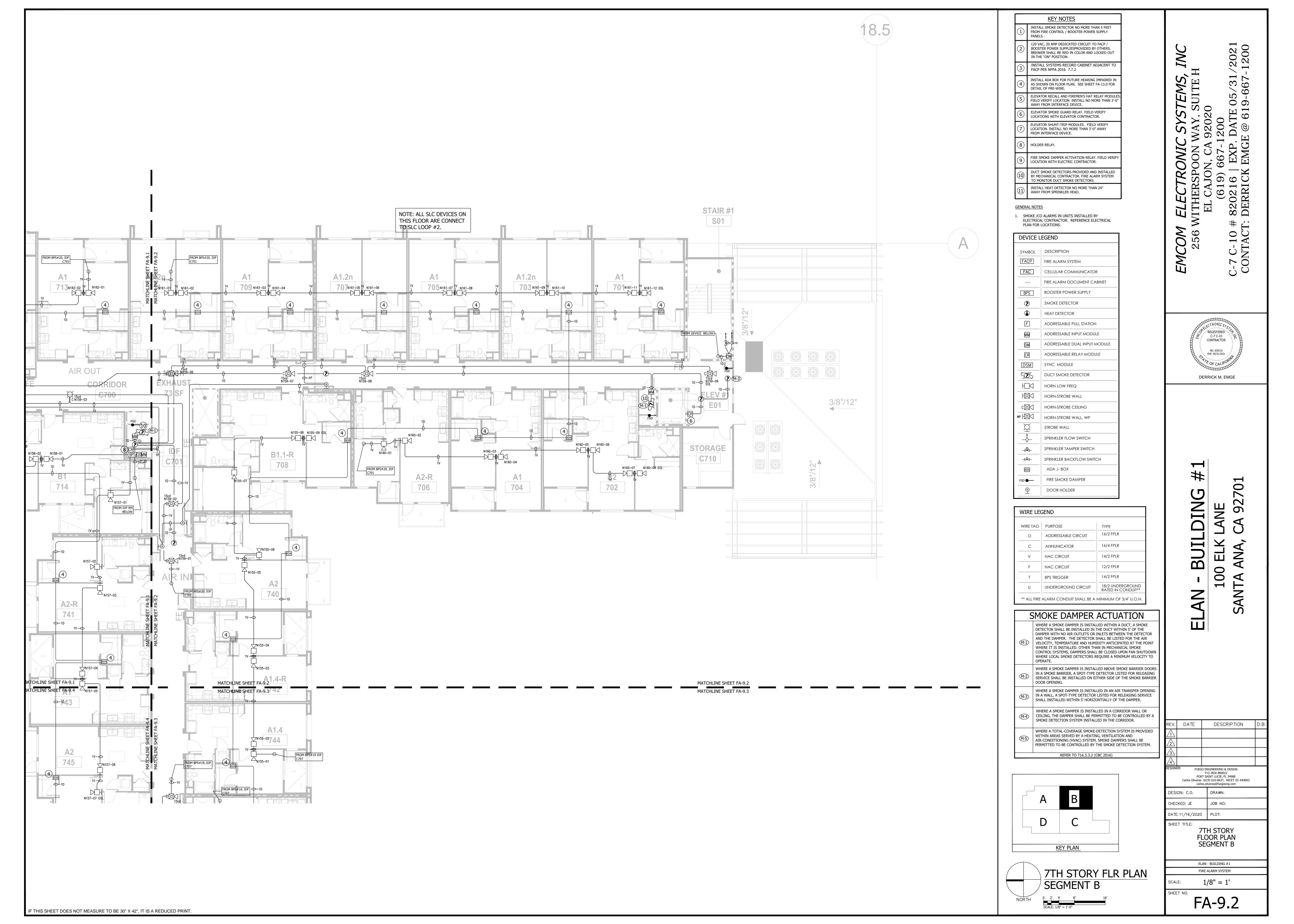
FIRE ALARM SYSTEM 1/8" = 1'FA-8.2

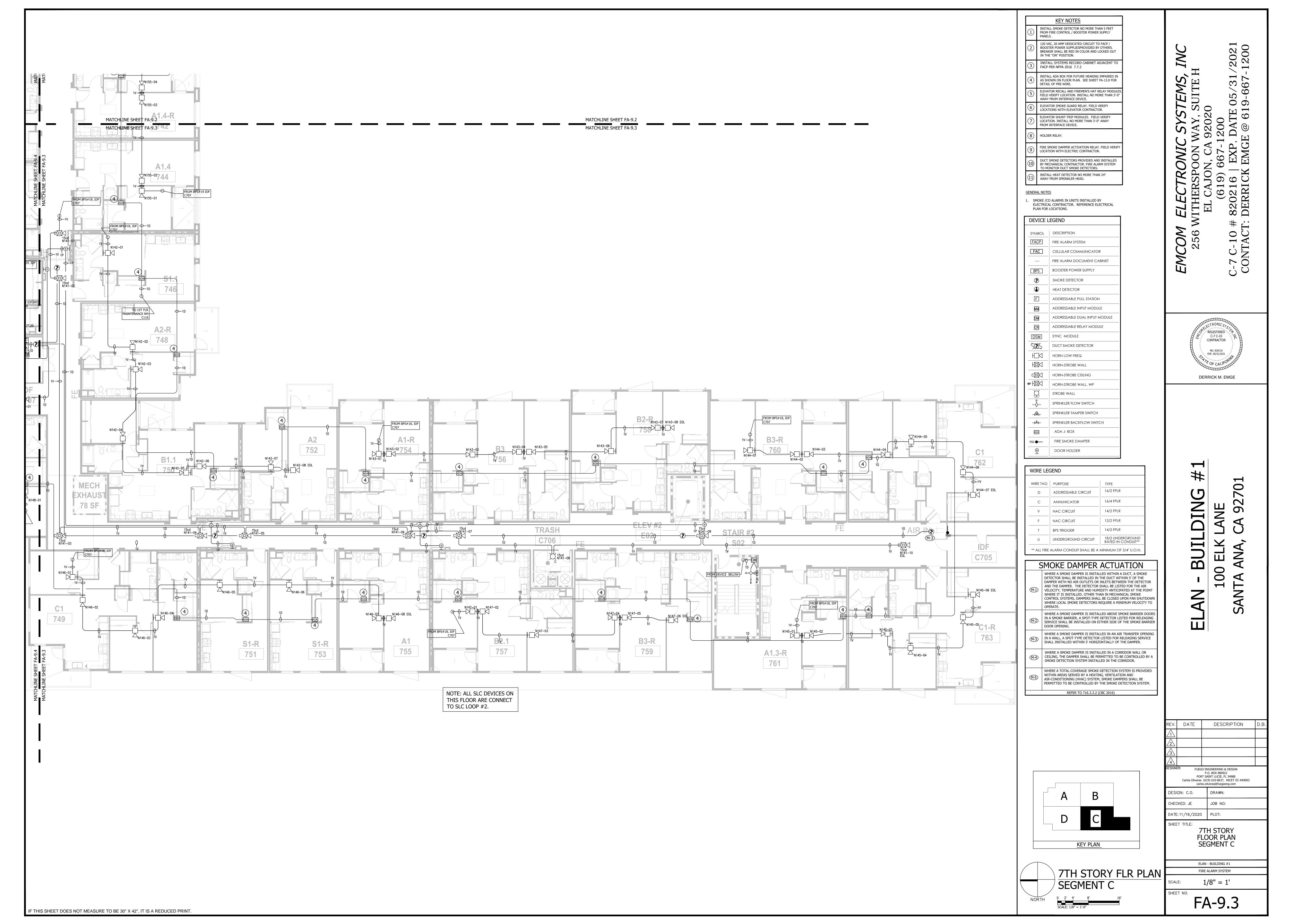


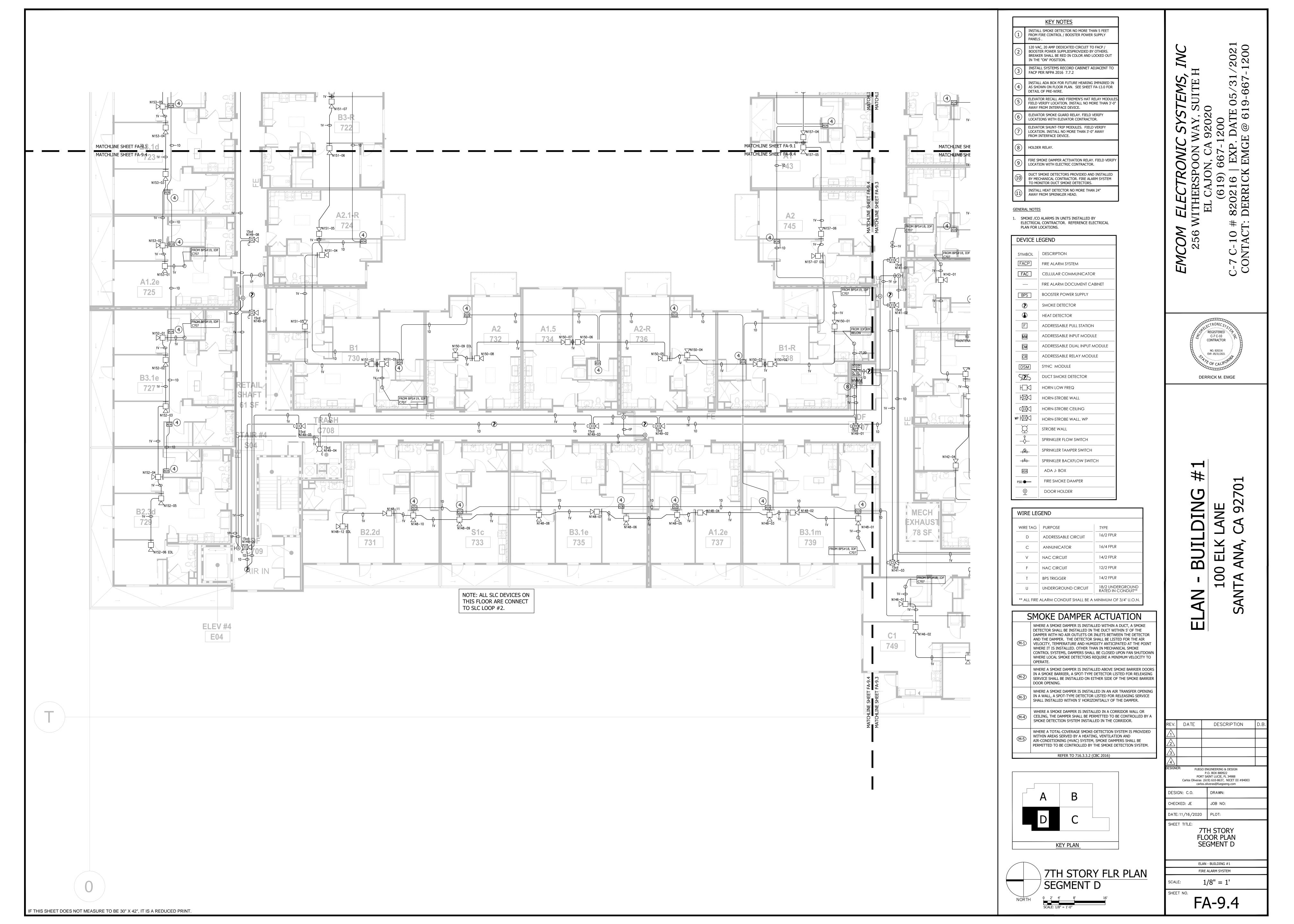


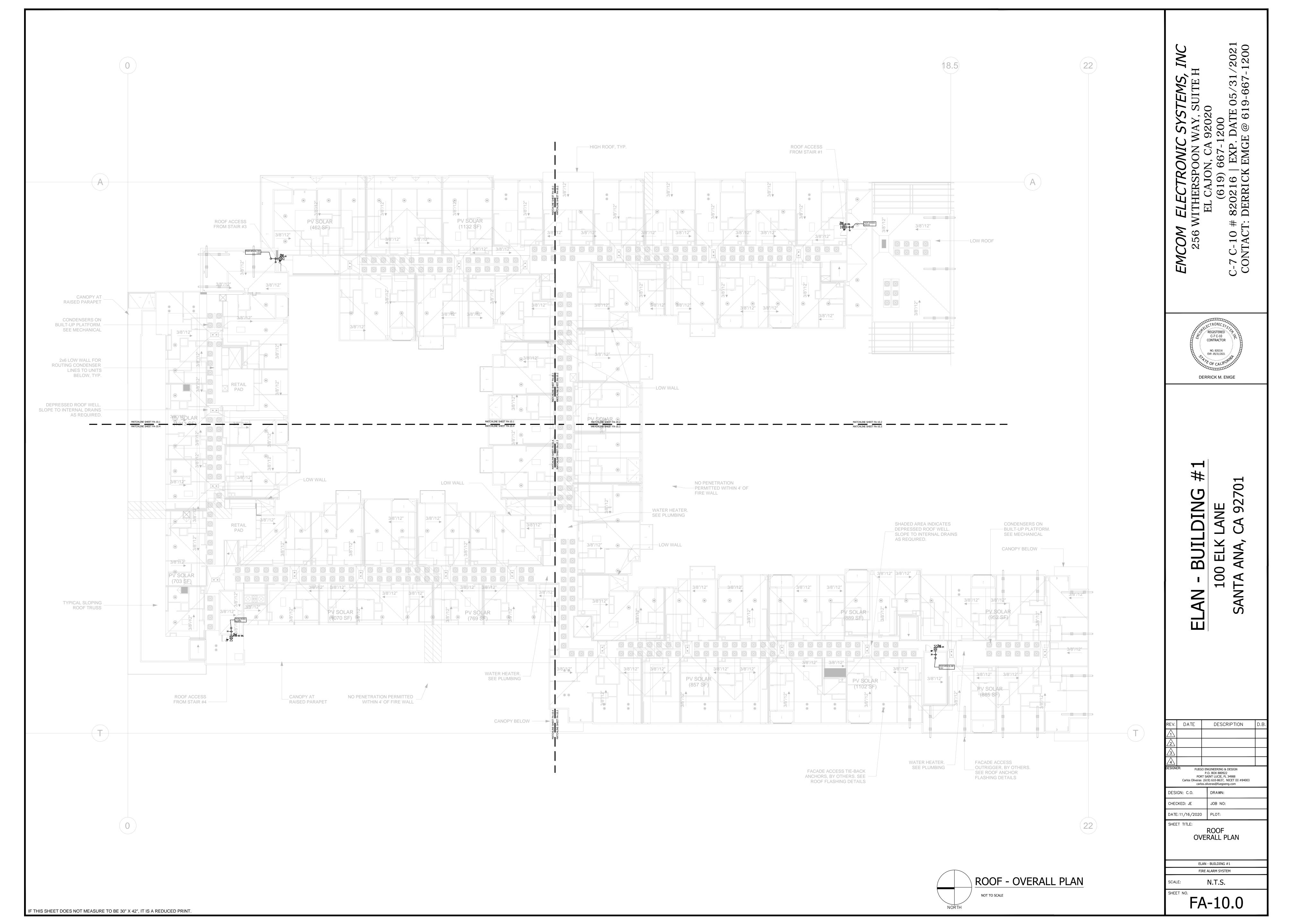


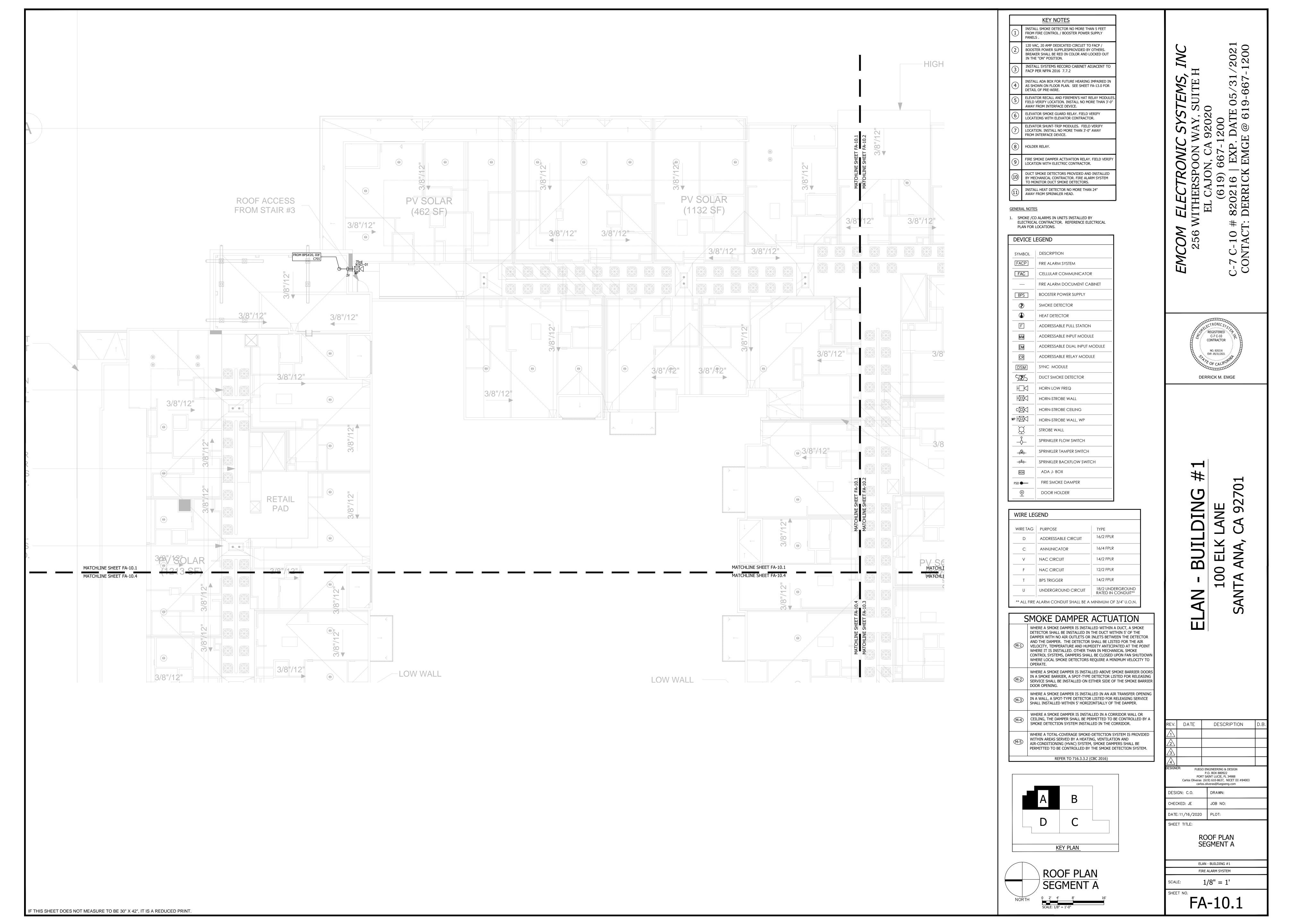


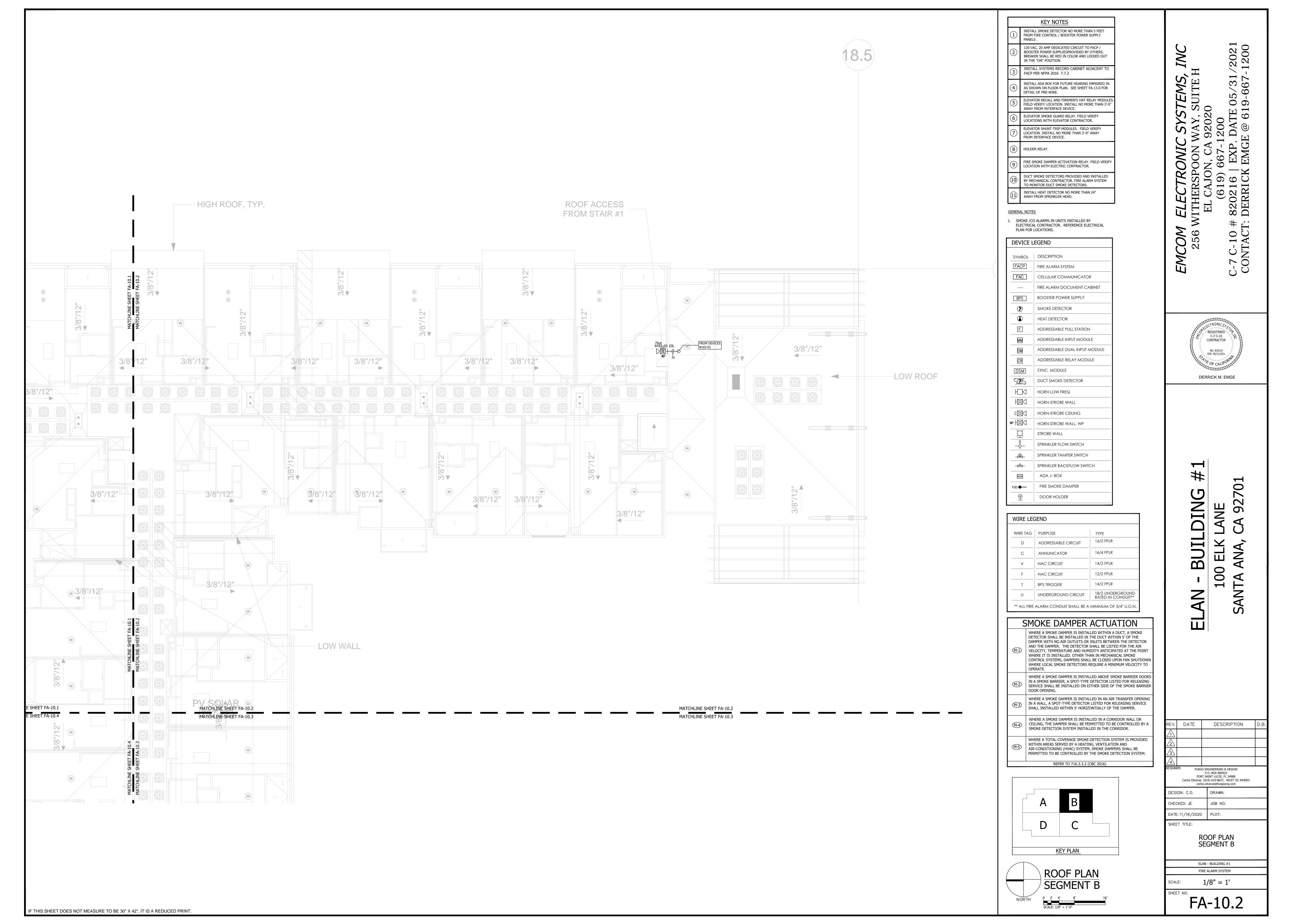


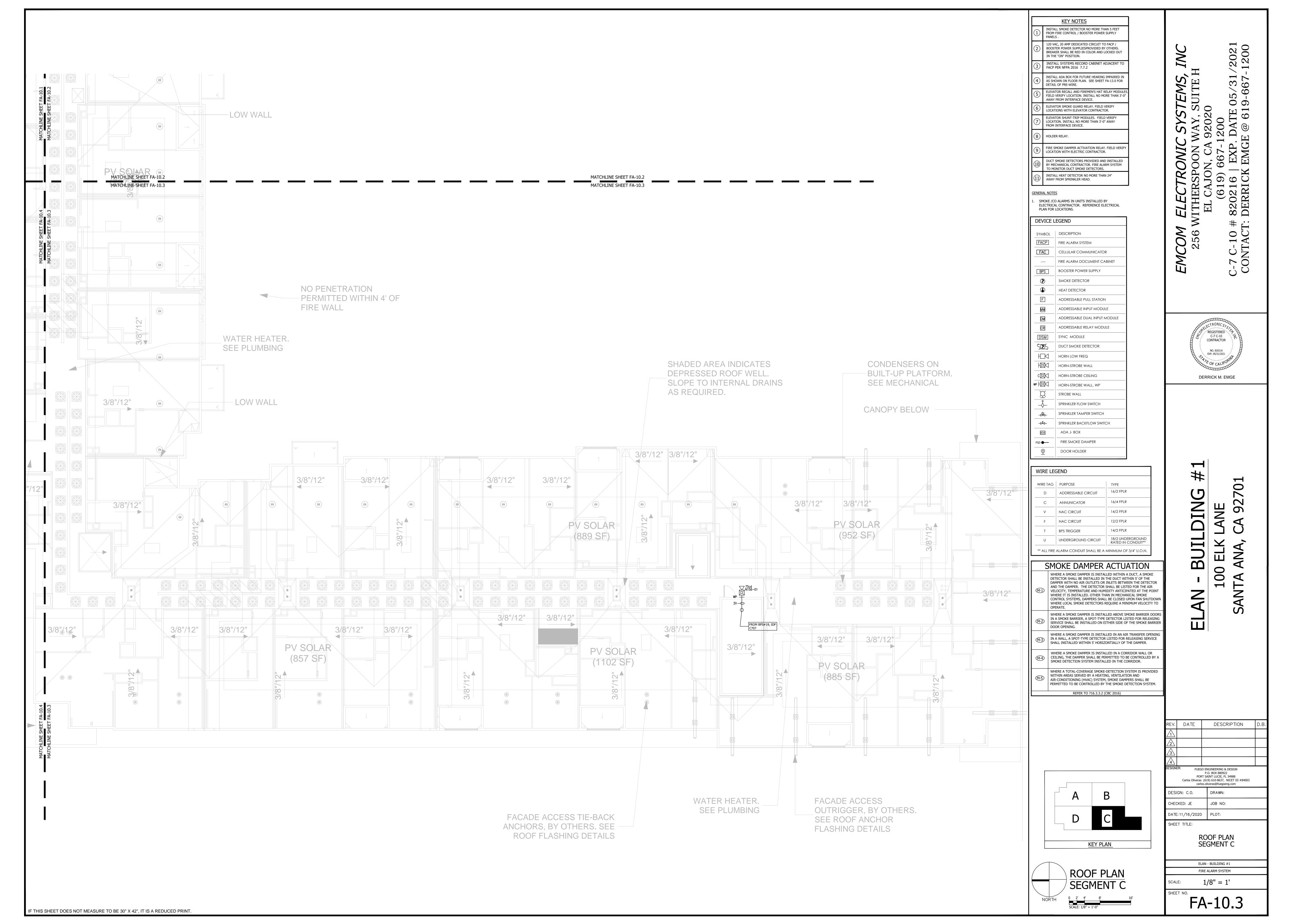


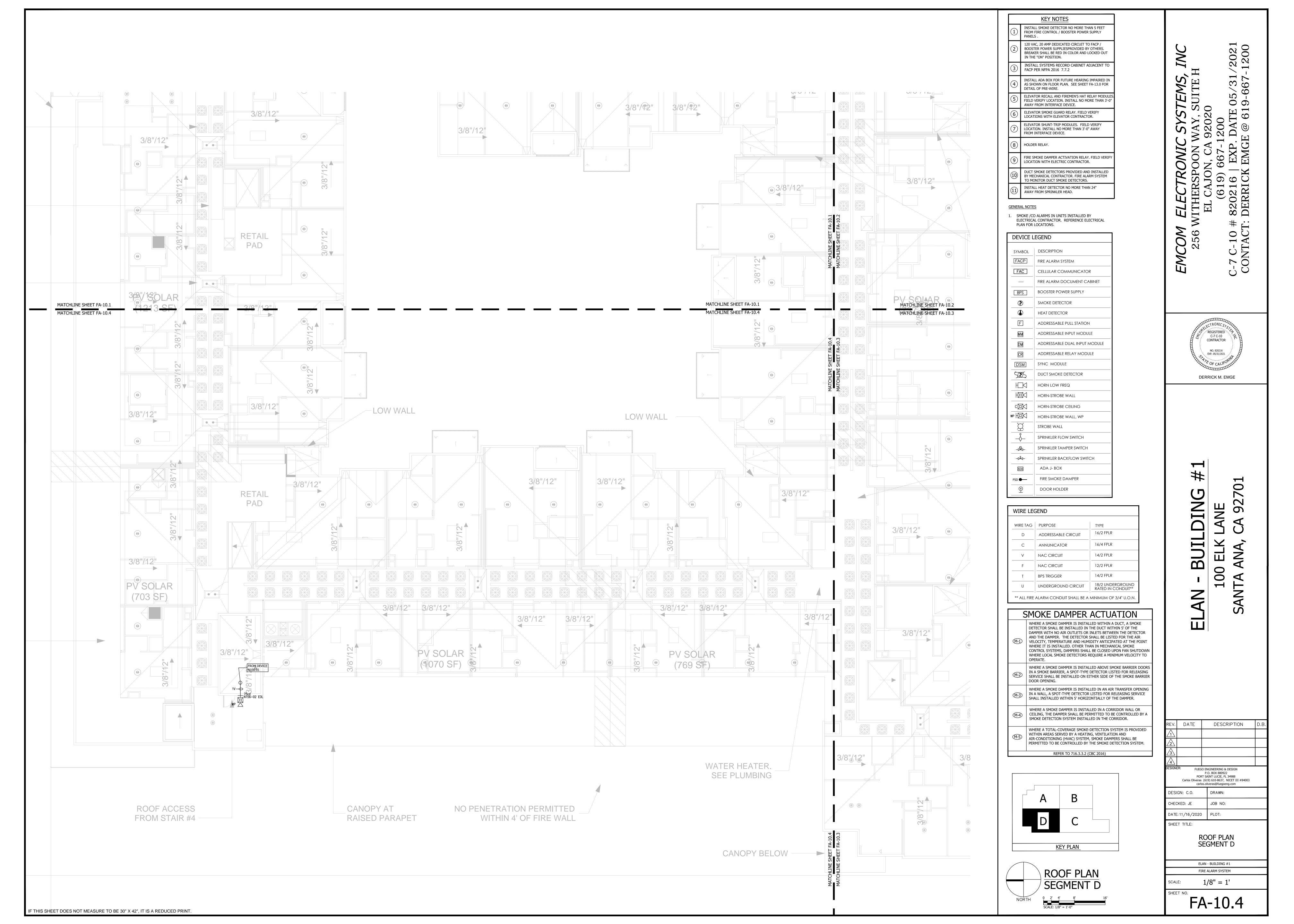


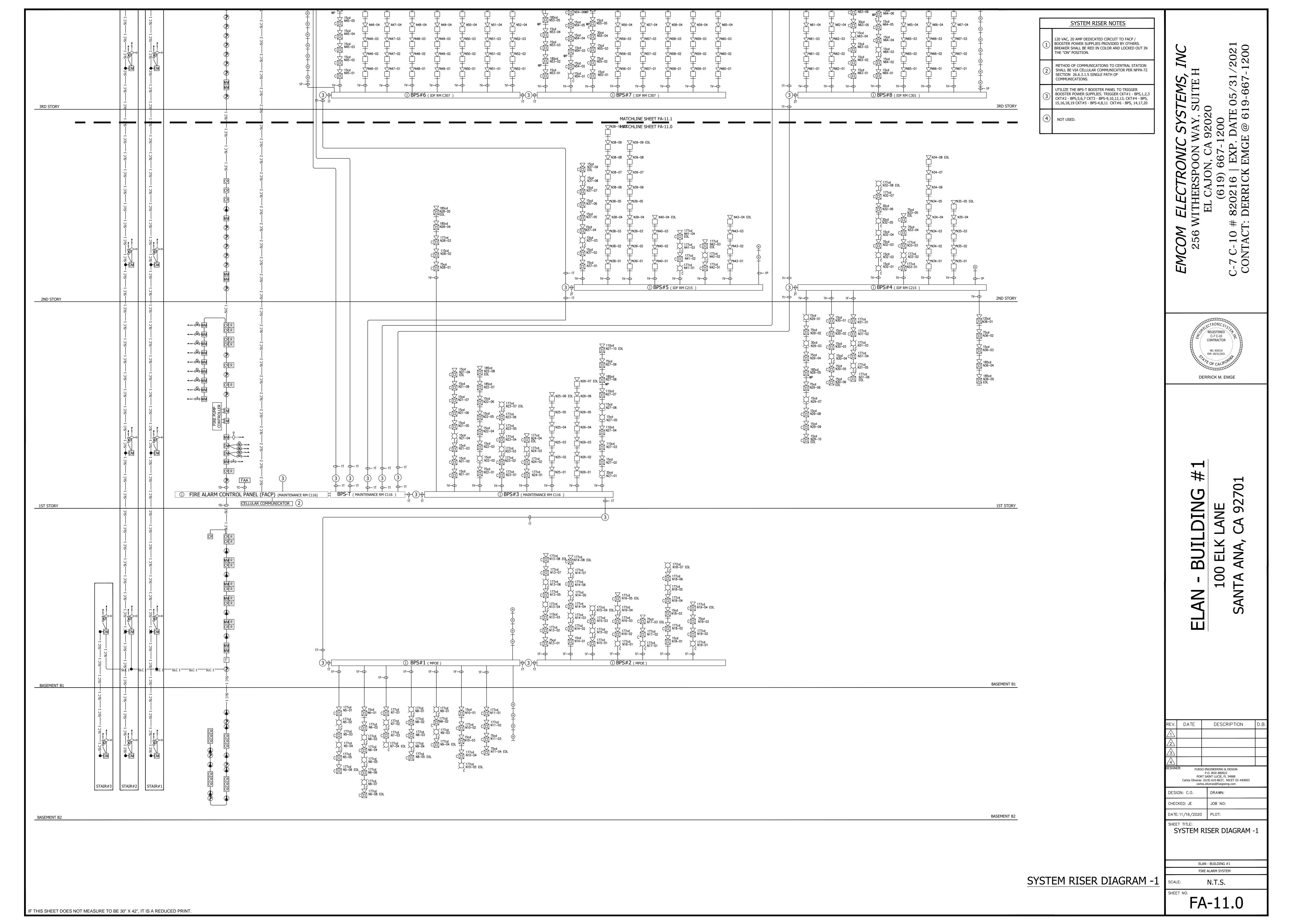


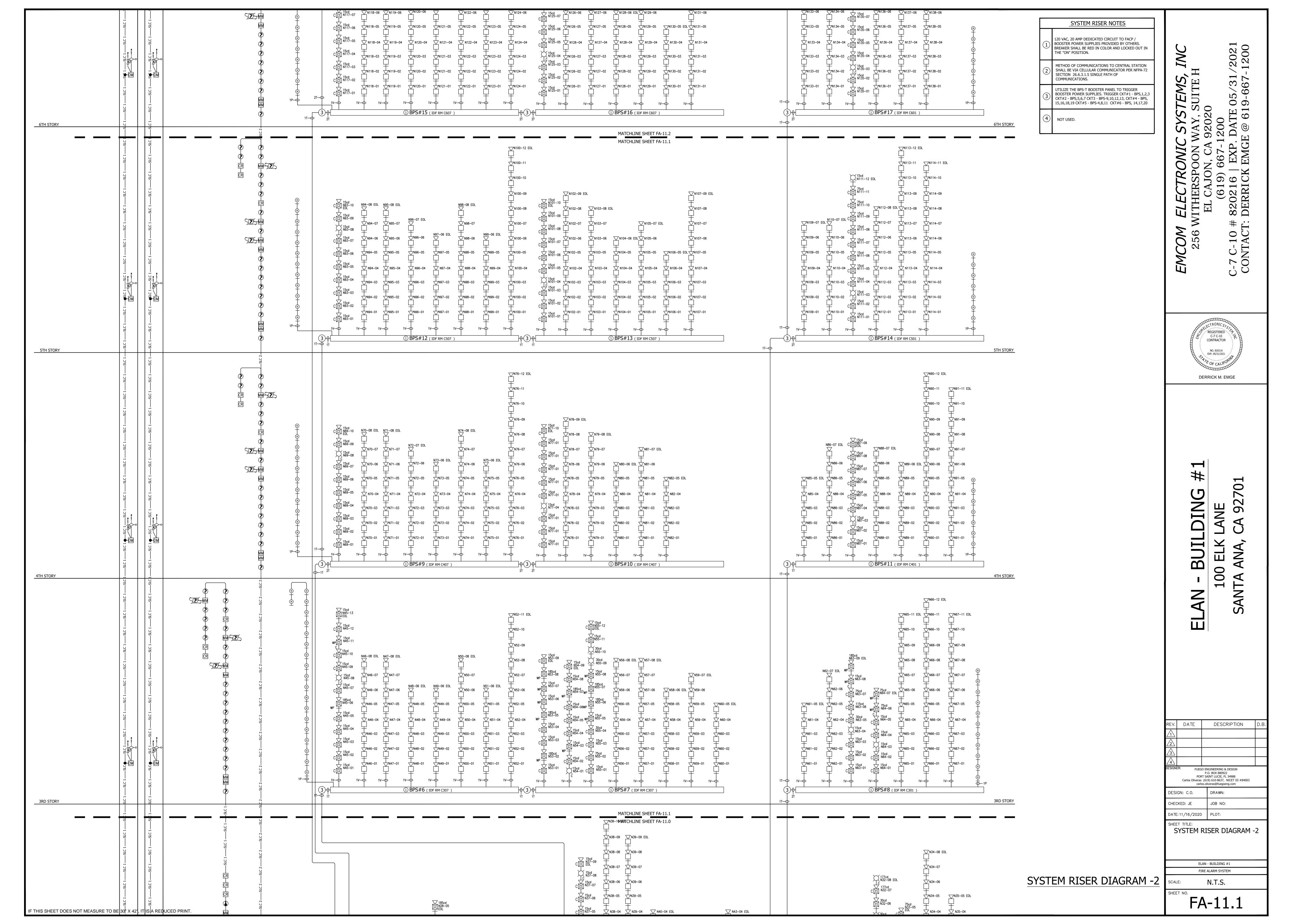


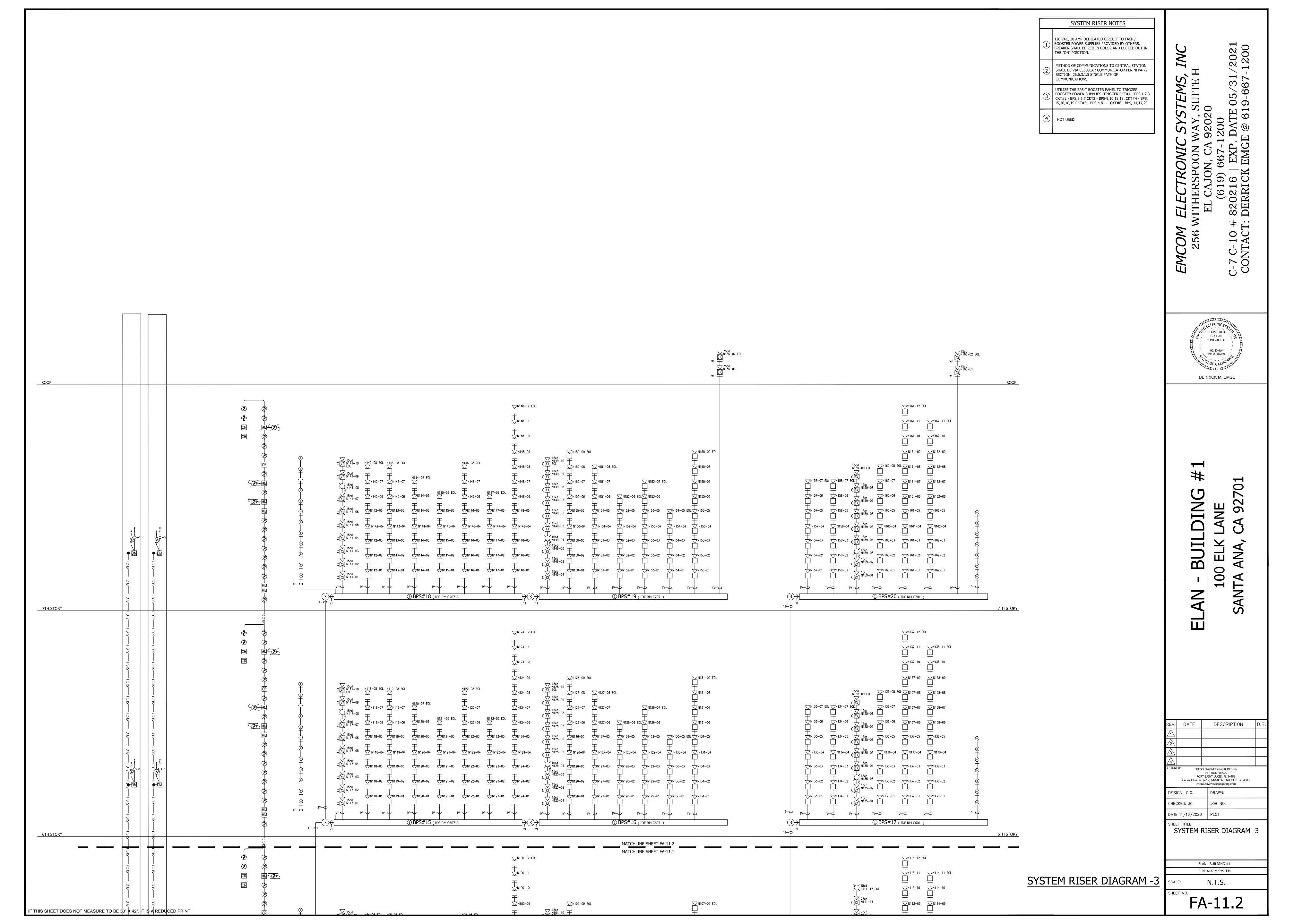












FX-2003-12NDS FACP - (5 MINTUES IN ALARM, 24H		С	D	F	F	MIRCO
A	В		Total Stanby Current	E	Total Alarm Current	
INTERNALITACE COMPONENTS / ADDRESSABLE DEVICES	Quantity	Standby Current	(BxC)	Alarm Current	(BxE)	
FX-2003-NDS MAIN BOARD	1	0.31000A	0.31000A	0.73300A	0.73300A	
ALCN-792MISO ISOLATED DUAL ANALOG LOOP MODULE	1	0.13000A	0.13000A	0.14500A	0.14500A	
UDACT-300A DIALER MODULE	1	0.04500A	0.04500A	0.12000A	0.12000A	
RAXIV-LCD REMOTE ANNUNCIATOR	1	0.02200A	0.02200A	0.26200A	0.26200A	
MIX-MS01MAP MINI-MONITOR MODULE	51	0.00060A	0.03060A	0.00060A	0.03060A	
MDX-M500DMAP DUAL MONITOR MODULE	24	0.00075A	0.01800A	0.00640A	0.15360A	
MDX-2251AP SMOKE DETECTOR	106	0.00030A	0.03180A	0.00650A	0.68900A	
MDX-5251AP HEAT DETECTOR 13SF FDXED TEMP	13	0.00030A	0.00390A	0.00650A	0.08450A	
MDX-M500RAP RELAY MODULE	41	0.00030A	0.01230A	0.00650A	0.26650A	
MS-710APU PULLSTATION	1	0.00040A	0.00040A	0.00060A	0.00060A	
		Total Standby Current =	0.604A	Total Alm Current=	2.485A	
	DEVICE CURRENT		CIRCUIT # /	AND QTY		
STROBE CIRCUIT	DRAW	N1- TRIGGER	N2- TRIGGER	NB- SPARE	N4-SPARE	
	NAC OXT CURRENT DRAW =	0.000A	0.000A	0.000A	0.000A	
					TOTAL NAC OKT CURRENT DRAW =	0.000A
TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU			
Total standby current			0.604			
Multiply by 24 or 60 for standby hours needed.			24H			
Total standby AH (Amp Hours)			14.4960 AH			
ALARM CURRENT CALCULATIONS						TOTAL ALAR CURRENT CALCU
Total alarm current						2.485
Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of alarm						0.0833
Total alarm current.						0.2071 AH
BATTERY BACKUP REQUIREMENTS		1				
Sub total, add line 18+21						14.7031 AF
Multiply by 1.2 for 20% Battery Derating Factor						20%
Total AH (Amp Hours)						17.6437 AF

RESWITCH 108 BPS-T (5 MINTUES IN									ALTR	CINTX
Α	В	С	D	E	F					
		Standby	Total Stanby Current	Alarm Current	Total Alarm Current					
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Current	(BxC)	(BxE)	(B x E)					
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A					
		Standby		TotalAlm						
		Current =	0.180A	Current=	0.200A					
	DEVICE									
NOTIFICATION APPLIANCES	CURRENT DRAW	BPS TRIGGER CKT#1	BPS TRIGGER OKT#2	BP'S TRIGGER OKT#3	BPS TRIGGER OKT#4	BPS TRAGGER OXT#5	BPS TRAGGER CKT#6	SPARE	SPARE	
		BPS#1,#2,#3	BPS#5,#6,#7	BPS#9,#10 12,#13	BPS#15,#16, #18,#19	BPS#4,#8, #11	BPS#14,#17, #20			
									TOTAL NAC OKT CURRENT DRAW =	0.000
TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU							
6 Total standby current		T	0.180A							
Multiply by 24 or 60 for standby hours needed.			24H							
Total standby AH (Amp Hours)			4.3200 AH							
ALARM CURRENT CALCULATIONS										TOTA ALAR CURRE CALC
9 Total alarm current										0.200
Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of	falarm									0.083
1 Total alarm current.										0.0167
BATTERY BACKUP REQUIREMENTS						ı				
2 Sub total, add line 18+21									-	4.3367
Multiply by 1.2 for 20% Battery Derating Factor		_								20%
Total AH (Amp Hours)										5.2040

FIRESWITCH 108 BPS#2 (5 MINTUES IN	ALARM, 24HR	S STANDBY)							ALTE	RONIX	Device #	# Device Drav	Distance	Distance + 1	0% Amps \	Volt Drop	Total Amps Total Drop Percent Drop	Device #	Device Dra	w Distance	Distance + 10	0% Amp	Volt Drop	Total Amps	Total Drop Percent Dro
A	В	С	D	E	F						N13-01	0.143A	78'	96'		0.595v	1.798A 1.912v 9.3745%					-			
			Total Charles	Alarm	Total Alarm						N13-01	0.254A	24'	26'	1.655A		1./30A 1.312V 3.3/43/0	N18-01 N18-02	0.054A 0.254A	198' 22'	218' 24'	1.322	A 1.111v A 0.118v	1.322A	1.904v 9.3324%
		Standby	Total Stanby Current	Current	Current						N13-03	0.187A	59'	65'	1.401A		N.A.C #13	N18-03	0.054A	56'	62'		A 0.241v		V A C #10
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Current	(BxC)	(BxE)	(BxE)						N13-04	0.226A	33'	36'	1.214A		HORN-STROBE CIRCUIT	N18-04	0.254A	26'	29'	0.960	4 0.106v		V.A.C #18
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A						N13-05	0.254A	59'	65'	0.988A		NOTE: 12AWG USED	N18-05	0.226A	59'	65'		A 0.177v		-STROBE CIRCUIT TE: 12A WG USED
		Total Standby		- somewhat							N13-06 N13-07	0.226A 0.254A	63' 60'	69' 66'	0.734A 0.508A	Country Constitution	TOTAL TERMINOSOLD	N18-06 N18-07	0.254A 0.226A	51' 48'	56' 53'	0.480	A 0.104v A 0.046v	1401	L. 12AWG USLD
		Current =	0.180A	Total Alm Current=	0.200A						N13-08	0.254A	50'	55'	0.254A			1110-07	0.220A	40	33	0.220	4 0.0400		
																		-							
											Device #	Device Drav	Distance	Distance + 1	0% Amps \	Volt Drop	Total Amps Total Drop Percent Drop	Device #	Device Dra	w Distance	Distance + 1	0% Amp	Volt Drop	Total Amps T	otal Drop Percent Drop
	DEVICE				-						N14-01	0.054A	18'	20'	1.539A	0.118v	1.539A 1.494v 7.3240%	N19-01	0.226A	434'	477'	0.877	1.616v	0.877A	1.870v 9.1657%
NOTIFICATION APPLIANCES	CURRENT							1	1		N14-02	0.245A	45'	50'	1.485A		301 TO 101 TO 10	N19-02	0.254A	46'	51'		0.127v		
	DRAW	NI3	N14	NI.5	N16	N17	NIS	NI9	N20-SPARE		N14-03	0.226A	53'	58'	1.240A		N.A.C #14	N19-03	0.143A		50'		0.076v	N	I.A.C #19
15cd HORN-STROBE, WALL	0.054A	0	2	0	0	0	2	0	0		N14-04	0.054A	51'	56'	1.014A		HORN-STROBE CIRCUIT	N19-04	0.254A	47'	52'	0.254	0.051v		STROBE CIRCUIT
177cd STROBE, CEILING	0.226A	2	3	2	2	1	2	1	0		N14-05 N14-06	0.226A 0.254A	61' 57'	67' 63'	0.960A 0.734A		NOTE: 12A WG USED								E: 12AWGUSED
75cd HORN-STROBE, CEILING	0.143A	1	0	0	0	0	0	1	0	1	N14-07	0.226A	58'	64'	0.480A										
115cd HORN-STROBE, CEILING		1	0	0	0	0	0	0			N14-08	0.254A	46'	51'	0.254A	0.050v									
177cd HORN-STROBE, CEILING	0.187A	1	0	0	0	0	0	- 0	0									_							
	0.254A	4	2	2	3	2	3	2	0	-	Device #	Device Drav	Distance	Distance + 1	.0% Amps	Volt Drop	Total Amps Total Drop Percent Dro	р							
13Scd HORN-STROBE, WP, WALL OR 18Scd HORN- STROBE WALL								١.,			N15-01	0.254A	200'	220'	0.960A	0.815v	0.960A 1.169v 5.7302%								
S THOSE TIPES	0.245A NAC OKT	0	1	0	0	0	-0	0	0	-	N15-02	0.226A	56'	62'	0.706A										
	CURRENT										N15-03	0.254A	62'	68'	0.480A		N.A.C #15								
	DRAW =	1.798A	1.539A	0.960A	1.214A	0.734A	1.322A	0.877A	0.000A		N15-04	0.226A	62'	68'	0.226A	0.0590	HORN-STROBE CIRCUIT								
									TOTAL NAC								NOTE: 12AWG USED								
									ОКТ	8.444A						**									
									CURRENT DRAW =	G T T II								_							
			TOTAL STANDY						DIONW -		Device #	Device Drav	Distance	Distance + 1	0% Amps \	Volt Drop	Total Amps Total Drop Percent Drop	o l							
TOTAL STANDBY CALCULATIONS			CALCU								N16-01	0.226A	98'	108'	1.214A	0.505v	1.214A 1.245v 6.1033%								
16 Total standby current			0.180A	1							N16-02	0.254A	53'	58'	0.988A	1.444.751.751.751.751									
17 Multiply by 24 or 60 for standby hours needed.			24H								N16-03 N16-04	0.254A 0.226A	120' 44'	132' 48'	0.734A 0.480A		N.A.C #16								
			4.3200 AH								N16-04	0.254A	50'	55'	0.460A 0.254A		HORN-STROBE CIRCUIT								
18 Total standby AH (Amp Hours)			4.3200 AH						1	TOTAL							NOTE: 12AWG USED	_							
										ALARM															
										CURRENT								_							
ALARM CURRENT CALCULATIONS								_		CALCU	Device #	Device Drav	Distance	Distance + 1	0% Amps \	Volt Drop	Total Amps Total Drop Percent Drop	o							
19 Total alarm current	L							-	-	8.644A	N17-01	0.226A	318'	350'	0.734A	0.991v	0.734A 1.169v 5.7305%								
20 Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of	f alarm									0.0833	N17-02	0.254A	57'	63'	0.508A										
21 Total alarm current.										0.7200 AH	N17-03	0.254A	51'	56'	0.254A	0.055v	N.A.C #17								
BATTERY BACKUP REQUIREMENTS																	HORN-STROBE CIRCUIT								
22 Sub total, add line 18+21										5.0400 AH							NOTE: 12A WG USED	_							
										20%															
23 Multiply by 1.2 for 20% Battery Derating Factor																									
23 Multiply by 1.2 for 20% Battery Derating Factor 24 Total AH (Amp Hours)										6.0481 AH															

1112 01	Jevice Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Dr
N13-01	0.143A	78'	86'	1.798A	0.595v	1.798A	1.912v	9.3745%	N18-01	0.054A	198'	218'	1.322A	1.111v	1.322A	1.904v	9.3324%
N13-02	0.254A	24'	26'	1.655A	0.169v				N18-02	0.254A	22'	24'	1.268A	0.118v			
N13-03	0.187A	59'	65'	1.401A	0.351v		NAC#	12	N18-03	0.054A	56'	62'	1.014A			N A C #	10
N13-04	0.226A	33'	36'	1.214A	0.170v		N.A.C #		N18-04	0.254A	26'	29'	0.960A	0.106v	1	N.A.C #	
N13-05	0.254A	59'	65'	0.988A	0.248v		-STROBE (N18-05	0.226A	59'	65'	0.706A	0.177v		N-STROBE (
N13-06	0.226A	63'	69'	0.734A	0.196v	NO	TE: 12AWG	USED	N18-06	0.254A	51'	56'	0.480A	0.104v	NC	TE: 12AWG	USED
N13-07	0.254A	60'	66'	0.508A	0.129v				N18-07	0.226A	48'	53'	0.226A	0.046v			
N13-08	0.254A	50'	55'	0.254A	0.054v												
	Davidas Damas	Di-t	Di-t 1 100/		V-h Dun	Tatal Amora	Tatal Day	Dancast Duan	Di	# D! D	Di-t-	Di-t 1 100/		V-F D	T-1-1 A	T-1-1 D	D
N14-01	0.054A	18'	Distance + 10%	1.539A	<u> </u>	1.539A	1.494v	7.3240%	N19-01	0.226A	434'	Distance + 10%		1.616v	0.877A	1.870v	9.1657%
N14-01 N14-02	0.245A	45'	50'	1.485A		1.339A	1.4940	7.324070	N19-01	The state of the s	46'	51'		0.127v	U.67/A	1.6/00	9.103/%
N14-02 N14-03	0.243A 0.226A	53'	58'	1.40JA 1.240A					N19-02		45'	11000	0.031A 0.397A				
N14-03 N14-04	0.226A 0.054A	51'	56'	1.014A			N.A.C #	14	N19-03		45 47'	50' 52'		0.076V 0.051v		N.A.C #1	.9
N14-04 N14-05	0.054A 0.226A	61'	67'	0.960A		HORN	I-STROBE	CIRCUIT	INTA-04	U.ZJTA	7/	JZ	U.ZJAA	0.0317	HORN	-STROBE C	IRCUIT
N14-06	0.254A	57'	63'	0.734A	5.40110000 108600000		TE: 12AWG								NO	TE: 12AWG	USED
N14-07	0.226A	58'	64'	0.480A													
N14-07	0.254A	46'	51'	0.460A 0.254A													
	0.226A 0.254A	56' 62'	62' 68'	0.706A 0.480A	0.126v		NAC#	15									
N15-03 N15-04				January C. Carabine V.	0.126v	HOR	N.A.C # N-STROBE	CIRCUIT									
N15-03 N15-04	0.254A	62'	68'	0.480A	0.126v	HOR		CIRCUIT									
N15-04	0.254A 0.226A	62' 62'	68' 68'	0.480A 0.226A	0.126v 0.059v	HOR!	N-STROBE DTE: 12AW	CIRCUIT G USED									
N15-04 Device # [0.254A 0.226A Device Draw	62' 62' Distance	68' 68' Distance + 10%	0.480A 0.226A	0.126v 0.059v Volt Drop	HORN	V-STROBE DTE: 12AWO	CIRCUIT GUSED Percent Drop									
N15-04 Device # D	0.254A 0.226A Device Draw 0.226A	62' 62' Distance	68' 68' Distance + 10%	0.480A 0.226A 0.226A 0.226A 1.214A	0.126v 0.059v Volt Drop 0.505v	HOR!	N-STROBE DTE: 12AW	CIRCUIT G USED									
Device # D N16-01 N16-02	0.254A 0.226A Device Draw 0.226A 0.254A	62' 62' Distance 98' 53'	68' 68' Distance + 10% 108' 58'	0.480A 0.226A 0.226A 0.480A 0.226A 0.226A	0.126v 0.059v Volt Drop 0.505v 0.222v	HORI N. Total Amps 1.214A	N-STROBE DIE: 12AW0 Total Drop 1.245v	Percent Drop 6.1033%									
N15-04 Device # E N16-01 N16-02 N16-03	0.254A 0.226A Device Draw 0.226A 0.254A 0.254A	62' 62' Distance 98' 53' 120'	68' 68' Distance + 10% 108' 58' 132'	0.480A 0.226A 0.226A 0.724A 0.988A 0.734A	0.126v 0.059v Volt Drop 0.505v 0.222v 0.374v	HORI NX Total Amps 1.214A	Total Drop 1.245v N.A.C #	Percent Drop 6.1033%									
N15-04 Device # E N16-01 N16-02 N16-03 N16-04	0.254A 0.226A Device Draw 0.226A 0.254A 0.254A 0.226A	62' 62' Distance 98' 53' 120' 44'	68' 68' Distance + 10% 108' 58' 132' 48'	0.480A 0.226A 0.226A 0.226A 0.226A 0.226A 0.226A 0.226A 0.226A 0.226A 0.226A	0.126v 0.059v Volt Drop 0.505v 0.222v 0.374v 0.090v	HORI NX Total Amps 1.214A	N-STROBE DIE: 12AW0 Total Drop 1.245v	Percent Drop 6.1033%									
N15-04 Device # E N16-01 N16-02 N16-03	0.254A 0.226A Device Draw 0.226A 0.254A 0.254A	62' 62' Distance 98' 53' 120'	68' 68' Distance + 10% 108' 58' 132'	0.480A 0.226A 0.226A 0.724A 0.988A 0.734A	0.126v 0.059v Volt Drop 0.505v 0.222v 0.374v 0.090v	Total Amps 1.214A HORN	Total Drop 1.245v N.A.C #	Percent Drop 6.1033% 16 CIRCUIT									
N15-04 Device # E N16-01 N16-02 N16-03 N16-04	0.254A 0.226A Device Draw 0.226A 0.254A 0.254A 0.226A	62' 62' Distance 98' 53' 120' 44'	68' 68' Distance + 10% 108' 58' 132' 48'	0.480A 0.226A 0.226A 0.226A 0.226A 0.226A 0.226A 0.226A 0.226A 0.226A 0.226A 0.226A	0.126v 0.059v Volt Drop 0.505v 0.222v 0.374v 0.090v	Total Amps 1.214A HORN	Total Drop 1.245v N.A.C # I-STROBE	Percent Drop 6.1033% 16 CIRCUIT									
Device # E N16-01 N16-02 N16-03 N16-04 N16-05	0.254A 0.226A 0.226A 0.226A 0.254A 0.254A 0.226A 0.254A	62' 62' Distance 98' 53' 120' 44' 50'	68' 68' Distance + 10% 108' 58' 132' 48'	0.480A 0.226A 0.226A 0.226A 0.226A 0.2988A 0.734A 0.480A 0.254A	0.126v 0.059v Volt Drop 0.505v 0.222v 0.374v 0.090v 0.054v	Total Amps 1.214A HORN	Total Drop 1.245v N.A.C # I-ST ROBE	Percent Drop 6.1033% 16 CIRCUIT GUSED									
Device # E N16-01 N16-02 N16-03 N16-04 N16-05	0.254A 0.226A 0.226A 0.226A 0.254A 0.254A 0.226A 0.254A	62' 62' Distance 98' 53' 120' 44' 50'	68' 68' Distance + 10% 108' 58' 132' 48' 55'	0.480A 0.226A 0.226A 0.226A 0.226A 0.2988A 0.734A 0.480A 0.254A	0.126v 0.059v Volt Drop 0.505v 0.222v 0.374v 0.090v 0.054v	Total Amps 1.214A HORN	Total Drop 1.245v N.A.C # I-ST ROBE	Percent Drop 6.1033% 16 CIRCUIT GUSED									
Device # D N16-01 N16-02 N16-03 N16-04 N16-05	0.254A 0.226A 0.226A 0.226A 0.254A 0.254A 0.254A 0.254A	62' 62' Distance 98' 53' 120' 44' 50'	08' 68' 68' 68' 68' 68' 68' 68' 68' 68' 6	0.480A 0.226A 0.226A 0.226A 0.224A 0.988A 0.734A 0.480A 0.254A	0.126v 0.059v Volt Drop 0.505v 0.222v 0.374v 0.090v 0.054v Volt Drop 0.991v	Total Amps 1.214A HORN	Total Drop 1.245v N.A.C # I-ST ROBE Total Drop Total Drop	Percent Drop 6.1033% 16 CIRCUIT GUSED Percent Drop									

INTERNAL POWER SUPPLY COMPONENTS	В	С	D	E	F						N21-01	0.071A	95'	105'	0.609A	0.391v	0.609A 0.9	50v 4	CEC
INTERNAL POWER SUPPLY COMPONENTS				7.555													0.005A 0.5	JUV 4.	.6562%
INTERNAL POWER SUPPLY COMPONENTS		0.0000000000000000000000000000000000000	Total Stanby	Alarm	Total Alarm						N21-02	0.071A	33'	36'	0.538A	0.120v			
	Quantity	Standby Current	(Bx C)	(B x E)	Current						N21-03 N21-04	0.071A 0.041A	28' 3'	31' 3'	0.467A 0.396A	0.088v 0.008v	NΔ	C #21	
MAIN POWER SUPPLY BOARD	Quantity		532000000000000000000000000000000000000	2000	(B x E)						N21-05	0.071A	51'	56'	0.355A	0.122v	HORN-STR		шт
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A						N21-06	0.071A	49'	54'	0.284A	0.094v	1101010111	obe crite.	72.
		Total Standby Current =	0.180A	Total Alm Current=	0.200A						N21-07	0.071A	49'	54'	0.213A	0.070v 0.047v			
		Current =	0.160A	Current-	0.200A						N21-08 N21-09	0.071A 0.071A	49' 19'	54' 21'	0.142A 0.071A				
NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	NO1	N22	N23	N24	N25	NQ6	NQ7	NQ8		N22-01 N22-02	0.121A 0.043A	326' 46'	359' 51'	0.870A	1.204v	0.870A	.748v	erce 8.56
15cd STROBE WALL	0.043A	0	1	0	0	0	0	2	0	1	N22-02 N22-03	0.054A	11'	12'	0.749A 0.706A		N.	1 6 // 22	
30cd STROBE WALL / CEILING	0.063A	0	0	0	0	0	0	1	0	1	N22-04	0.054A	16'	18'	0.652A	0.044v	DAIL COLUM	A.C #22	
15cd HORN-STROBE, WALL	0.054A	0	4	0	0	0	0		-	1	N22-05	0.054A	35'	39'	0.598A			ROBE CIF	
75cd HORN-STROBE, WALL OR 95cd STROBE, WALL	AT AND DESCRIPTION OF							1	0	1	N22-06	0.054A	51'	56'	0.544A		NOTE	12A WG US	ED
110cd HORN-STROBE, WALL	0.121A	0	1	0	0	0	0	1	1		N22-07 N22-08	0.245A 0.245A	24' 61'	26' 67'	0.490A 0.245A				_
15cd STROBE, CEILING	0.162A	0	0	0	0	0	0	4	0	+	TILL OU	OIL IDIT	01		0.2.157	0.0001			
177cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	-	Douise #	Douico Draw	Dictance	Dietance + 1	00/a A mn c	Volt Duon	Total Amps Tota	I Duon Do	
	0.226A	0	0	3	1	0	0	0	0	-	2000		101111111111111111111111111111111111111		100		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
15cd HORN-STROBE, CEILING	0.071A	8	0	0	0	0	0	0	0	-	N23-01 N23-02	0.254A 0.254A	65' 41'	72' 45'	1.694A 1.440A		1.694A 1.	660v	8.13
115cd HORN-STROBE, CEILING	0.187A	0	0	0	0	0	0	0	1	4	N23-03	0.226A	59'	65'	1.186A		NI A	C #22	
177cd HORN-STROBE, CEILING	0.254A	0	0	4	3	0	0	0	1	4	N23-04	0.254A	40'	44'	0.960A	0.163v	500 1000	.C #23	CLITT
135cd HORN-STROBE, WP, WALL OR 185cd HORN- STROBE WALL	0.0000		15.01			- 6	9923	199			N23-05	0.226A	111'	122'	0.706A		HORN-ST	.2A WG USE	
	0.245A	0	2	0	0	0	0	0	2	1	N23-06 N23-07	0.254A 0.226A	50' 49'	55' 54'	0.480A	0.102v 0.047v	TWILL I	ZA WO COL	
177cd HORN-STROBE, WP, WALL/CEILING	0.290A	0	0	0	0	0	0	0	0	1	142.5 07	U.22UA	12	J1	0.220A	0.017	1		
185cd HORN-STROBE, WP, WALL/CEILING	0.297A	0	0	0	0	0	0	1	0	-	Dourise #	Douise Depu	Distance	Dietanea I 1	00/- Amns	Volt Duon	Total Amps Tota	I Duan Da	wcon
HORN LOW FREQ	0.108A	0	0	0	0	6	7	0	0	4					11 11/6				
	NAC OKT CURRENT										N24-01 N24-02	0.254A 0.254A	314' 61'	345' 67'	0.988A 0.734A		0.988A 1.	700v	8.33
	DRAW =	0.609A	0.870A	1.694A	0.988A	0.648A	0.756A	1.269A	1.052A		N24-03	0.226A	63'	69'	0.480A		NI 4	C // 24	
									TOTAL NAC		N24-04	0.254A	60'	66'	0.254A		VIII LINE	.C #24	O
									CKT CURRENT DRAW =	7.886A							HORN-STI NOTE: 1	.2A WG USE	
			TOTAL STANDY						Digin										
TOTAL STANDBY CALCULATIONS			CALCU								Device #	Device Draw	Distance	Distance + 10	0% Amps	Volt Drop	Total Amps Total	l Drop Per	rcen
Total standby current		-	0.180A								N25-01	0.108A	239'	263'	0.648A	1.046v	0.648A 1.	298v	6.361
Multiply by 24 or 60 for standby hours needed.			24H								N25-02	0.108A	23'	25'		0.084v			
Total standby AH (Amp Hours)			4.3200 AH				1				N25-03	0.108A	23'	25'		0.067v	NI A	C #2F	
										TOTAL ALARM	N25-04 N25-05	0.108A 0.108A	23' 23'	25' 25'	0.324A 0.216A	0.050v 0.034v		.C #25	
ALARM CURRENT CALCULATIONS										CURRENT CALCU	N25-06	0.108A	23'	25'		0.017v	HORN-STI	KORE CIKO	JUIT
Total alarm current									T	8.086A									
Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of all	larm									0.0833	all to a		100			100 Branch		P 228	
Total alarm current.	JOI THE	-								0.6736 AH	Device #						p Total Amps Tot	-	
BATTERY BACKUP REQUIREMENTS										0.0730 AM	N26-01	0.108A	150'	165'		0.766v	0.756A (.916v	4.4
					T I						N26-02	0.108A	11'	12'		0.048v			
										4,9936 AH	NDE 02	0.1004	יכ	2'	0.5404	0.011.			
Sub total, add line 18+21 Multiply by 1.2 for 20% Battery Derating Factor										4.9936 AH 20%	N26-03 N26-04	0.108A 0.108A	3' 17'	3' 19'		0.011v 0.050v	N	A.C #26	1

	ALTR	ONIX	Device #	Device Draw	Distance	Distance + 1	10% Amps	olt Drop	Total Amps	Total Drop	Percent Drop	Device #	Device Drav	Distance	Distance + :	10% Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
			N21-01	0.071A	95'	105'	0.609A	0.391v	0.609A	0.950v	4.6562%	N27-01	0.063A	15'	17'	1.269A	0.129v	1.269A	1.757v	8.6145%
			N21-02	0.071A	33'	36'	0.538A	0.120v				N27-02		7'	8'	1.206A				0.02.00
			N21-03	0.071A	28'	31'	0.467A	0.088v				N27-03	0.162A	19'	21'	1.152A				
			N21-04	0.041A	3'	3'	0.396A	0.008v		N.A.C #2	1	N27-04	0.162A	62'	68'	0.990A			N.A.C #2	7
			N21-05	0.071A	51'	56'	0.355A	0.122v	HORN	-STROBE C	IRCUIT	N27-05	0.043A	50'	55'	0.828A		1	N-STROBE C	
			N21-06	0.071A	49'	54'	0.284A	0.094v				N27-06	0.043A	36'	40'	0.785A		HON	1-31 KODE C	INCUIT
			N21-07	0.071A	49'	54'	0.213A	0.070v				N27-07	0.162A	74'	81'		0.371v			
			N21-08	0.071A	49'	54'	0.142A	0.047v				N27-08	0.297A	21'	23'	0.580A				
			N21-09	0.071A	19'	21'	0.071A	0.009v				N27-09	0.121A	30'	33'	0.283A				
												N27-10		26'	29'		0.028v			
			Device #	Device Draw	Distance	Distance +	10% Amps	Volt Drop	Total Amp	s Total Dro	p Percent Drop									
			N22-01	0.121A	326'	359'	0.870A	-	0.870A	1.748v	8.5680%	-	Davisa Draw	, Dietanea	Distance + 1	00% A mnc	Volt Drop	Total Amno	Total Drop	Darsont Dron
N27	N28		N22-02	0.043A	46'	51'	0.749A		0.07 071	117 101	0.500070									
2	0		N22-03	0.054A	11'	12'	0.706A			N A C /	/22	N28-01	0.121A	70'	77'		0.497v	1.052A	1.383v	6.7798%
-	5 5		N22-04	0.054A	16'	18'	0.652A			N.A.C #		N28-02	0.187A	49'	54'	0.931A	0.308v			
1	0		N22-05	0.054A	35'	39'	0.598A		HOI	RN-STROBE	CIRCUIT	N28-03	0.254A	29'	32'	0.744A	0.146v		N A C // 2	
1	0		N22-06	0.054A	51'	56'	0.544A		1	NOTE: 12AW	G USED	N28-04	0.245A	95'	105'	0.490A	0.314v		N.A.C #28	
1	1		N22-07	0.245A	24'	26'	0.490A					N28-05	0.245A	71'	78'	0.245A	0.117v	HORN	I-STROBE CI	RCUIT
			N22-08	0.245A	61'	67'	0.245A	2				1								
4	0											<u> </u>								
0	0		Device #	Device Draw	Distance	Distance +	10% Amps	Volt Drop	Total Amps	Total Drop	Percent Drop									
0	0		N23-01	0.254A	65'	72'	1.69 4 A		1.694A	1.660v	8.1374%									
			N23-02	0.254A	41'	45'	1.440A		1.05 114	1.0007	0.137 170									
0	1		N23-03	0.226A	59'	65'	1.186A													
0	1		N23-04	0.254A	40'	44'	0.960A	0.163v		N.A.C #	23									
			N23-05	0.226A	111'	122'	0.706A	0.333v	HOR	N-STROBE (CIRCUIT									
0	2		N23-06	0.254A	50'	55'	0.480A	0.102v		OTE: 12AWG										
			N23-07	0.226A	49'	54'		0.047v												
0	0		1125 07	0.220A	1,5	31	0.220A	0.01/4												
1	0																			
0	0		Device #	Device Draw	Distance	Distance +	10% Amps	Volt Drop	Total Amps	Total Drop	Percent Drop									
			N24-01	0.254A	314'	345'	0.988A	1.317v	0.988A	1.700v	8.3356%									
			N24-02	0.254A	61'	67'	0.734A		0,500,1	11,001	0.000070									
1.269A	1.052A		N24-03	0.226A	63'	69'	0.480A													
	TOTAL NAC		N24-04	0.254A	60'	66'	0.254A			N.A.C #	24									
	CKT	7.886A	12101	O.E.S IIV		00	UIES II I	0.0051		N-STROBE (OTE: 12AWG										
	DRAW =																			
			Device #	Device Draw	Distance	Distance +	10% Amps	Volt Drop	Total Amps	Total Drop	Percent Drop									
			N25-01	0.108A	239'	263'	0.648A	1.046v	0.648A	1.298v	6.3611%									
			N25-02	0.108A	23'	25'		0.084v	0.0 10/1	2.2501	5.551175									
			N25-03	0.108A	23'	25'		0.067v												
		TOTAL	N25-04	0.108A	23'	25'		0.050v		N.A.C #2	25 I									
		ALARM	N25-05	0.108A	23'	25'	0.216A		ПОВ	N-STROBE										
		CURRENT	N25-06	0.108A	23'	25'		0.017v	HUK	N-STRUBE	LIRCUIT									
		CALCU	1425 00	0.100/1	2.0	25	0.100/1	0.017												
		8.086A																		
		0.0833	Device #	Device Draw	Distance	Distance +	10% Amns	Volt Dror	Total Amn	s Total Dro	p Percent Drop]								
		0.6736 AH										-								
			N26-01	0.108A	150'	165'		0.766v	0.756A	0.916v	4.4910%									
		4.9936 AH	N26-02	0.108A	11'	12'	0.648A					d								
		7.55.50	N26-03	0.108A	3'	3'	0.540A			NACH	126	I								
		20%	N26-04	0.108A	17'	19'	0.432A			N.A.C #		I								
		5.9923 AH	N26-05	0.108A	10'	11'	0.324A		HOF	RN-STROBE	CIRCUIT	l								
(2) BA3	TERY SUPPLIE		N26-06	0.108A	3'	3'	0.216A	- CIPUIDE CIRC				4								
(2) DA	ILKI SUPPLIE	D - 12 MMP	N26-07	0.108A	21'	23'	0.108A	0.015v												
												J								

24	RESWITCH 108 BPS#1 (5 MINTUES IN A									ALTR	RONIX
	A	В	С	D	E	F					
2007	INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (BxC)	Alarm Current (BxE)	Total Alarm Current (B x E)					
	MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A					
			Total Standby Current =	0.180A	Total Alm Current=	0.200A					
	NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N5	N6	N	NB	NĐ	NIO	NI.1	NI2-SPARE	
	15cd HORN-STROBE, WALL	0.054A	0	2	0	0	0	2	0	0	
	177cd STROBE, CEILING	0.226A	2	3	2	2	2	1	0	0	
	75cd HORN-STROBE, CEILING	0.143A	0	0	0	0	0	0	2	0	
	177cd HORN-STROBE, CEILING	0.254A	4	2	2	3	2	2	2	0	
	135cd HORN-STROBE, WP, WALL OR 185cd HORN- STROBE WALL	0.245A	0	1	0	0	0	0	0	0	
		NAC CKT CURRENT DRAW =	1.468A	1.539A	0.960A	1.214A	0.960A	0.842A	0.794A	0.000A	
										TOTAL NAC OKT CURRENT DRAW =	7.777A
	TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU							
15	Total standby current			0.180A							
	Multiply by 24 or 60 for standby hours needed.		-	24H							
	Total standby AH (Amp Hours)			4,3200 AH							
	ALARM CURRENT CALCULATIONS			The state of the s							TOTAL ALARM CURRENT CALCU
19	Total alarm current										7.977A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of	alarm									0.0833
21	Total alarm current.										0.6645 AI
	BATTERY BACKUP REQUIREMENTS										
	Sub total, add line 18+21										4.9845 Al
23	Multiply by 1.2 for 20% Battery Derating Factor						-				20%
24	Total AH (Amp Hours)										5.9814 A
									(2) BA	TIERY SUPPLI	D = 12 AM

	Device Draw																
N5-01	0.254A	58'	72'	1.468A	0.405v	1.468A	1.353v	6.6336%	N10-01	0.054A	220'	242'	0.842A	0.787v	0.842A	1.097v	5.3761%
N5-02	0.226A	65'	65'	1.214A	0.304v				N10-02	0.254A	22'	24'	0.788A	0.074v			
N5-03	0.254A	59'	69'	0.988A	0.264v		N.A.C #	5	N10-03	0.054A	56'	62'	0.534A	0.127v		NI A C #	10
N5-04	0.226A	63'	69'	0.734A	0.196v			more of the second	N10-04	0.254A	26'	29'	0.480A	0.053v		N.A.C #:	10
N5-05	0.254A	60'	66'	0.508A	0.129v	HORN	I-STROBE	CIRCUIT	N10-05	0.226A	59'	65'	0.226A	7445000000000000	HORN	N-STROBE (CIRCUIT
N5-06	0.254A	50'	55'	0.254A	0.054v	NO	TE: 12AWG	USED	1120 05	O I L L O I	- 55	00	O.L.LO.	0,007	NC	TE: 12AWG	USED
			Distance + 10%					-				Distance + 10%	-	•			
N6-01	0.054A	38'	42'	1.539A	0.248v	Total Amps 1.539A	Total Drop 1.625v	Percent Drop 7.9646%	N11-01	0.254A	404'	444'	0.794A	1.362v	Total Amps 0.794A	Total Drop 1.601v	Percent Drop 7.8483%
		38' 45'	42' 50'		0.248v			-	N11-01 N11-02	0.254A 0.254A	404' 64'	444' 70'	0.794A 0.540A	1.362v 0.147v			
N6-01	0.054A	38'	42'	1.539A	0.248v 0.284v		1.625v	7.9646%	N11-01	0.254A	404' 64' 52'	444' 70' 57'	0.794A	1.362v	0.794A	1.601v	7.8483%
N6-01 N6-02	0.054A 0.245A	38' 45'	42' 50'	1.539A 1.485A	0.248v 0.284v 0.279v	1.539A	1.625v N.A.C #	7.9646%	N11-01 N11-02	0.254A 0.254A	404' 64'	444' 70'	0.794A 0.540A	1.362v 0.147v 0.063v	0.794A	1.601v N.A.C #	7.8483%
N6-01 N6-02 N6-03	0.054A 0.245A 0.226A	38' 45' 53'	42' 50' 58'	1.539A 1.485A 1.240A	0.248v 0.284v 0.279v 0.220v	1.539A HORN	1.625v N.A.C # -STROBE 0	7.9646% 6 CIRCUIT	N11-01 N11-02 N11-03	0.254A 0.254A 0.143A	404' 64' 52'	444' 70' 57'	0.794A 0.540A 0.286A	1.362v 0.147v 0.063v	0.794A HORN	1.601v N.A.C #:	7.8483% 11 CIRCUIT
N6-01 N6-02 N6-03 N6-04	0.054A 0.245A 0.226A 0.054A	38' 45' 53' 51'	42' 50' 58' 56'	1.539A 1.485A 1.240A 1.014A	0.248v 0.284v 0.279v 0.220v 0.249v	1.539A HORN	1.625v N.A.C #	7.9646% 6 CIRCUIT	N11-01 N11-02 N11-03	0.254A 0.254A 0.143A	404' 64' 52'	444' 70' 57'	0.794A 0.540A 0.286A	1.362v 0.147v 0.063v	0.794A HORN	1.601v N.A.C #	7.8483% 11 CIRCUIT
N6-01 N6-02 N6-03 N6-04 N6-05	0.054A 0.245A 0.226A 0.054A 0.226A	38' 45' 53' 51' 61'	42' 50' 58' 56' 67'	1.539A 1.485A 1.240A 1.014A 0.960A	0.248v 0.284v 0.279v 0.220v 0.249v 0.178v	1.539A HORN	1.625v N.A.C # -STROBE 0	7.9646% 6 CIRCUIT	N11-01 N11-02 N11-03	0.254A 0.254A 0.143A	404' 64' 52'	444' 70' 57'	0.794A 0.540A 0.286A	1.362v 0.147v 0.063v	0.794A HORN	1.601v N.A.C #:	7.8483% 11 CIRCUIT

NOTE: 12AWGUSED

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N7-01	0.254A	264'	290'	0.960A	1.076v	0.960A	1.430v	7.0090%
N7-02	0.226A	56'	62'	0.706A	0.168v			
N7-03	0.254A	62'	68'	0.480A	0.126v		N.A.C #	7
N7-04	0.226A	62'	68'	0.226A	0.059v	100000000000000000000000000000000000000	the state of the state	
						HORN	I-STROBE C	CIRCUIT
						NO	TE: 12AWG	USED
Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N8-01	0.226A	118'	130'	1.214A	0.608v	1.214A	1.348v	6.6087%
N8-02	0.254A	53'	58'	0.988A	0.222v			
N8-03			132'		0.374v			

N8-03 0.254A 120' 132' 0.734A 0.374v N.A.C	#0
N8-U4 U.226A 44 48 U.480A U.U9UV	
N8-05 0.254A 50' 55' 0.254A 0.054 _V HORN-STROI	Company of the Compan
NOTE: 12A	VG USED
Davice # Davice Draw Distance Distance + 100% Arms Walt Dren Total Arms Total D	on Dorsont Dr
	14.5
N9-01 0.226A 338' 372' 0.960A 1.378v 0.960A 1.723	14.5
Device # Device Draw Distance Distance + 10% Amps Volt Drop Total Amps Total D N9-01 0.226A 338' 372' 0.960A 1.378v 0.960A 1.723 N9-02 0.254A 57' 63' 0.734A 0.178v 0.178v	14.5
N9-01 0.226A 338' 372' 0.960A 1.378v 0.960A 1.723 N9-02 0.254A 57' 63' 0.734A 0.178v N9-03 0.336A 56' 64' 0.490A 0.140v	8.4471%
N9-01 0.226A 338' 372' 0.960A 1.378v 0.960A 1.723 N9-02 0.254A 57' 63' 0.734A 0.178v	8.4471% #9

C-7 C-10 # CONTACT: REGISTERED ... C-7 C-10 CONTRACTOR NO. 820216 . EXP. 05/31/2021

DERRICK M. EMGE

/2021 -1200

M ELECTRONIC SYSTEMS, II
 6 WITHERSPOON WAY, SUITE H
 EL CAJON, CA 92020
 (619) 667-1200
 0 # 820216 | EXP. DATE 05/31/2
 CT: DERRICK EMGE @ 619-667-12

ANE 100

L		IANCE (R NOTI T DRAV		ON		A x (L/1000) x R x 2) A = CURRENT REQUIRED BY THE DEVICE L= LENGTH DISTANCE FROM DEVICE TO DEVICE
	W	la		erproof	Cei	ling		R = RESISTANCE OF WIRE PER 1000 FT.
lela		Horn/		Horn/		Horn/	LF-Hom /	12 AWG = 1.93 OHMS PER 1000FT.
g	Strobe	Strobe	Strobe	Strobe	Strabe	Strobe	Strobe	VOLTAGE DROP BASE ON PANELS WORST
	0.043	0.054	0.066	0.079	0.041	0.071		CASE VOLTAGE OF 20.4 V DC
	0.063	0.074	0.094	0.107	0.063	0.090		
	0.107	0.121	0.158	0.176	0.111	0.143	Г	METHOD OF CALCULATIONS: POINT TO POINT
	0.121	0.142	0.181	0.194	0.134	0.165		A x (L/1000) x R x 2)
d	0.148	0.162	0.202	0.212	-			A= CURRENT REQUIRED BY THE DEVICE
d			0.210	0.218	0.158	0.187		L= LENGTH DISTANCE FROM DEVICE TO DEVICE
d	0.172	0.196	0.228	0.245	-			R = RESISTANCE OF WIRE PER 1000 FT.
d			0.246	0.259	0.189	0.217		14 AWG = 3.07 OHMS PER 1000FT.
d .		-	0.281	0.290	0.226	0.254	0.266	VOLTA GE DROP BASE ON PANELS WORST
d	0.222	0.245	0.286	0.297	-			CASE VOLTAGE OF 20.4 VDC
							0.108	CASE VOLTAGE OF 20.4 VDC

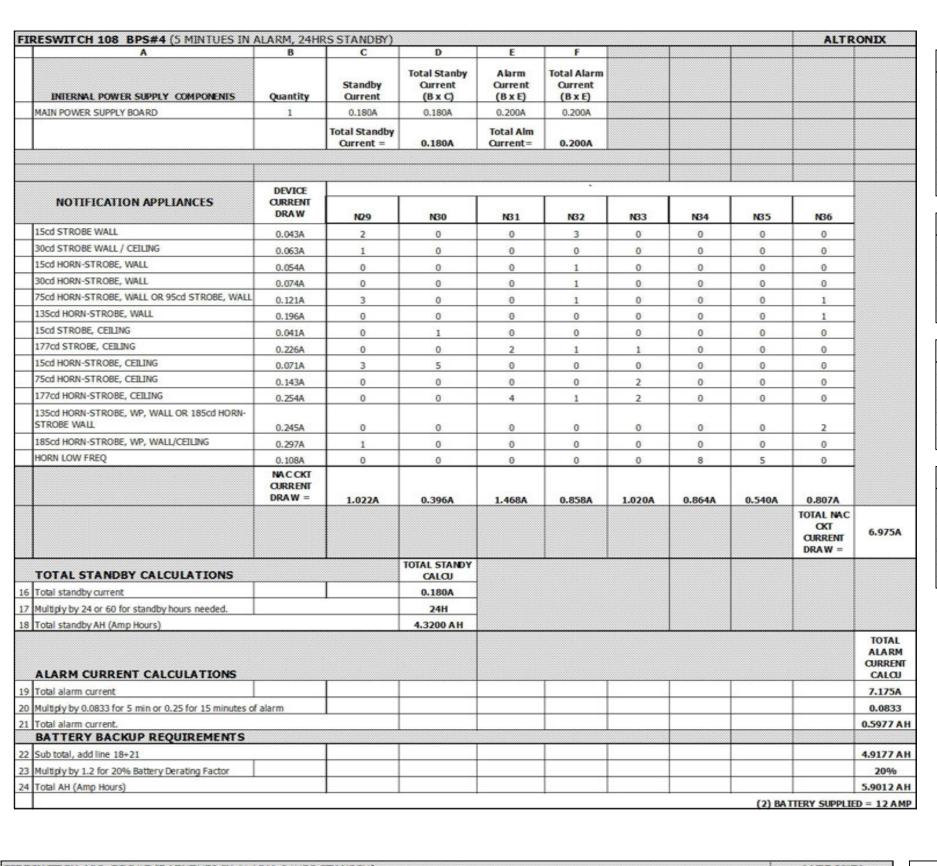
IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT.

P.O. BOX 880922 PORT SAINT LUCIE, FL 34988 Carlos Oliveras (619) 610-8637, NICET III #84003 carlos.oliveras@fuegoeng.com DESIGN: C.O. CHECKED: JE DATE: 11/16/2020 PLOT:

DESCRIPTION

SHEET TITLE: BATTERY & VOLTAGE DROP CALCULATIONS - 1 ELAN - BUILDING #1

FIRE ALARM SYSTEM N.T.S. FA-12.0



reitent Diop	Total Drop	Total Amps	Volt Drop	Amps	Distance + 10%	Distance	Device Draw	Device #	Percent Drop	otal Drop P	otal Amps T	Volt Drop T	6 Amps 1	Distance + 10%	Distance	Device Draw	Device #
8.8874%	1.813v	1.020A	1.206v	1.020A	193'	175'	0.254A	N33-01	5.4361%	1.109v	1.022A	0.207v	1.022A	33'	30'	0.043A	N29-01
01007 170	1.0101	2102071	0.274v	0.766A		53'	0.226A	N33-02				0.192v	0.979A	32'	29'	0.121A	N29-02
			0.179v	0.540A		49'	0.254A	N33-03				0.139v	0.858A	26'	24'	0.063A	N29-03
3	N.A.C #3		0.116v	0.286A		60'	0.143A	N33-04	9	I.A.C #29	N	0.242v	0.795A	50'	45'	0.121A	N29-04
	-STROBE C			0.143A	77	40'	0.143A	N33-05	RCUIT	STROBE CI	HORN-	0.086v	0.674A	21'	19'	0.297A	N29-05
rtcor i	OT NODE C	110141										0.132v	0.377A	57'	52'	0.121A	N29-06
												0.033v	0.256A	21'	19'	0.043A	N29-07
												0.027v	0.213A	21'	19'	0.071A	N29-08
													0.142A	45'	41'	0.071A	N29-09
Percent Dr	Total Drop			Amps	Distance + 10%							0.011v	0.071A	25'	23'	0.071A	N29-10
4.3194%	0.881v	0.864A	0.432v	0.864A	81'	74'	0.108A	N34-01									
			0.112v	0.756A	24'	22'	0.108A	N34-02	Percent Drop	Total Drop	Total Amps	Volt Drop	6 Amps	Distance + 10%	Distance	Device Draw	Device #
221			0.096v	0.648A	24'	22'	0.108A	N34-03	2.1743%	0.444v	0.396A		0.396A	87'	79'	0.071A	
34	N.A.C #		0.080v	0.540A	24'	22'	0.108A	N34-04	2.1/43%	U.444V	0.396A			29'	26'	0.071A 0.071A	N30-01
CIRCUIT	N-STROBE	HOR	0.064v	0.432A	24'	22'	0.108A	N34-05					0.325A 0.254A	26'	24'	0.071A 0.071A	N30-02 N30-03
			0.048v	0.324A	24'	22'	0.108A	N34-06	30	N.A.C #3		COLUMN CARLO	0.234A 0.183A	64'	58'	0.071A 0.041A	N30-03
			0.032v	0.216A	24'	22'	0.108A	N34-07					0.163A 0.142A	28'	25'	0.041A 0.071A	N30-04
			0.016v	0.108A	24'	22'	0.108A	N34-08	LIRCUIT	I-STROBE C	HORN		0.142A 0.071A	88'	80'	0.071A	N30-05
												0.0001	0.07.271			0.07.27.	
Percent Dro	Total Drop	Total Amps	Volt Drop	Amps	Distance + 10%	Distance	Device Draw	Device #	Davisant Duan	Fatal Dans F	Fatal Assaul 3	Val. Duan 3	/ A	Distance + 10%	Distance	Davisa Davis	Davidae #
2.0381%	0.416v	0.540A	0.255v	0.540A	77'	70'	0.108A	N35-01	and the second s	de la	in the same of the same of	The State of the Late of the L		to the state of th	To be a series of the series of	to 1 To 10 Common to	
			0.064v	0.432A	24'	22'	0.108A	N35-02	4.5746%	0.933v	1.468A	0.199v	1.468A	35'	32'	0.254A	N31-01
			0.048v	0.324A	24'	22'	0.108A	N35-03				0.211v	1.214A	45'	41'	0.254A	N31-02
5	N.A.C #3		0.032v	0.216A	24'	22'	0.108A	N35-04	1	N.A.C #3:	1	0.216v	0.960A	58'	53'	0.226A	N31-03
RCUIT	-STROBE C	HORN	0.016v	0.108A	24'	22'	0.108A	N35-05		ST ROBE CI		0.156v	0.734A	55'	50'	0.254A	N31-04
										E: 12AWGU		0.100v	0.480A	54'	49'	0.226A	N31-05
									SED .	Li IZAWO	1901	0.051v	0.254A	52'	47'	0.254A	N31-06
	T- t- I Day	Total Amps	Volt Drop	Amps	Distance + 10%	Distance	Device Draw	Device #	100 P.		*** W **	101 10 100			1818		
Percent Dro	iotal Drop		1.352v	0.807A	1277 - 1177 All 177 Al	248'	0.196A	N36-01	Percent Drop	Total Drop I	Total Amps	Volt Drop 1	6 Amps	Distance + 10%	Distance	Device Draw	Device #
		0.807A		0.611A		64'	0.121A	N36-02	5.1056%	1.042v	0.858A	0.104v	0.858A	20'	18'	0.043A	N32-01
Percent Dro 9.3321%	1.904v	0.807A			/ U	V I	0.245A	N36-03				0.028v	0.815A	6'	5'	0.054A	N32-02
		0.807A	0.264v		75'	68'		1400 00					0.764 4	28'	25'	0.121A	N32-03
9.3321%	1.904v		0.264v 0.225v	0.490A		68' 38'		N36-04				0.128v	0.761A	/ED.E.			100 01
9.3321%	1.904v N.A.C #3		0.264v 0.225v			68' 38'	0.245A 0.245A	N36-04	2	N.A.C #32	ľ	0.128v 0.112v	0.640A	29'	26'	0.043A	N32-04
9.3321%	1.904v		0.264v 0.225v	0.490A				N36-04		N.A.C #32 STROBE CI		11100122-0-01012		29' 21'	19'	0.043A 0.043A	N32-04 N32-05
9.3321%	1.904v N.A.C #3		0.264v 0.225v	0.490A				N36-04				0.112v	0.640A	29' 21' 98'	19' 89'		
9.3321%	1.904v N.A.C #3		0.264v 0.225v	0.490A				N36-04				0.112v 0.077v	0.640A 0.597A	29' 21'	19'	0.043A	N32-05

SWITCH 108 BPS#5 (5 MINTUES IN A				-	F				ALTR	OHIX
A	В	Standby	D Total Stanby Current	Alarm Current	Total Alarm Current					
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Current	(BxC)	(B x E)	(BxE)					
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A					
		Total Standby Current =	0.180A	Total Alm Current=	0.200A					
NOTIFICATION APPLIANCES	DEVICE									
	DRAW	NB7	NB8	NB9	N40	N41	N42	N43	N44-SPARE	
75cd HORN-STROBE, WALL OR 95cd STROBE, WALL	0.121A	1	0	0	0	0	0	0	0	
15cd STROBE, CEILING	0.041A	2	0	0	0	0	0	0	0	
177cd STROBE, CEILING	0.226A	0	0	0	0	1	0	0	0	
15cd HORN-STROBE, CELING	0.071A	6	0	0	0	0	0	0	0	
177cd HORN-STROBE, CEILING	0.254A	0	0	0	0	3	3	0	0	
HORNLOW FREQ	0.108A NAC OKT	0	10	9	4	0	0	4	0	
	CURRENT DRAW =	0.629A	1.080A	0.972A	0.432A	0.988A	0.762A	0.432A	0.000A	
		WUZM	Loods	W.37 ZK	U-1328	USOON	u.ruzk	UNSER	TOTAL NA C OKT CURRENT DRAW =	5.295A
TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU							
Total standby current			0.180A							
Multiply by 24 or 60 for standby hours needed.			24H							
Total standby AH (Amp Hours)			4.3200 AH							
ALARM CURRENT CALCULATIONS										TOTAL ALARM CURRENT CALCU
Total alarm current										5.495A
Multiply by 0.0833 for 5 min or 0.25 for 15 minutes of	alarm									0.0833
Total alarm current. BATTERY BACKUP REQUIREMENTS										0.4577 AH
Sub total, add line 18+21										4.7777 AH
										20%
Multiply by 1.2 for 20% Battery Derating Factor										

	Device Draw			•	•											Total Drop	
37-01	0.121A	22'	24'	0.629A	0.093v	0.629A	0.866v	4.2459%	N42-01	0.254A	226'	249'	0.762A		0.762A	1.479v	7.2489
37-02	0.071A	14'	15'	0.508A					N42-02	0.254A	61'	67'	0.508A	0.209v			
V37-03	0.041A	52'	57'	0.437A					N42-03	0.254A	62'	68'	0.254A	0.106v			
N37-04	0.071A	40'	44'	0.396A			N.A.C #3	3/								N.A.C #	42
N37-05	0.071A	83'	91'	0.325A		HORN	-STROBE (CIRCUIT							HOR	N-STROBE	CIRCUIT
N37-06	0.071A	83'	91'	0.254A	-												
N37-07	0.071A	72'	79'	0.183A													
N37-08	0.041A	27'	30'	0.112A													
N37-09	0.071A	63'	69'	0.071A	0.030v				Device #	Device Draw	Distance I	Distance + 10%	Amns \	Volt Dron	Total Amos	Total Dron	Percent D
		D					T . 15		N42.01	0.108A	325'	THE PART OF THE PARTY OF THE PA	0.432A	- 14.000000000000000000000000000000000000	0.432A	0.627v	3.07519
evice #	Device Draw	Distance	Distance +	10% Amps	Volt Drop	lotal Amps	s Total Dro	p Percent Drop	N43-02	0.108A	7'		0.324A		0.1527	0.0271	5.0751
N38-01	0.108A	45'	50'	1.080A	0.328v	1.080A	0.718v	3.5220%	N43-03	0.108A	20'		0.216A		-		
N38-02	0.108A	11'	12'	0.972	0.072v				N43-04	0.108A	7		0.108A			N.A.C #4	3
N38-03	0.108A	3'	3'	0.8644	0.018v				1			-				-STROBE C	
N38-04	0.108A	23'	25'	0.756A	0.117v		N.A.C #	£38							HOIN	STROBLE	INCOLL
N38-05	0.108A	3'	3'	0.6484	0.013v	HOR	N-STROBE	CIRCUIT									
N38-06	0.108A	26'	29'	0.540A	0.095v		., 0,,,,	01110011							-		
N38-07	0.108A	3'	3'	0.432A	0.009v												
N38-08	0.108A	22'	24'	0.324A	0.048v												
N38-09	0.108A	11'	12'	0.216	0.016v												
N38-10	0.108A	3'	3'	0.1084	0.000												
N39-01 N39-02	0.108A 0.108A	167' 3'	Distance + 184' 3'	10% Amps 0.972A 0.864A	Volt Drop 1.096v 0.018v	Total Amps 0.972A	Total Drop 1.399v	Percent Drop 6.8581%									
N39-01	0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7'	Distance + 184' 3' 11' 25' 8'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A	Volt Drop 1.096v 0.018v 0.051v 0.101v 0.026v	0.972A		6.8581%									
N39-01 N39-02 N39-03 N39-04	0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20'	Distance + 184' 3' 11' 25' 8' 22'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A	1.096v 0.018v 0.051v 0.101v 0.026v 0.058v	0.972A	1.399v N.A.C #	6.8581%									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06 N39-07	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7'	Distance + 184' 3' 11' 25' 8' 22' 8'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A	1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v	0.972A	1.399v N.A.C #	6.8581%									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7' 20'	Distance + 184' 3' 11' 25' 8' 22' 8' 22'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A 0.216A	1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v 0.029v	0.972A	1.399v N.A.C #	6.8581%									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06 N39-07	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7'	Distance + 184' 3' 11' 25' 8' 22' 8'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A 0.216A	1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v	0.972A	1.399v N.A.C #	6.8581%									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06 N39-07 N39-08 N39-09	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7' 20' 7'	Distance + 184' 3' 11' 25' 8' 22' 8' 22' 8'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A 0.216A 0.108A	1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v 0.029v 0.005v	0.972A	1.399v N.A.C # I-STROBE	6.8581%									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06 N39-07 N39-08 N39-09	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7' 20' 7'	Distance + 184' 3' 11' 25' 8' 22' 8' 22' 8'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A 0.216A 0.108A	Volt Drop 1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v 0.015v 0.029v 0.005v	0.972A	1.399v N.A.C # I-STROBE	6.8581% 39 CIRCUIT									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06 N39-07 N39-08 N39-09	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7' 20' 7'	Distance + 184' 3' 11' 25' 8' 22' 8' 22' 8'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A 0.216A 0.108A	1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v 0.029v 0.005v Volt Drop 0.814v	0.972A HORN Total Amps	1.399v N.A.C # I-STROBE (6.8581% 39 CIRCUIT Percent Drop									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06 N39-07 N39-08 N39-09	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7' 20' 7'	Distance + 184' 3' 11' 25' 8' 22' 8' 22' 8' Distance +	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.216A 0.108A 10% Amps 0.432A	1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v 0.029v 0.005v Volt Drop 0.814v 0.015v	0.972A HORN Total Amps 0.432A	1.399v N.A.C # I-STROBE (Total Drop 0.864v	6.8581% 39 CIRCUIT Percent Drop 4.2336%									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06 N39-07 N39-08 N39-09	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7' 20' 7'	Distance + 184' 3' 11' 25' 8' 22' 8' 22' 8' Distance +	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.216A 0.108A 10% Amps 0.432A 0.432A 0.324A	Volt Drop 1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v 0.029v 0.005v Volt Drop 0.814v 0.015v 0.029v	0.972A HORN Total Amps 0.432A	1.399v N.A.C # I-STROBE (6.8581% 39 CIRCUIT Percent Drop 4.2336%									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06 N39-07 N39-09 Pevice # N40-01 N40-02 N40-03	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7' 20' 7' Distance 279' 7' 20'	Distance + 184' 3' 11' 25' 8' 22' 8' 22' 8' Distance + 307' 8' 22'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.216A 0.108A 10% Amps 0.432A 0.234A 0.216A	Volt Drop 1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v 0.029v 0.005v Volt Drop 0.814v 0.015v 0.029v	HORN Total Amps 0.432A	1.399v N.A.C # I-STROBE (Total Drop 0.864v	6.8581% 39 CIRCUIT Percent Drop 4.2336%									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06 N39-07 N39-09 Pevice # N40-01 N40-02 N40-03	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7' 20' 7' Distance 279' 7' 20'	Distance + 184' 3' 11' 25' 8' 22' 8' 22' 8' Distance + 307' 8' 22'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.216A 0.108A 10% Amps 0.432A 0.234A 0.216A	Volt Drop 1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v 0.029v 0.005v Volt Drop 0.814v 0.015v 0.029v 0.015v	HORN Total Amps 0.432A	1.399v N.A.C # I-STROBE (Total Drop 0.864v N.A.C #4	6.8581% 39 CIRCUIT Percent Drop 4.2336%									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06 N39-07 N39-09 Pevice # N40-01 N40-02 N40-03	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7' 20' 7' Distance 279' 7' 20'	Distance + 184' 3' 11' 25' 8' 22' 8' 22' 8' Distance + 307' 8' 22'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.216A 0.108A 10% Amps 0.432A 0.234A 0.216A	Volt Drop 1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v 0.029v 0.005v Volt Drop 0.814v 0.015v 0.029v 0.015v	HORN Total Amps 0.432A	1.399v N.A.C # I-STROBE (Total Drop 0.864v N.A.C #4	6.8581% 39 CIRCUIT Percent Drop 4.2336%									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06 N39-07 N39-09 Pevice # N40-01 N40-02 N40-03 N40-04	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7' 20' 7' Distance 279' 7' 20' 7'	Distance + 184' 3' 11' 25' 8' 22' 8' 22' 8' Distance + 307' 8' 22' 8'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.216A 0.108A 10% Amps 0.432A 0.216A 0.108A	Volt Drop 1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v 0.029v 0.005v Volt Drop 0.814v 0.015v 0.029v 0.005v	Total Amps 0.432A HORN	1.399v N.A.C # I-STROBE (Total Drop 0.864v N.A.C # -STROBE (6.8581% 39 CIRCUIT Percent Drop 4.2336%									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06 N39-07 N39-09 Pevice # N40-01 N40-02 N40-03 N40-04	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7' 20' 7' Distance 279' 7' 20' 7'	Distance + 184' 3' 11' 25' 8' 22' 8' 22' 8' Distance + 307' 8' 22' 8'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.216A 0.108A 10% Amps 0.432A 0.216A 0.108A	Volt Drop 1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v 0.029v 0.005v Volt Drop 0.814v 0.015v 0.029v 0.005v	Total Amps 0.432A HORN	1.399v N.A.C # I-STROBE (Total Drop 0.864v N.A.C # -STROBE (6.8581% 39 CIRCUIT Percent Drop 4.2336% 40 CIRCUIT									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06 N39-07 N39-08 N39-09 evice # N40-01 N40-02 N40-03 N40-04	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7' 20' 7' Distance 279' 7' 20' 7'	Distance + 184' 3' 11' 25' 8' 22' 8' Distance + 307' 8' 22' 8'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.216A 0.108A 10% Amps 0.432A 0.216A 0.108A	Volt Drop 1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v 0.029v 0.005v Volt Drop 0.814v 0.015v 0.029v 0.005v Volt Drop 0.05v	0.972A HORN Total Amps 0.432A HORN Total Amps	1.399v N.A.C # I-STROBE (Total Drop 0.864v N.A.C # -STROBE (Total Drop	6.8581% 39 CIRCUIT Percent Drop 4.2336% 40 CIRCUIT Percent Drop									
N39-01 N39-02 N39-03 N39-04 N39-05 N39-06 N39-07 N39-08 N39-09 evice # N40-01 N40-02 N40-03 N40-04	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	167' 3' 10' 23' 7' 20' 7' 20' 7' Distance 279' 7' 20' 7'	Distance + 184' 3' 11' 25' 8' 22' 8' 22' 8' Distance + 307' 8' 22' 8' Distance + 157'	10% Amps 0.972A 0.864A 0.756A 0.648A 0.540A 0.324A 0.216A 0.108A 10% Amps 0.432A 0.216A 0.108A	Volt Drop 1.096v 0.018v 0.051v 0.101v 0.026v 0.058v 0.015v 0.029v 0.005v Volt Drop 0.814v 0.015v 0.029v 0.005v Volt Drop 0.954v 0.257v	Total Amps 0.432A HORN Total Amps 0.988A	1.399v N.A.C # I-STROBE (Total Drop 0.864v N.A.C # -STROBE (Total Drop	6.8581% 39 CIRCUIT Percent Drop 4.2336% 40 CIRCUIT Percent Drop 7.1584%									

HORN-STROBE CIRCUIT

RESWITCH 108 BPS#6 (5 MINTUES IN	I ALARM, 24H	RS STANDBY)							ALTRO	ONIX	Device #	Device Dra	w Distance	Distance + 1	LO% Amp	s Volt Drop	p Total Amp	s Total Drop	Percent Drop	Device #	Device Dra	w Distance	Distance +	10% Amp	Volt Drop	Total Amps	Total Drop	Percent f
A	В	С	D	E	F						N45-01	0.071A	22'	24'	1.127	A 0.167v	1.127A	1.867v	9.1523%	N50-01	0.108A	74'	81'	0.864	0.432v	0.864A	0.727v	3 561
			Total Stanby	Alarm	Total Alarm				1		N45-02	0.071A	68'	75'	1.056	A 0.485v				N50-02	0.108A	6'	7'		0.031v	0.00 111	OI) E/ T	0100.
		Standby	Current	Current	Current						N45-03	0.071A	36'	40'		A 0.239v				N50-03	0.108A	19'	21'	0.648	0.083v			-
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Current	(BxC)	(BxE)	(BxE)						N45-04	0.071A	13'	14'		A 0.080v		N.A.C #4		N50-04	0.108A	8'	9'	0.540	0.029v		N.A.C #	50
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A						N45-05	0.071A	43'	47'		A 0.245v	HOR	N-STROBE (CIRCUIT	N50-05	0.108A	23'	25'	0.432	0.067v		I-STROBE	
PART FOREN SOFFEI BOARD	-	0.1004	0.1000	0.2004	0.200K						N45-06 N45-07	0.297A 0.071A	43' 42'	47' 46'	0.772	A 0.224v A 0.135v				N50-06	0.108A	17'	19'	0.324	0.037v		and the second second	
		Total Standby		Total Alm							N45-07	0.071A 0.041A	25'	28'	0.473					N50-07	0.108A	31'	34'		0.045v			
		Current =	0.180A	Current=	0.200A				1		N45-09	0.071A	14'	15'	0.363	A100				N50-08	0.108A	3'	3'	0.108	0.002v			
											N45-10	0.071A	34'	37'	0.292	A 0.067v												
									1 1		N45-11	0.079A	39'	43'		A 0.058v				Device #	Device Drav	w Distance	Distance +	10% Amps	Volt Drop	Total Amps 1	otal Drop	Percent I
	DEVICE							-			N45-12	0.071A	44'	48' 48'		A 0.042v				N51-01	0.108A	186'	205'	0.6484	0.512v	0.648A	0.636v	3.12019
NOTIFICATION APPLIANCES	CURRENT										N45-13	0.071A	44'	48	0.0/1	A 0.021v				N51-02	0.108A	3'	3'		0.011v	0.010/1	0.0501	3,1201
	DRAW	N45	N46	N47	N48	N49	N50	N51	N52											N51-03	0.108A	17'	19'	0.432A	0.050v			
15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0		Device #	Device Dra	w Distance	Distance + 1	LO% Amp	s Volt Drop	Total Amps	s Total Drop	Percent Drop	N51-04	0.108A	24'	26'	0.324A	0.053v	ľ	N.A.C #5	1
15cd HORN-STROBE, CEILING		1	0	0	-	-	-	-			N46-01	0.108A	43'	47'	0.864	A 0.251v	0.864A	0.589v	2.8891%	N51-05	0.108A	3'	3'		0.004v	HORN-	STROBE CI	RCUIT
	0.071A	10	0	0	0	0	0	0	0		N46-02	0.108A	30'	33'		A 0.153v				N51-06	0.108A	10'	11'	0.108A	0.007v			1.212.7.22
15cd HORN-STROBE, WP, WALL/CEILING	0.079A	1	0	0	0	0	0	0	0		N46-03	0.108A	5'	6'	0.648	A 0.022v												
185cd HORN-STROBE, WP, WALL/CEILING	0.297A	1	0	0	0	0	0	0	0		N46-04	0.108A	17'	19'	0.540	A 0.062v		N.A.C #4	46									
HORN LOW FREQ	0.108A	0			6	6		6	11		N46-05	0.108A	23'	25'		A 0.067v	HOR	N-STROBE C	CIRCUIT	Device #	Device Dra	w Distance	Distance +	10% Amps	Volt Drop	Total Amps T	otal Drop P	ercent D
	NAC OKT	· ·	0		-				11		N46-06	0.108A	3'	3'		A 0.007v	<u> </u>	_		N52-01	0.108A	37'	41'	1.188A	0.297v	1.188A	0.790v	3.87249
	CURRENT										N46-07	0.108A 0.108A	17'	19'		A 0.025v A 0.003v				N52-02	0.108A	16'	18'		0.117v	2.1200.1	0.750	5.0721
	DRAW =	1.127A	0.864A	0.864A	0.648A	0.648A	0.864A	0.648A	1.188A		N46-08	U.108A	4	4	0.108	A 0.003V				N52-03	0.108A	5'	6'	0.972A	0.033v			
		LIZIA	U.OO-EA	UJOU-IA	U.OHOM	U.O'ROM	0.00-84	U.O'ROM	TOTAL NAC											N52-04	0.108A	16'	18'		0.093v	N	I.A.C #52	<u> </u>
									CKT		Device #	Device Dra	w Distance	Distance + 1	10% Amp	s Volt Drop	p Total Amp	s Total Drop	Percent Drop	N52-05	0.108A	5'	6'		0.026v	HORN-S	STROBE CI	RCUIT
									CURRENT	6.851A	N47-01	0.108A	119'	131'	0.864	A 0.694v	0.864A	0.903v	4.4267%	N52-06 N52-07	0.108A 0.108A	14' 5'	15'	0.648A	0.061v 0.018v			
									DRAW =		N47-02	0.108A	3'	3'	0.756	A 0.015v				N52-07 N52-08	0.108A 0.108A	35'	39'		0.018V 0.102V			
	1	•	TOTAL STANDY								N47-03	0.108A	19'	21'		A 0.083v			2.2	N52-09	0.108A	12'	13'		0.026v			
TOTAL STANDBY CALCULATIONS			CALCU								N47-04	0.108A	10'	11'		A 0.036v		N.A.C #		N52-10	0.108A	5'	6'		0.007v			
Total standby current			0.180A						1 1		N47-05	0.108A	3'	3'		A 0.009v	HOR	RN-STROBE (CIRCUIT	N52-11	0.108A	13'	14'	0.108A	0.009v			
			24H								N47-06	0.108A	18'	20' 18'		A 0.039v												
Multiply by 24 or 60 for standby hours needed.				1							N47-07 N47-08	0.108A 0.108A	16'	18		A 0.023v A 0.002v												
Total standby AH (Amp Hours)			4.3200 AH				L	1			1447-00	U.100A	3	3	0.100	A 0.002V												
										TOTAL			1.0.1		1221	10.00		1.13		1								
										ALARM	Device #	Device Dra	w Distance	Distance + 1	LO% Amp	s Volt Dro	op Total Am	ps Total Drop	Percent Drop									
ALARM CURRENT CALCULATIONS										CALCU	N48-01	0.108A	227'	250'	0.648	3A 0.993v	0.648A	1.108v	5.4314%]								
T	T	T	T		T	T	T	T	T		N48-02	0.108A	3'	3'		0.011v												
Total alarm current	1	-	-		-			-	1	7.051A	N48-03	0.108A	18'	20'		2A 0.053v		NI A C "	440									
Multiply by 0.0833 for 5 min or 0.25 for 15 minutes	of alarm				-			-		0.0833	N48-04	0.108A	8'	9'		1A 0.018v		N.A.C #										
Total alarm current.										0.5873 AH	N48-05 N48-06	0.108A 0.108A	19' 8'	21' o'	0.216	5A 0.028v 3A 0.006v		RN-STROBE	CIRCUIT									
BATTERY BACKUP REQUIREMENTS											1110-00	0.100A	U	,	0.100	J. 0.000V	*			1								
Sub total, add line 18+21										4.9073 AH									T	J								
8 Multiply by 1.2 for 20% Battery Denating Factor										20%				D														
														The state of the s					Percent Drop									
Total AH (Amp Hours)										5.8888 AH	N49-01	0.108A	274'	301'		A 1.199v	0.648A	1.310v	6.4219%									
1								(2) BA	TIERY SUPPLIED	D = 12 AMP	N49-02 N49-03	0.108A	3'	3		A 0.011v												
											N49-03	0.108A	17'	19'	0.432	A 0.050v		NAC #	40									

		1000000	12 14/11/19						And the second second	The second secon	
N45-02	0.071A	68'	75'	1.056A	0.485v				N50-02	0.108A	6'
N45-03	0.071A	36'	40'	0.985A	0.239v				N50-03	0.108A	19'
N45-04	0.071A	13'	14'	0.914A	0.080v		N.A.C #4	1 5	N50-04	0.108A	8'
N45-05	0.071A	43'	47'	0.843A	0.245v	HORN	I-STROBE C	CIRCUIT	N50-05	0.108A	23'
N45-06	0.297A	43'	47'	0.772A	0.224v	0.00			N50-06	0.108A	17'
N45-07	0.071A	42'	46'	0.475A	0.135v				N50-07	0.108A	31'
N45-08	0.041A	25'	28'	0.404A	0.068v						3'
N45-09	0.071A	14'	15'	0.363A	0.034v				N50-08	0.108A	3
N45-10	0.071A	34'	37'	0.292A	0.067v						
N45-11	0.079A	39'	43'	0.221A	0.058v				Device #	Device Draw	Dictan
N45-12	0.071A	44'	48'	0.142A	0.042v				1211 2011 1011		1.11111111111111
N45-13	0.071A	44'	48'	0.071A	0.021v				N51-01	0.108A	186'
									N51-02	0.108A	3'
									N51-03	0.108A	17'
Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	N51-04	0.108A	24'
N46-01	0.108A	43'	47'	0.864A	0.251v	0.864A	0.589v	2.8891%	N51-05	0.108A	3'
N46-02	0.108A	30'	33'	0.756A	0.153v	0.00 IA	0.505	2.003170	N51-06	0.108A	10'
N46-03	0.108A	5'	6'								
				0.648A	0.022v		NAC #	16			
N46-04	0.108A	17'	19'	0.540A	0.062v		N.A.C #4				11111
N46-05	0.108A	23'	25'	0.432A	0.067v	HORN	-STROBE C	CIRCUIT	Device #	Device Draw	Distanc
N46-06	0.108A	3'	3'	0.324A	0.007v				N52-01	0.108A	37'
N46-07	0.108A	17'	19'	0.216A	0.025v				N52-02	0.108A	16'
N46-08	0.108A	4'	4'	0.108A	0.003v				N52-03	0.108A	5'
									N52-04	0.108A	16'
N 4	D	D:	D: 1 100/		1/- k D	T-1-1 A	T-1-1D	D	N52-05	0.108A	5'
Device #	Device Draw	Distance	Distance + 10%	Amps	VOIL Drop	lotal Amps	lotal Drop	Percent Drop	N52-06	0.108A	14'
N47-01	0.108A	119'	131'	0.864A	0.694v	0.864A	0.903v	4.4267%	N52-00	0.108A 0.108A	5'
N47-02	0.108A	3'	3'	0.756A	0.015v				N52-07	0.108A 0.108A	35'
N47-03	0.108A	19'	21'	0.648A	0.083v				N52-08	0.108A 0.108A	12'
N47-04	0.108A	10'	11'	0.540A			N.A.C #4	47	N52-10	0.108A	5'
N47-05	0.108A	3'	3'	0.432A			I-STROBE (13'
N47-06	0.108A	18'	20'	0.324A		HOKI	-31 NODE (LINCUIT	N52-11	0.108A	15
N47-07	0.108A	16'	18'	0.216A							
N47-08	0.100A 0.108A	3'	3'	0.108A							
1417-00	0.100A	٥	3	0.100A	0.0024						
Device #	Device Draw	Distance	Distance + 10%	Amns	Volt Dror	Total Amns	s Total Drog	Percent Dron			
				100	-	and the second			I		
N48-01	0.108A	227'	250'	0.648A	CONTRACTOR CONTRACTOR	0.648A	1.108v	5.4314%	I		
N48-02	0.108A	3'	3'	0.540A					I		
N48-03	0.108A	18'	20'	0.432A		1			I		
N48-04	0.108A	8'	9'	0.324A			N.A.C #	48	I		
N48-05	0.108A	19'	21'	0.216A	0.028v	HOR	N-STROBE	CIRCUIT	I		
N48-06	0.108A	8'	9'	0.108A	0.006v			-			
Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop			
	0.108A	274'	301'	0.648A	1.199v	0.648A	1.310v	6.4219%			
N49-01		3'	3'	0.540A	0.011v						
N49-01 N49-02	0.108A		100		0.050v						
N49-02		17'	19'	114374							
N49-02 N49-03	0.108A	17' 8'	19' 9'	0.432A 0.324A			N.A.C #4	19			
N49-02 N49-03 N49-04	0.108A 0.108A	8'	9'	0.324A	0.018v		N.A.C #4	le Conservation and			
N49-02 N49-03	0.108A						N.A.C #4 I-STROBE C	le Conservation and			

	000000000000000000000000000000000000000	N45-03	0.0/1A	36	40	0.985A	0.2390			-
		N45-04	0.071A	13'	14'	0.914A	0.080v		N.A.C #4	15
		N45-05	0.071A	43'	47'	0.843A	0.245v	HORN	I-STROBE C	CIRCUIT
		N45-06	0.297A	43'	47'	0.772A	0.224v	100-40-5000-00		
		N45-07	0.071A	42'	46'	0.475A	0.135v			
		N45-08	0.041A	25'	28'	0.404A	0.068v			
		N45-09	0.071A	14'	15'	0.363A	0.034v			
		N45-10	0.071A	34'	37'	0.292A	0.067v			
		N45-11	0.079A	39'	43'	0.221A	0.058v			
		N45-12	0.071A	44'	48'	0.142A	0.042v			
		N45-13	0.071A	44'	48'	0.071A	0.021v			
					Distance + 10%	-	-			F/
		N46-01	0.108A	43'	47'	0.864A	0.251v	0.864A	0.589v	2.8891%
		N46-02	0.108A	30'	33'	0.756A	0.153v			
		N46-03	0.108A	5'	6'	0.648A	0.022v			
		N46-04	0.108A	17'	19'	0.540A	0.062v		N.A.C #4	l6
		N46-05	0.108A	23'		0.432A	0.067v		-STROBE C	
		N46-06	0.108A	3'		0.324A	0.007v	HOISE	JI NODE C	INCOL
		N46-07	0.108A	17'		0.216A	0.025v			
		N46-08	0.108A	4'		0.108A	0.003v			
		1110 00	0.100/1	•	•	0.100/1	0.0054			
		Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
6	.851A	N47-01	0.108A	119'	131'	0.864A	0.694v	0.864A	0.903v	4.4267%
		N47-02	0.108A	3'	3'	0.756A	0.015v			
		N47-03	0.108A	19'	21'	0.648A	0.083v			
		N47-04	0.108A	10'	11'	0.540A	0.036v		N.A.C #4	17
		N47-05	0.108A	3'	3'	0.432A	0.009v		N-STROBE (
		N47-06	0.108A	18'	20'	0.324A	0.039v	HOKI	-STRODE C	CIRCUIT
		N47-07	0.108A	16'	18'	0.216A	0.023v			
		N47-07	0.108A 0.108A	3'	3'	0.210A 0.108A	0.023v			
		IVH7-00	U.100A	3	3	U.100A	0.0020			
	TOTAL						200 100 100		www.	
	ALARM	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	5 Total Drop	Percent Drop
C	URRENT					1	-	and the second		
		N48-01	0.108A	227'	250'	0.648A	0.993v	0.648A	1.108v	5.4314%
	CALCU	N48-01 N48-02	0.108A 0.108A	227' 3'	250' 3'	0.648A 0.540A	0.993v 0.011v	and the second		
(CURRENT CALCU 7.051A	N48-01 N48-02 N48-03	0.108A 0.108A 0.108A	227' 3' 18'	250' 3' 20'	0.648A 0.540A 0.432A	0.993v 0.011v 0.053v	and the second	1.108v	5.4314%
0	URRENI CALCU 7.051A	N48-01 N48-02 N48-03 N48-04	0.108A 0.108A 0.108A 0.108A	227' 3' 18' 8'	250' 3' 20' 9'	0.648A 0.540A 0.432A 0.324A	0.993v 0.011v 0.053v 0.018v	0.648A	1.108v N.A.C #	5.4314%
7,1	RRENT ALCU 051A 0833	N48-01 N48-02 N48-03 N48-04 N48-05	0.108A 0.108A 0.108A	227' 3' 18'	250' 3' 20'	0.648A 0.540A 0.432A 0.324A 0.216A	0.993v 0.011v 0.053v 0.018v 0.028v	0.648A	1.108v	5.4314%
(7.051A 0.0833	N48-01 N48-02 N48-03 N48-04	0.108A 0.108A 0.108A 0.108A 0.108A	227' 3' 18' 8' 19'	250' 3' 20' 9' 21'	0.648A 0.540A 0.432A 0.324A	0.993v 0.011v 0.053v 0.018v 0.028v	0.648A	1.108v N.A.C #	5.4314%
0.	OURRENT CALCU 7.051A 0.0833 5873 AH	N48-01 N48-02 N48-03 N48-04 N48-05	0.108A 0.108A 0.108A 0.108A 0.108A	227' 3' 18' 8' 19'	250' 3' 20' 9' 21'	0.648A 0.540A 0.432A 0.324A 0.216A	0.993v 0.011v 0.053v 0.018v 0.028v	0.648A	1.108v N.A.C #	5.4314%
0.4.	URRENT CALCU 7.051A 0.0833 5873 AH 9073 AH 20%	N48-01 N48-02 N48-03 N48-04 N48-05 N48-06	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	227' 3' 18' 8' 19'	250' 3' 20' 9' 21'	0.648A 0.540A 0.432A 0.324A 0.216A 0.108A	0.993v 0.011v 0.053v 0.018v 0.028v 0.006v	0.648A HOR	1.108v N.A.C # N-ST ROBE	5.4314% 48 CIRCUIT
0.4.	URRENT CALCU 7.051A 0.0833 5873 AH 9073 AH 20%	N48-01 N48-02 N48-03 N48-04 N48-05 N48-06 Device #	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A Device Draw 0.108A	227' 3' 18' 8' 19' 8' Distance	250' 3' 20' 9' 21' 9' Distance + 10%	0.648A 0.540A 0.432A 0.324A 0.216A 0.108A Amps 0.648A	0.993v 0.011v 0.053v 0.018v 0.028v 0.006v Volt Drop 1.199v	0.648A HOR	1.108v N.A.C # N-ST ROBE	5.4314% 48 CIRCUIT
0.	OURRENT CALCU 7.051A 0.0833 5873 AH 9073 AH 20%	N48-01 N48-02 N48-03 N48-04 N48-05 N48-06 Device # N49-01 N49-02	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A Device Draw 0.108A 0.108A	227' 3' 18' 8' 19' 8' Distance 274' 3'	250' 3' 20' 9' 21' 9' Distance + 10% 301' 3'	0.648A 0.540A 0.432A 0.324A 0.216A 0.108A Amps 0.648A 0.540A	0.993v 0.011v 0.053v 0.018v 0.028v 0.006v Volt Drop 1.199v 0.011v	0.648A HOR Total Amps	N.A.C #N-STROBE	5.4314% 48 CIRCUIT Percent Drop
0	CURRENT CALCU 7.051A 0.0833 LS873 AH LS9073 AH 20%	N48-01 N48-02 N48-03 N48-04 N48-05 N48-06 Device # N49-01 N49-02 N49-03	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A Device Draw 0.108A 0.108A 0.108A	227' 3' 18' 8' 19' 8' Distance 274' 3' 17'	250' 3' 20' 9' 21' 9' Distance + 10% 301' 3' 19'	0.648A 0.540A 0.432A 0.324A 0.216A 0.108A Amps 0.648A 0.540A 0.432A	0.993v 0.011v 0.053v 0.018v 0.028v 0.006v Volt Drop 1.199v 0.011v 0.050v	0.648A HOR Total Amps 0.648A	1.108v N.A.C # N-STROBE Total Drop 1.310v	5.4314% 48 CIRCUIT Percent Drop 6.4219%
0	CURRENT CALCU 7.051A 0.0833 0.5873 AH 0.9073 AH 20% 6.8888 AH	N48-01 N48-02 N48-03 N48-04 N48-05 N48-06 Device # N49-01 N49-02 N49-03 N49-04	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	227' 3' 18' 8' 19' 8' Distance 274' 3' 17' 8'	250' 3' 20' 9' 21' 9' Distance + 10% 301' 3' 19' 9'	0.648A 0.540A 0.432A 0.324A 0.216A 0.108A Amps 0.648A 0.540A 0.432A 0.324A	0.993v 0.011v 0.053v 0.018v 0.028v 0.006v Volt Drop 1.199v 0.011v 0.050v 0.018v	0.648A HOR Total Amps 0.648A	N.A.C #N-STROBE	5.4314% 48 CIRCUIT Percent Drop 6.4219%
0	CURRENT CALCU 7.051A 0.0833 0.5873 AH	N48-01 N48-02 N48-03 N48-04 N48-05 N48-06 Device # N49-01 N49-02 N49-03	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A Device Draw 0.108A 0.108A 0.108A	227' 3' 18' 8' 19' 8' Distance 274' 3' 17'	250' 3' 20' 9' 21' 9' Distance + 10% 301' 3' 19'	0.648A 0.540A 0.432A 0.324A 0.216A 0.108A Amps 0.648A 0.540A 0.432A	0.993v 0.011v 0.053v 0.018v 0.028v 0.006v Volt Drop 1.199v 0.011v 0.050v	0.648A HOR Total Amps 0.648A	1.108v N.A.C # N-STROBE Total Drop 1.310v	5.4314% 48 CIRCUIT Percent Drop 6.4219%

										IOIAL					1122	
										ALARM CURRENT	Device #	Device Draw	Distance	Distance +	10% Amps	Volt Dr
REI	IT CAL	CULATI	ONS							CALCU	N48-01	0.108A	227'	250'		0.993
			T				T				N48-02	0.108A	3'	3'		0.011
ent				600	_		_			7.051A	N48-03	0.108A	18'	20'		0.053
3 for	5 min or 0	.25 for 15	minutes of	falarm						0.0833	N48-04	0.108A	8'	9'		0.018
nt.										0.5873 AH	N48-05 N48-06	0.108A 0.108A	19' 8'	21' 9'		0.028
ACK	UP REC	QUIREM	ENTS								1440-00	0.106A	0	9	U.100A	0.000
e 18+	-21									4.9073 AH				1		
r 209	6 Battery D	Derating Fa	ector							20%	Device #	Device Draw	Distance	Distance +	10% Amps	Volt Dro
ours)										5.8888 AH	N49-01	0.108A	274'	301'	The state of the s	1.199v
							_		(2) BATTERY	SUPPLIED = 12 AMP	N49-02	0.108A	3'	3'		0.011v
									(2) DK IILKI	SAFELLD - 12 KPIF	N49-03	0.108A	17'	19'	0.432A	0.050v
											N49-04	0.108A	8'	9'	0.324A	0.018v
											N49-05	0.108A	19'	21'	0.216A	0.028v
											N49-06	0.108A	7'	8'	0.108A	0.005v
LS				OR NOTI		ON		A x (L/1000) x R x 2)								
		V	DC CURRE	M				A = CURRENT REQUIRED BY THE DEVICE TO DE LE LENGTH DISTANCE FROM DEVICE TO DE LE LENGTH DISTANCE FROM DEVICE TO DE LE LENGTH DISTANCE FROM DEVICE TO DE LE LENGTH DISTANCE PROPERTIES DE LE LENGTH DE LE LE LENGTH DE LE LE LE LENGTH DE LE LE LENGTH DE LE								
	W			erproof	Cei	ling		R = RESISTANCE OF WIRE PER 1000 F	The same of the sa							
a		Horn/	1	Horn/			LF-Hom /	12 AWG = 1.93 OHMS PER 1000FT.	••							
	Strobe	Strobe	Strobe	Strobe	Strobe	Strobe	Strobe	VOLTAGE DROP BASE ON PANELS WO	RST							
_	0.043	0.054	0.066	0.079	0.041	0.071		CASE VOLTAGE OF 20.4 V DC								
_	0.063	0.074	0.094	0.107	0.063	0.090										
\rightarrow	0.107	0.121	0.158	0.176	0.111	0.143	Г	METHOD OF CALCULATIONS: POINT TO	POINT							
-	0.121	0.142	0.181	0.194	0.134	0.165		A x (L/1000) x R x 2)								
-	0.110	0.102	0.202	0.212	0.158	0.187		A= CURRENT REQUIRED BY THE DEV	ICE							
			100.00 100	0.410	9.230	V-230		I - I ENCTUDISTANCE EDOM DEVICE TO	CONTRACTOR CONTRACTOR							

L= LENGTH DISTANCE FROM DEVICE TO DEVICE R = RESISTANCE OF WIRE PER 1000 FT. 14 AWG = 3.07 OHMS PER 1000FT.

VOLTAGE DROP BASE ON PANELS WORST CASE VOLTAGE OF 20.4 VDC

IKESW	11CH 108	BPS#7 (5	MINTUES IN	ALARM, 24	HRS STANDE	BY) D	E	I F			1	ALTE	RONIX	
		Α		В	-									
					Standby	Total Stanby Ourrent	Alarm	Total Alarm Current						
INI	ERNAL POWE	R SUPPLY O	OMPONENTS	Quantity	Current	The second secon	(BxE)	(Bx E)						
MAIN P	OWER SUPPLY	BOARD		1	0.180A	0.180A	0.200A	0.200A						
					Total Stan Current	The second secon	Total Alm Current=	0.200A						
N	OTIFICATIO	ON APPLIA	WICES	DEVICE			I			I		İ		
15cd S	TROBE WALL			0.043A	N53	N54 0	N55	N56	N57	N58	N59	N50	-	
	TROBE WALL /	CEILING		0.043A	0	0	2	0	0	0	0	0		
-	TROBE, CEILIN			0.041A	0	1	0	0	0	0	0	0	1	
-	ORN-STROBE,			0.071A	4	6	4	0	0	0	0	0		
_	ORN-STROBE,			0.090A	0	0	1	0	0	0	0	0		
_	ORN-STROBE,			0.143A	0	0	1	0	0	0	0	0		
-	ORN-STROBE,		TI ING	0.079A		1	2	0	0	92	86	0	1	
-	HORN-STROBE			0.297A	3	1	2	0	0	0	0	0	1	
	LOW FREQ	,,												
TICKST C	UNITEQ			0.108A NAC OKI CURRENI	0	0	0	8	8	6	7	5		
				DRAW =	1.333A	0.843A	1.395A	0.864A	0.864A	0.648A	0.756A	0.540A TOTAL NAC OKT		
												CURRENT DRAW =	7.243A	_
TOTA	AL STANDE	BY CALCU	LATIONS			TOTAL STANDY CALCU								
	tandby current y by 24 or 60 fo		urs needed.			0.180A 24H								
	tandby AH (Am					4.3200 AH						<u> </u>	TOTAL	
	W 6115-	w	U ATTONS										ALARM CURRENT	
	RM CURRE	NT CALCU	ILATIONS										7.443A	1
	by 0.0833 for	5 min or 0.25	for 15 minutes	of alarm	1				2 3				0.0833 0.6200 AH	
BATT	TERY BACK		IREMENTS		T									
	al, add line 18 y by 1.2 for 209		ating Factor										4.9400 AH 20%	
4 Total A	H (Amp Hours))									(2) PA	TTERY SUPPLI	5.9280 AH	
Device #	Device Draw	Distance	Distance + 10	0% Amps V	olt Drop Tota	l Amps Total Drop	Percent Drop	Device #	Device Dra	w Distance				otal Amps Total Drop Percent D
N53-01	0.071A	10'	11'	1.333A	0.090v 1.	333A 1.855v	9.0923%	N57-01	0.108A	126'	139'	0.864A	0.735v	0.864A 1.001v 4.9058%
N53-02	0.297A	76'	84' 74'	1.262A				N57-02	0.108A	3'	3' 26'	0.756A	0.015v	
N53-03 N53-04	0.071A 0.071A	67' 21'	23'		0.437v 0.127v	N.A.C #5	3	N57-03 N57-04	0.108A 0.108A	24' 20'	22'	0.648A 0.540A	0.105v 0.073v	N.A.C #57
N53-05	0.297A	37'	41'	0.823A	0.206v	HORN-STROBE C		N57-05	0.108A	4'	4'	0.432A	0.012v	HORN-STROBE CIRCUIT
N53-06 N53-07	0.079A 0.079A	17' 54'	19' 59'		0.060v 0.163v			N57-06 N57-07	0.108A 0.108A	20' 10'	22' 11'	0.324A 0.216A	0.044v 0.015v	
N53-08 N53-09	0.297A 0.071A	41' 47'	45' 52'		0.102v			N57-08	0.108A 0.108A	3'	3'	0.216A 0.108A		
						I . I D	D D		Device Dra	w Distance	Distance +	10% Amps	Volt Drop	Total Amps Total Drop Percent
N54-01	0.041A	162'	178'			I Amps Total Drop 843A 1.983v	9.7205%	N58-01 N58-02	0.108A	183' 5'	201' 6'	0.648A		0.648A 0.905v 4.4374
N54-01 N54-02	0.041A 0.071A	162	178		0.922V 0. 0.065v	1.3037	3.720370	N58-02 N58-03	0.108A 0.108A	10'	11'	0.540A 0.432A		
N54-03	0.079A	59'	65'	0.731A	0.291v			N58-04	0.108A	19'	21'	0.324A		N.A.C #58
N54-04	0.071A	21'	23'		0.092v	N.A.C #5		N58-05	0.108A	4'	4'	0.216A		HORN-STROBE CIRCUIT
N54-05 N54-06	0.071A 0.071A	64' 20'	70' 22'		0.251v 0.069v	HORN-STROBE C	IRCUIT	N58-06	0.108A	13'	14'	0.108A	0.009v	
N54-07	0.297A	74'	81'	0.439A	0.219v		_] —	I		V			
N54-08	0.071A	50'	55'		0.048v			n	Dadd 5	ui. Pi-	Dist	100/	V-k n	atal Amus Tatal San San San San
N54-09	0.071A	51'	56'	0.071A	0.024v									Total Drop Percent D
			D.					N59-01 N59-02	0.108A 0.108A	215' 4'	237' 4'	0.756A 0.648A	1.098v 0.018v	0.756A 1.246v 6.10729
					C. C	l Amps Total Drop		N59-02 N59-03	0.108A 0.108A	17'	19'	0.540A	0.018V 0.062v	
N55-01 N55-02	0.071A 0.143A	50' 23'	55'		0.471v 1.5 0.206v	395A 1.768v	8.6683%	N59-04	0.108A	10'	11'	0.432A	0.029v	N.A.C #59
N55-02 N55-03	0.143A 0.071A	41'	25' 45'		0.206v 0.327v			N59-05 N59-06	0.108A 0.108A	4' 17'	4' 19'	0.324A 0.216A	0.009v 0.025v	HORN-STROBE CIRCUIT
	0.090A	21'	23'	1.110A	0.157v	22 ELEM 12 E	<u> </u>	N59-06 N59-07	0.108A 0.108A	8'	9'	0.216A 0.108A		
	0.079A	23'	25'	1.020A	0.158v	N.A.C #5							**	
N55-05	0.297A 0.297A	4' 71'	4' 78'		0.025v 0.309v	HORN-STROBE C	IRCUIT	Device #	Device Dra	w Distance	Distance +	10% Amne	Volt Dron T	otal Amps Total Drop Percent D
N55-05 N55-06	U.LJIH	23'	25'		0.054v			N60-01	0.108A	232'	255'	0.540A		0.540A 0.950v 4.6591%
N55-05 N55-06 N55-07	0.079A	7'	8'	0.268A	0.013v			N60-01	0.108A 0.108A	17'	255 19'	0.540A 0.432A	0.846V 0.050v	U.33UV 4.0391%
N55-05 N55-06 N55-07 N55-08 N55-09	0.063A	201	22'		0.028v 0.015v			N60-03 N60-04	0.108A 0.108A	3' 29'	3' 32'	0.324A 0.216A	0.007v 0.042v	N.A.C #60
N55-05 N55-06 N55-07 N55-08 N55-09 N55-10 N55-11	0.063A 0.063A 0.071A	20' 16'	18'					N60-05	0.108A	8'	9'		0.006v	HORN-STROBE CIRCUIT
N55-05 N55-06 N55-07 N55-08 N55-09 N55-10 N55-11 N55-12	0.063A 0.063A 0.071A 0.071A	16' 10'	11'	0.071A	0.005v			_						HOIN STROBE CIRCUIT
N55-05 N55-06 N55-07 N55-08 N55-09 N55-10 N55-11 N55-12	0.063A 0.063A 0.071A 0.071A	16' 10' V Distance	11' Distance + 10	0.071A 0.071A	0.005v Volt Drop Tot	al Amps Total Drop		_						HOINT STROBE CIRCUIT
N55-05 N55-06 N55-07 N55-08 N55-09 N55-10 N55-11 N55-12	0.063A 0.063A 0.071A 0.071A	16' 10'	11'	0.071A	0.005v Volt Drop Tot	al Amps Total Drop 0.864A 0.421v	Percent Dro 2.0631%	_						HONT STREET CITEST
N55-05 N55-06 N55-07 N55-08 N55-09 N55-10 N55-11 N55-12 Nevice # N56-01 N56-02 N56-03	0.063A 0.063A 0.071A 0.071A Device Drav 0.108A 0.108A 0.108A	16' 10' V Distance 18' 24' 3'	11' Distance + 10 20' 26' 3'	0.071A 0.071A 0.864A 0.756A 0.648A	0.005v Volt Drop Tot 0.105v 0.123v 0.013v	0.864A 0.421v	2.0631%	_						HONTON COLOR
N55-05 N55-06 N55-07 N55-08 N55-09 N55-10 N55-11 N55-12 Nevice # N56-01 N56-02 N56-03 N56-04	0.063A 0.063A 0.071A 0.071A Device Draw 0.108A 0.108A 0.108A 0.108A	16' 10' V Distance 18' 24' 3' 18'	11' Distance + 10 20' 26' 3' 20'	0.071A 0% Amps 0.864A 0.756A 0.648A 0.540A	0.005v Volt Drop Tot 0.105v 0.123v 0.013v 0.066v	0.864A 0.421v N.A.C #3	2.0631%	_						HORT STREET CITED I
N55-05 N55-06 N55-07 N55-08 N55-09 N55-10 N55-11 N55-12 Device # N56-01 N56-02 N56-03 N56-04 N56-05	0.063A 0.063A 0.071A 0.071A Device Draw 0.108A 0.108A 0.108A 0.108A	16' 10' v Distance 18' 24' 3' 18' 5'	11' Distance + 10 20' 26' 3' 20' 6'	0.071A 0% Amps 0.864A 0.756A 0.648A 0.540A 0.432A	0.005v Volt Drop Tot 0.105v 0.123v 0.013v 0.066v 0.015v	0.864A 0.421v	2.0631%	_						HORI STREET CITEST
N55-06 N55-07 N55-08 N55-09 N55-10 N55-11 N55-12	0.063A 0.063A 0.071A 0.071A Device Draw 0.108A 0.108A 0.108A 0.108A	16' 10' V Distance 18' 24' 3' 18'	11' Distance + 10 20' 26' 3' 20'	0.071A 0% Amps 0.864A 0.756A 0.648A 0.540A	0.005v Volt Drop Tot 0.105v 0.123v 0.013v 0.066v	0.864A 0.421v N.A.C #3	2.0631%	_						HOINT STREET CINCOLL
N55-05 N55-06 N55-07 N55-08 N55-09 N55-10 N55-11 N55-12 evice # N56-01 N56-02 N56-03 N56-04 N56-05 N56-06	0.063A 0.063A 0.071A 0.071A Device Draw 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	16' 10' v Distance 18' 24' 3' 18' 5' 26'	11' Distance + 10 20' 26' 3' 20' 6' 29'	0.071A 0% Amps 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A	0.005v Volt Drop Tot 0.105v 0.123v 0.013v 0.066v 0.015v 0.057v	0.864A 0.421v N.A.C #3	2.0631%	_						HONT STREET

IRESWITCH 108 BPS#8 (5 MINTUES IN	ALARM, 24H	RS STANDBY)							ALTR	ONIX
A	В	C	D	E	F					
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)					
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A					
		Total Standby Current =	0.180A	Total Alm Current=	0.200A					
NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	N61	N62	N63	N64	N6S	N66	N67	N68-SPARE	
15cd STROBE WALL	0.043A	0	0	1	0	0	0	0	0	
15cd STROBE, CEILING	0.041A	0	0	0	1	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	0	0	3	4	0	0	0	0	
30cd HORN-STROBE, CEILING	0.090A	0	0	1	0	0	0	0	0	
75cd HORN-STROBE, CEILING	0.143A	0	0	1	0	0	0	0	0	
115cd HORN-STROBE, CEILING	0.187A	0	0	1	0	0	0	0	0	
15cd HORN-STROBE, WP, WALL/CEILING	0.079A	0	0	1	0	0	0	0	0	
75cd HORN-STROBE, WP, WALL/CEILING	0.176A	0	0	0	2	0	0	0	0	
HORN LOW FREQ	0.108A	5	7	0	0	11	12	11	0	
	NA C CKT CURRENT DRAW =	0.540A	0.756A	1.052A	0.677A	1.188A	1.296A	1.188A	0.000A	
									TOTAL NAC OKT CURRENT DRAW =	6.697A
TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU							
Total standby current		1	0.180A							
Multiply by 24 or 60 for standby hours needed.		•	24H							
Total standby AH (Amp Hours)			4.3200 AH							
ALARM CURRENT CALCULATIONS										TOTAL ALARM CURRENT CALCU
Total alarm current										6.897A
Multiply by 0.0833 for 5 min or 0.25 for 15 minutes	f alarm									0.0833
1 Total alarm current.										0.5745 AH
BATTERY BACKUP REQUIREMENTS		1			Т Т					
Sub total, add line 18+21		_			-					4.8945 AH
Multiply by 1.2 for 20% Battery Derating Factor										20%

Device # [Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	Device #	Device Draw	Distance	Distance + 1	10% Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N61-01	0.108A	25'		0.540A	0.091v	0.540A	0.231v	1.1299%	N65-01	0.108A	56'	62'	1.188A	0.449v	1.188A	0.881v	4.3194%
N61-02	0.108A	21'		0.432A	0.061v				N65-02	0.108A	3'	3'	1.080A	0.022v			
N61-03	0.108A	4'		0.324A	0.009v		NI A C "C	- an	N65-03	0.108A	21'	23'	0.972A	0.138v			
N61-04	0.108A	45'		0.216A	0.066v		N.A.C #6	1	N65-04	0.108A	4'	4'	0.864A	0.023v		N.A.C #6	65
N61-05	0.108A	5'	6'	0.108A	0.004v	HORN	-STROBE C	IRCUIT	N65-05	0.108A	17'	19'	0.756A	0.087v	HORN	I-STROBE (CIRCUIT
									N65-06	0.108A	4'	4'	0.648A	0.018v			
									N65-07	0.108A	10'	11'	0.540A	0.036v			
									N65-08	0.108A	19'	21'	0.432A	0.055v			
levice # [lovice Draw	Dictance	Distance + 10%	A mnc	Volt Dron	Total Amne	Total Dean	Percent Dron	N65-09	0.108A	9'	10'	0.324A	0.020v			
								-	N65-10	0.108A	19'	21'	0.216A	0.028v			
N62-01	0.108A	20'		0.756A	0.102v	0.756A	0.269v	1.3194%	N65-11	0.108A	7	8'	0.108A	0.005v			
N62-02	0.108A	3'		0.648A	0.013v												
N62-03	0.108A	20'		0.540A	0.073v		N A O "										
N62-04	0.108A	4'	4'	0.432A	0.012v		N.A.C #6	2	D	Director Do man	Di.	Distance : :	100/	v.k.n.	T-1-1 A	TALID	D. C. C.
N62-05	0.108A	24'	26'	0.324A	0.053v	HORN	-STROBE C	IRCUIT	Device #	Device Draw	Distance	Distance +	LU% Amps	voit Drop	lotal Amps	s lotal Drop	Percent Dro
N62-06	0.108A	10'		0.216A	0.015v				N66-01	0.108A	54'	59'	1.296A		1.296A	0.967v	4.7413%
N62-07	0.108A	3'	3'	0.108A	0.002v				N66-02	0.108A	3'	3'	1.188A	0.024v			
									N66-03	0.108A	19'	21'	1.080A	0.139v			
									N66-04	0.108A	3'	3'	0.972A	0.020v		N.A.C #	66
louise # [Davisa Duani	Dictorico	Distance + 10%	Amne	Volt Duon	Total Amno	Total Duon	Dowsont Duon	N66-05	0.108A	19'	21'	0.864A	0.111v	HOR	N-STROBE	CIRCUIT
evice # L				Amps				Percent Drop	N66-06	0.108A	3'	3'	0.756A	0.015v	1	. OIIIODE	01110011
N63-01	0.071A	76'	84'	1.052A		1.052A	1.648v	8.0790%	N66-07	0.108A	19'	21'	0.648A	0.083v			
N63-02	0.071A	72'	79'	0.981A	0.477v				N66-08	0.108A	3'	3'	0.540A	0.011v			
N63-03	0.071A	22'	24'	0.910A	0.135v			7. k	N66-09	0.108A	19'	21'	0.432A	0.055v			
N63-04	0.043A	10'		0.839A	0.057v		N.A.C #6	53	N66-10	0.108A	3'	3'	0.324A	0.007v			
N63-05	0.090A	21'	23'	0.796A	0.113v	HORN	I-STROBE C	CIRCUIT	N66-11	0.108A	19'	21'	0.216A	0.028v			
N63-06	0.187A	24'	26'	0.706A	0.114v				N66-12	0.108A	3'	3'	0.108A	0.002v			
N63-07	0.143A	35'	39'	0.519A	0.123v												
N63-08	0.079A	28'	31'	0.376A	0.071v												
N63-09	0.297A	9'	10'	0.297A	0.018v				Device #	Device Draw	Distance	Distance + 1	Ω0/o Amne	Volt Dron	Total Amns	Total Dmn	Percent Drop
u s uds								_	N67-01	0.108A	33'	36'	1.188A	0.265v	1.188A	0.778v	3.8116%
Device # L	Device Draw	Distance	Distance + 10%	Amps		Iotal Amps	Iotal Drop	Percent Drop	N67-02	0.108A	23'	25'	1.080A	0.168v			
N64-01	0.071A	63'	69'	0.677A	0.288v	0.677A	0.862v	4.2249%	N67-03	0.108A	3'	3'	0.972A	0.020v			
N64-02	0.071A	30'	33'	0.606A	0.123v				N67-04	0.108A	18'	20'	0.864A	0.105v		N.A.C #6	57
N64-03	0.041A	19'	21'	0.535A				10.00 to 10.00	N67-05	0.108A	3'	3'	0.756A	0.105v		I-STROBE C	
N64-04	0.071A	59'	65'	0.494A			N.A.C #	64	N67-06	0.108A	24'	26'	0.648A	0.105v	HURN	-31 KUBE (LIKCUII
N64-05	0.071A	20'	22'	0.423A		HOR	N-STROBE		N67-07	0.108A	3'	3'	0.540A	0.103v 0.011v			
N64-06	0.176A	35'	39'	0.352A		HOIC	II STRODE	CINCOII	N67-07	0.108A 0.108A	21'	23'	0.432A	0.011v 0.061v			
N64-07	0.176A	38'	42'	0.176A					N67-08	0.108A 0.108A	3'	3'	0.432A 0.324A	0.001v			
	VIA. VII	30	-,2	5117 VA	0.0101				N67-09 N67-10	0.108A 0.108A	13'	14'	0.324A 0.216A	0.007V 0.019v			
									1007-10	U. TUOA	13	14	U.ZIOA	0.0190			
								.,	N67-11	0.108A	3'	3'	0.108A	0.002v			

BATTERY & VOLTAGE DROP CALCULATIONS - 2

REGISTERED C-7 C-10 CONTRACTOR EXP. 05/31/2021 DERRICK M. EMGE

M ELECTRONIC SYSTEMS, II
 6 WITHERSPOON WAY, SUITE H
 EL CAJON, CA 92020
 (619) 667-1200
 0 # 820216 | EXP. DATE 05/31/20
 CT: DERRICK EMGE @ 619-667-12

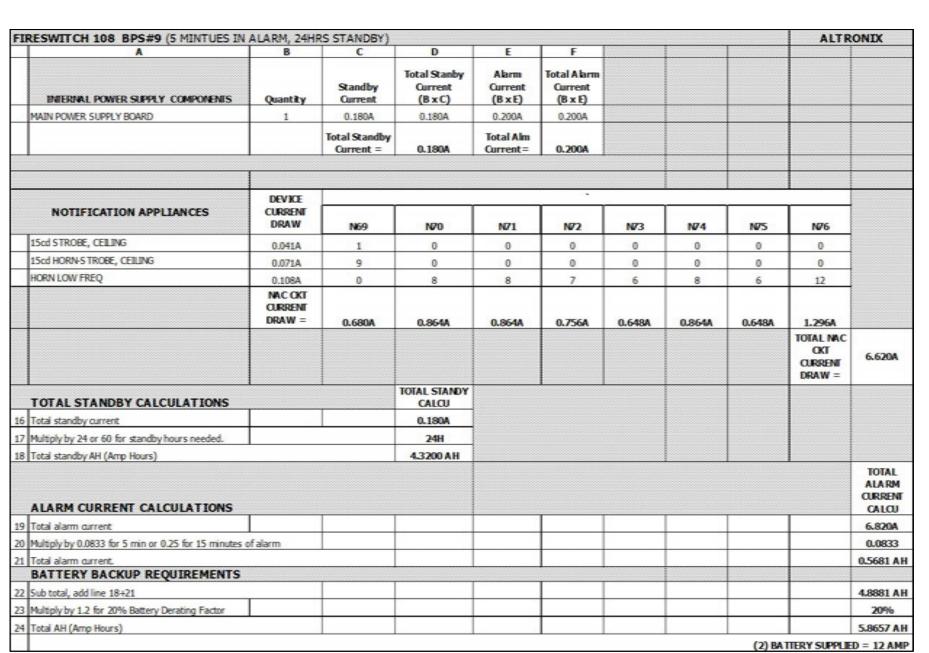
/2021 1200

DING LANE O ELK ANA, 100 SANT

EV. DATE DESCRIPTION P.O. BOX 880922 PORT SAINT LUCIE, FL 34988 Carlos Oliveras (619) 610-8637, NICET III #84003 carlos.oliveras@fuegoeng.com DESIGN: C.O. HECKED: JE DATE: 11/16/2020 SHEET TITLE: BATTERY & VOLTAGE DROP CALCULATIONS - 2 ELAN - BUILDING #1 FIRE ALARM SYSTEM

FA-12.1

N.T.S.



SCHOOL II	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Dr
N69-01	0.071A	40'	44'	0.680A	0.184v	0.680A	0.858v	4.2049%	N73-01	0.108A	274'		0.648A	1.199v	0.648A	1.310v	6.4219%
N69-02	0.071A	14'	15'	0.609A	0.058v				N73-02	0.108A	3'	3'	0.540A	0.011v			
N69-03	0.071A	68'	75'	0.538A	0.247v			-	N73-03	0.108A	17'	19'	0.432A	0.050v			
N69-04	0.071A	36'	40'	0.467A	0.114v		N.A.C #6	9	N73-04	0.108A	8'	9'	0.324A	0.018v		N.A.C #7	'3
N69-05	0.071A	13'	14'	0.396A	0.035v	HORN	N-STROBE C	CIRCUIT	N73-05	0.108A	19'	21'	0.216A	0.028v	HORN	-STROBE C	IRCUIT
N69-06	0.071A	43'	47'	0.325A	0.094v				N73-06	0.108A	7'	8'	0.108A	0.005v			
N69-07	0.071A	17'	19'	0.254A	0.029v												
N69-08	0.041A	25'	28'	0.183A	0.031v												
N69-09	0.071A	39'	43'	0.142A	0.037v				121		2.7			22 80 22		-	
N69-10	0.071A	61'	67'	0.071A	0.029v				Device #	Device Draw	Distance	Distance + 10%	Amps		Total Amps	Total Drop	Percent D
									N74-01	0.108A	74'	81'	0.864A		0.864A	0.727v	3.56139
evice #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	N74-02	0.108A	6'	7'	0.756A				
				_					N74-03	0.108A	19'	21'	0.648A				
N70-01	0.108A	43'	47'	0.864A	0.251v	0.864A	0.589v	2.8891%	N74-04	0.108A	8'		0.540A			N.A.C #	74
N70-02	0.108A	30'	33'	0.756A	0.153v				N74-05	0.108A	23'	25'	0.432A	0.067v	HOR	N-STROBE (CIRCUIT
N70-03	0.108A	5'	6'	0.648A	0.022v		NI A C #	70	N74-06	0.108A	17'	19'	0.324A	0.037v			**************************************
N70-04	0.108A	17'	19'	0.540A	0.062v		N.A.C #7		N74-07	0.108A	31'	34'	0.216A	0.045v			
N70-05	0.108A	23'	25'	0.432A	0.067v	HORN	N-STROBE C	CIRCUIT	N74-08	0.108A	3'	3'	0.108A	0.002v			
N70-06	0.108A	3'	3'	0.324A	0.007v												
N70-07	0.108A	17'	19'	0.216A	0.025v												
N70-08	0.108A	4'	4'	0.108A	0.003v				Davisa #	Davisa Domi	Distance	Distance 100/		Vals Duan	Tatal Assaul	Tatal Duan	Daveant De
									1111			Distance + 10%		-		•	
									N75-01	0.108A	186'		0.648A	0.512v	0.648A	0.636v	3.1201%
evice #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	N75-02	0.108A	3'		0.540A	0.011v			
N71-01	0.108A	119'	131'	0.864A	0.694v	0.864A	0.903v	4.4267%	N75-03	0.108A	17'		0.432A	0.050v		N.A.C #7	E
N71-02	0.108A	3'	3'	0.756A					N75-04	0.108A	24'		0.324A	0.053v			
N71-03	0.108A	19'	21'	0.648A	0.083v		-		N75-05	0.108A	3'		0.216A	0.004v	HORN	-STROBE C	IRCUIT
N71-04	0.108A	10'	11'	0.540A			N.A.C #	71	N75-06	0.108A	10'	11'	0.108A	0.007v			
	0.108A	3'	3'	0.432A	0.009v		N-STROBE (
	0.100/1	18'	20'	0.324A	0.039v	HOKI	1-31 KODE (LINCUIT									
N71-05	0.108A									MATERIAL DESIGNATION OF THE PARTY OF THE PAR	Distance	Distance + 10%	Amns	Volt Drop	Total Amns	Total Dron	Percent Dn
N71-05 N71-06	0.108A 0.108A			111111111111111111111111111111111111111					Device #	Device Draw					rocui rimps	.ocui bi op	4.2479%
N71-05 N71-06 N71-07	0.108A	16' 3'	18' 3'	0.216A	0.023v					1000000				0.224	4 2064	0.007	4 /4/4%
N71-05 N71-06 N71-07		16'	18'	111111111111111111111111111111111111111	0.023v				N76-01	0.108A	37'	41'	1.296A	0.324v	1.296A	0.867v	1.2 17 5 70
N71-05 N71-06 N71-07	0.108A	16'	18'	0.216A	0.023v				N76-01 N76-02	0.108A 0.108A	37' 16'	41' 18'	1.296A 1.188A	0.128v	1.296A	0.867v	1.217570
N71-05 N71-06 N71-07 N71-08	0.108A 0.108A	16' 3'	18'	0.216A 0.108A	0.023v 0.002v	Total Amp	s Total Drop	Percent Drop	N76-01 N76-02 N76-03	0.108A 0.108A 0.108A	37' 16' 5'	41' 18' 6'	1.296A 1.188A 1.080A	0.128v 0.036v			
N71-05 N71-06 N71-07 N71-08	0.108A 0.108A Device Draw	16' 3' Distance	18' 3' Distance + 10%	0.216A 0.108A Amps	0.023v 0.002v Volt Drop	5, 1000-2000000000000000000000000000000000	C. DOMESTICOCONTO-UNI NO	•	N76-01 N76-02 N76-03 N76-04	0.108A 0.108A 0.108A 0.108A	37' 16' 5' 16'	41' 18' 6' 18'	1.296A 1.188A 1.080A 0.972A	0.128v 0.036v 0.105v		N.A.C #7	6
N71-05 N71-06 N71-07 N71-08 Device #	0.108A 0.108A Device Draw 0.108A	16' 3' Distance 218'	18' 3' Distance + 10% 240'	0.216A 0.108A Amps 0.756A	0.023v 0.002v Volt Drop 1.113v	7 Total Amp: 0.756A	5 Total Drop 1.271v	Percent Drop 6.2324%	N76-01 N76-02 N76-03 N76-04 N76-05	0.108A 0.108A 0.108A 0.108A 0.108A	37' 16' 5' 16' 5'	41' 18' 6' 18'	1.296A 1.188A 1.080A 0.972A 0.864A	0.128v 0.036v 0.105v 0.029v			6
N71-05 N71-06 N71-07 N71-08 Device # N72-01 N72-02	0.108A 0.108A Device Draw 0.108A 0.108A	16' 3' Distance 218' 10'	18' 3' Distance + 10% 240' 11'	0.216A 0.108A Amps 0.756A 0.648A	0.023v 0.002v Volt Drop 1.113v 0.044v	5, 1000-2000000000000000000000000000000000	C. DOMESTICOCONTO-UNI NO	•	N76-01 N76-02 N76-03 N76-04 N76-05 N76-06	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	37' 16' 5' 16' 5' 13'	41' 18' 6' 18' 6' 14'	1.296A 1.188A 1.080A 0.972A 0.864A 0.756A	0.128v 0.036v 0.105v 0.029v 0.066v		N.A.C #7	6
N71-05 N71-06 N71-07 N71-08 Pevice # N72-01 N72-02 N72-03	0.108A 0.108A Device Draw 0.108A 0.108A 0.108A	16' 3' Distance 218' 10' 3'	18' 3' Distance + 10% 240' 11' 3'	0.216A 0.108A Amps 0.756A 0.648A 0.540A	0.023v 0.002v Volt Drop 1.113v 0.044v 0.011v	5, 1000-2000000000000000000000000000000000	1.271v	6.2324%	N76-01 N76-02 N76-03 N76-04 N76-05 N76-06 N76-07	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	37' 16' 5' 16' 5' 13'	41' 18' 6' 18' 6' 14' 8'	1.296A 1.188A 1.080A 0.972A 0.864A 0.756A 0.648A	0.128v 0.036v 0.105v 0.029v 0.066v 0.031v		N.A.C #7	6
N71-05 N71-06 N71-07 N71-08 Device # N72-01 N72-02 N72-03 N72-04	0.108A 0.108A Device Draw 0.108A 0.108A 0.108A 0.108A	16' 3' Distance 218' 10' 3' 18'	18' 3' Distance + 10% 240' 11' 3' 20'	0.216A 0.108A Amps 0.756A 0.648A 0.540A 0.432A	0.023v 0.002v Volt Drop 1.113v 0.044v 0.011v 0.053v	0.756A	1.271v N.A.C #	6.2324%	N76-01 N76-02 N76-03 N76-04 N76-05 N76-06 N76-07 N76-08	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	37' 16' 5' 16' 5' 13' 7' 13'	41' 18' 6' 18' 6' 14' 8'	1.296A 1.188A 1.080A 0.972A 0.864A 0.756A 0.648A 0.540A	0.128v 0.036v 0.105v 0.029v 0.066v 0.031v 0.047v		N.A.C #7	6
N71-05 N71-06 N71-07 N71-08 Device # N72-01 N72-02 N72-03 N72-04 N72-05	0.108A 0.108A Device Draw 0.108A 0.108A 0.108A 0.108A 0.108A	16' 3' Distance 218' 10' 3' 18' 8'	18' 3' Distance + 10% 240' 11' 3' 20' 9'	0.216A 0.108A Amps 0.756A 0.648A 0.540A 0.432A 0.324A	0.023v 0.002v Volt Drop 1.113v 0.044v 0.011v 0.053v 0.018v	0.756A	1.271v	6.2324%	N76-01 N76-02 N76-03 N76-04 N76-05 N76-06 N76-07 N76-08 N76-09	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	37' 16' 5' 16' 5' 13' 7' 13' 20'	41' 18' 6' 18' 6' 14' 8' 14' 22'	1.296A 1.188A 1.080A 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A	0.128v 0.036v 0.105v 0.029v 0.066v 0.031v 0.047v 0.058v		N.A.C #7	6
N71-05 N71-06 N71-07 N71-08 Device # N72-01 N72-02 N72-03 N72-04 N72-05 N72-06	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	16' 3' Distance 218' 10' 3' 18' 8' 19'	18' 3' Distance + 10% 240' 11' 3' 20' 9' 21'	0.216A 0.108A 0.756A 0.648A 0.540A 0.432A 0.324A 0.216A	0.023v 0.002v Volt Drop 1.113v 0.044v 0.011v 0.053v 0.018v 0.028v	0.756A	1.271v N.A.C #	6.2324%	N76-01 N76-02 N76-03 N76-04 N76-05 N76-06 N76-07 N76-08 N76-09 N76-10	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	37' 16' 5' 16' 5' 13' 7' 13' 20'	41' 18' 6' 18' 6' 14' 8' 14' 22'	1.296A 1.188A 1.080A 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A	0.128v 0.036v 0.105v 0.029v 0.066v 0.031v 0.047v 0.058v 0.024v		N.A.C #7	6
N71-05 N71-06 N71-07 N71-08 Device # N72-01 N72-02 N72-03 N72-04 N72-05	0.108A 0.108A Device Draw 0.108A 0.108A 0.108A 0.108A 0.108A	16' 3' Distance 218' 10' 3' 18' 8'	18' 3' Distance + 10% 240' 11' 3' 20' 9'	0.216A 0.108A Amps 0.756A 0.648A 0.540A 0.432A 0.324A	0.023v 0.002v Volt Drop 1.113v 0.044v 0.011v 0.053v 0.018v 0.028v	0.756A	1.271v N.A.C #	6.2324%	N76-01 N76-02 N76-03 N76-04 N76-05 N76-06 N76-07 N76-08 N76-09	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	37' 16' 5' 16' 5' 13' 7' 13' 20'	41' 18' 6' 18' 6' 14' 8' 14' 22' 12'	1.296A 1.188A 1.080A 0.972A 0.864A 0.756A 0.648A 0.540A 0.432A	0.128v 0.036v 0.105v 0.029v 0.066v 0.031v 0.047v 0.058v		N.A.C #7	6

IRESWITCH 108 BPS#10 (5 MINTUES I	В	C	D	E	F			1		ONIX
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (BxC)	Alarm Current (B x E)	Total Alarm Current (BxE)					
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A					
		Total Standby Current =	0.180A	Total A im Current=	0.200A					
NOTIFICATION APPLIANCES	DEVICE CURRENT DRAW	1077	N/8	NØ9	NB0	NB1	NB2	NB3-SPARE	NB4-SPARE	
15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	9	0	0	0	0	0	0	0	
HORN LOW FREQ	0.108A	0	9	8	6	7	5	0	0	
	NACOKT CURRENT DRAW =	0.680A	0.972A	0.864A	0.648A	0.756A	0.540A	0.000A	0.000A	
		u.uoun	u.srzn	u.oura	Const	u.r.sun	U.J. Han	GOOGH	TOTAL NAC OKT CURRENT DRAW =	4.460A
TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU							
16 Total standby current		T	0.180A							
17 Multiply by 24 or 60 for standby hours needed.			24H							
18 Total standby AH (Amp Hours)	•		4.3200 AH							
ALARM CURRENT CALCULATIONS										TOTAL ALARM CURRENI CALCU
19 Total alarm current										4.660A
20 Multiply by 0.0833 for 5 min or 0.25 for 15 minutes	of alarm									0.0833
Total alarm current. BATTERY BACKUP REQUIREMENTS										0.3882 A
22 Sub total, add line 18+21										4.7082 A
23 Multiply by 1.2 for 20% Battery Derating Factor										20%
24 Total AH (Amp Hours)										5,6498 A

ONEX	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps Total Drop	Percent Dr
	N77-01	0.071A	10'	11'	0.680A	0.046v	0.680A	0.925v	4.5352%	N82-01	0.108A	232'	255'	0.540A	0.846v	0.540A 0.950v	4.6591%
	N77-02	0.071A	53'			0.218v	010001	OI3LU!	11555275	N82-02	0.108A	17'	19'	0.432A	0.050v		
	N77-03	0.071A	13'		0.538A					N82-03	0.108A	3'	3'	0.324A	0.007v		
	N77-04	0.041A	77'		0.467A	0.243v		V.A.C #7	7	N82-04	0.108A	29'	32'	0.216A	0.042v	N.A.C #	32
	N77-05	0.071A	12'		0.426A			STROBE C		N82-05	0.108A	8'	9'	0.108A	0.006v	HORN-STROBE	
	N77-06	0.071A	47'		0.355A	0.113v	HOIN	STRODE C.	INCOTI							TIONN'S I NODE (LINCULI
	N77-07	0.071A	64'		0.284A												
	N77-08	0.071A	20'		0.213A											ľ.	
	N77-09	0.071A	50'			0.048v											
	N77-10	0.071A	51'	56'		0.024v											
				10,000				-									
	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop								
	N78-01	0.108A	18'	20'	0.972A	0.118v	0.972A	0.492v	2.4100%								
	N78-02	0.108A	24'	26'	0.864A	0.140v											
	N78-03	0.108A	3'	3'	0.756A	0.015v		MIN THE PART THE	HARRY II								
	N78-04	0.108A	18'	20'	0.648A			N.A.C #7	78								
	N78-05	0.108A	5'	6'	0.540A			-STROBE C									
	N78-06	0.108A	25'	28'	0.432A	0.073v		OT ROBE C									
	N78-07	0.108A	3'	3'	0.324A												
	N78-08	0.108A	26'	29'	0.216A												
	N78-09	0.108A	5'	6'	0.108A												
4.460A	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop								
	N79-01	0.108A	126'	139'	0.864A		0.864A	1.001v	4.9058%								
	N79-02	0.108A	3'	3'	0.756A	- COCO COCO COCO COCO COCO COCO COCO CO											
	N79-03	0.108A	24'	26'	0.648A	0.105v			200								
	N79-04	0.108A	20'	22'	0.540A	0.073v		N.A.C #7	79								
	N79-05	0.108A	4'	4'	0.432A	0.012v	HORN	I-STROBE (CIRCUIT								
	N79-06	0.108A	20'	22'	0.324A	0.044v	100000										
	N79-07	0.108A	10'	11'	0.216A	0.015v											
TOTAL	N79-08	0.108A	3'	3'	0.108A	0.002v				l							
ALARM	l ——									ļ							
THE PARTY OF	n									l ¬							
URRENT	Device #	Device Draw	1011	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	p Percent Drop	•							
CALCU	N80-01	0.108A	183'	201'	0.648A	0.801v	Total Amps 0.648A	0.905v	Percent Drop								
CALCU 4.660A	N80-01 N80-02	0.108A 0.108A	183' 5'	201' 6'	0.648A 0.540A	0.801v 0.018v				,							
CALCU	N80-01 N80-02 N80-03	0.108A 0.108A 0.108A	183' 5' 10'	201' 6' 11'	0.648A 0.540A 0.432A	0.801v 0.018v 0.029v		0.905v	4.4374%								
URRENT CALCU 4.660A 0.0833	N80-01 N80-02 N80-03 N80-04	0.108A 0.108A 0.108A 0.108A	183' 5' 10' 19'	201' 6' 11' 21'	0.648A 0.540A 0.432A 0.324A	0.801v 0.018v 0.029v 0.042v	0.648A	0.905v N.A.C #	4.4374%								
URRENT CALCU 4.660A 0.0833	N80-01 N80-02 N80-03 N80-04 N80-05	0.108A 0.108A 0.108A 0.108A 0.108A	183' 5' 10' 19' 4'	201' 6' 11' 21' 4'	0.648A 0.540A 0.432A 0.324A 0.216A	0.801v 0.018v 0.029v 0.042v 0.006v	0.648A	0.905v	4.4374%								
URRENT CALCU 4.660A 0.0833 3882 A H	N80-01 N80-02 N80-03 N80-04	0.108A 0.108A 0.108A 0.108A	183' 5' 10' 19'	201' 6' 11' 21'	0.648A 0.540A 0.432A 0.324A	0.801v 0.018v 0.029v 0.042v 0.006v	0.648A	0.905v N.A.C #	4.4374%	<u>, </u>							
OURRENT CALCU 4.660A 0.0833 3882 AH	N80-01 N80-02 N80-03 N80-04 N80-05	0.108A 0.108A 0.108A 0.108A 0.108A	183' 5' 10' 19' 4'	201' 6' 11' 21' 4'	0.648A 0.540A 0.432A 0.324A 0.216A	0.801v 0.018v 0.029v 0.042v 0.006v	0.648A	0.905v N.A.C #	4.4374%								
URRENT CALCU 4.660A 0.0833 3882 AH 7082 AH 20%	N80-01 N80-02 N80-03 N80-04 N80-05 N80-06	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	183' 5' 10' 19' 4' 13'	201' 6' 11' 21' 4' 14'	0.648A 0.540A 0.432A 0.324A 0.216A 0.108A	0.801v 0.018v 0.029v 0.042v 0.006v 0.009v	0.648A HOR	0.905v N.A.C # N-STROBE	4.4374% 480 CIRCUIT								
CURRENT CALCU 4.660A 0.0833 3882 AH 2096 6498 AH	N80-01 N80-02 N80-03 N80-04 N80-05 N80-06	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	183' 5' 10' 19' 4' 13'	201' 6' 11' 21' 4' 14'	0.648A 0.540A 0.432A 0.324A 0.216A 0.108A	0.801v 0.018v 0.029v 0.042v 0.006v 0.009v	0.648A HOR	0.905v N.A.C # N-ST ROBE	4.4374% 480 CIRCUIT Percent Drop								
CURRENT CALCU 4.660A 0.0833 3882 AH 2096 6498 AH	N80-01 N80-02 N80-03 N80-04 N80-05 N80-06	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	183' 5' 10' 19' 4' 13' Distance	201' 6' 11' 21' 4' 14' Distance + 10%	0.648A 0.540A 0.432A 0.324A 0.216A 0.108A Amps 0.756A	0.801v 0.018v 0.029v 0.042v 0.006v 0.009v Volt Drop	0.648A HOR	0.905v N.A.C # N-STROBE	4.4374% 480 CIRCUIT								
CURRENT CALCU 4.660A 0.0833 3882 AH 2096 6498 AH	N80-01 N80-02 N80-03 N80-04 N80-05 N80-06 Device # N81-01 N81-02	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	183' 5' 10' 19' 4' 13' Distance 215' 4'	201' 6' 11' 21' 4' 14' Distance + 10%	0.648A 0.540A 0.432A 0.216A 0.108A 0.108A 0.756A 0.648A	0.801v 0.018v 0.029v 0.042v 0.006v 0.009v Volt Drop 1.098v 0.018v	0.648A HOR	0.905v N.A.C # N-ST ROBE	4.4374% 480 CIRCUIT Percent Drop								
CURRENT CALCU 4.660A 0.0833 3882 AH 2096 6498 AH	N80-01 N80-02 N80-03 N80-04 N80-05 N80-06 Device # N81-01 N81-02 N81-03	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	183' 5' 10' 19' 4' 13' Distance 215' 4' 17'	201' 6' 11' 21' 4' 14' Distance + 10% 237' 4' 19'	0.648A 0.540A 0.432A 0.324A 0.216A 0.108A 0.756A 0.648A 0.540A	0.801v 0.018v 0.029v 0.042v 0.006v 0.009v Volt Drop 1.098v 0.018v 0.062v	0.648A HOR Total Amps 0.756A	0.905v N.A.C # N-STROBE Total Drop 1.246v	4.4374% 480 CIRCUIT Percent Drop 6.1072%								
CURRENT CALCU 4.660A 0.0833 3882 AH 2096 6498 AH	N80-01 N80-02 N80-03 N80-04 N80-05 N80-06 Device # N81-01 N81-02 N81-03 N81-04	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	183' 5' 10' 19' 4' 13' Distance 215' 4' 17' 10'	201' 6' 11' 21' 4' 14' Distance + 10% 237' 4' 19' 11'	0.648A 0.540A 0.432A 0.216A 0.108A 0.756A 0.648A 0.540A 0.432A	0.801v 0.018v 0.029v 0.042v 0.006v 0.009v Volt Drop 1.098v 0.018v 0.062v 0.029v	0.648A HOR Total Amps 0.756A	N.A.C #N-STROBE Total Drop 1.246v N.A.C #8	4.4374% 480 CIRCUIT Percent Drop 6.1072%								
CALCU 4.660A 0.0833 3882 AH	N80-01 N80-02 N80-03 N80-04 N80-05 N80-06 Device # N81-01 N81-02 N81-03 N81-04 N81-05	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	183' 5' 10' 19' 4' 13' Distance 215' 4' 17' 10' 4'	201' 6' 11' 21' 4' 14' Distance + 10% 237' 4' 19' 11' 4'	0.648A 0.540A 0.432A 0.216A 0.108A 0.108A 0.756A 0.648A 0.540A 0.432A 0.324A	0.801v 0.018v 0.029v 0.042v 0.006v 0.009v Volt Drop 1.098v 0.018v 0.062v 0.029v 0.009v	0.648A HOR Total Amps 0.756A	0.905v N.A.C # N-STROBE Total Drop 1.246v	4.4374% 480 CIRCUIT Percent Drop 6.1072%								
CURRENT CALCU 4.660A 0.0833 3882 AH 2096 6498 AH	N80-01 N80-02 N80-03 N80-04 N80-05 N80-06 Device # N81-01 N81-02 N81-03 N81-04	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	183' 5' 10' 19' 4' 13' Distance 215' 4' 17' 10'	201' 6' 11' 21' 4' 14' Distance + 10% 237' 4' 19' 11'	0.648A 0.540A 0.432A 0.216A 0.108A 0.108A 0.756A 0.648A 0.540A 0.432A 0.324A 0.216A	0.801v 0.018v 0.029v 0.042v 0.006v 0.009v Volt Drop 1.098v 0.018v 0.062v 0.029v	0.648A HOR Total Amps 0.756A	N.A.C #N-STROBE Total Drop 1.246v N.A.C #8	4.4374% 480 CIRCUIT Percent Drop 6.1072%								

RESWITCH 108 BPS#11 (5 MINTUES I		HRS STANDBY							ALTR	ONIX
A	В	С	D	E	F					
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)					
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A					
		Total Standby Current =	0.180A	Total Alm Current =	0.200A					
	Ι									
	DEVICE									
NOTIFICATION APPLIANCES	CURRENT DRAW	NBS	NB6	N87	NB8	NB9	NBO	N91	NO2-SPARE	
15cd STROBE, CEILING	0.041A	0	0	1	0	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	0	0	8	0	0	0	0	0	
HORN LOW FREQ	0.108A	5	7	0	7	6	12	11	0	
	NAC CKT CURRENT DRAW =									
	DEAW -	0.540A	0.756A	0.609A	0.756A	0.648A	1.296A	1.188A	0.000A	
									TOTAL NAC OXT CURRENT DRAW =	5.793A
TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU							
6 Total standby current			0.180A							
7 Multiply by 24 or 60 for standby hours needed.			24H							
8 Total standby AH (Amp Hours)			4.3200 AH							
ALARM CURRENT CALCULATIONS										TOTAL ALARM CURREN CALCU
9 Total alarm current										5.993A
0 Multiply by 0.0833 for 5 min or 0.25 for 15 minutes	of alarm									0.0833
1 Total alarm current.										0.4992 A
BATTERY BACKUP REQUIREMENTS										
2 Sub total, add line 18+21										4.8192 A
Multiply by 1.2 for 20% Battery Derating Factor										20%
4 Total AH (Amp Hours)										5.7831 A
								(2) BA	TTERY SUPPLIE	D = 12 A

								Percent Drop				Distance + 10%					
N85-01	0.108A	25' 21'	28'	0.540A	0.091v	0.540A	0.231v	1.1299%	N90-01	0.108A	54'	59'	1.296A		1.296A	0.967v	4.74139
N85-02 N85-03	0.108A 0.108A	4'	23' 4'	0.432A 0.324A	0.061v 0.009v				N90-02	0.108A	3'	3'	1.188A				
N85-04	0.108A	45'	50'	0.324A 0.216A	0.066v	1	N.A.C #8	25	N90-03	0.108A	19'	21'	1.080A				00
N85-05	0.108A	5'	6'	0.216A 0.108A	0.006V 0.004V				N90-04	0.108A	3'	3'	0.972A			N.A.C #	
1405 05	0.100A		· ·	0.100A	0.004	HUKIN-	-STROBE (LIKCUIT	N90-05	0.108A	19'	21'	0.864A		HOR	N-STROBE	CIRCUIT
									N90-06	0.108A	3'	3'	0.756A				
			1						N90-07	0.108A	19'	21'	0.648A				
									N90-08	0.108A	3'	3'	0.540A				
Device #	Device Draw	Distance	Distance +	10% Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	N90-09	0.108A	19'	21'	0.432A				
N86-01	0.108A	20'	22'	0.756A	0.102v	0.756A	0.269v	1.3194%	N90-10	0.108A	3'	3'	0.324A				
N86-02	0.108A	3'	3'	0.730A 0.648A		0.730A	0.2030	1.315770	N90-11	0.108A	19'	21'	0.216A				
N86-02	0.108A	20'	22'	0.540A					N90-12	0.108A	3'	3'	0.108A	0.002v			
N86-04	0.108A	4'	4'	0.432A			N.A.C #	.96									
N86-05	0.108A	24'	26'	0.432A 0.324A													
N86-05	0.108A 0.108A	10'	11'	0.324A 0.216A		HORN	N-STROBE	CIRCUIT	Davis +	Davisa Davis	Distance	Distance 100/		Vale Duan	Tabal Amora	Tata I Dunn	Dawsont Du
												Distance + 10%					Percent Dr
N86-07	0.108A	3'	3'	0.108A	0.002v				N91-01	0.108A	56'		1.188A		1.188A	0.881v	4.3194%
									N91-02	0.108A	3'	3'	1.080A	0.022v			
									N91-03	0.108A	21'	23'	0.972A	0.138v			
Device #	Device Draw	Distance	Distance +	10% Amns	Volt Dron	Total A mos	Total Dror	Percent Drop	N91-04	0.108A	4'	4'	0.864A	0.023v		N.A.C #9	91
				-				1	N91-05	0.108A	17'	19'	0.756A	0.087v	HORN	-STROBE C	TRCUIT
N87-01	0.071A	45'	50'	0.609A		0.609A	0.835v	4.0939%	N91-06	0.108A	4'	4'	0.648A	0.018v		OTTOBE C	1110011
N87-02	0.071A	10'	11'	0.538A					N91-07	0.108A	10'	11'	0.540A	0.036v			
N87-03	0.041A	43'	47'	0.467A					N91-08	0.108A	19'	21'	0.432A	0.055v			
N87-04	0.071A	59'	65'	0.426A			N.A.C #	8/	N91-09	0.108A	9'	10'	0.324A	0.020v			
N87-05	0.071A	18'	20'	0.355A		HORN	N-STROBE	CIRCUIT	N91-10	0.108A	19'	21'	0.216A	0.028v			
N87-06	0.071A	82'	90'	0.284A	0.157v				N91-11	0.108A	7'		0.108A				
N87-07	0.071A	33'	36'	0.213A	0.047v												
N87-08	0.071A	18'	20'	0.142A	0.017v				L	-	-					-	
N87-09	0.071A	90'	99'	0.071A	0.043v												
	20 AV AVA AVA		100 mm 100 mm			20015			1								
						-		p Percent Drop	4								
N88-01	0.108A	57'	63'	0.756A			0.511v	2.5030%	-								
N88-02	0.108A	5'	6'	0.648A					4								
N88-03	0.108A	26'	29'	0.540			NI A C	"00									
N88-04	0.108A	23'	25'	0.432			N.A.C										
N88-05	0.108A	3'	3'	0.324			N-STROBE	CIRCUIT									
N88-06	0.108A	18'	20'	0.216		_			4								
N88-07	0.108A	4'	4'	0.108A	0.003v			-	-								
									_								
Device #	Device Draw	Distance	Distance +	10% Amps	Volt Drop	the state of the s		Percent Drop									
N89-01	0.108A	95'	105'		0.416v	0.648A	0.516v	2.5280%									
N89-02	0.108A	3'	3'	0.540A	0.011v												
N89-03	0.108A	21'	23'	0.432A	0.061v												
N89-04	0.108A	3'	3'	0.324A		1	N.A.C #	89									
1402 01	0.108A	13'	14'	0.216A			I-STROBE										
N89-05																	
	0.108A	3'	3'	0.108A	0.002v		JINODE	CINCOIT									

D-01100 "	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N85-01	0.108A	25'	28'	0.540A	0.091v	0.540A	0.231v	1.1299%
N85-02	0.108A	21'	23'	0.432A	0.061v			
N85-03	0.108A	4'	4'	0.324A	0.009v			
N85-04	0.108A	45'	50'	0.216A	0.066v	1	V.A.C #8	5
N85-05	0.108A	5'	6'	0.108A	0.004v	HORN-	STROBE CI	RCUIT
Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N86-01	0.108A	20'	22'	0.756A	0.102v	0.756A	0.269v	1.3194%
N86-02	0.108A	3'	3'	0.648A	0.013v			
N86-03	0.108A	20'	22'	0.540A	0.073v			
N86-04	0.108A	4'	4'	0.432A			N.A.C #8	36
N86-05	0.108A	24'	26'	0.324A			I-STROBE C	
N86-06	0.108A	10'	11'	0.216A		HON	JINOUL C	ZINCOI I
N86-07	0.108A	3'	3'	0.108A				
7100-07	0.100A	J	3	J.100A	0.0024			
	B	B	Di	•	u. b. 5	T . 1.	T . In	B
Device #	Device Draw	***************************************	Distance + 10%	Amps	Volt Drop	Iotal Amps	-	Percent Drop
N87-01	0.071A	45'	50'	0.609A		0.609A	0.835v	4.0939%
N87-02	0.071A	10'	11'	0.538A	0.036v			
N87-03	0.041A	43'	47'	0.467A	0.136v			
N87-04	0.071A	59'	65'	0.426A	0.170v		N.A.C #8	37
N87-05	0.071A	18'	20'	0.355A	0.043v	HORN	-STROBE C	CIRCUIT
N87-06	0.071A	82'	90'	0.284A	0.157v	11074		
N87-07	0.071A	33'	36'	0.213A				
N87-08	0.071A	18'	20'	0.142A				
N87-09	0.071A	90'	99'	0.071A				
					Volt Duor	Total A mos	Total Drop	Percent Dro
Device #	Device Draw	Distance	Distance + 10%	Amps	voir prop	Total Amps		
Device #	Device Draw 0.108A	Distance 57'	Distance + 10%	0.756A		0.756A	0.511v	2.5030%
IIII II AND TO THE REAL PROPERTY OF THE PERSON OF THE PERS					0.291v			2.5030%
N88-01	0.108A	57'	63'	0.756A	0.291v 0.022v			2.5030%
N88-01 N88-02	0.108A 0.108A	57' 5'	63' 6'	0.756A 0.648A	0.291v 0.022v 0.095v			
N88-01 N88-02 N88-03	0.108A 0.108A 0.108A	57' 5' 26'	63' 6' 29'	0.756A 0.648A 0.540A	A 0.291v A 0.022v A 0.095v A 0.067v	0.756A	0.511v N.A.C #	88
N88-01 N88-02 N88-03 N88-04 N88-05	0.108A 0.108A 0.108A 0.108A 0.108A	57' 5' 26' 23'	63' 6' 29' 25'	0.756A 0.648A 0.540A 0.432A 0.324A	A 0.291v A 0.022v A 0.095v A 0.067v A 0.007v	0.756A	0.511v	88
N88-01 N88-02 N88-03 N88-04	0.108A 0.108A 0.108A 0.108A	57' 5' 26' 23' 3'	63' 6' 29' 25' 3'	0.756A 0.648A 0.540A 0.432A	A 0.291v A 0.022v A 0.095v A 0.067v A 0.007v A 0.026v	0.756A	0.511v N.A.C #	88
N88-01 N88-02 N88-03 N88-04 N88-05 N88-06	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	57' 5' 26' 23' 3' 18'	63' 6' 29' 25' 3' 20'	0.756A 0.648A 0.540A 0.432A 0.324A 0.216A	A 0.291v A 0.022v A 0.095v A 0.067v A 0.007v A 0.026v	0.756A	0.511v N.A.C #	88
N88-01 N88-02 N88-03 N88-04 N88-05 N88-06 N88-07	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	57' 5' 26' 23' 3' 18' 4'	63' 6' 29' 25' 3' 20'	0.756A 0.648A 0.540A 0.432A 0.324A 0.216A 0.108A	A 0.291v A 0.022v A 0.095v A 0.067v A 0.007v A 0.026v A 0.003v	0.756A HOR	0.511v N.A.C # N-STROBE	88 CIRCUIT
N88-01 N88-02 N88-03 N88-04 N88-05 N88-06 N88-07	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	57' 5' 26' 23' 3' 18' 4'	63' 6' 29' 25' 3' 20' 4'	0.756A 0.648A 0.540A 0.432A 0.324A 0.216A 0.108A	A 0.291v A 0.022v A 0.095v A 0.067v A 0.007v A 0.026v A 0.003v	0.756A HOR	0.511v N.A.C # N-STROBE	88 CIRCUIT
N88-01 N88-02 N88-03 N88-04 N88-05 N88-06 N88-07	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	57' 5' 26' 23' 3' 18' 4'	63' 6' 29' 25' 3' 20' 4'	0.756A 0.648A 0.540A 0.432A 0.324A 0.216A 0.108A	A 0.291v A 0.022v A 0.095v A 0.067v A 0.007v A 0.026v A 0.003v	0.756A HOR	0.511v N.A.C # N-STROBE	88 CIRCUIT Percent Drop
N88-01 N88-02 N88-03 N88-04 N88-05 N88-06 N88-07 Device #	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	57' 5' 26' 23' 3' 18' 4'	63' 6' 29' 25' 3' 20' 4' Distance + 10%	0.756A 0.648A 0.540A 0.432A 0.216A 0.108A Amps	A 0.291v A 0.022v A 0.095v A 0.067v A 0.007v A 0.026v A 0.003v Vok Drop	0.756A HOR	0.511v N.A.C # N-STROBE	88 CIRCUIT Percent Drop
N88-01 N88-02 N88-03 N88-04 N88-05 N88-06 N88-07 Device # N89-01 N89-02	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A Device Draw 0.108A 0.108A	57' 5' 26' 23' 3' 18' 4' Distance 95' 3'	63' 6' 29' 25' 3' 20' 4' Distance + 10%	0.756A 0.648A 0.540A 0.324A 0.216A 0.108A Amps 0.648A 0.540A 0.432A	A 0.291v A 0.022v A 0.095v A 0.067v A 0.026v A 0.003v Volt Drop 0.416v 0.011v 0.061v	0.756A HOR Total Amps 0.648A	0.511v N.A.C # N-STROBE Total Drop 0.516v	88 CIRCUIT Percent Drop 2.5280%
N88-01 N88-02 N88-03 N88-04 N88-05 N88-06 N88-07 Device # N89-01 N89-02 N89-03	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A Device Draw 0.108A 0.108A	57' 5' 26' 23' 3' 18' 4' Distance 95' 3' 21'	63' 6' 29' 25' 3' 20' 4' Distance + 10% 105' 3' 23'	0.756A 0.648A 0.540A 0.432A 0.216A 0.108A Amps 0.648A 0.540A	A 0.291v A 0.022v A 0.095v A 0.067v A 0.007v A 0.026v A 0.003v Vok Drop 0.416v 0.011v	0.756A HOR Total Amps 0.648A	0.511v N.A.C # N-STROBE	88 CIRCUIT Percent Drop 2.5280%

L		SYSTEM IANCE O	URREN	T DRAV		ON		A x (L/1000) x R x 2) A= CURRENT REQUIRED BY THE DEVICE
	78		DC CURRE		0.1			L= LENGTH DISTANCE FROM DEVICE TO DEVICE
Candela	W	la l	weath	erproof	Lei	ling Unra/	LF-Horn /	R = RESISTANCE OF WIRE PER 1000 FT.
	Challe	Horn/	Courbo	Horn/	Charles	Horn/		12 AWG = 1.93 OHMS PER 1000FT.
Rating	Strobe	Strobe	Strobe	Strobe	Strobe	Strabe	Strobe	VOLTAGE DROP BASE ON PANELS WORST
15cd	0.043	0.054	0.066	0.079	0.041	0.071		CA SE VOLTAGE OF 20.4 V DC
30cd	0.063	0.074	0.094	0.107	0.063	0.090		
75cd	0.107	0.121	0.158	0.176	0.111	0.143		METHOD OF CALCULATIONS: POINT TO POINT
95cd	0.121	0.142	0.181	0.194	0.134	0.165		A x (L/1000) x R x 2)
110cd	0.148	0.162	0.202	0.212	-			, ,
115cd			0.210	0.218	0.158	0.187		A= CURRENT REQUIRED BY THE DEVICE
135cd	0.172	0.196	0.228	0.245	-			L= LENGTH DISTANCE FROM DEVICE TO DEVICE
150cd			0.246	0.259	0.189	0.217		R = RESISTANCE OF WIRE PER 1000 FT.
177cd		-	0.281	0.290	0.226	0.254	0.266	14 AWG = 3.07 OHMS PER 1000FT.
185cd	0.222	0.245	0.286	0.297				VOLTAGE DROP BASE ON PANELS WORST
				0.27			0.108	CASE VOLTAGE OF 20.4 VDC

IRESW	ATI CH 109		(5 MINTUES I											ALTR	RONIX	5	
		A			В	С	D	E	F								
							Total Stanby	Alarm	Total Alarm								
						Standby	Current	Current	Current								
Be	EERINAL POW	ER SUPPLY	COMPONENTS	Qua	ntity	Current	(BxC)	(BxE)	(BxE)								
MAIN F	POWER SUPPL	YBOARD		1	1	0.180A	0.180A	0.200A	0.200A								
					-				-								
						Total Standby Current =	0.180A	Total A im Current=	0.200A								
N	NOTIFICATI	ON APPL	IANCES	CUR	RENT AW	N93	N94	N95	N96	N97	N98	N99		N100			
15cd S	STROBE, CEILI	NG		0.0	41A	1	0	0	0	0	0	0		0			
15cd H	HORN-STROBE,	CELING		0.0	71A	9	0	0	0	0	0	0		0			
HORN	LOW FREO				08A	0	8	8	7	6	8	6	\neg	12			
				NAC	COKT									12			
				DRA	.w =	0.680A	0.864A	0.864A	0.756A	0.648A	0.8644	0.648	0000000	1.296A DTAL NAC			
													2000000	CURRENT DRAW =	6.620A		
			ULATIONS				TOTAL STANDY CALCU										
	standby curren By by 24 or 60		ours needed.				0.180A 24H										
18 Total s	standby AH (An	mp Hours)					4.3200 AH				1				TOTAL		
															ALARM CURRENT		
		NT CALC	ULATIONS	T			I		T	I	Τ		T		CALCU	-	
	alarm current by by 0.0833 fo	r 5 min or 0.	25 for 15 minutes	of alarm											6.820A 0.0833	1	
	alarm current.	KIIP RFO	UIREMENTS												0.5681 AH		
	otal, add line 18		- Little												4.8881 AH		
											at the same of the				2001		
	ly by 1.2 for 20		erating Factor						_	-	-	-	-		20%	-	
24 Total A Device #	AH (Amp Hours Device Draw) Distance	Distance + 10%				Total Drop Perce		Device # Device			nce + 10%	Amps	Volt Drop	5.8657 AH ED = 12 AMP Total Amps	Total Drop	
Device # N93-01 N93-02 N93-03 N93-04 N93-05	Device Draw 0.071A 0.071A 0.071A 0.071A 0.071A	Distance 40' 14' 68' 36' 13'	Distance + 10% 44' 15' 75' 40' 14'	0.680A 0.609A 0.538A 0.467A 0.396A	0.184v 0.058v 0.247v 0.114v 0.035v	0.680A	•	049% T	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0.	108A 2 108A 108A : 108A :	74' 8' 7' 8'	nce + 10% 301' 3' 19' 9' 21'	Amps 0.648A 0.540A 0.432A 0.324A 0.216A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v	5.8657 AH ED = 12 AMP Total Amps 0.648A		6.421 7
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08	Device Draw 0.071A 0.071A 0.071A 0.071A 0.071A 0.071A 0.071A 0.071A 0.071A	Distance 40' 14' 68' 36' 13' 43' 17' 25'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28'	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.254A 0.183A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v	0.680A	0.858v 4.20	049% T	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0.	108A 2 108A 108A : 108A :	74' 3' 7' 3'	nce + 10% 301' 3' 19' 9' 21'	Amps 0.648A 0.540A 0.432A 0.324A	Volt Drop 1.199v 0.011v 0.050v 0.018v	5.8657 AH ED = 12 AMP Total Amps 0.648A	Total Drop 1.310v N.A.C #9	6.421 7
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07	Device Draw 0.071A 0.071A 0.071A 0.071A 0.071A 0.071A 0.071A 0.071A	Distance 40' 14' 68' 36' 13' 43' 17'	Distance + 10% 44' 15' 75' 40' 14' 47' 19'	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.254A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v	0.680A	0.858v 4.20	T [N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0.	108A 2 108A : 108A : 108A : 108A : 108A : 108A :	74' '' 7' 3' 9' "'	301' 3' 19' 9' 21' 8'	Amps 0.648A 0.540A 0.432A 0.324A 0.216A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN	1.310v N.A.C #9 -STROBE CI	6.421 7 RCUIT Percer
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09	Device Draw 0.071A 0.071A 0.071A 0.071A 0.071A 0.071A 0.071A 0.071A 0.071A 0.071A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43'	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.254A 0.183A 0.142A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v	0.680A	0.858v 4.20	T [N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Device	108A 2 108A : 108A : 108A : 108A : 108A : 108A : 108A :	74' 3' 7' 3' 9'	nce + 10% 301' 3' 19' 9' 21' 8'	Amps 0.648A 0.540A 0.432A 0.324A 0.216A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN	Total Drop I 1.310v N.A.C #9 -STROBE CI	6.421 7 RCUIT Percer
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10	Device Draw 0.071A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67'	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.254A 0.183A 0.142A 0.071A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v	0.680A N HORN-S	0.858v 4.20 N.A.C #93 STROBE CIRCUI	T [N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Device N98-01 0. N98-02 0. N98-03 0.	108A 2 108A 1	74' '7' '8' '9' '7' ance Dista 4' '5' '9'	301' 3' 19' 9' 21' 8' since + 10% 81' 7' 21'	Amps 0.648A 0.540A 0.432A 0.324A 0.216A 0.108A Amps 0.864A 0.756A 0.648A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN	Total Drop 1.310v N.A.C #9 -ST ROBE CI Total Drop 0.727v	6.421 7 RCUIT Percer 3.56
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device #	Device Draw 0.071A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10%	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.254A 0.183A 0.142A 0.071A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v	0.680A N HORN-S	0.858v 4.20 N.A.C #93 STROBE CIRCUI	T Ent Drop	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Device N98-01 0. N98-02 0. N98-03 0. N98-04 0.	108A 2 108A 1	74' '7' '8' '9' '7' ance Dista 4' '5' '9' '8'	301' 3' 19' 9' 21' 8' mnce + 10% 81' 7' 21' 9'	Amps 0.648A 0.540A 0.432A 0.324A 0.216A 0.108A Amps 0.864A 0.756A 0.648A 0.540A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN P Total Amps 0.864A	N.A.C #9 Total Drop Total Drop 0.727v N.A.C #9	6.421 7 RCUIT Percer 3.56
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01	Device Draw 0.071A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47'	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v	0.680A N HORN-S	0.858v 4.20 N.A.C #93 STROBE CIRCUI Total Drop Perce	T	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Device N98-01 0. N98-02 0. N98-03 0. N98-04 0. N98-05 0.	108A 2 108A :	74' 3' 7' 9' 7' 8 ance Dista 4' 5' 9' 8' 3'	nce + 10% 301' 3' 19' 9' 21' 8' nnce + 10% 81' 7' 21' 9' 25'	Amps 0.648A 0.540A 0.432A 0.324A 0.216A 0.108A Amps 0.864A 0.756A 0.648A 0.540A 0.432A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN P Total Amps 0.864A	Total Drop 1.310v N.A.C #9 -ST ROBE CI Total Drop 0.727v	6.421 7 RCUIT Percei 3.56
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device #	Device Draw 0.071A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10%	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.254A 0.183A 0.142A 0.071A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v	0.680A N HORN-S P Total Amps 1 0.864A	0.858v 4.20 N.A.C #93 STROBE CIRCUI Total Drop Perce 0.589v 2.8	T	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Device N98-01 0. N98-02 0. N98-03 0. N98-03 0. N98-04 0. N98-05 0. N98-06 0.	108A 2 108A 1	74' 3' 7' 9' 8' 4' 5' 9' 8' 3' 7'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19'	Amps 0.648A 0.540A 0.432A 0.324A 0.216A 0.108A Amps 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.037v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN P Total Amps 0.864A	N.A.C #9 Total Drop Total Drop 0.727v N.A.C #9	6.421 7 RCUIT Percei 3.56
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02	Device Draw 0.071A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19'	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A 0.864A 0.756A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Drol 0.251v 0.153v 0.022v 0.062v	0.680A N HORN-S P Total Amps 1 0.864A	0.858v 4.20 N.A.C #93 STROBE CIRCUI	T [C]	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-04 0. N98-05 0. N98-06 0. N98-07 0.	108A 2 108A 108A 108A 108A 108A 108A 108A 108A	74' 3' 7' 9' 7' 8 ance Dista 4' 5' 9' 8' 3'	nce + 10% 301' 3' 19' 9' 21' 8' nnce + 10% 81' 7' 21' 9' 25'	Amps 0.648A 0.540A 0.432A 0.324A 0.216A 0.108A Amps 0.864A 0.756A 0.648A 0.540A 0.432A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.037v 0.045v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN P Total Amps 0.864A	N.A.C #9 Total Drop Total Drop 0.727v N.A.C #9	6.421 7 RCUIT Percei 3.56
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05	Device Draw 0.071A 0.108A 0.108A 0.108A 0.108A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25'	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A 6 Amps 0.864A 0.756A 0.648A 0.540A 0.432A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.037v 0.029v Volt Drol 0.251v 0.153v 0.022v 0.062v 0.067v	0.680A N HORN-S P Total Amps 1 0.864A	0.858v 4.20 N.A.C #93 STROBE CIRCUI Total Drop Perce 0.589v 2.8	T	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-04 0. N98-05 0. N98-06 0. N98-07 0.	108A 2 108A 108A 108A 108A 108A 108A 108A 108A	74' 3' 7' 8' 9' 7' Bance Dista 4' 5' 9' 3' 3' 7'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34'	Amps 0.648A 0.540A 0.432A 0.216A 0.108A Amps 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A 0.216A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.037v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN P Total Amps 0.864A	N.A.C #9 Total Drop Total Drop 0.727v N.A.C #9	6.421 7 RCUIT Percel 3.56
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06	Device Draw 0.071A 0.081A 0.108A 0.108A 0.108A 0.108A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3'	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A 6 Amps 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.037v 0.029v Volt Drol 0.251v 0.153v 0.022v 0.062v 0.067v 0.007v	0.680A N HORN-S P Total Amps 1 0.864A	0.858v 4.20 N.A.C #93 STROBE CIRCUI Total Drop Perce 0.589v 2.8 N.A.C #94	T	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-04 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0.	108A 2 108A :	74' 3' 7' 8' 9' 7' 8' 9' 8' 8' 9' 1' 8' 8' 8' 8' 8' 8' 8' 8' 8' 8' 8' 8' 8'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3'	Amps 0.648A 0.540A 0.432A 0.216A 0.108A Amps 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.037v 0.045v 0.002v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN D Total Amps 0.864A HOR	Total Drop 1.310v N.A.C #9 -STROBE CI Total Drop 0.727v N.A.C #9 N-STROBE C	6.421 7 RCUIT Percer 3.56
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07	Device Draw 0.071A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 5' 17' 23' 3' 17'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19'	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.254A 0.142A 0.071A 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A 0.216A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.037v 0.029v Volt Droj 0.251v 0.022v 0.062v 0.067v 0.007v 0.025v	0.680A N HORN-S P Total Amps 1 0.864A	0.858v 4.20 N.A.C #93 STROBE CIRCUI Total Drop Perce 0.589v 2.8 N.A.C #94	T [[[[[[[[[[[[[[[[[[[N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-04 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0. Device # Devic Device # Devic	108A 2 108A 108A 108A 108A 108A 108A 108A 108A	74' 3' 7' 8' 9' '' ance Dista 4' 5' 9' 3' 3' 7' 1'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nnce + 10%	Amps 0.648A 0.540A 0.432A 0.216A 0.108A Amps 0.864A 0.756A 0.540A 0.432A 0.432A 0.432A 0.432A 0.432A 0.432A 0.434A 0.44	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.037v 0.045v 0.002v Volt Drop	Total Amps 0.864A HORN Total Amps 0.864A HORN	Total Drop 1.310v N.A.C #9 -STROBE CI Total Drop 0.727v N.A.C #9 N-STROBE CI	Percen
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06	Device Draw 0.071A 0.081A 0.108A 0.108A 0.108A 0.108A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3'	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A 6 Amps 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.037v 0.029v Volt Drol 0.251v 0.153v 0.022v 0.062v 0.067v 0.007v	0.680A N HORN-S P Total Amps 1 0.864A	0.858v 4.20 N.A.C #93 STROBE CIRCUI Total Drop Perce 0.589v 2.8 N.A.C #94	T [[[[[[[[[[[[[[[[[[[N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-04 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0. Device # Devic N99-01 0.	108A 2 108A 1	74' 3' 7' 8' 9' 7' ance Dista 4' 6' 8' 3' 1' 1' 2'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205'	Amps 0.648A 0.540A 0.324A 0.216A 0.108A Amps 0.864A 0.756A 0.540A 0.432A 0.432A 0.216A 0.108A Amps 0.864A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.037v 0.045v 0.002v Volt Drop 0.512v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN D Total Amps 0.864A HOR	Total Drop 1.310v N.A.C #9 -STROBE CI Total Drop 0.727v N.A.C #9 N-STROBE C	Percent
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07	Device Draw 0.071A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 5' 17' 23' 3' 17'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19'	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.254A 0.142A 0.071A 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A 0.216A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.037v 0.029v Volt Droj 0.251v 0.022v 0.062v 0.067v 0.007v 0.025v	0.680A N HORN-S P Total Amps 1 0.864A	0.858v 4.20 N.A.C #93 STROBE CIRCUI Total Drop Perce 0.589v 2.8 N.A.C #94	T [[[[[[[[[[[[[[[[[[[N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-04 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0. Device # Devic N99-01 0. N99-01 0.	108A 2 108A 3	74' 3' 7' 8' 9' 7' ance Dista 4' 5' 9' 1' 3' 3' 7' 1' 5' 3' 3' 6' 8'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3'	Amps 0.648A 0.540A 0.324A 0.216A 0.108A Amps 0.864A 0.756A 0.540A 0.324A 0.108A Amps 0.648A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.037v 0.045v 0.002v Volt Drop 0.512v 0.011v	Total Amps 0.864A HORN Total Amps 0.864A HORN	Total Drop 1.310v N.A.C #9 -STROBE CI Total Drop 0.727v N.A.C #9 N-STROBE CI	Percent
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3' 17' 4'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4'	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.142A 0.071A 0.071A 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A 0.108A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Droj 0.251v 0.153v 0.022v 0.062v 0.067v 0.007v 0.003v	D.680A N HORN-S Total Amps 1 0.864A N HORN-S	0.858v 4.20 N.A.C #93 STROBE CIRCUI Total Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI	T	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Device N98-01 0. N98-02 0. N98-03 0. N98-04 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0. Device # Device N99-01 0. N99-01 0. N99-02 0. N99-03 0.	108A 2 108A 3	74' 3' 7' 8' 9' 7' ance Dista 4' 5' 9' 1' 3' 3' 7' 11' 3' 36' 3' 7'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 19'	Amps 0.648A 0.540A 0.324A 0.216A 0.108A Amps 0.864A 0.756A 0.540A 0.324A 0.108A Amps 0.648A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.037v 0.045v 0.002v Volt Drop 0.512v 0.011v 0.050v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN D Total Amps 0.864A HOR	Total Drop 1.310v N.A.C #9 -STROBE CI Total Drop 0.727v N.A.C #9 N-STROBE CI Total Drop 0.636v	Percent 3.120
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3' 17' 4' Distance	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10%	0.680A 0.690A 0.538A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A 0.864A 0.756A 0.648A 0.540A 0.432A 0.324A 0.108A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.029v 0.0251v 0.153v 0.022v 0.062v 0.067v 0.007v 0.025v 0.003v	p Total Amps 1 0.680A N HORN-S 0.864A N HORN-S	Iotal Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Total Drop Perce 0.589v Perce 0.589v Perce 0.589v Perce	ent Drop 891%	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-04 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-03 0.	108A 2 108A 3	74' 3' 7' 8' 9' 7' ance Dista 4' 5' 9' 1' 3' 3' 7' 1' 5' 3' 3' 6' 8'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 19' 26'	Amps 0.648A 0.540A 0.324A 0.216A 0.108A Amps 0.864A 0.756A 0.540A 0.324A 0.108A Amps 0.648A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.037v 0.045v 0.002v Volt Drop 0.512v 0.011v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN D Total Amps 0.864A HOR	Total Drop 1.310v N.A.C #9 -STROBE CI Total Drop 0.727v N.A.C #9 N-STROBE CI Total Drop 0.636v N.A.C #9	Percent 3.120
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08 Device #	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3' 17' 4' Distance	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10%	0.680A 0.690A 0.538A 0.467A 0.396A 0.325A 0.142A 0.071A 0.071A 0.864A 0.756A 0.648A 0.540A 0.432A 0.216A 0.108A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v 0.251v 0.153v 0.022v 0.062v 0.067v 0.007v 0.025v 0.003v	D.680A N HORN-S Total Amps 1 0.864A N HORN-S	Iotal Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Total Drop Perce 0.589v Perce 0.589v Perce 0.589v Perce	ent Drop	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-03 0. N99-04 0. N99-05 0.	108A 2 108A 3 108A 3 108A 3 108A 4 108A 4 108A 6 108A 6 108A 6 108A 6 108A 6 108A 6 108A 7 108A 7 108A 7 108A 7 108A 1	74' 3' 7' 8' 9' 7' ance Dista 4' 6' 9' 8' 3' 7' 11' 6' 8' 7' 4'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 19' 26' 3'	Amps 0.648A 0.540A 0.324A 0.216A 0.108A Amps 0.864A 0.756A 0.648A 0.540A 0.108A Amps 0.648A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.045v 0.002v Volt Drop 0.512v 0.011v 0.050v 0.053v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN D Total Amps 0.864A HOR	Total Drop 1.310v N.A.C #9 -STROBE CI Total Drop 0.727v N.A.C #9 N-STROBE CI Total Drop 0.636v	6.421 7 RCUIT Percer 3.56 98 CIRCUIT
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08 Device #	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17 23' 3' 17 4' Distance 119' 3'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10%	0.680A 0.690A 0.538A 0.467A 0.396A 0.325A 0.142A 0.071A 0.071A 0.864A 0.756A 0.432A 0.216A 0.108A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Droi 0.153v 0.022v 0.067v 0.007v 0.003v Volt Droi 0.694v 0.015v	p Total Amps 1 0.680A N HORN-S 0.864A N HORN-S	Iotal Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Total Drop Perce 0.589v Perce 0.589v Perce 0.589v Perce	ent Drop	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-03 0. N99-04 0. N99-05 0.	108A 2 108A 3	74' 3' 7' 8' 9' 7' 8' 9' 7' 8' 8' 9' 8' 8' 7' 1' 8' 8' 8' 7' 4' 8'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 19' 26' 3'	Amps 0.648A 0.540A 0.324A 0.216A 0.108A Amps 0.864A 0.756A 0.648A 0.540A 0.108A Amps 0.648A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.045v 0.002v Volt Drop 0.512v 0.011v 0.050v 0.053v 0.004v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN D Total Amps 0.864A HOR	Total Drop 1.310v N.A.C #9 -STROBE CI Total Drop 0.727v N.A.C #9 N-STROBE CI Total Drop 0.636v N.A.C #9	6.421 7 RCUIT Percer 3.56 98 CIRCUIT
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08 Device #	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3' 17' 4' Distance 119' 3' 19'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10%	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.142A 0.071A 0.071A 0.864A 0.756A 0.648A 0.540A 0.432A 0.108A 0.108A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Droi 0.153v 0.022v 0.062v 0.067v 0.007v 0.025v 0.003v Volt Droi 0.694v 0.015v 0.083v	p Total Amps 1 0.864A P Total Amps 1 0.864A	0.858v 4.20 N.A.C #93 STROBE CIRCUI Total Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Total Drop Perce 0.903v 4.4	ent Drop	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-03 0. N99-04 0. N99-05 0.	108A 2 108A 3	74' 3' 7' 8' 9' 7' 8' 9' 7' 8' 8' 9' 8' 8' 7' 1' 8' 8' 8' 7' 4' 8'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 19' 26' 3'	Amps 0.648A 0.540A 0.324A 0.216A 0.108A Amps 0.864A 0.756A 0.648A 0.540A 0.108A Amps 0.648A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.045v 0.002v Volt Drop 0.512v 0.011v 0.050v 0.053v 0.004v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN D Total Amps 0.864A HOR	Total Drop 1.310v N.A.C #9 -STROBE CI Total Drop 0.727v N.A.C #9 N-STROBE CI Total Drop 0.636v N.A.C #9	6.421 7 RCUIT Percer 3.56 98 CIRCUIT
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08 Device # N95-01 N95-02 N95-03 N95-04	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3' 17' 4' Distance 119' 3' 19' 10'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10% 131' 3' 21' 11'	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A 0.864A 0.756A 0.648A 0.540A 0.108A 0.864A 0.108A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Droi 0.251v 0.153v 0.022v 0.062v 0.067v 0.007v 0.025v 0.003v Volt Droi 0.694v 0.015v 0.083v 0.036v	D.680A N HORN-S Total Amps 1 0.864A N HORN- Total Amps 1 0.864A	0.858v 4.20 N.A.C #93 STROBE CIRCUI Total Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Total Drop Perce 0.903v 4.4 N.A.C #95	T	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-04 0. N98-05 0. N98-06 0. N98-08 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-04 0. N99-03 0. N99-04 0. N99-05 0.	108A 2 108A 108A 108A 108A 108A 108A 108A 108A	74' 3' 7' 8' 9' '' ance Dista 4' 5' 8' 3' 7' 11' 3' ance Dista 36' 5' 7' 4' 8' 0'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 19' 26' 3' 11'	Amps 0.648A 0.540A 0.324A 0.108A Amps 0.864A 0.756A 0.432A 0.324A 0.108A Amps 0.648A 0.108A Amps 0.648A 0.108A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.037v 0.045v 0.002v Volt Drop 0.512v 0.011v 0.050v 0.053v 0.004v 0.007v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN D Total Amps 0.864A HORN Total Amps 0.648A HORN	Total Drop 1.310v N.A.C #9 -STROBE CI Total Drop 0.727v N.A.C #9 N-STROBE CI Total Drop 0.636v N.A.C #9 -STROBE CI	Percent 3.120
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08 Device # N95-01 N95-02 N95-03 N95-04 N95-05	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3' 17' 4' Distance 119' 10' 3'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10% 131' 3' 21' 11' 3'	0.680A 0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A 0.864A 0.756A 0.648A 0.540A 0.324A 0.108A 0.108A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Drol 0.251v 0.153v 0.022v 0.062v 0.067v 0.007v 0.025v 0.003v Volt Drol 0.694v 0.015v 0.083v 0.036v 0.009v	D.680A N HORN-S Total Amps 1 0.864A N HORN- Total Amps 1 0.864A	0.858v 4.20 N.A.C #93 STROBE CIRCUI Total Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Total Drop Perce 0.903v 4.4	2049% T Ent Drop 891% IT Ent Drop 267%	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-04 0. N99-04 0. N99-05 0. N99-06 0.	108A 2 108A 1 10	74' 3' 7' 8' 9' '' ance Dista 4' 5' 9' 3' 7' 1' 8' ance Dista 66' 8' 7' 4' 5' 0'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 11' ance + 10%	Amps 0.648A 0.540A 0.432A 0.324A 0.108A Amps 0.864A 0.756A 0.540A 0.432A 0.216A 0.108A Amps 0.648A 0.108A Amps 0.648A 0.216A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.045v 0.002v Volt Drop 0.512v 0.011v 0.050v 0.053v 0.004v 0.007v Volt Drop	Total Amps 0.648A HORN Total Amps 0.864A HORN Total Amps 0.648A HORN Total Amps 0.648A	Total Drop 1.310v N.A.C #9 -STROBE CI Total Drop 0.727v N.A.C #9 -STROBE CI Total Drop 0.636v N.A.C #9 -STROBE CI	Percent 3.120 Percent Percent
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08 Device # N95-01 N95-02 N95-03 N95-04	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3' 17' 4' Distance 119' 3' 19' 10'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10% 131' 3' 21' 11'	0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A 0.864A 0.756A 0.648A 0.540A 0.108A 0.864A 0.108A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Droi 0.251v 0.153v 0.022v 0.062v 0.067v 0.007v 0.025v 0.003v Volt Droi 0.694v 0.015v 0.083v 0.036v	D.680A N HORN-S Total Amps 1 0.864A N HORN- Total Amps 1 0.864A	0.858v 4.20 N.A.C #93 STROBE CIRCUI Total Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Total Drop Perce 0.903v 4.4 N.A.C #95	2049% T Ent Drop 891% IT Ent Drop 267%	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-04 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-04 0. N99-03 0. N99-04 0. N99-05 0. N99-06 0.	108A 2 108A 1	74' 3' 7' 8' 9' 9' 7' ance Dista 4' 5' 8' 3' 7' 1' 8' ance Dista 7' Dista 7'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 19' 26' 3' 11'	Amps 0.648A 0.540A 0.432A 0.216A 0.108A Amps 0.864A 0.756A 0.540A 0.540A 0.432A 0.216A 0.108A Amps 0.648A 0.216A 0.108A Amps 1.26A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.045v 0.004v 0.0512v 0.011v 0.050v 0.053v 0.004v 0.007v Volt Drop 0.324v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN D Total Amps 0.864A HORN Total Amps 0.648A HORN	Total Drop 1.310v N.A.C #9 -STROBE CI Total Drop 0.727v N.A.C #9 N-STROBE CI Total Drop 0.636v N.A.C #9 -STROBE CI	Percent 3.120 Percent
N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08 Device # N95-01 N95-02 N95-03 N95-04 N95-05 N95-06	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3' 17' 4' Distance 119' 10' 3' 18'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10% 131' 3' 21' 11' 3' 20'	0.680A 0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.142A 0.071A 0.864A 0.756A 0.648A 0.540A 0.324A 0.108A 0.756A 0.108A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Drol 0.251v 0.153v 0.022v 0.062v 0.067v 0.007v 0.025v 0.003v Volt Drol 0.694v 0.015v 0.083v 0.036v 0.009v 0.039v	D.680A N HORN-S Total Amps 1 0.864A N HORN- Total Amps 1 0.864A	0.858v 4.20 N.A.C #93 STROBE CIRCUI Total Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Total Drop Perce 0.903v 4.4 N.A.C #95	17	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-04 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-04 0. N99-04 0. N99-05 0. N99-06 0.	108A 2 108A 108A 108A 108A 108A 108A 108A 108A	74' 3' 7' 8' 9' 9' 7' 8' 9' 8' 8' 8' 8' 8' 8' 8' 7' 1' 8' ance Dista 66' 8' 8' 7' 4' 6' 6' 6'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 19' 26' 3' 11' nce + 10% 41' 18' 6'	Amps 0.648A 0.540A 0.324A 0.108A Amps 0.864A 0.756A 0.540A 0.432A 0.216A 0.108A Amps 0.648A 0.108A Amps 0.648A 0.108A Amps 1.296A 1.188A 1.080A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.037v 0.045v 0.002v Volt Drop 0.512v 0.011v 0.050v 0.053v 0.004v 0.007v Volt Drop 0.324v 0.128v 0.036v	5.8657 AH ED = 12 AMP Total Amps 0.648A HORN D Total Amps 0.864A HORN Total Amps 0.648A HORN Total Amps 1.296A	Total Drop 1.310v N.A.C #9 -STROBE CI Total Drop 0.727v N.A.C #9 -STROBE CI Total Drop 0.636v N.A.C #9 -STROBE CI Total Drop 0.636v	Percent 3.120 Percent 4.247
N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08 Device # N95-01 N95-02 N95-04 N95-05 N95-06 N95-07	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 4' Distance 119' 3' 19' 10' 3' 18' 16'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10% 131' 3' 21' 11' 3' 20' 18'	0.680A 0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A 6 Amps 0.864A 0.756A 0.648A 0.540A 0.108A 0.108A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Drol 0.251v 0.062v 0.067v 0.007v 0.025v 0.003v Volt Drol 0.694v 0.015v 0.083v 0.039v 0.039v 0.039v	D.680A N HORN-S Total Amps 1 0.864A N HORN- Total Amps 1 0.864A	0.858v 4.20 N.A.C #93 STROBE CIRCUI Total Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Total Drop Perce 0.903v 4.4 N.A.C #95	2049% T Ent Drop 891% Ent Drop 267%	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-04 0. N99-05 0. N99-06 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-04 0. N99-05 0. N99-06 0.	108A 2 108A 108A 108A 108A 108A 108A 108A 108A	74' 3' 7' 8' 9' 7' 8' 9' 7' 8' 8' 9' 8' 8' 8' 8' 8' 8' 8' 8' 8' 8' 8' 8' 8'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 11' nnce + 10% 41' 18' 6' 18' 6'	Amps 0.648A 0.540A 0.108A 0.108A Amps 0.864A 0.756A 0.540A 0.324A 0.108A Amps 0.648A 0.108A Amps 0.648A 0.108A Amps 1.296A 1.188A 1.080A 0.972A 0.864A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.045v 0.002v Volt Drop 0.512v 0.011v 0.050v 0.053v 0.004v 0.007v Volt Drop 0.324v 0.007v Volt Drop 0.324v 0.009v 0.0324v 0.009v 0.009v	Total Amps 0.648A HORN Total Amps 0.864A HORN Total Amps 0.648A HORN Total Amps 1.296A	Total Drop 1.310v N.A.C #9 -STROBE CI Total Drop 0.727v N.A.C #9 -STROBE CI Total Drop 0.636v N.A.C #9 -STROBE CI	Percent 3.120 Percent 4.247
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08 Device # N95-01 N95-02 N95-03 N95-04 N95-05 N95-06 N95-07 N95-08	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3' 17' 4' Distance 119' 3' 19' 10' 3' 18' 16' 3'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10% 131' 3' 21' 11' 3' 20' 18' 3'	0.680A 0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A 0.864A 0.756A 0.648A 0.540A 0.432A 0.216A 0.756A 0.648A 0.756A 0.648A 0.756A 0.108A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Droi 0.251v 0.153v 0.022v 0.062v 0.067v 0.007v 0.025v 0.003v Volt Droi 0.694v 0.015v 0.083v 0.036v 0.009v 0.039v 0.023v 0.002v	p Total Amps 1 0.864A HORN- P Total Amps 1 0.864A HORN-	Iotal Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Total Drop Perce 0.903v 4.4 N.A.C #95 STROBE CIRCUI	T	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-04 0. N99-05 0. N99-06 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-04 0. N99-05 0. N99-06 0.	108A 2 108A 108A 108A 108A 108A 108A 108A 108A	74' 3' 7' 8' 9' 9' 7' 8 ance Dista 4' 5' 8' 3' 1' 3' 1' 8' 0' ance Dista 7' 6' 6' 6'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 11' nnce + 10% 41' 18' 6' 18' 6' 14'	Amps 0.648A 0.540A 0.108A 0.108A Amps 0.864A 0.756A 0.540A 0.324A 0.108A Amps 0.648A 0.108A Amps 0.648A 0.108A Amps 1.296A 1.188A 1.080A 0.972A 0.864A 0.756A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.045v 0.002v Volt Drop 0.512v 0.011v 0.050v 0.053v 0.004v 0.007v Volt Drop 0.324v 0.007v Volt Drop 0.324v 0.0066v 0.0066v	Total Amps 0.648A HORN Total Amps 0.864A HORN Total Amps 0.648A HORN Total Amps 1.296A	Total Drop 1.310v N.A.C #9 -ST ROBE CI Total Drop 0.727v N.A.C #9 -STROBE CI Total Drop 0.636v N.A.C #9 -ST ROBE CI Total Drop 0.636v N.A.C #9 -ST ROBE CI Total Drop 0.867v	Percent 3.120 Percent 4.247
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08 Device # N95-01 N95-02 N95-03 N95-04 N95-05 N95-06 N95-07 N95-08	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3' 17' 4' Distance 119' 3' 19' 10' 3' 18' 16' 3' Distance	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10% 131' 3' 21' 11' 3' 20' 18' 3' Distance + 10%	0.680A 0.609A 0.609A 0.609A 0.538A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A 0.864A 0.756A 0.648A 0.540A 0.432A 0.216A 0.756A 0.648A 0.756A 0.648A 0.756A 0.108A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Droi 0.251v 0.153v 0.022v 0.062v 0.067v 0.007v 0.025v 0.003v Volt Droi 0.694v 0.015v 0.039v 0.039v 0.039v 0.023v Volt Droi 0.009v 0.009v 0.002v	D. Total Amps 1 0.864A P Total Amps 1 0.864A HORN- D Total Amps 1 0.864A HORN-	Iotal Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Iotal Drop Perce 0.903v 4.4 N.A.C #95 STROBE CIRCUI Iotal Drop Perce 0.903v Perce Iotal Drop Perce 0.903v Perce Iotal Drop Perce	2049% T Ent Drop 891% T Cent Drop 267%	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-04 0. N98-05 0. N98-06 0. N98-07 0. N98-08 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-04 0. N99-05 0. N99-06 0. Device # Devic N99-06 0. N99-07 0. N99-08 0. N99-09 0	108A 2 108A 1 10	74' 3' 7' 8' 9' 7' 8 99' 7' 8 33' 7' 11' 8' 8' 8' 11' 8' 10' 8 ance Dista 86' 87' 44' 83' 00'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 11' nce + 10% 41' 18' 6' 18' 6' 14' 8'	Amps 0.648A 0.540A 0.108A 0.108A Amps 0.864A 0.756A 0.540A 0.324A 0.756A 0.648A 0.432A 0.216A 0.108A Amps 0.648A 0.108A Amps 1.296A 1.188A 1.080A 0.972A 0.864A 0.756A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.045v 0.002v Volt Drop 0.512v 0.011v 0.050v 0.053v 0.004v 0.07v Volt Drop 0.324v 0.128v 0.036v 0.105v 0.029v 0.066v 0.031v	Total Amps 0.648A HORN Total Amps 0.864A HORN Total Amps 0.648A HORN Total Amps 1.296A	Total Drop 1.310v N.A.C #9 -ST ROBE CI Total Drop 0.727v N.A.C #9 -STROBE CI Total Drop 0.636v N.A.C #9 -ST ROBE CI Total Drop 0.636v N.A.C #9 -ST ROBE CI Total Drop 0.867v	Percent 3.120 Percent 4.247
N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08 Device # N95-01 N95-02 N95-03 N95-04 N95-05 N95-06 N95-07 N95-08 Device #	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3' 17' 4' Distance 119' 3' 18' 16' 3' Distance 218'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10% 131' 3' 20' 18' 3' Distance + 10%	0.680A 0.680A 0.609A 0.538A 0.467A 0.396A 0.325A 0.142A 0.071A 0.864A 0.756A 0.648A 0.540A 0.432A 0.108A 0.864A 0.756A 0.648A 0.756A 0.108A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Droi 0.153v 0.022v 0.062v 0.067v 0.007v 0.025v 0.003v Volt Droi 0.694v 0.015v 0.039v 0.039v 0.039v 0.039v 0.020v 0.04 broi 0.151v 0.051v 0.051v 0.051v 0.070v 0.070v 0.070v 0.090v	p Total Amps 1 0.864A HORN- P Total Amps 1 0.864A HORN- D Total Amps 1 0.864A HORN-	Iotal Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Iotal Drop Perce 0.903v 4.4 N.A.C #95 STROBE CIRCUI Iotal Drop Perce 0.903v Perce Iotal Drop Perce 0.903v Perce Iotal Drop Perce	2049% T Ent Drop 891% T Ent Drop 267% T Ent Drop 22324%	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. Device # Devic N98-01 0. N98-02 0. N98-03 0. N98-04 0. N98-08 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-04 0. N99-05 0. N99-06 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-04 0. N99-05 0. N99-05 0. N99-06 0. Device # Devic N99-07 0. N99-08 0. N99-09 0.	108A 2 108A 108A 108A 108A 108A 108A 108A 108A	74' 3' 7' 8' 9' 7' 8 99' 8 33' 7' 11' 8' 8' 8' 8' 8' 9' 8 33' 7' 11' 6' 6' 6' 6' 6' 6' 7' 7' 3' 7' 3'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 11' nce + 10% 41' 18' 6' 18' 6' 14' 8' 14'	Amps 0.648A 0.540A 0.108A 0.108A Amps 0.864A 0.756A 0.648A 0.108A Amps 0.648A 0.108A Amps 0.648A 0.108A Amps 0.648A 0.108A Amps 0.648A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.045v 0.002v Volt Drop 0.512v 0.011v 0.050v 0.053v 0.004v 0.07v Volt Drop 0.324v 0.128v 0.036v 0.105v 0.029v 0.066v 0.031v 0.047v	Total Amps 0.648A HORN Total Amps 0.864A HORN Total Amps 0.648A HORN Total Amps 1.296A	Total Drop 1.310v N.A.C #9 -ST ROBE CI Total Drop 0.727v N.A.C #9 -STROBE CI Total Drop 0.636v N.A.C #9 -ST ROBE CI Total Drop 0.636v N.A.C #9 -ST ROBE CI Total Drop 0.867v	Percent 3.120 Percent 4.247
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08 Device # N95-01 N95-02 N95-03 N95-04 N95-05 N95-06 N95-07 N95-08	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3' 17' 4' Distance 119' 3' 19' 10' 3' 18' 16' 3' Distance	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10% 131' 3' 21' 11' 3' 20' 18' 3' Distance + 10%	0.680A 0.609A 0.609A 0.609A 0.538A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A 0.864A 0.756A 0.648A 0.540A 0.432A 0.216A 0.756A 0.648A 0.756A 0.648A 0.756A 0.108A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Dro 0.251v 0.153v 0.022v 0.062v 0.067v 0.007v 0.025v 0.003v Volt Dro 0.694v 0.015v 0.083v 0.036v 0.009v 0.039v 0.039v 0.04v 1.1133v 0.044v	p Total Amps 1 0.864A HORN- P Total Amps 1 0.864A HORN- D Total Amps 1 0.864A HORN-	Iotal Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Iotal Drop Perce 0.903v 4.4 N.A.C #95 STROBE CIRCUI Iotal Drop Perce 0.903v 4.4 Iotal Drop Perce 0.903v 6.4	2049% T Ent Drop 891% T Cent Drop 267% T Cent Drop 22324%	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. N97-06 0. Device # Device N98-01 0. N98-03 0. N98-04 0. N98-05 0. N98-07 0. N98-08 0. Device # Device N99-01 0. N99-02 0. N99-03 0. N99-04 0. N99-05 0. N99-06 0. N99-06 0. N99-07 0. N99-07 0. N99-08 0. N99-09 0.	108A 2 108A 108A 108A 108A 108A 108A 108A 108A	74' 3' 7' 8' 9' 7' 8 ance Dista 4' 5' 9' 8' 3' 7' 1' 8' ance Dista 6' 8' 7' 4' 8' 6' 6' 6' 6' 6' 6' 6' 7' 3' 7' 3' 0'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 11' nce + 10% 41' 18' 6' 18' 6' 14' 8' 14' 22'	Amps 0.648A 0.540A 0.1324A 0.108A 0.756A 0.648A 0.540A 0.108A 0.108A 0.648A 0.108A 0.108A Amps 0.648A 0.108A 0.108A Amps 0.648A 0.108A 0.108A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.045v 0.002v Volt Drop 0.512v 0.011v 0.050v 0.053v 0.004v 0.007v Volt Drop 0.324v 0.128v 0.036v 0.105v 0.029v 0.031v 0.047v 0.058v	Total Amps 0.648A HORN Total Amps 0.864A HORN Total Amps 0.648A HORN Total Amps 1.296A	Total Drop 1.310v N.A.C #9 -ST ROBE CI Total Drop 0.727v N.A.C #9 -STROBE CI Total Drop 0.636v N.A.C #9 -ST ROBE CI Total Drop 0.636v N.A.C #9 -ST ROBE CI Total Drop 0.867v	Percent 3.120 Percent 4.247
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08 Device # N95-01 N95-02 N95-03 N95-04 N95-05 N95-06 N95-07 N95-08 Device #	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17 23' 3' 17 4' Distance 119' 3' 18' 16' 3' Distance 218' 10'	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10% 131' 3' 20' 18' 3' Distance + 10% 240' 11'	0.680A 0.609A 0.609A 0.638A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A 0.864A 0.756A 0.648A 0.540A 0.432A 0.108A 0.864A 0.756A 0.648A 0.756A 0.648A 0.756A 0.648A 0.756A 0.648A 0.756A 0.648A 0.756A 0.648A	0.184v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Droi 0.251v 0.153v 0.022v 0.062v 0.067v 0.007v 0.025v 0.003v Volt Droi 0.694v 0.015v 0.039v 0.039v 0.039v 0.039v 0.044v 0.011v	p Total Amps 1 0.864A HORN- P Total Amps 1 0.864A HORN- D Total Amps 1 0.864A HORN-	Iotal Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Iotal Drop Perce 0.903v 4.4 N.A.C #95 STROBE CIRCUI Iotal Drop Perce 0.903v Perce Iotal Drop Perce 0.903v Perce Iotal Drop Perce	2049% T Ent Drop 891% Ent Drop 267% ET Cent Drop 22324%	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. N97-06 0. Device # Devic N98-01 0. N98-03 0. N98-04 0. N98-05 0. N98-08 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-04 0. N99-04 0. N99-05 0. N99-06 0. Device # Devic N99-06 0. N99-06 0. N99-07 0. N99-08 0.	108A 2 108A 108A 108A 108A 108A 108A 108A 108A	74' 3' 7' 8' 9' 7' ance Dista 4' 5' 9' 3' 7' 1' 8' ance Dista 7' 6' 6' 6' 6' 6' 6' 7' 3' 0' 1'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 11' nce + 10% 41' 18' 6' 18' 6' 14' 8' 14' 22' 12'	Amps 0.648A 0.540A 0.1324A 0.108A 0.108A Amps 0.864A 0.756A 0.540A 0.432A 0.216A 0.108A Amps 0.648A 0.108A Amps 1.216A 0.108A Amps 1.216A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.045v 0.002v Volt Drop 0.512v 0.011v 0.050v 0.053v 0.004v 0.007v Volt Drop 0.324v 0.105v 0.036v 0.036v 0.036v 0.029v 0.036v 0.036v 0.029v 0.036t 0.047v 0.058v 0.024v	Total Amps 0.648A HORN Total Amps 0.864A HORN Total Amps 0.648A HORN Total Amps 1.296A	Total Drop 1.310v N.A.C #9 -ST ROBE CI Total Drop 0.727v N.A.C #9 -STROBE CI Total Drop 0.636v N.A.C #9 -ST ROBE CI Total Drop 0.636v N.A.C #9 -ST ROBE CI Total Drop 0.867v	6.421 7 RCUIT Percert 3.56 98 CIRCUIT 3.120 9 (RCUIT
Device # N93-01 N93-02 N93-03 N93-04 N93-05 N93-06 N93-07 N93-08 N93-09 N93-10 Device # N94-01 N94-02 N94-03 N94-04 N94-05 N94-06 N94-07 N94-08 Device # N95-01 N95-02 N95-03 N95-04 N95-05 N95-06 N95-07 N95-08 Device #	Device Draw 0.071A 0.108A	Distance 40' 14' 68' 36' 13' 43' 17' 25' 39' 61' Distance 43' 30' 5' 17' 23' 3' 17' 4' Distance 119' 3' 18' 16' 3' Distance 218' 10' 3' 10' 10' 10' 10' 10' 10' 10' 10' 10' 10	Distance + 10% 44' 15' 75' 40' 14' 47' 19' 28' 43' 67' Distance + 10% 47' 33' 6' 19' 25' 3' 19' 4' Distance + 10% 131' 3' 20' 18' 3' Distance + 10% 240' 11' 3'	0.680A 0.609A 0.609A 0.538A 0.467A 0.396A 0.325A 0.183A 0.142A 0.071A 6 Amps 0.864A 0.756A 0.648A 0.540A 0.432A 0.216A 0.540A 0.432A 0.216A 0.108A	0.184v 0.058v 0.058v 0.247v 0.114v 0.035v 0.094v 0.029v 0.031v 0.037v 0.029v Volt Dro 0.251v 0.153v 0.022v 0.062v 0.067v 0.007v 0.025v 0.003v Volt Dro 0.694v 0.015v 0.039v 0.039v 0.039v 0.023v 0.002v Volt Dro 1.113° 0.044' 0.011° 0.053° 0.018°	p Total Amps 1 0.864A HORN- P Total Amps 1 0.864A HORN- DOP Total Amps 1 0.756A V V HORN	Iotal Drop Perce 0.589v 2.8 N.A.C #94 STROBE CIRCUI Iotal Drop Perce 0.903v 4.4 N.A.C #95 STROBE CIRCUI Iotal Drop Perce 0.903v 4.4 Iotal Drop Perce 0.903v 6.4	2049% T Ent Drop 891% Ent Drop 267% Ent Drop 22324%	N97-01 0. N97-02 0. N97-03 0. N97-04 0. N97-05 0. N97-06 0. N97-06 0. Device # Devic N98-01 0. N98-03 0. N98-04 0. N98-05 0. N98-08 0. Device # Devic N99-01 0. N99-02 0. N99-03 0. N99-04 0. N99-05 0. N99-06 0. N99-06 0. Device # Devic N99-06 0. N99-07 0. N99-08 0.	108A 2 108A 108A 108A 108A 108A 108A 108A 108A	74' 3' 7' 8' 9' 7' 8 ance Dista 4' 5' 9' 8' 3' 7' 1' 8' ance Dista 6' 8' 7' 4' 8' 6' 6' 6' 6' 6' 6' 6' 7' 3' 7' 3' 0'	nce + 10% 301' 3' 19' 9' 21' 8' nce + 10% 81' 7' 21' 9' 25' 19' 34' 3' nce + 10% 205' 3' 11' nce + 10% 41' 18' 6' 18' 6' 14' 8' 14' 22' 12' 6'	Amps 0.648A 0.540A 0.1324A 0.108A 0.108A Amps 0.864A 0.756A 0.540A 0.432A 0.216A 0.108A Amps 0.648A 0.108A Amps 1.216A 0.108A Amps 1.216A 0.108A	Volt Drop 1.199v 0.011v 0.050v 0.018v 0.028v 0.005v Volt Drop 0.432v 0.031v 0.083v 0.029v 0.067v 0.045v 0.0011v 0.050v 0.053v 0.004v 0.007v Volt Drop 0.324v 0.128v 0.036v 0.105v 0.029v 0.031v 0.029v 0.031v 0.058v 0.029v 0.058v 0.024v 0.058v 0.024v 0.007v	Total Amps 0.648A HORN Total Amps 0.864A HORN Total Amps 0.648A HORN Total Amps 1.296A	Total Drop 1.310v N.A.C #9 -ST ROBE CI Total Drop 0.727v N.A.C #9 -STROBE CI Total Drop 0.636v N.A.C #9 -ST ROBE CI Total Drop 0.636v N.A.C #9 -ST ROBE CI Total Drop 0.867v	6.4219 7 RCUIT Percent 3.56 98 CIRCUIT 3.120 9 IRCUIT

FIRES	WITCH 108	BPS#13	(5 MINTUE	S IN ALAR	M, 24HR	S STANDB	m							ALTR	ONIX
		A		В		С	D	E	F						
IM	ERNAL POWER	SUPPLY C	OMPONENTS	Quantit		tandby Jurrent	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alam Current (B x E)	n					
MAIN	POWER SUPPLY	BOARD		1	Tota	0.180A I Standby	0.180A	0.200A Total Alm	0.200A						
					C	rrent =	0.180A	Current=	0.200A						
N	OTIFICATIO	N APPLIA	WCES	DEVIC CURRED DRAW	ar .			T	`		T				
45.4	CTROSE CERR	_			_	N101	N102	NI03	N104	N1.05	NIC		_	1108-SPARE	
_	STROBE, CEILIN			0.0414		1	0	0	0	0	0		0	0	
_	HORN-STROBE,	CEILING		0.071		9	0	0	0	0	0		0	0	
HORA	LOW FREQ			0.1084		0	9	8	6	7	5		9	0	
				OURREI DRAW	ar	0.680A	0.972A	0.864A	0.648A	0.756A	0.54	0A 0.	972A	0.000A	
														TOTAL NAC OKT CURRENT DRAW =	5.432
TOI	TAL STAND	BY CALC	ULATIONS				TOTAL STANDY CALCU	7							
	standby current						0.180A								
17 Multip	oly by 24 or 60 f	or standby h	ours needed.				24H								
18 Total	standby AH (An	np Hours)					4.3200 AH								
ALA	RM CURRE	NT CALC	ULATIONS	s _i											ALAR CURRE CALC
19 Total	alarm current										-				5.632
20 Multip	oly by 0.0833 for	5 min or 0.	25 for 15 minu	tes of alarm					1						0.083
	alarm current.	VIID DEO	ITOTATA						1						0.4691
	otal, add line 18		UIKEMEN	15	Т	Т		Т	T	T					4.7891
	oly by 1.2 for 20		vahan Easter					+	1		_		\rightarrow	-	20%
			er aurily ir accor		_				+		_	-	-		
24 1003	AH (Amp Hours)							1		_		(2) PATTI	ERY SUPPLIE	5.7470 D = 12.4
													(2) DATII	KI SUFFLIE	J - 12 P
Device #	Device Draw	Distance		0% Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	Device # I	Device Draw	Distance	Distance +	⊦ 10% Ar	mps Volt Dro	op Tota
N101-01		10'	11'	0.680A		0.680A	0.925v	4.5352%	N105-01	0.108A	215'	237'		756A 1.098	
		53'	58'	0.609A					N105-02	0.108A	4'	4'		648A 0.018	
N101-02 N101-03	0.071Δ	13'	14'	0 2387	() ()4 /v				141112-113		/			3411A IIIIII N	1
N101-03		13' 77'	14' 85'	0.538A 0.467A			N.A.C #10	1	N105-03 N105-04	0.108A 0.108A	17' 10'	19' 11'		540A 0.062v 432A 0.029v	
N101-03 N101-04 N101-05	0.041A 0.071A	77' 12'	85' 13'	0.467A 0.426A	0.243v 0.035v	1	N.A.C #10 N-STROBE CI		N105-04 N105-05	0.108A 0.108A	10' 4'	11' 4'	0.4 0.3	432A 0.029v 324A 0.009v	v v
N101-02 N101-03 N101-04 N101-05 N101-06 N101-07	0.041A 0.071A 0.071A	77'	85'	0.467A 0.426A 0.355A	0.243v 0.035v	1			N105-04	0.108A	10'	11'	0.4 0.3 0.2	432A 0.029v	v v v

100-190 0.071A 53° 58° 0.689A 0.2189	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
100-94 0.014 0.17	N101-01	0.071A	10'	11'	0.680A	0.046v	0.680A	0.925v	4.5352%	N105-01	0.108A	215'	237'	0.756A	1.098v	0.756A	1.246v	6.1072%
100-194	N101-02	0.071A	53'	58'	0.609A	0.218v				N105-02	0.108A	4'	4'	0.648A	0.018v			
100-196 0.071A 12' 13' 0.496A 0.035w HORN-STROBE CIRCUIT 190-196 0.071A 47' 52' 0.355A 0.113w HORN-STROBE CIRCUIT 190-197 0.071A 64' 70' 0.294A 0.123w 100-90 0.071A 51' 55' 0.197A 0.098w 100-190 0.071A 51' 55' 0.071A 0.098w 100-190 0.071A 0.098w 100-190 0.071A 0.071A 0.098w 100-190 0.071A 0.098w 100-190 0.080A 18' 20' 0.972A 0.015v HORN-STROBE CIRCUIT HORN-STROBE CIRCUIT 100-190 0.108A 18' 20' 0.576A 0.015v HORN-STROBE CIRCUIT HORN-STROBE CIRCUIT 100-190 0.108A 18' 20' 0.576A 0.015v HORN-STROBE CIRCUIT HORN-STROBE CIRCUIT 100-190 0.108A 29' 32' 0.216A 0.098w 100-20 0.108A 29' 32' 0.216A 0.098w 100-20 0.108A 29' 0.108A 0.073v N.A.C.#102 HORN-STROBE CIRCUIT 100-20 0.108A 29' 2.28' 0.432A 0.073v 100-20 0.108A 29' 0.108A 0.390w 100-20 0.108A 29' 0.108A 0.038w 100-20 0.108A 3' 3' 0.696A 0.018w 100	N101-03	0.071A	13'	14'	0.538A	0.047v				N105-03	0.108A	17'	19'	0.540A	0.062v			
103-105 0.071A 12' 13' 0.496A 0.035\ D.108A 0.025\ D.108A D.108\	N101-04	0.041A	77'	85'	0.467A	0.243v	1 1	N.A.C #1	.01	N105-04	0.108A	10'	11'	0.432A	0.029v		N.A.C #1	05
101-06 0.071A 47 52 0.395A 0.113V 0.1125V 0.108A 70 0.294A 0.1225V 0.101-09 0.071A 50 50 0.172A 0.029V 0.101-10 0.071A 51 56 0.071A 0.029V 0.108A 0.029V 0.108	N101-05	0.071A	12'				1			N105-05	0.108A	4'	4'	0.324A	0.009v	HORN	N-STROBE (CIRCUIT
101-98 0.071A 20' 22' 0.213A 0.0059 101-10 0.071A 50' 55' 0.172A 0.048v 101-10 0.071A 51' 56' 0.071A 0.024v 101-10 0.071A 51' 56' 0.071A 0.024v 101-10 0.071A 51' 56' 0.071A 0.024v 101-10 0.071A 0.071A 0.024v 101-10 0.071A 0.071A 0.024v 101-10 0.071A 0.071A 0.024v 101-10 0.08A 18' 20' 0.675A 0.015v 0.075A 0.015v 0.075A 0.015v 0.075A 0.015v 0.005A 24' 26' 0.649A 0.015v 0.075A 0.015v 0.075A 0.015v 0.005A 25' 28' 0.432A 0.007v 0.008A 25' 28' 0.432A 0.004v 0.008A 25' 28' 0.432A 0.005v 0.084A 0.05v 0.084A 0.008v 0.088A 25' 28' 0.432A 0.015v 0.084A 0.088V 0.088A 25' 28' 0.432A 0.015v 0.088A 25' 28' 0.432A 0.015v 0.088A 25' 28' 0.432A 0.015v 0.088A 25' 28' 0.432A 0.004v 0.008A 25' 22' 0.540A 0.015v 0.088A 25' 22' 0.540A 0.015v 0.088A 0.0	N101-06	0.071A	47'				Holar	STROBE	CINCOII	N105-06	0.108A	17'	19'	0.216A	0.025v	,,,,,,		
101-99 0.071A 50' 55' 0.174A 0.084 0.024 0.0071A 0.024 0.0071A 0	N101-07	0.071A	64'	70'	0.284A	0.123v				N105-07	0.108A	8'	9'	0.108A	0.006v			
	N101-08	0.071A	20'	22'	0.213A	0.029v												
Device # Device Draw Distance 10% Amps Volt Drop Total Amps Total Drop Percent Drop	N101-09	0.071A	50'	55'	0.142A	0.048v												
No. Pevice Pevi	N101-10	0.071A	51'	56'	0.071A	0.024v						44						Terror to the
Device Device Draw Distance 10% Amps Volt Drop Total Amps Total Drop Percent Drop No. No												**************************************		ransentrada Austria	COLUMN CONTRACTOR		250 1500 100 100 100 100 100 100 100 100	The raise representation and
102-01 0.108A 18 20" 0.972A 0.118V 0.972A 0.492V 2.4100% 100-02 0.108A 24 26 0.0864A 0.140V 100-02 0.108A 18 20" 0.056A 0.015V 100-02 0.108A 18 20" 0.056A 0.015V 100-04 0.108A 18 20" 0.056A 0.015V 100-04 0.108A 18 20" 0.056A 0.015V 100-04 0.108A 18 20" 0.056A 0.015V 100-06 0.108A 25 28 0.432A 0.073V 100-06 0.108A 25 28' 0.432A 0.073V 100-09 0.108A 5' 6' 0.340A 0.007V 100-09 0.108A 5' 6' 0.340A 0.015V 100-09 0.108A 26' 29" 0.216A 0.015V 100-09 0.108A 126' 139" 0.864A 0.105V 100-09 0.108A 27 32' 0.540A 0.015V 100-09 0.108A 27 22' 0.540A 0.015V 100-09 0.108A 27 22' 0.540A 0.015V 100-09 0.108A 3' 3' 0.648A 0.015V 100-09 0.108A 3' 3' 0.648A 0.015V 100-09 0.108A 3' 3' 0.648A 0.015V 100-09 0.108A 27 22' 0.540A 0.015V 100-09 0.108A 27 22' 0.540A 0.015V 100-09 0.108A 3' 3' 0.648A 0.015V 100-09 0.108A 3' 3' 0.108A 0.005V 100-09 0.108A 3' 3' 0.108A 0.		D . D	D	D		V 1. D		T . IS								0.540A	0.950v	4.6591%
102-02 0.108A 24" 26' 0.864A 0.140v	Jevice #	Device Draw	Distance	Distance + 10%	Amps	Voit Drop	Iotal Amps	Total Drop	Percent Drop	N106-02	0.108A	17'	19'	0.432A	0.050v			
102-03 0.108A 3' 3' 0.756A 0.015v N.A.C #102 HORN-STROBE CIRCUIT 102-05 0.108A 25' 28' 0.432A 0.075v HORN-STROBE CIRCUIT 102-06 0.108A 25' 28' 0.432A 0.007v 102-08 0.108A 26' 29' 0.216A 0.038v 102-09 0.108A 5' 6' 0.108A 0.004v 103-01 0.108A 126' 139' 0.864A 0.038v 103-02 0.108A 24' 26' 0.648A 0.105v 103-03 0.108A 24' 26' 0.648A 0.105v 103-05 0.108A 26' 22' 0.540A 0.015v 103-05 0.108A 20' 22' 0.324A 0.044v 103-07 0.108A 10' 11' 0.432A 0.002v 103-08 0.108A 10' 11' 0.432A 0.002v 104-03 0.108A 19' 21' 0.648A 0.018v 104-04 0.108A 19' 21' 0.432A 0.029v 104-04 0.108A 19' 21' 0.324A 0.042v 104-04 0.108A 19' 21' 0.432A 0.029v 104-04 0.108A 19' 21' 0.324A 0.042v 104-04 0.108A 19' 21' 0.432A 0.029v 104-04 0.108A 19' 21' 0.432A 0.029v 104-04 0.108A 19' 21' 0.432A 0.029v 104-04 0.108A 19' 21' 0.324A 0.042v 104-04 0.108A 19' 21' 0.432A 0.029v 104-04 0.108A 19' 21' 0.432A 0.029v 104-04 0.108A 19' 21' 0.324A 0.042v 104-04 0.108A 19' 21' 0.432A 0.029v 104-04 0.108A 19' 21' 0.432A 0.042v 104-04 0.108A 19' 21' 0.432A 0.042v 104-05 0.108A 19' 21' 0.432A 0.042v 104-06 0.108A 19' 21' 0.24A 0.042v 104-06 0.108A 19' 21' 0.24A 0.042v 104-06 0.108A 19' 21' 0.24A 0.042v	N102-01	0.108A	18'	20'	0.972A	0.118v	0.972A	0.492v	2.4100%	N106-03	0.108A	3'	3'	0.324A	0.007v			
	N102-02	0.108A	24'	26'	0.864A	0.140v				N106-04	0.108A	29'	32'	0.216A	0.042v		N.A.C #	106
102-04 0.108A 18 20 0.648A 0.079v 102-05 0.108A 25 28 0.432A 0.073v 102-06 0.108A 25 28 0.432A 0.007v 102-06 0.108A 26 29 0.216A 0.038v 102-09 0.108A 5 6 0.108A 0.004v 102-09 0.108A 126 139 0.864A 0.735v 0.864A 1.001v 4.9058% 103-04 0.108A 20 22 0.540A 0.073v N.A.C #103-04 0.108A 20 22 0.540A 0.073v N.A.C #103-04 0.108A 20 22 0.324A 0.045v 103-05 0.108A 20 22 0.324A 0.045v 103-05 0.108A 20 22 0.324A 0.045v 103-06 0.108A 3 3 0.108A 0.002v 103-06 0.108A 10 11 0.216A 0.002v 103-06 0.108A 10 11 0.432A 0.002v 103-06 0.108A 10 11 0.432A 0.029v 0.042v	N102-03	0.108A	3'	3'	0.756A	0.015v				N106-05	0.108A	8'	9'	0.108A	0.006v	HOR	N-STROBE	CIRCUIT
102-06 0.108A 25 28 0.432A 0.073v	N102-04	0.108A	18'	20'	0.648A	0.079v		N.A.C #1	L02									
102-06 0.108A 25 28 0.432A 0.073v 102-07 0.108A 3' 3' 0.324A 0.007v 102-08 0.108A 26 29' 0.216A 0.038v	N102-05	0.108A	5'	6'	0.540A	0.018v	HORN	I-STROBE	CIRCUIT									
1002-08 0.108A 26 29 0.216A 0.038V	N102-06	0.108A	25'	28'	0.432A	0.073v	11014	· OTTOBE	OINGOI I									
102-09 0.108A 20 29 0.210A 0.004V 0.108A 0.004V 0.008A 0.004V 0.004V 0.008A 0.004V 0.004V 0.004V 0.004V 0.004V 0.004V	N102-07	0.108A	3'	3'	0.324A	0.007v												
evice # Device Draw Distance + 10% Amps Volt Drop Total Amps Total Drop Percent Drop 103-01 0.108A 126' 139' 0.864A 0.735v 0.864A 1.001v 4.9058% 103-02 0.108A 3' 3' 0.648A 0.013v 103-02 0.108A 2' 26' 0.648A 0.105v 103-03 0.108A 20' 22' 0.540A 0.073v 103-04 0.108A 20' 22' 0.540A 0.073v 103-05 0.108A 4' 4' 0.432A 0.012v 103-05 0.108A 20' 22' 0.324A 0.044v 103-05 0.108A 20' 22' 0.324A 0.044v 103-05 0.108A 10' 11' 0.216A 0.015v 103-06 0.108A 3' 3' 0.108A 0.002v 103-08 0.108A 3' 3' 0.108A 0.002v 103-06 0.108A 5' 6' 0.540A 0.015v 103-06 0.108A 5' 6' 0.0540A 0.015v 103-06 0.108A 5' 6' 0.0540A 0.002v 103-06 0.108A 5' 6' 0.540A 0.002v 103-06 0.108A 5' 6' 0.540A 0.002v 103-06 0.108A 5' 6' 0.540A 0.018v 103-06 0.108A 10' 11' 0.432A 0.029v 103-06 0.108A 10' 11' 0.432A 0.002v 103-06 0.108A 10' 11' 0.4	N102-08	0.108A	26'	29'	0.216A	0.038v				Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Dro
Name	N102-09	0.108A	5'	6'	0.108A	0.004v				N107-01	0.108A	74'	81'	0.972A	0.486v	0.972A	0.794v	3.8903%
NAC 107 103-01 0.108A 126' 139' 0.864A 0.735v 0.864A 1.001v 4.9058% 103-02 0.108A 24' 26' 0.648A 0.105v 103-03 0.108A 20' 22' 0.540A 0.073v 103-05 0.108A 20' 22' 0.540A 0.073v 103-05 0.108A 20' 22' 0.324A 0.044v 103-06 0.108A 20' 22' 0.324A 0.044v 103-06 0.108A 3' 3' 0.108A 0.002v 103-08 0.108A 3' 3' 0.648A 0.015v 0.108A 0.015v 0.108A 20' 22' 0.324A 0.044v 0.018A 10' 11' 0.216A 0.015v 103-08 0.108A 3' 3' 0.108A 0.002v 0.108A 10' 11' 0.648A 0.002v 0.008A 5' 6' 0.540A 0.018v 0.002v 0.008A 5' 6' 0.540A 0.018v 0.008A 5' 6' 0.540A 0.018v 0.008A 10' 11' 0.432A 0.018v 0.008A 10' 11' 0.432A 0.018v 0.008A 10' 11' 0.432A 0.029v 0.008A 10' 11' 0.324A 0.042v 0.008A 10' 11' 0.324A 0.042v 0.008A 10' 11' 0.432A 0.029v 0.008A 10' 11' 0.324A 0.042v 0.008A 10' 11' 0.324A 0.008A 10' 11' 0.324A 0.042v 0.008A 10' 11' 0.324A 0.042v 0.008A 10' 10' 0.008A 10' 0.008A 10' 10' 0.008A 0.00										N107-02	0.108A	3'	3'	0.864A	0.018v			
103-01 0.108A 126' 139' 0.864A 0.735v 0.864A 1.001v 4.9058% 103-02 0.108A 24' 26' 0.648A 0.105v 103-04 0.108A 20' 22' 0.540A 0.073v 103-04 0.108A 20' 22' 0.540A 0.073v 103-04 0.108A 20' 22' 0.540A 0.073v 103-05 0.108A 20' 22' 0.540A 0.073v 103-05 0.108A 20' 22' 0.540A 0.073v 103-06 0.108A 20' 22' 0.324A 0.044v 103-06 0.108A 20' 22' 0.324A 0.044v 103-06 0.108A 3' 3' 0.108A 0.002v 103-06 0.108A 3' 3' 0.108A 0.002v 103-08 0.108A 3' 3' 0.108A 0.002v 103-08 0.108A 3' 3' 0.108A 0.002v 104-02 0.108A 5' 6' 0.540A 0.018v 104-02 0.108A 10' 11' 0.432A 0.029v 104-03 0.108A 10' 11' 0.432A 0.029v 104-04 0.108A 19' 21' 0.324A 0.042v 104-05 0.108A 4' 4' 0.216A 0.006v HORN-STROBE CIRCUIT										N107-03	0.108A	19'	21'	0.756A	0.097v			
103-02 0.108A 3' 3' 0.756A 0.015v 103-03 0.108A 24' 26' 0.648A 0.105v 103-04 0.108A 20' 22' 0.540A 0.073v 103-05 0.108A 20' 22' 0.324A 0.04v 1103-05 0.108A 20' 22' 0.324A 0.04v 1103-06 0.108A 20' 22' 0.324A 0.04v 111' 0.216A 0.015v 1103-08 0.108A 3' 3' 0.108A 0.002v 103-08 0.108A 3' 3' 0.108A 0.002v 103-08 0.108A 3' 3' 0.108A 0.002v 103-08 0.108A 10' 11' 0.216A 0.002v 103-08 0.108A 10' 11' 0.648A 0.002v 103-08 0.108A 13' 201' 0.648A 0.801v 0.648A 0.905v 4.4374% 104-02 0.108A 5' 6' 0.540A 0.018v 104-03 0.108A 10' 11' 0.432A 0.029v 104-04 0.108A 10' 11' 0.432A 0.029v 104-04 0.108A 19' 21' 0.324A 0.042v 104-05 0.108A 4' 4' 0.216A 0.006v 106A 0.006v 106A 0.006v 106A 0.108A 4' 4' 0.216A 0.006v 106A 0.006v 106A 0.006v 106A 0.108A 4' 4' 0.216A 0.006v 106A 0.0	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Iotal Amps	Iotal Drop	Percent Drop	N107-04	0.108A	3'	3'	0.648A	0.013v		N.A.C #1	.07
103-02 0.108A 3' 3' 0.756A 0.015v	N103-01	0.108A	126'	139'	0.864A	0.735v	0.864A	1.001v	4.9058%	N107-05	0.108A	20'	22'	0.540A	0.073v	HORN	N-STROBE (CIRCUIT
NAC #103 NAC #104 NAC #104 NAC #105 NAC #105 NAC #104 NAC #105 NAC #105 NAC #104 NAC #104 NAC #105 NAC #105 NAC #104 NAC #105 NAC #104 NAC #105 NAC #104 NAC #105 NAC	N103-02	0.108A	3'	3'	0.756A	0.015v				N107-06	0.108A	5'	6'	0.432A	0.015v			
103-05 0.108A 4' 4' 0.432A 0.012V HORN-STROBE CIRCUIT HORN-STROBE CIRCUI	N103-03	0.108A	24'	26'	0.648A	0.105v				N107-07	0.108A	26'	29'	0.324A	0.057v			
103-05 0.108A 4' 4' 0.432A 0.012V HORN-STROBE CIRCUIT N107-09 0.108A 3' 3' 0.108A 0.002V N103-06 0.108A 10' 11' 0.216A 0.002V N103-08 0.108A 3' 3' 0.108A 0.002V N103-08 0.108A 3' 3' 0.108A 0.002V N103-08 0.108A 183' 201' 0.648A 0.801V 0.648A 0.905V 4.4374% 0.108A 183' 201' 0.432A 0.029V N.A.C #104 0.108A 19' 21' 0.324A 0.042V HORN-STROBE CIRCUIT N107-09 0.108A 3' 3' 0.108A 0.002V N.A.C #104 HORN-STROBE CIRCUIT N107-09 0.108A 3' 3' 0.108A 0.002V N.A.C #104 0.108A 3' 3' 0.108A 0.002V N.A.C #104 HORN-STROBE CIRCUIT N107-09 0.108A 3' 3' 0.108A 0.002V N.A.C #104 0.108A 10' 11' 0.432A 0.002V 0.648A 0.905V 0	N103-04	0.108A	20'	22'	0.540A	0.073v	1 1	N.A.C #1	103	N107-08	0.108A	23'	25'	0.216A	0.034v			
1103-06	N103-05	0.108A	4'	4'	0.432A	0.012v				N107-09	0.108A	3'	3'	0.108A	0.002v			
Name	N103-06	0.108A	20'	22'	0.324A	0.044v	11014	· OTTOBE	CIRCOI									
Name	N103-07	0.108A	10'	11'	0.216A	0.015v												
evice # Device Draw Distance Distance + 10% Amps Volt Drop Total Amps Total Drop Percent Drop 104-01 0.108A 183' 201' 0.648A 0.801v 0.648A 0.905v 4.4374% 104-02 0.108A 5' 6' 0.540A 0.018v 0.108A 10' 11' 0.432A 0.029v 0.108A 10' 11' 0.432A 0.029v 0.108A 19' 21' 0.324A 0.042v 0.108A 19' 21' 0.324A 0.042v 0.108A 19' 21' 0.324A 0.042v 0.108A 19' 0.216A 0.006v 0.108A 19'	N103-08	0.108A			0.108A	0.002v												
104-01 0.108A 183' 201' 0.648A 0.801v 0.648A 0.905v 4.4374% 104-02 0.108A 5' 6' 0.540A 0.018v 1104-03 0.108A 10' 11' 0.432A 0.029v 1104-04 0.108A 19' 21' 0.324A 0.042v N.A.C #104 1104-05 0.108A 4' 4' 0.216A 0.006v HORN-STROBE CIRCUIT																		
1104-02 0.108A 5' 6' 0.540A 0.018v 110' 11' 0.432A 0.029v 1104-04 0.108A 19' 21' 0.324A 0.042v 1104-05 0.108A 4' 4' 0.216A 0.006v HORN-STROBE CIRCUIT	evice #	Device Draw	Distance	Distance + 10%	Amps	Volt Dro	p Total Amp	s Total Dro	p Percent Drop									
1104-02 0.108A 5' 6' 0.540A 0.018v 110' 11' 0.432A 0.029v 1104-04 0.108A 19' 21' 0.324A 0.042v 1104-05 0.108A 4' 4' 0.216A 0.006v HORN-STROBE CIRCUIT	N104-01	0.108A	183'	201'	0.648	0.801v	0.648A	0.905v	4.4374%	1								
H104-03 0.108A 10' 11' 0.432A 0.029V H104-04 0.108A 19' 21' 0.324A 0.042V H104-05 0.108A 4' 4' 0.216A 0.006V HORN-STROBE CIRCUIT	N104-02				100000000000000000000000000000000000000		1 10/10/04/04 14 14 14 14 14 14 14 14 14 14 14 14 14											
M104-04 0.108A 19' 21' 0.324A 0.042v N.A.C #104 M104-05 0.108A 4' 4' 0.216A 0.006v HORN-STROBE CIRCUIT							_			1								
1104-05 0.108A 4' 4' 0.216A 0.006v HORN-STROBE CIRCUIT								NAC#	104									
HOMI STROBE CIRCUIT																		
	N104-06							N-51 KUBE	CIKCUII									

BATTERY & VOLTAGE DROP CALCULATIONS - 3

M ELECTRONIC SYSTEMS, II
 6 WITHERSPOON WAY, SUITE H
 EL CAJON, CA 92020
 (619) 667-1200
 0 # 820216 | EXP. DATE 05/31/2
 CT: DERRICK EMGE @ 619-667-12

DING. ANE 100

REGISTERED ... C-7 C-10

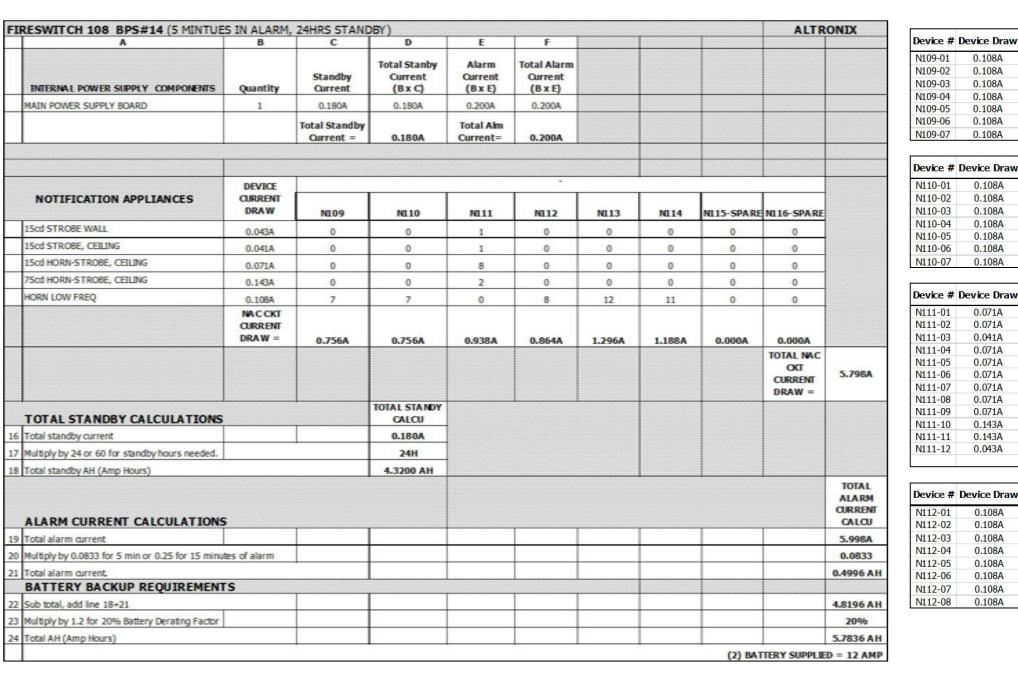
NO. 820216 . EXP. 05/31/2021

DERRICK M. EMGE

DESCRIPTION P.O. BOX 880922 PORT SAINT LUCIE, FL 34988 Carlos Oliveras (619) 610-8637, NICET III #84003 carlos.oliveras@fuegoeng.com DESIGN: C.O. HECKED: JE DATE: 11/16/2020 PLOT: BATTERY & VOLTAGE DROP CALCULATIONS - 3

> ELAN - BUILDING #1 FIRE ALARM SYSTEM

N.T.S. FA-12.2



	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Dro
N109-01	0.108A	15'	17'	0.756A	0.077v	0.756A	0.303v	1.4839%	N113-01	0.108A	54'	59'	1.296A	0.473v	1.296A	0.967v	4.7413%
N109-02	0.108A	21'	23'	0.648A	0.092v				N113-02	0.108A	3'	3'	1.188A	0.024v			
N109-03	0.108A	4'	4'	0.540A	0.015v				N113-03	0.108A	19'	21'	1.080A	0.139v			
N109-04	0.108A	25'	28'	0.432A	0.073v		N.A.C #1	09	N113-04	0.108A	3'	3'	0.972A	0.020v		V.A.C #1	13
N109-05	0.108A	3'		0.324A	0.007v		-STROBE (N113-05	0.108A	19'	21'	0.864A	0.111v	HORN	-STROBE C	IRCUIT
N109-06	0.108A	25'	28'	0.216A	0.036v	HOIG	STROBE	ZINCOII	N113-06	0.108A	3'	3'	0.756A	0.015v			
N109-07	0.108A	5'	6'	0.108A	0.004v				N113-07	0.108A	19'	21'	0.648A	0.083v			
	012001			0.1200.1					N113-08	0.108A	3'	3'	0.540A	0.011v			
				_					N113-09	0.108A	19'	21'	0.432A	0.055v			
Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	N113-10	0.108A	3'	3'	0.324A	0.007v			
N110-01	0.108A	20'	22'	0.756A	0.102v	0.756A	0.269v	1,3194%	N113-11	0.108A	19'	21'	0.216A	0.028v			
N110-01	0.108A	3'	3'	0.730A 0.648A		0.730A	0.2030	1.319770	N113-12	0.108A	3'	3'	0.108A	0.002v			
N110-02 N110-03	0.108A	20'	22'	0.540A	A TO THE RESERVE TO T						_					1	
				A STATE OF THE PARTY OF	The second second second		N.A.C #	110									1
N110-04	0.108A	4'	4'	0.432A	100000000000000000000000000000000000000				Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Dr
N110-05	0.108A	24'	26'	0.324A		HOR	N-STROBE	CIRCUIT	N114-01	0.108A	56'	62'	1.188A	0.449v	1.188A	0.881v	4.3194%
N110-06	0.108A	10'	11'	0.216A					N114-01	0.108A	3'	3'	1.080A		1.100A	0.001	7.313170
N110-07	0.108A	3'	3'	0.108A	0.002v				N114-02	0.108A	21'	23'	0.972A				
									N114-03 N114-04	0.108A 0.108A	4'	4'	0.972A 0.864A		-	N.A.C #1	14
levice #	Dovice Draw	Dictance	Distance + 10%	A mnc	Volt Dron	Total Amne	Total Dear	Percent Dron	and the second second		17'						
			A STATE OF THE PARTY OF THE PAR			•			N114-05	0.108A		19'	0.756A		HOR	N-STROBE	CIRCUIT
	0.071A	45'	50'	0.938A		0.938A	1.867v	9.1524%	N114-06	0.108A	4'	4'	0.648A				
N111-01		10'	11'	0.867A	0.059v				N114-07	0.108A	10'	11'	0.540A				
N111-02	0.071A								N114-08	0.108A	19'	21'	0.432A				
	0.0/1A 0.041A	43'	47'	0.796A	0.231v				A	and the second of							
N111-02		43' 59'	47' 65'	0.796A 0.755A			N.A.C # :	11	N114-09	0.108A	9'	10'	0.324A				
N111-02 N111-03	0.041A				0.301v				N114-09 N114-10	0.108A	19'	21'	0.216A	0.028v			
N111-02 N111-03 N111-04	0.041A 0.071A	59'	65'	0.755A	0.301v 0.083v		N.A.C #1		N114-09					0.028v			
N111-02 N111-03 N111-04 N111-05	0.041A 0.071A 0.071A	59' 18'	65' 20'	0.755A 0.684A	0.301v 0.083v 0.339v				N114-09 N114-10	0.108A	19'	21'	0.216A	0.028v			
N111-02 N111-03 N111-04 N111-05 N111-06	0.041A 0.071A 0.071A 0.071A	59' 18' 82'	65' 20' 90'	0.755A 0.684A 0.613A	0.301v 0.083v 0.339v 0.121v				N114-09 N114-10	0.108A	19'	21'	0.216A	0.028v			
N111-02 N111-03 N111-04 N111-05 N111-06 N111-07	0.041A 0.071A 0.071A 0.071A 0.071A	59' 18' 82' 33'	65' 20' 90' 36'	0.755A 0.684A 0.613A 0.542A	0.301v 0.083v 0.339v 0.121v 0.057v				N114-09 N114-10	0.108A	19'	21'	0.216A	0.028v			
N111-02 N111-03 N111-04 N111-05 N111-06 N111-07 N111-08	0.041A 0.071A 0.071A 0.071A 0.071A 0.071A	59' 18' 82' 33' 18'	65' 20' 90' 36' 20'	0.755A 0.684A 0.613A 0.542A 0.471A	0.301v 0.083v 0.339v 0.121v 0.057v 0.246v				N114-09 N114-10	0.108A	19'	21'	0.216A	0.028v			
N111-02 N111-03 N111-04 N111-05 N111-06 N111-07 N111-08 N111-09	0.041A 0.071A 0.071A 0.071A 0.071A 0.071A 0.071A	59' 18' 82' 33' 18' 91'	65' 20' 90' 36' 20' 100'	0.755A 0.684A 0.613A 0.542A 0.471A 0.400A	0.301v 0.083v 0.339v 0.121v 0.057v 0.246v 0.084v				N114-09 N114-10	0.108A	19'	21'	0.216A	0.028v			

N.A.C #112

HORN-STROBE CIRCUIT

0.648A 0.105v

0.540A 0.011v

0.432A 0.061v

0.324A 0.007v

0.216A 0.019v

0.108A 0.002v

Total AH (Amp Hours)				500				_		5.7836 AI
								(2)	BATTERY SUPP	LIED = 12 AM
RESWITCH 108 BPS#15 (5 MINTUE									ALTE	ONIX
A	В	С	D	E	F					
			Total Stanby	Alarm	Total Alarm					
THE PARTY OF THE P	0	Standby	Current	Current	Current					
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Current	(BxC)	(BxE)	(BxE)					
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A					
		Total Standby Current =	0.180A	Total A Im Current =	0.200A					
		Carrent -	U.10UA	uneit-	U.200A					
	DEVICE	T					1		1	
NOTIFICATION APPLIANCES	CURRENT									
	DRAW	N117	N118	N119	N120	N121	N122	N1.23	N124	
15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	
15cd HORN-STROBE, CEILING	0.071A	9	0	0	0	0	0	0	0	
HORN LOW FREQ	0.108A	0	8	8	7	6	8	6	10	
	NAC OKT									
	CURRENT DRAW =									
	DROLLY -	0.680A	0.864A	0.864A	0.756A	0.648A	0.864A	0.648A	1.080A	
									TOTAL NAC	
									CURRENT	6.404A
		<u> </u>							DRAW =	
TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU							
Total standby current		T	0.180A							
Multiply by 24 or 60 for standby hours needed.			24H							
Total standby AH (Amp Hours)			4,3200 AH							
roca samply renging nowsy			III III III				<u>'</u>			TOTAL
										ALARM
ALARM CURRENT CALCULATIONS										CALCU
Total alarm current		T							I	6.604A
	f . l	1								
Multiply by 0.0833 for 5 min or 0.25 for 15 minu	tes or alarm								1	0.0833
Total alarm current. BATTERY BACKUP REQUIREMENT	rs									0.5501 AH
Sub total, add line 18+21		I								4.8701 AH
										20%
Multiply by 1.2 for 20% Battery Denating Factor		1								
Total AH (Amp Hours)									TTERY SUPPLI	5.8441 AH

Device # I	Device Draw	Distance	Distance +	10% Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Dr
N117-01	0.071A	40'	44'	0.680A	0.184v	0.680A	0.858v	4.2049%	N122-01	0.108A	74'	81'	0.864A	0.432v	0.864A	0.727v	3.5613%
N117-02	0.071A	14'	15'	0.609A	0.058v				N122-02	0.108A	6'	7	0.756A	0.031v			
N117-03	0.071A	68'	75'	0.538A	0.247v				N122-03	0.108A	19'	21'	0.648A	0.083v			
N117-04	0.071A	36'	40'	0.467A	110000 1000000000		N.A.C #1	17	N122-04	0.108A	8'	9'	0.540A	0.029v		N.A.C #	122
N117-05	0.071A	13'	14'	0.396A	0.035v	HORN	I-STROBE (CIRCUIT	N122-05	0.108A	23'	25'	0.432A	0.067v	HORN	N-STROBE	CIRCUIT
N117-06	0.071A	43'	47'	0.325A	0.094v	11010	STROBE	SINCOIT	N122-06	0.108A	17'	19'	0.324A	0.037v	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	AL THE MEDICAL TOTAL	
N117-07	0.071A	17'	19'	0.254A	0.029v				N122-07	0.108A	31'	34'	0.216A	0.045v			
N117-08	0.041A	25'	28'	0.183A	0.031v				N122-08	0.108A	3'	3'	0.108A	0.002v			
N117-09	0.071A	39'	43'	0.142A	0.037v												
N117-10	0.071A	61'	67'	0.071A	0.029v												
									Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Dr
Device #	Device Draw	Distance	Distance +	10% Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	N123-01	0.108A	186'	AT THE SECRET OF SECRET SECRET	0.648A	0.512v	0.648A	0.636v	3.1201%
N118-01	0.108A	43'	47'	0.864A	0.251v	0.864A	0.589v	2.8891%	N123-02	0.108A	3'		0.540A	0.011v			
N118-02	0.108A	30'	33'	0.756A		0.0017	0.505	2.005170	N123-03	0.108A	17'	1000000	0.432A	0.050v	-		
N118-02	0.108A	5'	6'	0.648A					N123-04	0.108A	24'		0.324A	0.053v	N	I.A.C #1	23
N118-04	0.108A	17'	19'	0.540A			N.A.C #1	10	N123-05	0.108A	3'		0.216A	0.004v		STROBE C	
N118-05	0.108A	23'	25'	0.432A		1			N123-06	0.108A	10'		0.108A	0.007v	HOM	JI KODE C	INCOLL
N118-06	0.108A	3'	3'	0.324A		HORN	N-STROBE	CIRCUIT									
N118-07	0.108A	17'	19'	0.216A													
N118-08	0.108A	4'	4'	0.108A					PC-57 POF 100	Par de Prisi	No.	to owner were server	200	1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8		no Less	econs across
1110 00	0.100A	•		0.100A	0.005	1			Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Dr
									N124-01	0.108A	37'	41'	1.356A	0.339v	1.356A	0.929v	4.5548%
Device # 1	Device Draw	Distance	Distance +	10% Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	N124-02	0.108A	16'	18'	1.248A	0.135v			
N119-01	0.108A	119'	131'	0.864A	0.694v	0.864A	0.903v	4.4267%	N124-03	0.108A	5'	6'	1.140A	0.038v			
N119-02	0.108A	3'	3'	0.756A					N124-04	0.108A	16'	18'	1.032A	0.112v	N	I.A.C #1	24
N119-03	0.108A	19'	21'	0.648A		1			N124-05	0.108A	5'	6'	0.924A	0.031v	HORN-	STROBE C	IRCUIT
N119-04	0.108A	10'	11'	0.540A	0.036v	1	N.A.C #1	19	N124-06	0.108A	13'	14'	0.816A	0.072v	8.0	60.45	
N119-05	0.108A	3'	3'	0.432A	0.009v		-STROBE C		N124-07	0.108A	7'	8'	0.708A	0.033v			
N119-06	0.108A	18'	20'	0.324A	0.039v	Holds	JI KODE C	ricori	N124-08	0.108A	13'	14'	0.600A	0.053v			
N119-07	0.108A	16'	18'	0.216A	0.023v				N124-09	0.108A	20'	22'	0.492A	0.066v			
N119-08	0.108A	3'	3'	0.108A	0.002v				N124-10	0.108A	11'	12'	0.384A	0.029v			
									N124-11	0.138A	5'	6'	0.276A	0.009v			
	D	D:	D'-1	100/ 4	V-k-D	T-1-14	T . I D	D D	N124-12	0.138A	13'	14'	0.138A	0.012v			
								Percent Drop									
N120-01	0.108A	218'	240'	0.756A		0.756A	1.271v	6.2324%									
N120-02	0.108A	10'	11'	0.648A													
N120-03	0.108A	3'	3'	0.540A			N.A.C #	120									
N120-04	0.108A	18'	20'	0.432A													
N120-05	0.108A	8'	9'	0.324A		HOR	N-STROBE	CIRCUIT									
N120-06	0.108A	19'	21' 9'	0.216A													
N120-07	0.108A	8'	9	0.108A	0.006v												
Davisa # I	Davica Draw	Dictance	Distance	100/- Amns	Volt Duon	Total Amno	Total Dwo	Percent Drop									
	0.108A	274'	301'		1.199v	0.648A	1.310v	6.4219%									
	U. TUOA		3'		0.011v	U.UTOA	1.3107	0.721970									
N121-01	0.1004				UULIV												
N121-01 N121-02	0.108A	3'															
N121-01 N121-02 N121-03	0.108A	17'	19'	0.432A	0.050v	ı,	1 A C #1	21									
N121-01 N121-02 N121-03 N121-04	0.108A 0.108A	17' 8'	19' 9'	0.432A 0.324A	0.050v 0.018v		N.A.C #1										
N121-01 N121-02 N121-03 N121-04 N121-05	0.108A 0.108A 0.108A	17' 8' 19'	19' 9' 21'	0.432A 0.324A 0.216A	0.050v 0.018v 0.028v		N.A.C #1 -STROBE C										
N121-01 N121-02 N121-03 N121-04	0.108A 0.108A	17' 8'	19' 9'	0.432A 0.324A	0.050v 0.018v 0.028v												

RESWITCH 108 BPS#16 (5 MINTUES	SIN ALARM,	24HRS STAND	BY)						ALTR	ONIX
A	В	С	D	E	F					
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (BxC)	Alarm Current (B x E)	Total Alarm Current (B x E)					
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A					
		Total Standby Current =	0.180A	Total Alm Current=	0.200A					
	DEVICE									
NOTIFICATION APPLIANCES	DRAW	N125	N126	N127	N1.28	N129	NI.30	NI.31	N132-SPARE	
15ad STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	
15rd HORN-STROBE, CEILING	0.071A	9	0	0	0	0	0	0	0	
HORN LOW FREQ	0.108A	0	9	8	6	7	5	9	0	
	NAC OKT CURRENT DRAW =	0.680A	0.972A	0.864A	0.648A	0.756A	0.540A	0.972A	0.000A	
									TOTAL NAC OKT CURRENT DRAW =	5.432A
TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU							
1.6 Total standby current			0.180A							
17 Multiply by 24 or 60 for standby hours needed.		==	24H							
18 Total standby AH (Amp Hours)			4.3200 AH							
ALARM CURRENT CALCULATIONS										TOTAL ALARM CURRENT CALCU
19 Total alarm current										5.632A
20 Multiply by 0.0833 for 5 min or 0.25 for 15 minute	es of alarm	1								0.0833
21 Total alarm current.										0.4691 AH
BATTERY BACKUP REQUIREMENTS	S									
22 Sub total, add line 18+21		_			-				-	4.7891 AH
23 Multiply by 1.2 for 20% Battery Derating Factor										20%
24 Total AH (Amp Hours)										5.7470 AH

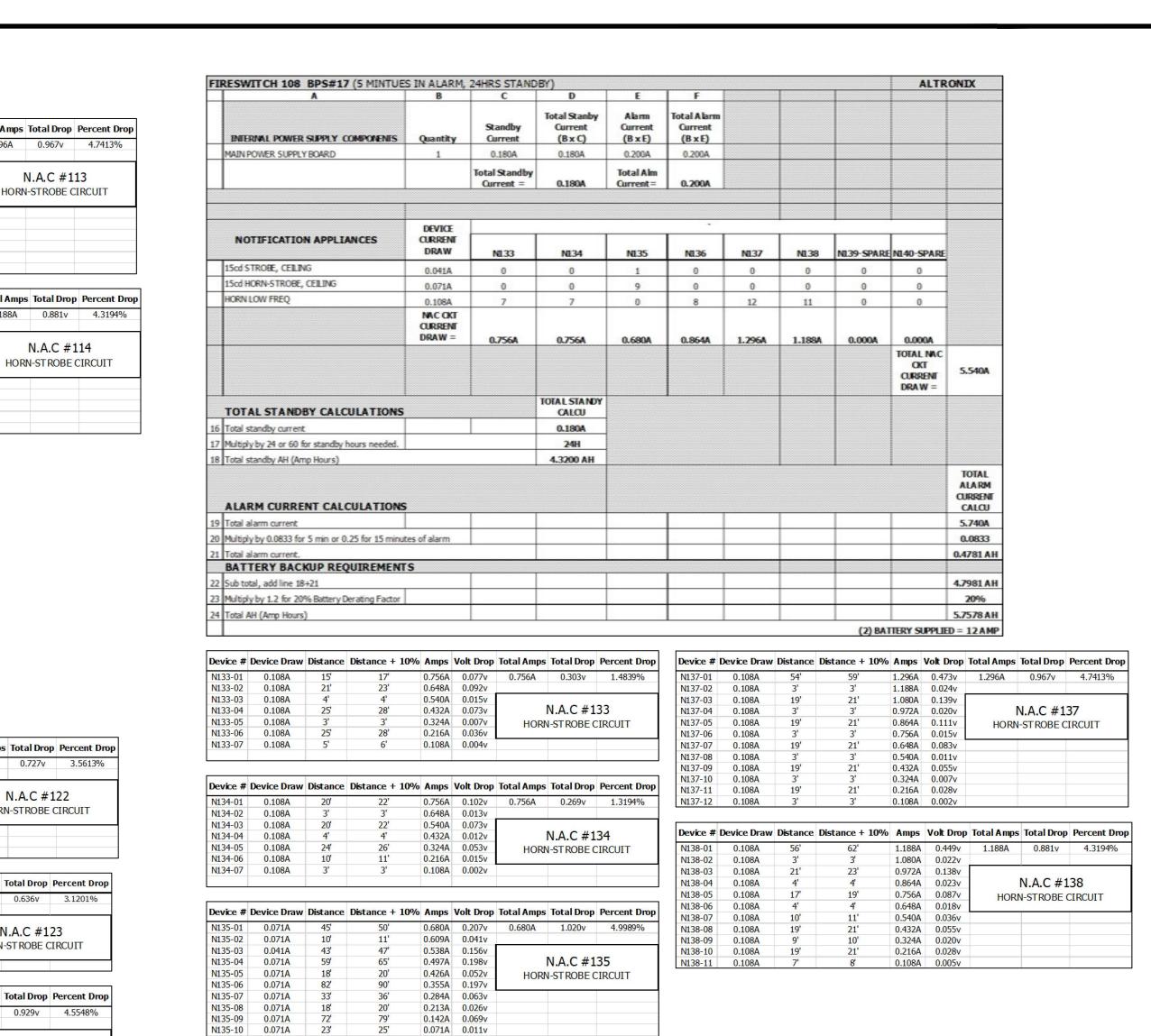
DCVICE T	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N125-01	0.071A	10'	11'	0.680A	0.046v	0.680A	0.925v	4.5352%
N125-02	0.071A	53'	58'	0.609A	0.218v			
N125-03	0.071A	13'	14'	0.538A	0.047v			
N125-04	0.041A	77'	85'	0.467A	0.243v		N.A.C #1	25
N125-05	0.071A	12'	13'	0.426A	0.035v		-STROBE C	
N125-06	0.071A	47'	52'	0.355A	0.113v	HOIN	STROBLE	INCOLL
N125-07	0.071A	64'	70'	0.284A	0.123v			
N125-08	0.071A	20'	22'	0.213A	0.029v			
N125-09	0.071A	50'	55'	0.142A	0.048v			
N125-10	0.071A	51'	56'	0.071A	0.024v			
THIES TO	0.07171	51	50	0107 171	OIOL II			
Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N126-01	0.108A	18'	20'	0.972A	0.118v	0.972A	0.492v	2.4100%
N126-02	0.108A	24'	26'	0.864A	0.140v			
N126-03	0.108A	3'	3'	0.756A	0.015v			
N126-04	0.108A	18'	20'	0.648A	0.079v		N.A.C #1	26
N126-05	0.108A	5'	6'	0.540A	0.018v		I-STROBE (
N126-06	0.108A	25'	28'	0.432A	0.073v	HOR	JI KODE (ZINCOI I
N126-07	0.108A	3'	3'	0.324A	0.007v			
N126-08	0.108A	26'	29'	0.216A	0.038v			
N126-09	0.108A	5'	6'	0.108A	0.004v			
Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N127-01	0.108A	126'	139'	0.864A	0.735v	0.864A	1.001v	4.9058%
N127-02	0.108A	3'	3'	0.756A	0.015v			
N127-03	0.108A	24'	26'	0.648A	0.105v			
N127-04	0.108A	20'	22'	0.540A	0.073v		N.A.C #1	27
N127-05	0.108A	4'	4'	0.432A	0.012v	HORN	-STROBE C	TRCUIT
N127-06	0.108A	20'	22'	0.324A	0.044v	HOIV	OT ROBE C	incorr
N127-07	0.108A	10'	11'	0.216A	0.015v			
N127-08	0.108A	3'	3'	0.108A	0.002v			
11227 00	0120011			0120011	0.002.			
Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	5 Total Drop	Percent Dro
N128-01	0.108A	183'	201'	0.648A	0.801v	0.648A	0.905v	4.4374%
N128-02	0.108A	5'	6'	0.540A				
11120 02								
	0.108A	10'	11'	0.432A	0.029v	1		
N128-03	0.108A 0.108A	10' 19'	11' 21'	0.432A 0.324A			N.A.C #	128
N128-03 N128-04	0.108A	19'	21'	0.324A	0.042v	нов	N.A.C #	
N128-03 N128-04 N128-05	0.108A 0.108A	19' 4'	21' 4'	0.324A 0.216A	0.042v 0.006v	HOR	N.A.C #: N-STROBE	
N128-03 N128-04	0.108A	19'	21'	0.324A	0.042v 0.006v	HOR		
N128-03 N128-04 N128-05 N128-06	0.108A 0.108A 0.108A	19' 4' 13'	21' 4' 14'	0.324A 0.216A 0.108A	0.042v 0.006v 0.009v		N-STROBE	CIRCUIT
N128-03 N128-04 N128-05 N128-06 Device #	0.108A 0.108A 0.108A	19' 4' 13' Distance	21' 4' 14' Distance + 10%	0.324A 0.216A 0.108A	0.042v 0.006v 0.009v Volt Drop	Total Amps	N-ST ROBE Total Drop	CIRCUIT Percent Drop
N128-03 N128-04 N128-05 N128-06 Device #	0.108A 0.108A 0.108A 0.108A Device Draw 0.108A	19' 4' 13' Distance 215'	21' 4' 14' Distance + 10%	0.324A 0.216A 0.108A Amps 0.756A	0.042v 0.006v 0.009v Volt Drop		N-STROBE	CIRCUIT
N128-03 N128-04 N128-05 N128-06 Device # N129-01 N129-02	0.108A 0.108A 0.108A 0.108A Device Draw 0.108A 0.108A	19' 4' 13' Distance 215' 4'	21' 4' 14' Distance + 10%	0.324A 0.216A 0.108A Amps 0.756A 0.648A	0.042v 0.006v 0.009v Volt Drop 1.098v 0.018v	Total Amps	N-ST ROBE Total Drop	CIRCUIT Percent Drop
N128-03 N128-04 N128-05 N128-06 Device # N129-01 N129-02 N129-03	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	19' 4' 13' Distance 215' 4' 17'	21' 4' 14' Distance + 10% 237' 4' 19'	0.324A 0.216A 0.108A Amps 0.756A 0.648A 0.540A	0.042v 0.006v 0.009v Volt Drop 1.098v 0.018v 0.062v	Total Amps 0.756A	N-ST ROBE Total Drop 1.246v	Percent Drop 6.1072%
N128-03 N128-04 N128-05 N128-06 Device # N129-01 N129-02 N129-03 N129-04	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	19' 4' 13' Distance 215' 4' 17' 10'	21' 4' 14' Distance + 10% 237' 4' 19' 11'	0.324A 0.216A 0.108A Amps 0.756A 0.648A 0.540A 0.432A	0.042v 0.006v 0.009v Volt Drop 1.098v 0.018v 0.062v 0.029v	Total Amps 0.756A	Total Drop 1.246v N.A.C #1	Percent Drop 6.1072%
N128-03 N128-04 N128-05 N128-06 Device # N129-01 N129-02 N129-03 N129-04 N129-05	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	19' 4' 13' Distance 215' 4' 17' 10' 4'	21' 4' 14' Distance + 10% 237' 4' 19' 11' 4'	0.324A 0.216A 0.108A 0.756A 0.648A 0.540A 0.432A 0.324A	0.042v 0.006v 0.009v Volt Drop 1.098v 0.018v 0.062v 0.029v 0.009v	Total Amps 0.756A	N-ST ROBE Total Drop 1.246v	Percent Drop 6.1072%
N128-03 N128-04 N128-05 N128-06 Device # N129-01 N129-02 N129-03 N129-04	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	19' 4' 13' Distance 215' 4' 17' 10'	21' 4' 14' Distance + 10% 237' 4' 19' 11'	0.324A 0.216A 0.108A Amps 0.756A 0.648A 0.540A 0.432A	0.042v 0.006v 0.009v Volt Drop 1.098v 0.018v 0.062v 0.029v	Total Amps 0.756A	Total Drop 1.246v N.A.C #1	Percent Drop 6.1072%

L SERIES SYSTEM SENSOR NOTIFICATION APPLIANCE CURRENT DRAW LIST												
		V	DC CURRE	NI								
	W	a	Weath	erproof	Cei	ling						
Candela Rating	Strobe	Horn/ Strobe	Strobe	Horn/ Strobe	Strobe	Horn/ Strobe	LF-Hom / Strobe					
15cd	0.043	0.054	0.066	0.079	0.041	0.071						
30cd	0.063	0.074	0.094	0.107	0.063	0.090						
75cd	0.107	0.121	0.158	0.176	0.111	0.143						
95cd	0.121	0.142	0.181	0.194	0.134	0.165						
110cd	0.148	0.162	0.202	0.212	-							
115cd			0.210	0.218	0.158	0.187						
135cd	0.172	0.196	0.228	0.245	-	-						
150cd			0.246	0.259	0.189	0.217						
177cd		-	0.281	0.290	0.226	0.254	0.266					
185cd	0.222	0.245	0.286	0.297	-							
							0.108					

A = CURRENT REQUIRED BY THE DEVICE	
L= LENGTH DISTANCE FROM DEVICE TO DEVICE	
R = RESISTANCE OF WIRE PER 1000 FT.	
12 AWG = 1.93 OHMS PER 1000FT.	
VOLTAGE DROP BASE ON PANELS WORST	
CASE VOLTAGE OF 20.4 VDC	
METHOD OF CALCULATIONS: POINT TO POINT	
A x (L/1000) x R x 2)	
A= CURRENT REQUIRED BY THE DEVICE	
L= LENGTH DISTANCE FROM DEVICE TO DEVICE	
R = RESISTANCE OF WIRE PER 1000 FT.	
14 AWG = 3.07 OHMS PER 1000FT.	
VOLTAGE DROP BASE ON PANELS WORST	
CASE VOLTAGE OF 20.4 VDC	

A x (L/1000) x R x 2)

CVICE # DC	evice Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Dro
V125-01	0.071A	10'	11'	0.680A	0.046v	0.680A	0.925v	4.5352%	N130-01	0.108A	232'	255'	0.540A	0.846v	0.540A	0.950v	4.6591%
V125-02	0.071A	53'	58'	0.609A	0.218v				N130-02	0.108A	17'	19'	0.432A	0.050v			
V125-03	0.071A	13'	14'	0.538A	0.047v				N130-03	0.108A	3'	3'	0.324A	0.007v		MALE AND US 1898	
V125-04	0.041A	77'	85'	0.467A	0.243v		N.A.C #1	.25	N130-04	0.108A	29'	32'	0.216A	0.042v		N.A.C #1	30
N125-05	0.071A	12'	13'	0.426A	0.035v	HORN	-STROBE (CIRCUIT	N130-05	0.108A	8'	9'	0.108A	0.006v	HOR	N-STROBE	CIRCUIT
N125-06	0.071A	47'	52'	0.355A	0.113v										111111		
V125-07	0.071A	64'	70'	0.284A	0.123v												
V125-08	0.071A	20'	22'	0.213A	0.029v												
N125-09	0.071A	50'	55'	0.142A	0.048v								_				
V125-10	0.071A	51'	56'	0.071A	0.024v				Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	lotal Amps	lotal Drop	Percent Dro
									N131-01	0.108A	74'	81'	0.972A	0.486v	0.972A	0.794v	3.8903%
evice # De	evice Draw	Distance	Distance + 10%	Amns	Volt Dron	Total Amns	Total Drop	Dercent Dron	N131-02	0.108A	3'	3'	0.864A	0.018v			
									N131-03	0.108A	19'	21'	0.756A	0.097v			-110
V126-01	0.108A	18'	20'	0.972A	0.118v	0.972A	0.492v	2.4100%	N131-04	0.108A	3'	3'	0.648A	0.013v	ſ	N.A.C #13	31
V126-02	0.108A	24'	26'	0.864A					N131-05	0.108A	20'	22'	0.540A	0.073v	HORN	-STROBE C	IRCUIT
V126-03	0.108A	3'	3'	0.756A	0.015v		NI A C #1	126	N131-06	0.108A	5'	6'	0.432A	0.015v	Series Series		The state of the s
V126-04	0.108A	18'	20'	0.648A	0.079v		N.A.C #1		N131-07	0.108A	26'	29'	0.324A	0.057v			
V126-05	0.108A	5'	6'	0.540A	0.018v	HORN	I-STROBE	CIRCUIT	N131-08	0.108A	23'	25'	0.216A	0.034v			
V126-06	0.108A	25'	28'	0.432A	0.073v				N131-09	0.108A	3'	3'	0.108A	0.002v			
V126-07	0.108A	3'	3'	0.324A	0.007v				•								
V126-08	0.108A	26' 5'	29' 6'	0.216A	0.038v												
V126-09	0.108A	5	О	0.108A	0.004v												
		D	D		v l s		T . ID										
evice # De	evice Draw		Distance + 10%	Amps	voit Drop	lotal Amps	iotai Drop	Percent Drop									
N127-01	0.108A	126'	139'	0.864A	0.735v	0.864A	1.001v	4.9058%									
V127-02	0.108A	3'	3'	0.756A	0.015v												
	0.108A	24'	26'	0.648A	0.105v												
V127-03		0.01			0.1034												
N127-03 N127-04	0.108A	20'	22'	0.540A	0.073v	ı	V.A.C #1	.27									
	0.108A 0.108A	20' 4'	22' 4'	0.540A 0.432A	100000000000000000000000000000000000000		V.A.C #1 -STROBE										
V127-04					0.073v												
N127-04 N127-05	0.108A	4'	4'	0.432A	0.073v 0.012v												



Device # Device Draw Distance Distance + 10% Amps Volt Drop Total Amps Total Drop Percent Drop

0.648A 0.105v

0.324A 0.007v

0.216A 0.019v

0.540A 0.011v 0.432A 0.061v

N136-02 0.108A N136-03 0.108A 24'

N136-04 0.108A N136-05 0.108A

N136-06 0.108A

N136-07 0.108A

N136-08 0.108A 3' 3' 0.108A 0.002v

N.A.C #136

HORN-STROBE CIRCUIT

FI	RESWITCH 108 BPS#18 (5 MINTUES I	N ALARM, 24	HRS STANDBY)						ALTR	ONIX
	A	В	С	D	E	F					
	INTERNAL POWER SUPPLY COMPONENTS	Quantity	Standby Current	Total Stanby Current (B x C)	Alarm Current (B x E)	Total Alarm Current (B x E)					
	MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A					
			Total Standby Current =	0.180A	Total Alm Current =	0.200A					
		I									
		DEVICE	T			•			4		
	NOTIFICATION APPLIANCES	CURRENT DRAW	N141	N142	N143	NI.44	N1.45	NI.46	NL47	NI.48	
	15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0	
	15cd HORN-STROBE, CEILING	0.071A	9	0	0	0	0	0	0	0	
	HORN LOW FREQ	0.108A	0	8	8	7	6	8	6	12	
		NAC CKT CURRENT DRAW =	0.680A	0.864A	0.864A	0.756A	0.648A	0.864A	0.648A	1.296A	
			- Common	u.oo in	0.00	u. Jun	o.orun	0.0011	U.O TOT	TOTAL NAC OXT CURRENT DRAW =	6.620A
	TOTAL STANDBY CALCULATIONS			TOTAL STANDY CALCU							
16	Total standby current			0.180A							
17	Multiply by 24 or 60 for standby hours needed.			24H							
18	Total standby AH (Amp Hours)	/ c		4.3200 AH							
	ALARM CURRENT CALCULATIONS										TOTAL ALARM CURRENT CALCU
19	Total alarm current						2.78153				6.820A
20	Multiply by 0.0833 for 5 min or 0.25 for 15 minutes	of alarm									0.0833
21	Total alarm current.										0.5681 AH
	BATTERY BACKUP REQUIREMENTS										
	Sub total, add line 18+21										4.8881 AH
23	Multiply by 1.2 for 20% Battery Derating Factor										20%
24	Total AH (Amp Hours)						-				5.8657 AH
	I.								(2) BA	TTERY SUPPLIE	D = 12 AMP

Device # L	evice Diaw	Distance	Distance T 1	.070 Amps	VOIL DI OP	iocai Amps	iotai biop	Percent Drop	Device #	Device Draw	Distance	Distance + 10%	Amps	voit brop	Total Allips	Total Drop	Percent Di
N141-01	0.071A	40'	44'	0.680A	0.184v	0.680A	0.858v	4.2049%	N146-01	0.108A	74'	81'	0.864A	0.432v	0.864A	0.727v	3.5613%
N141-02	0.071A	14'	15'	0.609A	0.058v				N146-02	0.108A	6'	7'	0.756A	0.031v			
N141-03	0.071A	68'	75'	0.538A	0.247v				N146-03	0.108A	19'	21'	0.648A	0.083v			
N141-04	0.071A	36'	40'	0.467A	0.114v		N.A.C #1	.41	N146-04	0.108A	8'	9'	0.540A	0.029v	1	N.A.C #1	46
N141-05	0.071A	13'	14'	0.396A	0.035v	HORN	N-STROBE (CIRCUIT	N146-05	0.108A	23'	25'	0.432A	0.067v	HORN	N-STROBE (CIRCUIT
N141-06	0.071A	43'	47'	0.325A	0.094v			31113311	N146-06	0.108A	17'	19'	0.324A	0.037v			
N141-07	0.071A	17'	19'	0.254A	0.029v				N146-07	0.108A	31'	34'	0.216A	0.045v			
N141-08	0.041A	25'	28'	0.183A	0.031v				N146-08	0.108A	3'	3'	0.108A	0.002v			
N141-09	0.071A	39'	43'	0.142A	0.037v												
N141-10	0.071A	61'	67'	0.071A	0.029v												
			DEPARTMENT OF THE RES			Today Months II			Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Dr
Device # [Device Draw	Distance	Distance + 1	0% Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	N147-01	0.108A	186'	205'	0.648A	0.512v	0.648A	0.636v	3.1201%
N142-01	0.108A	43'	47'	0.864A	0.251v	0.864A	0.589v	2.8891%	N147-02	0.108A	3'	3'	0.540A	0.011v			
N142-02	0.108A	30'	33'	0.756A	0.153v				N147-03	0.108A	17'	19'	0.432A	0.050v			
N142-03	0.108A	5'	6'	0.648A	0.022v			170.7	N147-04	0.108A	24'	26'	0.324A	0.053v	N	I.A.C #14	17
N142-04	0.108A	17'	19'	0.540A	0.062v		V.A.C #1	42	N147-05	0.108A	3'	3'	0.216A	0.004v	HORN-	-STROBE C	RCUIT
N142-05	0.108A	23'	25'	0.432A	0.067v	HORN	I-STROBE (CIRCUIT	N147-06	0.108A	10'	11'	0.108A	0.007v			
N142-06	0.108A	3'	3'	0.324A	0.007v												
N142-07	0.108A	17'	19'	0.216A	0.025v												
N142-08	0.108A	4'	4'	0.108A	0.003v				Davisa #	Davice Draw	Dietance	Distance + 10%	Amne	Volt Duon	Total Amno	Total Duon	Doucont Duc
									N148-01	0.108A	37'		1.296A	0.324v	1.296A	0.867v	4.2479%
Device # D	Device Draw	Distance	Distance + 1	0% Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	N148-02	0.108A	16'		1.188A	0.128v	1.250A	0.007	7.27/3/0
N143-01	0.108A	119'	131'	0.864A	0.694v	0.864A	0.903v	4.4267%	N148-03	0.108A	5'		1.080A	0.036v			
N143-02	0.108A	3'	3'	0.756A	0.015v	0.00 IA	0.505	1. 1207 70	N148-04	0.108A	16'		0.972A	0.105v	N	I.A.C #14	18
N143-03	0.108A	19'	21'	0.648A	0.083v				N148-05	0.108A	5'		0.864A	0.029v		-STROBE C	
N143-04	0.108A	10'	11'	0.540A	0.036v	i	N.A.C #1	43	N148-06	0.108A	13'		0.756A	0.066v	HOKN-	STRUDE C.	.NCUIT
N143-05	0.108A	3'	3'	0.432A	0.030v				N148-07	0.108A	7'		0.648A	0.031v			
N143-05	0.108A	18'	20'	0.324A	0.009v	HURN	I-ST ROBE (LIKCUII	N148-08	0.108A	13'		0.540A	0.031v			
N143-07	0.108A	16'	18'	0.216A	0.033v				N148-09	0.108A	20'		0.432A	0.058v			
N143-08	0.108A	3'	3'	0.108A	0.023v				N148-10	0.108A	11'		0.324A	0.024v			
	3.100/1			0.105A	3.0021				N148-11	0.108A	5'		0.216A	0.007v			
									N148-12	0.108A	13'	14'	0.108A	0.009v			
Device # [Device Draw	Distance	Distance + 1	.0% Amps	Volt Drop	Total Amp	s Total Dro	p Percent Drop									
N144-01	0.108A	218'	240'	0.756A	1.113v	0.756A	1.271v	6.2324%									
N144-02	0.108A	10'	11'	0.648A													
NH44 02	0.1004	2'	2'		0.0114												

rice #	Device Draw	Distance	Distance + 10%	Amps	voir prop	lotal Amps	iotai brop	Percent Drop
14-01	0.108A	218'	240'	0.756A	1.113v	0.756A	1.271v	6.2324%
14-02	0.108A	10'	11'	0.648A	0.044v			
14-03	0.108A	3'	3'	0.540A	0.011v			
14-04	0.108A	18'	20'	0.432A	0.053v		N.A.C #1	L 44
14-05	0.108A	8'	9'	0.324A	0.018v	HOR	N-STROBE	CIRCUIT
14-06	0.108A	19'	21'	0.216A	0.028v			
14-07	0.108A	8'	9'	0.108A	0.006v			
1107								
11 07								
	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
rice #	Device Draw 0.108A	Distance 274'	Distance + 10% 301'	Amps 0.648A	Volt Drop	Total Amps 0.648A	Total Drop	Percent Drop 6.4219%
/ice # 45-01	The state of the s	The Table State	ALCOHOLOGICAL CONTRACTOR		100000000000000000000000000000000000000	THE PERSON NAMED IN		The same of the sa
/ice # 45-01 45-02	0.108A	274'	301'	0.648A	1.199v	0.648A	1.310v	6.4219%
	0.108A 0.108A	274' 3'	301' 3'	0.648A 0.540A	1.199v 0.011v	0.648A		6.4219%
vice # 45-01 45-02 45-03	0.108A 0.108A 0.108A	274' 3' 17'	301' 3' 19'	0.648A 0.540A 0.432A	1.199v 0.011v 0.050v	0.648A	1.310v N.A.C #1	6.4219%
vice # 45-01 45-02 45-03 45-04	0.108A 0.108A 0.108A 0.108A	274' 3' 17' 8'	301' 3' 19' 9'	0.648A 0.540A 0.432A 0.324A	1.199v 0.011v 0.050v 0.018v	0.648A	1.310v	6.4219%

BATTERY & VOLTAGE DROP CALCULATIONS - 4

ECTRONICS 'REGISTERED' C-7 C-10 CONTRACTOR EXP. 05/31/2021 DERRICK M. EMGE

EMCOM 256 V

ELECTRONIC SYSTEMS, II
WITHERSPOON WAY, SUITE H
EL CAJON, CA 92020
(619) 667-1200
820216 | EXP. DATE 05/31/20

/2021 1200

C-7 C-10 CONTACT

100

V. DATE DESCRIPTION P.O. BOX 880922 PORT SAINT LUCIE, FL 34988 Carlos Oliveras (619) 610-8637, NICET III #84003 carlos.oliveras@fuegoeng.com DESIGN: C.O. HECKED: JE DATE: 11/16/2020 SHEET TITLE: BATTERY & VOLTAGE DROP CALCULATIONS - 4 ELAN - BUILDING #1 FIRE ALARM SYSTEM

N.T.S.

FA-12.3

IF THIS SHEET DOES NOT MEASURE TO BE 30" X 42", IT IS A REDUCED PRINT

RESWITCH 108 BPS#19 (5 MINTU	ES IN ALARM	, 24HRS STAN	DBY)						ALTE	RONIX	Device #	Device Draw	Distance	Distance
A	В	С	D	E	F						N149-01	0.071A	10'	
			Total Stanby	Alarm	Total Alarm						N149-02	0.071A	53'	
		Standby	Current	Current	Current						N149-03	0.071A	13'	
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Current	(BxC)	(B x E)	(BxE)						N149-04	0.041A	77'	
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A						N149-05	0.071A	12'	
TOTAL SOLVET BOLLE	-		0120011		U.E.S.						N149-06	0.071A	47	
		Total Standby		Total Alm							N149-07	0.071A	64'	
		Current =	0.180A	Current=	0.200A			-			N149-08 N149-09	0.071A 0.071A	20' 50'	
											N149-10	0.071A	51'	
											1113 10	0107 271		
NOTIFICATION APPLIANCES	DEVICE								1				n	D1 -
	DRAW	N149	N150	N151	N152	N153	N1.54	N155	N156		17.0	Device Draw	Technological State of the	Distanc
15cd STROBE, CEILING	0.041A	1	0	0	0	0	0	0	0		N150-01	0.108A	18' 24'	
15cd HORN-STROBE, CEILING	0.071A	9	0	0	0	0	0	0	0		N150-02 N150-03	0.108A 0.108A	3'	
75cd HORN-STROBE, WP, WALL/CEILING	0.176A	0	0	0	0	0	0	0	2		N150-03	0.108A	18'	
HORN LOW FREQ											N150-05	0.108A	5'	
HORN LOW FREQ	0.108A	0	9	8	6	7	5	9	0		N150-06	0.108A	25'	
	NAC OKT				I I						N150-07	0.108A	3'	
	DRAW =										N150-08	0.108A	26'	į.
	DIOLEI -	0.680A	0.972A	0.864A	0.648A	0.756A	0.540A	0.972A	0.352A		N150-09	0.108A	5'	
									TOTAL NAC					
									CURRENT	5.784A	Device #	Device Draw	Distance	Distanc
									DRAW =		N151-01	0.108A	126'	1
		1	TOTAL STANDY								N151-02	0.108A	3'	
TOTAL STANDBY CALCULATIONS	S		CALCU								N151-03	0.108A	24'	1
Total standby current			0.180A								N151-04	0.108A	20'	
Multiply by 24 or 60 for standby hours needed.			24H								N151-05	0.108A	4'	
											N151-06 N151-07	0.108A 0.108A	20' 10'	
Total standby AH (Amp Hours)			4.3200 AH				1	1	1		N151-07 N151-08	0.108A 0.108A	3'	
										ALARM	14151 00	0.1007		
										CURRENT				
ALARM CURRENT CALCULATION	s									CALCU			DI	
Total alarm current										5.984A		Device Draw	of Artistation and	Distanc
Multiply by 0.0833 for 5 min or 0.25 for 15 min	utos of alarm							-		0.0833	N152-01	0.108A	183'	2
	ucs a digitif	-									N152-02	0.108A 0.108A	5' 10'	
Total alarm current.										0.4985 AH	N152-03 N152-04	0.108A 0.108A	19'	
BATTERY BACKUP REQUIREMEN	15			Ι							N152-05	0.108A	4'	
Sub total, add line 18+21										4.8185 AH	N152-06	0.108A	13'	
Multiply by 1.2 for 20% Battery Derating Factor	7									20%				
Total AH (Amp Hours)						<u> </u>				5.7822 AH				
								(a) a.	TTERY SUPPLI	TD - 12 AMD		Device Draw		-

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N149-01	0.071A	10'	11'	0.680A	0.046v	0.680A	0.925v	4.5352%	N155-01	0.108A	74'	81'	0.972A	0.486v	0.972A	0.794v	3.8903%
N149-02	0.071A	53'	58'	0.609A	0.218v				N155-02	0.108A	3'	3'	0.864A	0.018v			
N149-03	0.071A	13'	14'	0.538A	0.047v				N155-03	0.108A	19'	21'	0.756A	0.097v			
N149-04	0.041A	77'	85'	0.467A	0.243v		N.A.C #1	49	N155-04	0.108A	3'	3'	0.648A	0.013v		V.A.C #1	.55
N149-05	0.071A	12'	13'	0.426A	0.035v	HORN	I-STROBE (CIRCUIT	N155-05	0.108A	20'	22'	0.540A	0.073v	HORN	-STROBE C	CIRCUIT
N149-06	0.071A	47'	52'	0.355A	0.113v				N155-06	0.108A	5'	6'	0.432A	0.015v	11014	OTTOBE	orrecor.
N149-07	0.071A	64'	70'	0.284A	0.123v				N155-07	0.108A	26'	29'	0.324A	0.057v			
N149-08	0.071A	20'	22'	0.213A	0.029v				N155-08	0.108A	23'	25'	0.216A	0.034v			
N149-09	0.071A	50'	55'	0.142A	0.048v				N155-09	0.108A	3'	3'	0.108A	0.002v			
N149-10	0.071A	51'	56'	0.071A	0.024v												
												Distance + 10%		100		-	

0.864A	0.735v	0.864A	1.001v	4.9058%
0.756A	0.015v	0.540A	0.073v	
0.432A	0.012v			
0.324A	0.044v			
0.216A	0.015v			
0.108A	0.002v			

DCVKC #	Device Draw																
N149-01	0.071A	10'	11'	0.680A	0.046v	0.680A	0.925v	4.5352%	N155-01	0.108A	74'	81'	0.972A	0.486v	0.972A	0.794v	3.8903%
N149-02	0.071A	53'	58'	0.609A	0.218v				N155-02	0.108A	3'	3'	0.864A	0.018v			
N149-03	0.071A	13'	14'	0.538A	0.047v			1.1124	N155-03	0.108A	19'	21'	0.756A	0.097v			
N149-04	0.041A	77'	85'	0.467A	0.243v		N.A.C #1	149	N155-04	0.108A	3'	3'	0.648A	0.013v	1	N.A.C #1	55
N149-05	0.071A	12'	13'	0.426A	0.035v	HORN	N-STROBE	CIRCUIT	N155-05	0.108A	20'	22'	0.540A	0.073v		I-STROBE (
N149-06	0.071A	47'	52'	0.355A	0.113v	17.00			N155-06	0.108A	5'	6'	0.432A	0.015v	110141	OTTOBE	or (COI)
N149-07	0.071A	64'	70'	0.284A	0.123v				N155-07	0.108A	26'	29'	0.324A	0.057v			
N149-08	0.071A	20'	22'	0.213A	0.029v				N155-08	0.108A	23'	25'	0.216A	0.034v			
N149-09	0.071A	50'	55'	0.142A	0.048v				N155-09	0.108A	3'	3'	0.108A	0.002v			
N149-10	0.071A	51'	56'	0.071A	0.024v												
	Dovice Draw	Dictance	Dictance ± 100/e	Amno	Volt Dron	Total Amne	Total Drop	Porcent Drop	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent D
	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop		and a second desired	Distance	Distance + 10%				14	
Device #	Device Draw 0.108A	Distance 18'	Distance + 10% 20'	Amps 0.972A		Total Amps 0.972A	Total Drop	Percent Drop 2.4100%	Device # N156-01 N156-02	Device Draw 0.176A 0.176A		2 C / 2	0.352A	0.625v	Total Amps 0.352A	Total Drop 1.053v	
			Military 2 March 1997		0.118v	11.50m (12.117-11.10 ⁴ 11.		The second secon	N156-01	0.176A	263'	289'		0.625v		14	Percent Di 5.1627%
Device # N150-01 N150-02	0.108A	18'	20'	0.972A	0.118v 0.140v	0.972A	0.492v	2.4100%	N156-01	0.176A	263'	289'	0.352A	0.625v	0.352A	1.053v	5.1627%
Device #	0.108A 0.108A	18'	20' 26'	0.972A 0.864A	0.118v 0.140v 0.015v	0.972A		2.4100%	N156-01	0.176A	263'	289'	0.352A	0.625v	0.352A	1.053v N.A.C #1	5.1627% 56
Device # N150-01 N150-02 N150-03	0.108A 0.108A 0.108A	18' 24' 3'	20' 26' 3'	0.972A 0.864A 0.756A	0.118v 0.140v 0.015v 0.079v	0.972A	0.492v	2.4100%	N156-01	0.176A	263'	289'	0.352A	0.625v	0.352A	1.053v	5.1627% 56
Device # N150-01 N150-02 N150-03 N150-04 N150-05	0.108A 0.108A 0.108A 0.108A	18' 24' 3'	20' 26' 3' 20'	0.972A 0.864A 0.756A 0.648A	0.118v 0.140v 0.015v 0.079v 0.018v	0.972A	0.492v N.A.C #1	2.4100%	N156-01	0.176A	263'	289'	0.352A	0.625v	0.352A	1.053v N.A.C #1	5.1627% 56
Device # N150-01 N150-02 N150-03 N150-04	0.108A 0.108A 0.108A 0.108A 0.108A	18' 24' 3' 18' 5'	20' 26' 3' 20' 6'	0.972A 0.864A 0.756A 0.648A 0.540A	0.118v 0.140v 0.015v 0.079v 0.018v 0.073v	0.972A	0.492v N.A.C #1	2.4100%	N156-01	0.176A	263'	289'	0.352A	0.625v	0.352A	1.053v N.A.C #1	5.1627% 56
N150-01 N150-02 N150-03 N150-04 N150-05 N150-06	0.108A 0.108A 0.108A 0.108A 0.108A 0.108A	18' 24' 3' 18' 5'	20' 26' 3' 20' 6' 28'	0.972A 0.864A 0.756A 0.648A 0.540A 0.432A	0.118v 0.140v 0.015v 0.079v 0.018v 0.073v 0.007v	0.972A	0.492v N.A.C #1	2.4100%	N156-01	0.176A	263'	289'	0.352A	0.625v	0.352A	1.053v N.A.C #1	5.1627% 56

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N152-01	0.108A	183'	201'	0.648A	0.801v	0.648A	0.905v	4.4374%
N152-02	0.108A	5'	6'	0.540A	0.018v			
N152-03	0.108A	10'	11'	0.432A	0.029v			
N152-04	0.108A	19'	21'	0.324A	0.042v		N.A.C #1	.52
N152-05	0.108A	4'	4'	0.216A	0.006v	HORN	N-STROBE O	CIRCUIT
N152-06	0.108A	13'	14'	0.108A	0.009v			
Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N153-01	0.108A	215'	237'	0.756A	1.098v	0.756A	1.246v	6.1072%

Device # Device Draw Distance Distance + 10% Amps Volt Drop Total Amps Total Drop Percent Drop

	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
N153-01	0.108A	215'	237'	0.756A	1.098v	0.756A	1.246v	6.1072%
N153-02	0.108A	4'	4'	0.648A	0.018v			
N153-03	0.108A	17'	19'	0.540A	0.062v			
N153-04	0.108A	10'	11'	0.432A	0.029v		N.A.C #1	53
N153-05	0.108A	4'	4'	0.324A	0.009v	HORN	-STROBE C	TRCUIT
N153-06	0.108A	17'	19'	0.216A	0.025v	11010	OTTOBE C	
N153-07	0.108A	8'	9'	0.108A	0.006v			
Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Dro
SECURITION OF THE RES	0.108A	232'	255'	0.540A	0.846v	0.540A	0.950v	4.6591%
N154-01		17'	19'	0.432A	0.050v			
N154-01 N154-02	0.108A	1/						
1175 / 55	0.108A 0.108A	3'	3'	0.324A	0.007v			*
N154-02				0.324A 0.216A			N.A.C #1	L54
1175 / 55				U.TOZA	0.0300			

RESWITCH 108 BPS#20 (5 MINTUE	ES IN ALARM	1, 24HRS STAN	IDBY)						ALTI	RONIX	Device #	Device Drav	w Distance	Distance + 1	0% Amps	Volt Drop	p Total	Amps Total	Drop Percent Dr	Device #	Device Dra	w Distance	e Distance + 1	0% Amp	Volt Dro	Total Amps	Total Dro	p Percent D
A	В	С	D	E	F						N157-01	0.108A	15'	17'	-	0.077v	-	756A 0.3		N162-01		56'	62'		0.449v			4.31949
			Total Stanby	Alarm	Total Alarm				l		N157-01	0.108A	21'	23'		0.077V		730A 0.5	J3V 1.7039 70	N162-01		3'	3'	1.080		1.100A	0.0017	7.31517
		Standby	Current	Current	Current						N157-03	0.108A	4'	4'		0.015v	_			N162-03		21'	23'		0.138v			
INTERNAL POWER SUPPLY COMPONENTS	Quantity	Current	(BxC)	(BxE)	(BxE)						N157-04	0.108A	25'	28'		0.073v		N.A.	C #157	N162-04		4'	4'	0.864			N.A.C #	162
MAIN POWER SUPPLY BOARD	1	0.180A	0.180A	0.200A	0.200A						N157-05	0.108A	3'	3'		0.007v		HORN-STR	DBE CIRCUIT	N162-05		17'	19'		0.087v	HOR	N-STROBE	CIRCUIT
TPGTF OTIEN SOFTET BOPED	-										N157-06	0.108A	25' 5'	28'		0.036v	_			N162-06		4'	4'	0.648			1	
		Total Standby	Contractor of the Contractor	Total Alm					l		N157-07	0.108A)	В	U.108A	0.004v				N162-07 N162-08		10' 19'	11' 21'		0.036v 0.055v			
		Current =	0.180A	Current=	0.200A	1														N162-08		Q'	10'		0.033V			
							1	1	I				222 27							N162-10		19'	21'		0.028v			
											3	Device Drav	w Distance	Distance + 1	0% Amps	Volt Drop	p Total	l Amps Total	Drop Percent Dr	N162-11		7'	8'	0.108/	0.005v			
	DEVICE										N158-01	0.108A	20'	22'		0.102v		756A 0.2	69v 1.3194%									
NOTIFICATION APPLIANCES	CURRENT	22.						1			N158-02	0.108A	3'	3'		0.013v				┥								
	DRAW	N157	N158	N159	N160	N161	N162	N163	NI 64-SPARI	E	N158-03 N158-04	0.108A 0.108A	20' 4'	22' 4'		0.073v 0.012v		NΔ	#158	Device #	Device Dra	w Distance	e Distance + 1	.0% Amps	Volt Drop	Total Amps	Total Drop	Percent Dr
15cd STROBE, CEILING	0.041A	0	0	1	0	0	0	0	0		N158-05	0.108A	24'	26'		0.053v			OBE CIRCUIT	N163-01	0.176A	205'	226'	0.3524	0.487v	0.352A	0.856v	4.1954%
15cd HORN-STROBE, CEILING	0.071A	0	0	0	0	0	0	0	0		N158-06	0.108A	10'	11'		0.015v		HOIN SIN	DDE CIRCOIT	N163-02		310'	341'		0.368v	UIDDE! (0.0501	11230170
HORNLOW FREQ		-		,	1	-	0	-			N158-07	0.108A	3'	3'	0.108A	0.002v												
HORN LOW FREQ	0.108A	7	7	0	8	12	11	0	0																		N.A.C #1	
	NA C OKT CURRENT				1	1					l															HORN	-STROBE	CIRCUIT
	DRAW =	0.756A	0.750	0.680A	0.864A	1.296A		0.352A	0.000A		Device #	Device Drav	w Distance	Distance + 1	0% Amps	Volt Drop	p Total	l Amps Total	Drop Percent Dr	ор								
	Dietii	U./30A	0.756A	UJOOUA	U.804A	1.290A	1.188A	U.33ZA			N159-01	0.071A	45'	50'	0.680A	0.207v	0.6	680A 1.0	20v 4.9989%									
									TOTAL NAC		N159-02	0.071A	10'	11'	0.609A	0.041v												
4									CURRENT	5.892A	N159-03	0.041A	43'	47'		0.156v												
									DRAW =		N159-04	0.071A	59'	65'		0.198v	_		C #159									
1		1	TOTAL STANDY		1	1					N159-05 N159-06	0.071A 0.071A	18' 82'	20' 90'		0.052v 0.197v		HORN-STR	OBE CIRCUIT									
TOTAL STANDBY CALCULATIONS	;		CALCU						l .		N159-07	0.071A	33'	36'		0.197V 0.063v				_								
Total standby current			0.180A								N159-08	0.071A	18'	20'		0.026v												
7 Multiply by 24 or 60 for standby hours needed.			24H								N159-09	0.071A	72'	79'		0.069v												
											N159-10	0.071A	23'	25'	0.071A	0.011v												
8 Total standby AH (Amp Hours)			4.3200 AH				1	1	1																			
										TOTAL	l ——																	
										ALARM	Device #	Device Drav	w Distance	Distance + 1	0% Amps	Volt Dro	op Tota	al Amps Tota	Drop Percent D	гор								
ALARM CURRENT CALCULATION	ς .									CALCU	N160-01	0.108A	69'	76'	0.864A	0.403v	v 0.	0.864A 0.	628v 3.0786%)								
		T			T	T		1	T		N160-02	0.108A	4'	4'		0.020v												
Total alarm current		-			+	_	-	+	_	6.092A	N160-03	0.108A	24'	26'		0.105v			0 //460									
Multiply by 0.0833 for 5 min or 0.25 for 15 min	utes of alarm							-	-	0.0833	N160-04	0.108A	3'	3'		0.011v			C #160									
Total alarm current.										0.5075 AH	N160-05 N160-06	0.108A 0.108A	21' 3'	23'	0.432A 0.324A			HORN-ST	ROBE CIRCUIT									
BATTERY BACKUP REQUIREMEN	TS										N160-07	0.100A	13'	14'		0.019				\dashv								
Sub total, add line 18+21										4.8275 AH	N160-08	0.108A	3'	3'		0.002v												
										2007	1																	

N157-01	0.108A	15'	17'	0.756A	0.077v	0.756A	0.303v	1.4839%
N157-02	0.108A	21'	23'	0.648A	0.092v			
N157-03	0.108A	4'	4'	0.540A	0.015v			101
N157-04	0.108A	25'	28'	0.432A	0.073v	1	V.A.C #1	57
N157-05	0.108A	3'	3'	0.324A	0.007v	HORN	-STROBE C	IRCUIT
N157-06	0.108A	25'	28'	0.216A	0.036v	12.176.83		
N157-07	0.108A	5'	6'	0.108A	0.004v			
Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Dro
N158-01	0.108A	20'	22'	0.756A	0.102v	0.756A	0.269v	1.3194%
N158-01	0.108A 0.108A	3'	3'	0.736A 0.648A	0.102v 0.013v	U./36A	0.2090	1.3194%
N158-02	0.108A	20'	22'	0.540A	0.013v			
N158-03	0.108A 0.108A	20 4'	4'	0.540A 0.432A	0.073V 0.012v	1	N.A.C #1	50
N158-05	0.108A 0.108A	24'	26'	0.432A 0.324A	0.012v 0.053v			
N158-06	0.108A 0.108A	10'	11'	0.324A 0.216A	0.033V 0.015v	HORN	I-STROBE C	IKCUII
N158-07	0.108A	3'	3'	0.210A 0.108A	0.013v			
		-	_					
								Dorcont Dro
Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	reitellt bio
Device # N159-01	Device Draw	Distance 45'	Distance + 10%	Amps 0.680A	Volt Drop 0.207v	Total Amps 0.680A	Total Drop 1.020v	4.9989%
			The state of the s		0.207v		•	
N159-01	0.071A	45'	50'	0.680A	0.207v		•	
N159-01 N159-02	0.071A 0.071A	45' 10'	50' 11'	0.680A 0.609A	0.207v 0.041v	0.680A	•	4.9989%
N159-01 N159-02 N159-03	0.071A 0.071A 0.041A	45' 10' 43'	50' 11' 47'	0.680A 0.609A 0.538A	0.207v 0.041v 0.156v	0.680A	1.020v N.A.C #1	4.9989% 59
N159-01 N159-02 N159-03 N159-04	0.071A 0.071A 0.041A 0.071A	45' 10' 43' 59'	50' 11' 47' 65'	0.680A 0.609A 0.538A 0.497A	0.207v 0.041v 0.156v 0.198v	0.680A	1.020v	4.9989% 59
N159-01 N159-02 N159-03 N159-04 N159-05	0.071A 0.071A 0.041A 0.071A	45' 10' 43' 59' 18'	50' 11' 47' 65' 20'	0.680A 0.609A 0.538A 0.497A 0.426A	0.207v 0.041v 0.156v 0.198v 0.052v 0.197v	0.680A	1.020v N.A.C #1	4.9989% 59
N159-01 N159-02 N159-03 N159-04 N159-05 N159-06	0.071A 0.071A 0.041A 0.071A 0.071A	45' 10' 43' 59' 18' 82'	50' 11' 47' 65' 20'	0.680A 0.609A 0.538A 0.497A 0.426A 0.355A	0.207v 0.041v 0.156v 0.198v 0.052v 0.197v	0.680A	1.020v N.A.C #1	4.9989% 59
N159-01 N159-02 N159-03 N159-04 N159-05 N159-06 N159-07	0.071A 0.071A 0.041A 0.071A 0.071A 0.071A	45' 10' 43' 59' 18' 82' 33'	50' 11' 47' 65' 20' 90' 36'	0.680A 0.609A 0.538A 0.497A 0.426A 0.355A 0.284A	0.207v 0.041v 0.156v 0.198v 0.052v 0.197v 0.063v	0.680A	1.020v N.A.C #1	4.9989% 59

Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Dro
N160-01	0.108A	69'	76'	0.864A	0.403v	0.864A	0.628v	3.0786%
N160-02	0.108A	4'	4'	0.756A	0.020v			
N160-03	0.108A	24'	26'	0.648A	0.105v			
N160-04	0.108A	3'	3'	0.540A	0.011v		N.A.C #1	.60
N160-05	0.108A	21'	23'	0.432A	0.061v	HORN	-STROBE C	CIRCUIT
N160-06	0.108A	3'	3'	0.324A	0.007v			
N160-07	0.108A	13'	14'	0.216A	0.019v			
N160-08	0.108A	3'	3'	0.108A	0.002v			

	5.7930 AH									
	(2) BATTERY SUPPLIED = 12 AMP	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Perc
	(2) BR TIERT SOFFEID - 12 APR	N161-01	0.108A	54'	59'	1.296A	0.473v	1.296A	0.967v	4.3
		N161-02	0.108A	3'	3'	1.188A	0.024v			
		N161-03	0.108A	19'	21'	1.080A	0.139v			
		N161-04	0.108A	3'	3'	0.972A	0.020v		N.A.C #1	61
		N161-05	0.108A	19'	21'	0.864A	0.111v	HORN	N-STROBE (TRCL
		N161-06	0.108A	3'	3'	0.756A	0.015v	.,		
		N161-07	0.108A	19'	21'	0.648A	0.083v			
		N161-08	0.108A	3'	3'	0.540A	0.011v			
		N161-09	0.108A	19'	21'	0.432A	0.055v			
		N161-10	0.108A	3'	3'	0.324A	0.007v			
TOTAL		N161-11	0.108A	19'	21'	0.216A	0.028v			
ALARM CURRENT		N161-12	0.108A	3'	3'	0.108A	0.002v			

PART#	DESCRIPTION	QTY		STANDBY CURRENT DRAW PER ITEM (AMPS)		TOTAL STAND-BY CURRENT DRAW PER ITEM (AMPS)	QTY	100 4000	ALARM CURRENT DRAW PER ITEM (AMPS)		TOTAL ALARM CURRENT DRAW ITEM (AMP
TG7-FS	Cellular Panel	1	X	0.034	=	0.034	1	X	0.121	=	0.12
				STEM STAND T (AMPS)	BY	0.0340	ALAR	M C	TOTAL SYS SURRENT (AM		
		REQUIRED STANDBY TIME (HRS)		TOTAL SYSTEM STANDBY CURRENT (AMPS)		REQUIRED STANDBY CAPACITY (AMP- HOURS)	REQUIRED ALARM TIME (HOURS) 5MIN=.083 15MIN=.25		TOTAL SYSTEM ALARM CURRENT (AMPS)		REQUIRED ALARM CAPACITY (AMP- HOURS)
		24	Х	0.0340	=	0.8160	0.25	X	0.1210	=	0.0303
		REQUIRED STANDBY CAPACITY (AMP-		REQUIRED ALARM CAPACITY (AMP-		TOTAL CAPACITY (AMP- HOURS)	TOTAL CAPACITY (AMP- HOURS)		BATTERY DERATING FACTOR 20%		ADJUSTED BATTERY CAPACITY (AMP-
		0.82	+	0.0303	=	0.8463	0.8463	Х	20%	=	1.016

		V	DC CURRE	NI			
	W	a	Weath	erproof	Cei	ling	
Candela		Horn/		Horn/		Horn/	LF-Hom /
Rating	Strobe	Strobe	Strobe	Strobe	Strobe	Strobe	Strobe
15cd	0.043	0.054	0.066	0.079	0.041	0.071	
30cd	0.063	0.074	0.094	0.107	0.063	0.090	
75cd	0.107	0.121	0.158	0.176	0.111	0.143	
95cd	0.121	0.142	0.181	0.194	0.134	0.165	
110cd	0.148	0.162	0.202	0.212	-		
115cd			0.210	0.218	0.158	0.187	
135cd	0.172	0.196	0.228	0.245	-	-	
150cd			0.246	0.259	0.189	0.217	
177cd		-	0.281	0.290	0.226	0.254	0.266
185cd	0.222	0.245	0.286	0.297	-		
							0.108

A x (L/1000) x R x 2)	
A = CURRENT REQUIRED BY THE DEVICE	
L= LENGTH DISTANCE FROM DEVICE TO DEVICE	
R = RESISTANCE OF WIRE PER 1000 FT.	
12 AWG = 1.93 OHMS PER 1000FT.	
VOLTAGE DROP BASE ON PANELS WORST	
CASE VOLTAGE OF 20.4 V DC	
METHOD OF CALCULATIONS: POINT TO POINT	
METHOD OF CALCULATIONS: POINT TO POINT A x (L/1000) x R x 2)	
A x (L/1000) x R x 2)	
A x (L/1000) x R x 2) A= CURRENT REQUIRED BY THE DEVICE	
A x (L/1000) x R x 2) A= CURRENT REQUIRED BY THE DEVICE L= LENGTH DISTANCE FROM DEVICE TO DEVICE	
A x (L/1000) x R x 2) A = CURRENT REQUIRED BY THE DEVICE L= LENGTH DISTANCE FROM DEVICE TO DEVICE R = RESISTANCE OF WIRE PER 1000 FT.	

0%	Amps	Volt Drop	Iotal Amps	Total Drop	Percent Drop	N162-11	0.108A	7'	8'	0.108A	0.005v			
	0.756A	0.102v	0.756A	0.269v	1.3194%									
	0.648A	0.013v												•
	0.540A	0.073v										_		
	0.432A	0.012v	1	N.A.C #1	58	Device #	Device Draw	Distance	Distance + 10%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop
	0.324A	0.053v	HORN	-STROBE C	CIRCUIT	N163-01	0.176A	205'	226'	0.352A	0.487v	0.352A	0.856v	4.1954%
	0.216A	0.015v				N163-02	0.176A	310'	341'	0.176A	0.368v			
	0.108A	0.002v												
													N.A.C #1	63
												HOR	N-STROBE C	CIRCUIT
00/		Valt Door	Takal Assas	Tatal Duan	Davisant Duan								The second second	and the contract of
					Percent Drop									
	0.680A	0.207v	0.680A	1.020v	4.9989%									
	0.609A	0.041v												
	0.538A				F0									
	0.497A		I	V.A.C #1	59									
	0.426A	0.052v	HORN	I-STROBE C	CIRCUIT									
	0.355A													
	0.284A													
	0.213A	0.026v												
	0.142A													
-	0.071A	0.011v												
0%	Amps	Volt Drop	Total Amps	Total Drop	Percent Drop									
	0.864A	0.403v	0.864A	0.628v	3.0786%									
	0.756A													
	0.648A													
	0.540A			N.A.C #:	160									
	0.432A			N-STROBE										
	0.324A		1 HOIK	JINOBE	CITCOIT									

•						VOIL DIOP		2501 CM25000000 10 0	THE ROOM INVOICEMENT OF THE
%	N162-01	0.108A	56'	62'	1.188A	0.449v	1.188A	0.881v	4.3194%
	N162-02	0.108A	3'	3'	1.080A	0.022v			
	N162-03	0.108A	21'	23'	0.972A	0.138v			
	N162-04	0.108A	4'	4 '	0.864A	0.023v		N.A.C #1	.62
	N162-05	0.108A	17'	19'	0.756A	0.087v	HORN	N-STROBE	CIRCUIT
	N162-06	0.108A	4'	4'	0.648A	0.018v			
	N162-07	0.108A	10'	11'	0.540A	0.036v			
	N162-08	0.108A	19'	21'	0.432A	0.055v			
	N162-09	0.108A	9'	10'	0.324A	0.020v			
	N162-10	0.108A	19'	21'	0.216A	0.028v			
_	14102-10	0.100/1							
Drop %	N162-11	0.108A	7'	8'	0.108A	0.005v			
•	N162-11	0.108A	7'	8' Distance + 10%			Total Amps	Total Drop	Percent Drop
•	N162-11 Device #	0.108A Device Draw	7' Distance	Distance + 10%	Amps	Volt Drop			
•	N162-11	0.108A	7'	-			Total Amps 0.352A	Total Drop 0.856v	Percent Drop 4.1954%
•	N162-11 Device # N163-01	0.108A Device Draw 0.176A	7' Distance 205'	Distance + 10%	Amps 0.352A	Volt Drop	0.352A		4.1954%
•	N162-11 Device # N163-01	0.108A Device Draw 0.176A	7' Distance 205'	Distance + 10%	Amps 0.352A	Volt Drop	0.352A	0.856v	4.1954%

100 ELK LANE NTA ANA, CA 92701 BUILDING

M ELECTRONIC SYSTEMS, II
 6 WITHERSPOON WAY, SUITE H
 EL CAJON, CA 92020
 (619) 667-1200
 0 # 820216 | EXP. DATE 05/31/2
 CT: DERRICK EMGE @ 619-667-12

C-7 C-10 # CONTACT:

REGISTERED ... C-7 C-10

NO. 820216 . EXP. 05/31/2021

DERRICK M. EMGE

REV.	DATE		DESCRIPTION	D.B.
1				
2				
3				
4				
DESIGNI	POR Carlos Oliveras	P. T SA (61	NGINEERING & DESIGN O. BOX 880922 NINT LUCIE, FL 34988 9) 610-8637, NICET III #84003 iveras@fuegoeng.com	
DESI	GN: C.O.		DRAWN:	
CHEC	CKED: JE		JOB NO:	
DATE	E: 11/16/2020		PLOT:	
SHEE	ET TITLE:			

BATTERY & VOLTAGE DROP CALCULATIONS - 5

FIRE ALARM SYSTEM

BATTERY & VOLTAGE DROP CALCULATIONS - 5



California State Fire Marshal **CODE INTERPRETATION**

Date Issued	November 12, 2015	Interpretation	15-001 Revised				
Topic	Capabili	ty of Visible Alarms					
Code Section(s)	2013	CBC 907.5.2.3.4					
Requested by		omm Systems, Inc. J. Schuler, SET					
Date Received	April 01, 2015						

Questions:

Does the California Building Code (CBC) Section 907.5.2.3.4, require that dwelling and sleeping unit bathrooms be prewired for the capability to support visible alarms in Group R-2 occupancies.

Answer: No. Section 907.5.2.3.4 states "In Group R-2 occupancies required by Section 907 to have a fire alarm system, all dwelling units and sleeping units shall be provided with the capability to support visible alarm notification appliances in accordance with NFPA 72. Such capability shall be permitted to include the potential for future interconnection of the building fire alarm system with the unit smoke alarms, replacement of audible appliances with combination audible/visible appliances, or future extension of the existing wiring from the unit smoke alarm locations to required locations for visible appliances."

Since NFPA 72 requires the installation of audible notification appliances in sleeping areas i.e. bedrooms and living spaces, Section 907.5.2.3.4 does not provide direction to pre-wire or install visual notification within R-2 occupancy bathrooms. Section 907.5.2.3.1 does have requirements to install visible notification appliances within public sanitary facilities including restrooms, bathrooms, and shower rooms not private occupancies such as an R-2.

Section 907.5.2.3.4 does give the designer three options to choose from to accommodate someone with a hearing impairment in the future which include the following:

- Potential for future interconnection of the building fire alarm system with the unit smoke alarms.
- Replacement of audible appliances with combination audible/visible appliances.
- Future extension of the existing wiring from the unit smoke alarm locations to required locations for visible appliances.



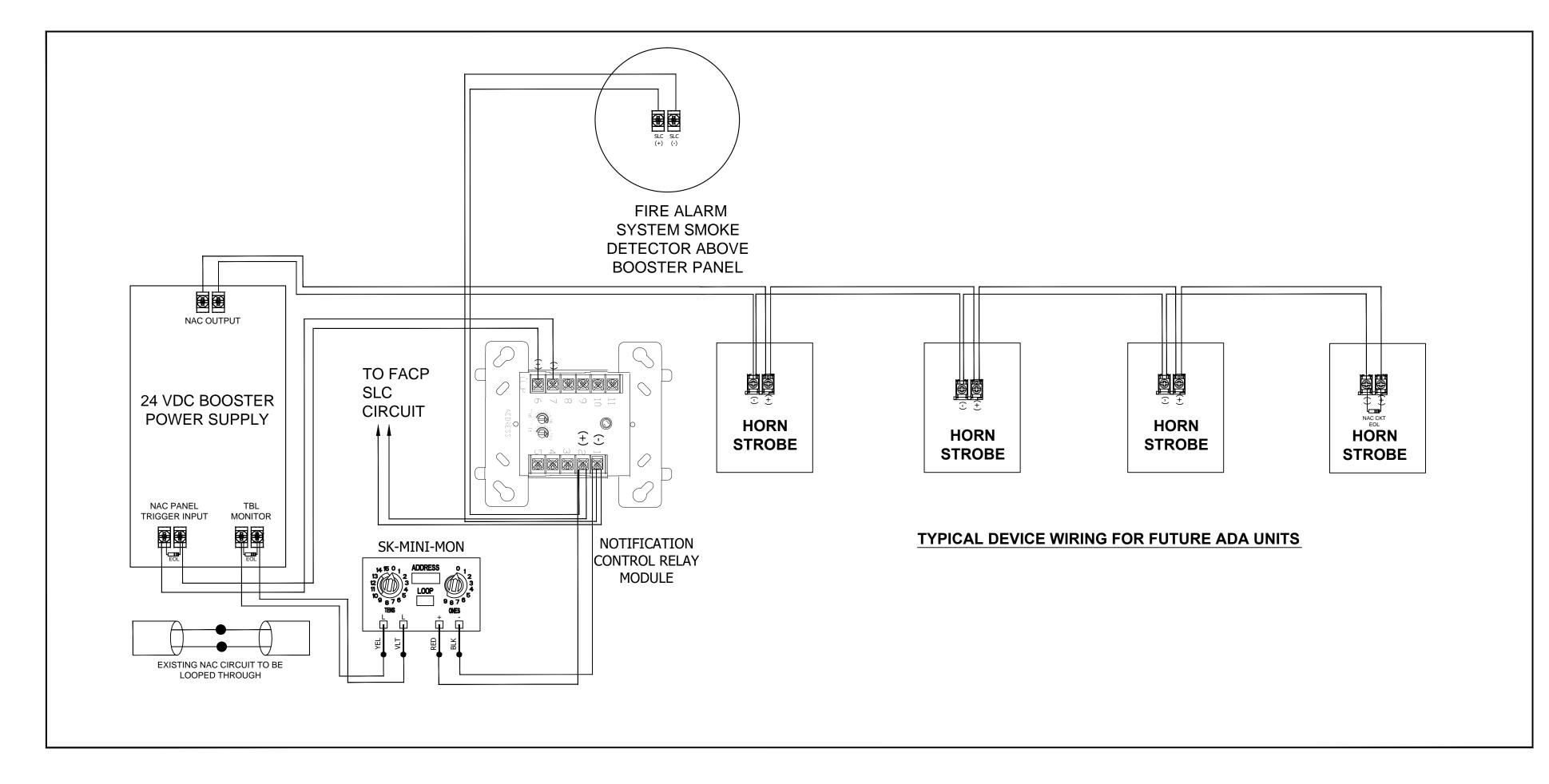
California State Fire Marshal **CODE INTERPRETATION**

Date Issued	03-18-03	Interpretation #	02-043 REVISED
Topic	Visual devices in hearing impaired rooms		
Code Section(s)	Section 1007.2.9.1.5, California Fire Code (1998 ed)		
Requested by	Scott V. Giles, Fire Marshal		
	Long Beach Fire Department		
	925 Harbor Plaza #100		
	Long Beach, CA 90602		

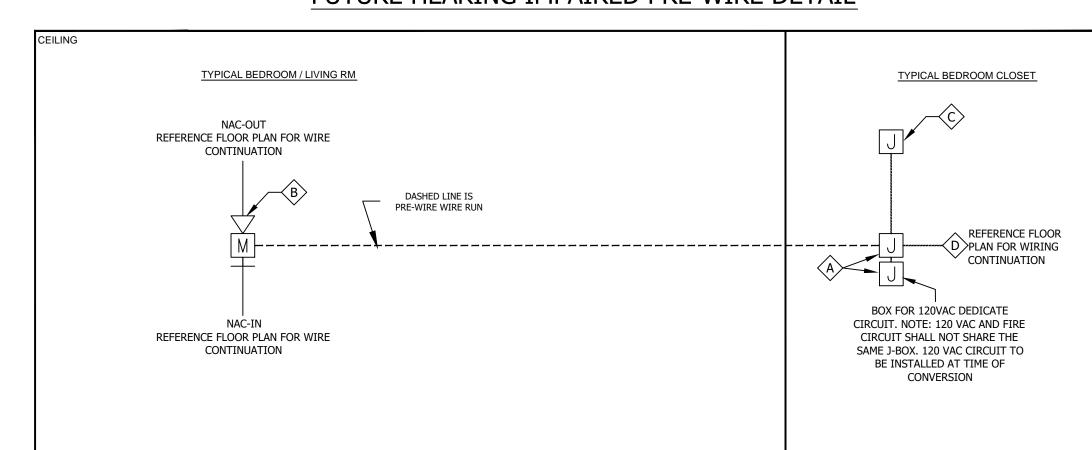
1. Is the visual device required by this section intended to be part of the fire alarm system that requires that it comply with all the requirements of NFPA 72?

Yes. While the State Fire Marshal (SFM) does not adopt Section 1007.2.9.1.5 of the 1998 Uniform Fire Code, SFM does adopt Section 1006.2.9.1.5 of the 2001 Uniform Fire Code. This later adoption requires that visible notification appliances in rooms for the hearing impaired must be operated by both the smoke detector in the room and the building fire alarm system. It also requires compliance with the installation requirements of NFPA 72.

Does a visual device built into a single station smoke detector and a separate visual device connected to the building fire alarm system meet the intent of this section, even though each will activate and operate independent of each other?



FUTURE HEARING IMPAIRED PRE-WIRE DETAIL



INSTALL (1) 4 SQUARE BOX AND (1) SINGLE GANG BOX. NIPPLE SINGLE BOX TO 4 SQUARE BOX. ELECTRICIAN TO PULL 120 VAC DEDICATED CIRCUIT TO SINGLE GANG BOX TO POWER FUTURE BOOSTER PANEL AT TIME OF CONVERSION. PULL (1) 18/2 SLC WIRE TO 4 SQUARE BOX AS SHOWN ON FLOOR PLANS.

- PRE-WIRE:
 PULL (1) 14/2 FPLR FROM ADA BOX AND LOOP THROUGH EACH J-BOX AS SHOWN ON TYPICAL DIAGRAM. COIL UP SOME SLACK OF WIRE IN EACH BACK BOX. THIS PAIR OF WIRE IS IN ADDITION TO THE NAC CIRCUIT WIRE SHOWN ON FLOOR PLANS. LABEL WIRE: ' FOR FUTURE ADA'
- INSTALL (1) 1-SINGLE GANG BOX W/ BLANK COVER PLATE IN CLOSET CEILING ABOVE ADA BOX FOR FUTURE FIRE ALARM SYSTEM SMOKE DETECTOR.
- D SEE FLOOR PLAN FOR ADA WIRE ROUTING.

AT TIME OF CONVERSION NOTES:

- . AT TIME OF CONVERSION 120VAC SMOKE ALARM /CO IN UNIT TO BE REPLACED WITH 120VAC SMOKE ALARM WITH
- 2. INSTALL (1) BOOSTER PANEL, (1) NOTIFICATION CONTROL AND (1) MONITOR MODULE USED TO MONITOR AND TRIGGER THE BOOSTER PANEL. (1) FIRE ALARM SYSTEM FIRE SMOKE DETECTOR ABOVE BOOSTER PANEL AND 120 VAC DEDICATE
- REPLACE EXISTING HORNS WITH 185cd HORN-STROBES. USE SPARE WIRE TO LOOP THE HORN-STROBE CIRCUIT TO THE BOOSTER PANEL.
- LOOP THROUGH EXISTING HORN CIRCUIT TO COMPLETE
- 5. REPLACE EXISTING FACP WITH ADDRESSABLE FIRE CONTROL PANEL (IF APPLICABLE)

- UPON A SPRINKLER WATER FLOW / GENERAL ALARM ALL AUDIBLE/ VISUAL WILL ACTIVATE THROUGHOUT THE ENTIRE
- IN THE EVENT THE HEARING IMPAIRS UNIT 120 VAC SMOKE ALARM DETECTOR IS ACTIVATED ALL SOUNDERS AND ALL INTEGRATED DETECTOR STROBES WILL ACTIVATE. THIS IS

INSTALLATION NOTE:

IN GROUP R-2 OCCUPANCIES REQUIRED BY

SECTION 907 TO HAVE A FIRE ALARM SYSTEM, ALL

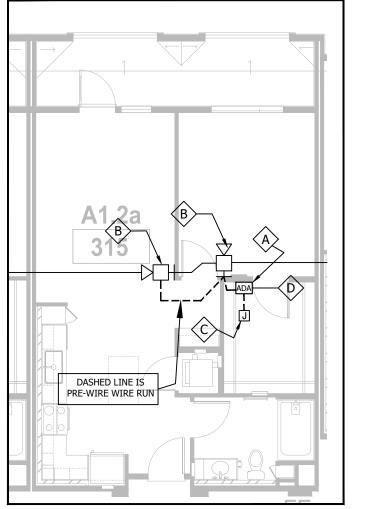
DWELLING UNITS AND SLEEPING UNITS SHALL BE

PROVIDED WITH THE CAPABILITY TO SUPPORT

VISIBLE ALARM NOTIFICATION APPLIANCES IN

ACCORDANCE WITH CFC 2016 - 907.5.2.3.4

ALL INTERIOR BOXES AND WIRING SHOWN WITHIN THE UNITS WILL BE INSTALLED AT TIME OF **FUTURE ADA CONVERSION.**



TYPICAL UNIT PRE-WIRE DETAIL

- INTEGRATED STROBE.
- CIRCUIT TO POWER BOOSTER PANEL.
- CONNECTION OF HORNS FOR OTHER UNITS.

SEQUENCE OF OPS:

- BUILDING AND HEARING IMPAIRED CONVERTED UNITS.
- LOCAL TO THE APARTMENT UNIT AND WILL NOT ACTIVATE OR SIGNAL THE BUILDING FIRE ALARM SYSTEM.

100

INC

/STEMS, I Y, SUITE H)20

OOON WOON, CA 9 667-12 EXP. J

C-7 C-10 CONTAC

'REGISTERED'

C-7 C-10

CONTRACTOR

EXP. 05/31/2021

DERRICK M. EMGE

DESCRIPTION P.O. BOX 880922 PORT SAINT LUCIE, FL 34988 Carlos Oliveras (619) 610-8637, NICET III #84003 carlos.oliveras@fuegoeng.com DESIGN: C.O. HECKED: JE DATE: 11/16/2020

SHEET TITLE: PRE-WIRE FOR FUTURE HEARING IMPAIRED UNITS

ELAN - BUILDING #1 FIRE ALARM SYSTEM N.T.S.

FA-13.0

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