

FILE PATH: C:\Users\jmcant\OneDrive - Johnson Controls\John Knox Villages\JKV Courtyards\JKV_Courtyards_65056595Sheet001A.dwg
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30" x 42" Arch E Size



JOHN KNOX VILLAGE COURTYARDS BUILDING E

FIRE ALARM SYSTEM

DISTRICT 332

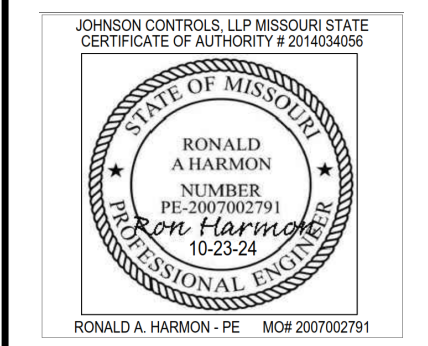
11019 STRANG LINE ROAD

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LEGENDS

FIRE ALARM SYMBOL LEGEND

SYMBOL	DESCRIPTION	BRAND	MODEL	BACKBOX	WIRE TYPE
PANELS & ANNUNCIATORS					
	4100ES ES PS MASTER CONTROLLER - ENGLISH	SIMPLEX	4100-9701	SIMPLEX CABINET	N/A
	4009 IDNET NAC EXTENDER PANEL, 120 VAC, BEIGE	SIMPLEX	4009-9201	SIMPLEX CABINET	N/A
	SMOKE EVACUATION CONTROL PANEL	SPACE AGE	GL8	SPACE AGE CABINET	B,P
	SERIAL LCD ANNUNCIATOR	SIMPLEX	4603-9101	6-GANG BOX 3-1/2"D	B P
INITIATING DEVICES					
	ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
	ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ 520Hz SOUNDER BASE	SIMPLEX	4098-9714 HEAD 4098-9772 BASE	4" OCT, 1-1/2" D	M
	ADDRESSABLE STANDARD HEAT SENSOR W/ STANDARD BASE	SIMPLEX	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
	ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ CO SENSOR BASE	SIMPLEX	4098-9714 HEAD 4098-9770 BASE	4" OCT, 1-1/2" D	M
	ADDRESSABLE DOUBLE ACTION MANUAL PUSH/PULL STATION	SIMPLEX	4099-9006	4" SQ, 2-1/8" D W/ 3/4" SINGLE GANG COVER EXTENSION	M
	ADDRESSABLE DUCT SMOKE DETECTOR	SIMPLEX	4098-9755	MOUNTS TO DUCTWORK	M
MODULES AND RELAYS					
	INDIVIDUAL ADDRESSABLE MODULE	SIMPLEX	4090-9001	SINGLE GANG 2-1/2" D W/COVER	M Z
	RELAY IAM	SIMPLEX	4090-9002	4" SQ, 2-1/8" D W/ DBL GANG COVER	M
	DUAL RELAY IAM	SIMPLEX	4090-9008	4" SQ, 2-1/8" D W/ DBL GANG COVER	R M
	RELAY IDNET 2 IAM W/IT SENSE	SIMPLEX	4090-9118	4" SQ, 2-1/8" D W/ DBL GANG COVER	M R, Z
NOTIFICATION APPLIANCES ** TAP ALL SPEAKERS AT 70.7 VOLTS **					
	ADDRESSABLE STROBE, WALL MOUNT, RED, CLEAR LENS, FIRE	SIMPLEX	49V0-WRF	SINGLE GANG 1-1/2" D	A
	ADDRESSABLE MULTI-CANDELA SPEAKER/STROBE, WALL MOUNT, APPLIANCE ONLY, CLEAR LENS	SIMPLEX	49SV-APPLW		A
	APPLIANCE COVER, RED, FIRE LETTERING	SIMPLEX	49SVC-WRFIRE	4" SQ, 2-1/8" D	S
	MOUNTING PLATE, RED	SIMPLEX	49MP-SVWR		
MISCELLANEOUS DEVICES					
	REMOTE TEST STATION	SIMPLEX	2098-9806	SINGLE GANG 2"D	K
	DOOR HOLDER	RS/GA/MES	DH24120FFC		D
	PARALLEL CONNECTED SURGE PROTECTIVE DEVICE	DITEK	DTK-120HW-SS	DEVICE BOX	
	WATERFLOW SWITCH	BY OTHERS	BY OTHERS		Z
	TAMPER SWITCH	BY OTHERS	BY OTHERS		Z
	FIRE/SMOKE DAMPER	BY OTHERS	BY OTHERS		
	RISER BETWEEN FLOORS	N/A	N/A		
	END-OF-LINE RESISTOR 3.3K (EOL)		4081-9002		
	END-OF-LINE RESISTOR 4.7K (EOL)	SIMPLEX	4081-9003		
	END-OF-LINE RESISTOR 6.8K (EOL)		4081-9004		
	END-OF-LINE RESISTOR 10K (EOL)		4081-9008		

APPLICABLE CODES & STANDARDS

INTERNATIONAL FIRE CODE (IFC), 2018 EDITION
INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION
NATIONAL ELECTRIC CODE (NFPA 70), 2017 EDITION

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SCOPE OF WORK

PROVIDE AND INSTALL A NEW AUTOMATIC AND MANUAL FIRE ALARM SYSTEM AS SHOWN ON DRAWINGS.
ALL WIRING TO BE CLASS B NOTIFICATION APPLIANCE CIRCUITS, INITIATING DEVICE CIRCUITS, AND SIGNALING LINE CIRCUITS.
AUTOMATIC FIRE ALARM SYSTEM SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION. THE SUPERVISING STATION SHALL BE LISTED AS EITHER ULFPA OR ULUS UNDERWRITERS LABORATORY OR SHALL MEET THE REQUIREMENTS OF FACTORY MUTUAL RESEARCH APPROVAL STANDARD 3011. SUPERVISION OF SYSTEM AND LEASED TELEPHONE LINES SHALL BE ARRANGED BY THE OWNER.

DESIGN STATEMENT

THIS PROJECT'S DESIGN IS BASED ON THE ENGINEERED PLANS AND SPECIFICATIONS PREPARED BY: SFC'S INC.

ADDENDUM DATED: 3/7/2027

ABBREVIATIONS LEGEND

AC = ABOVE CEILING
AFF = ABOVE FINISHED FLOOR
AHJ = AUTHORITY HAVING JURISDICTION
ALM = ALARM
ANN = ANNUNCIATOR
BMS = BUILDING MANAGEMENT SYSTEM
C = CEILING MOUNTED
CD = CANDELA RATING
DET = DETECTOR
DGP = DATA GATHERING PANEL
E = EXISTING TO REMAIN
EOL = END OF LINE
EPO = EMERGENCY POWER OFF
ER = ELEVATOR RECALL
FAA = FIRE ALARM ANNUNCIATOR
FACP = FIRE ALARM CONTROL PANEL
FATC = FIRE ALARM TERMINAL CABINET
FBD = FURNISHED BY OTHERS
FCO = FIRE COMMAND CENTER
FSD = FIRE SMOKE DAMPER
FTR = FIRE ALARM TRANSPONDER
H = HIGH HUMIDITY
HT = HEIGHT
HVAC = HEATING VENTILATION & AIR CONDITIONING
IMS = INFORMATION MANAGEMENT SYSTEM
MAX = MAXIMUM
MIN = MINIMUM
NA = NOT APPLICABLE
NAC = NOTIFICATION APPLIANCE CIRCUIT
NDU = NETWORK DISPLAY UNIT
NEC = NATIONAL ELECTRIC CODE
NFPA = NATIONAL FIRE PROTECTION ASSOCIATION
NIC = NOT IN CONTRACT
NPU = NETWORK PROCESSING UNIT
NTS = NOT TO SCALE
PAP = PRE-ACTION PANEL
RC = EXISTING TO REMOVE AND COVER
RD = EXISTING DEVICE TO BE RELOCATED
RL = RELOCATED DEVICE
RR = REMOVE EXISTING & REPLACE WITH NEW
SCC = STATUS COMMAND CENTER
SLC = SIGNALING LINE CIRCUIT
SMK = SMOKE
SUPV = SUPERVISORY
TAC = TRUE/ALERT ADDRESSABLE CONTROLLER
TOS = TOP OF SHAFT
TRBL = TROUBLE
TS = TAMPER SWITCH
TYP = TYPICAL
UN = UNLESS OTHERWISE NOTED
VCC = VOICE COMMAND CENTER
VT = VALVE TAMPER
W = WATTAGE
W/ = WITH
W/O = WITHOUT
WF = WATERFLOW
WG = WIRE GUARD
WP = WEATHERPROOF
XP = EXPLOSION PROOF

PANEL DESIGNATOR

- FA = FACP (NON-NETWORK)
- # = NODE NUMBER
- T# = TRANSPONDER NUMBER
- #T# = NODE TRANSPONDER NUMBER
- N# = NAC EXTENDER NUMBER

CIRCUIT DESIGNATOR

- A# = IDNAC CIRCUIT NUMBER
- D# = DOOR HOLDER CIRCUIT NUMBER
- F# = FIRE PHONE CIRCUIT
- H# = AUDIBLE (HORN) CIRCUIT NUMBER
- M# = IDNET LOOP NUMBER
- P# = POWER CIRCUIT NUMBER
- S# = SPEAKER CIRCUIT NUMBER
- V# = VISUAL CIRCUIT NUMBER
- Z# = ZONE NUMBER

DEVICE NUMBER

BRANCH / ISOLATED LOOP DESIGNATOR:

- (L#) = IDNET ISOLATED LOOP NUMBER
- (B) = IDNAC BRANCH NUMBER
- (E#) = EPR# NUMBER BRANCH NUMBER

1. IDNAC = ADDRESSABLE NOTIFICATION CIRCUIT
2. EPR = ENHANCED POWER REPEATER

1:T2 A2-1(E:1:1)

SYSTEM SEQUENCE OF OPERATIONS

GENERAL NOTES

- THESE DRAWINGS DEPICT GENERAL LOCATIONS OF LIFE SAFETY EQUIPMENT & FIELD DEVICES. EXACT ROUTING OF CONDUITS IS TO BE DETERMINED IN THE FIELD BY THE INSTALLING CONTRACTOR TO SUIT CONDITIONS. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.
- SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS WHICH CAUSE MAJOR DEVIATIONS IN THE WORK SHOWN, THE CONTRACTOR SHALL CONTACT JOHNSON CONTROLS IN A TIMELY MANNER SO AS NOT TO IMPAIR THE CONSTRUCTION SCHEDULE.
- CONTRACTOR IS RESPONSIBLE FOR MAKING AND OBTAINING APPROVAL FOR ALL NECESSARY ADJUSTMENTS IN CIRCUITING AS REQUIRED TO ACCOMMODATE THE RELOCATION OF EQUIPMENT AND/OR DEVICES WHICH ARE AFFECTED BY ANY AUTHORIZED CHANGE. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.
- A STAMPED SET OF APPROVED FIRE ALARM DRAWINGS SHALL BE AT THE JOB SITE AND SHALL BE USED FOR INSTALLATION.
- THE POWER CIRCUIT TO THE FACP AND TO THE FIRE ALARM POWER SUPPLIES SHALL BE ON A DEDICATED 120V, 20A BRANCH CIRCUIT BREAKER, AND SHALL HAVE A RED MARKING, LOCK-ON PROVISION AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL." THE LOCATION OF THE CIRCUIT DISCONNECT MEANS (CIRCUIT BREAKER) SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
- UPDATE THE AS-BUILT DRAWING SET DAILY WITH JOB PROGRESS. RETURN THE AS-BUILT DRAWING SET TO JOHNSON CONTROLS NO LATER THAN 7 DAYS AFTER FINAL TEST.
- THE CONTRACTOR WILL MAINTAIN ALL AREAS OF THE BUILDING IN A NEAT AND WORKMANLIKE MANNER.
- DO NOT APPLY POWER EXCEPT IN THE PRESENCE OF A FACTORY TRAINED JOHNSON CONTROLS TECHNICAL REPRESENTATIVE.
- ANY SMOKE DETECTOR HEAD INSTALLED BEFORE THE BUILDING IS CLEANED AND ACCEPTED SHALL BE COVERED TO PROTECT FROM DUST. ANY FALSE ALARMS DUE TO DIRT CONTAMINATED HEADS SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM INSTALLER.
- THE FIRE ALARM INSTALLER WILL MAINTAIN THE FIRE RESISTANCE INTEGRITY OF ALL WALL, CEILING, AND ROOF ASSEMBLIES ANY TIME THAT WORK IS NOT ACTIVELY BEING PERFORMED.
- UPDATE THE AS-BUILT DRAWING SET DAILY WITH JOB PROGRESS. RETURN THE AS-BUILT DRAWING SET TO JOHNSON CONTROLS NO LATER THAN 7 DAYS AFTER FINAL TEST.
- INSTALLATION OF DEVICES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. POWER LIMITED AND NON-POWER LIMITED FIELD WIRING MUST BE INSTALLED WITHIN THE FACP ENCLOSURE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPLICABLE ELECTRICAL CODES. REFER TO APPLICABLE CODES & STANDARDS FOR SPECIFIC CODE REFERENCES.
- ALL WIRING SHALL BE INSTALLED ACCORDING TO APPLICABLE ELECTRICAL CODES.
- FIRE ALARM CIRCUITS SHALL BE IDENTIFIED IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES. MARK ALL FIRE ALARM WIRES IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODE SECTIONS FOR POWER LIMITED AND NON-POWER LIMITED WIRE.
- FIRE ALARM CABLE INSTALLED IN DUCTS, PLENUM, AND OTHER SPACES USED FOR ENVIRONMENTAL AIR SHALL BE TYPE FPLP.
- FIRE ALARM CABLE INSTALLED IN THE VERTICAL RUNS AND PENETRATING MORE THAN ONE FLOOR OR CABLES INSTALLED IN VERTICAL RUNS IN SHIFTS SHALL BE TYPE FPLP.
- FIRE ALARM CABLE INSTALLED IN UNDERGROUND CONDUIT OR OTHER WET LOCATIONS SHALL BE UL LISTED FOR WET LOCATIONS.
- FIRE ALARM CIRCUITS EXTENDING BEYOND ONE BUILDING AND RUN OUTDOORS SHALL BE INSTALLED IN ACCORDANCE APPLICABLE ELECTRICAL CODES, WHERE APPLICABLE.
- ALL WIRING, INCLUDING SHIELDS MUST BE DRY AND FREE OF SHORTS AND GROUNDS.
- ALL SHIELDED WIRE MUST HAVE SHIELD CONTINUITY AT FULL LENGTH OF THE WIRE.
- ONLY SYSTEM WIRING CAN BE RUN IN THE SAME CONDUIT.
- 120VAC IS NOT PERMITTED IN THE SAME CONDUIT WITH LOW VOLTAGE WIRING.
- MAINTAIN MAXIMUM CONDUIT FILL RATIO AS PER APPLICABLE ELECTRICAL CODES REQUIREMENTS.
- EXISTING CONDUITS MAY BE USED BY THE INSTALLATION CONTRACTOR AS DEEMED NECESSARY; HOWEVER, ANY EXISTING CONDUIT WILL BE USED ONLY IF CONDUITS MEET CURRENT STANDARDS AND CODES. JOHNSON CONTROLS MAKES NO STATEMENTS WRITTEN OR VERBAL AS TO THE CONDITION OF EXISTING CONDUITS.

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FIRE ALARM WIRE LEGEND

CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	FPLP	THIN WALL	THIN WALL	THIN WALL	OUTDOOR **	CL	
A ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pF/ft. MAX CAPACITANCE; 3 twists/ft. MINIMUM	X	X					
B RUI + COMMUNICATION	UTP SOLID	18 AWG	58pF/ft. MAX CAPACITANCE; 35.5 Ω TOTAL LINE RESISTANCE	X	X					
D DOOR HOLDER	2 COND. SOLID	14 AWG		X	X	X	X			
H AUDIBLE CIRCUIT	2 COND. SOLID	14 AWG		X	X					
K REMOTE TEST SWITCH/LED	(2) 2 COND. SOLID	18 AWG		X	X					
M IDNET	UTP SOLID	18 AWG	0.60uF MAX TOTAL LINE CAPACITANCE	X	X					
P POWER	2 COND. SOLID	14 AWG		X	X	X	X			
R RELAY	2 COND. SOLID	18 AWG		X	X	X				
S AUDIO - SPEAKER	UTP SOLID	18 AWG	30pF/ft. MAX CAPACITANCE RECOMMENDED	X	X					
Z ZONE CIRCUIT	2 COND. SOLID	18 AWG		X	X	X	X			
CONDUIT SIZE				MAX CONDUCTOR AREA						
1/2"				1.12 SQ. INCH*						
3/4"				1.12 SQ. INCH*						
1"				1.34 SQ. INCH*						
1 1/2"				1.58 SQ. INCH*						
2"				1.34 SQ. INCH*						
* 40% CONDUIT FILL PER N.E.C.				SIP = SHIELDED TWISTED PAIR						
ITEMS SUCH AS CAPACITANCE BETWEEN CONDUCTORS AND WIRE GAUGE CAN BE CRITICAL TO THE CIRCUIT DESIGN OF THIS SYSTEM INSTALLATION. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR SELECTING AND INSTALLING CABLE MANUFACTURERS AND MODEL THAT MEETS OR EXCEEDS THE ABOVE REQUIREMENTS. RECOMMENDED CABLE MANUFACTURERS AND MODEL NUMBERS ARE AVAILABLE UPON REQUEST.										

SYSTEM INPUTS	SYSTEM OUTPUTS																			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1 SMOKE SENSOR (INCLUDING MULTIPLE RESIDENCE DEVICES ACTIVATED)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2 SMOKE SENSOR IN RESIDENCE - SINGLE DEVICE ACTIVATED	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3 SMOKE SENSOR IN FL1 LITRUM	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4 MANUAL PULL STATION	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5 ACTIVATE ALL NOTIFICATION SIGNALS IN AFFECTED RESIDENCE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6 RELEASE ELEVATOR FIRE DOORS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7 MAIN FLOOR ELEVATOR RECALL	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8 ELEVATOR SHUNT FLUSH	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
9 RELEASE MAGNETICALLY HELD SMOKE CURTAINS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10 ELEVATOR MECH. ROOM HEAT DETECTOR	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11 ELEVATOR MECH. ROOM SMOKE DETECTOR	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12 ELEVATOR SHAFT HEAT DETECTOR	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13 ELEVATOR SHAFT SMOKE DETECTOR	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
14 ELEVATOR POWER MONITOR	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15 WATERFLOW SWITCH	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
16 TAMPER SWITCH	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
17 FIRE ALARM AC POWER FAILURE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18 FIRE ALARM SYSTEM LOW BATTERY	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
19 OPEN CIRCUIT OR GROUND FAULT	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
20 CLASS B NOTIFICATION CIRCUIT (NAC) - SHORT	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
21 DOOR STATUS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
22 SMOKE EVACUATION CONTROL PANEL - ACTIVATION OF SMOKE EVAC SYSTEM	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

JOHN KNOX VILLAGE COURTYARDS BUILDING E

JOHN KNOX VILLAGE
1001 NW CHIPMAN RD
LEE'S SUMMIT, MO 64081

ISSUE NO.	DATE	BY	CHKD	REVISION	DESCRIPTION
1	10/22/2024	AMS	AMS	1	REVISION PER COMMENTS 8/14/2024
2	10/22/2024	AMS	AMS	2	REVISION PER COMMENTS 8/14/2024
3					
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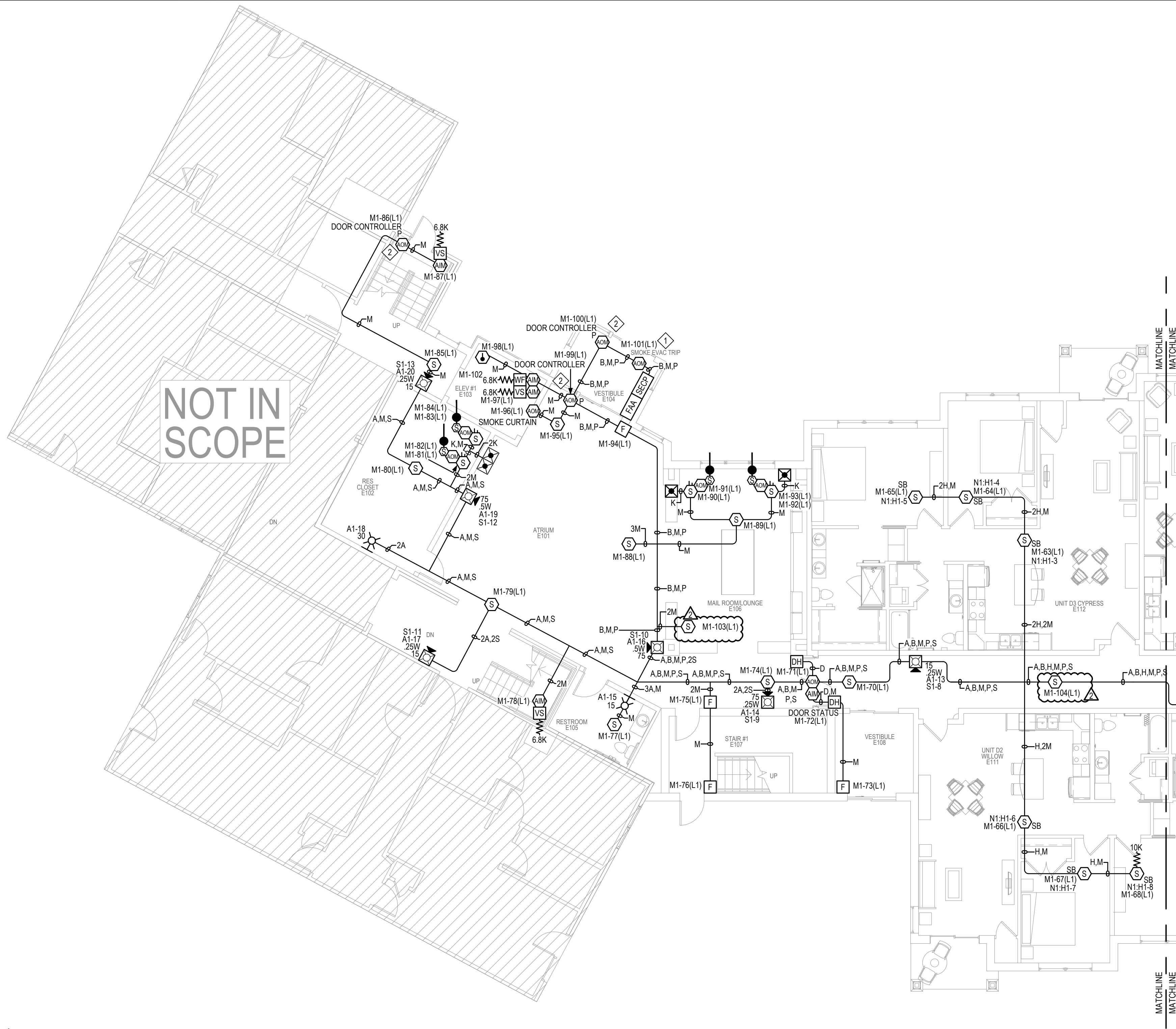
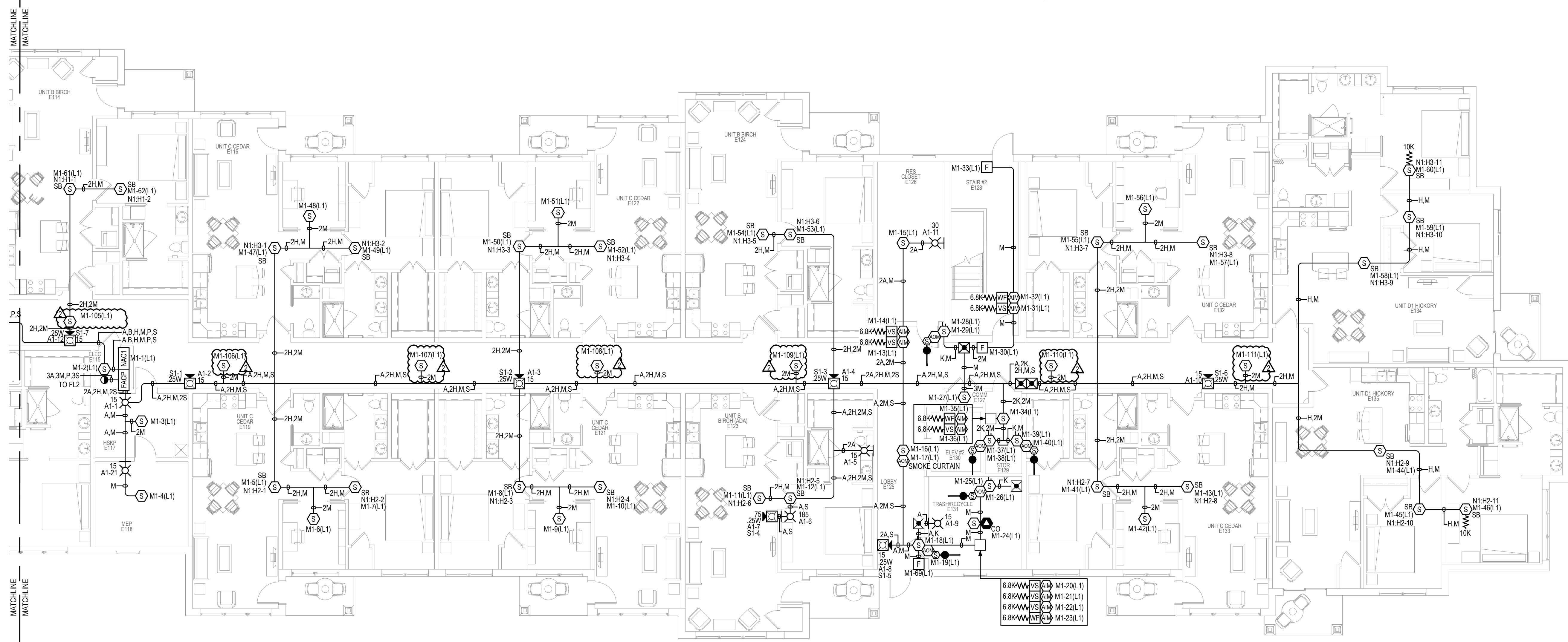
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30" x 42" - Arch E Size

FL1 DEVICE PLACEMENT PLAN

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



GENERAL NOTES:

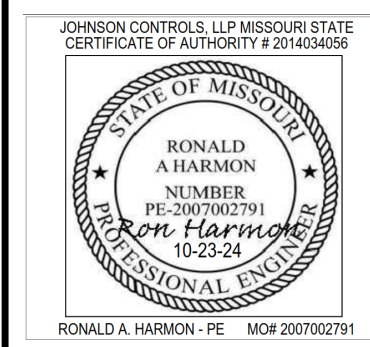
1. ALL CEILINGS ARE ASSUMED TO BE 10' A.F.F., SMOOTH CONSTRUCTION UNLESS NOTED OTHERWISE.
2. TAP ALL SPEAKERS AT 0.5W UNLESS NOTED OTHERWISE.
3. SET ALL SPEAKER VOLTAGE JUMPERS TO THE 70.7V SETTING.
4. ALL NOTIFICATION APPLIANCE CANDELA INTENSITY PLUGS SHALL RETAIN THEIR FACTORY SETTING OF "FACP" UNLESS OTHERWISE DIRECTED BY THE AUTHORITY HAVING JURISDICTION.
5. DO NOT CHANGE DEFAULT APPLIANCE CONFIGURATION SWITCH SETTINGS ON ADDRESSABLE AV DEVICES (OFIGI). REFER TO DEVICE DETAILS AND INSTALLATION INSTRUCTIONS FOR MORE INFORMATION.
6. THE DEVICE ADDRESSES INDICATED ON THESE DRAWINGS ARE AN ALPHANUMERIC DESCRIPTION OF WHICH CIRCUIT THE DEVICE IS LOCATED ON. DEVICES MAY BE ASSIGNED A DIFFERENT NUMBER WITHIN THE PANEL PROGRAM. CONSULT WITH A JOHNSON CONTROLS TECHNICIAN BEFORE APPLYING A PHYSICAL LABEL TO ANY DEVICES.

KEYNOTES:

- ◇ FIELD TO VERIFY EXACT LOCATION.
- ◇ DOOR TO OPEN WHEN SMOKE EVACUATION IS ACTIVE.

JOHN KNOX VILLAGE COURTYARDS BUILDING E

JOHN KNOX VILLAGE
1001 NW CHIPMAN RD
LEE'S SUMMIT, MO 64081



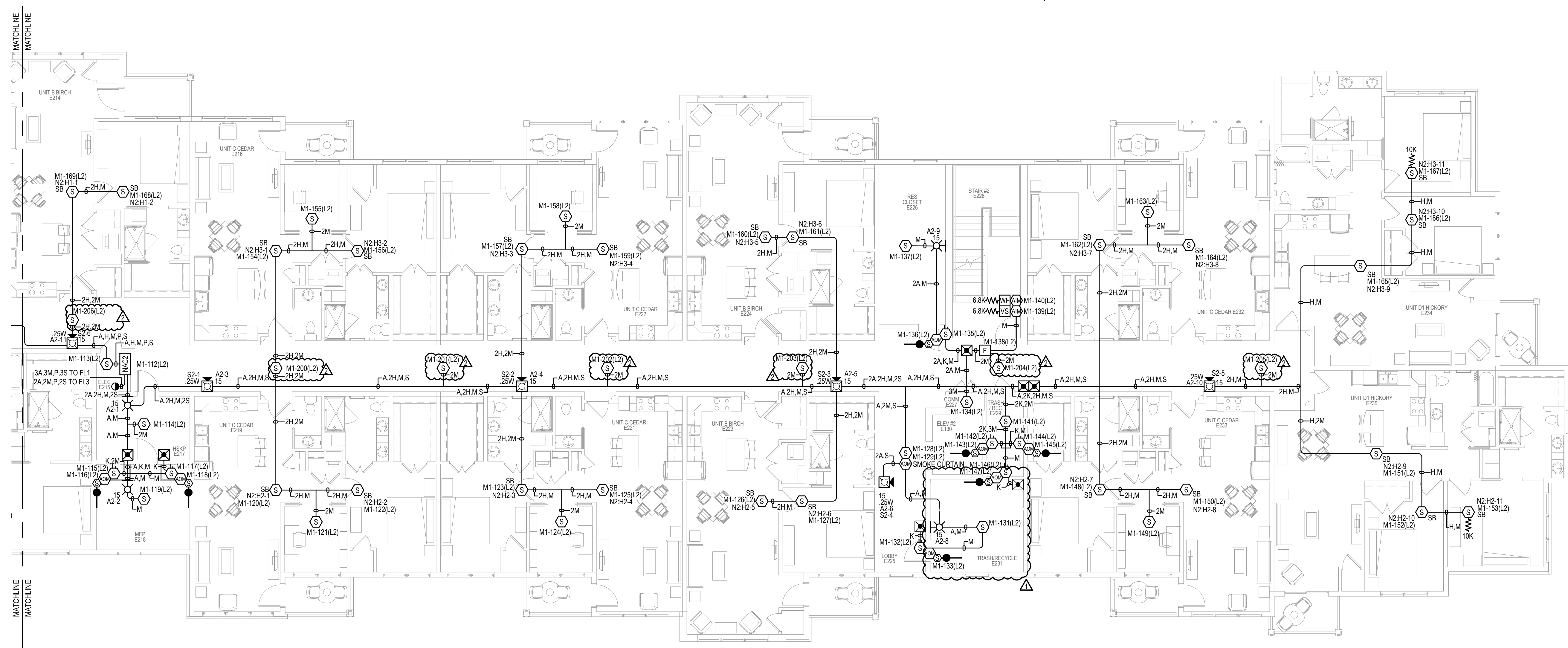
Johnson Controls

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ISSUE	DATE	BY	CHKD	REVISION	DESCRIPTION
1	10/22/2024	JMS	AS	RP	REVISION FOR 44 DATED 08/12/2024
2	10/22/2024	JMS	AS	RP	REVISION PER DOCUMENT G7-14-2017 ADDING SMOKE TO WALLS

DRAWN BY:	MARIANO MENDEZ
CHECKED BY:	TIM EUBANKS
ISSUE DATE:	6/10/24
JOB #:	
PROJECT #:	332-65056598
SYSTEM:	JOHNSON CONTROLS © 2024
SYSTEM:	FIRE ALARM SYSTEM
SHEET:	
FL1 DEVICE PLACEMENT PLAN	

FA-101



JOHN KNOX VILLAGE COURTYARDS BUILDING E

JOHN KNOX VILLAGE
1001 NW CHIPWAN RD
LEE'S SUMMIT, MO 64081

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DRAWN BY:	MARIANO MENDEZ
CHECKED BY:	TIM EUBANKS
ISSUE DATE:	6/10/24
JOB #:	
PROJECT #:	332-650560594
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SYSTEM:	
FIRE ALARM SYSTEM	
SHEET:	
FL2 DEVICE PLACEMENT PLAN	

FA-102

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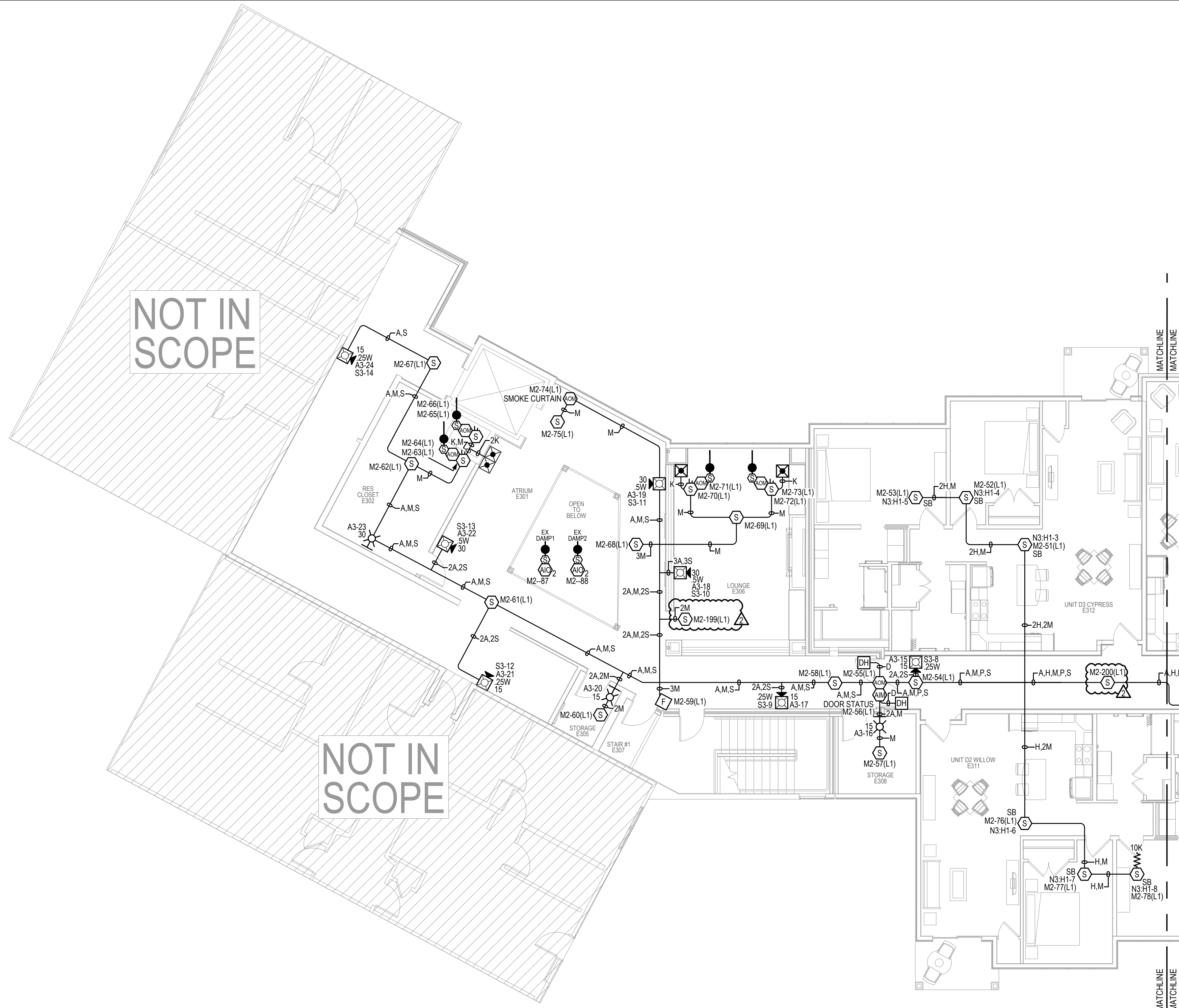
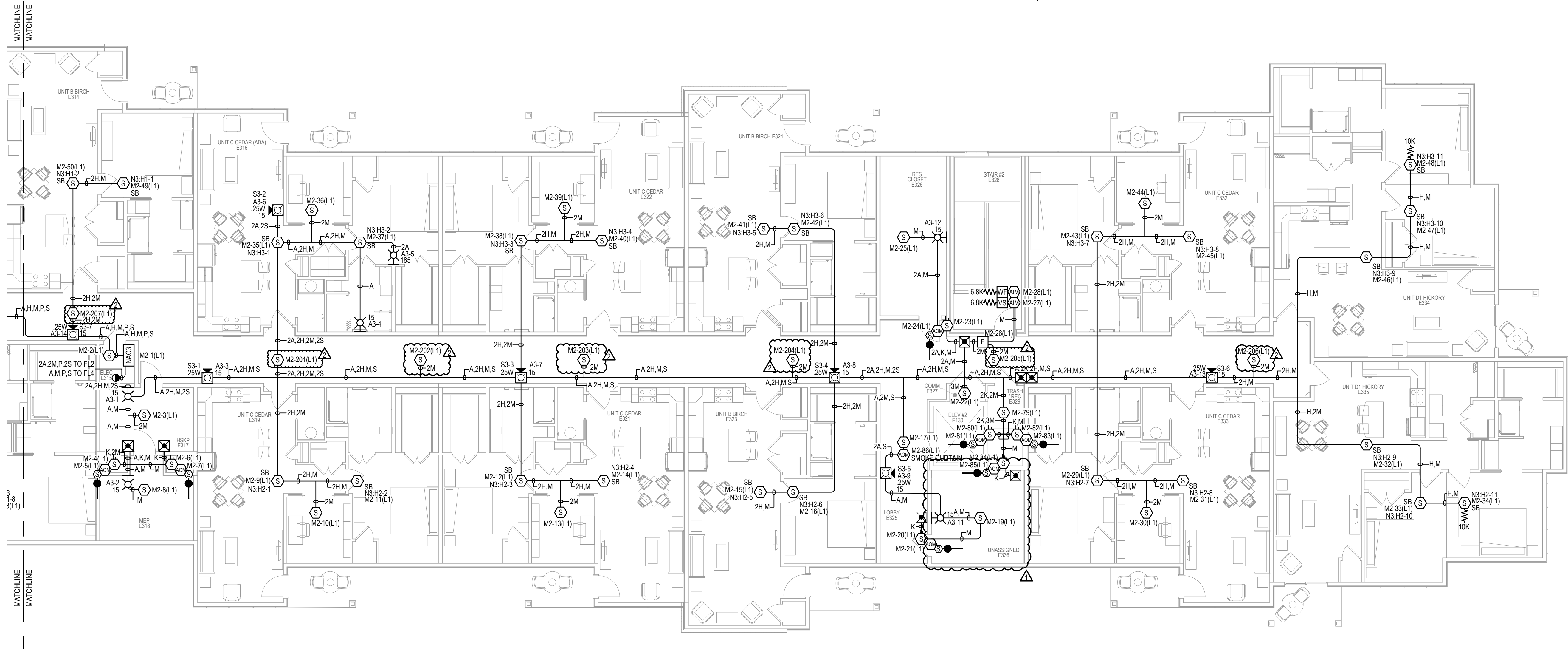
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30" x 42" - Arch E Size

FL3 DEVICE PLACEMENT PLAN

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



GENERAL NOTES:

- ALL CEILINGS ARE ASSUMED TO BE 10' A.F.F., SMOOTH CONSTRUCTION UNLESS NOTED OTHERWISE.
- TAP ALL SPEAKERS AT 0.5W UNLESS NOTED OTHERWISE.
- SET ALL SPEAKER VOLTAGE JUMPERS TO THE 70.7V SETTING.
- ALL NOTIFICATION APPLIANCE CANDELA INTENSITY PLUGS SHALL RETAIN THEIR FACTORY SETTING OF "FACP" UNLESS OTHERWISE DIRECTED BY THE AUTHORITY HAVING JURISDICTION.
- DO NOT CHANGE DEFAULT APPLIANCE CONFIGURATION SWITCH SETTINGS ON ADDRESSABLE AV DEVICES (OFIG1). REFER TO DEVICE DETAILS AND INSTALLATION INSTRUCTIONS FOR MORE INFORMATION.
- THE DEVICE ADDRESSES INDICATED ON THESE DRAWINGS ARE AN ALPHANUMERIC DESCRIPTION OF WHICH CIRCUIT THE DEVICE IS LOCATED ON. DEVICES MAY BE ASSIGNED A DIFFERENT NUMBER WITHIN THE PANEL PROGRAM. CONSULT WITH A JOHNSON CONTROLS TECHNICIAN BEFORE APPLYING A PHYSICAL LABEL TO ANY DEVICES.

KEYNOTES:

- FIELD TO VERIFY EXACT LOCATION.
- DOOR TO OPEN WHEN SMOKE EVACUATION IS ACTIVE.

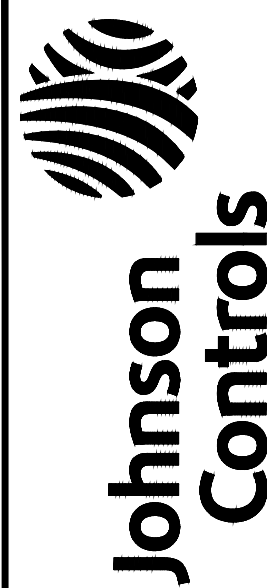
JOHN KNOX VILLAGE COURTYARDS BUILDING E

JOHN KNOX VILLAGE
1001 NW CHIPMAN RD
LEE'S SUMMIT, MO 64081

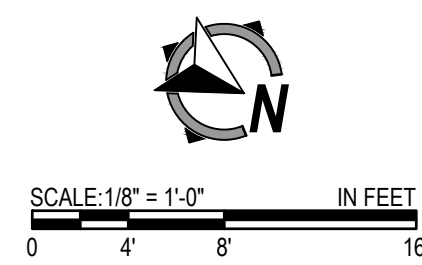
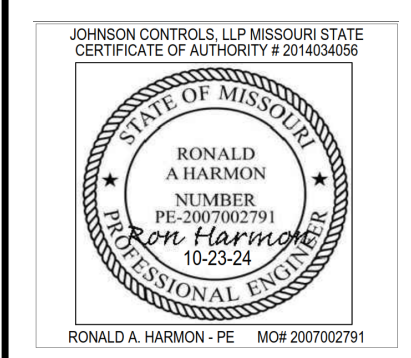
ISSUE NO.	DATE	BY	CHKD	DESCRIPTION	REVISIONS SHOWN WITH
1	10/10/2024	AMS	RP	REVISION FOR 44 DATED 08/12/2024	
2	10/22/2024	FILE	MC	REVISION PER DOCUMENT G7-14-2017 ADDING SMOGKES TO WALLS	

DRAWN BY:	MARIANO MENDEZ
CHECKED BY:	TIM EUBANKS
ISSUE DATE:	6/10/24
JOB #:	332-650505894
PROJECT #:	JOHNSON CONTROLS © 2024
SYSTEM:	FIRE ALARM SYSTEM
SHEET:	FL3 DEVICE PLACEMENT PLAN

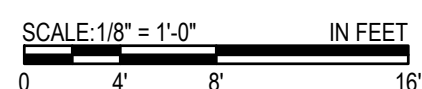
FA-103



JOHNSON CONTROLS
11015 STRANGE LINE ROAD
LENEA, MO 64565
PHONE: 913.884.0010
FAX: 913.884.0003



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





SCALE:N.T.S.

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KEYED NOTES:

JOHN KNOX VILLAGE
1001 NW CHIPMAN RD
LEE'S SUMMIT, MO 64081

[illegible]

DRAWN BY:	MARIANO MENDEZ
CHECKED BY:	TIM EUBANKS
ISSUE DATE:	6/10/24
JOB #:	
PROJECT #:	332-650560594
JOHNSON CONTROLS © 2024	
SYSTEM:	FIRE ALARM SYSTEM
SHEET:	

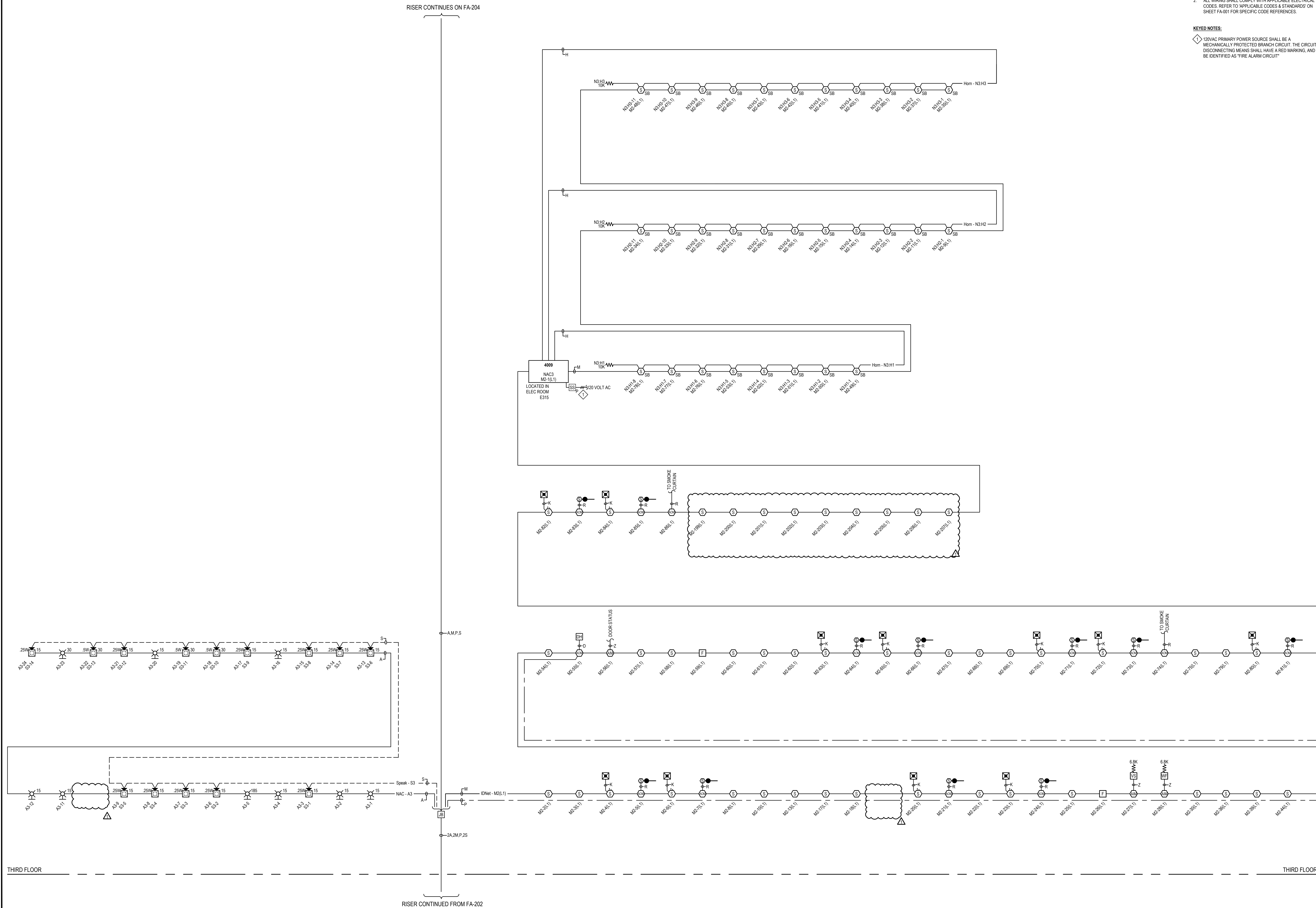
FA-201



JOHN KNOX VILLAGE COURTYARDS BUILDING E

JOHN KNOX VILLAGE
1001 NW CHIPMAN RD
LEE'S SUMMIT, MO 64081

RISER DIAGRAM



RISER DIAGRAM

SCALE:N.T.S.



**Johnson
Controls**

DISTRICT - 332

11119 STRANGE LINE ROAD
 PLYMOUTH, MI 48170
 PHONE: 313.884.0010
 FAX: 313.884.0020
 SERVICE: 313.884.0010

JOHNSON CONTROLS U.S. MISSOURI STATE
 CERTIFICATE OF AUTHORITY # 2014582628



RONALD A. HARMON
 NICHOLAS
 PE 202877007591
 10-23-2014

RONALD A. HARMON - PE MCR 202877007591

JOHN KNOX VILLAGE COURTYARDS BUILDING E

JOHN KNOX VILLAGE
1001 NW CHIPMAN RD
LEE'S SUMMIT, MO 64081

[illegible]

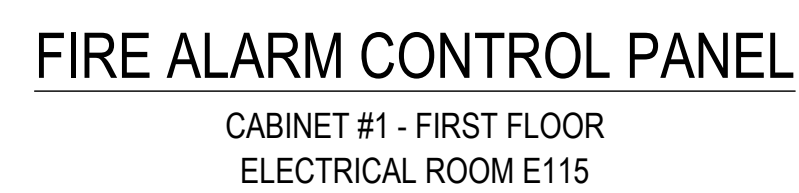
DRAWN BY:	MARIANO MENDEZ
CHECKED BY:	TIM EUBANKS
ISSUE DATE:	6/10/24
JOB #:	
PROJECT #:	332-650560594
JOHNSON CONTROLS © 2024	
SYSTEM: FIRE ALARM SYSTEM	
SHEET:	

RISER DIAGRAM

FA-203



RISER DIAGRAM

[illegible]

DRAWN BY:	MARIANO MENDEZ
CHECKED BY:	TIM EUBANKS
ISSUE DATE:	6/10/24
JOB #:	
PROJECT #:	332-650560594
JOHNSON CONTROLS © 2024	
SYSTEM:	
FIRE ALARM SYSTEM	

M1-103	PHOTO	SMOKE	FL1 MAIL RMLONGUE E106	M1-103	X	X	X	X	ON
M1-104	PHOTO	SMOKE	FL1 CORR BY E111	M1-104	X	X	X	X	ON
M1-105	PHOTO	SMOKE	FL1 CORR BY E112	M1-105	X	X	X	X	ON
M1-106	PHOTO	SMOKE	FL1 CORR BY E119	M1-106	X	X	X	X	ON
M1-107	PHOTO	SMOKE	FL1 CORR BY E119	M1-107	X	X	X	X	ON
M1-108	PHOTO	SMOKE	FL1 CORR BY E121	M1-108	X	X	X	X	ON
M1-109	PHOTO	SMOKE	FL1 CORR BY E123	M1-109	X	X	X	X	ON
M1-110	PHOTO	SMOKE	FL1 CORR BY E127	M1-110	X	X	X	X	ON
M1-111	PHOTO	SMOKE	FL1 CORR BY E133	M1-111	X	X	X	X	ON

NOTE: THE LABELS SHOWN ABOVE WILL BE USED FOR PROGRAMMING PURPOSES.
THE LABELS ARE BASED UPON INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS.
ANY CHANGES TO THESE LABELS MUST BE NOTED ON THE SUBMITTAL REVIEW, PRIOR TO PROGRAMMING.
POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

NOTE: THE LABELS SHOWN ABOVE WILL BE USED FOR PROGRAMMING PURPOSES.
THE LABELS ARE BASED UPON INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS.
ANY CHANGES TO THESE LABELS MUST BE NOTED ON THE SUBMITTAL REVIEW, PRIOR TO PROGRAMMING.
POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

ISSUE	ECN	DATE	CAD	CHW	DESCRIPTION
1	10110004	ATS	RP		REVISION PER PR #I DATED 08.12.2024
2	1022226	TLE	MC		REVISION PER DOCUMENT GP 74-2017 ADDING SMOCKES TO HALLS

FILE PATH: C:\Users\ieubanti\OneDrive - Johnson Controls\John Knox_Village\JKV_Courtyards\01_JKV_Courtyards_650560594\Sheet\SetFA-601.dwg

LAST SAVED BY: JEJBANTI

AST PRINTED: 10/22/2024 10:08:56 AM

30" x 42" - Arch E1 Size

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

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POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

- IDNAC-2 CIRCUIT SUMMARY & VOLTAGE DROP

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

	Amplifier Wattage	Watts Used
Amp-1	100	14.25W

4100es FACP Speaker Db Loss Calculations													MAXIMUM -3 dB DROP		
Circuit Voltage = 70vrms [E]															
Circuit Circuit DESCRIPTION	Plan Circuit Amp #	Speaker Tap -25 Watt	Speaker Tap -5 Watt	Total Spkr Taps	Total Watts [D]	Wire Gauge	Est. Ckt. Length [F] in Feet	Wire Res. Per Foot [Rw]	Circuit Resistance [R=C*DrPwr]	Speaker Current [I=V/R-E]	Speaker Resistance [R=V-E/I]	Voltage At End [E=V-I*R-Rw]	Watts At End [P=V-E*I]	Actual Loss [dB=10*log(P/Po)]	Max Allowable Ckt. Length [Ft/Rw]
FL1 SPEAKER CIRCUIT	Amp-1	S1	11	2	13	3.75 Watts	18ga	700	0.0078	10.878	0.054	1306.67	69.22	-0.7 db	3481 Ft
FL2 SPEAKER CIRCUIT	Amp-1	S2	13	0	13	3.25 Watts	18ga	700	0.0078	10.878	0.046	1507.692	69.499	-0.6 db	4166 Ft
FL3 SPEAKER CIRCUIT	Amp-1	S3	12	2	14	4 Watts	18ga	700	0.0078	10.878	0.057	1225.000	69.384	-0.7 db	3263 Ft
FL4 SPEAKER CIRCUIT	Amp-1	S4	9	2	11	3.25 Watts	18ga	700	0.0078	10.878	0.046	1507.692	69.499	-0.6 db	4166 Ft

A2	Distributed Load Voltage Drop
----	-------------------------------

A3	Distributed Load Voltage Drop
----	-------------------------------

A4	Notification SLC Distributed Load
----	-----------------------------------

Starting Voltage:		28vdc		Primary Wire Gauge:		14ga		Wire Res. Per Ft.		0.003070		@ 75° Celsius	
Min. Device Voltage:		23 vdc		Home Run Wire Gauge:		14ga		Wire Res. Per Ft.		0.003070		@ 75° Celsius	
Allowable % Drop:		20.7%											
Class B Calculations													
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length			
1	A4-1	PANEL	74	49V0-WRF	15cd	0.0470	0.896	0.407	28.593	Branch 1: 2.83% Length: 660			
1	A4-2	A4-1	22	49V0-WRF	15cd	0.0470	0.047	0.006	28.587				
1	A4-3	A4-1	24	49SV-APPLW	15cd	0.0470	0.329	0.048	28.544				
1	A4-4	A4-1	54	49SV-APPLW	15cd	0.0470	0.382	0.093	28.451				
1	A4-5	A4-4	54	49SV-APPLW	15cd	0.0470	0.235	0.078	28.373				
1	A4-6	A4-5	30	55SV-APPLW	15cd	0.0470	0.188	0.035	28.338				
1	A4-8	A4-6	16	49V0-WRF	15cd	0.0470	0.047	0.005	28.334				
1	A4-9	A4-6	30	49V0-WRF	15cd	0.0470	0.094	0.029	28.310				
1	A4-10	A4-9	42	49SV-APPLW	15cd	0.0470	0.047	0.015	28.295				
1	A4-11	A4-9	26	49SV-APPLW	15cd	0.0470	0.473	0.076	28.517				
1	A4-12	A4-11	53	49SV-APPLW	15cd	0.0470	0.426	0.139	28.379				
1	A4-13	A4-12	22	49V0-WRF	15cd	0.0470	0.379	0.051	28.328				
1	A4-14	A4-13	25	49SV-APPLW	15cd	0.0470	0.332	0.051	28.277				
1	A4-15	A4-14	32	49V0-WRF	15cd	0.0470	0.285	0.056	28.221				
1	A4-16	A4-15	49	49SV-APPLW	30cd	0.0570	0.114	0.034	28.186				
1	A4-17	A4-16	19	49V0-WRF	30cd	0.0570	0.057	0.007	28.180				
1	A4-18	A4-15	33	49SV-APPLW	30cd	0.0570	0.124	0.025	28.195				
1	A4-19	A4-18	25	49AV-WRF	30cd	0.0570	0.067	0.010	28.185				
						0.0000	0.000		28.180	0.000			

JOHN KNOX VILLAGE COURTYARDS BUILDING E

JOHN KNOX VILLAGE
1001 NW CHIPMAN RD
LEE'S SUMMIT, MO 64081

ISSUE LOG						Revisions shown with Δ symbol
	MARK	DATE	CAD	CHK	DESCRIPTION	
1		19/11/2024	ATS	RP	REVISION PER PR# DATED 08-12-2024	
2		10/22/2024	TLE	MC	REVISION PER DOCUMENT 1574-2017 ADDING SMOKES TO HALLS	

DRAWN BY:	MARIANO MENDEZ
CHECKED BY:	TIM EUBANKS
ISSUE DATE:	6/10/24
JOB #:	
PROJECT #:	332-650560594
JOHNSON CONTROLS © 2024	
SYSTEM: FIRE ALARM SYSTEM	
SHEET:	

CALCULATIONS AND SCHEDULES

FA-602



**Johnson
Controls**

PHONE: 913-884-0010
FAX: 913-884-0020

DISTRICT - 332

11015 STRANG LINE ROAD
SERVICES 913-884-0010

Battery Set #1 (Cabinet/Charger #1)				Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:							
4009					0.1250		4.0950
Sub Total					0.1250		4.0950
Additional Current Draws:							
RUI Connected Peripheral Devices	0	x 0.0035				x 0.0035	= 0.0000
MAPNET/IDNet Device Address Communication Current	0	x 0.000000				x 0.000000	= 0.0000
Sub Total					0.1250		4.0950
Spare addressable point capacity	0%	0	x 0			x 0	= 0.0000
Total					0.1250		4.0950
Standby Time =	24	Hrs	x 0.1250				= 3.0000 Standby Ah
Alarm Time =	15	Min	0.25 x 4.095				= 1.0238 Alarm Ah
Additional Spare Battery Capacity =				0%		+	0.0000
							4.0238
Battery Discharge Factor =				20%		+	0.8048
Minimum Battery Required				2081-9272 6.2AH (2x)			4.8285
Battery Supplied				2081-9272 6.2AH (2x)			

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES

N1:H2 Distributed Load Voltage Drop						
Allowable % Drop:			11.9%	Wire Res. Per Ft	0.003070	@ 75° Celsius
Wire Gauge:			14ga	Min. Voltage Drop:	16.vdc	
Starting Voltage:			19.5vdc	% Voltage Drop:	8.74%	
Ckt Capacity			2.A			
Normal Operation						
Device #	PID	Setting	Distance (feet)	Device Current	Normal Voltage	Voltage At Device
N1:H2-1	4088-9772	520 Hz	50	0.129	0.438	19.06
N1:H2-2	4088-9772	520 Hz	21	0.129	0.602	18.86
N1:H2-3	4088-9772	520 Hz	33	0.129	0.837	18.62
N1:H2-4	4088-9772	520 Hz	21	0.129	0.970	18.53
N1:H2-5	4088-9772	520 Hz	38	0.129	1.181	18.35
N1:H2-6	4088-9772	520 Hz	14	0.129	1.247	18.25
N1:H2-7	4088-9772	520 Hz	59	0.129	1.481	18.02
N1:H2-8	4088-9772	520 Hz	23	0.129	1.554	17.85
N1:H2-9	4088-9772	520 Hz	42	0.129	1.654	17.75
N1:H2-10	4088-9772	520 Hz	24	0.129	1.692	17.81
N1:H2-11	4088-9772	520 Hz	16	0.129	1.705	17.80
			Totals:	345.Ft	1.418V	

VOLTAGE DROP SUMMARY				
Plan Circuit	Description		Load	% Drop
N3:H1	FL1 NORTH EAST SUITES	SG1	1.032A	4.63%
N3:H2	FL1 NORTH WEST SUITES	SG2	1.419A	8.74%
N3:H3	FL1 SOUTH SUITES	SG3	1.419A	8.29%
			3.870A	Total

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES

N3-H2 Distributed Load Voltage Drop									
Allowable % Drop:			17.9%	Wire Size, Per Ft.	0.003070	@ 75° Celsius			
Wire Gauge:			14ga	Min. Voltage Drop:	16.5mc				
Starting Voltage:			19.5vdc	% Voltage Drop:	8.74%				
Ckt Capacity:			2.A						
Normal Operation									
Device #	Address	Setting	Distance (Feet)	Device Current	Voltage Drop	Voltage At Device			
N3-H2-1	40B8-9772	520 Hz	50	0.129	0.436	19.06			
N3-H2-2	40B8-9772	520 Hz	21	0.129	0.602	18.86			
N3-H2-3	40B8-9772	520 Hz	33	0.127	0.817	18.65			
N3-H2-4	40B8-9772	520 Hz	21	0.129	0.970	18.53			
N3-H2-5	40B8-9772	520 Hz	38	0.129	1.181	18.35			
N3-H2-6	40B8-9772	520 Hz	14	0.129	1.247	18.25			
N3-H2-7	40B8-9772	520 Hz	59	1.481	1.832	16.62			
N3-H2-8	40B8-9772	520 Hz	23	0.129	1.554	17.85			
N3-H2-9	40B8-9772	520 Hz	42	0.129	1.654	17.85			
N3-H2-10	40B8-9772	520 Hz	24	0.129	1.692	17.81			
N3-H2-11	40B8-9772	520 Hz	16	0.129	1.705	17.80			
Totals:				34 Ft.	1.419A				

Battery Set #1 (Cabinet/Charger #1)				Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:							
4009					0.1250		4.0950
				Sub Total	0.1250		4.0950
Additional Current Draws:	RUI Connected Peripheral Devices	0	x 0.0035	= 0.0000	x 0.0035	= 0.0000	
	MAPNET/iDNet Device Address Communication Current	0	x 0.000000	= 0.0000	x 0.000000	= 0.0000	
			Sub Total	0.1250		4.0950	
Spare addressable point capacity	0%	0	x 0	= 0.0000	x 0	= 0.0000	
				Total	0.1250		4.0950
Standby Time = 24 Hrs				x 0.1250	= 3.0000	Standby Ah	
Alarm Time = 15 Min				0.25 x 4.095	= 1.0238	Alarm Ah	
Additional Spare Battery Capacity = 0%					+	0.0000	
						4.0238	
Battery Discharge Factor = 20%					+	0.8048	
Minimum Battery Required 2081-9272 6.2AH (2x)						4.8285	
Battery Supplied 2081-9272 6.2AH (2x)							

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

Distributed Load Voltage Drop						
Allowable % Voltage Drop		17.9%	Wire Res. Per Ft	0.00370	@ 75° Celsius	
Wire Gauge:		14ga	Min. Voltage Drop:	16.vdc		
Starting Voltage:		19.5vdc	% Voltage Drop:	8.74%		
Ckt Capacity		2.A				
Normal Operation						
Device #	PID	Setting	Distance (Feet)	Device Current	Voltage Drop	Voltage At Device
N2-H2-1	4098-9772	520 Hz	50	0.129	0.436	19.06
N2-H2-2	4098-9772	520 Hz	21	0.129	0.602	18.66
N2-H2-3	4098-9772	520 Hz	33	0.129	0.837	18.66
N2-H2-4	4098-9772	520 Hz	21	0.129	0.970	18.53
N2-H2-5	4098-9772	520 Hz	38	0.129	1.161	18.32
N2-H2-6	4098-9772	520 Hz	14	0.129	1.247	18.25
N2-H2-7	4098-9772	520 Hz	59	0.129	1.481	18.02
N2-H2-8	4098-9772	520 Hz	23	0.129	1.554	17.95
N2-H2-9	4098-9772	520 Hz	42	0.129	1.654	17.85
N2-H2-10	4098-9772	520 Hz	24	0.129	1.692	17.81
N2-H2-11	4098-9772	520 Hz	16	0.129	1.705	17.80
Totals:			341 Ft	1.419A		

VOLTAGE DROP SUMMARY				
Plan Circuit	Description		Load	% Drop
N4:H1	FL1 NORTH EAST SUITES	SIG1	1.032A	4.63%
N4:H2	FL1 NORTH WEST SUITES	SIG2	1.419A	8.74%
N4:H3	FL1 SOUTH SUITES	SIG3	1.419A	8.29%
			3.870A	Total

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

N4-H2 Distributed Load Drop Data									
Allowable N. Voltage:		17.9%		Wire Res. Per Ft.		0.003070		@ 75° Celsius	
Wire Gauge:		14AWG		Min. Device Voltage:		15.4w			
Starting Voltage:		19.5vdc		% Voltage Drop:		8.74%			
Ckt Capacity:		2 A							
				Normal Operation					
Device #		Setting		Distance (Feet)	Device Current	Voltage Drop		Voltage At Device	
N4-H2-1	4098-9772	520 Hz	50	0.129	0.436	19.06			
N4-H2-2	4098-9772	520 Hz	21	0.129	0.602	18.86			
N4-H2-3	4098-9772	520 Hz	13	0.129	0.837	18.66			
N4-H2-4	4098-9772	520 Hz	21	0.129	0.970	18.53			
N4-H2-5	4098-9772	520 Hz	38	0.129	1.181	18.32			
N4-H2-6	4098-9772	520 Hz	14	0.129	1.247	18.25			
N4-H2-7	4098-9772	520 Hz	99	0.129	1.461	18.02			
N4-H2-8	4098-9772	520 Hz	23	0.129	1.554	17.85			
N4-H2-9	4098-9772	520 Hz	42	0.129	1.654	17.65			
N4-H2-10	4098-9772	520 Hz	24	0.129	1.692	17.81			
N4-H2-11	4098-9772	520 Hz	16	0.129	1.705	17.80			
Totals:				341 Ft.	1.419A				

SCALE:N.T.S.

Battery Set #1 (Cabinet/Charger #1)				Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:							
4009					0.1250		4.0950
				Sub Total	0.1250		4.0950
Additional Current Draws:							
	RUI Connected Peripheral Devices	0	x 0.0035		= 0.0000	x 0.0035	= 0.0000
	MAPNET/IDNet Device Address Communication Current	0	x 0.000000		= 0.0000	x 0.000000	= 0.0000
				Sub Total	0.1250		4.0950
Spare addressable point capacity				0%	0	x 0	= 0.0000
						x 0	= 0.0000
				Total	0.1250		4.0950
Standby Time =				24	Hrs	x 0.1250	= 3.0000 Standby Ah
Alarm Time =				15	Min	0.25 x 4.095	= 1.0238 Alarm Ah
Additional Spare Battery Capacity =				0%		+	4.0238
						+	4.0238
Battery Discharge Factor =				20%		+	0.8048
Minimum Battery Required				2081-9272 6.2AH (2x)			4.8285
Battery Supplied				2081-9272 6.2AH (2x)			

Battery Set #1 (Cabinet/Charger #1)				Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:							
4009					0.1250		4.0950
					0.1250		4.0950
Additional Current Draws:	Sub Total						
	RUI Connected Peripheral Devices	0	x 0.0035	= 0.0000	x 0.0035	= 0.0000	
	MAPNET/IDNet Device Address Communication Current	0	x 0.000000	= 0.0000	x 0.000000	= 0.0000	
	Sub Total				0.1250		4.0950
Spare addressable point capacity	0%	0	x 0	= 0.0000	x 0	= 0.0000	
					0.1250		4.0950
Standby Time = 24 Hrs				x 0.1250	= 3.0000	Standby Ah	
Alarm Time = 15 Min				0.25 x 4.095	= 1.0238	Alarm Ah	
Additional Spare Battery Capacity = 0%					+		
						0.0000	
						4.0238	
Battery Discharge Factor = 20%					+	0.8048	
Minimum Battery Required 2081-9272 6.2AH (2x)						4.8285	
Battery Supplied 2081-9272 6.2AH (2x)							

SCALE:N.T.S.

Battery Set #1 (Cabinet/Charger #1)				Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:							
4009					0.1250		4.0950
					0.1250		4.0950
Additional Current Draws:	Sub Total						
	RUI Connected Peripheral Devices	0	x 0.0035	= 0.0000	x 0.0035	= 0.0000	
	MAPNET/IDNet Device Address Communication Current	0	x 0.000000	= 0.0000	x 0.000000	= 0.0000	
	Sub Total				0.1250		4.0950
Spare addressable point capacity	0%	0	x 0	= 0.0000	x 0	= 0.0000	
					0.1250		4.0950
Standby Time = 24 Hrs				x 0.1250	= 3.0000	Standby Ah	
Alarm Time = 15 Min				0.25 x 4.095	= 1.0238	Alarm Ah	
Additional Spare Battery Capacity = 0%					+		
						0.0000	
						4.0238	
Battery Discharge Factor = 20%					+	0.8048	
Minimum Battery Required 2081-9272 6.2AH (2x)						4.8285	
Battery Supplied 2081-9272 6.2AH (2x)							

SCALE:N.T.S.



JOHN KNOX VILLAGE
1001 NW CHIPMAN RD
LEE'S SUMMIT, MO 64086

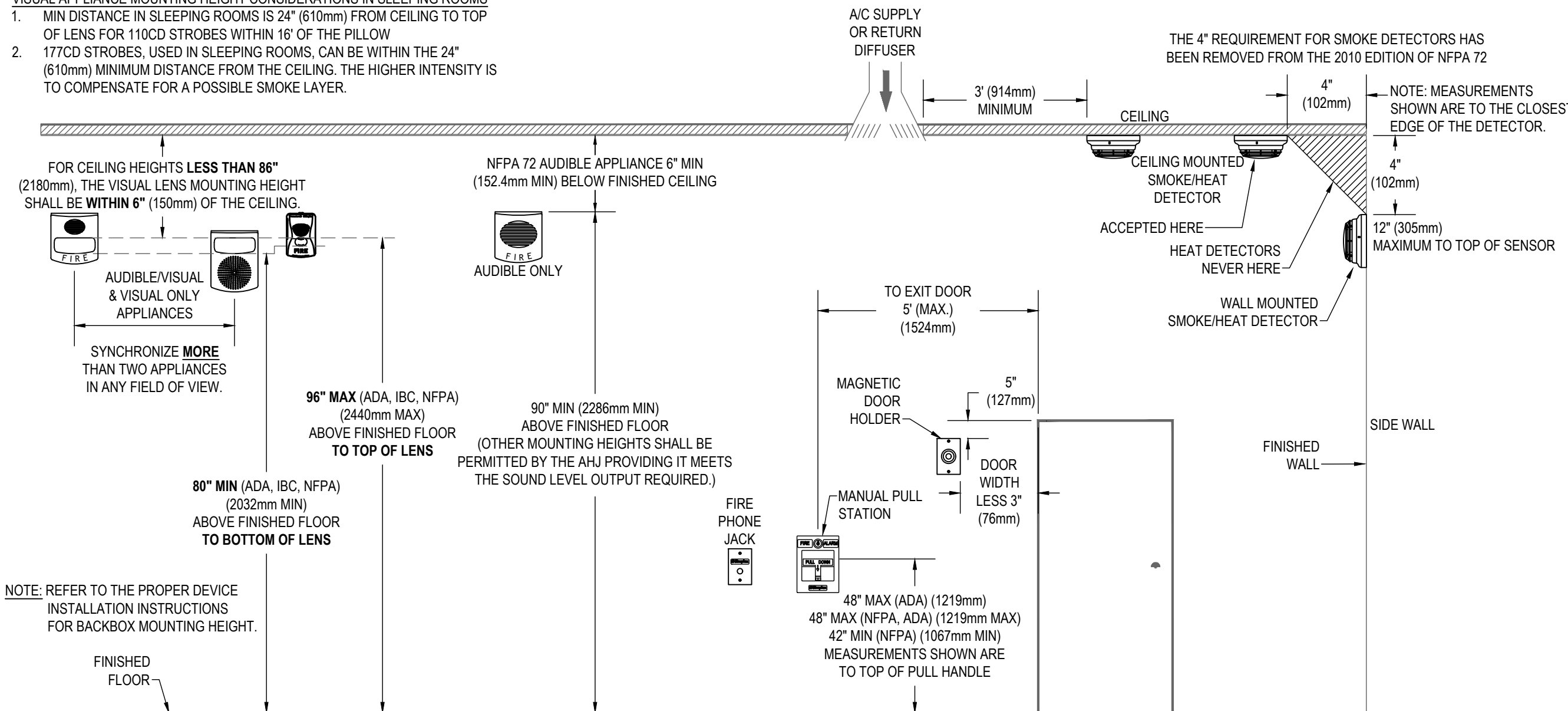
FA-603

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30" x 42" Arch E Size

DEVICE MOUNTING HEIGHT REFERENCE

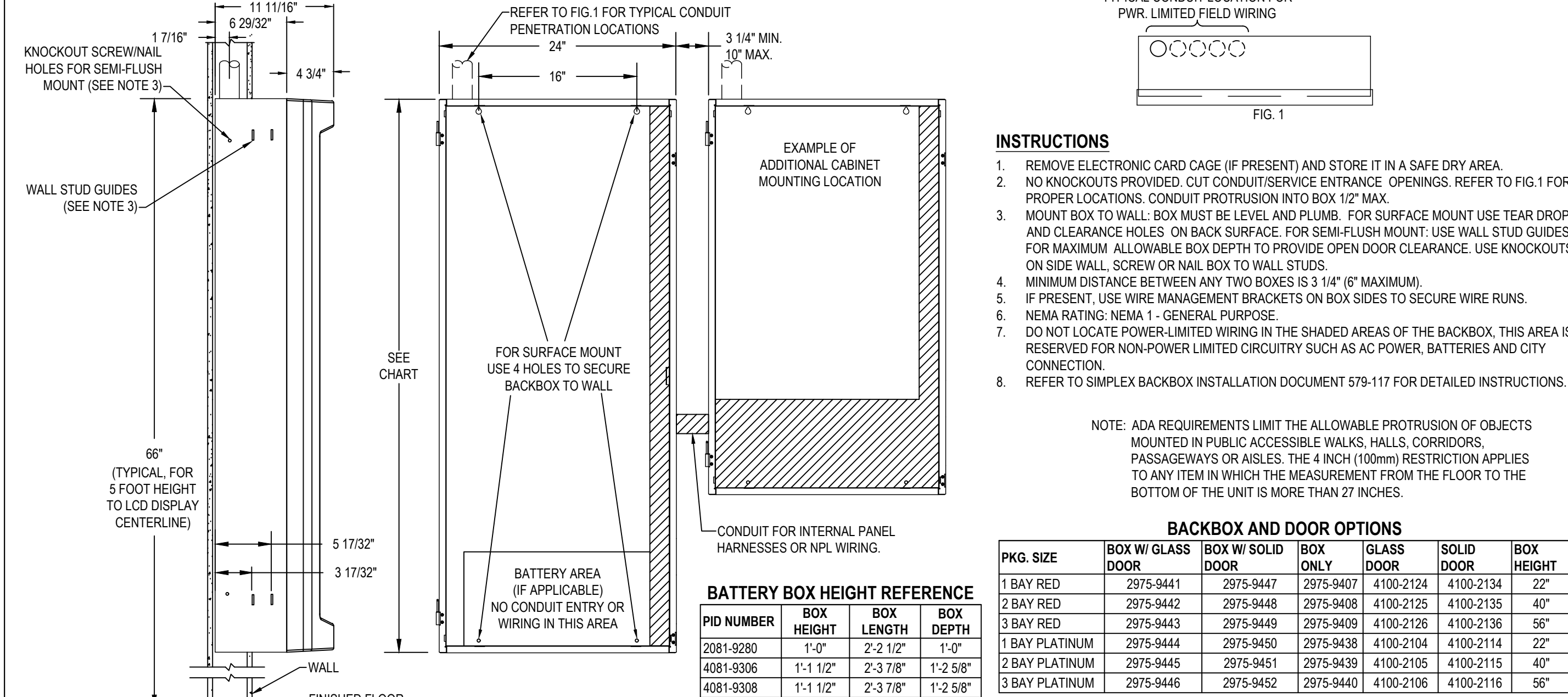
PER NFPA 72

- VISUAL APPLIANCE MOUNTING HEIGHT CONSIDERATIONS IN SLEEPING ROOMS**
- MIN DISTANCE IN SLEEPING ROOMS IS 24" (610mm) FROM CEILING TO TOP OF LENS FOR 110CD STROBES WITHIN 16' OF THE PILLOW
 - 177CD STROBES, USED IN SLEEPING ROOMS, CAN BE WITHIN THE 24" (610mm) MINIMUM DISTANCE FROM THE CEILING. THE HIGHER INTENSITY IS TO COMPENSATE FOR A POSSIBLE SMOKE LAYER.



FIRE ALARM CONTROL PANEL BACKBOX INSTALLATION

SIMPLEX 4100es SERIES

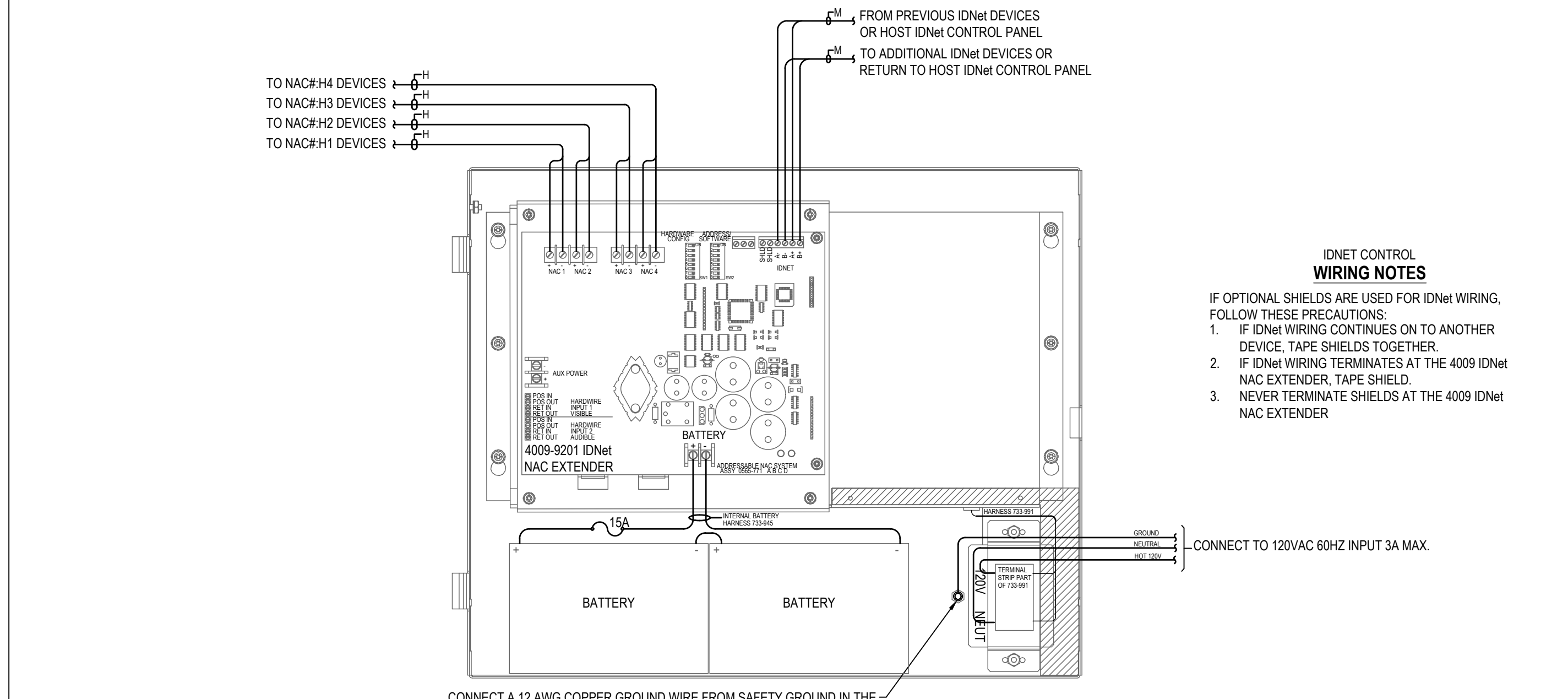


END OF LINE RESISTOR CODES

						NOTE: REFER TO PANEL/MODULE AND DEVICE INSTALLATION INSTRUCTIONS FOR PROPER TERMINATIONS.				
MODEL	REF. NUMBER	Ω	BAND NUMBER			WATTS	CIRCUIT TYPE	FIRE ALARM PANEL/MODULE		
			2K	RED	RED	GLD	N/A	1	ANNUNCIATOR (4300)	4004, 4010 (TROUBLE)
4081-9001	733-892	2.2K	RED	RED	RED	GLD	N/A	1	N.O. INITIATING PULL, SMOKE, HEAT, WATERFLOW, TAMPER, ETC.	4004*, 4008*, 4009*, 4008, 4100*, 4102, 4100U, 24M
4081-9002	733-893	3.3K	ORG	ORG	RED	GLD	N/A	1	24 PT. I/O SWITCH SUPV. CURRENT LIMITED N.O. INIT., NOTIFICATION (DACI)	4004, 4005, 4090-9001 IDNET IAM, 2190-9174 MAPNET II 2 PT. I/O 4-20MA 24V (TROUBLE)
4081-9003	733-896	4.7K	YEL	YEL	RED	GLD	N/A	1/2	NO INITIATING PULL, SMOKE, HEAT, W.FLOW, TAMPER, ETC.	4004, 4005, 4090-9001 IDNET IAM, 2190-9174 MAPNET II 2 PT. I/O 4-20MA 24V (TROUBLE)
4081-9004	733-886	6.8K	BLU	GRY	RED	GLD	N/A	1/2	CURRENT LIMITED N.O. INITIATING (INLINE)	4090-9001 IDNET IAM
4081-9005	733-984	1.8K	BRN	GRY	RED	GLD	N/A	1/2	N.C. INITIATING (EOLR)	4004, 4005, 4090-9001 IDNET IAM, 4100, 4100U
4081-9006	733-890	560	BRN	BLU	BRN	GLD	N/A	1	N.C. INITIATING (EOLR)	4004, 4005, 4090-9001 IDNET IAM, 4100, 4100U
4081-9007	733-891	1.2K	BRN	RED	RED	GLD	N/A	1	NOTIFICATION	4004, 4005, 4090-9001 IDNET IAM, 4100, 4100U
4081-9008	733-894	10K	BRN	BLK	ORG	GLD	N/A	1/2	TO MR-101 RELAY COIL	4004, 4005, 4090-9001 IDNET IAM, 4100, 4100U
4081-9009	733-912	20	RED	BLK	BLK	GLD	N/A	1	N.C. INIT. (ACROSS CONTACTS)	4004, 4005, 4090-9001 IDNET IAM, 4100, 4100U
4081-9010	733-973	1K	BRN	BLK	RED	GLD	N/A	1	24 PT. I/O (ACROSS CONTACTS)	4004, 4005, 4090-9001 IDNET IAM, 4100, 4100U
4081-9011	733-974	100	BRN	BLK	BRN	GLD	N/A	1/2	CURRENT LIMITED N.O. INIT. (IN SERIES WITH CONTACT)	4090-9001 IDNET IAM
4081-9012	733-974	100	BRN	BLK	BRN	GLD	N/A	1/2	ANNUNCIATOR (N2)	4006, 4008, 4010
4081-9012	733-985	22K	RED	RED	ORG	GLD	N/A	1/2	SPEAKER CIRCUIT	4003
4081-9013	734-086	4.5K	YEL	WHT	WHT	BRN	GLD	1/2	N.C. INITIATING (SECURITY MONITORING EOLR)	4090-9001 IDNET IAM
4081-9014	734-092	2.4K	RED	YEL	RED	GLD	N/A	1/2	CURRENT LIMITED N.O. INIT. (SECURITY MONITORING EOLR)	4090-9001 IDNET IAM
4081-9015	734-093	1.5K	BRN	GRN	RED	GLD	N/A	1/2	70VMS CONSTANT SUPV. NAC	4100-1260
4081-9016	734-149	150K	BRN	GRN	YEL	GLD	N/A	1/2	SECURITY MONITORING (EOLR)	4100, 4100U
4081-9017	734-171	3.3K	ORG	WHT	RED	GLD	N/A	1	N.O. SECURITY MON (SERIES)	4100, 4100U
4081-9018	734-180	10K	BRN	BLK	ORG	GLD	N/A	1	N.C. SECURITY MON (SHUNT)	4100, 4100U
4081-9019	734-180	10K	BRN	BLK	ORG	GLD	N/A	1		

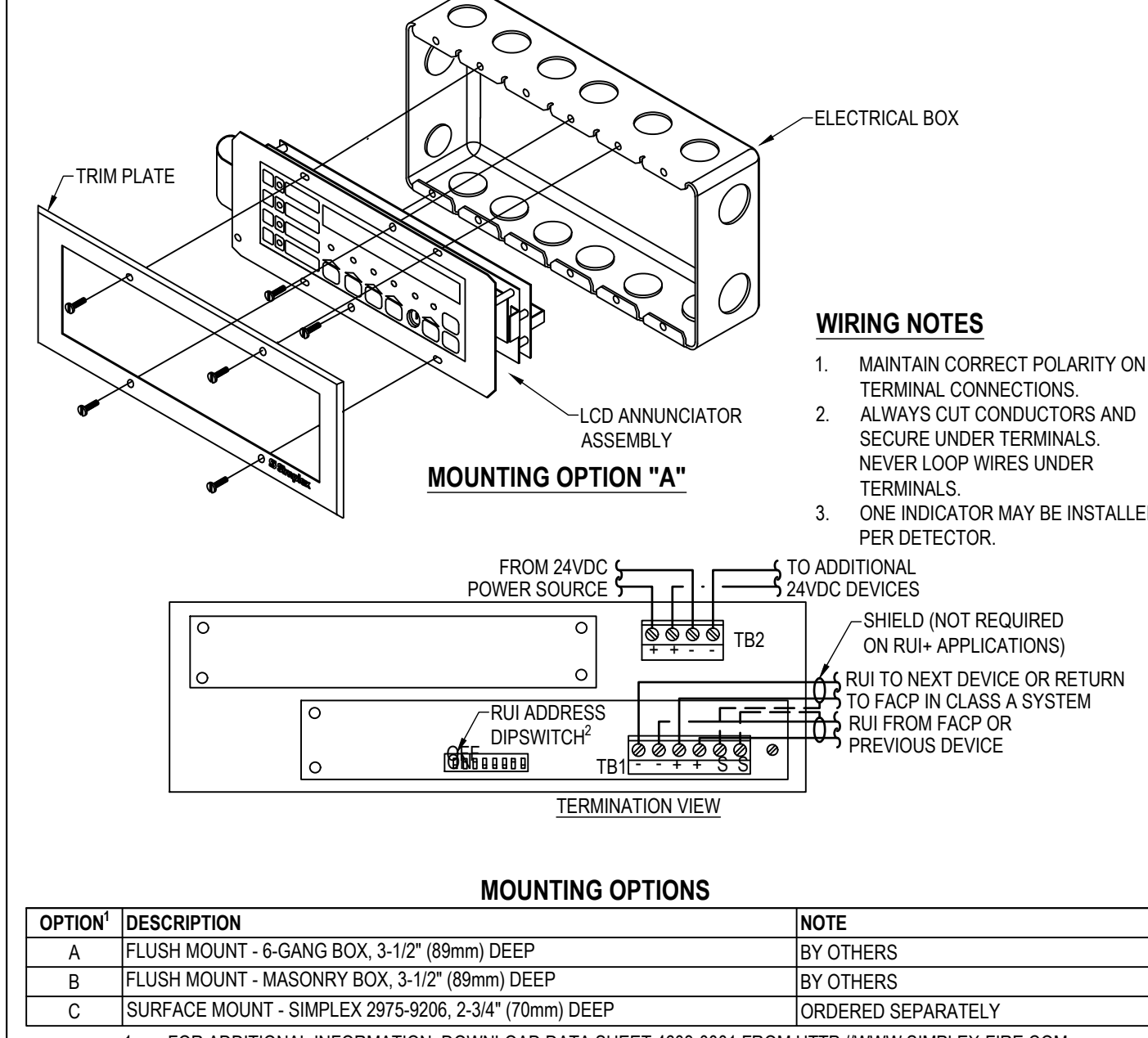
NAC EXTENDER PANEL WIRING

SIMPLEX 4009 SERIES



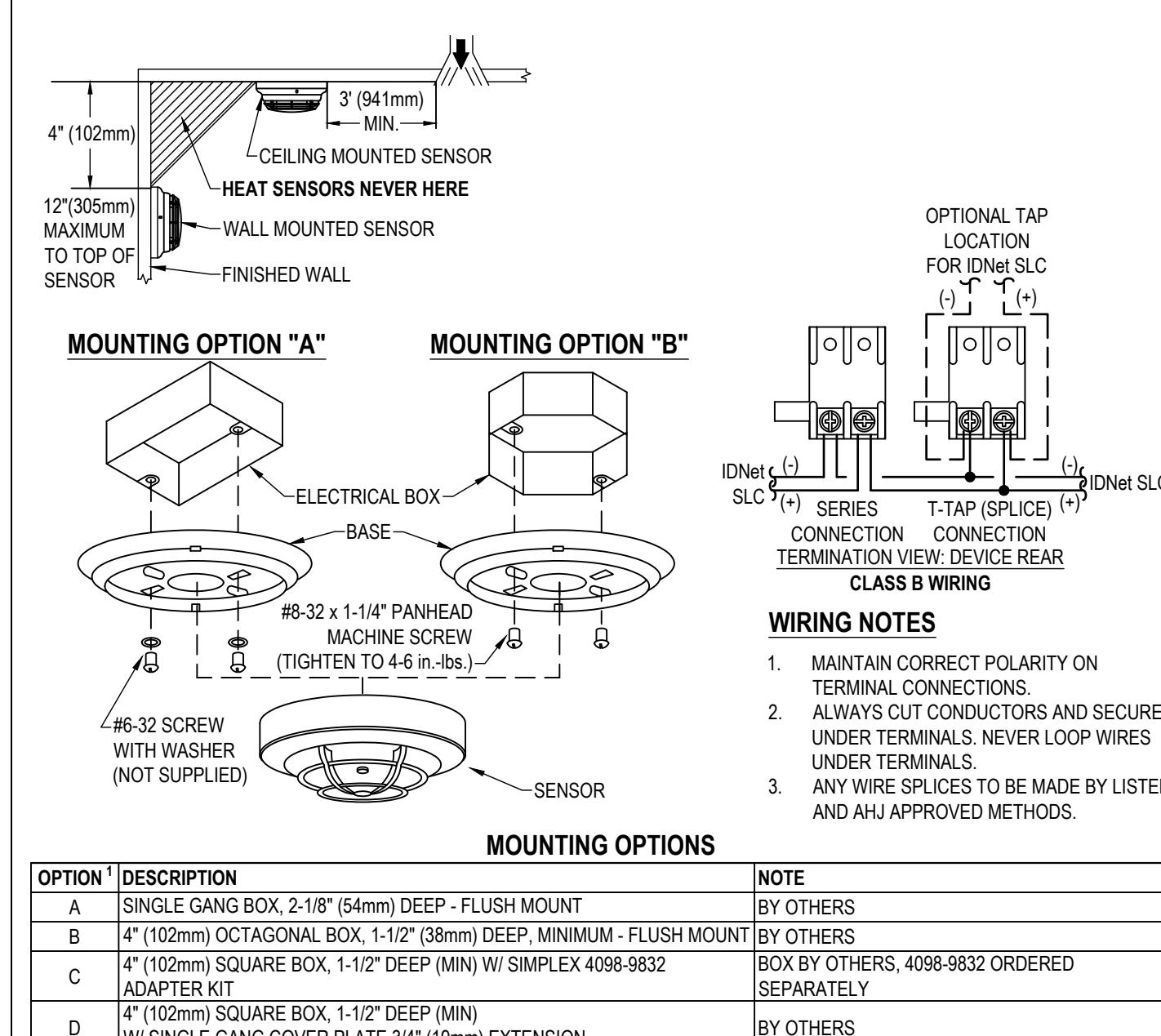
REMOTE ANNUNCIATOR

SIMPLEX 4603-9101



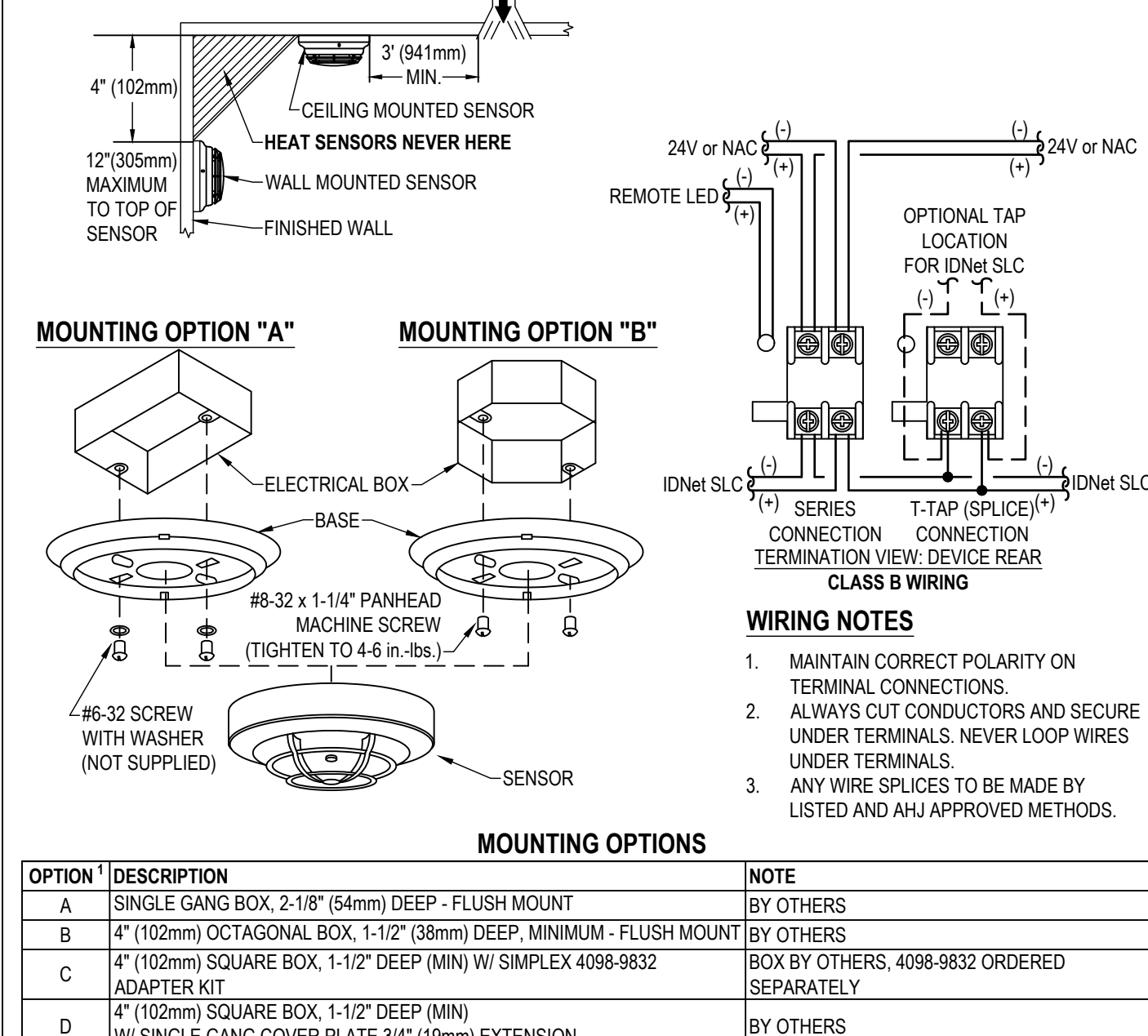
STANDARD SENSOR BASE

SIMPLEX 4098-9792



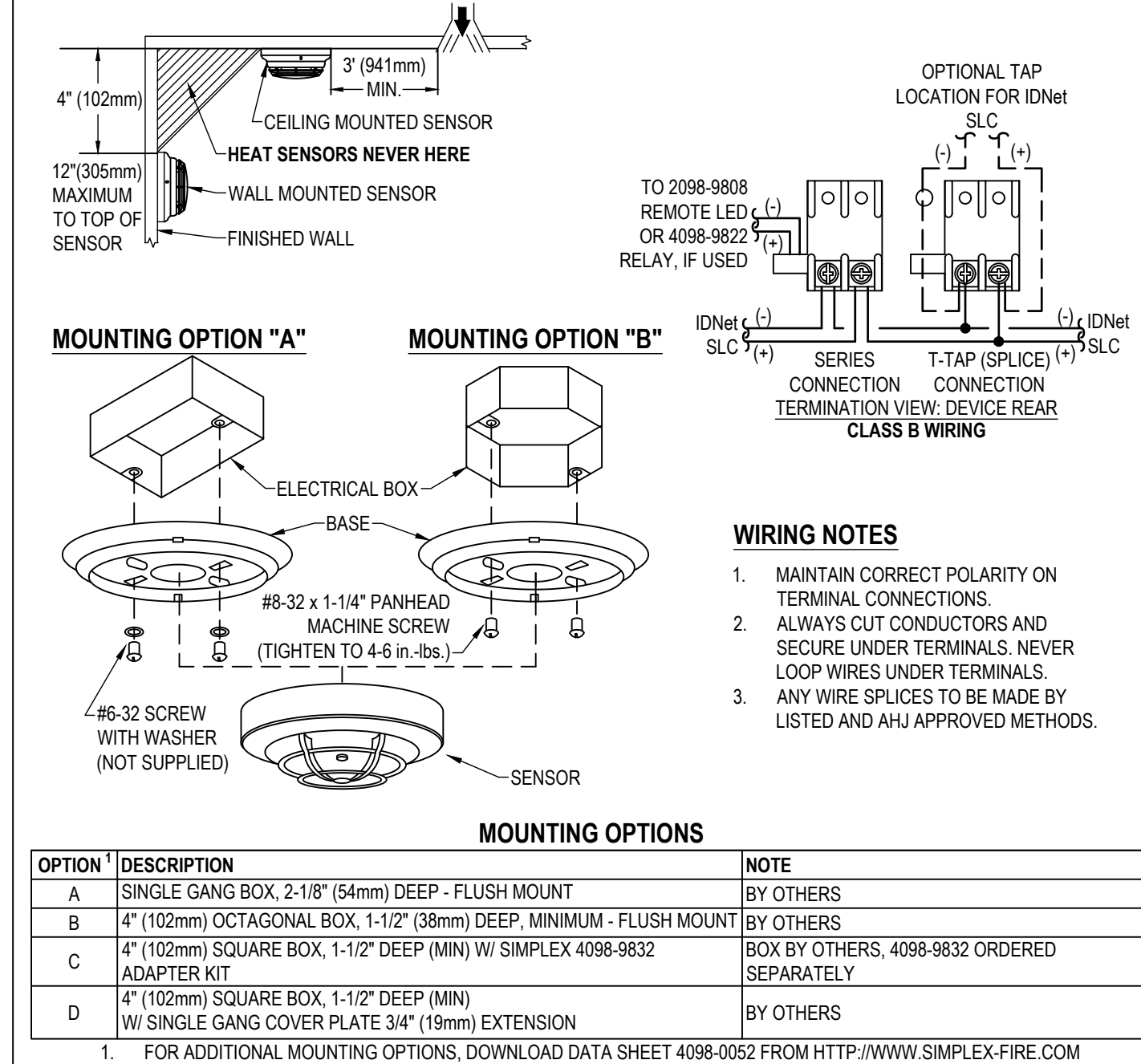
SENSOR BASE WITH 520Hz SOUNDER

SIMPLEX 4098-9772



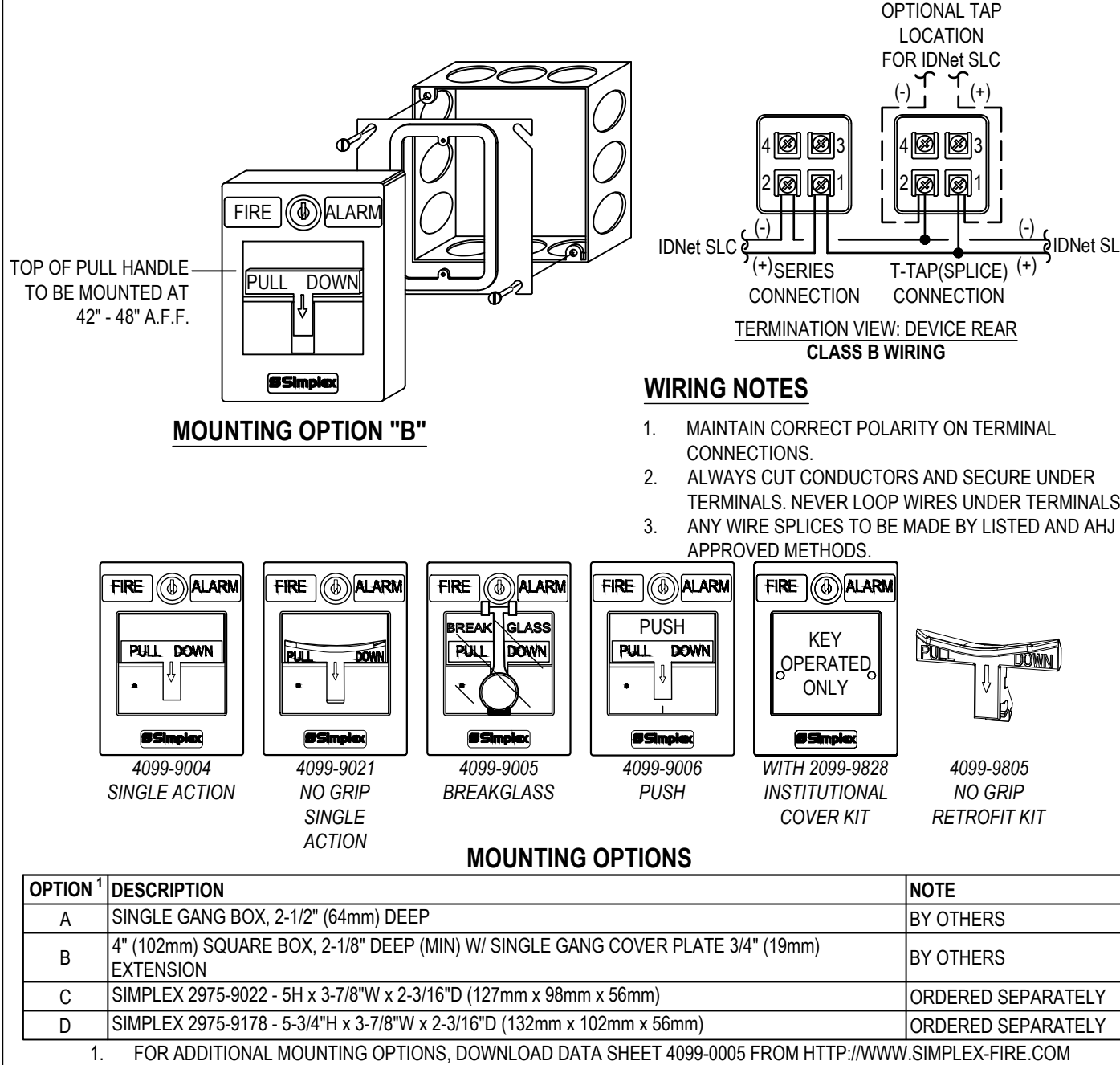
CARBON MONOXIDE SENSOR BASE

SIMPLEX 4098-9770



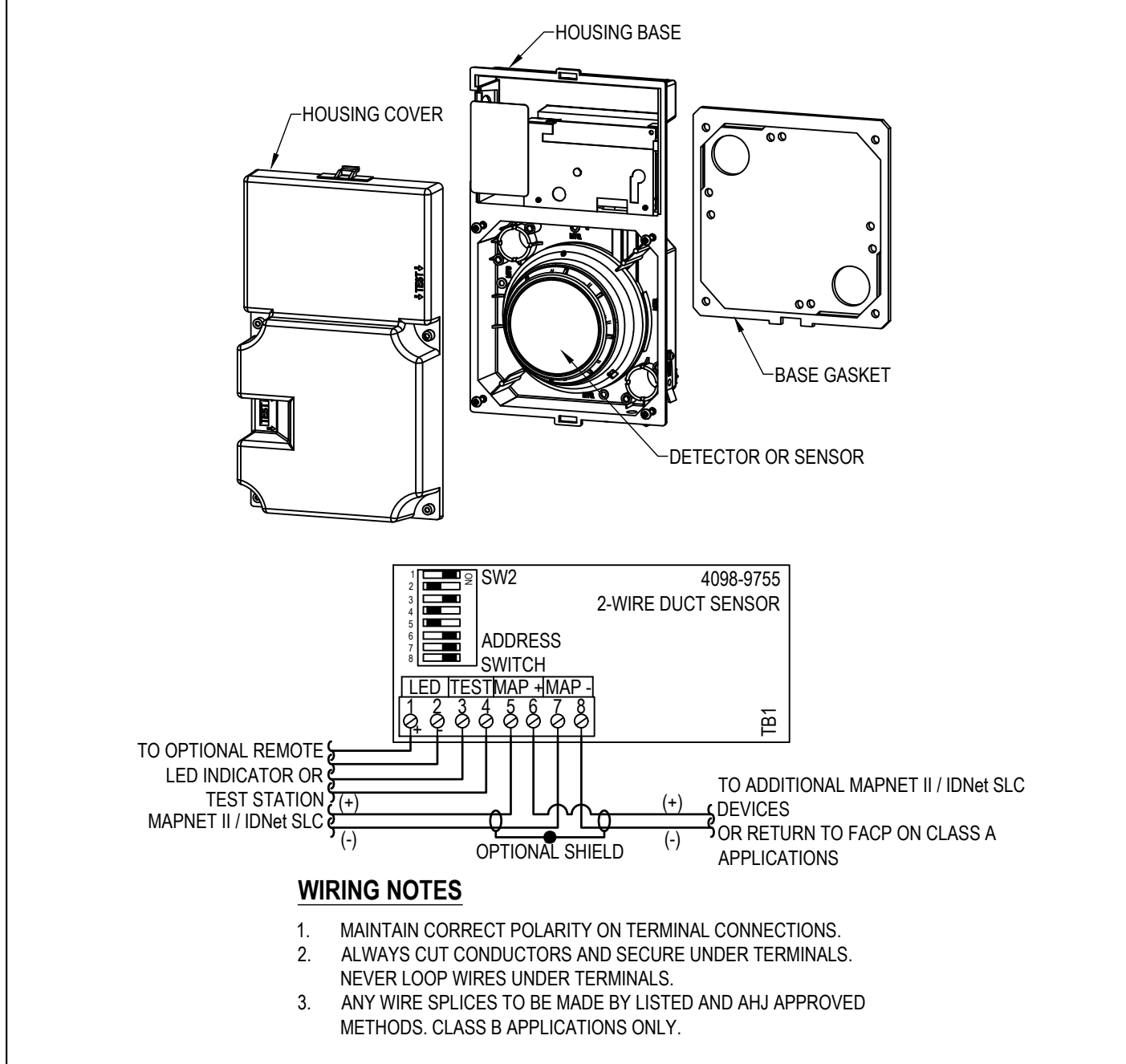
ADDRESSABLE PULL STATIONS

SIMPLEX 4099 SERIES



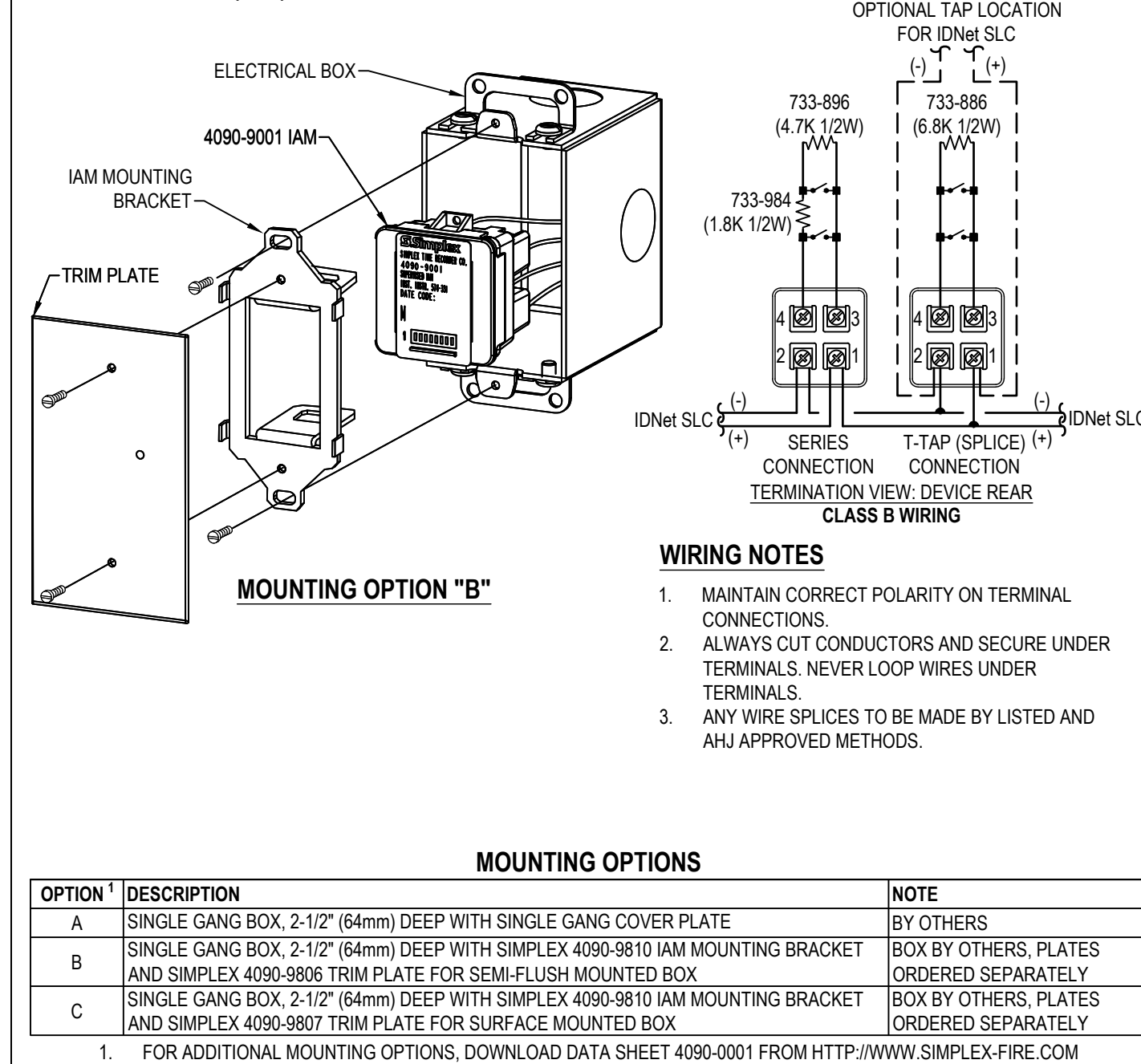
DUCT SMOKE DETECTOR

SIMPLEX 4098-9755 ANALOG 2-WIRE DUCT SENSOR



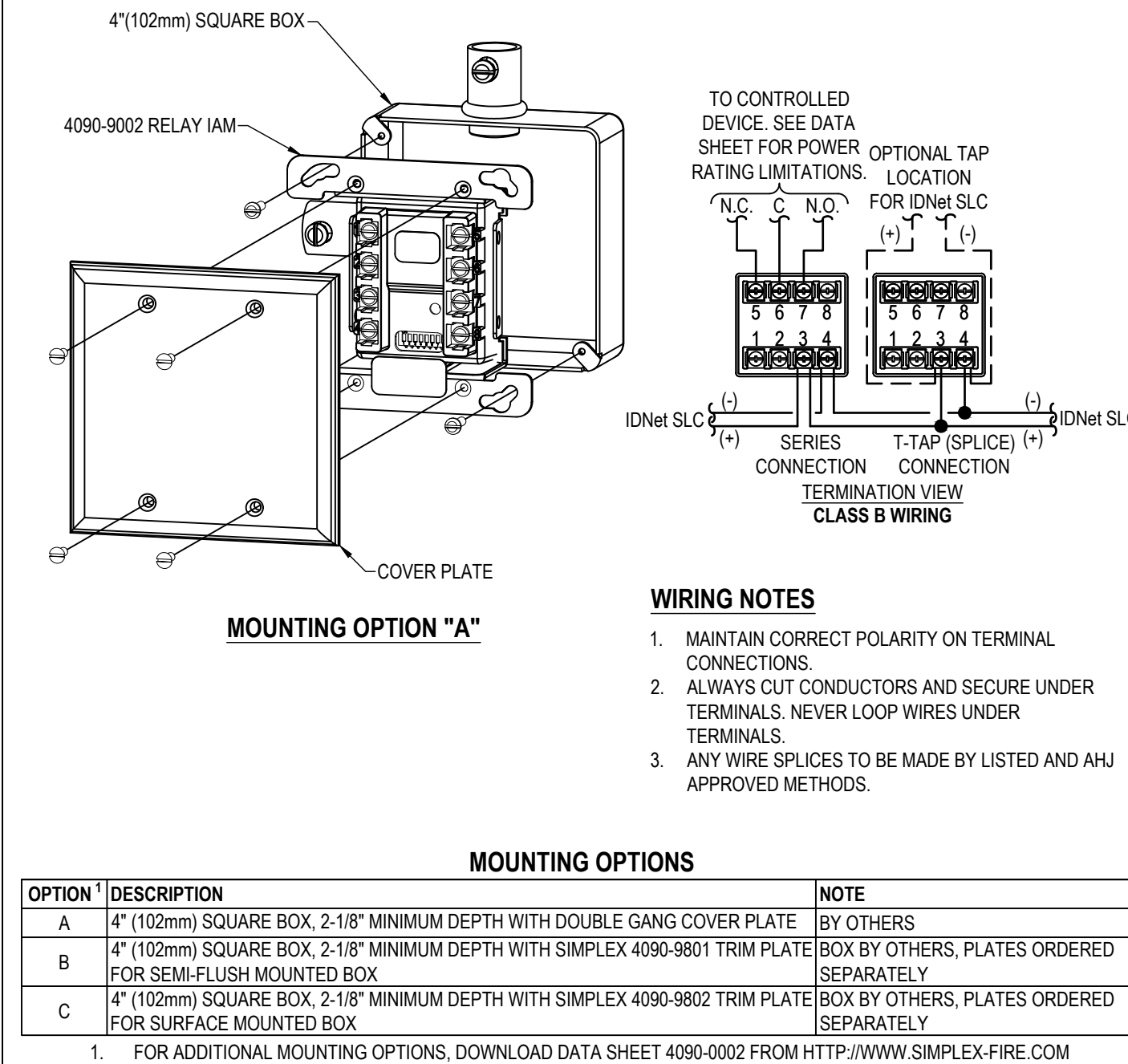
ADDRESSABLE INPUT MODULE

SIMPLEX 4090-9001 (IAM)



ADDRESSABLE RELAY MODULE

SIMPLEX 4090-9002



JOHNSON CONTROLS

JOHNSON CONTROLS, L.P. A JOHNSON CONTROLS COMPANY
11015 STRAIN LINE ROAD
LEWISVILLE, OH 44641
PHONE: 938.984.0010
FAX: 938.984.0000

RONALD A. HARMON
PE, 15494
EXPIRATION DATE: 12-31-24

JOHN KNOX VILLAGE COURTYARDS BUILDING E

JOHN KNOX VILLAGE
1001 NW CHIPMAN RD
LEE'S SUMMIT, MO 64091

ISSUE NO.	DATE	BY	CHKD	DESCRIPTION
1	10/22/2024	LEGND	LEGND	REVISION PER OWNER 04/10/2024
2	10/22/2024	LEGND	LEGND	REVISION PER OWNER 07/14/2024 ADDING SMOKE TO WALLS

DRAWN BY: MARIANO MENDEZ
CHECKED BY: TIM EUBANKS
ISSUE DATE: 6/10/24
JOB #:
PROJECT # 332-6505058
SYSTEM: FIRE ALARM SYSTEM
SHEET:

WIRING TYPICALS

FA-701

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LAST SAVED BY: JLEND
LAST PRINTED: 10/22/2024 10:52:32 AM
30" x 42" Arch E Size

DUAL CONTACT RELAY IAM

SIMPLEX 4090-9008

ELECTRICAL BOX
4090-9008 DUAL CONTACT RELAY - IAM

TO CONTROLLED DEVICES. SEE DATA SHEET FOR POWER RATING LIMITATIONS.

OPTIONAL TAP LOCATION FOR IDNet SLC

COVER PLATE

MOUNTING OPTION "A"

WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS (CLASS B ONLY).

MOUNTING OPTIONS

OPTION	DESCRIPTION	NOTE
A	4" (102mm) SQUARE BOX, 2-1/8" MINIMUM DEPTH WITH DOUBLE GANG COVER PLATE.	BY OTHERS
B	4" (102mm) SQUARE BOX, 2-1/8" MINIMUM DEPTH WITH SIMPLEX 4090-9801 TRIM PLATE FOR SEMI-FLUSH MOUNTED BOX.	BOX BY OTHERS, PLATES ORDERED SEPARATELY.
C	4" (102mm) SQUARE BOX, 2-1/8" MINIMUM DEPTH WITH SIMPLEX 4090-9802 TRIM PLATE FOR SURFACE MOUNTED BOX.	BOX BY OTHERS, PLATES ORDERED SEPARATELY.

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET S4090-0014 FROM HTTP://WWW.SIMPLEX-FIRE.COM

ADDRESSABLE RELAY MODULE

SIMPLEX 4090-9118 WITH T-SENSE

ELECTRICAL BOX
4090-9118 RELAY IAM

TO CONTROLLED DEVICE. SEE DATA SHEET FOR POWER RATING LIMITATIONS.

OPTIONAL TAP LOCATION FOR IDNet SLC

COVER PLATE

MOUNTING OPTION "B"

WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS (CLASS B ONLY).
4. T-SENSE INPUT CIRCUITS ARE NOT TO EXCEED 500 FEET. ONLY NORMALLY OPEN (N/O) DRY CONTACTS ARE ALLOWED ON THE INPUT CIRCUITS.

MOUNTING OPTIONS

OPTION	DESCRIPTION	NOTE
A	4" (102mm) SQUARE BOX, 2-1/8" MINIMUM DEPTH WITH DOUBLE GANG COVER PLATE.	BY OTHERS
B	4" (102mm) SQUARE BOX, 2-1/8" MINIMUM DEPTH WITH SIMPLEX 4090-9801 TRIM PLATE FOR SEMI-FLUSH MOUNTED BOX.	BOX BY OTHERS, PLATES ORDERED SEPARATELY.
C	4" (102mm) SQUARE BOX, 2-1/8" MINIMUM DEPTH WITH SIMPLEX 4090-9802 TRIM PLATE FOR SURFACE MOUNTED BOX.	BOX BY OTHERS, PLATES ORDERED SEPARATELY.

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET 4090-0007 FROM HTTP://WWW.SIMPLEX-FIRE.COM

TrueAlert ES ADDRESSABLE APPLIANCES

SIMPLEX 49V0 SERIES WALL MOUNTED VISUAL ONLY

IMPORTANT
DO NOT BRING THE CONDUIT THROUGH THE REAR OF THE ELECTRICAL BOX. STRIP THE LEAD INSULATION TO 7/16" MAX.

ELECTRICAL BOX

MOUNTING PLATE

CANDELA INTENSITY PLUG

TOP OF LENS: 90° (204mm) A F F MAXIMUM FOR CEILINGS < 86" (2180mm) A F F.; ≤ 6" (150mm) FROM CEILING

BOTTOM OF LENS: 80° (203mm) A F F. MINIMUM

MOUNTING OPTION "B"

WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS.

MOUNTING OPTIONS

OPTION	DESCRIPTION	NOTE
A	SINGLE GANG OR DOUBLE GANG BOX, 1-1/2" (38mm) DEEP (MIN)	BY OTHERS
B	4" (102mm) SQUARE BOX, 1-1/2" DEEP (MIN)	BY OTHERS
C	4" (102mm) SQUARE BOX, 2-1/8" (64mm) DEEP (MIN)	BY OTHERS

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET S49V0-0001 FROM HTTP://WWW.SIMPLEX-FIRE.COM

TrueAlert ES ADDRESSABLE APPLIANCES

SIMPLEX 49SV SERIES WALL MOUNTED SPEAKER / VISUAL

ENTIRE LENS: 80° (203mm) A F F. MINIMUM
90° (204mm) A F F. MAXIMUM
FOR CEILINGS < 86" (2180mm) A F F.; ≤ 6" (150mm) FROM CEILING

APPLIANCE BACKPLATE

APPLIANCE

CANDELA INTENSITY PLUG

ELECTRICAL BOX

MOUNTING OPTION "A"

IMPORTANT
DO NOT BRING THE CONDUIT THROUGH THE REAR OF THE ELECTRICAL BOX. STRIP THE LEAD INSULATION TO 7/16" MAX.

APPLIANCE COVER

OPTIONAL TAP LOCATION FOR IDNet SLC & AUDIO CIRCUIT

4100S AUDIO CIRCUIT

WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS.

MOUNTING OPTIONS

OPTION	DESCRIPTION	NOTE
A	4" (102mm) SQUARE BOX, 2-1/8" (64mm) DEEP (MIN)	BY OTHERS

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET S49SV-0001 FROM HTTP://WWW.SIMPLEX-FIRE.COM

REMOTE ALARM INDICATOR / KEY SWITCH

SIMPLEX 2098-9806

STANDARD SINGLE GANG ELECTRICAL BOX 2" X 3" 2" MINIMUM DEPTH, SUPPLIED BY ELECTRICAL CONTRACTOR.

CONNECT TO REMOTE ALARM INDICATOR (RED) LED OUTPUT OF APPROPRIATE INITIATING DEVICES.

CONNECT TO REMOTE TEST SWITCH INPUT ON APPROPRIATE INITIATING DEVICES.

WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ONE INDICATOR MAY BE INSTALLED PER DETECTOR.

MAGNETIC SEMI-FLUSH MOUNT DOOR HOLDERS

DH24120F SERIES

SINGLE GANG BOX 2-1/2" DEEP SUPPLIED BY CONTRACTOR

FROM FACE OR PREVIOUS DOOR HOLDER

TO NEXT DOOR HOLDER

WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS.

SEMI-FLUSH MOUNTING

Y = DIMENSION OF DOOR
X = DIMENSION OF DOOR JAMB TO WALL

2. REFER TO DRAWING A CHART TO LOCATE OUTLET BOX
2. INSTALL THE OUTLET BOX ON THE HORIZONTAL CENTER LINE 5" FROM TOP OF DOOR.

PARALLEL CONNECTED SURGE PROTECTOR

DITEK DTK-120HW

HARNESS FIRE ALARM CONTROL PANEL

GROUND

NEUT

TO 120VAC DEDICATED CIRCUIT

DIP SWITCH SETTINGS - INITIATING

SIMPLEX IDNet

ON

OFF

ADDRESS SHOWN ABOVE IS 120

DO NOT USE ADDRESS 0 FOR AN IDNet ADDRESS

DIP SWITCHES 5 THRU 8

NOTE: The 4098-9771, -9794, -9795, -9798 SOUNDER BASES HAVE A 9-POSITION DIP SWITCH. THE FIRST EIGHT DIP SWITCHES SET THE SOUNDER BASE ADDRESS. DIP SWITCH POSITION 9 IS SET TO OFF OR ON DEPENDING UPON THE SOUNDER BASE POWER SOURCE. WHEN THE SOUNDER BASE IS CONNECTED TO A 24 VDC POWER SOURCE, DIP SWITCH POSITION 9 IS SET TO "OFF" AND THE 24 VDC POWER IS SUPERVISED BY THE SOUNDER BASE. WHEN THE SOUNDER BASE IS POWERED BY THE PANEL'S NOTIFICATION APPLIANCE CIRCUIT (NAC), DIP SWITCH POSITION 9 IS SET TO "ON" AND THE POWER IS SUPERVISED BY THE NAC AND NOT THE SOUNDER BASE. THE 4098-9775 AND -9797 BASES HAVE THE SAME LAYOUT, BUT DO NOT OFFER SOUNDER FUNCTIONALITY. THEY USE AN 8-WAY DIP SWITCH ONLY.

DIP SWITCH SETTINGS - NOTIFICATION

SIMPLEX TRUEALERT ES / IDNet

ON

OFF

ADDRESS SHOWN ABOVE IS 2

DO NOT USE ADDRESS 0 FOR A SLC ADDRESS

DIP SWITCHES 5 THRU 8

COMMUNICATIONS DIP SWITCH SETTINGS

SIMPLEX RUI (REMOTE UNIT INTERFACE)

ON

OFF

ADDRESS SHOWN ABOVE IS 56

DO NOT USE ADDRESS 0 FOR A RUI ADDRESS

DIP SWITCHES 1 THRU 4

DIP SWITCHES 5 THRU 8

DUCT SMOKE DETECTOR INSTALLATION GUIDE

PRE-INSTALLATION ROUTINES

DUCT DETECTOR/SENSOR SHOULD BE INSTALLED IN A LOCATION OF RELATIVELY NON-TURBULENT AIR FLOW AND WITHIN THE INTENDED OPERATING VELOCITY RANGE OF 300-400 FEET-PER-MINUTE (91 TO 1220 MM/M).

MEASUREMENTS OF AIR FLOW AND EXAMINATION OF ENGINEERING SPECIFICATIONS THAT DEFINE EXPECTED DUCT AIR VELOCITIES UNDER ALL CONDITIONS IS RECOMMENDED. THIS IS DONE TO DETERMINE IF A LOCATION IS SUITABLE FOR DETECTOR/SENSOR OPERATION. AN ANOM INSTRUMENT CO. (CHICAGO) MODEL 3000P VELOMETER OR EQUIVALENT (NOT SUPPLIED) MAY BE USED TO CHECK THE DUCT AIR VELOCITY.

INSTALLATION GUIDELINES

1. LOCATE DUCT HOUSINGS SO THAT DAMPERS DO NOT RESTRICT AIR FLOW AT THE DETECTOR/SENSOR LOCATION. SEE FIGURE 1.
2. LOCATE AIR DUCT DETECTOR/SENSORS ON THE RETURN OR SUPPLY DUCT OF THE EQUIPMENT'S AIR HANDLING SYSTEM. HOWEVER, DETECTOR/SENSORS SHOULD NOT BE INSTALLED IN THE RETURN AIR DAMPER BRANCH. SEE FIGURE 1.
3. LOCATE AIR DUCT DETECTOR/SENSORS ON BRANCH LINES IF CLOSE IDENTIFICATION OF THE ALARM SOURCE IS REQUIRED.
4. LOCATE AIR DUCT DETECTOR/SENSORS ON THE DOWNSTREAM SIDE OF FILTERS TO SENSE FIRE IN FILTERS. HOWEVER, SHOULD THE FILTERS BLOCK SUFFICIENT AIR FLOW MAY NOT BE AVAILABLE FOR PROPER AIR DUCT DETECTOR/SENSOR OPERATION. SEE FIGURE 1.
5. WHENEVER POSSIBLE LOCATE AIR DUCT DETECTOR/SENSORS WHERE THEY CAN BE CONVENIENTLY OBSERVED AND READILY SERVICED.
6. LOCATE THE AIR DUCT DETECTOR/SENSORS IN RETURN AIR DUCTS AHEAD OF MIXING AREAS.
7. DO NOT LOCATE AIR DUCT DETECTOR/SENSORS NEXT TO OUTSIDE AIR INLETS UNLESS YOU WANT TO MONITOR SMOKE ENTRY TO THE HANDLING SYSTEM FROM AN ADJACENT AREA.
8. LOCATE AIR DUCT DETECTOR/SENSORS UPSTREAM OF AIR HUMIDIFIERS AND COOLING COILS.
9. DO NOT INSTALL THE DUCT DETECTOR HOUSING OR DUCT TUBES IN LOCATIONS THAT EXCEED THE LISTED TEMPERATURE RATINGS FOR THE DEVICE.
10. DO NOT MOUNT THE DUCT HOUSING ON BOTTOM OF DUCT.

DUCT DETECTOR/SENSOR INSTALLATION

1. TAPE THE TEMPLATE SUPPLIED ON THE DUCT SURFACE. DO NOT POSITION THE TEMPLATE WITH EDGES ANGLED WITH RESPECT TO AIR FLOW DIRECTION. SEE FIGURE 2.
2. DRILL TWO 1/4 INCH (31.75 MM) HOLES (MARKED "A") AS LOCATED BY THE TEMPLATE. REMOVE TEMPLATE AFTER HOLES HAVE BEEN DRILLED.
3. IF THE DUCT IS MORE THAN 3 FEET (0.91 M) WIDE, THEN PUNCH A 1-INCH (25.4 MM) HOLE IN THE DUCT WALL DIRECTLY OPPOSITE THE UPSTREAM 1/4 INCH (31.75 MM) HOLE. SEE FIGURE 3. THIS HOLE IS USED TO SUPPORT THE INLET TUBE.
4. INLET TUBES SHOULD BE SELECTED AND CUT TO LENGTH AS SPECIFIED IN TABLE 1. AFTER TRIMMING THE SLOT, TAP RUBBER PLUG (SUPPLIED) INTO THE TRIMMED END. SEE FIGURE 3.

EXHAUST DAMPER

EXHAUST AIR

DO NOT LOCATE DETECTOR/SENSOR HERE

RETURN AIR DAMPER

RETURN AIR

FRESH AIR INTAKE

DO NOT LOCATE DETECTOR/SENSOR HERE

FILTER BANK

DETECTOR/SENSOR

SUPPLY AIR

FIGURE 1: DUCT HOUSING PLACEMENT - LOCATION OF DAMPERS**

FIGURE 2: TEMPLATE POSITIONING

FIGURE 3: INLET TUBE ORIENTATION

FIGURE 4: INLET TUBE INSTALLATION

INLET TUBE SELECTION

OVERALL DUCT WIDTH	TUBE REQUIRED	TUBE TYPE	SUGGESTED TOTAL LENGTH
12" (30cm)	4098-9854	13" (33.02cm)	1/2" (1.27cm) LONGER THAN DUCT WIDTH
13" (33.02cm) TO 23" (58cm)	4098-9855	24" (60.96cm)	1/2" (1.27cm) LONGER THAN DUCT WIDTH
24" (60cm) TO 46" (116cm)	4098-9856	46" (125.4cm)	2" (5.08cm) LONGER THAN DUCT WIDTH
46" (116cm) TO 71" (180cm)	4098-9857	73" (185cm)	2" (5.08cm) LONGER THAN DUCT WIDTH
71" (180cm) TO 95" (240cm)	4098-9858	97" (245cm)	2" (5.08cm) LONGER THAN DUCT WIDTH

TABLE 1: INLET TUBE SELECTION

* REFER TO INSTALLATION INSTRUCTION DOCUMENT 574-776 FOR MORE DETAILED INFORMATION.

** WHEN PROVIDING CONTROL FOR A SMOKE DAMPER INSTALLED WITHIN AN AIR TRANSFER OPENING IN A WALL, THE DUCT DETECTOR SHALL BE INSTALLED WITHIN 9 FEET HORIZONTALLY OF THE DAMPER.

DETECTOR LOCATION REQUIREMENTS FOR WALL SECTIONS AND DOORS

NFPA 72

DEPTH OF WALL SECTION ABOVE DOOR

DOOR FRAME MOUNTED

CEILING MOUNTED

Detector location(s)

On centerline of doorway

Door offset from centerline of doorway

On centerline of doorway

Double door

On centerline of separation

On centerline of each doorway

On centerline of center door opening

Treat as two or more groups

Treat as two or more groups

Treat as two or more groups

JOHNSON Controls

JOHN KNOX VILLAGE COURTYARDS BUILDING E

JOHN KNOX VILLAGE
1001 NW CHIPMAN RD
LEE'S SUMMIT, MO 64081

ISSUE LOG

NO.	DATE	BY	DESCRIPTION
1	10/22/2024	JMS	REVISION PER DOCUMENT 574-776 ADDING DIMENSIONS TO WALLS
2	10/22/2024	JMS	

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WIRING TYPICALS

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