

FIRE SYSTEM LEGEND AND NOTES

EQUIPMENT LIST

SYMBOL	QTY	MANUFACTURER	PART NO	DESCRIPTION
	1	KIDDE	VM-1R	COMBINATION FIRE ALARM AND MASS NOTIFICATION CONTROL PANEL
	1	KIDDE	ACHS	AUDIO CHANNEL SELECTOR, ONE CHANNEL
[FACU]	1	KIDDE	SIGA-AA30	30 WATT INTELLIGENT AUDIO AMPLIFIER
	1	KIDDE	VM-PMI	AUDIO SYSTEM CONTROL
[DOC]	1	SPACE AGE ELECTRONICS	SSU00691	FIRE ALARM DOCUMENT BOX
	1	KIDDE	MFC-A	MULTIFUNCTION FIRE ALARM CABINET, RED
	8	KIDDE	GSA-MIO	SIGNATURE INPUT/OUTPUT MODULE, UIO PLUG-IN
[MFC]	1	KIDDE	GSA-UI06R	6 POSITION, RISER SELECTION UIO MODULE MOTHERBOARD
	1	KIDDE	GSA-UI02R	2 POSITION, RISER SELECTION UIO MODULE MOTHERBOARD
[NAC]	2	KIDDE	MIRBPS10A	REMOTE BOOSTER POWER SUPPLY
	1	MONACO ENTERPRISES	227-600-XX	COMMUNICATOR
	1	MONACO ENTERPRISES	176-212-00	BT-XFTRANSCIVER
	1	MONACO ENTERPRISES	227-44X-XX	EXPANSION BACKPLANE
[FAC]	1	MONACO ENTERPRISES	176-206-00	FIRE ZONE CARD
	1	MONACO ENTERPRISES	227-630-XX	BT-X COMMUNICATOR
	1	MONACO ENTERPRISES	176-214-00	BT-X RELAY BOARD
	1	MONACO ENTERPRISES	227-619-00	BT-X I BUTTON KEYPAD
	1	MONACO ENTERPRISES	400-713-00	RECHARGEABLE BATTERY, 12V/12AH
[A]	1	MONACO ENTERPRISES	190-400-00	BSA-1 VHF OMNIDIRECTIONAL ANTENNA
[LOC]	4	KIDDE	VM-LOC	MASS NOTIFICATION LOCAL OPERATING CONSOLE W/ MICROPHONE
[LDD]	1	KIDDE	K-RLCD-R	FIRE ALARM REMOTE LCD ANNUNCIATOR
[E] EP	1	EDWARDS	MPSR1-045WX-GE	EXPLOSION PROOF CONVENTIONAL PULL STATION
[F]	9	KIDDE	GSA-M278	ADDRESSABLE PULL STATION
[AM]	6	KIDDE	GSA-MM1	ADDRESSABLE MONITOR MODULE
[AM]	1	KIDDE	GSA-CT2	DUAL INPUT MODULE
[AM]	2	KIDDE	FX-RLY	CONTACT RELAY MODULE
[AM]	2	KIDDE	GSA-CC1S	SYNCHRONIZATION MODULE
	1	KIDDE	GSA-SD	DUCT DETECTOR
	1	KIDDE	SD-T8	8" SAMPLING TUBE
[X]	1	KIDDE	SD-TRK	REMOTE TEST STATION
[S]	6	KIDDE	KI-OSD WIKI-SB BASE	SMOKE DETECTOR, STANDARD BASE
[S]	1	GAI-TRONICS	13310-313	CLASS 1, DIVISION 1 SPEAKER
[S]	39	KIDDE	EG4SWA	SPEAKER/STROBE, WALL, WHITE, ALERT
[S]	39	KIDDE	GRSW-10	WIRING PLATE
[S]	24	KIDDE	EGCSWA	SPEAKER/STROBE, CEILING, WHITE, ALERT
[S]	24	KIDDE	GRSW	WIRING PLATE
[X] EP	1	EDWARDS	116DEXSTC-FJ	EXPLOSION PROOF STROBE, WALL, GRAY
[X]	6	KIDDE	EG4WVF	STROBE, WALL, WHITE
[X]	6	KIDDE	EG4WA-CVR	STROBE ALERT COVER PLATE
[X]	6	KIDDE	GP10	WIRING PLATE
[X]	12	KIDDE	EGCVWF	STROBE, CEILING, WHITE
[X]	12	KIDDE	EGCWA-CVR	STROBE ALERT COVER PLATE
[X]	12	KIDDE	GP10	WIRING PLATE
[PS]	1	GENERIC	-	PRESSURE OPERATED SWITCH (BY OTHERS)
[VS]	2	GENERIC	-	VALVE TEMPER SWITCH (BY OTHERS)
[WF]	1	GENERIC	-	WATERFLOW SWITCH (BY OTHERS)

GENERAL NOTES

- NUMBERS ADJACENT TO DEVICE SYMBOL DENOTE DEVICE CIRCUIT/ADDRESS DEVICE 1-2 WOULD BE THE SECOND DEVICE ON CIRCUIT 1.
- DETECTOR AND AUDIBLE CIRCUIT POLARITY SHALL BE OBSERVED
- AUDIBLE/VISUAL CIRCUIT WIRING IS SUPERVISED, NO PARALLEL BRANCHING IS PERMISSIBLE
- INSTALLATION SHALL BE IN STRICT CONFORMANCE WITH THE NATIONAL ELECTRIC CODE, NFPA 72, LOCAL CODE(S), AND/OR AUTHORITY HAVING JURISDICTION
- WIRING SHALL BE PER PLAN WITH RESPECT TO CONDUCTOR SIZE, & OR CABLE TRAY, TYPE, QUANTITY AND COLOR CODE. CONDUCTORS SHALL BE PERMANENTLY, AND UNIQUELY MARKED FOR FUTURE IDENTIFICATION.
- INSTALLING CONTRACTOR SHALL LEAVE ONE SET OF ACCURATELY MARKED DRAWINGS FOR "AS BUILT" PURPOSES IN ONSITE DOC BOX.
- FOR ADDITIONAL INSTALLATION INSTRUCTIONS, REFER TO CATALOG CUT SHEETS AND/OR INSTALLATION INSTRUCTIONS.
- THE 120vac POWER ELECTRICAL WORK SUPPLYING FIRE ALARM SYSTEM PANELS MUST COMPLY WITH ARTICLE 725 AND 760 OF NFPA 70, N.E.C. AND NFPA 72. IN REFERENCE TO DEDICATED BRANCH POWER SOURCES, 120vac POWER SHALL NOT BE APPLIED TO FIRE ALARM PANEL WITHOUT DIRECT SUPERVISION OF FIRE ALARM TECHNICIAN.
- ALL HORN/STROBE AND STROBE DEVICES SHALL BE MOUNTED AT A HEIGHT BETWEEN 80-96" A.F.F. OR 6" BELOW DROPPED CEILING, WHICHEVER IS LESS.
- ALL MANUAL PULL STATIONS SHALL BE MOUNTED AT 48" TO THE TOP OF BOX A.F.F. TO THE ACTIVATION DEVICE.
- ALL PANEL NUMBERS AND CIRCUITS WILL BE ON THE RECORD DRAWINGS SET.
- ALL 120vac CIRCUITS ARE FROM DEDICATED CIRCUITS.
- SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN 3' OF AN AIR SUPPLY, RETURN OR FLOW.
- SMOKE DETECTORS SHALL BE INSTALLED 3' FROM THE BALLAST OF ANY FLUORESCENT LIGHT SOURCES.
- LOCATE CONTROL RELAY MODULES WITHIN 3' OF CONTROLLED EQUIPMENT.
- CONDUIT RUNS SHOW DIAGRAMMATICALLY. EXACT LOCATION IS TO BE DETERMINED IN THE FIELD.
- DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER THE CONSTRUCTION CLEAN-UP OF ALL TRADES IS COMPLETE AND FINAL EXCEPTION: WHERE REQUIRED BY THE AUTHORITY HAVING JURISDICTION FOR PROTECTION DURING CONSTRUCTION
- DETECTORS THAT HAVE BEEN INSTALLED PRIOR TO FINAL CLEAN-UP BY ALL TRADES SHALL BE CLEARED OR REPLACED IN ACCORDANCE WITH NFPA 72 CHAPTER 17.7.1.12.3
- WIRING SHALL RUN CONTINUOUS FROM FAC TO FIRST DEVICE ON A CIRCUIT AND THEN FROM DEVICE TO DEVICE WITHOUT SPLICING IN PULL BOXES OR OTHER
- ALL WIRING SHALL BE METERED, VERIFIED TO BE CONTINUOUS, FREE OF GROUND AND FREE OF SHORTS BETWEEN CONDUCTORS AND OTHER CIRCUITS PRIOR TO FINAL EQUIPMENT TRIM.
- THE ELECTRICAL CONTRACTOR SHALL CLEAN ALL DIRT AND DEBRIS FROM THE OUTSIDE AND INSIDE OF THE FIRE ALARM BACK BOXES AND JUNCTION BOXES AFTER COMPLETION OF THEIR INSTALLATION.
- DETECTORS MUST BE RATED FOR TEMPERATURE IN THE ENVIRONMENT WHICH IT IS LOCATED.
- ALL WIRING BETWEEN FLOORS SHALL BE LOCATED IN CONDUIT.
- STROBES ARE TO BE SET TO THE CANDELA OUTPUTS NOTED ON DRAWINGS.
- PROVIDE FIRE ALARM / MASS NOTIFICATION SYSTEM CONTROL PANEL PER SPECIFICATIONS. SYSTEM SHALL BE CAPABLE OF COMMUNICATING WITH THE EXISTING BASE WIDE FIRE ALARM NOTIFICATION SYSTEM. EXISTING SYSTEMS CONSIST OF A MONACO D21 FIRE MANAGEMENT SYSTEM AND A NOTIFIER ONYX NETWORK BASED REPORTING SYSTEM. PROVIDE NETWORK CONNECTIONS REQUIRED. THE FAS AND THE MNS SHALL COMMUNICATE USING A MONACO SHORT WAVE RADIO TRANSCEIVER. THE MASS NOTIFICATION SYSTEM SHALL HAVE PRIORITY OVER THE FIRE ALARM SYSTEM IN THE CASE OF AN EMERGENCY CONDITION.
- INSTALLER SHALL COORDINATE WITH BASE FIRE ALARM MAINTENANCE SHOP FOR FREQUENCIES AND PROGRAMMING REQUIREMENTS.
- ALL WIRING SHALL BE ROUTED IN 3/4" MINIMUM CONDUIT WHERE CONCEALED OR SURFACE METAL RACEWAY AS SHOWN ON DRAWINGS.
- AIR HANDLING UNITS WITH DUCT DETECTORS SHALL BE SHUT-DOWN UPON ALARM CONDITION. AIR HANDLING UNITS SHALL AUTOMATICALLY RESET ONCE THE ALARM CONDITION HAS BEEN CLEARED.
- FIRE ALARM SYSTEM SHALL BE CONNECTED TO MASS NOTIFICATION CONTROL PANEL AND PROGRAMMED TO ALLOW ALL MASS NOTIFICATION ANNOUNCEMENTS TO TAKE PRIORITY OF SIMULTANEOUS FIRE ALARM VOICE ANNOUNCEMENTS. PROVIDE COMPONENTS NECESSARY TO ACCOMPLISH THIS FUNCTION. VISIBLE NOTIFICATION SHALL CONTINUE TO FUNCTION INDEPENDENTLY UNDER SIMULTANEOUS ALARMS.

APPLICABLE CODES

INTERNATIONAL BUILDING CODE, 2018, WITH GEORGIA AMENDMENTS
 INTERNATIONAL FIRE CODE, 2018
 INTERNATIONAL PLUMBING CODE, 2018, WITH GEORGIA AMENDMENTS (2020)
 INTERNATIONAL MECHANICAL CODE, 2018, WITH GEORGIA AMENDMENTS (2020)
 INTERNATIONAL FUEL GAS CODE, 2018, WITH GEORGIA AMENDMENTS (2020)
 NATIONAL ELECTRICAL CODE, 2017
 INTERNATIONAL ENERGY CONSERVATION CODE, 2015 WITH GEORGIA AMENDMENTS (2020)
 ADA STANDARDS FOR ACCESSIBLE DESIGN, 2010
 NATIONAL FIRE PROTECTION ASSOCIATION 101, LIFE SAFETY CODE, 2018
 NFPA 72 - NATIONAL FIRE ALARM CODE, 2019

BUILDING DATA

CONSTRUCTION TYPE: II-B NUMBER OF STORIES: 1 FLOOR
 OCCUPANCY GROUP: B, S-1 WORK AREA: 46,529 SQFT
 FIRE PROTECTION: FULLY SPRINKLERED

SCOPE OF WORK

NEW MANUAL AND AUTOMATIC FIRE ALARM SYSTEM IS BEING INSTALLED IN AN EXISTING BUILDING ALONGSIDE NEW MASS NOTIFICATION SYSTEM. NEW FIRE ALARM PANEL IS BEING INSTALLED ALONG WITH NOTIFICATION DEVICES FOR COMMON AREA AND INDOOR OCCUPANT NOTIFICATION. THE SPRINKLER SYSTEM IS BEING MONITORED TO ACTIVATE NOTIFICATION DEVICES UPON ALARM.

MONITORING COMPANY

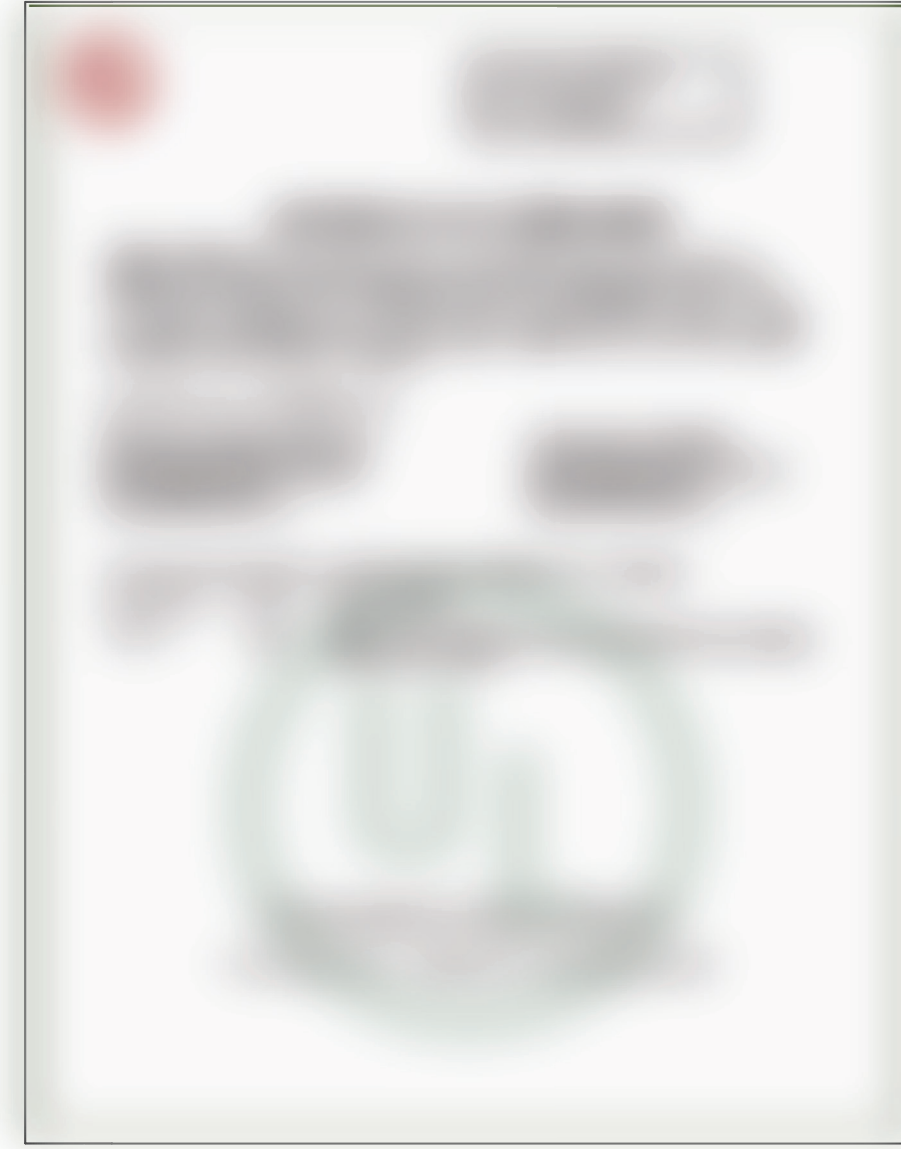
NAME: UNITED MONITORING
 PHONE #: 706-323-6131
 LICENSE #: S2744-1
 ADDRESS: 7521 Veterans Pkwy, Columbus, GA 31909, United States

SHEET INDEX

SHEET NUMBER	SHEET DESCRIPTION
COVER	COVER SHEET
F1	AREA A FLOOR PLAN
F2	AREA B FLOOR PLAN
F3	AREA C FLOOR PLAN
F4	AREA D FLOOR PLAN
F5	AREA E FLOOR PLAN
F6	RISER DIAGRAM
F7	BATTERY CALCULATIONS & VOLTAGE DROP
F8	SPEAKER SCHEDULE
F9	WIRING DIAGRAMS
F10	WIRING DIAGRAMS

NOTIFICATION SUBSCRIPTS

8.4.1	SUBSCRIPTS AND MEANING
C	CEILING MOUNTED DEVICE
CD	CANDELA RATING
EP	EXPLOSION PROOF
HVF	HIGH VOLUME FAN
MAU	MAKE UP AIR UNIT
PS	PRESSURE SWITCH
TS	TAMPER SWITCH
WF	WATERFLOW SWITCH
W	WATTAGE
C1, D1	CLASS 1, DIVISION 1



	SURVIVABILITY	CLASS
SLC	Ø	A
NAC	Ø	A
SPK	Ø	A
FAA	Ø	A

	ANNUNCIATION	NOTIFICATION	MASS NOTIFICATION
1			
2			
3			
4			
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7			
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NOTE: Not all devices are applicable.

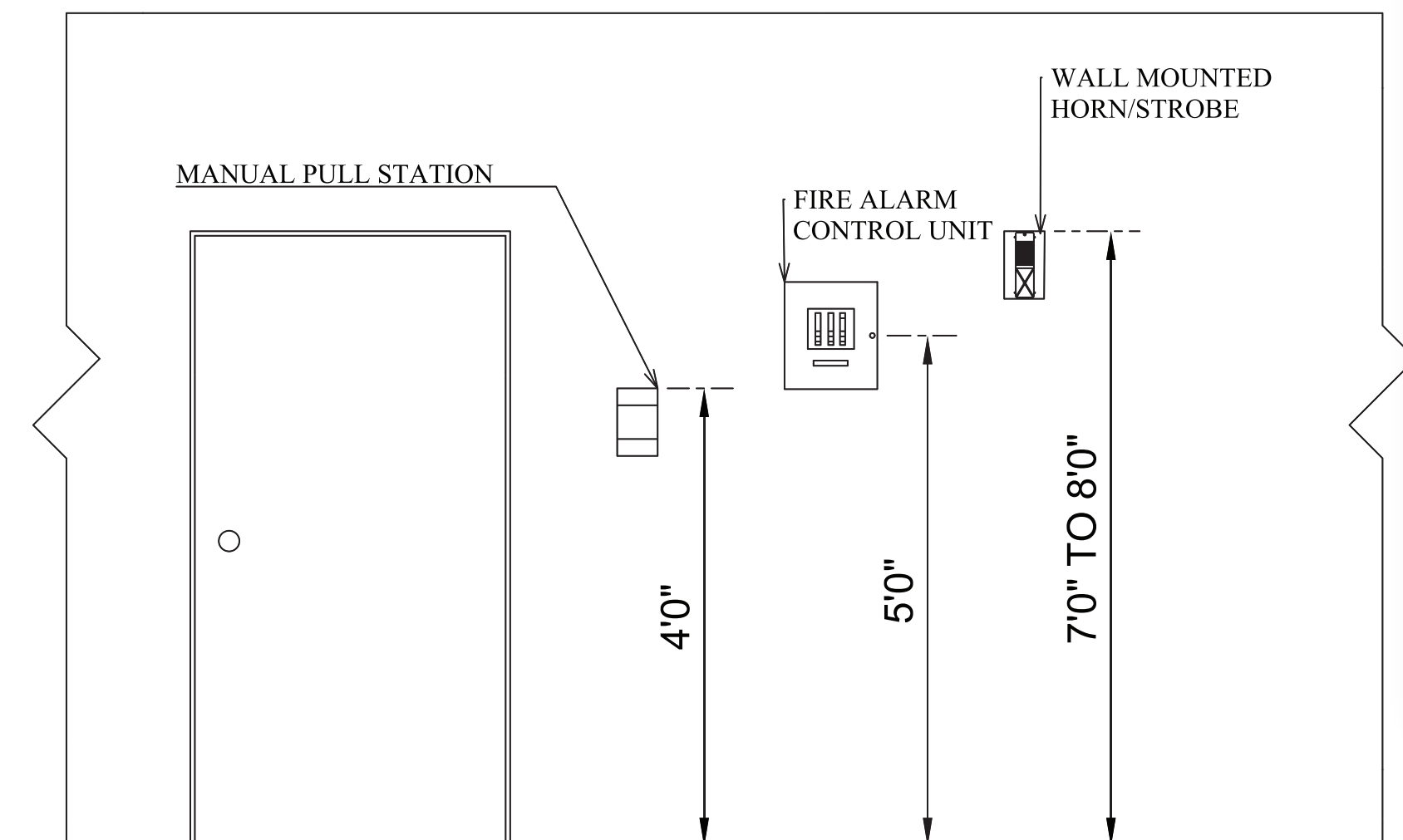
CONTRACTOR INFO

SYSTEM DESIGNER/INSTALLER: MICHAEL CONNOR | CHAMPION FIRE PROTECTION
 NAME: MICHAEL CONNOR | CHAMPION FIRE PROTECTION
 EMAIL: mconnor@championfp.com
 PHONE #: 912-234-0111
 ADDRESS: INC - 825 WHEATON ST, SAVANNAH, GA 31401
 LICENSE #: 130257

DRAWINGS PREPARED BY: JEM SECURITY LLC
 NAME: JEM SECURITY LLC
 EMAIL: hmadeira@jemsystems.com
 PHONE #: 480-977-3555
 LICENSE #: 130257

CABLE AND WIRE LEGEND

LABEL	PART NO	AWG	RESISTANCE (Ω/KFT)	DESCRIPTION	TOTAL LENGTH
A	18/2 FPLP (ANN)	18	6.5	ANNUNCIATOR - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED	1219'
B	18/4 FPLP (RTS)	18	6.5	RTS - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED	5'
D	16/2 FPLP (SLC)	16	4.1	SLC - 2 COND. SOLID COPPER FPLP ADDRESSABLE UNSHIELDED	1738'
P	14/2 FPLP (AUX)	14	2.6	AUX POWER - 2 COND. SOLID COPPER FPLP UNSHIELDED	853'
S	16/2 FPLP (SPK)	16	4.1	SPEAKER - 2 COND. SOLID COPPER FPLP ANALOG SHIELDED	2770'
V	14/2 FPLP (NAC)	14	2.6	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED	4885'
Z	18/2 FPLP (IDC)	18	6.5	IDC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED	53'



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SHOP DRAWINGS BY:
JEM SYSTEMS

REVIEWED BY:
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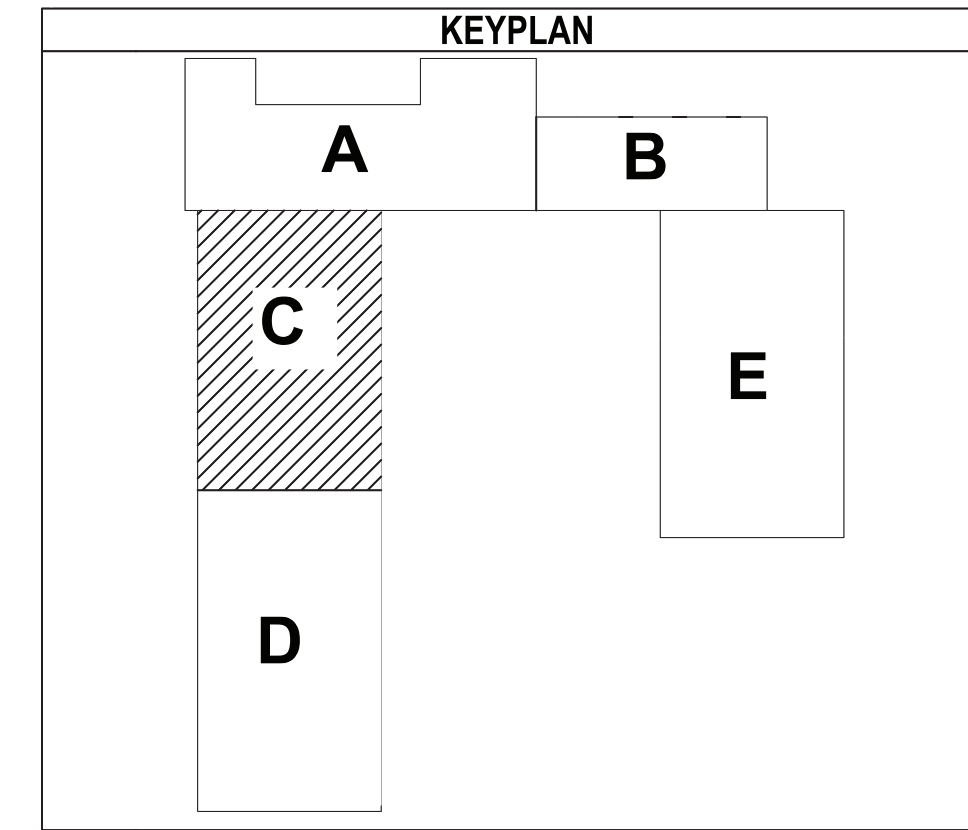
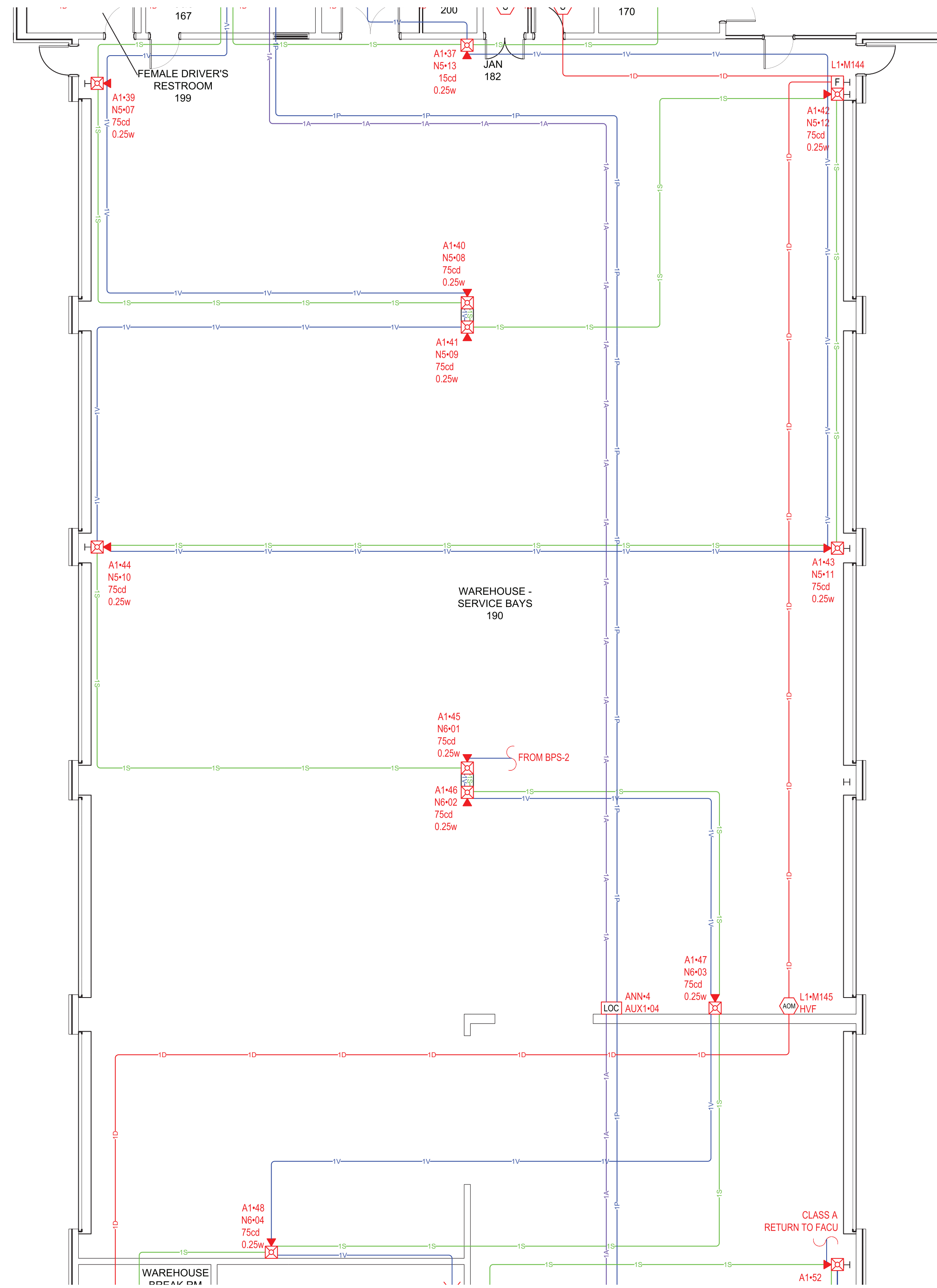
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COVER SHEET

SCALE: N/A

SHEET: COVER

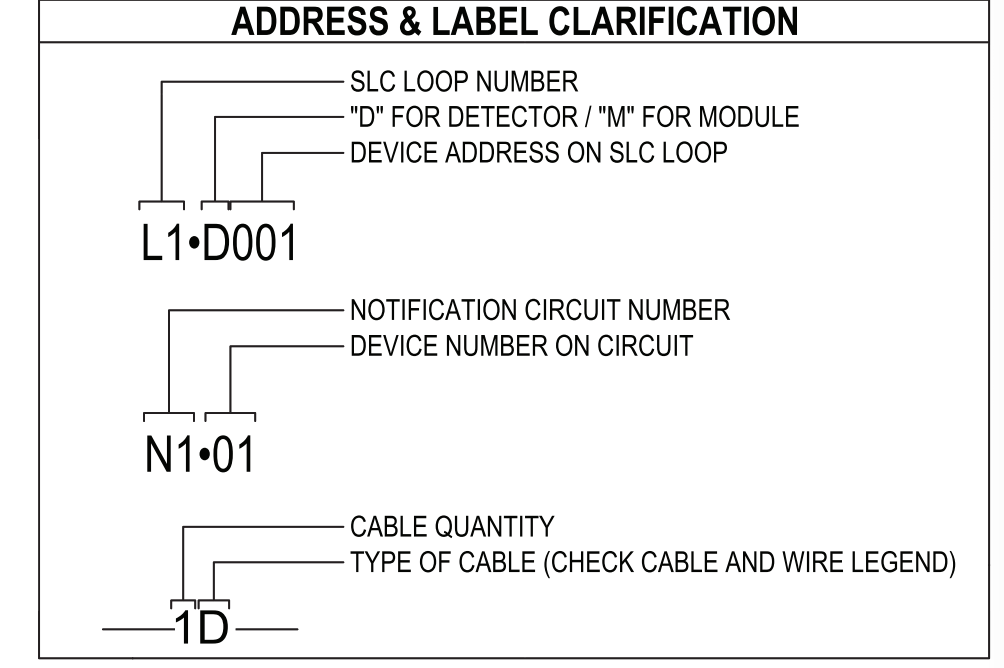
MATCHLINE SHEET 1



DEVICE LEGEND	
SYMBOL	DESCRIPTION
[FACU]	COMBINATION FIRE ALARM AND MASS NOTIFICATION CONTROL PANEL
[DOC]	FIRE ALARM DOCUMENT BOX
[MFC]	MULTIFUNCTION FIRE ALARM CABINET, W/ GSA-MIO, GSA-UIO2R & GSA-UIO6R
[NAC]	REMOTE BOOSTER POWER SUPPLY
[FAC]	COMMUNICATOR
[A]	BSA-1 VHF OMNIDIRECTIONAL ANTENNA
[LOC]	MASS NOTIFICATION LOCAL OPERATING CONSOLE
[LCD]	ANNUNCIATOR
[F] EP	EXPLOSION PROOF PULL STATION
[F]	ADDRESSABLE PULL STATION
[AM]	ADDRESSABLE MONITOR MODULE
[ADM]	DUAL INPUT MODULE
[ADM]	ADDRESSABLE CONTROL RELAY
[ADM]	SYNCHRONIZATION MODULE
[S]	DUCT DETECTOR
[S]	REMOTE TEST STATION
[S]	SMOKE DETECTOR, STANDARD BASE
[S]	CLASS 1, DIVISION 1, SPEAKER
[S]	SPEAKER/STROBE, WALL, WHITE, ALERT
[S]	SPEAKER/STROBE, CEILING, WHITE, ALERT
[S] EP	EXPLOSION PROOF STROBE, WALL, GRAY
[S]	STROBE, WALL, WHITE, ALERT
[S]	STROBE, CEILING, WHITE, ALERT
[PS]	PRESSURE OPERATED SWITCH (BY OTHERS)
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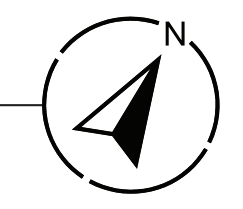
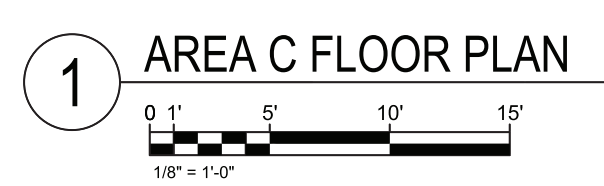
ABBREVIATIONS	
HVF	HIGH VOLUME FAN
MAU	MAKE UP AIR UNIT
PS	PRESSURE SWITCH
TS	TAMPER SWITCH
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C1, D1	CLASS 1, DIVISION 1

CABLE & WIRE LEGEND		
LABEL	AWG	DESCRIPTION
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NFPA 72 - TABLE A.18.4.4 AVERAGE AMBIENT SOUND LEVEL ACCORDING TO LOCATION	
LOCATION	SOUND LEVEL (dBA)
1. BUSINESS OCCUPANCIES	54
2. EDUCATIONAL OCCUPANCIES	45
3. INDUSTRIAL OCCUPANCIES	88
4. INSTITUTIONAL OCCUPANCIES	50
5. MERCANTILE OCCUPANCIES	40
6. MECHANICAL ROOMS	91
7. PIERS AND WATER SURROUNDED STRUCTURES	40
8. PLACES OF ASSEMBLY	60
9. RESIDENTIAL OCCUPANCIES	35
10. STORAGE OCCUPANCIES	30
11. THOROUGHFARES, HIGH-DENSITY URBAN	70
12. THOROUGHFARES, MEDIUM-DENSITY URBAN	55
13. THOROUGHFARES, RURAL AND SUBURBAN	40
14. TOWER OCCUPANCIES	35
15. UNDERGROUND STRUCTURES AND WINDOWLESS BLDS	40
16. VEHICLES AND VESSELS	50

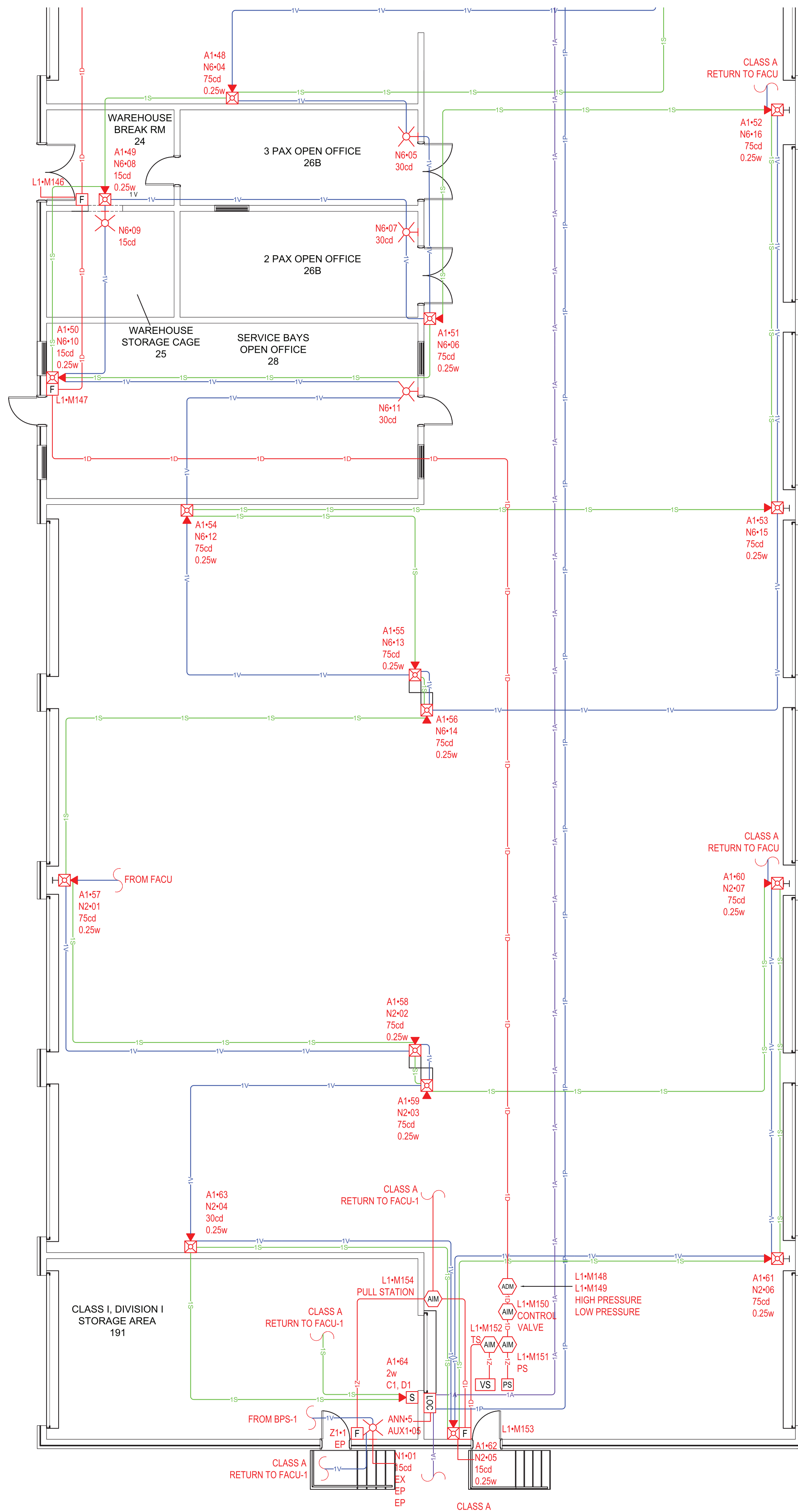
MATCHLINE SHEET 4



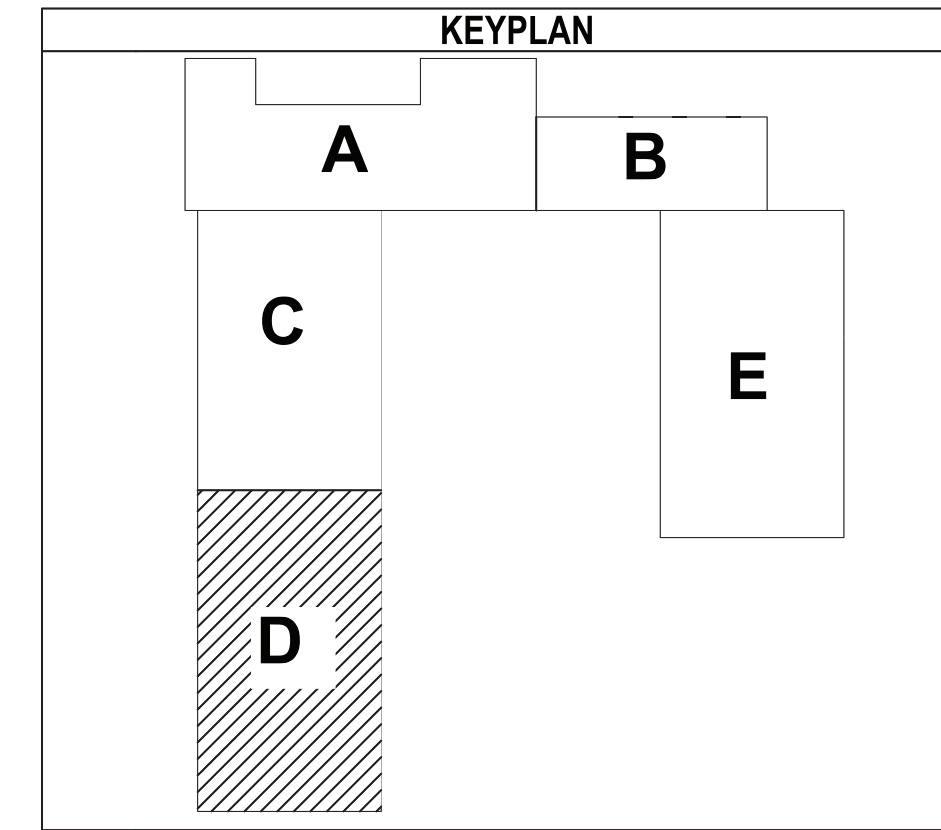
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SCALE: 1/8" = 1'-0"
SHEET: 3 OF 10

AREA C FLOOR PLAN



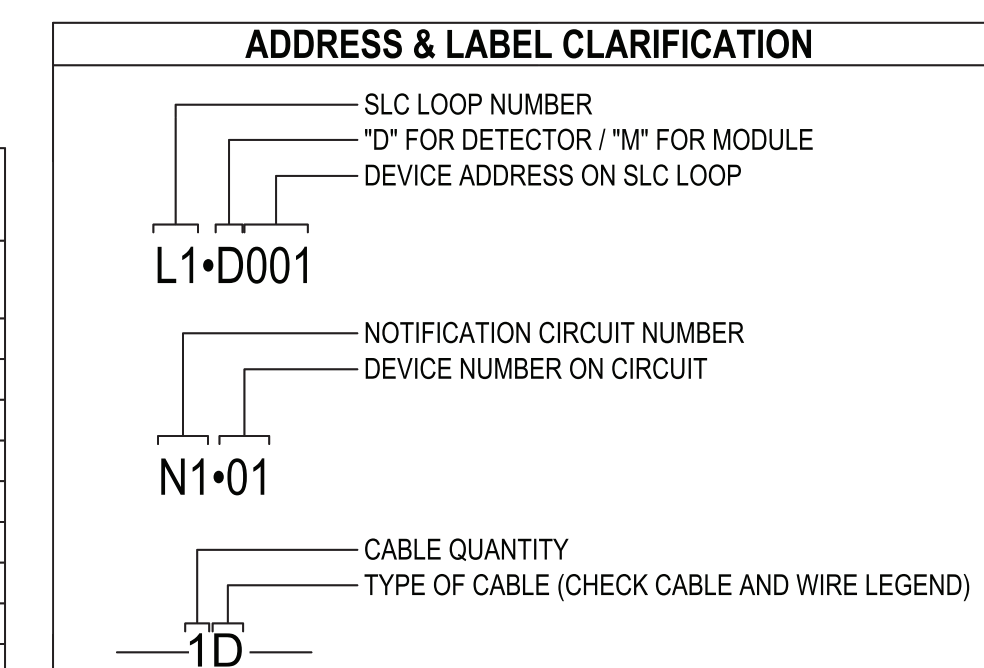
1 AREA D FLOOR PLAN
0 1' 5' 10' 15'
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DEVICE LEGEND	
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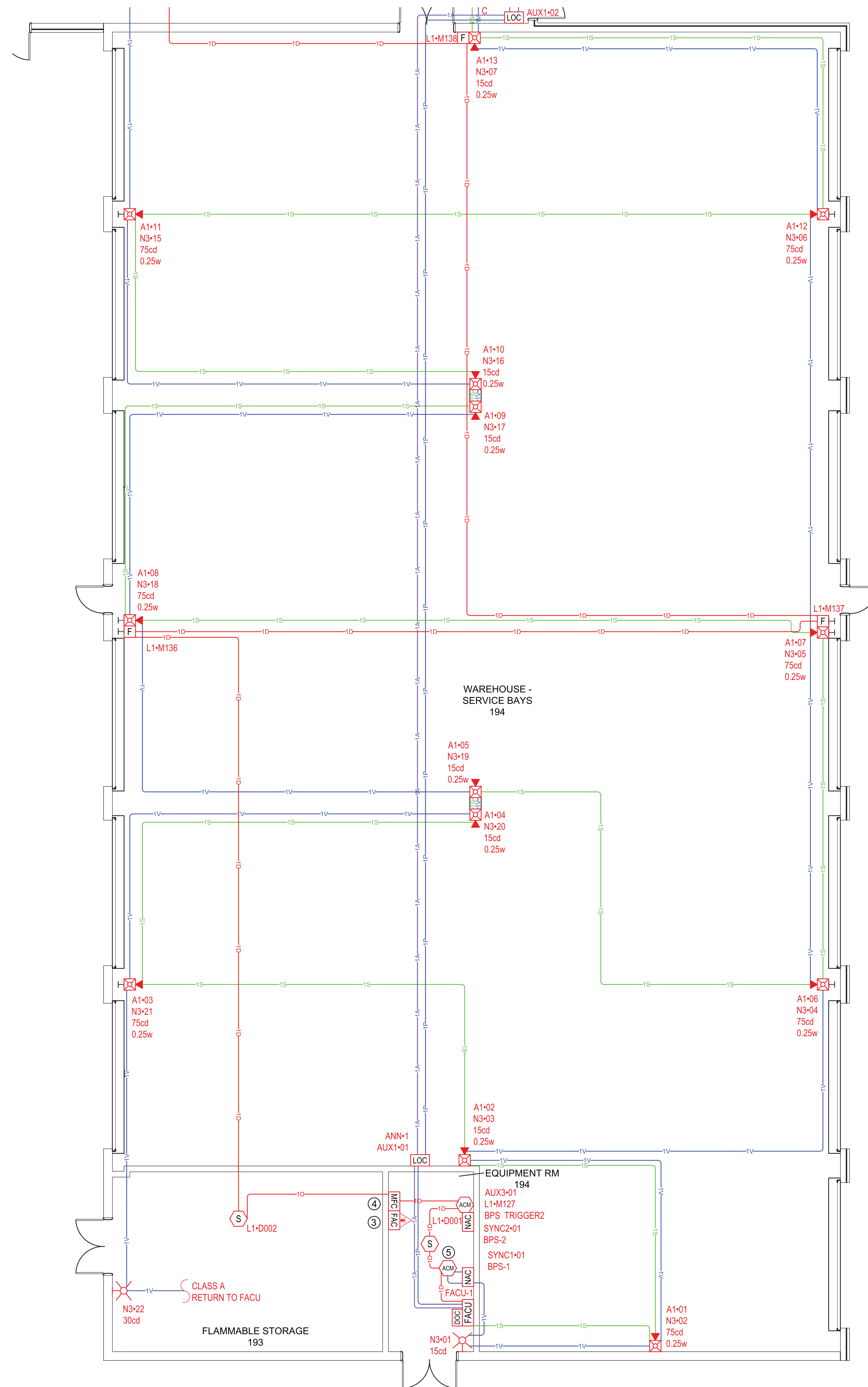
NFPA 72 - TABLE A.18.4.4 AVERAGE AMBIENT SOUND LEVEL ACCORDING TO LOCATION	
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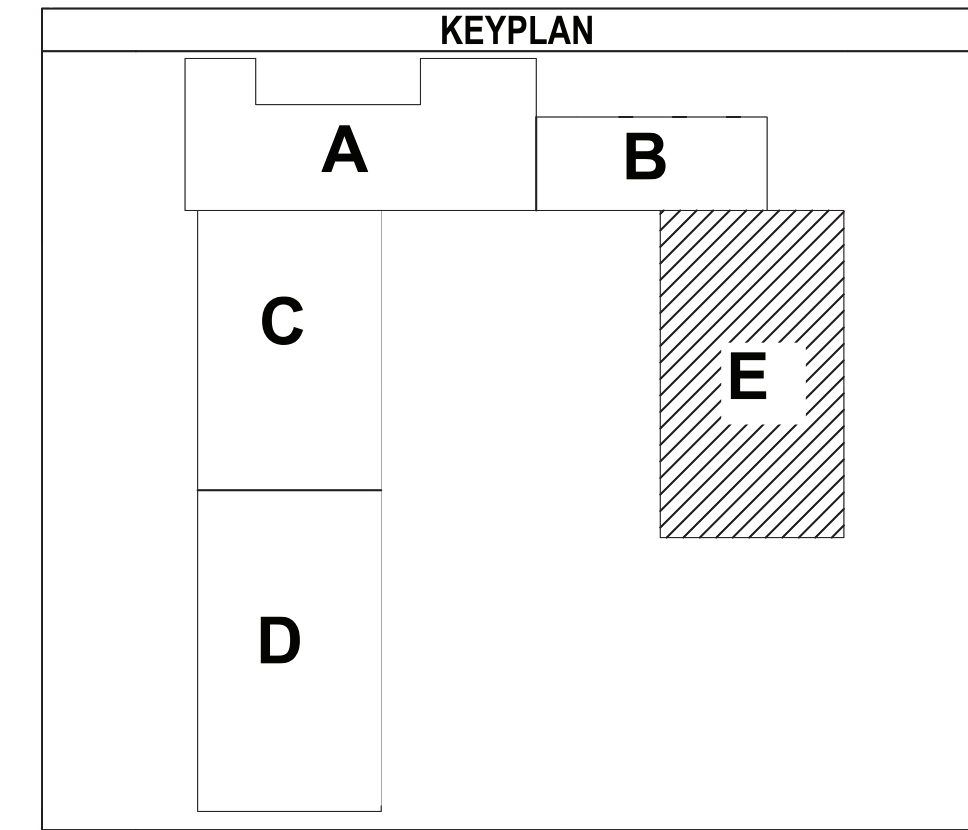
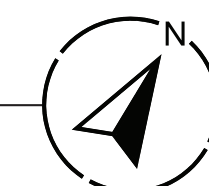
AREA D FLOOR PLAN

SCALE: 1/8" = 1'-0"
SHEET: 4 OF 10

MATCHLINE SHEET 2



1 AREA E FLOOR PLAN
 0 1' 5' 10' 15'
 1/8" = 1'-0"



ADDRESS & LABEL REFERENCE

① L1-M141 TS	② L1-M140 WF	③ Z1- EOL Z2- EOL Z3- EOL Z4- EOL Z5- EOL Z6- EOL Z7- EOL Z8- EOL
④ L1-M128 L1-M129 L1-M130 L1-M131 L1-M132 L1-M133 L1-M134 L1-M135 FIRE ALARM RADIO INTERFACE	AUX2-01 L1-M126 BPS TRIGGER1	

NFPA 72 - TABLE A.18.4.4
 AVERAGE AMBIENT SOUND LEVEL ACCORDING TO LOCATION

LOCATION	SOUND LEVEL (dBA)
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12. THOROUGHFARES, MEDIUM-DENSITY URBAN	55
13. THOROUGHFARES, RURAL AND SUBURBAN	40
14. TOWER OCCUPANCIES	35
15. UNDERGROUND STRUCTURES AND WINDOWLESS BLDG	40
16. VEHICLES AND VESSELS	50

DEVICE LEGEND

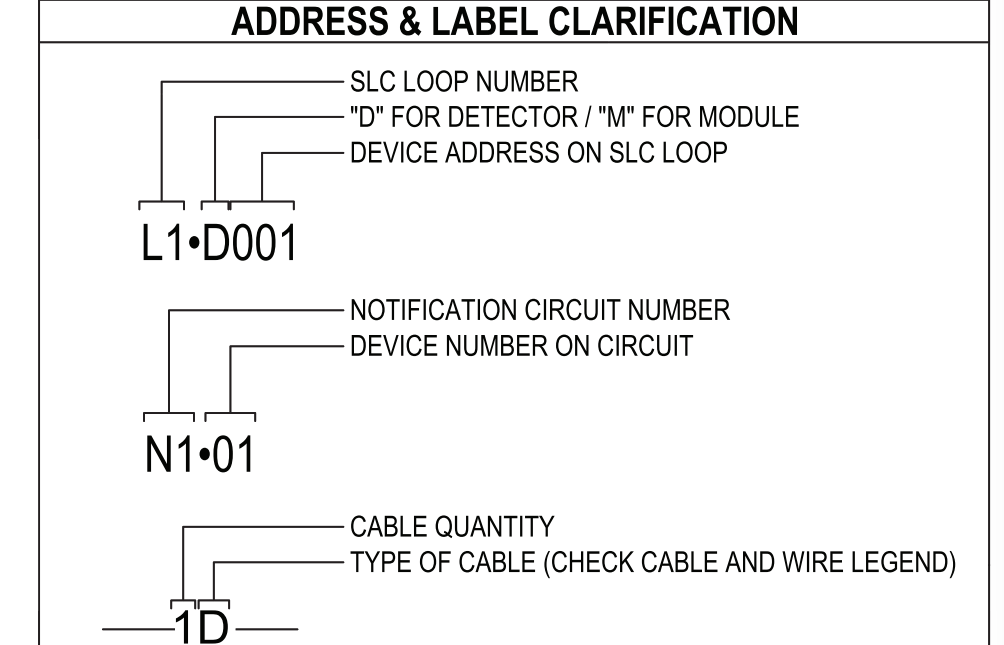
SYMBOL	DESCRIPTION
[FACU]	COMBINATION FIRE ALARM AND MASS NOTIFICATION CONTROL PANEL
[DOC]	FIRE ALARM DOCUMENT BOX
[MFC]	MULTIFUNCTION FIRE ALARM CABINET, W/ GSA-MIO, GSA-UIO2R & GSA-UIO6R
[NAC]	REMOTE BOOSTER POWER SUPPLY
[FAC]	COMMUNICATOR
[A]	BSA-1 VHF OMNIDIRECTIONAL ANTENNA
[LOC]	MASS NOTIFICATION LOCAL OPERATING CONSOLE
[LCD]	ANNUNCIATOR
[F] EP	EXPLOSION PROOF PULL STATION
[F]	ADDRESSABLE PULL STATION
[AM]	ADDRESSABLE MONITOR MODULE
[ADM]	DUAL INPUT MODULE
[ADM]	ADDRESSABLE CONTROL RELAY
[ADM]	SYNCHRONIZATION MODULE
[S]	DUCT DETECTOR
[S]	REMOTE TEST STATION
[S]	SMOKE DETECTOR, STANDARD BASE
[S]	CLASS 1, DIVISION 1, SPEAKER
[S]	SPEAKER/STROBE, WALL, WHITE, ALERT
[S]	SPEAKER/STROBE, CEILING, WHITE, ALERT
[S] EP	EXPLOSION PROOF STROBE, WALL, GRAY
[S]	STROBE, WALL, WHITE, ALERT
[S]	STROBE, CEILING, WHITE, ALERT
[PS]	PRESSURE OPERATED SWITCH (BY OTHERS)
[VS]	VALVE TAMPER SWITCH (BY OTHERS)
[WF]	WATERFLOW SWITCH (BY OTHERS)

ABBREVIATIONS

HVF	HIGH VOLUME FAN
MAU	MAKE UP AIR UNIT
PS	PRESSURE SWITCH
TS	TAMPER SWITCH
WF	WATERFLOW SWITCH
C1, D1	CLASS 1, DIVISION 1

CABLE & WIRE LEGEND

LABEL	AWG	DESCRIPTION
A	18	ANNUNCIATOR - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
B	18	RTS - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
D	16	SLC - 2 COND. SOLID COPPER FPLP ADDRESSABLE UNSHIELDED
P	14	AUX POWER - 2 COND. SOLID COPPER FPLP UNSHIELDED
S	16	SPEAKER - 2 COND. SOLID COPPER FPLP ANALOG SHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
Z	18	IDC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED



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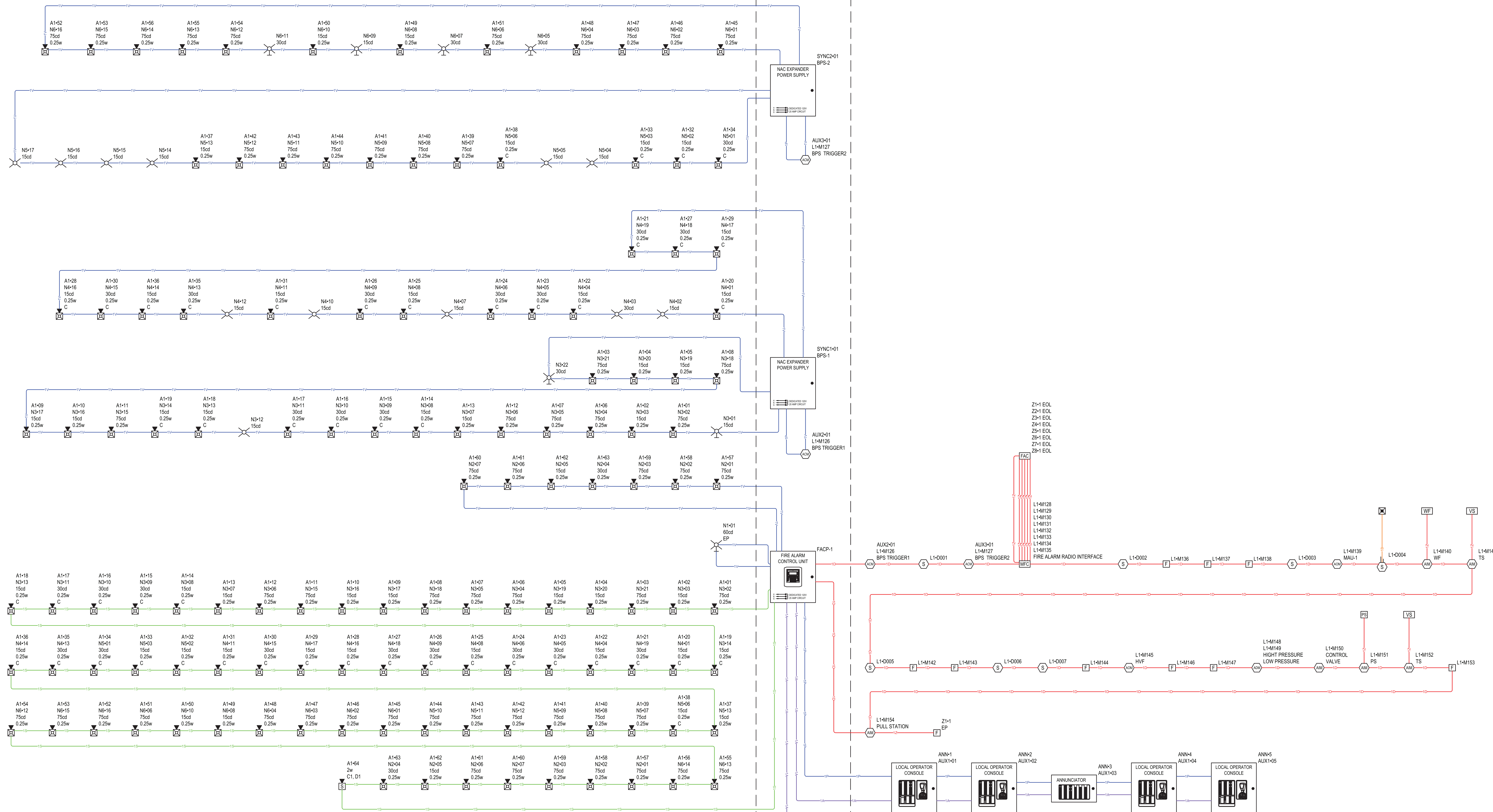
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SCALE: 1/8" = 1'-0"

SHEET: 5 OF 10

AREA E FLOOR PLAN

RISER DIAGRAM



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RISER DIAGRAM

SCALE: N/A
SHEET: 6 OF 10

PANEL FACU-1 (VM-IR) BATTERY CALCULATION								
(SECONDARY POWER SOURCE REQUIREMENTS)								
				STANDBY CURRENT (AMPS)		SECONDARY ALARM CURRENT (AMPS)		
CIRCUIT	SYMBOL	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	TOTAL	
PANEL COMPONENTS		1	ACHS	Audio Channel Selector, one channel, supervised primary output, three max per panel	0.047	0.047	0.064	
		1	SIGA-AA30	30 Watt Intelligent Audio Amplifier	0.002	0.002	1.55	
		1	VM-1 Mainboard	Mainboard for VM-1 Assembly	0.381	0.381	0.481	
		1	VM-PM	Audio System Control and Paging Interface. Includes audio control unit, interconnect cables, mounting plate, paging interface with microphone, and user controls.	0.023	0.023	0.029	
FACU-1A1	C1 D1	1	13310-313	Speaker 2w	0	0	0	
		39	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0	0	0	
		24	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0	0	0	
FACU-1A1N	LOC	1	K-RLCD-R	LCD text annunciator without common controls, English, Red	0	0	0	
		4	VM-LOC	Annunciator (w 4-ANNCPU) OUTER DOOR, INTER DOOR	0	0	0	
FACU-1A1X1	LOC	1	K-RLCD-R	LCD text annunciator without common controls, English, Red	0.096	0.096	0.113	
		4	VM-LOC	Annunciator (w 4-ANNCPU) OUTER DOOR, INTER DOOR	0.052	0.208	0.052	
FACU-1L1		2	FXRLY	Contact Relay Module	0.000125	0.00025	0.000125	
		2	GSA-CC1S	Signature single input signal synchronization module, two-gang standard mount	0.000223	0.000446	0.0001	
		1	GSA-CT2	Signature dual input module, one-gang standard mount	0.000396	0.000396	0.00068	
		9	GSA-M278	Signature double-action, single-stage fire alarm station, plastic	0.00025	0.000225	0.0004	
		8	GSA-MD	Signature input/output module, UIO plug-in	0.000223	0.001784	0.0001	
		6	GSA-MM1	Signature monitor module, one-gang standard mount	0.000223	0.001338	0.0001	
		1	GSA-SD	Signature SuperDuct photoelectric duct smoke detector	0.000045	0.000045	0.000045	
		6	HI-OSD w/Hi-SB BASE	Intelligent Optical Smoke Detector	0.000032	0.000192	0.000045	
	FACU-1N1	EX	1	116DEXSTC-FJ	Explosionproof Strobe 15cd	0	0	0.03
	FACU-1N2		1	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 15cd	0	0	0.028
		1	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 30cd	0	0	0.028	
		5	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 75cd	0	0	0.14	
TOTAL STANDBY (A)					0.765701	TOTAL ALARM (A)	2.677445	
SECONDARY STANDBY LOAD (A)					0.765701	24	18.37682	
SECONDARY ALARM LOAD (A)					2.677445	0.25	0.66936	
STANDBY AND ALARM SUBTOTAL (AMP HOURS)							19.04618	
DERATING FACTOR							1.25	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)							23.80773	

PROVIDE (2) 12V 26AH BATTERIES

PANEL BPS-1 (MIRBPS10A) BATTERY CALCULATION								
(SECONDARY POWER SOURCE REQUIREMENTS)								
				STANDBY CURRENT (AMPS)		TOTAL USED CAPACITY (IN ALARM) = 1.606A (16.06 %)		
				SECONDARY ALARM LOAD (A)		SECONDARY ALARM CURRENT (AMPS)		
CIRCUIT	SYMBOL	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	TOTAL	
PANEL COMPONENTS		1	MIRBPS10A Mainboard	Mainboard for BPS10A assembly	0.07	0.07	0.27	
	BPS-1AUX2		1	GSA-CC1S	Signature single input signal synchronization module, two-gang standard mount	0.006	0.006	0.006
			6	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 15cd	0	0	0.028
			7	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 75cd	0	0	0.028
			1	EG4VWF	Wall strobe, white, FIRE 15cd	0	0	0.028
			1	EG4VWF	Wall strobe, white, FIRE 30cd	0	0	0.028
			3	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 15cd	0	0	0.035
			3	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 30cd	0	0	0.035
	BPS-1A3		1	EGCVWF	Strobe, Ceiling, White, Fire 15cd	0	0	0.035
			7	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 15cd	0	0	0.035
		7	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 30cd	0	0	0.035	
		4	EGCVWF	Strobe, Ceiling, White, Fire 15cd	0	0	0.035	
BPS-1A4		1	EGCVWF	Strobe, Ceiling, White, Fire 30cd	0	0	0.035	
		1	EGCVWF	Strobe, Ceiling, White, Fire 30cd	0	0	0.035	
TOTAL STANDBY (A)					0.076	TOTAL ALARM (A)	1.606	
SECONDARY STANDBY LOAD (A)					0.076	24	1.824	
SECONDARY ALARM LOAD (A)					1.606	0.25	0.4015	
STANDBY AND ALARM SUBTOTAL (AMP HOURS)							2.2255	
DERATING FACTOR							1.25	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)							2.78168	

PROVIDE (2) 12V 74H BATTERIES

PANEL BPS-2 (MIRBPS10A) BATTERY CALCULATION								
(SECONDARY POWER SOURCE REQUIREMENTS)								
				STANDBY CURRENT (AMPS)		TOTAL USED CAPACITY (IN ALARM) = 1.27A (12.70 %)		
				SECONDARY ALARM LOAD (A)		SECONDARY ALARM CURRENT (AMPS)		
CIRCUIT	SYMBOL	QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	TOTAL	
PANEL COMPONENTS		1	MIRBPS10A Mainboard	Mainboard for BPS10A assembly	0.07	0.07	0.27	
	BPS-2AUX3		1	GSA-CC1S	Signature single input signal synchronization module, two-gang standard mount	0.006	0.006	0.006
			1	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 15cd	0	0	0.028
			6	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 75cd	0	0	0.028
			3	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 15cd	0	0	0.035
			1	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 30cd	0	0	0.035
			6	EGCVWF	Strobe, Ceiling, White, Fire 15cd	0	0	0.035
			2	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 15cd	0	0	0.028
	BPS-2N5		10	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 75cd	0	0	0.028
			1	EG4VWF	Wall strobe, white, FIRE 15cd	0	0	0.028
		3	EG4VWF	Wall strobe, white, FIRE 30cd	0	0	0.028	
TOTAL STANDBY (A)					0.076	TOTAL ALARM (A)	1.27	
SECONDARY STANDBY LOAD (A)					0.076	24	1.824	
SECONDARY ALARM LOAD (A)					1.27	0.25	0.3175	
STANDBY AND ALARM SUBTOTAL (AMP HOURS)							2.1415	
DERATING FACTOR							1.25	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)							2.67688	

PROVIDE (2) 12V 74H BATTERIES

FACU-1 N1 LUMP SUM REPORT				CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:				20.4	Max. Voltage Drop:	0.08003	
Min. Operational Voltage:				16	End Of Line Voltage:	20.31997	
Max. Circuit Current (A):				3	Voltage Drop Percent:	0.39 %	
Wire Resistance (DkFt):				2.8	Total Circuit Current (A):	0.292	
Total Circuit Length (Ft):				550	Spare Current (A) Percent:	2.92 %	
Total Circuit Resistance (D):				2.8506	Spare Current (A) Percent:	99.07 %	
DEVICES TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)	
		EG4VWF	Wall strobe, white, FIRE 15cd	1	0.028	0.028	

FACU-1 N2 LUMP SUM REPORT				CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:				20.4	Max. Voltage Drop:	0.01855	
Min. Operational Voltage:				16	End Of Line Voltage:	19.43445	
Max. Circuit Current (A):				3	Voltage Drop Percent:	4.49 %	
Wire Resistance (DkFt):				2.6	Total Circuit Current (A):	0.196	
Total Circuit Length (Ft):				897	Spare Current (A) Percent:	2.84 %	
Total Circuit Resistance (D):				4.67289	Spare Current (A) Percent:	93.47 %	
DEVICES TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)	
		EG4SVWA	Speaker/Strobe, Wall, White, ALERT 75cd	5	0.028	0.14	
		EG4SVWA	Speaker/Strobe, Wall, White, ALERT 30cd	1	0.028	0.028	
		EG4SVWA	Speaker/Strobe, Wall, White, ALERT 15cd	1	0.028	0.028	

BPS-1 N3 LUMP SUM REPORT				CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:				20.4	Max. Voltage Drop:	17.62276	
Min. Operational Voltage:				16	End Of Line Voltage:	13.61 %	
Max. Circuit Current (A):				3	Voltage Drop Percent:	13.61 %	
Wire Resistance (DkFt):				2.8	Total Circuit Current (A):	0.865	
Total Circuit Length (Ft):				803	Spare Current (A) Percent:	2.335	
Total Circuit Resistance (D):				4.176308	Spare Current (A) Percent:	77.83 %	
DEVICES TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)	
		EG4VWF	Wall strobe, white, FIRE 15cd	1	0.028	0.028	
		EG4SVWA	Speaker/Strobe, Wall, White, ALERT 75cd	7	0.028	0.196	
		EG4SVWA	Speaker/Strobe, Wall, White, ALERT 15cd	6	0.028	0.168	
		EG4VWF	Wall strobe, white, FIRE 30cd	1	0.028	0.028	
		EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 15cd	3	0.035	0.105	
		EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 30cd	3	0.035	0.105	
		EGCVWF	Strobe, Ceiling, White, Fire 15cd	1	0.035	0.035	

BPS-1 N4 LUMP SUM REPORT				CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:				20.4	Max. Voltage Drop:	2.88629	
Min. Operational Voltage:				16	End Of Line Voltage:	17.51371	
Max. Circuit Current (A):				3	Voltage Drop Percent:	14.15 %	
Wire Resistance (DkFt):				2.8	Total Circuit Current (A):	0.865	
Total Circuit Length (Ft):				835	Spare Current (A) Percent:	2.335	
Total Circuit Resistance (D):				4.340285	Spare Current (A) Percent:	77.83 %	
DEVICES TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)	
		EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 15cd	7	0.035	0.245	
		EGCVWF	Strobe, Ceiling, White, Fire 15cd	4	0.035	0.14	
		EGCVWF	Strobe, Ceiling, White, Fire 30cd	1	0.035	0.035	
		EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 30cd	7	0.035	0.245	

BPS-2 N5 LUMP SUM REPORT				CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:				20.4	Max. Voltage Drop:	3.3223	
Min. Operational Voltage:				16	End Of Line Voltage:	17.0777	
Max. Circuit Current (A):				3	Voltage Drop Percent:	16.29 %	
Wire Resistance (DkFt):				2.6	Total Circuit Current (A):	0.548	
Total Circuit Length (Ft):				1170	Spare Current (A) Percent:	2.454	
Total Circuit Resistance (D):				6.084799	Spare Current (A) Percent:	81.80 %	
DEVICES TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)	
		EG4SVWA	Speaker/Strobe, Wall, White, ALERT 75cd	6	0.028	0.168	
		EG4SVWA	Speaker/Strobe, Wall, White, ALERT 15cd	1	0.028	0.028	
		EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 30cd	1	0.035	0.035	
		EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 15cd	3	0.035	0.105	
		EGCVWF	Strobe, Ceiling, White, Fire 15cd	6	0.035	0.21	

BPS-2 N6 LUMP SUM REPORT				CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:				20.4	Max. Voltage Drop:	2.08688	
Min. Operational Voltage:				16	End Of Line Voltage:	18.31312	
Max. Circuit Current (A):				3	Voltage Drop Percent:	10.23 %	
Wire Resistance (DkFt):				2.6	Total Circuit Current (A):	0.448	
Total Circuit Length (Ft):				898	Spare Current (A) Percent:	2.552	
Total Circuit Resistance (D):				4.698204	Spare Current (A) Percent:	85.07 %	
DEVICES TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)	
		EG4SVWA	Speaker/Strobe, Wall, White, ALERT 75cd	10	0.028	0.28	
		EG4VWF	Wall strobe, white, FIRE 30cd	3	0.028	0.084	
		EG4SVWA	Speaker/Strobe, Wall, White, ALERT 15cd	2	0.028	0.056	
		EG4VWF	Wall strobe, white, FIRE 15cd	1	0.028	0.028	

Calculation Methods:
Total Resistance (D) = Wire Resistance (DkFt) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (D) x Total Circuit Current (A)

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04/02/2024

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BATTERY CALCULATIONS & VOLTAGE DROP

SCALE: N/A

SHEET: 7 OF 10

FACU-1 A1 SPEAKER SCHEDULE										CIRCUIT SETTINGS			TOTALS		
Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded										Starting Calculation Voltage:	70.7	Max. dB Loss:	-0.310076		
Distance measured using drawn segment lengths with 10.00 % additional length calculated										Min. Operational Voltage:	63	End Of Line Voltage:	68.22061		
										Max. Circuit Watts:	30	Voltage Drop Percent:	3.51 %		
										Wire Resistance (D/NF):	4.1	Total Circuit Watts:	16.65		
										Total Circuit Length (Ft):	2900	Spare Watts:	13.35 W		
										Total Circuit Resistance (Ω):	23.779833 Ω	Spare Watts Percent:	44.50 %		
Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss		
A1-01	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	16.65	23	0.187666	0.0442	70.6558	0.0442	0.06 %	-0.005431	-0.005431		
A1-02	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	16.4	43	0.348738	0.0809	70.57491	0.12509	0.18 %	-0.00995	-0.015382		
A1-03	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	16.15	59	0.480115	0.10967	70.46524	0.23476	0.33 %	-0.013508	-0.02889		
A1-04	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	15.9	59	0.484732	0.10901	70.35622	0.34378	0.49 %	-0.013448	-0.042338		
A1-05	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	15.65	1	0.011275	0.0025	70.35373	0.34627	0.49 %	-0.000308	-0.042646		
A1-06	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	15.4	63	0.514773	0.11213	70.2416	0.4584	0.65 %	-0.013854	-0.0565		
A1-07	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	15.15	41	0.337681	0.07236	70.16924	0.53076	0.75 %	-0.008952	-0.065453		
A1-08	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	14.9	82	0.671894	0.1416	70.02764	0.67236	0.95 %	-0.017546	-0.082999		
A1-09	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	14.65	67	0.547058	0.11336	69.91428	0.78572	1.11 %	-0.014072	-0.09707		
A1-10	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	14.4	1	0.011275	0.0023	69.91199	0.78802	1.11 %	-0.000285	-0.097356		
A1-11	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	14.15	59	0.482145	0.0965	69.81549	0.88451	1.25 %	-0.011997	-0.109353		
A1-12	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	13.9	81	0.662354	0.13022	69.68527	1.01473	1.44 %	-0.016216	-0.125699		
A1-13	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	13.65	62	0.50777	0.09804	69.58723	1.11277	1.57 %	-0.012228	-0.137797		
A1-14	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	13.4	4	0.036433	0.00691	69.58033	1.11967	1.58 %	-0.000862	-0.138659		
A1-15	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	13.15	15	0.120787	0.02247	69.55786	1.14214	1.62 %	-0.002805	-0.141464		
A1-16	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	12.9	22	0.177814	0.03244	69.52542	1.17458	1.66 %	-0.004052	-0.145516		
A1-17	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	12.65	27	0.223739	0.04003	69.48538	1.21462	1.72 %	-0.005003	-0.150519		
A1-18	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	12.4	32	0.26059	0.0457	69.43968	1.26032	1.78 %	-0.005715	-0.156234		
A1-19	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	12.15	19	0.157368	0.02704	69.41264	1.28737	1.82 %	-0.003383	-0.159618		
A1-20	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	11.9	33	0.274589	0.04622	69.36642	1.33358	1.89 %	-0.005785	-0.165403		
A1-21	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	11.65	24	0.195592	0.03223	69.33419	1.36581	1.93 %	-0.004037	-0.16944		
A1-22	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	11.4	32	0.260811	0.04205	69.29213	1.40787	1.99 %	-0.00527	-0.17471		
A1-23	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	11.15	26	0.213773	0.03371	69.25842	1.44158	2.04 %	-0.004227	-0.178937		
A1-24	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	10.9	32	0.259106	0.03995	69.21847	1.48153	2.10 %	-0.005011	-0.183948		
A1-25	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	10.65	48	0.392605	0.05914	69.15933	1.54067	2.18 %	-0.007424	-0.191372		
A1-26	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	10.4	12	0.096491	0.01419	69.14514	1.55486	2.20 %	-0.001783	-0.193155		
A1-27	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	10.15	15	0.121642	0.01746	69.12768	1.57233	2.22 %	-0.002194	-0.195349		
A1-28	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	9.9	15	0.124117	0.01738	69.1103	1.58971	2.25 %	-0.002184	-0.197333		
A1-29	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	9.65	14	0.114219	0.01559	69.09471	1.6053	2.27 %	-0.00196	-0.199493		
A1-30	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	9.4	56	0.455229	0.06053	69.03418	1.66582	2.36 %	-0.007612	-0.207105		
A1-31	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	9.15	34	0.275294	0.03563	68.98855	1.70145	2.41 %	-0.004484	-0.211589		
A1-32	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	8.9	68	0.557744	0.07021	68.92834	1.77166	2.51 %	-0.008843	-0.220432		
A1-33	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	8.65	23	0.188216	0.02303	68.90531	1.79469	2.54 %	-0.002902	-0.223334		
A1-34	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	8.4	25	0.204116	0.02425	68.88106	1.81894	2.57 %	-0.003058	-0.226392		
A1-35	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	8.15	31	0.255669	0.02947	68.85159	1.84841	2.61 %	-0.003717	-0.230109		
A1-36	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	7.9	22	0.181259	0.02025	68.83134	1.86867	2.64 %	-0.002555	-0.232664		
A1-37	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	7.65	34	0.282011	0.03051	68.80082	1.89918	2.69 %	-0.003851	-0.236516		
A1-38	EGCSVWA	Speaker/Strobe, Ceiling, White, ALERT 0.25w	0.25	0.003536	7.4	35	0.28774	0.03012	68.7707	1.9293	2.73 %	-0.003803	-0.240319		
A1-39	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	7.15	27	0.219434	0.02219	68.74851	1.95149	2.76 %	-0.002803	-0.243122		
A1-40	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	6.9	65	0.532671	0.05199	68.69653	2.00347	2.83 %	-0.006571	-0.246993		
A1-41	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	6.65	1	0.011275	0.00106	68.69547	2.00454	2.84 %	-0.000134	-0.249827		
A1-42	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	6.4	65	0.533894	0.04833	68.64714	2.05287	2.90 %	-0.006113	-0.25584		
A1-43	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	6.15	50	0.410996	0.03575	68.61138	2.08862	2.95 %	-0.004525	-0.260465		
A1-44	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	5.9	81	0.660569	0.05513	68.55626	2.14374	3.03 %	-0.006981	-0.267446		
A1-45	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	5.65	65	0.534932	0.04275	68.51351	2.18649	3.09 %	-0.005418	-0.272864		
A1-46	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	5.4	1	0.011275	0.00086	68.51265	2.18735	3.09 %	-0.000109	-0.272973		
A1-47	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	5.15	51	0.414588	0.0302	68.48245	2.21755	3.14 %	-0.003829	-0.276802		
A1-48	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	4.9	76	0.622854	0.04317	68.43928	2.26072	3.20 %	-0.005477	-0.282279		
A1-49	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	4.65	24	0.200511	0.01319	68.42609	2.27391	3.22 %	-0.001674	-0.283953		
A1-50	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	4.4	27	0.223389	0.0139	68.41219	2.28781	3.24 %	-0.001765	-0.285718		
A1-51	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	4.15	49	0.400218	0.02349	68.3887	2.3113	3.27 %	-0.002983	-0.288701		
A1-52	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	3.9	62	0.504756	0.02784	68.36086	2.33914	3.31 %	-0.003537	-0.292238		
A1-53	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	3.65	45	0.371148	0.01916	68.3417	2.3583	3.34 %	-0.002435	-0.294673		
A1-54	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	3.4	67	0.54967	0.02643	68.31526	2.38474	3.37 %	-0.00336	-0.298034		
A1-55	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	3.15	43	0.352552	0.01571	68.29955	2.40045	3.40 %	-0.001997	-0.300031		
A1-56	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	2.9	3	0.027974	0.00115	68.29841	2.40159	3.40 %	-0.000146	-0.300177		
A1-57	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	2.65	60	0.494887	0.01855	68.27986	2.42014	3.42 %	-0.002359	-0.302536		
A1-58	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	2.4	59	0.481227	0.01634	68.26352	2.43648	3.45 %	-0.002078	-0.304614		
A1-59	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	2.15	4	0.030627	0.00093	68.26259	2.43741	3.45 %	-0.000118	-0.304733		
A1-60	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	1.9	63	0.513881	0.01381	68.24878	2.45122	3.47 %	-0.001757	-0.30649		
A1-61	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	1.65	43	0.349517	0.00816	68.24062	2.45938	3.48 %	-0.001038	-0.307528		
A1-62	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	1.4	55	0.452176	0.00895	68.23167	2.46833	3.49 %	-0.00114	-0.308668		
A1-63	EG4SVWA	Speaker/Strobe, Wall, White, ALERT 0.25w	0.25	0.003536	1.15	50	0.413374	0.00672	68.22495	2.47505	3.50 %	-0.000856	-0.309524		
A1-64	13310-313	Speaker 2w	2	0.028289	2	42	0.340404	0.00963	67.91557	2.78443	3.94 %	-0.001231	-0.349902		

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (D/NF) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 x Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 x Log (Voltage At Last Device / Start Voltage)

SHOP DRAWING DATE:
04/02/2024

SHOP DRAWINGS BY:
JEM SYSTEMS

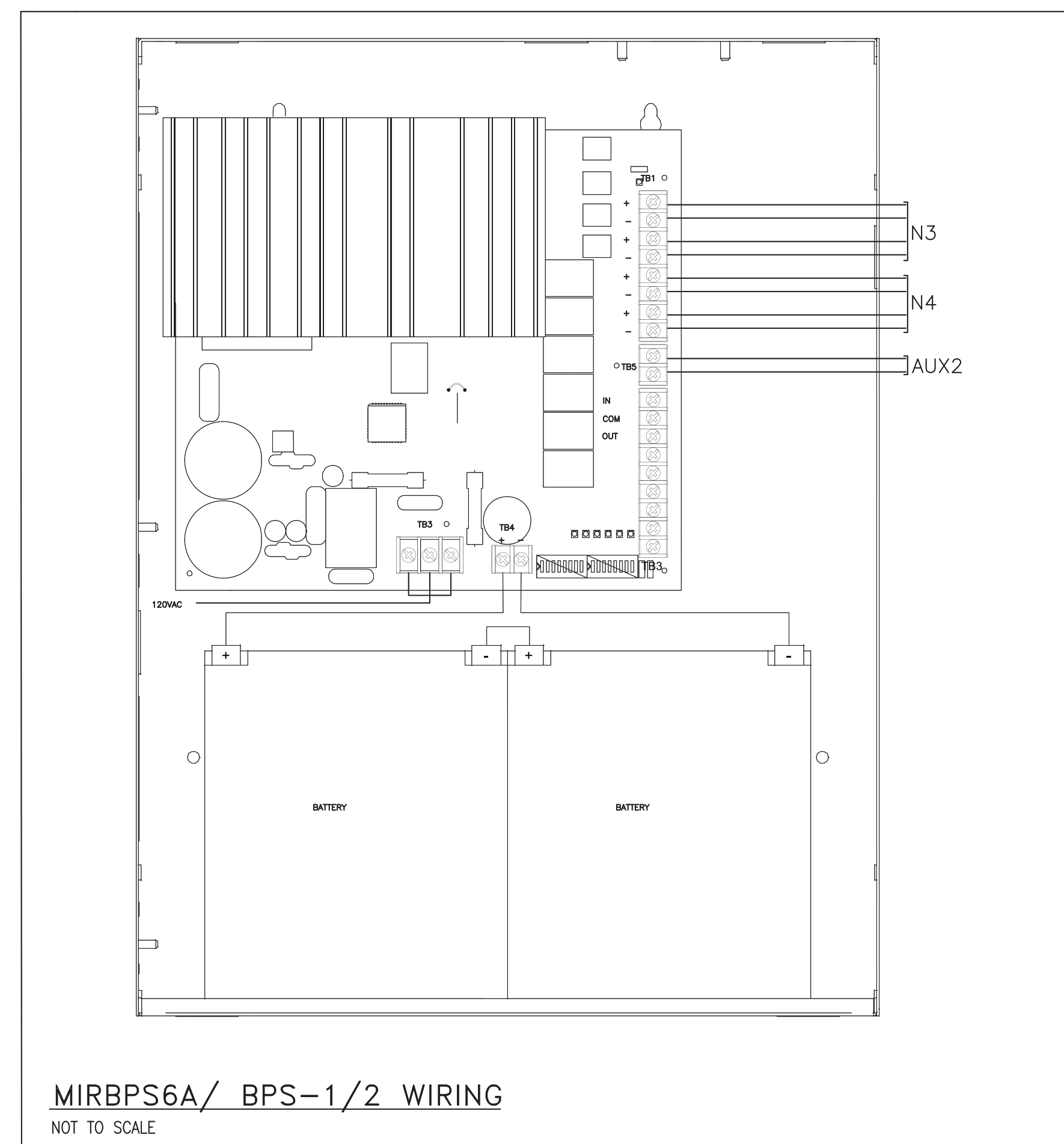
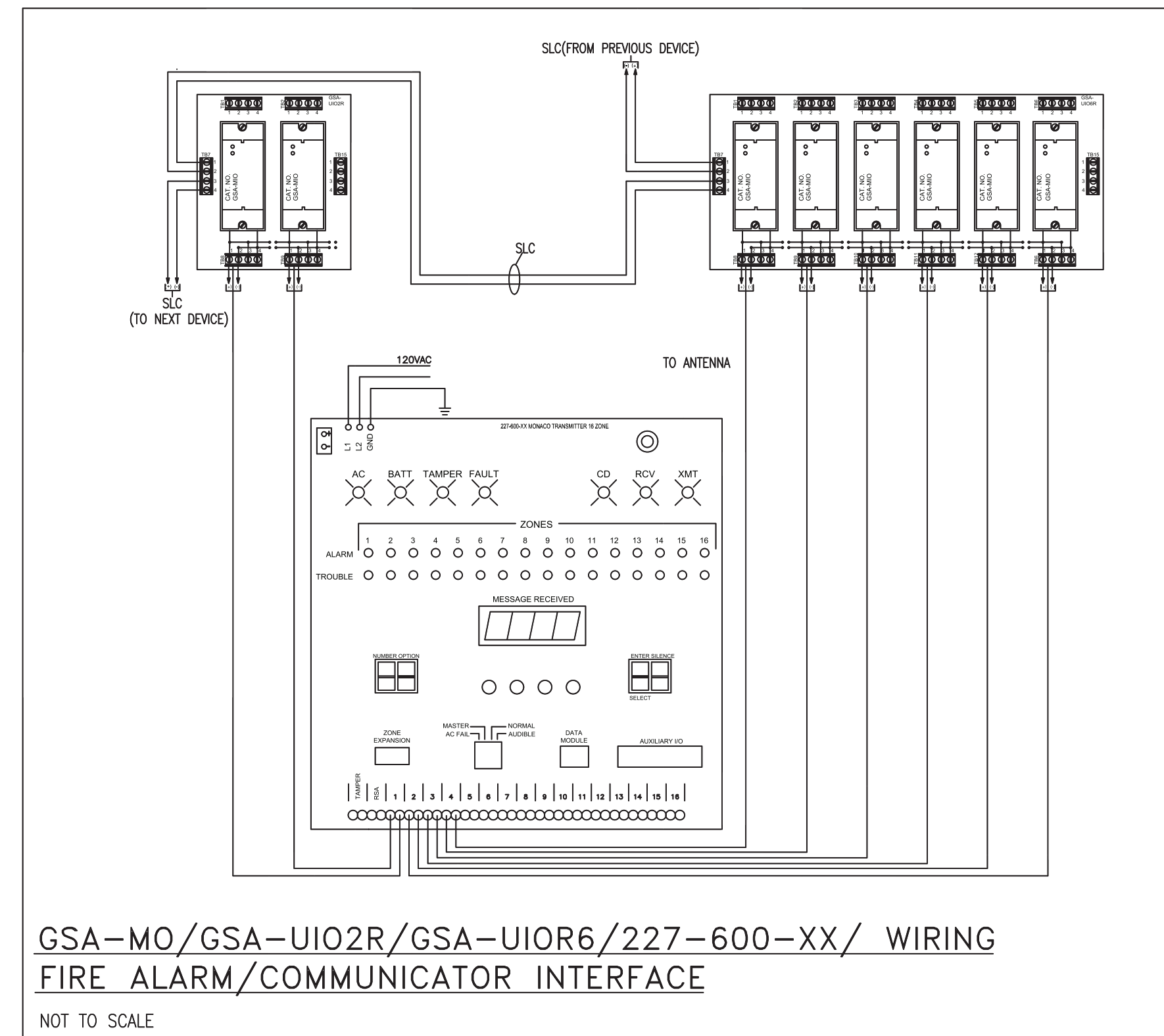
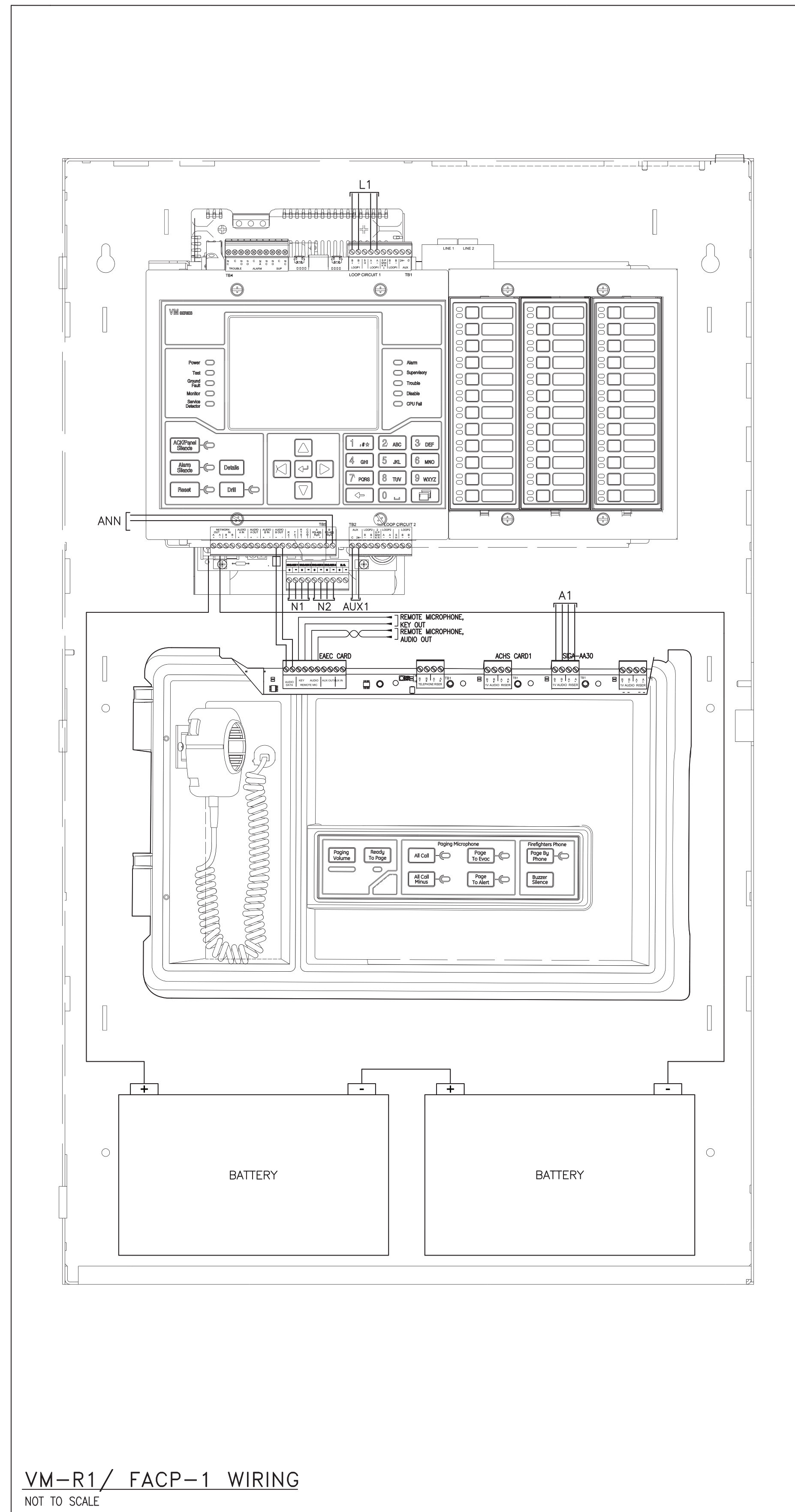
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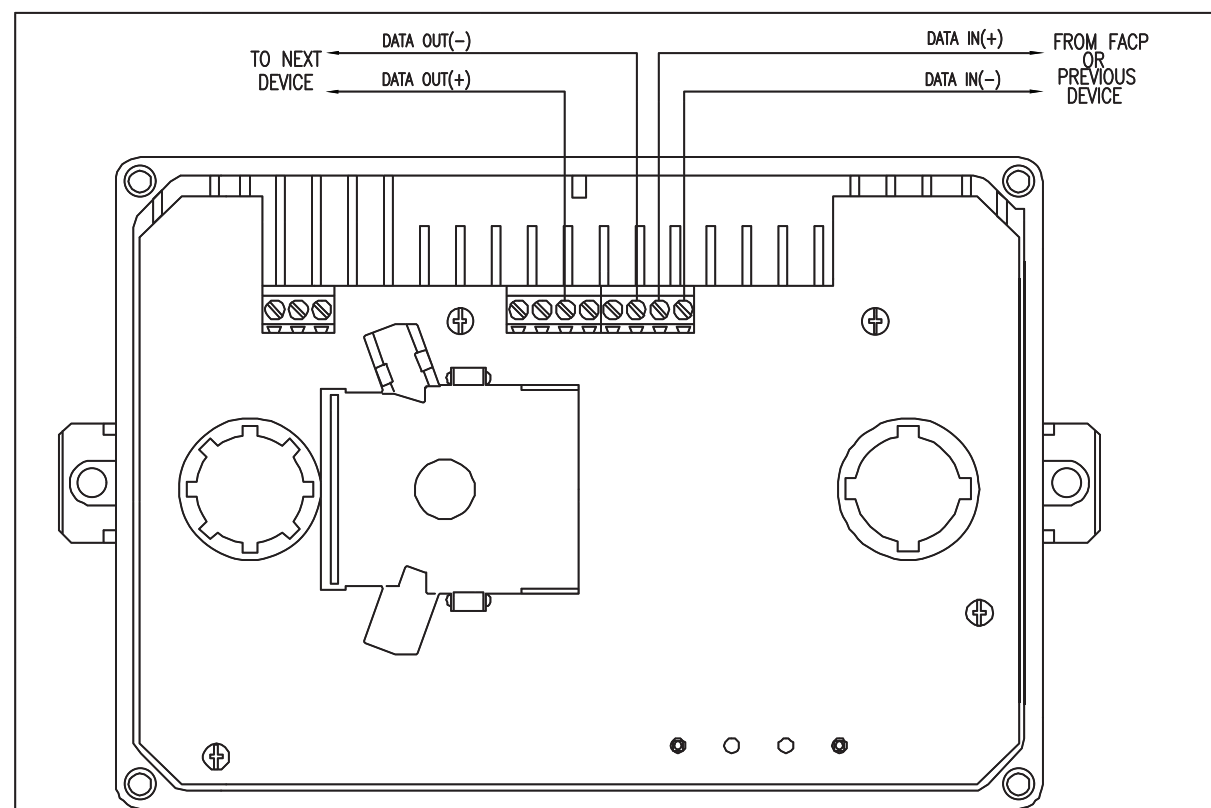
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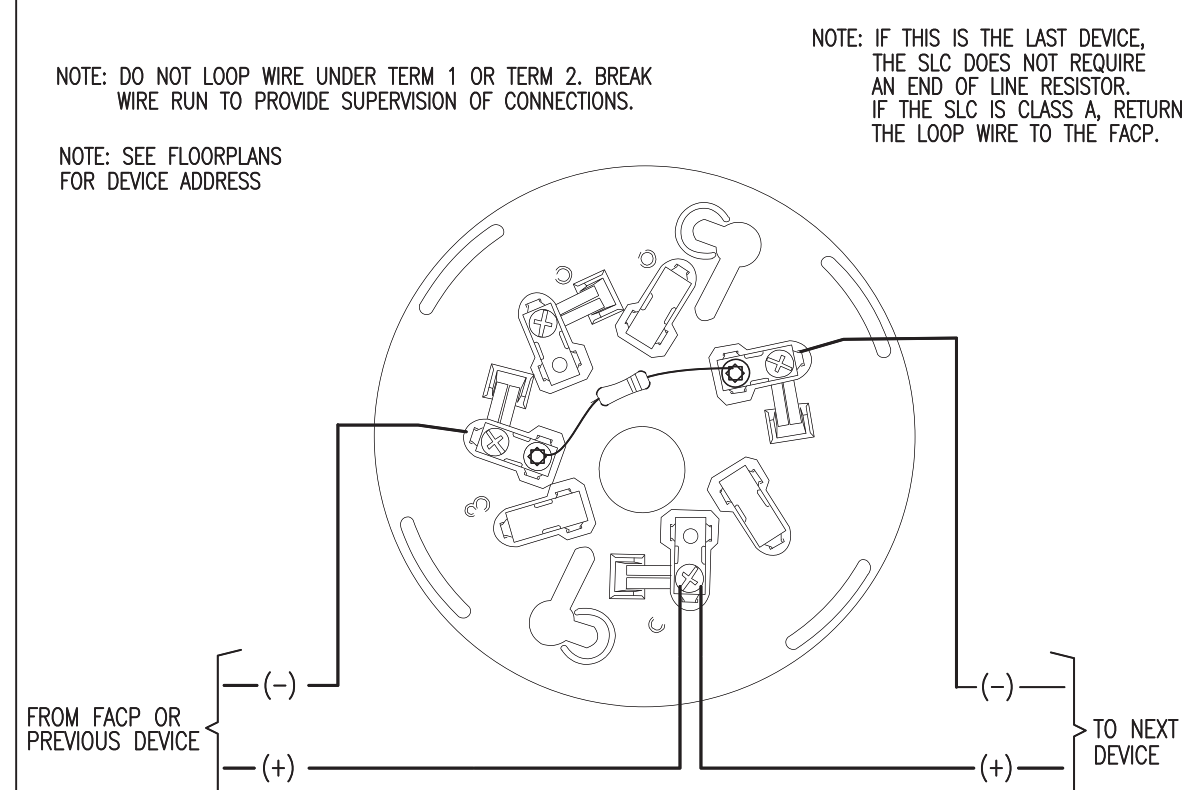


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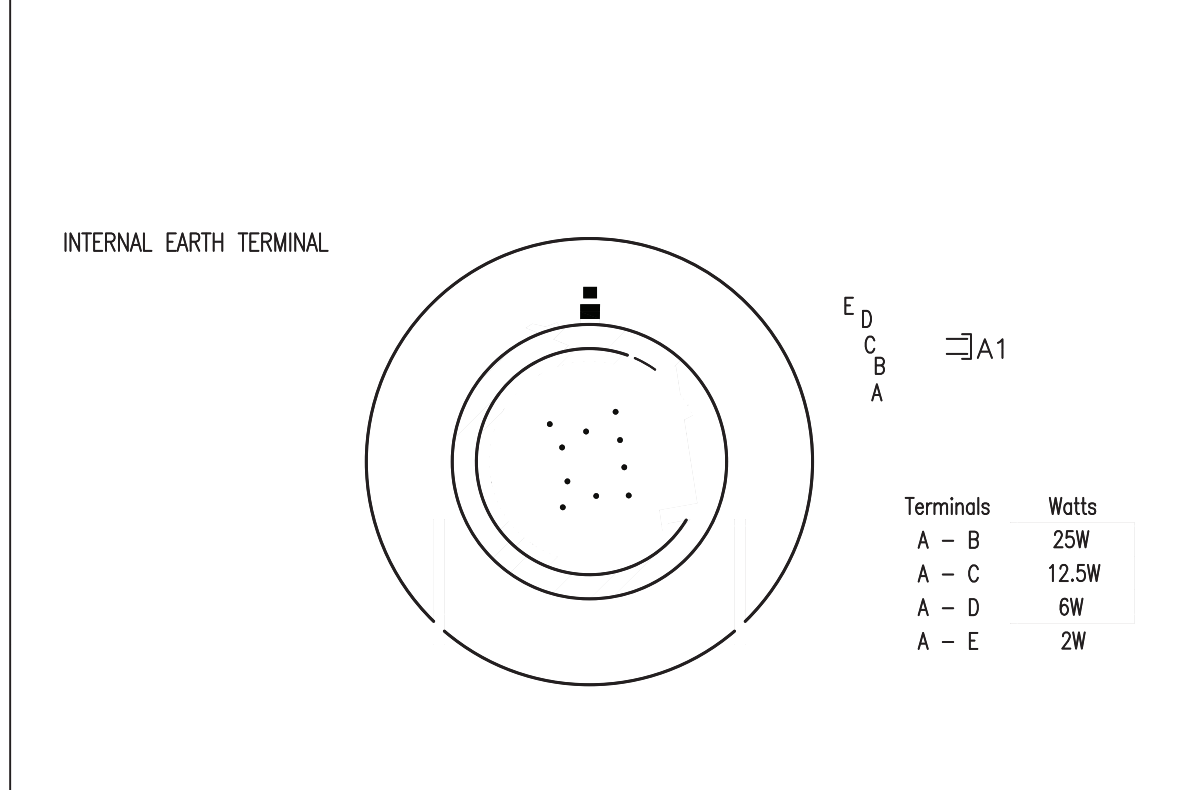
WIRING DIAGRAMS



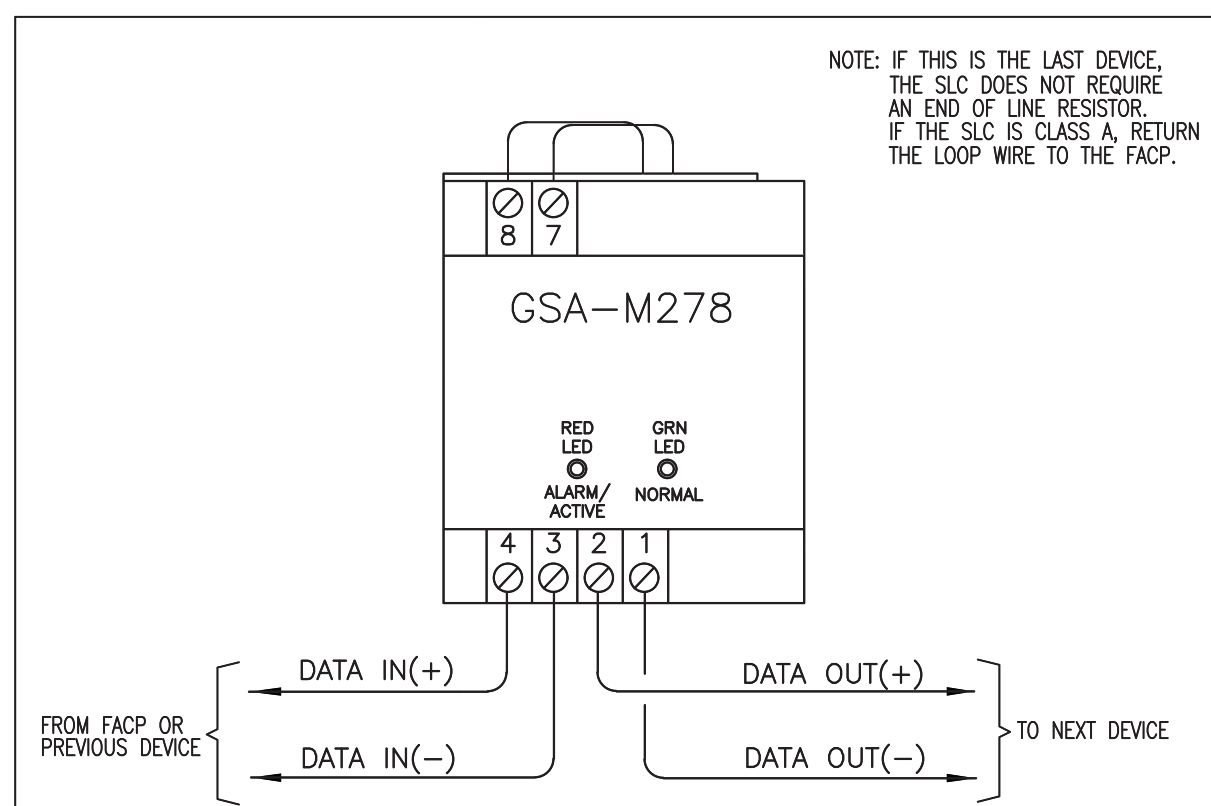
GSA-SD/ DUCT SMOKE DETECTOR WIRING
NOT TO SCALE



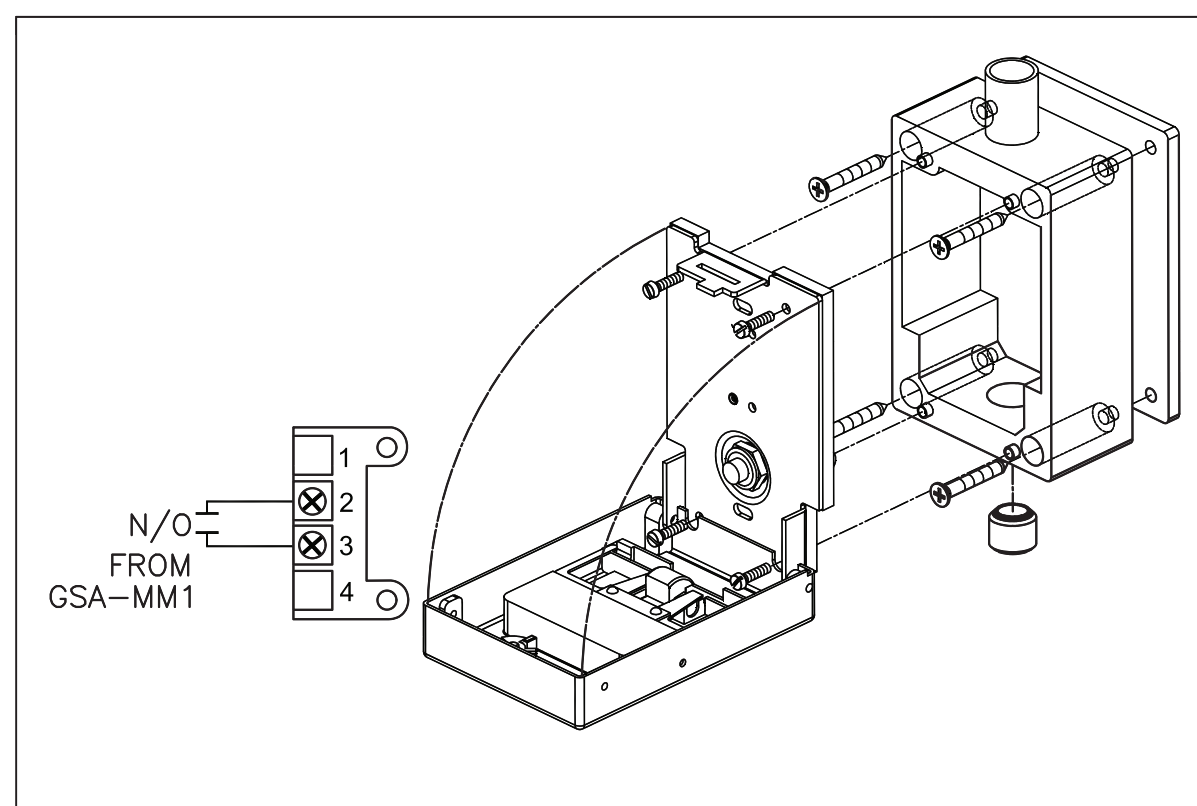
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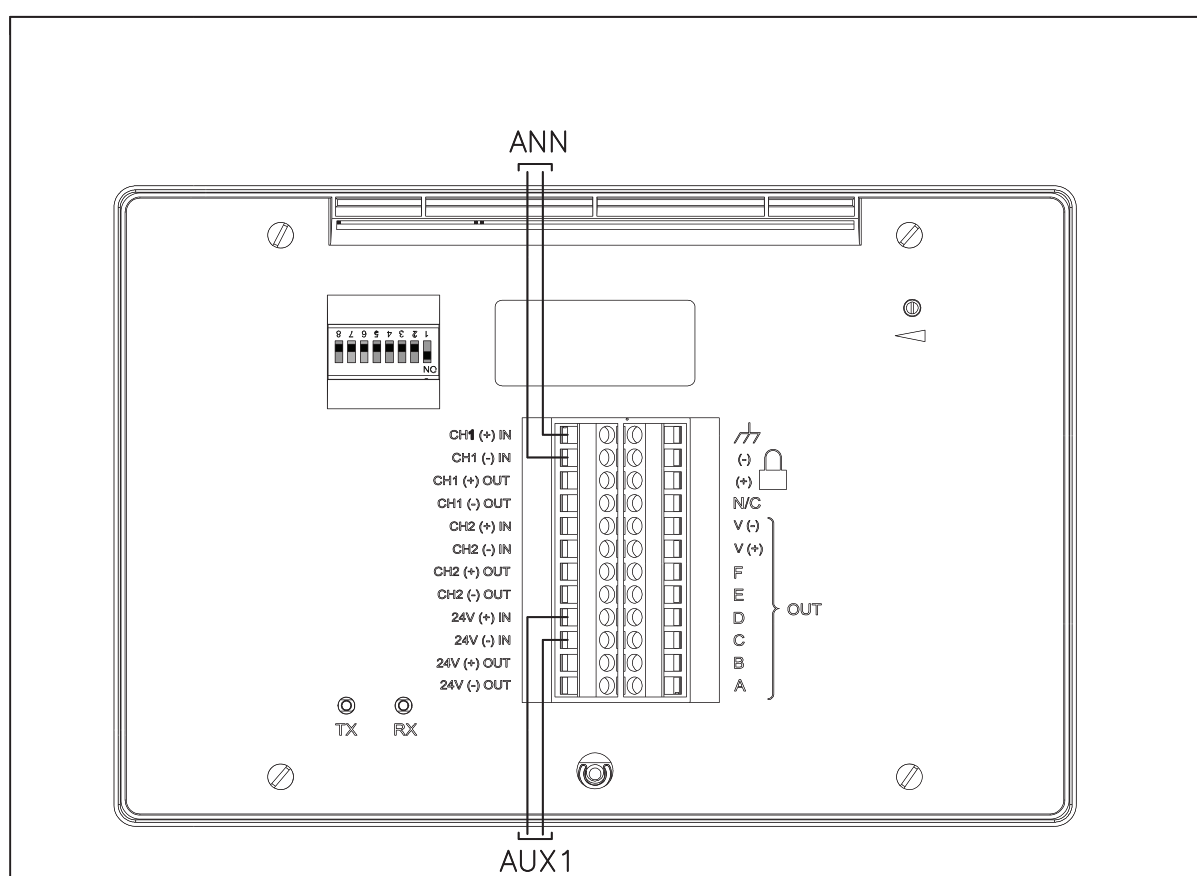
13310-313/ CLASS 1, DIVISION 1 SPEAKER WIRING
NOT TO SCALE



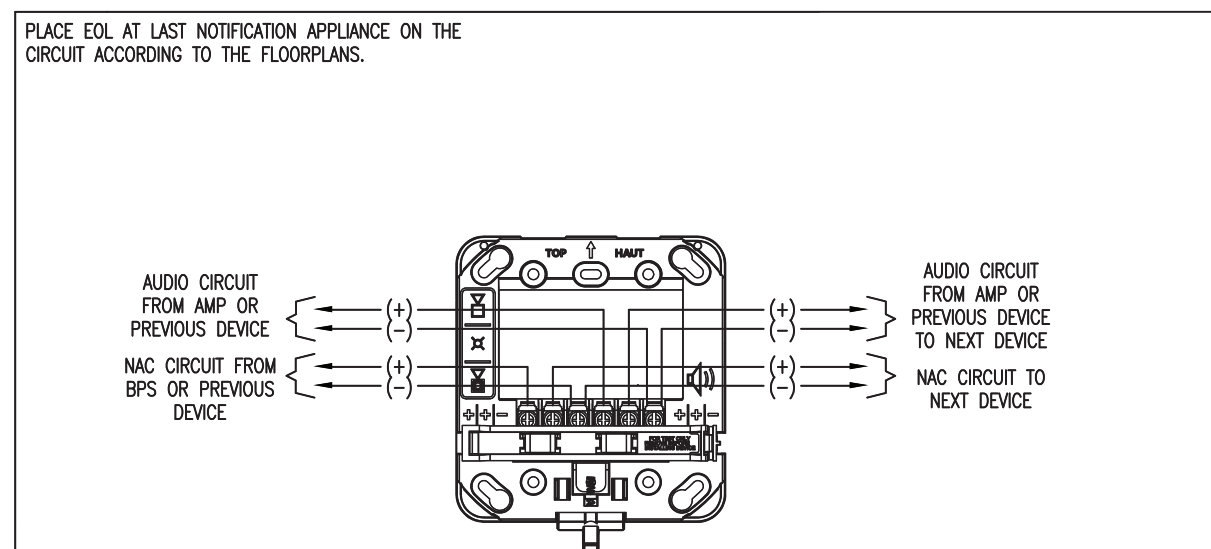
GSA-M278/ MANUAL PULL STATION WIRING
NOT TO SCALE



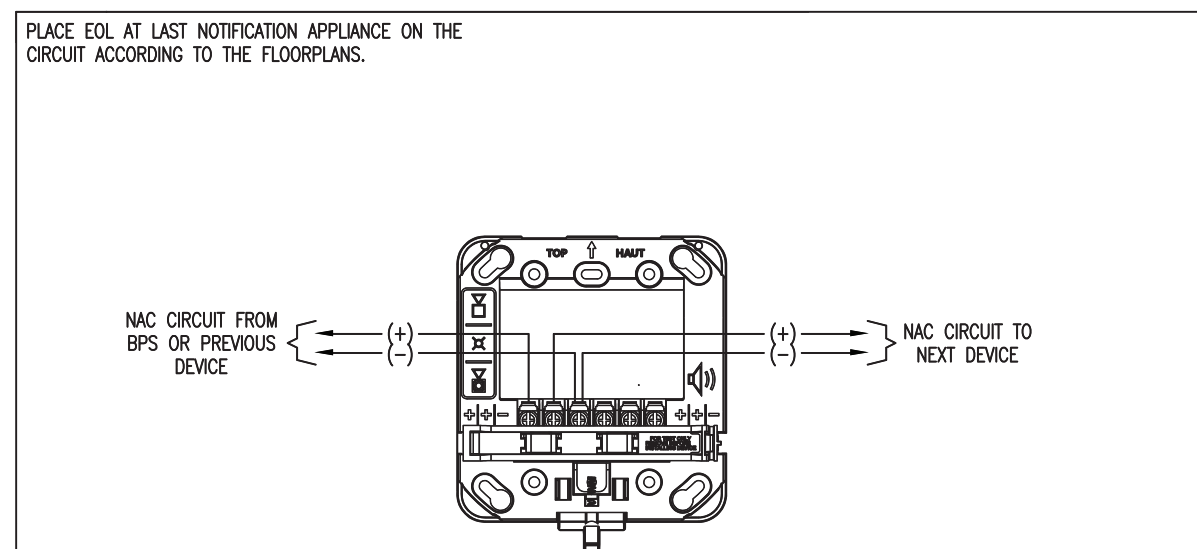
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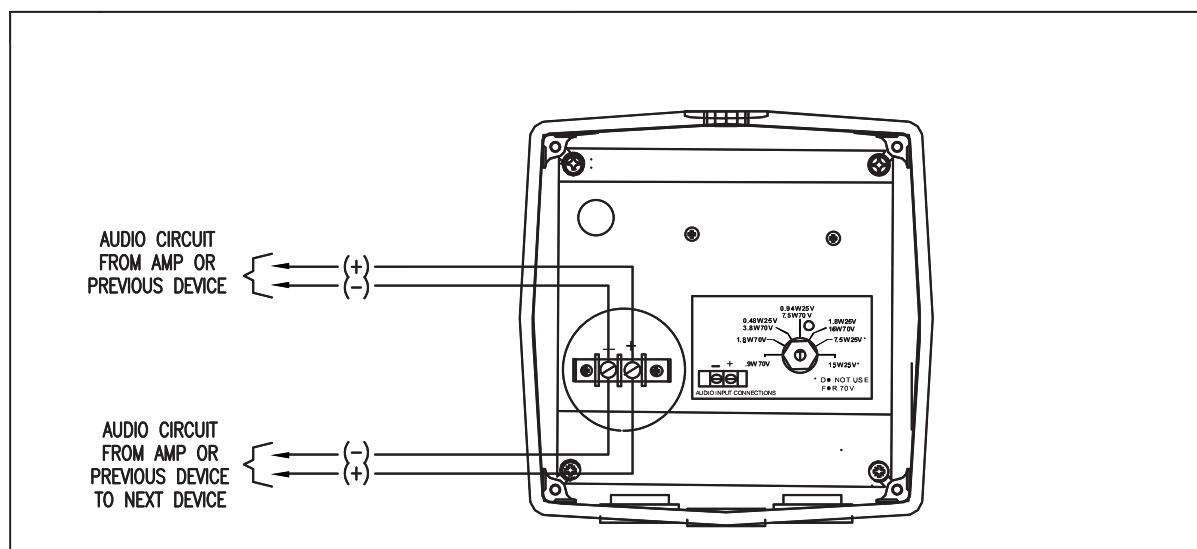
K-RLCD-R/ ANNUNCIATOR WIRING
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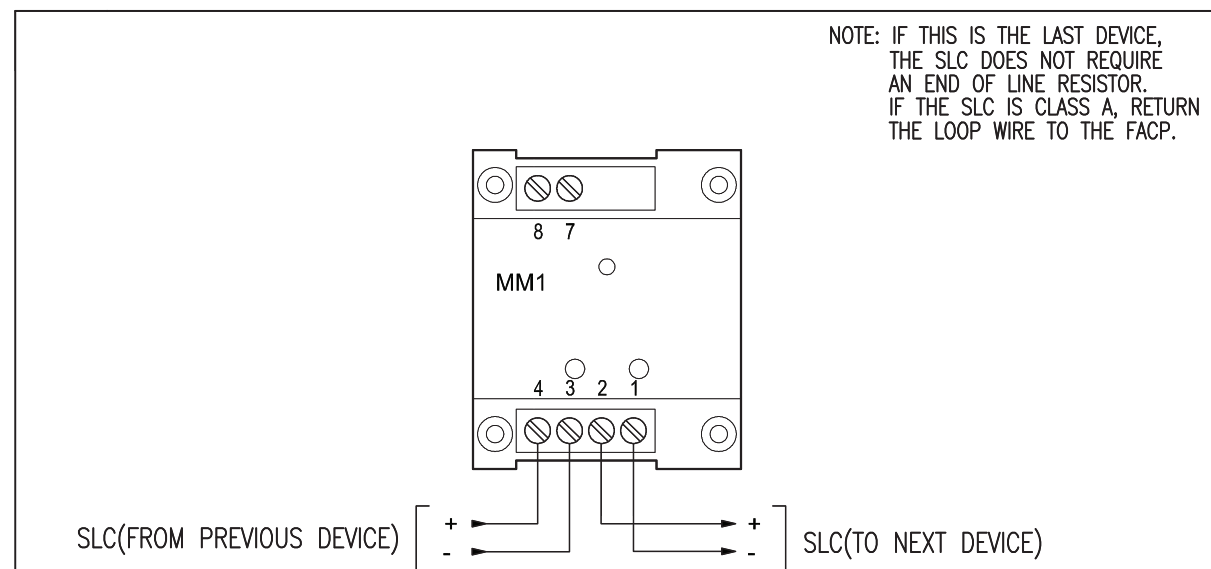
CEILING/WALL SPEAKER/STROBE WIRING
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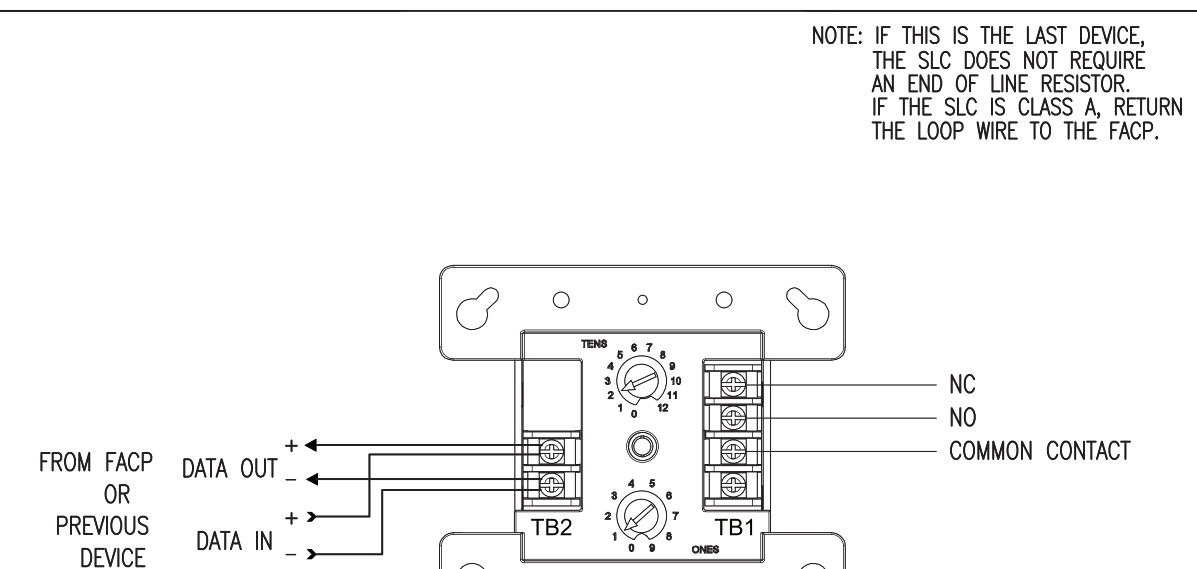
CEILING/WALL STROBE WIRING
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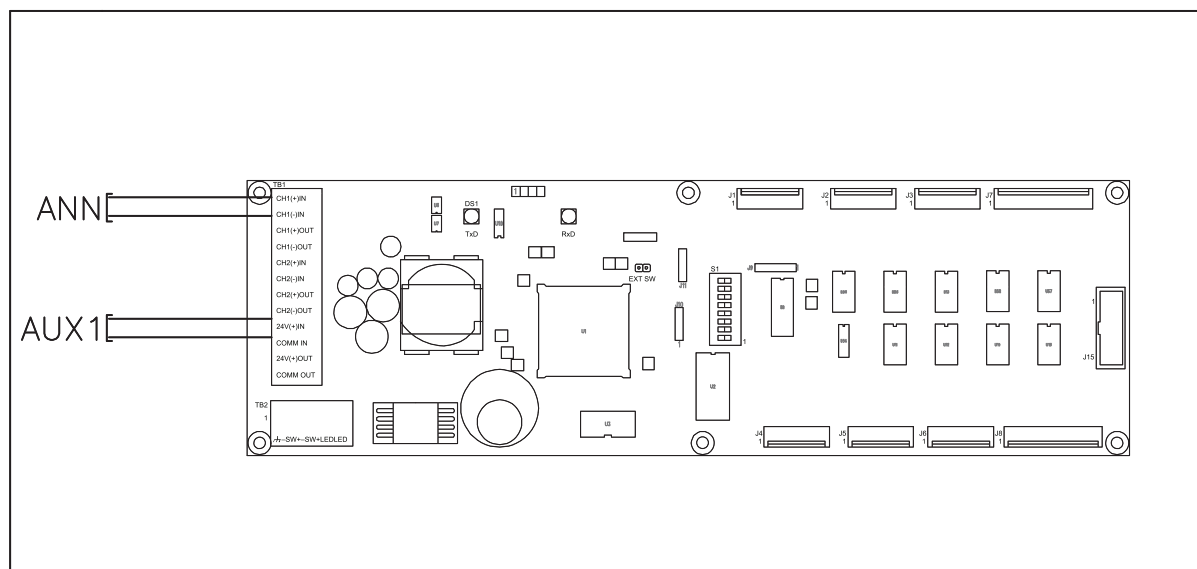
CEILING/WALL STROBE WIRING
NOT TO SCALE



GSA-MM1/ MONITOR MODULE WIRING
NOT TO SCALE



FX-RLY/ RELAY MODULE WIRING
NOT TO SCALE



VM-LOC/ MASS NOTIFICATION LOCAL OPERATING CONSOLE WIRING
NOT TO SCALE

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