Johnson Controls Fire Protection
11019 Strang Line Road
Lenexa, Kansas 66215
(913) 894-0010
www.JohnsonControls.com

RE: Saint Lukes East Lees Summit
100 Northeast St. Lukes Bl
Lees Summit, MO 64086

The following changes were made to the Fire Alarm Drawings:
Added Battery Calculations

Carla Fratzel
Project Manager
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SLE NUCLEAR MEDICINE SPECT CT

FIRE ALARM SYSTEM

Johnson Controls

DRAWING INDEX

LEGENDS

FIRE ALARM SYMBOL LEGEND

SYMBOL	DESCRIPTION	BRAND	MODEL	BACKBOX	WIRE TYPE
INITIATING DEVICES					
S (hexagon)	ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
S (hexagon) R	ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ 4-WIRE RELAY BASE	SIMPLEX	4098-9714 HEAD 4098-9791 BASE	4" OCT, 1-1/2" D	M P
	SUPERVISED RELAY	SIMPLEX	2098-9737	MOUNTS IN BASE BOX	R
NOTIFICATION APPLIANCES ** TAP ALL SPEAKERS AT 70.7 VOLTS **					
#W #	SPEAKER/STROBE,WALL, RED, FIRE	SIMPLEX	EXISTING	EXISTING BACKBOX	S
#	STROBE ,WALL, RED, FIRE	SIMPLEX	EXISTING	EXISTING BACKBOX	A

FIRE ALARM WIRE LEGEND

	CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	FPLR	FPLP	THHN	TFFN	OUTDOOR **	C.I.
					ACCEPTABLE CABLE TYPES					
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pf/ft. MAX CAPACITANCE; 3 twists/ft. MINIMUM	X	X				
M	IDNET	UTP SOLID	18 AWG	60µF MAX TOTAL LINE CAPACITANCE	X	X				
P	POWER	2 COND. SOLID	14 AWG		X	X	X	X		
R	RELAY	2 COND. SOLID	14 AWG		X	X	X	X		
S	AUDIO - SPEAKER	STP SOLID	18 AWG	30pf/ft. MAX CAPACITANCE RECOMMENDED	X	X				

CONDUIT SIZE	MAX CONDUCTOR AREA	CONDUIT SIZE	MAX CONDUCTOR AREA
1/2"	0.122 SQ. INCH*	1-1/4"	0.598 SQ INCH*
3/4"	0.213 SQ INCH*	1-1/2"	0.814 SQ INCH*
1"	0.346 SQ INCH*	2"	1.342 SQ INCH*

* 40% CONDUIT FILL PER N.E.C.

STP = SHIELDED TWISTED PAIR

ITEMS SUCH AS CAPACITANCE BETWEEN CONDUCTORS AND WIRE GAUGE CAN BE CRUCIAL TO THE CIRCUIT DESIGN OF THIS SYSTEM INSTALLATION. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR SELECTING AND INSTALLING CABLE MANUFACTURER AND MODEL THAT MEETS OR EXCEEDS THE ABOVE REQUIREMENTS. RECOMMENDED CABLE MANUFACTURERS AND MODEL NUMBERS ARE AVAILABLE UPON REQUEST.

APPLICABLE CODES & STANDARDS

INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION

INTERNATIONAL FIRE CODE (IFC), 2018 EDITION

NATIONAL FIRE ALARM AND SIGNALING CODE (NFPA 72), 2016 EDITION

NATIONAL ELECTRIC CODE (NFPA 70), 2017 EDITION

OCCUPANCY TYPE(S):
B BUSINESS GROUP

SPRINKLER PROTECTION:
BUILDING IS FULLY SPRINKLED

JOHNSON CONTROLS CONTACTS

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Drawings Prepared By

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Drawings Reviewed By

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SCOPE OF WORK

MODIFY EXISTING FIRE ALARM SYSTEM: PROVIDE NEW DEVICES, RELOCATE AND DEMO EXISTING DEVICES AS SHOWN ON DRAWINGS.

ALL NEW WIRING TO BE CLASS B.

VERIFY ALL CIRCUITS, LOADS, AND ADDRESSES INCLUDING EXISTING AND RELOCATED DEVICES TO WHICH NEW DEVICES ARE CONNECTED. DOCUMENT INFORMATION ON PLANS AND CALCULATIONS.

THE EXISTING FIRE ALARM SYSTEM SHALL NOT BE DISCONNECTED OR TAKEN OUT OF SERVICE WITHOUT WRITTEN PERMISSION FROM THE OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE OWNER THE TIMING OF ANY EXISTING FIRE ALARM SYSTEM DEMOLITION WORK.

DESIGN STATEMENT

THIS PROJECT'S DESIGN IS BASED ON THE ENGINEERED PLANS BY ACI BOLAND ARCHITECTS DATED 04/07/2023

PROJECT DIRECTORY

Site

ST. LUKES HOSPITAL
100 NE SAINT LUKE'S BLVD
LEE'S SUMMIT, MO 64086

Johnson Controls District - 332

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LENEXA, KS 66215
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Engineer Of Record

ACI/BOLAND, INC
1710 WYANDOTTE
KANSAS CITY, MO 64108

Installer

SHAW ELECTRIC COMPANY
3600 FULLER AVE
KANSAS CITY, MO 64129

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
FBO = FURNISHED BY OTHERS
FCC = 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
N/A = 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 = TRUEALERT ADDRESSABLE CONTROLLER
TOS = TOP OF SHAFT
TRBL = TROUBLE
TS = TAMPER SWITCH
TYP = TYPICAL
UON = 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

DEVICE TAG LEGEND

1:T2:A2-1(E1:1)

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

CIRCUIT DESIGNATOR
- A# = IDNAC[1] 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
- (#) = IDNAC BRANCH NUMBER
- (E#:#) = EPR[2] NUMBER:BRANCH NUMBER

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

EXISTING SYSTEM SEQUENCE OF OPERATIONS

SYSTEM OUTPUTS

- A: ACTUATE COMMON ALARM SIGNAL INDICATOR
- B: ACTUATE AUDIBLE ALARM SIGNAL
- C: ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR
- D: ACTUATE AUDIBLE SUPERVISORY SIGNAL
- E: ACTUATE COMMON TROUBLE SIGNAL INDICATOR
- F: ACTUATE AUDIBLE TROUBLE SIGNAL
- G: ACTUATE APPROPRIATE LOCATION INDICATOR
- H: ACTUATE ALL AUDIBLE EVACUATION SIGNALS
- I: ACTUATE ALL VISIBLE EVACUATION SIGNALS
- K: DISPLAY CHANGE OF STATUS
- L: TRANSMIT ALARM SIGNAL TO SUPERVISING STATION
- M: TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION
- N: TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION
- P: RELEASE MANGNETICALLY HELD SMOKE DOORS
- Q: ACTIVATE INPUT TO NURSE CALL

	SYSTEM INPUTS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
		CTRL UNIT ANNUNCIATION							NOTIFICATION							FIRE SAFETY CONTROL					
1	SMOKE SENSOR/DETECTOR	X	X					X	X	X		X	X								
2	SMOKE SENSOR/DETECTOR BY DOOR HOLDERS	X	X					X	X	X		X	X				X	X			
3	SMOKE SENSOR/DETECTOR IN PATIENT ROOM	X	X					X	X	X		X	X								
4	FIRE ALARM AC POWER FAILURE					X	X					X			X						
5	FIRE ALARM SYSTEM LOW BATTERY					X	X					X			X						
6	OPEN CIRCUIT OR GROUND FAULT					X	X					X			X						
7	CLASS B NOTIFICATION (NAC) - SHORT					X	X					X			X						

(FOR REFERENCE ONLY - MAINTAIN EXISTING SEQUENCE OF OPERATION)

GENERAL NOTES

1. 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.
2. 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.
3. 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.
4. A STAMPED SET OF APPROVED FIRE ALARM DRAWINGS SHALL BE AT THE JOB SITE AND SHALL BE USED FOR INSTALLATION.
5. 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.
6. 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.
7. THE CONTRACTOR WILL MAINTAIN ALL AREAS OF THE BUILDING IN A NEAT AND WORKMANLIKE MANNER.
8. DO NOT APPLY POWER EXCEPT IN THE PRESENCE OF A FACTORY TRAINED JOHNSON CONTROLS TECHNICAL REPRESENTATIVE.
9. 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.
10. 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.
11. 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.
12. ALL WIRING SHALL BE INSTALLED ACCORDING TO APPLICABLE ELECTRICAL CODES.
13. 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.
14. FIRE ALARM CABLE INSTALLED IN DUCTS, PLENUM, AND OTHER SPACES USED FOR ENVIRONMENTAL AIR SHALL BE TYPE FPLP.
15. FIRE ALARM CABLE INSTALLED IN THE VERTICAL RUNS AND PENETRATING MORE THAN ONE FLOOR OR CABLES INSTALLED IN VERTICAL RUNS IN SHAFTS SHALL BE TYPE FPLR.
16. FIRE ALARM CABLE INSTALLED IN UNDERGROUND CONDUIT OR OTHER WET LOCATIONS SHALL BE UL LISTED FOR WET LOCATIONS.
17. FIRE ALARM CIRCUITS EXTENDING BEYOND ONE BUILDING AND RUN OUTDOORS SHALL BE INSTALLED IN ACCORDANCE APPLICABLE ELECTRICAL CODES, WHERE APPLICABLE.
18. ALL WIRING, INCLUDING SHIELDS MUST BE DRY AND FREE OF SHORTS AND GROUNDS.
19. ALL SHIELDED WIRE MUST HAVE SHIELD CONTINUITY AT FULL LENGTH OF THE WIRE.
20. ONLY SYSTEM WIRING CAN BE RUN IN THE SAME CONDUIT.
21. 120VAC IS NOT PERMITTED IN THE SAME CONDUIT WITH LOW VOLTAGE WIRING.
22. MAINTAIN MAXIMUM CONDUIT FILL RATIO AS PER APPLICABLE ELECTRICAL CODES REQUIREMENTS.
23. 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.

LAST SAVED BY: JEUBANTI
LAST PRINTED: 8/29/2023 8:21:38 AM
30" x 42" - Arch E1 Size

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STATE OF MISSOURI
JOHN WILLIAM CASBURN, JR.
NUMBER E-14378
PROFESSIONAL ENGINEER
8/22/23

SLE NUCLEAR MEDICINE SPECT CT

ST. LUKES HOSPITAL
100 NE SAINT LUKE'S BLVD
LEE'S SUMMIT, MO 64086

Revisions shown with # symbol

ISSUE LOG:

MARK	DATE	CAD	CHK	DESCRIPTION
1	8-22-23	TLE	CF	ADDED CALCULATIONS GENERATED FROM PANEL EXPORT

DRAWN BY:	MM
CHECKED BY:	.TLE
ISSUE DATE:	7/17/23
JOB #:	
PROJECT #:	332:650400519

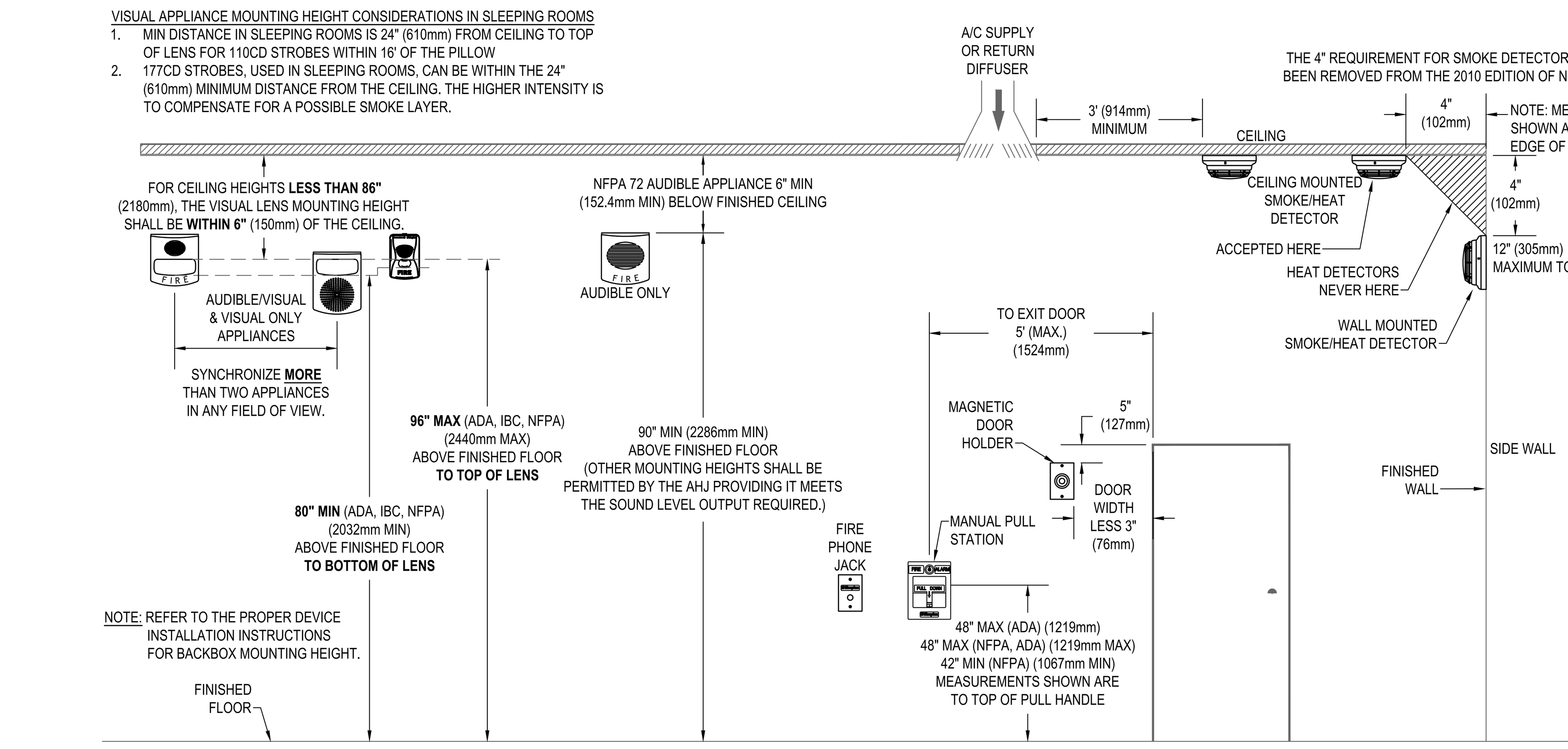
SYSTEM: **FIRE ALARM SYSTEM**

SHEET: **COVER SHEET**

FA-001

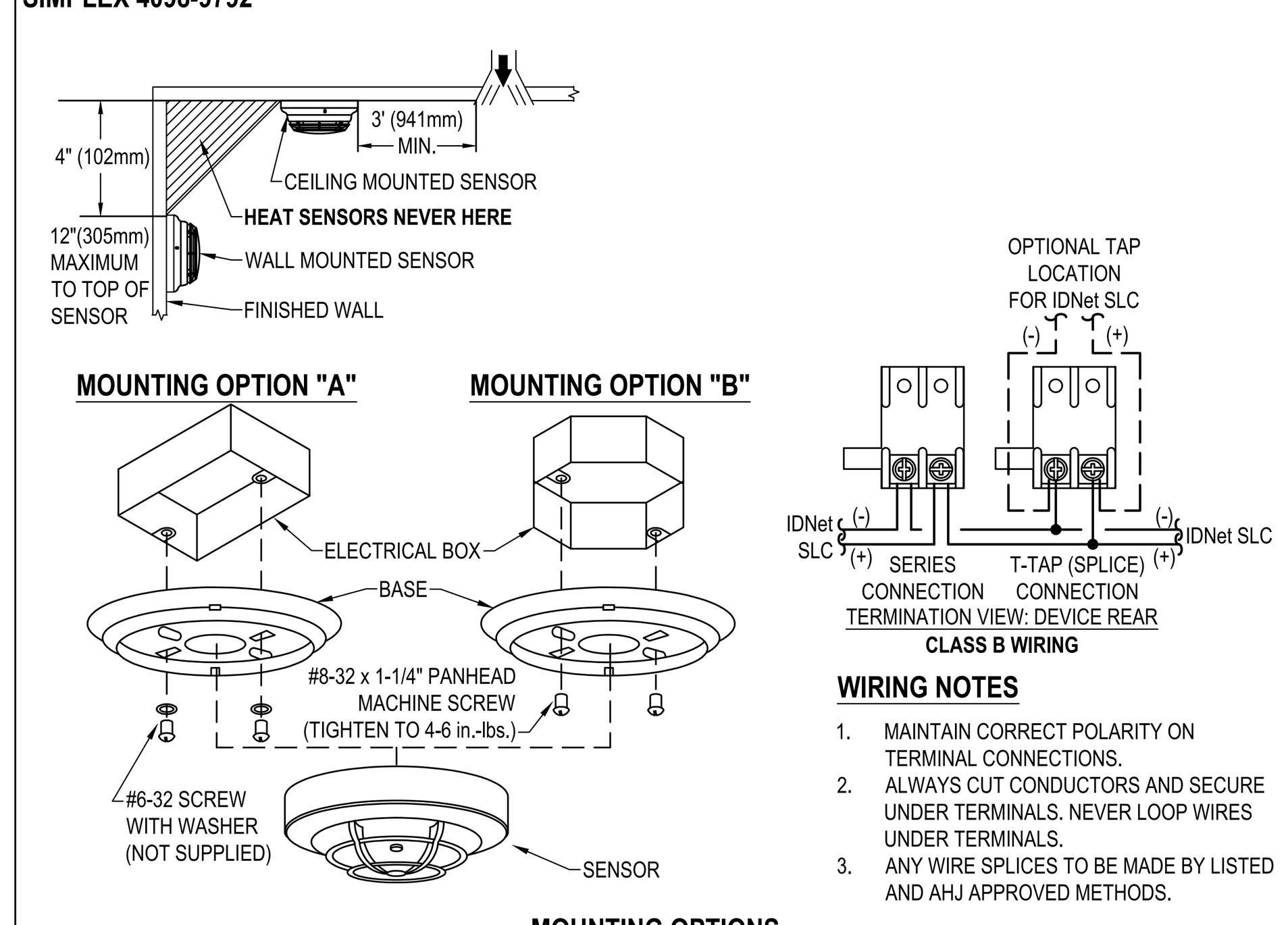
DEVICE MOUNTING HEIGHT REFERENCE

PER NFPA 72



STANDARD SENSOR BASE

SIMPLEX 4098-9792



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.

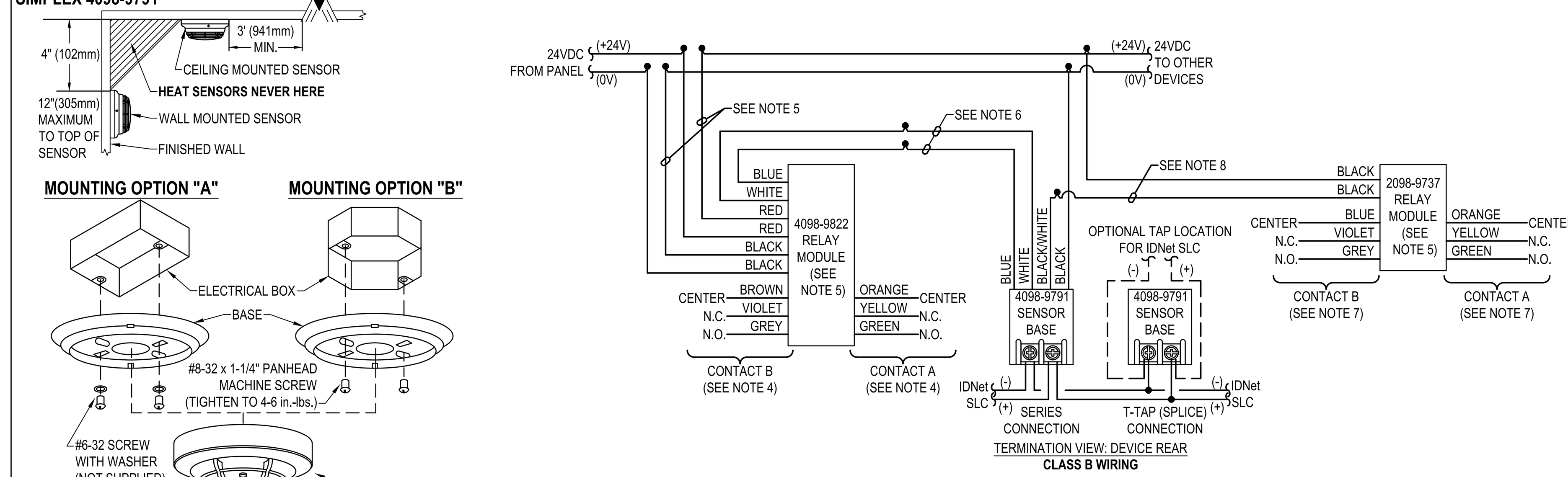
MOUNTING OPTIONS

OPTION [1]	DESCRIPTION	NOTE
A	SINGLE GANG BOX, 2-1/8" (54mm) DEEP - FLUSH MOUNT	BY OTHERS
B	4" (102mm) OCTAGONAL BOX, 1-1/2" (38mm) DEEP, MINIMUM - FLUSH MOUNT	BY OTHERS
C	4" (102mm) SQUARE BOX, 1-1/2" DEEP (MIN) W/ SIMPLEX 4098-9832 ADAPTER KIT	BOX BY OTHERS, 4098-9832 ORDERED SEPARATELY
D	4" (102mm) SQUARE BOX, 1-1/2" DEEP (MIN) W/ SINGLE GANG COVER PLATE 3/4" (19mm) EXTENSION	BY OTHERS

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET 4098-0019 FROM HTTP://WWW.SIMPLEX-FIRE.COM

SENSOR BASE WITH RELAY

SIMPLEX 4098-9791



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D	4" (102mm) SQUARE BOX, 1-1/2" DEEP (MIN) W/ SINGLE GANG COVER PLATE 3/4" (19mm) EXTENSION	BY OTHERS

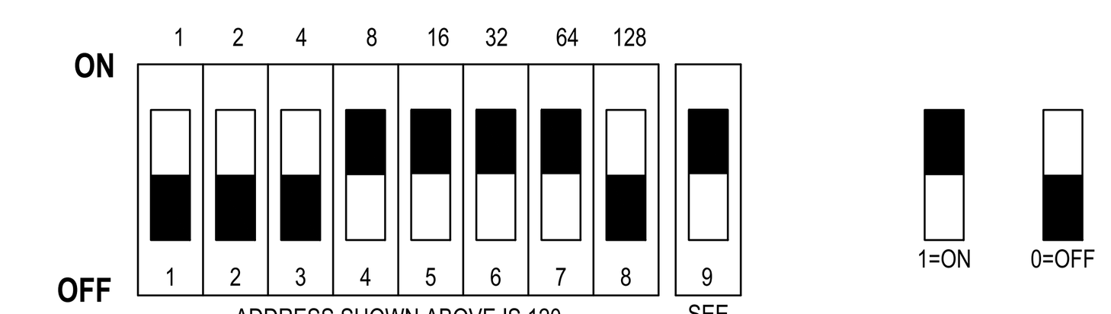
1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET 4098-0019 FROM HTTP://WWW.SIMPLEX-FIRE.COM
2. SENSOR BASES WITH RELAY MODULES 2098-9737 AND 4098-9822 REQUIRE A 1.5 INCH EXTENSION RING MOUNTED TO THE 4-INCH SQUARE OR OCTAGONAL ELECTRICAL BOX (RELAY MODULE(S) CANNOT BE USED IN SINGLE-GANG ELECTRICAL BOX INSTALLATIONS) TO MEET THE SPACE REQUIREMENT OF THE RELAY CUBE AND ITS WIRES. THE RELAY MODULE 4098-9822 MUST BE INSTALLED IN THE ELECTRICAL BOX DIRECTLY.

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.
4. CONTACT A OR B: DRY, FORM C - EACH RATED 2A AT 24VDC / 0.5A AT 110VAC, RESISTIVE.
5. 18 VDC TO 32 VDC, 0.008 A TYPICAL / 0.013 A MAXIMUM
6. DO NOT USE REMOTE LED IF THE 4098-9822 RELAY MODULE IS USED.
7. CONTACT A OR B, DRY, FORM C - EACH RATED AT 3A AT 28VDC / 115VAC, RESISTIVE.
8. MAXIMUM WIRE LENGTH BETWEEN 4098-9791 SENSOR BASE AND 2098-9737 RELAY MODULE IS 100 FT. THE 2098-9737 RELAY MODULE IS REQUIRED FOR SUPERVISED REMOTE CONTROL RELAY OPERATION.

DIP SWITCH SETTINGS - INITIATING

SIMPLEX IDNet



ADDRESS SHOWN ABOVE IS 120

SEE NOTE

DO NOT USE ADDRESS 0 FOR AN IDNET ADDRESS

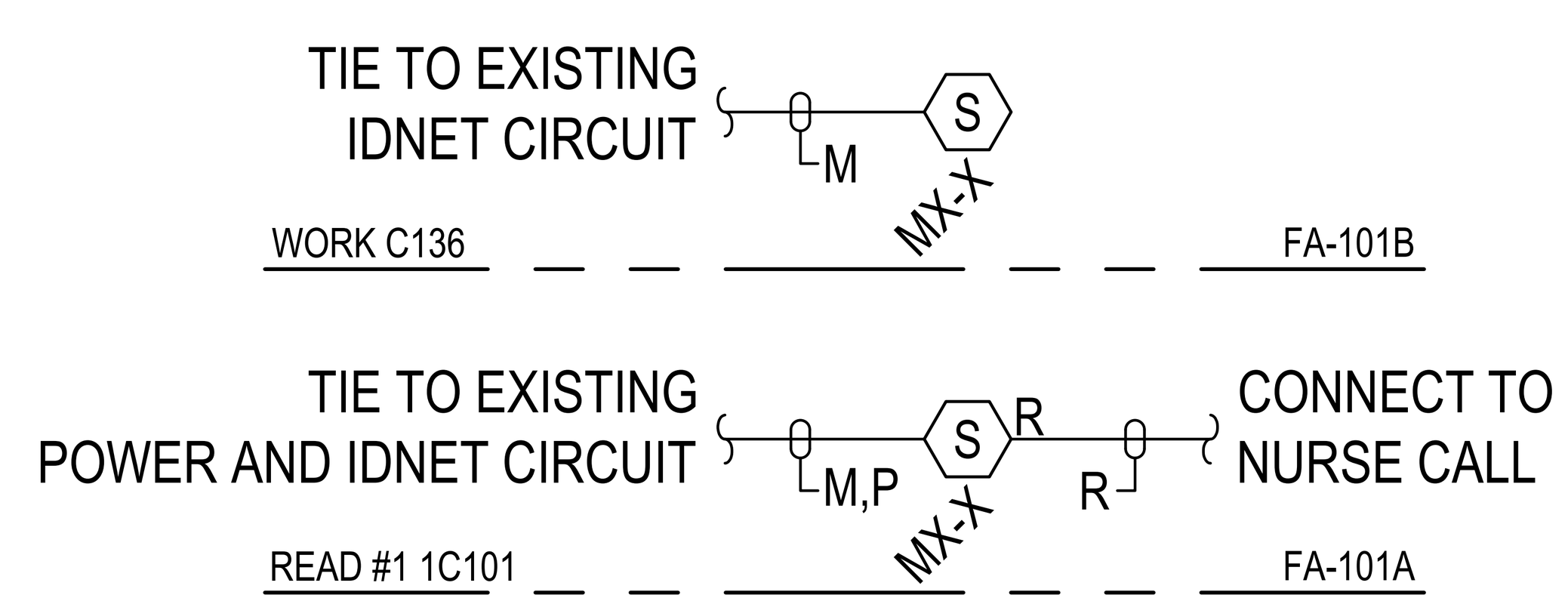
DIP SWITCHES 5 THRU 8 (columns); DIP SWITCHES 1 THRU 4 (rows)

	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	1	17	33	49	65	81	97	113	129	145	161	177	193	209	225	241
	2	18	34	50	66	82	98	114	130	146	162	178	194	210	226	242
	3	19	35	51	67	83	99	115	131	147	163	179	195	211	227	243
	4	20	36	52	68	84	100	116	132	148	164	180	196	212	228	244
	5	21	37	53	69	85	101	117	133	149	165	181	197	213	229	245
	6	22	38	54	70	86	102	118	134	150	166	182	198	214	230	246
	7	23	39	55	71	87	103	119	135	151	167	183	199	215	231	247
	8	24	40	56	72	88	104	120	136	152	168	184	200	216	232	248
	9	25	41	57	73	89	105	121	137	153	169	185	201	217	233	249
	10	26	42	58	74	90	106	122	138	154	170	186	202	218	234	250
	11	27	43	59	75	91	107	123	139	155	171	187	203	219	235	251
	12	28	44	60	76	92	108	124	140	156	172	188	204	220	236	252
	13	29	45	61	77	93	109	125	141	157	173	189	205	221	237	253
	14	30	46	62	78	94	110	126	142	158	174	190	206	222	238	254
	15	31	47	63	79	95	111	127	143	159	175	191	207	223	239	255

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 4098-9770 AND -9797 BASES HAVE THE SAME LAYOUT, BUT DOESN'T OFFER SOUNDER FUNCTIONALITY. THEY USE AN 8-WAY DIP SWITCH ONLY.

FA-101D WIRING TYPICALS

SCALE:NTS



FA-101C RISER DIAGRAM

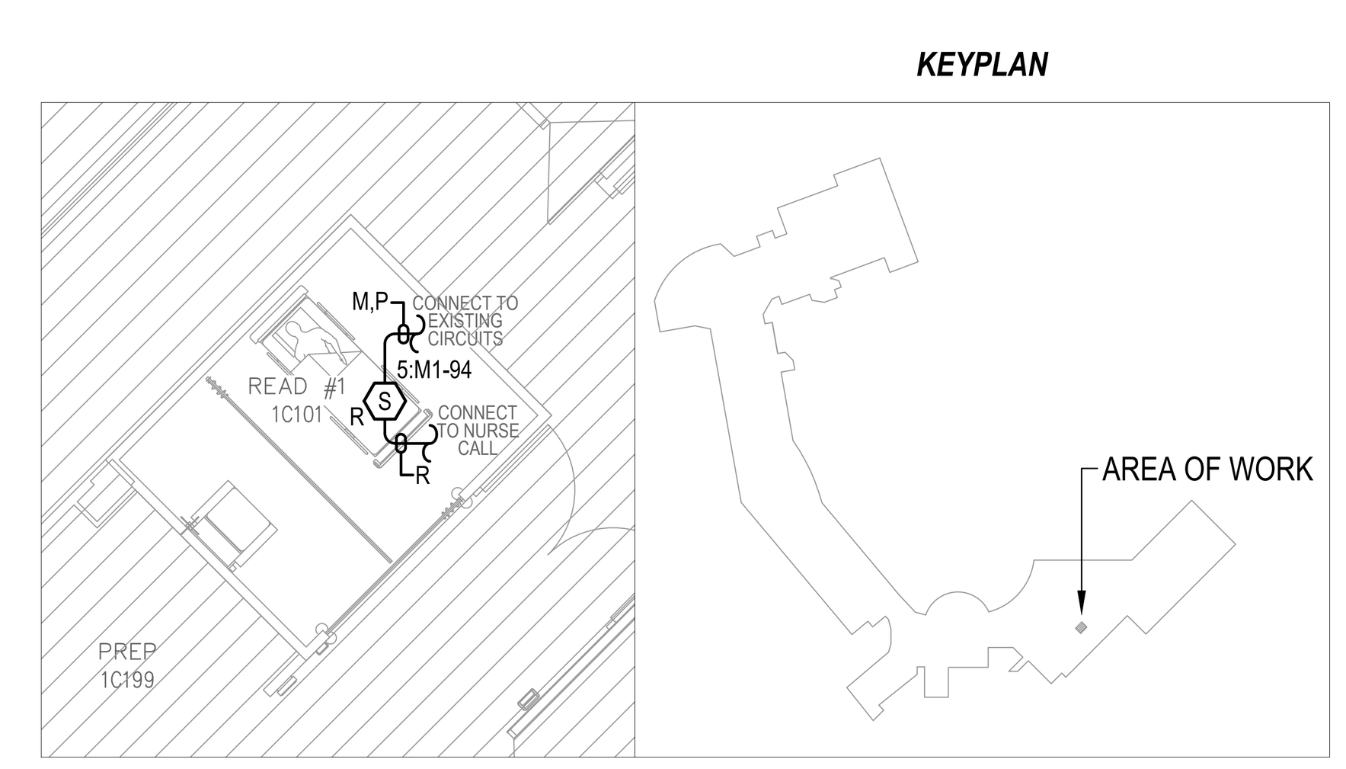
SCALE:NTS

RISER NOTES:

1. RISER IS A DIAGRAMMATICAL REPRESENTATION OF THE SYSTEM ARCHITECTURE IN BUILDING CROSS SECTION. IT IS NOT INTENDED TO REPRESENT ACTUAL WIRE RUNS, PANEL CONFIGURATIONS OR PENETRATIONS. REFER TO FLOOR PLANS AND PANEL DETAILS FOR CIRCUIT ROUTING AND CONFIGURATION INFORMATION.
2. ALL WIRING SHALL COMPLY WITH APPLICABLE ELECTRICAL CODES. REFER TO 'APPLICABLE CODES & STANDARDS' ON SHEET FA-001 FOR SPECIFIC CODE REFERENCES.

FA-101A: DEVICE PLACEMENT PLAN

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



FA-101B: 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 A/V DEVICES (CFIG1). 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.
7. VERIFY ALL CIRCUITS, LOADS, AND ADDRESSES INCLUDING EXISTING AND RELOCATED DEVICES TO WHICH NEW DEVICES ARE CONNECTED. DOCUMENT INFORMATION ON PLANS AND CHART FOUND ON FA-001 UNDER CALCULATIONS.

KEYNOTES:

1. TIE TO NEAREST EXISTING DEVICE ON EXISTING IDNET CIRCUIT.
2. EXISTING FIRE ALARM DEVICE TO BE REMOVED, TEMPORARILY STORED AND RE-INSTALLED DURING NEW CEILING WORK.

SCALE:1/8" = 1'-0" IN FEET 0 4' 8' 16'

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STATE OF MISSOURI – JOHN WILLIAM CASBURN JR – NUMBER E-14378 – PROFESSIONAL ENGINEER
8/22/23

SLE NUCLEAR MEDICINE SPECT CT

ST. LUKES HOSPITAL
100 NE SAINT LUKE'S BLVD
LEE'S SUMMIT, MO 64086

Revisions shown with △# symbol

ISSUE LOG:

MARK	DATE	CAD	CHK	DESCRIPTION
1	8-22-23	TLE	CF	ADDED CALCULATIONS GENERATED FROM PANEL EXPORT

DRAWN BY:	MM
CHECKED BY:	.TLE
ISSUE DATE:	7/17/23
JOB #:	
PROJECT #:	332:650400519

JOHNSON CONTROLS © 2023

SYSTEM: FIRE ALARM SYSTEM

SHEET: DEVICE DETAILS

FA-101

SLE NODE 5 4100es FACP							
Module	**Qty**	**Description**		**Standby Current**	**Total Standby**	**Alarm Current**	**Total Alarm**
Panel Equipment							
4100-9701	1	ES PS Master Controller - English	1	0.2770	0.2770	0.3210	0.3210
4100-5131	4	ES-PS Fan Module		0.0000	0.0000	0.2000	0.8000
4100-5401	3	ES Power Supply Only		0.0680	0.2040	0.0770	0.2310
4100-5451	4	IDNAC Card		0.1240	0.4960	0.2300	0.9200
4100-1311	1	AUDIO CONTROL BOARD - DIGITAL		0.0875	0.0875	0.3630	0.3630
4100-1242	1	MESSAGE EXPANSION BOARD - 32 MINUTES		0.0020	0.0020	0.0170	0.0170
4100-1329	1	DIGITAL 100W AMP,6NAC,120VAC,70V		0.0850	0.0850	3.8000	3.8000
4100-1325	1	BACKUP 100W AMP-220/30/40VAC,70V	3	0.0850	0.0850	0.0000	0.0000
4100-1282	1	8 SW, 16RED/YEL LED MODULE		0.0000	0.0000	0.0240	0.0240
4100-1288	1	64/64 LED/SWITCH CONTROLLER		0.0200	0.0200	0.2120	0.2120
		Panel Totals			**1.2565**		**6.6880**
IDNac Notification Appliances			**Setting**				
49VO-APPLW	83	VO APPLIANCE ONLY WALL MT	110	0.0008	0.0664	0.1320	10.9560
		Total IDNac Device Current:			**0.0664**		**10.9560**
		IDNac Current Boost for 29vdc Regulated Output **					**6.2462**
		Peripheral Totals			**0.0275**		**17.8062**
		System Totals*:		**Standby**	**1.5072**	**Alarm**	**24.6902**

** Device Address current draw included below (See Additional Current Draws):*

1. Base FACP includes current draw for all included components. See data sheet for details.

3. Backup Amplifier assumes Main Amplifier alarm current on failure.

Battery Set #1 (Cabinet/Charger #1)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
ESPS-1				1.0214		7.6170
ESPS-2				0.0856		2.9810
Amp-1				0.0850		3.8000
			Sub Total	**1.1920**		**14.3980**
Additional Current Draws:						
IDNac Current Boost for 29vdc Regulated Output **						4.1391
RUI Connected Peripheral Devices		0	x 0.0035	= 0.0000	x 0.0035	= 0.0000
MAPNET/IDNet Device Address Communication Current		196	x 0.000800	= 0.1568	x 0.001000	= 0.1960
			Sub Total	**1.3488**		**18.7331**
Spare addressable point capacity	0%	0	x 0.0008	= 0.0000	x 0.001	= 0.0000
			Total	**1.3488**		**18.7331**
Standby Time =	24	Hrs	x 1.3488	= 32.3714	Standby Ah	
Alarm Time =	15	Min	0.25 x 18.7331	= 4.6833	Alarm Ah	
				37.0547		
Additional Spare Battery Capacity =	0%		+	0.0000		
				37.0547		
Battery Discharge Factor =	20%		+	7.4109		
Minimum Battery Required	2081-9296 50AH (2x)			**44.4656**		
Battery Supplied	2081-9296 50AH (2x)					

** System Totals represent total system current requirements. Those currents may be distributed between multiple battery sets or power supplies as shown above.*

*** IDNac Current Boost formula: ((29.5 * IDNac Alarm Current) / .92) / 20.4 = Adjusted Current*
DC-DC Converter Output = 29.5vdc. Terminal Output is 29vdc due to 0.5vdc internal loss.
Converter Worst Case efficiency is 92%, 20.4vdc represents battery output in 85% depleted state

Battery Set #2 (Cabinet/Charger #2)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
ESPS-3				0.0688		0.2090
ESPS-4				0.0896		3.6410
			Sub Total	**0.1584**		**3.8500**
Additional Current Draws:						
IDNac Current Boost for 29vdc Regulated Output **				0.0000		2.1072
MAPNET/IDNet Device Address Communication Current		0	x 0.000800	= 0.0000	x 0.001000	= 0.0000
			Sub Total	**0.1584**		**5.9572**
Spare addressable point capacity	0%	0	x 0.0008	= 0.0000	x 0.001	= 0.0000
			Total	**0.1584**		**5.9572**
Standby Time =	24	Hrs	x 0.1584	= 3.8016	Standby Ah	
Alarm Time =	15	Min	0.25 x 5.9572	= 1.4893	Alarm Ah	
				5.2909		
Additional Spare Battery Capacity =	0%		+	0.0000		
				5.2909		
Battery Discharge Factor =	20%		+	1.0582		
Minimum Battery Required	2081-9274 10AH (2x)			**6.3491**		
Battery Supplied	2081-9274 10AH (2x)					

Amplifier Wattage	Watts Used	Alarm	Expansion Card?	Avail. Ckts.	Used Ckts.	% Used
100	41.W	3.800A	No	6	5	#####

SLE NODE 5 4100es FACP Speaker Db Loss Calculations															
*Circuit Voltage = 70vrms [Et]														MAXIMUM -3 dB DROP	
SPEAKER CIRCUIT DESCRIPTION	Amp #	Plan Circuit Number	Speaker Tap .5 Watt	Total Spkrs per Circuit	Total Watts [P]	Wire Gauge	Est. Ckt. Length [D] in Feet	Wire Res. Per Foot [Rw]	Circuit Resistance [Rl=2D*Rw]	Speaker Current [I=P/Et]	Speaker Resistance [Rs=Et/I]	Voltage At End [Es=(Et*Rs)/(Rs+Rl)]	Watts At End [Pe=(Es)^2/Rs]	Actual dB Loss [dB=Log10 (Pe/P)*10]	Max Allowable Ckt. Length [ML=(0.414*Rs)/(2*Rw)]
20 WEST TUNNEL AREA C 5:SIG4	Amp-1	S1	16	16	8. Watts	18ga	560	0.0078	8.702	0.114	612.500	69.019	7.777	-.12 db	16318 Ft.
20 WEST PENTHOUSE AREA C 5:SIG5	Amp-1	S2	18	18	9. Watts	18ga	630	0.0078	9.790	0.129	544.444	68.763	8.685	-.15 db	14505 Ft.
20 WEST FIRST FLOOR C 5:SIG6	Amp-1	S3	15	15	7.5 Watts	18ga	525	0.0078	8.159	0.107	653.333	69.137	7.316	-.11 db	17405 Ft.
20 WEST FIRST FLOOR C 5:SIG7	Amp-1	S4	14	14	7. Watts	18ga	490	0.0078	7.615	0.100	700.000	69.247	6.850	-.09 db	18649 Ft.
20 WEST 1FL ADDRESSABLE SPKRS 5:SIG8	Amp-1	S5	19	19	9.5 Watts	18ga	665	0.0078	10.334	0.136	515.789	68.625	9.130	-.17 db	13741 Ft.

1

IDNET CHANNEL M1			ADDRESSESINUSE:196(78.4%)|SPAREADDRESSES:54(21.6%)	SWITCH SETTINGS								
Address	DeviceType	PointType	Location Description	1	2	3	4	5	6	7	8	
M1-1	PHOTO	SMOKE	DIAG 1FL NW PUBLIC CORR 5:M1-1	X								ON
M1-2	PHOTO	VSMOKE	DIAG 1FL CORR AT 1B00C S SIDE 5:M1-2		X							ON
M1-3	ADRPUL	PULL	DIAG 1FL CORR AT 1B00C S SIDE 5:M1-3	X	X							ON
M1-4	RIAM	RELAY	DIAG 1FL C188 AUTO-OPERATOR SHUNT5:M1-4			X						ON
M1-5	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C92 5:M1-5	X		X						ON
M1-6	IAM	WSO	DIAG 1FL CORR AT 1C94 5:M1-6		X	X						ON
M1-7	PHOTO	VSMOKE	DIAG 1FL 1C94 IT ROOM 5:M1-7	X	X	X						ON
M1-8	PHOTO	VSMOKE	DIAG 1FL 1C92 ELECTRICAL RM 5:M1-8				X					ON
M1-9	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C95 5:M1-9	X			X					ON
M1-10					X		X					ON
M1-11				X	X		X					ON
M1-12	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C183B / FACP 5:M1-12			X	X					ON
M1-13	ADRPUL	PULL	DIAG 1FL CORR AT 1C90B 5:M1-13	X		X	X					ON
M1-14	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C90A 5:M1-14		X	X	X					ON
M1-15	IAM	WSO	DIAG 1FL CORR AT 1C90A 5:M1-15	X	X	X	X					ON
M1-16	PHOTO	VSMOKE	DIAG 1FL 1C85 RESTROOM 5:M1-16					X				ON
M1-17	PHOTO	VSMOKE	DIAG 1FL 1C91B SWITCHGEAR RM 5:M1-17	X				X				ON
M1-18	PHOTO	VSMOKE	DIAG 1FL 1C57 CT SCAN 5:M1-18		X			X				ON
M1-19	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C55 RADIOLOG 5:M1-19	X	X			X				ON
M1-20	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C154A CT 2 5:M1-20			X		X				ON
M1-21	PHOTO	VSMOKE	DIAG CORR AT FLEX DCON SHOWER 5:M1-21	X		X		X				ON
M1-22	ADRPUL	PULL	DIAG 1FL CORR AT STAIRS 1CS01 5:M1-22		X	X		X				ON
M1-23	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C57C 5:M1-23	X	X	X		X				ON
M1-24	PHOTO	VSMOKE	DIAG 1FL AT 1C59A 5:M1-24				X	X				ON
M1-25				X			X	X				ON
M1-26	PHOTO	VSMOKE	DIAG 1FL 1C50 MRI EQUIPMENT RM 5:M1-26		X		X	X				ON
M1-27				X	X		X	X				ON
M1-28						X	X	X				ON
M1-29				X		X	X	X				ON
M1-30	PHOTO	VSMOKE	DIAG 1FL 1C152 ELECTRICAL RM 5:M1-30		X	X	X	X				ON
M1-31				X	X	X	X	X				ON
M1-32									X			ON
M1-33				X					X			ON
M1-34					X				X			ON
M1-35				X	X				X			ON
M1-36						X			X			ON
M1-37				X		X			X			ON
M1-38					X	X			X			ON
M1-39				X	X	X			X			ON
M1-40	ADRPUL	PULL	DIAG 1FL CORR AT 1C83 5:M1-40				X		X			ON
M1-41	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C183A 5:M1-41	X			X		X			ON
M1-42	PHOTO	VSMOKE	DIAG 1FL 1C183A STAFF LOUNGE 5:M1-42		X		X		X			ON
M1-43	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C76A 5:M1-43	X	X		X		X			ON
M1-44	PHOTO	VSMOKE	DIAG 1FL SUB-WAITING AT 1C81 5:M1-44			X	X		X			ON
M1-45	PHOTO	VSMOKE	DIAG 1FL NW PUBLIC CORR 5:M1-45	X		X	X		X			ON
M1-46	PHOTO	VSMOKE	DIAG 1FL RM 1C58A 5:M1-46		X	X	X		X			ON
M1-47	PHOTO	VSMOKE	DIAG 1FL 1C76C RESTROOM 5:M1-47	X	X	X	X		X			ON
M1-48	PHOTO	VSMOKE	DIAG 1FL 1C59 X-RAY ROOM 5:M1-48					X	X			ON
M1-49				X				X	X			ON
M1-50	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C70 / 1C71A 5:M1-50		X			X	X			ON
M1-51	PHOTO	VSMOKE	DIAG 1FL 1C70 IT ROOM 5:M1-51	X	X			X	X			ON
M1-52	PHOTO	VSMOKE	DIAG 1FL N PUBLIC CORR 5:M1-52			X		X	X			ON
M1-53	PHOTO	VSMOKE	DIAG 1FL 1C71A ULTRASOUND 1 5:M1-53	X		X		X	X			ON
M1-54	PHOTO	VSMOKE	DIAG 1FL 1C72 RESTROOM 5:M1-54		X	X		X	X			ON
M1-55	PHOTO	VSMOKE	DIAG 1FL 1C06 MEN'S RESTROOM 5:M1-55	X	X	X		X	X			ON
M1-56	PHOTO	VSMOKE	DIAG 1FL 1C05 WOMEN'S RESTROOM 5:M1-56				X	X	X			ON
M1-57	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C02 WTG RM 5:M1-57	X			X	X	X			ON
M1-58	ADRPUL	PULL	DIAG 1FL CORR AT 1C02 WTG RM 5:M1-58		X		X	X	X			ON
M1-59	PHOTO	VSMOKE	DIAG 1FL 1C67B ULTRASOUND 2 5:M1-59	X	X		X	X	X			ON
M1-60	PHOTO	VSMOKE	DIAG 1FL N PUBLIC CORR 5:M1-60			X	X	X	X			ON
M1-61	PHOTO	VSMOKE	DIAG 1FL N PUBLIC CORR 5:M1-61	X		X	X	X	X			ON
M1-62	ADRPUL	PULL	DIAG 1FL AT 1C01B REV DOOR 5:M1-62		X	X	X	X	X			ON
M1-63	PHOTO	VSMOKE	DIAG 1FL NE PUBLIC CORR 5:M1-63	X	X	X	X	X	X			ON
M1-64	PHOTO	VSMOKE	DIAG 1FL NE PUBLIC CORR 5:M1-64							X		ON
M1-65	PHOTO	VSMOKE	DIAG 1FL WAITING C102 E 5:M1-65	X						X		ON
M1-66	PHOTO	VSMOKE	DIAG 1FL WAITING C102 W 5:M1-66		X					X		ON
M1-67				X	X					X		ON
M1-68	PHOTO	VSMOKE	DIAG 1FL 1C11 CONSULTATION 2 5:M1-68			X				X		ON
M1-69	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C60B 5:M1-69	X		X				X		ON
M1-70	PHOTO	VSMOKE	DIAG 1FL 1C60B ULTRASOUND 5:M1-70		X	X				X		ON
M1-71	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C67A 5:M1-71	X	X	X				X		ON
M1-72	PHOTO	VSMOKE	DIAG 1FL 1C66 RESTROOM 5:M1-72				X			X		ON
M1-73	PHOTO	VSMOKE	DIAG 1FL 1C65 ULTRASOUNG 3 5:M1-73	X			X			X		ON
M1-74	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C64 5:M1-74		X		X			X		ON
M1-75	PHOTO	VSMOKE	DIAG 1FL RM 1C64 5:M1-75	X	X		X			X		ON
M1-76	PHOTO	VSMOKE	DIAG 1FL HALL BY 1C11A 5:M1-76			X	X			X		ON
M1-77	PHOTO	VSMOKE	DIAG 1FL HALL BY 1C13A 5:M1-77	X		X	X			X		ON
M1-78	PHOTO	VSMOKE	DIAG 1FL 1C13 CONSULTATION 4 5:M1-78		X	X	X			X		ON
M1-79	PHOTO	VSMOKE	DIAG 1FL 1C12 CONSULTATION 3 5:M1-79	X	X	X	X			X		ON
M1-80	PHOTO	VSMOKE	DIAG 1FL 1C09 AT 1C15A 5:M1-80					X		X		ON
M1-81	PHOTO	VSMOKE	DIAG 1FL 1C14 CONSULTATION 5 5:M1-81	X				X		X		ON
M1-82	PHOTO	VSMOKE	DIAG 1FL 1C15 CONSULTATION 6 5:M1-82		X			X		X		ON
M1-83	PHOTO	VSMOKE	DIAG 1FL COR AT 1C42 5:M1-83	X	X			X		X		ON
M1-84	PHOTO	VSMOKE	DIAG 1FL 1C60 RAD. READING RM 5:M1-84			X		X		X		ON
M1-85	ADRPUL	PULL	DIAG 1FL CORR AT 1C42 5:M1-85	X		X		X		X		ON
M1-86	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C00F N SIDE 5:M1-86		X	X		X		X		ON
M1-87	PHOTO	VSMOKE	DIAG 1FL DIAGNSTIC ENTRY C100 5:M1-87	X	X	X		X		X		ON
M1-88							X	X		X		ON
M1-89	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C00F S SIDE 5:M1-89	X			X	X		X		ON
M1-90					X		X	X		X		ON
M1-91	PHOTO	VSMOKE	DIAG 1FL 1C135 INJECTION RM 5:M1-91	X	X		X	X		X		ON
M1-92	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C36 5:M1-92			X	X	X		X		ON
M1-93	PHOTO	VSMOKE	DIAG 1FL WORK C136 5:M1-93	X		X	X	X		X		ON
M1-94	PHOTO	VSMOKE	DIAG 1FL READ 1C101 5:M1-94		X	X	X	X		X		ON
M1-95	PHOTO	VSMOKE	DIAG 1FL 1C32 NURSE STATION 5:M1-95	X	X	X	X	X		X		ON
M1-96	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C33 5:M1-96						X	X		ON
M1-97	PHOTO	VSMOKE	DIAG 1FL 1C33 INFUSION 2 5:M1-97	X					X	X		ON
M1-98	PHOTO	VSMOKE	DIAG 1FL 1C34 INFUSION 1 5:M1-98		X				X	X		ON
M1-99	PHOTO	VSMOKE	DIAG 1FL CORR 1D00 @ INFUSN #4 5:M1-99	X	X				X	X		ON
M1-100						X			X	X		ON
M1-101				X		X			X	X		ON
M1-102	RIAM	RELAY	1C152 AHU C-1 SUPPLY DMPR RELAY5:M1-102		X	X			X	X		ON
M1-103	RIAM	RELAY	1C152 AHU C-1 RETURN DMPR RELAY5:M1-103	X	X	X			X	X		ON
M1-104	PHOTO	VSMOKE	DIAG 1FL WAITING RM AT 1C28A 5:M1-104				X		X	X		ON
M1-105	ADRPUL	PULL	DIAG 1FL WAITING RM AT 1C17 5:M1-105	X			X		X	X		ON
M1-106	PHOTO	VSMOKE	DIAG 1FL RM 1C121 5:M1-106		X		X		X	X		ON
M1-107				X	X		X		X	X		ON
M1-108						X	X		X	X		ON
M1-109	PHOTO	VSMOKE	DIAG 1FL LAB DRAW RM 1C20 5:M1-109	X		X	X		X	X		ON
M1-110	PHOTO	VSMOKE	DIAG 1FL RESTROOM 1C21 5:M1-110		X	X	X		X	X		ON
M1-111	PHOTO	VSMOKE	DIAG 1FL UPS ROOM 1C202B 5:M1-111	X	X	X	X		X	X		ON
M1-112	PHOTO	VSMOKE	DIAG 1FL RM 1C117 5:M1-112					X	X	X		ON
M1-113	PHOTO	VSMOKE	DIAG 1FL 1C17 LAB RECEPTIONIS 5:M1-113	X				X	X	X		ON
M1-114	PHOTO	VSMOKE	DIAG 1FL 1C201 SPCL PRCDR LAB 5:M1-114		X			X	X	X		ON
M1-115	RPHOTO	VSMOKE	DIAG 1FL 1C207 SPCL PRCDR LAB 5:M1-115	X	X			X	X	X		ON
M1-116	PHOTO	VSMOKE	DIAG 1FL 1C202 SPCL PRCDR LAB 5:M1-116			X		X	X	X		ON
M1-117	PHOTO	VSMOKE	DIAG 1FL WON DOOR 1C00A 5:M1-117	X		X		X	X	X		ON
M1-118	RPHOTO	VSMOKE	DIAG 1FL 1C202 SPCL PROC BED4 5:M1-118		X	X		X	X	X		ON
M1-119	RPHOTO	VSMOKE	DIAG 1FL 1C202 SPCL PROC BED3 5:M1-119	X	X	X		X	X	X		ON
M1-120	RPHOTO	VSMOKE	DIAG 1FL 1C202 SPCL PROC BED2 5:M1-120				X	X	X	X		ON
M1-121	RPHOTO	VSMOKE	DIAG 1FL 1C202 SPCL PROC BED1 5:M1-121	X			X	X	X	X		ON
M1-122	RPHOTO	LSDUCT	DIAG 2FL 2D01 MECH RM C-1 RET 5:M1-122		X		X	X	X	X		ON
M1-123	PHOTO	VSMOKE	DIAG 1FL 1C205 SOILED UTILITY 5:M1-123	X	X		X	X	X	X		ON
M1-124	PHOTO	VSMOKE	DIAG 2FL 2D01 MECH RM AT DOOR 5:M1-124			X	X	X	X	X		ON
M1-125	PHOTO	VSMOKE	DIAG 2FL 2D01 MECH RM 5:M1-125	X		X	X	X	X	X		ON

1

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.

IDNET CHANNEL M1			ADDRESSESINUSE:196(78.4%)|SPAREADDRESSES:54(21.6%)	SWITCH SETTINGS								
Address			Location Description	1	2	3	4	5	6	7	8	
M1-126	PHOTO	VSMOKE	DIAG 2FL 2D01 MECH RM 5:M1-126		X	X	X	X	X	X		ON
M1-127	PHOTO	VSMOKE	DIAG 2FL 2D01 MECH RM 5:M1-127	X	X	X	X	X	X	X		ON
M1-128	PHOTO	VSMOKE	DIAG 1FL 1C202 SPCL PROC LAB 5:M1-128								X	ON
M1-129	PHOTO	VSMOKE	DIAG 1FL 1C204 STAFF BREAKRM 5:M1-129	X							X	ON
M1-130	PHOTO	VSMOKE	DIAG 1FL 1C203 CONTROL ROOM 5:M1-130		X						X	ON
M1-131	PHOTO	VSMOKE	DIAG 1FL 1C203A IT ROOM 5:M1-131	X	X						X	ON
M1-132	PHOTO	VSMOKE	DIAG 2FL 2D01 MECH RM AT DOOR 5:M1-132			X					X	ON
M1-133	ADRPUL	PULL	DIAG TUNNEL AREA 5:M1-133	X		X					X	ON
M1-134					X	X					X	ON
M1-135				X	X	X					X	ON
M1-136	PHOTO	VSMOKE	DIAG TUNNEL AREA 5:M1-136				X				X	ON
M1-137	PHOTO	VSMOKE	DIAG TUNNEL AREA 5:M1-137	X			X				X	ON
M1-138	PHOTO	VSMOKE	DIAG TUNNEL AREA 5:M1-138		X		X				X	ON
M1-139	PHOTO	VSMOKE	DIAG TUNNEL AREA 5:M1-139	X	X		X				X	ON
M1-140	PHOTO	VSMOKE	DIAG TUNNEL AREA 5:M1-140			X	X				X	ON
M1-141	PHOTO	VSMOKE	DIAG TUNNEL AREA 5:M1-141	X		X	X				X	ON
M1-142	ADRPUL	PULL	DIAG TUNNEL AREA 5:M1-142		X	X	X				X	ON
M1-143	RIAM	RELAY	DIAG DOOR & SECURITY RELAY 5:M1-143	X	X	X	X				X	ON
M1-144	RPHOTO	VSMOKE	DIAG 1FL SPCL PRCDR LAB 1C201 5:M1-144					X			X	ON
M1-145	RPHOTO	VSMOKE	DIAG 1FL SPCL PRCDR LAB 1C201 5:M1-145	X				X			X	ON
M1-146	PHOTO	VSMOKE	DIAG 1FL IT ROOM U/F 1C203A 5:M1-146		X			X			X	ON
M1-147	IAM	WSO	DIAG 1FL CORR AT 1C90A 5:M1-147	X	X			X			X	ON
M1-148						X		X			X	ON
M1-149	RPHOTO	VSMOKE	DIAG 1FL CATH LAB 1C221 RM 5 5:M1-149	X		X		X			X	ON
M1-150	RPHOTO	VSMOKE	DIAG 1FL CATH LAB 1C223 RM 6 5:M1-150		X	X		X			X	ON
M1-151				X	X	X		X			X	ON
M1-152							X	X			X	ON
M1-153	PHOTO	VSMOKE	DIAG 1FL CORR AT 02-1B00W WEST 5:M1-153	X			X	X			X	ON
M1-154	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C202 SPL PR 5:M1-154		X		X	X			X	ON
M1-155	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C147 MRI 5:M1-155	X	X		X	X			X	ON
M1-156	ADRPUL	PULL	DIAG 1FL AT EXIT 1C00B 5:M1-156			X	X	X			X	ON
M1-157	PHOTO	VSMOKE	DIAG 1FL CORR AT 1C200A 5:M1-157	X		X	X	X			X	ON
M1-158					X	X	X	X			X	ON
M1-159				X	X	X	X	X			X	ON
M1-160									X		X	ON
M1-161	RPHOTO	LSDUCT	DIAG 1FL WTG RM C-1 SUPPLY 5:M1-161	X					X		X	ON
M1-162	RPHOTO	LSDUCT	DIAG 1FL 1C34 AHU C-1 SUPPLY 5:M1-162		X				X		X	ON
M1-163	RPHOTO	LSDUCT	DIAG 1FL AT 1C34 AHU C-1 SUP 5:M1-163	X	X				X		X	ON
M1-164						X			X		X	ON
M1-165				X		X			X		X	ON
M1-166	PHOTO	VSMOKE	DIAG 1FL NE PULBIC CORR CEI 5:M1-166		X	X			X		X	ON
M1-167	PHOTO	VSMOKE	DIAG 1FL 1C50 EQUIP RM U/F 5:M1-167	X	X	X			X		X	ON
M1-168	PHOTO	VSMOKE	DIAG 1FL 1C50 EQUIP RM U/F 5:M1-168				X		X		X	ON
M1-169				X			X		X		X	ON
M1-170	PHOTO	VSMOKE	DIAG 1FL WAITING RM CTR 5:M1-170		X		X		X		X	ON
M1-171	PHOTO	VSMOKE	DIAG 1FL WAITING RM S 5:M1-171	X	X		X		X		X	ON
M1-172						X	X		X		X	ON
M1-173				X		X	X		X		X	ON
M1-174					X	X	X		X		X	ON
M1-175	IAM	WATER	DIAG FLOW 1FL 02-1B078 5:M1-175	X	X	X	X		X		X	ON
M1-176	IAM	SO	DIAG TS 1FL 02-1B078 AFTR BKFLW5:M1-176					X	X		X	ON
M1-177	IAM	SO	DIAG TS 1FL 02-1B078 BEFR BKFLW5:M1-177	X				X	X		X	ON
M1-178	ADRPUL	PULL	DIAG 1FL STAIR 2C-S01 5:M1-178		X			X	X		X	ON
M1-179				X	X			X	X		X	ON
M1-180						X		X	X		X	ON
M1-181				X		X		X	X		X	ON
M1-182					X	X		X	X		X	ON
M1-183				X	X	X		X	X		X	ON
M1-184	PHOTO	SMOKE	DIAG 1FL HOT LAB 1C37 5:M1-184				X	X	X		X	ON
M1-185				X			X	X	X		X	ON
M1-186					X		X	X	X		X	ON
M1-187				X	X		X	X	X		X	ON
M1-188						X	X	X	X		X	ON
M1-189	PHOTO	VSMOKE	DIAG 1FL CATH LAB NURSE STN 5:M1-189	X		X	X	X	X		X	ON
M1-190	PHOTO	VSMOKE	DIAG 1FL CATH LAB AT EXAM 1 5:M1-190		X	X	X	X	X		X	ON
M1-191	PHOTO	VSMOKE	DIAG 1FL CATH LAB AT 1C226 5:M1-191	X	X	X	X	X	X		X	ON
M1-192										X	X	ON
M1-193				X						X	X	ON
M1-194					X					X	X	ON
M1-195	PHOTO	VSMOKE	DIAG 1FL CATH CORR AT 1C220 5:M1-195	X	X					X	X	ON
M1-196	PHOTO	VSMOKE	DIAG 1FL CORR AT EXIT 1C00B 5:M1-196			X				X	X	ON
M1-197				X		X				X	X	ON
M1-198					X	X				X	X	ON
M1-199				X	X	X				X	X	ON
M1-200	RIAM	RELAY	DIAG JC ALARM RELAY 5:M1-200				X			X	X	ON
M1-201	RIAM	RELAY	DIAG JC TROUBLE RELAY 5:M1-201	X			X			X	X	ON
M1-202	PHOTO	VSMOKE	DIAG 2FL CVC HALL 2C200 EAST 5:M1-202		X		X			X	X	ON
M1-203	PHOTO	VSMOKE	DIAG 2FL CVC HALL 2C200 E CTR 5:M1-203	X	X		X			X	X	ON
M1-204	PHOTO	VSMOKE	DIAG 2FL CVC HALL 2C200 W CTR 5:M1-204			X	X			X	X	ON
M1-205	PHOTO	VSMOKE	DIAG 2FL AT NW STAIR 2CS01 5:M1-205	X		X	X			X	X	ON
M1-206	ADRPUL	PULL	DIAG 2FL AT NW STAIR 2CS01 5:M1-206		X	X	X			X	X	ON
M1-207	IAM	SO	DIAG 2FL CVC STAIRWELL 2CS01 5:M1-207	X	X	X	X			X	X	ON
M1-208	IAM	WSO	DIAG 1FL CVC STAIRWELL 1CS01 5:M1-208					X		X	X	ON
M1-209	PHOTO	VSMOKE	DIAG 2FL CVC CORR AT 240-36 5:M1-209	X				X		X	X	ON
M1-210	PHOTO	VSMOKE	DIAG 2FL CVC CORR AT 240-43 5:M1-210		X			X		X	X	ON
M1-211	PHOTO	VSMOKE	DIAG 2FL CVC CORR AT 240-50 5:M1-211	X	X			X		X	X	ON
M1-212	PHOTO	VSMOKE	DIAG 2FL CVC CORR AT 240-56 5:M1-212			X		X		X	X	ON
M1-213	PHOTO	VSMOKE	DIAG 2FL CVC MECH RM 2C201 5:M1-213	X		X		X		X	X	ON
M1-214	PHOTO	VSMOKE	DIAG 2FL CVC MECH RM 2C201 5:M1-214		X	X		X		X	X	ON
M1-215	ADRPUL	PULL	DIAG 2FL CVC AT EXIT 2D00B 5:M1-215	X	X	X		X		X	X	ON
M1-216							X	X		X	X	ON
M1-217	PHOTO	VSMOKE	DIAG 2FL CVC ELEC RM 2C203 5:M1-217	X			X	X		X	X	ON
M1-218	PHOTO	VSMOKE	DIAG 2FL CVC CORR AT 240-12 5:M1-218		X		X	X		X	X	ON
M1-219	PHOTO	VSMOKE	DIAG 2FL CVC CORR AT 240-20 5:M1-219	X	X		X	X		X	X	ON
M1-220	PHOTO	VSMOKE	DIAG 2FL CVC BREAKROOM 240-43 5:M1-220			X	X	X		X	X	ON
M1-221	PHOTO	VSMOKE	DIAG 2FL CVC CORR AT 240-30 5:M1-221	X		X	X	X		X	X	ON
M1-222	PHOTO	VSMOKE	DIAG 2FL CVC AT EQUIP RM 5:M1-222		X	X	X	X		X	X	ON
M1-223	PHOTO	VSMOKE	DIAG 2FL CVC AT 2C203 ELEC RM 5:M1-223	X	X	X	X	X		X	X	ON
M1-224	ADRPUL	PULL	DIAG 2FL CVC WAITING RM 5:M1-224						X	X	X	ON
M1-225	PHOTO	VSMOKE	DIAG 2FL CVC WAITING RM 5:M1-225	X					X	X	X	ON
M1-226	PHOTO	VSMOKE	DIAG 2FL CVC CORR AT 240-23 5:M1-226		X				X	X	X	ON
M1-227	PHOTO	VSMOKE	DIAG 2FL CVC WAITING RM 5:M1-227	X	X				X	X	X	ON
M1-228	PHOTO	VSMOKE	DIAG 2FL CVC POD 2C215 5:M1-228			X			X	X	X	ON
M1-229	PHOTO	VSMOKE	DIAG 2FL CVC POD 2C215 5:M1-229	X		X			X	X	X	ON
M1-230	ADRPUL	PULL	DIAG 2FL CVC CORR AT 240-38 5:M1-230		X	X			X	X	X	ON
M1-231	PHOTO	VSMOKE	DIAG 2FL CVC 2C201 MECH RM 5:M1-231	X	X	X			X	X	X	ON
M1-232	RPHOTO	LSDUCT	DIAG 2FL 2C201 AHU C-03 SUPPL 5:M1-232				X		X	X	X	ON
M1-233	RPHOTO	LSDUCT	DIAG 2FL 2C201 AHU-C-03 RETUR 5:M1-233	X			X		X	X	X	ON
M1-234	PHOTO	VSMOKE	DIAG 2FL CVC 2C201 MECH RM 5:M1-234		X		X		X	X	X	ON
M1-235	RPHOTO	LSDUCT	DIAG 2FL 2C201 AHU C-03 SUPPL 5:M1-235	X	X		X		X	X	X	ON
M1-236	IAM	SO	DIAG 1FL CORR AT 1C54A CT 2 5:M1-236			X	X		X	X	X	ON
M1-237	IAM	WATER	DIAG 1FL CORR AT 1C54A CT 2 5:M1-237	X		X	X		X	X	X	ON
M1-238					X	X	X		X	X	X	ON
M1-239	PHOTO	VSMOKE	DIAG 1FL CATH LAB 1C227 CTL 5:M1-239	X	X	X	X		X	X	X	ON
M1-240	PHOTO	VSMOKE	DIAG 1FL CATH LAB 1C229A EQUI 5:M1-240					X	X	X	X	ON
M1-241	PHOTO	VSMOKE	DIAG 1FL CATH LAB 1C229 PROC 5:M1-241	X				X	X	X	X	ON
M1-242	RPHOTO	VSMOKE	DIAG 1FL CATH LAB 1C231 RM 1 5:M1-242		X			X	X	X	X	ON
M1-243	RPHOTO	VSMOKE	DIAG 1FL CATH LAB 1C233 RM 2 5:M1-243	X	X			X	X	X	X	ON
M1-244	RPHOTO	VSMOKE	DIAG 1FL CATH LAB 1C235 RM 3 5:M1-244			X		X	X	X	X	ON
M1-245	RPHOTO	VSMOKE	DIAG 1FL CATH LAB 1C237 RM 4 5:M1-245	X		X		X	X	X	X	ON
M1-246	PHOTO	VSMOKE	DIAG 1FL CATH LAB AT 1C237 5:M1-246		X	X		X	X	X	X	ON
M1-247	ADRPUL	PULL	DIAG 1FL CATH LAB AT 1C237 5:M1-247	X	X	X		X	X	X	X	ON
M1-248	ADRPUL	PULL	DIAG 1FL CATH LAB NURSE STN 5:M1-248				X	X	X	X	X	ON
M1-249	PHOTO	VSMOKE	DIAG 2FL CVC S. WAIT RM 2C206 5:M1-249	X			X	X	X	X	X	ON
M1-250					X		X	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.

Johnson Controls
DISTRICT - 332
11019 STRANG LINE ROAD
LENEXA, KS 66215
SERVICE: 913-894-0010
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STATE OF MISSOURI
JOHN WILLIAM CASBURN JR
NUMBER E-14378
PROFESSIONAL ENGINEER

John W Casburn
8/22/23

SLE NUCLEAR MEDICINE SPECT CT

ST. LUKES HOSPITAL
100 NE SAINT LUKE'S BLVD
LEE'S SUMMIT, MO 64086

Revisions shown with # symbol

ISSUE LOG:

MARK	DATE	CAD	CHK	DESCRIPTION
1	8-22-23	TLE	CF	ADDED CALCULATIONS GENERATED FROM PANEL EXPORT

DRAWN BY:	MM
CHECKED BY:	.TLE
ISSUE DATE:	7/17/23
JOB #:	
PROJECT #:	332:650400519

SYSTEM:
FIRE ALARM SYSTEM

SHEET:
CALCULATIONS AND SCHEDULES

FA-601

FILE PATH: C:\Users\jeubanl\OneDrive - Johnson Controls\St_Lukes\SLE_Lees_Summit\99\SLE_NUC_MED_650400519\Sheet Set\FA-601.dwg
LAST SAVED BY: JEUBANTI
LAST PRINTED: 8/29/2023 8:21:51 AM
30" x 42" - Arch E1 Size

SLE NODE 5 - IDNAC-1 CIRCUIT SUMMARY & VOLTAGE DROP							
Circuit	Description	Alarm Current	% Drop	Unit Load*	Wire Length	Spare Current	Spare VoltageDrop
5:3-1	DIAG NE AREA	1.716A	14.53%	13	700	43%	30%
5:3-2	DIAG NW AREA	0.792A	3.77%	6	350	74%	82%
5:3-3	DIAG TUNNEL AREA	1.848A	16.63%	14	750	38%	20%

ES POWER SUPPLY 1 - IDNAC CARD 1 - CIRCUIT 5:3-1						SWITCH SETTINGS							
IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)		1							
5:3-1-1						X							ON
5:3-1-2							X						ON
5:3-1-3						X	X						ON
5:3-1-4	VO	49VO-APPLW	110cd	TOILET C183B 5:3-1-4	-3-1-4								ON
5:3-1-5	VO	49VO-APPLW	110cd	DIAG NE AREA 5:3-1-5	-3-1-5	X							ON
5:3-1-6	VO	49VO-APPLW	110cd	DIAG NE AREA 5:3-1-6	-3-1-6		X						ON
5:3-1-7	VO	49VO-APPLW	110cd	DIAG NE AREA 5:3-1-7	-3-1-7	X	X						ON
5:3-1-8	VO	49VO-APPLW	110cd	DIAG NE AREA 5:3-1-8	-3-1-8			X					ON
5:3-1-9	VO	49VO-APPLW	110cd	DIAG NE AREA 5:3-1-9	-3-1-9	X		X					ON
5:3-1-10	VO	49VO-APPLW	110cd	DIAG NE AREA 5:3-1-10	-3-1-10		X	X					ON
5:3-1-11	VO	49VO-APPLW	110cd	DIAG NORTH AREA 5:3-1-11	-3-1-11	X	X	X					ON
5:3-1-12	VO	49VO-APPLW	110cd	DIAG NORTH AREA 5:3-1-12	-3-1-12			X					ON
5:3-1-13	VO	49VO-APPLW	110cd	DIAG NORTH AREA 5:3-1-13	-3-1-13	X		X					ON
5:3-1-14	VO	49VO-APPLW	110cd	DIAG NORTH AREA 5:3-1-14	-3-1-14		X	X					ON
5:3-1-30	VO	49VO-APPLW	110cd	DIAG NE AREA 5:3-1-30	-3-1-30		X	X	X				ON
5:3-1-31	VO	49VO-APPLW	110cd	DIAG NE AREA 5:3-1-31	-3-1-31	X	X	X	X				ON

5:3-1 Notification SLC Distributed Load Voltage Drop

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%
Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga
Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

							Class B Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	5:3-1-4	PANEL	100	49VO-APPLW	110cd	0.1320	1.716	1.054	27.946	Branch 1: 14.53%
1	5:3-1-5	5:3-1-4	50	49VO-APPLW	110cd	0.1320	1.584	0.486	27.460	Length: 700
1	5:3-1-6	5:3-1-5	50	49VO-APPLW	110cd	0.1320	1.452	0.446	27.014	
1	5:3-1-7	5:3-1-6	50	49VO-APPLW	110cd	0.1320	1.320	0.405	26.609	
1	5:3-1-8	5:3-1-7	50	49VO-APPLW	110cd	0.1320	1.188	0.365	26.244	
1	5:3-1-9	5:3-1-8	50	49VO-APPLW	110cd	0.1320	1.056	0.324	25.920	
1	5:3-1-10	5:3-1-9	50	49VO-APPLW	110cd	0.1320	0.924	0.284	25.637	
1	5:3-1-11	5:3-1-10	50	49VO-APPLW	110cd	0.1320	0.792	0.243	25.393	
1	5:3-1-12	5:3-1-11	50	49VO-APPLW	110cd	0.1320	0.660	0.203	25.191	
1	5:3-1-13	5:3-1-12	50	49VO-APPLW	110cd	0.1320	0.528	0.162	25.029	
1	5:3-1-14	5:3-1-13	50	49VO-APPLW	110cd	0.1320	0.396	0.122	24.907	
1	5:3-1-30	5:3-1-14	50	49VO-APPLW	110cd	0.1320	0.264	0.081	24.826	
1	5:3-1-31	5:3-1-30	50	49VO-APPLW	110cd	0.1320	0.132	0.041	24.786	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	

ES POWER SUPPLY 1 - IDNAC CARD 1 - CIRCUIT 5:3-2						SWITCH SETTINGS							
IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)		1							
5:3-2-1	VO	49VO-APPLW	110cd	DIAG NW AREA 5:3-2-1		X							ON
5:3-2-2	VO	49VO-APPLW	110cd	DIAG NW AREA 5:3-2-2			X						ON
5:3-2-3	VO	49VO-APPLW	110cd	DIAG NW AREA 5:3-2-3		X	X						ON
5:3-2-4													ON
5:3-2-5	VO	49VO-APPLW	110cd	DIAG NW AREA 5:3-2-5		X							ON
5:3-2-6							X						ON
5:3-2-15	VO	49VO-APPLW	110cd	DIAG SW AREA 5:3-2-15		X	X	X					ON
5:3-2-17	VO	49VO-APPLW	110cd	BY ELEC ROOM DR 1C152 5:3-2-17		X			X				ON

5:3-2 Distributed Load Voltage Drop

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%
Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga
Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

							Class B Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	5:3-2-1	PANEL	100	49VO-APPLW	110cd	0.1320	0.792	0.486	28.514	Branch 1: 3.77%
1	5:3-2-2	5:3-2-1	50	49VO-APPLW	110cd	0.1320	0.660	0.203	28.311	Length: 350
1	5:3-2-3	5:3-2-2	50	49VO-APPLW	110cd	0.1320	0.528	0.162	28.149	
1	5:3-2-5	5:3-2-3	50	49VO-APPLW	110cd	0.1320	0.396	0.122	28.027	
1	5:3-2-15	5:3-2-5	50	49VO-APPLW	110cd	0.1320	0.264	0.081	27.946	
1	5:3-2-17	5:3-2-15	50	49VO-APPLW	110cd	0.1320	0.132	0.041	27.906	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	

ES POWER SUPPLY 1 - IDNAC CARD 1 - CIRCUIT 5:3-3						SWITCH SETTINGS							
IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)		1							
5:3-3-1	VO	49VO-APPLW	110cd	ULTRASOUND RESTROOM 1C66 V3-5:3-3-1		X							ON
5:3-3-2							X						ON
5:3-3-3						X	X						ON
5:3-3-4													ON
5:3-3-5						X							ON
5:3-3-6							X						ON
5:3-3-7						X	X						ON
5:3-3-8								X					ON
5:3-3-9						X		X					ON
5:3-3-10							X	X					ON
5:3-3-11						X	X	X					ON
5:3-3-12								X					ON
5:3-3-13						X		X					ON
5:3-3-14							X	X					ON
5:3-3-21	VO	49VO-APPLW	110cd	DIAG TUNNEL AREA V3-5:3-3-21		X			X				ON
5:3-3-22	VO	49VO-APPLW	110cd	DIAG TUNNEL AREA V3-5:3-3-22			X		X				ON
5:3-3-23	VO	49VO-APPLW	110cd	DIAG TUNNEL AREA V3-5:3-3-23		X	X		X				ON
5:3-3-24	VO	49VO-APPLW	110cd	DIAG TUNNEL AREA V3-5:3-3-24				X	X				ON
5:3-3-25	VO	49VO-APPLW	110cd	DIAG TUNNEL AREA V3-5:3-3-25		X		X	X				ON
5:3-3-26	VO	49VO-APPLW	110cd				X	X	X				ON
5:3-3-27	VO	49VO-APPLW	110cd	DIAG NE AREA V3-5:3-3-27		X	X	X	X				ON
5:3-3-28	VO	49VO-APPLW	110cd	DIAG NE AREA V3-5:3-3-28				X	X				ON
5:3-3-29	VO	49VO-APPLW	110cd	DIAG NE AREA V3-5:3-3-29		X		X	X				ON
5:3-3-32	VO	49VO-APPLW	110cd	DIAG MID AREA V3-5:3-3-32						X			ON
5:3-3-33	VO	49VO-APPLW	110cd	DIAG MID AREA V3-5:3-3-33		X				X			ON
5:3-3-34	VO	49VO-APPLW	110cd	DIAG MID AREA V3-5:3-3-34			X			X			ON
5:3-3-36	VO	49VO-APPLW	110cd	DIAG 1FL 1C46 CONTROL ROOM V3-5 3-3-36						X			ON

5:3-3 Distributed Load Voltage Drop

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%
Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga
Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

							Class B Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	5:3-3-1	PANEL	100	49VO-APPLW	110cd	0.1320	1.848	1.135	27.865	Branch 1: 16.63%
1	5:3-3-21	5:3-3-1	50	49VO-APPLW	110cd	0.1320	1.716	0.527	27.339	Length: 750
1	5:3-3-22	5:3-3-21	50	49VO-APPLW	110cd	0.1320	1.584	0.486	26.852	
1	5:3-3-23	5:3-3-22	50	49VO-APPLW	110cd	0.1320	1.452	0.446	26.406	
1	5:3-3-24	5:3-3-23	50	49VO-APPLW	110cd	0.1320	1.320	0.405	26.001	
1	5:3-3-25	5:3-3-24	50	49VO-APPLW	110cd	0.1320	1.188	0.365	25.637	
1	5:3-3-26	5:3-3-25	50	49VO-APPLW	110cd	0.1320	1.056	0.324	25.312	
1	5:3-3-27	5:3-3-26	50	49VO-APPLW	110cd	0.1320	0.924	0.284	25.029	
1	5:3-3-28	5:3-3-27	50	49VO-APPLW	110cd	0.1320	0.792	0.243	24.786	
1	5:3-3-29	5:3-3-28	50	49VO-APPLW	110cd	0.1320	0.660	0.203	24.583	
1	5:3-3-32	5:3-3-29	50	49VO-APPLW	110cd	0.1320	0.528	0.162	24.421	
1	5:3-3-33	5:3-3-32	50	49VO-APPLW	110cd	0.1320	0.396	0.122	24.299	
1	5:3-3-34	5:3-3-33	50	49VO-APPLW	110cd	0.1320	0.264	0.081	24.218	
1	5:3-3-36	5:3-3-34	50	49VO-APPLW	110cd	0.1320	0.132	0.041	24.178	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	

SLE NODE 5 - IDNAC-2 CIRCUIT SUMMARY & VOLTAGE DROP							
Circuit	Description	Alarm Current	% Drop	Unit Load*	Wire Length	Spare Current	Spare VoltageDrop
5:10-1	DIAG PH AREA	0.396A	1.26%	3	200	87%	94%
5:10-2	DIAG SE AREA	1.188A	6.04%	9	380	60%	71%
5:10-3	DIAG SOUTH AREA	1.320A	6.29%	10	360	56%	70%

ES POWER SUPPLY 2 - IDNAC CARD 2 - CIRCUIT 5:10-1						SWITCH SETTINGS							
IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)		1							
5:10-1-1	VO	49VO-APPLW	110cd	DIAG PH AREA 5:10-1-2		X							ON
5:10-1-2	VO	49VO-APPLW	110cd	DIAG PH AREA 5:10-1-3			X						ON
5:10-1-3	VO	49VO-APPLW	110cd	DIAG PH AREA 5:10-1-4		X	X						ON

5:10-1 Notification SLC Distributed Load Voltage Drop

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%
Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga
Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

							Class B Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	5:10-1-1	PANEL	100	49VO-APPLW	110cd	0.1320	0.396	0.243	28.757	Branch 1: 1.26%
1	5:10-1-2	5:10-1-1	50	49VO-APPLW	110cd	0.1320	0.264	0.081	28.676	Length: 200
1	5:10-1-3	5:10-1-2	50	49VO-APPLW	110cd	0.1320	0.132	0.041	28.635	

ES POWER SUPPLY 2 - IDNAC CARD 2 - CIRCUIT 5:10-2						SWITCH SETTINGS							
IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)		1							
5:10-2-1						X							ON
5:10-2-2							X						ON
5:10-2-3						X	X						ON
5:10-2-4													ON
5:10-2-5						X							ON
5:10-2-6	VO	49VO-APPLW	110cd	BLDG C 1FL DRAW 1C117 (V5-1)5:10-2-6			X						ON
5:10-2-7	VO	49VO-APPLW	110cd	BLDG C 1FL LAB 1C121 (V5-1)5:10-2-7		X	X						ON
5:10-2-8	VO	49VO-APPLW	110cd	DIAG SE AREA (V5-1)5:10-2-8				X					ON
5:10-2-9	VO	49VO-APPLW	110cd	DIAG SE AREA (V5-1)5:10-2-9		X		X					ON
5:10-2-11	VO	49VO-APPLW	110cd	CVC CORR 1D00 (V5-1)5:10-2-11		X	X	X					ON
5:10-2-12	VO	49VO-APPLW	110cd	TOILET 1C131 (V5-1)5:10-2-12				X					ON
5:10-2-13	VO	49VO-APPLW	110cd	DIAG SE AREA (V5-2)5:10-2-13		X		X					ON
5:10-2-14	VO	49VO-APPLW	110cd	DIAG SE AREA (V5-2)5:10-2-14			X	X					ON
5:10-2-15	VO	49VO-APPLW	110cd	DIAG SE AREA (V5-2)5:10-2-15		X	X	X					ON

5:10-2 Distributed Load Voltage Drop

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%
Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga
Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

							Class B Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	5:10-2-6	PANEL	100	49VO-APPLW	110cd	0.1320	1.188	0.729	28.271	Branch 1: 6.04%
1	5:10-2-7	5:10-2-6	35	49VO-APPLW	110cd	0.1320	1.056	0.227	28.044	Length: 380
1	5:10-2-8	5:10-2-7	35	49VO-APPLW	110cd	0.1320	0.924	0.199	27.845	
1	5:10-2-9	5:10-2-8	35	49VO-APPLW	110cd	0.1320	0.792	0.170	27.675	
1	5:10-2-11	5:10-2-9	35	49VO-APPLW	110cd	0.1320	0.660	0.142	27.533	
1	5:10-2-12	5:10-2-11	35	49VO-APPLW	110cd	0.1320	0.528	0.113	27.420	
1	5:10-2-13	5:10-2-12	35	49VO-APPLW	110cd	0.1320	0.396	0.085	27.334	
1	5:10-2-14	5:10-2-13	35	49VO-APPLW	110cd	0.1320	0.264	0.057	27.278	
1	5:10-2-15	5:10-2-14	35	49VO-APPLW	110cd	0.1320	0.132	0.028	27.249	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	

ES POWER SUPPLY 2 - IDNAC CARD 2 - CIRCUIT 5:10-3						SWITCH SETTINGS							
IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)		1							
5:10-3-1						X							ON
5:10-3-2	VO	49VO-APPLW	110cd	DIAG SOUTH AREA 5:10-3-2			X						ON
5:10-3-3	VO	49VO-APPLW	110cd	HALL 1C197 SPCL PRCD LAB 5:10-3-3		X	X						ON
5:10-3-4	VO	49VO-APPLW	110cd	HALL 1C197 SPCL PRCD LAB 5:10-3-4									ON
5:10-3-5	VO	49VO-APPLW	110cd	DIAG SOUTH AREA 5:10-3-5		X							ON
5:10-3-6	VO	49VO-APPLW	110cd	DIAG 1FL BREAK ROOM 1C205 5:10-3-6			X						ON
5:10-3-7	VO	49VO-APPLW	110cd	BLDG C 1FL 1C217 TOILET 5:10-3-7		X	X						ON
5:10-3-8								X					ON
5:10-3-9						X		X					ON
5:10-3-10							X	X					ON
5:10-3-17	VO	49VO-APPLW	110cd	DIAG SOUTH AREA 5:10-3-17		X			X				ON
5:10-3-20	VO	49VO-APPLW	110cd	DIAG SOUTH AREA 5:10-3-20					X				ON
5:10-3-21	VO	49VO-APPLW	110cd	DIAG 1FL WORK C136 5:10-3-21		X			X				ON
5:10-3-22	VO	49VO-APPLW	110cd	DIAG SOUTH AREA 5:10-3-22			X		X				ON

5:10-3 Distributed Load Voltage Drop

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%
Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga
Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

							Class B Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	5:10-3-2	PANEL	90	49VO-APPLW	110cd	0.1320	1.320	0.729	28.271	Branch 1: 6.29%
1	5:10-3-3	5:10-3-2	30	49VO-APPLW	110cd	0.1320	1.188	0.219	28.052	Length: 360
1	5:10-3-4	5:10-3-3	30	49VO-APPLW	110cd	0.1320	1.056	0.195	27.857	
1	5:10-3-5	5:10-3-4	30	49VO-APPLW	110cd	0.1320	0.924	0.170	27.687	
1	5:10-3-6	5:10-3-5	30	49VO-APPLW	110cd	0.1320	0.792	0.146	27.541	
1	5:10-3-7	5:10-3-6	30	49VO-APPLW	110cd	0.1320	0.660	0.122	27.420	
1	5:10-3-17	5:10-3-7	30	49VO-APPLW	110cd	0.1320	0.528	0.097	27.322	
1	5:10-3-20	5:10-3-17	30	49VO-APPLW	110cd	0.1320	0.396	0.073	27.249	
1	5:10-3-21	5:10-3-20	30	49VO-APPLW	110cd	0.1320	0.264	0.049	27.201	
1	5:10-3-22	5:10-3-21	30	49VO-APPLW	110cd	0.1320	0.132	0.024	27.176	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	
						0.0000	0.000	0.000	0.000	

SLE NODE 5 - IDNAC-3 CIRCUIT SUMMARY & VOLTAGE DROP							
Circuit	Description	Alarm Current	% Drop	Unit Load*	Wire Length	Spare Current	Spare VoltageDrop
5:12-1	SPARE	0.000A	0.00%	0	0	100%	100%
5:12-2	FL1 WAITING C102	0.132A	0.28%	1	100	96%	99%
5:12-3	SPARE	0.000A	0.00%	0	0	100%	100%

ES POWER SUPPLY 3 - IDNAC CARD 3 - CIRCUIT 5:12-2						SWITCH SETTINGS							
IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)		1							
5:12-2-1	VO	49VO-APPLW	110cd	1FL WAITING C102 5:12-2-1	-12-2-1	X							ON

5:12-2 Distributed Load Voltage Drop

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%
Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga
Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

							Class B Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	5:12-2-1	PANEL	100	49VO-APPLW	110cd	0.1320	0.132	0.081	28.919	Branch 1: 0.28%

SLE NODE 5 - IDNAC-4 CIRCUIT SUMMARY & VOLTAGE DROP							
Circuit	Description	Alarm Current	% Drop	Unit Load*	Wire Length	Spare Current	Spare VoltageDrop
5:13-1	BLDG C FL2 CVC	1.188A	7.55%	9	500	60%	64%
5:13-2	BLDG C FL2 CVC	0.924A	4.89%	7	400	69%	76%
5:13-3	BLDG C CATH LAB	1.452A	10.76%	11	600	52%	48%

ES POWER SUPPLY 4 - IDNAC CARD 4 - CIRCUIT 5:13-1						SWITCH SETTINGS							
IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)		1							
5:13-1-1	VO	49VO-APPLW	110cd	BLDG C 2FL CVC ELEC RM 2C203 5:13-1-1	-13-1-1	X							ON
5:13-1-2	VO	49VO-APPLW	110cd	BLDG C 2FL CVC HALL 2C202 5:13-1-2	-13-1-2		X						ON
5:13-1-3	VO	49VO-APPLW	110cd	BLDG C 2FL CVC HALL 2C201 5:13-1-3	-13-1-3	X	X						ON
5:13-1-4	VO	49VO-APPLW	110cd	BLDG C 2FL CVC MECH RM 2C201 5:13-1-4	-13-1-4								ON
5:13-1-5	VO	49VO-APPLW	110cd	BLDG C 2FL CVC MECH RM 2C201 5:13-1-5	-13-1-5	X							ON
5:13-1-6	VO	49VO-APPLW	110cd	BLDG C 2FL WEST OFFICE 2C256 5:13-1-6	-13-1-6		X						ON
5:13-1-7	VO	49VO-APPLW	110cd	BLDG C 2FL CVC MECH RM 2C201 5:13-1-7	-13-1-7	X	X						ON
5:13-1-8	VO	49VO-APPLW	110cd	BLDG C 2FL N CORR 2C265 5:13-1-8	-13-1-8			X					ON
5:13-1-9	VO	49VO-APPLW	110cd	BLDG C 2FL CVC CORR 2C202 BY WA5:13-1-9	-13-1-9	X		X					ON

5:13-1 Notification SLC Distributed Load Voltage Drop

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%
Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga
Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

							Class B Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	5:13-1-1	PANEL	100	49VO-APPLW	110cd	0.1320	1.188	0.729	28.271	Branch 1: 7.55%
1	5:13-1-2	5:13-1-1	50	49VO-APPLW	110cd	0.1320	1.056	0.324	27.946	Length: 500
1	5:13-1-3	5:13-1-2	50	49VO-APPLW	110cd	0.1320	0.924	0.284	27.663	
1	5:13-1-4	5:13-1-3	50	49VO-APPLW	110cd	0.1320	0.792	0.243	27.420	
1	5:13-1-5	5:13-1-4	50	49VO-APPLW	110cd	0.1320	0.660	0.203	27.217	
1	5:13-1-6	5:13-1-5	50	49VO-APPLW	110cd	0.1320	0.528	0.162	27.055	
1	5:13-1-7	5:13-1-6	50	49VO-APPLW	110cd	0.1320	0.396	0.122	26.933	
1	5:13-1-8	5:13-1-7	50	49VO-APPLW	110cd	0.1320	0.264	0.081	26.852	
1	5:13-1-9	5:13-1-8	50	49VO-APPLW	110cd	0.1320	0.132	0.041	26.812	

ES POWER SUPPLY 4 - IDNAC CARD 4 - CIRCUIT 5:13-2						SWITCH SETTINGS							
IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)		1							
5:13-2-1	VO	49VO-APPLW	110cd	BLDG C 2FL CVC SUBWAITING 2C2065:13-2-1	-13-2-1	X							ON
5:13-2-2	VO	49VO-APPLW	110cd	BLDG C 2FL CVC RESTROOM 2C204 5:13-2-2	-13-2-2		X						ON
5:13-2-3	VO	49VO-APPLW	110cd	BLDG C 2FL CVC WAITING 2C262 5:13-2-3	-13-2-3	X	X						ON
5:13-2-4	VO	49VO-APPLW	110cd	BLDG C 2FL CVC HALL 2C254 5:13-2-4	-13-2-4								ON
5:13-2-5	VO	49VO-APPLW	110cd	BLDG C 2FL CVC RESTROOM 2C245 5:13-2-5	-13-2-5	X							ON
5:13-2-6	VO	49VO-APPLW	110cd	BLDG C 2FL CVC HALL 2C263 5:13-2-6	-13-2-6		X						ON
5:13-2-7	VO	49VO-APPLW	110cd	BLDG C 2FL CVC TOILET 2C221 5:13-2-7	-13-2-7	X	X						ON

5:13-2 Distributed Load Voltage Drop

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%
Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga
Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

							Class B Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	5:13-2-1	PANEL	100	49VO-APPLW	110cd	0.1320	0.924	0.567	28.433	Branch 1: 4.89%
1	5:13-2-2	5:13-2-1	50	49VO-APPLW	110cd	0.1320	0.792	0.243	28.190	Length: 400
1	5:13-2-3	5:13-2-2	50	49VO-APPLW	110cd	0.1320	0.660	0.203	27.987	
1	5:13-2-4	5:13-2-3	50	49VO-APPLW	110cd	0.1320	0.528	0.162	27.825	
1	5:13-2-5	5:13-2-4	50	49VO-APPLW	110cd	0.1320	0.396	0.122	27.703	
1	5:13-2-6	5:13-2-5	50	49VO-APPLW	110cd	0.1320	0.264	0.081	27.622	
1	5:13-2-7	5:13-2-6	50	49VO-APPLW	110cd	0.1320	0.132	0.041	27.582	

ES POWER SUPPLY 4 - IDNAC CARD 4 - CIRCUIT 5:13-3						SWITCH SETTINGS							
IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)		1							
5:13-3-1	VO	49VO-APPLW	110cd	BLDG C 2FL CVC BREAK RM 2C223 5:13-3-1	-13-3-1	X							ON
5:13-3-2	VO	49VO-APPLW	110cd	BLDG C 2FL CVC HALL 2C228 5:13-3-2	-13-3-2		X						ON
5:13-3-3	VO	49VO-APPLW	110cd	BLDG C 2FL CVC HALL 2C2C236 5:13-3-3	-13-3-3	X	X						ON
5:13-3-4	VO	49VO-APPLW	110cd	BLDG C 2FL CVC MLP 2C242 5:13-3-4	-13-3-4								ON
5:13-3-5	VO	49VO-APPLW	110cd	BLDG C 2FL CVC HALL 2C200 5:13-3-5	-13-3-5	X							ON
5:13-3-6	VO	49VO-APPLW	110cd	BLDG C 2FL CVC HALL 2C200 5:13-3-6	-13-3-6		X						ON
5:13-3-7	VO	49VO-APPLW	110cd	CATH LAB CORR BY EXAM #1 2C231 5:13-3-7	-13-3-7	X	X						ON
5:13-3-8	VO	49VO-APPLW	110cd	CATH LAB CORR BY S EXIT 5:13-3-8	-13-3-8			X					ON
5:13-3-9	VO	49VO-APPLW	110cd	CATH LAB TOILET 2C234 5:13-3-9	-13-3-9	X		X					ON
5:13-3-10	VO	49VO-APPLW	110cd	CATH LAB BY READ RM 2C220 5:13-3-10	-13-3-10		X	X					ON
5:13-3-11	VO	49VO-APPLW	110cd	CATH LAB STAFF BREAK RM 1C222 5:13-3-11	-13-3-11	X	X	X					ON

5:13-3 Distributed Load Voltage Drop

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%
Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga
Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

							Class B Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	5:13-3-1	PANEL	100	49VO-APPLW	110cd	0.1320	1.452	0.892	28.108	Branch 1: 10.76%
1	5:13-3-2	5:13-3-1	50	49VO-APPLW	110cd	0.1320	1.320	0.405	27.703	Length: 600
1	5:13-3-3	5:13-3-2	50	49VO-APPLW	110cd	0.1320	1.188	0.365	27.339	
1	5:13-3-4	5:13-3-3	50	49VO-APPLW	110cd	0.1320	1.056	0.324	27.014	
1	5:13-3-5	5:13-3-4	50	49VO-APPLW	110cd	0.1320	0.924	0.284	26.731	
1	5:13-3-6	5:13-3-5	50	49VO-APPLW	110cd	0.1320	0.792	0.243	26.488	
1	5:13-3-7	5:13-3-6	50	49VO-APPLW	110cd	0.1320	0.660	0.203	26.285	
1	5:13-3-8	5:13-3-7	50	49VO-APPLW	110cd	0.1320	0.528	0.162	26.123	
1	5:13-3-9	5:13-3-8	50	49VO-APPLW	110cd	0.1320	0.396	0.122	26.001	
1	5:13-3-10	5:13-3-9	50	49VO-APPLW	110cd	0.1320	0.264	0.081	25.920	
1	5:13-3-11	5:13-3-10	50	49VO-APPLW	110cd	0.1320	0.132	0.041	25.880	

Johnson Controls
DISTRICT - 332
11019 STRANG LINE ROAD
LENEXA, KS 66215
SERVICE: 913-894-0010
PHONE: 913-894-0010
FAX: 913-894-0020

JOHN WILLIAM CASBURN, JR
NUMBER E-14378
John W Casburn
8/22/23

SLE NUCLEAR MEDICINE SPECT CT

ST. LUKES HOSPITAL
100 NE SAINT LUKE'S BLVD
LEE'S SUMMIT, MO 64086

Revisions shown with # symbol

ISSUE LOG:				
MARK	DATE	CAD	CHK	DESCRIPTION
1	8-22-23	TLE	CF	ADDED CALCULATIONS GENERATED FROM PANEL EXPORT

DRAWN BY:	MM
CHECKED BY:	.TLE
ISSUE DATE:	7/17/23
JOB #:	
PROJECT #:	332:650400519

SYSTEM:
FIRE ALARM SYSTEM

SHEET:
CALCULATIONS AND SCHEDULES

FA-602

FILE PATH: C:\Users\jeubanti\OneDrive - Johnson Controls\00_Lukes\SLE_Lees_Summit\99SLE_NUC_MED_650400519\Sheet Set\FA-601.dwg
LAST SAVED BY: JEUBANTI
LAST PRINTED: 8/29/2023 8:22:01 AM
30" x 42" - Arch E1 Size

Johnson Controls
11019 Strang Line Road
Lenexa , KS 66215

P: (913) 894-0010
F: (913) 894-0020
www.jci.com

To: Saint Lukes East Hospital
100 NE Saint Lukes Blvd
Lee Summit, MO, 64086

Project: SLE NUC Med Spect CT FA
JCI#: 650400519
Date: 07/17/23

Fire Alarm System Material List

Item	Part Number	Description
1	4098-9714	PHOTOELECTRONIC SMOKE SENSOR
2	4098-9792	STANDARD SENSOR BASE
3	4098-9791	SENSOR BASE WITH RELAY DRIVER
4	2098-9737	RELAY DETECTOR ACCESSORY

RELEASED FOR CONSTRUCTION
As Noted on Plan Review

Lee's Summit Fire Department
Lee's Summit, Missouri

09/19/2023

Simplex®

True*Alarm* Analog Sensing

*UL, ULC, CSFM Listed; FM Approved; MEA (NYC) Acceptance**

TrueAlarm Analog Sensors – Photoelectric and Heat; Standard Bases and Accessories

Features

TrueAlarm analog sensing provides:

- Digital transmission of analog sensor values via IDNet or MAPNET II two-wire communications

For use with the following Simplex® products:

- 4007ES, 4010, 4010ES, 4100ES, and 4100U Series control panels; and 4008 Series control panels with reduced feature set (refer to data sheet S4008-0001 for details)
- 4020, 4100, and 4120 Series control panels, Universal Transponders, and 2120 TrueAlarm CDTs equipped for MAPNET II operation

Fire alarm control panel provides:

- Peak value logging allowing accurate analysis of each sensor for individual sensitivity selection
- Sensitivity monitoring satisfying NFPA 72 sensitivity testing requirements; automatic individual sensor calibration check verifies sensor integrity
- Automatic environmental compensation, multi-stage alarm operation, and display of sensitivity directly in percent per foot
- Ability to display and print detailed sensor information in plain English language

Photoelectric smoke sensors provide:

- Seven levels of sensitivity from 0.2% to 3.7% (refer to additional information on page 3)

Heat sensors provide:

- Three fixed temperature sensing thresholds: 135° F, 155° F and 190° F
- Rate-of-rise temperature sensing
- Utility temperature sensing
- Listed to UL 521 and ULC-S530

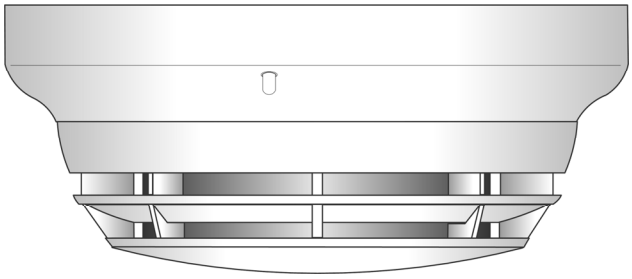
General features:

- Operation is for ceiling or wall mounting
- Listed to UL 268 and ULC-S529
- Louvered smoke sensor design enhances smoke capture by directing flow to chamber; entrance areas are minimally visible when ceiling mounted
- Designed for EMI compatibility
- Magnetic test feature is provided
- Different bases are available to support a supervised or unsupervised output relay, and/or a remote LED alarm indicator

Additional base reference:

- For isolator bases, refer to data sheet S4098-0025
- For sounder bases, refer to data sheet S4098-0028
- For photo/heat sensors, refer to data sheet S4098-0024 (single address) and S4098-0033 (dual address)

* These products have been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listings 7272-0026:218, 7271-0026:231, 7270-0026:216, and 7300-0026:217 for allowable values and/or conditions concerning material presented in this document. Accepted for use – City of New York Department of Buildings – MEA35-93E. Additional listings may be applicable, contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.



4098-9714 TrueAlarm Photoelectric Sensor Mounted in Base

Description

Digital Communication of Analog Sensing. TrueAlarm analog sensors provide an analog measurement digitally communicated to the host control panel using Simplex addressable communications. At the control panel, the data is analyzed and an average value is determined and stored. An alarm or other abnormal condition is determined by comparing the sensor's present value against its average value and time.

Intelligent Data Evaluation. Monitoring each sensor's average value provides a continuously shifting reference point. This software filtering process compensates for environmental factors (dust, dirt, etc.) and component aging, providing an accurate reference for evaluating new activity. With this filtering, there is a significant reduction in the probability of false or nuisance alarms caused by shifts in sensitivity, either up or down.

Control Panel Selection. Peak activity per sensor is stored to assist in evaluating specific locations. The alarm set point for each TrueAlarm sensor is determined at the host control panel, selectable as more or less sensitive as the individual application requires.

Timed/Multi-Stage Selection. Sensor alarm set points can be programmed for timed automatic sensitivity selection (such as more sensitive at night, less sensitive during day). Control panel programming can also provide multi-stage operation per sensor. For example, a 0.2% level may cause a warning to prompt investigation while a 2.5% level may initiate an alarm.

Sensor Alarm and Trouble LED Indication. Each sensor base's LED pulses to indicate communications with the panel. If the control panel determines a sensor is in alarm, or is dirty or has some other type of trouble, the details are annunciated at the control panel and that sensor base's LED will be turned on steadily. During a system alarm, the control panel will control the LEDs such that an LED indicating a trouble will return to pulsing to help identify the alarmed sensors.

True*Alarm* Sensor Bases and Accessories

Sensor Base Features

Base mounted address selection:

- Address remains with its programmed location
- Accessible from front (DIP switch under sensor)

General features:

- Automatic identification provides default sensitivity when substituting sensor types
- Integral red LED for power-on (pulsing), or alarm or trouble (steady on)
- Locking anti-tamper design mounts on standard outlet box
- Magnetically operated functional test

Sensor Bases

4098-9792, Standard Sensor Base

4098-9789, Sensor Base with wired connections for:

- 2098-9808 Remote LED alarm indicator **or** 4098-9822 relay (relay is unsupervised and requires separate 24 VDC)

Supervised Relay Bases (not compatible with 2120 CDT)**:**

- **4098-9791, 4-Wire Sensor Base,** use with remote or locally mounted 2098-9737 relay, requires separate 24 VDC
- **4098-9780, 2-Wire Sensor Base**, use with remote or locally mounted 4098-9860 relay, no separate power required
- Supervised relay operation is programmable and can be manually operated from control panel
- Includes wired connections for remote LED alarm indicator **or** 4098-9822 relay (relay is unsupervised and requires separate 24 VDC)

Sensor Base Options

2098-9737, Remote or local mount supervised relay:

- DPDT contacts for resistive/suppressed loads, power limited rating of 3 A @ 28 VDC; non-power limited rating of 3 A @ 120 VAC (requires external 24 VDC coil power)

4098-9860, Remote or local mount supervised relay:

- SPDT dry contacts, power limited rating of 2 A @ 30 VDC, resistive; non-power limited rating of 0.5 A @ 125 VAC, resistive

4098-9822, LED Annunciation Relay:

- Activates when base LED is on steady, indicating local alarm or trouble
- DPDT contacts for resistive/suppressed loads, power limited rating of 2 A @ 28 VDC; non-power limited rating of 1/2 A @ 120 VAC, (requires external 24 VDC coil power)

4098-9832, Adapter plate:

- Required for surface or semi-flush mounting to 4” square electrical box and for surface mounting to 4” octagonal box
- Can be used for cosmetic retrofitting to existing 6-3/8” diameter base product

2098-9808, Remote red LED Alarm Indicator:

- Mounts on single gang box (shown in illustration to right)

Description

TrueAlarm sensor bases contain integral addressable electronics that constantly monitor the status of the detachable photoelectric or heat sensors. Each sensor’s output is digitized and transmitted to the system fire alarm control panel every four seconds.

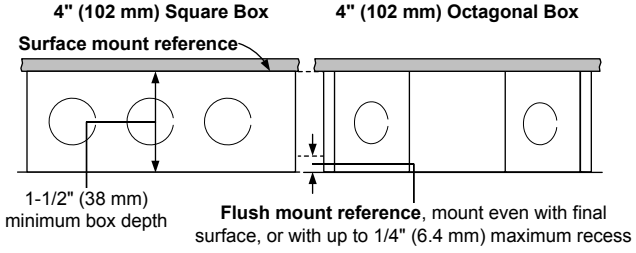
Since TrueAlarm sensors use the same base, different sensor types can be easily interchanged to meet specific location requirements. This feature also allows intentional sensor substitution during building construction. When conditions are temporarily dusty, instead of covering the smoke sensors (causing them to be disabled), heat sensors may be installed without reprogramming the control panel. Although the control panel will indicate an incorrect sensor type, the heat sensor will operate at a default sensitivity providing heat detection for building protection at that location.

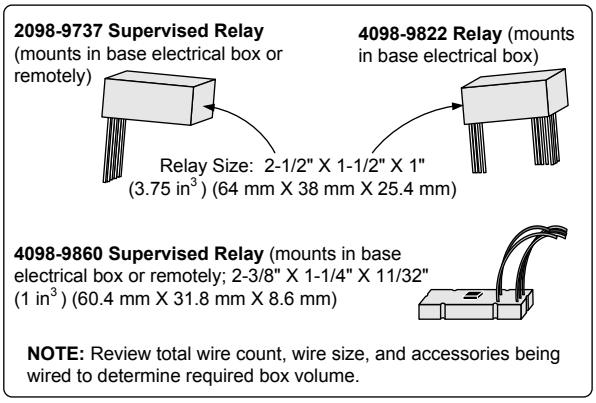
Mounting Reference

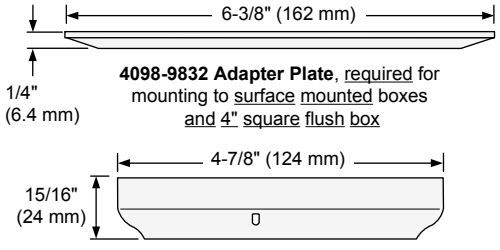
Electrical Box Requirements: (boxes are by others)

Without relay in the box: 4" octagonal or 4" square, 1-1/2" deep; single gang, 2" deep

With relay in the box : 4" octagonal or 4" square, 1-1/2" deep, with 1-1/2" extension ring







TrueAlarm Bases
4098-9780, 4098-9789, 4098-9791, & 4098-9792

True*Alarm* Sensors

Features

Sealed against rear air flow entry

Interchangeable mounting

EMI/RFI shielded electronics

Heat sensors:

- Selectable rate compensated, fixed temperature sensing with or without rate-of-rise operation
- Rated spacing distance between sensors:

Fixed Temp. Setting	UL & ULC Spacing	FM Spacing, Either Fixed Temperature Setting
135° F / 190° F* (57.2° C / 88° C)	60 ft x 60 ft (18.3 m)	20 ft x 20 ft (6.1 m) for fixed temperature only; **RTI = Quick**
155° F (68° C)	40 ft x 40 ft (12.2 m)	50 ft x 50 ft (15.2 m) for fixed temperature with either rate-of-rise selection; **RTI = Ultra Fast**

***Note:** 190° F (88° C) ratings apply only to the 4098-9734 sensor.

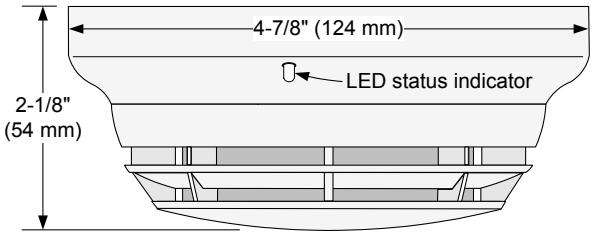
Smoke Sensors:

- Photoelectric technology sensing
- 360° smoke entry for optimum response
- Built-in insect screens

4098-9714 Photoelectric Sensor

TrueAlarm photoelectric sensors use a stable, pulsed infrared LED light source and a silicon photodiode receiver to provide consistent and accurate low power smoke sensing. Seven levels of sensitivity are available for each individual sensor, ranging from 0.2% to 3.7% per foot of smoke obscuration. Sensitivities of 0.2%, 0.5%, and 1% are for special applications in clean areas. Standard sensitivities are 1.5%, 2.0%, 2.5%, 3.0%, and 3.7%. Application type and sensitivity are selected and then monitored at the fire alarm control panel.*

The sensor head design provides 360° smoke entry for optimum response to smoke from any direction. Due to its photoelectric operation, air velocity is not normally a factor, except for impact on area smoke flow.



4098-9714 Photoelectric Sensor with Base

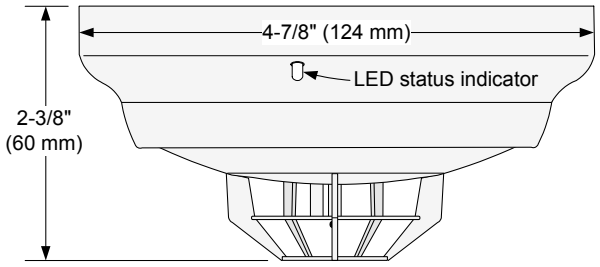
4098-9733 and 4098-9734 Heat Sensors

TrueAlarm heat sensors are self-restoring and provide rate compensated, fixed temperature sensing, selectable with or without rate-of-rise temperature sensing. Due to its small thermal mass, the sensor accurately and quickly measures the local temperature for analysis at the fire alarm control panel.

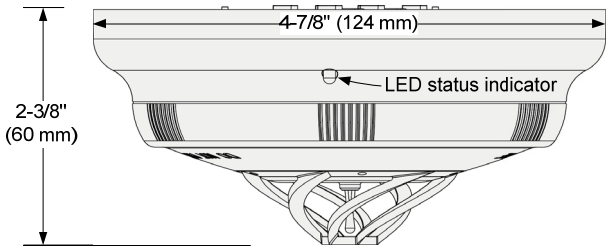
Rate-of-rise temperature detection is selectable at the control panel for either 15° F (8.3° C) or 20° F (11.1° C) per minute. Fixed temperature sensing is independent of rate-of-rise sensing and programmable to operate at 135° F (57.2° C) or 155° F (68° C). The 4098-9734 sensor provides an additional 190° F (88° C) set point.

In a slow developing fire, the temperature may not increase rapidly enough to operate the rate-of-rise feature. However, an alarm will be initiated when the temperature reaches its rated fixed temperature setting.

TrueAlarm heat sensors can be programmed as a utility device to monitor for temperature extremes in the range from 32° F to 155° F (0° C to 68° C). This feature can provide freeze warnings or alert to HVAC system problems. *Refer to specific panels for availability.*



4098-9733 Heat Sensor with Base



4098-9734 High Temperature Heat Sensor with Base

WARNING: In most fires, hazardous levels of smoke and toxic gas can build up before a heat detection device would initiate an alarm. In cases where Life Safety is a factor, the use of smoke detection is highly recommended.

Application Reference

Sensor locations should be determined only after careful consideration of the physical layout and contents of the area to be protected. Refer to NFPA 72, the *National Fire Alarm and Signaling Code*. On smooth ceilings, smoke sensor spacing of 30 ft (9.1 m) may be used as a guide.*

* For detailed application information including sensitivity selection, refer to Installation Instructions 574-709.

TrueAlarm Analog Sensing Product Selection Chart

TrueAlarm Sensor Bases (for use with Sensors 4098-9714 and 4098-9733)

(Refer to Application Manual 574-709 and Installation Instructions 574-707 for additional information)

Model*	Color	Description	Compatibility	Mounting Requirements
4098-9792	White	Standard Sensor Base	No options	4" octagonal or 4" square box, 1-1/2" min. depth; or single gang box, 2" min. depth
4098-9776	Black			
4098-9789	White	Sensor Base with connections for Remote LED Alarm Indicator **or** Unsupervised Relay	2098-9808 Remote Alarm Indicator **or** 4098-9822 Unsupervised Relay	4" octagonal or 4" square box **Note:** Box depth requirements depend on total wire count and wire size, refer to accessories list below for reference. ** **NOTE:** 4098-9791 and 4098-9780 are NOT compatible with the 2120 CDT
4098-9789 IND	White			
4098-9775	Black			
4098-9791**	White	4-Wire Sensor Supervised Relay Base with connections for LED Indicator **or** Unsupervised Relay	2098-9737 Supervised Remote Relay 2098-9808 Remote Alarm Indicator **or** 4098-9822 Unsupervised Relay	
4098-9780**	White	2-Wire Sensor Supervised Relay Base with connections for LED Indicator **or** Unsupervised Relay	4098-9860 Supervised Remote Relay 2098-9808 Remote Alarm Indicator **or** 4098-9822 Unsupervised Relay	

TrueAlarm Sensors

Model*	Model*	Description	Compatibility	Mounting Requirements
4098-9714	White	Photoelectric Smoke Sensor	Bases 4098-9775, 4098-9776, 4098-9792, 4098-9789, 4098-9791, and 4098-9780	Refer to base requirements
4098-9714 IND				
4098-9774	Black			
4098-9733	White	Heat Sensor		
4098-9734	White	High Temperature Heat Sensor		

TrueAlarm Sensor/Base Accessories

Model	Description	Compatibility	Mounting Requirements
2098-9737	Supervised Relay, mounts remote or in base electrical box	For use with 4098-9791 base	**Remote Mounting** requires 4" octagonal or 4" square box, 1-1/2" minimum depth **Base Mounting** requires 4" octagonal box, 2-1/8" deep with 1-1/2" extension ring
4098-9860	Supervised Relay, mounts remote or in base electrical box	For use with 4098-9780 base	
2098-9808	Remote Red LED Alarm Indicator on single gang stainless steel plate	Bases 4098-9789, 4098-9791, and 4098-9780	Single gang box, 1-1/2" minimum depth
4098-9822	Unsupervised Relay, tracks base LED status; Note: Mounts only in base electrical box	Bases 4098-9789, 4098-9791, and 4098-9780	4" octagonal box, 2-1/8" deep with 1-1/2" extension ring
4098-9832	Adapter Plate	Bases 4098-9792, 4098-9789, 4098-9791, and 4098-9780	**Required** for surface or semi-flush mounted 4" square box and for surface mounted 4" octagonal box

* **Note:** Model numbers ending in IND are assembled in India.

Specifications

General Operating Specifications

Communications and Sensor Supervisory Power		IDNet or MAPNET II communications, auto-selected, 1 address per base
Communications Connections		Screw terminals for in/out wiring, 18 to 14 AWG (0.82 mm^2 to 2.08 mm^2)
Remote LED Alarm Indicator Current		1 mA typical, no impact to alarm current
Remote LED Alarm Indicator and Relay Connections		Color coded wire leads, 18 AWG (0.82 mm^2)
UL Listed Operating Temperature Range		32° to 100° F (0° to 38° C)
Operating Temperature Range	with 4098-9733 Heat Sensor	32° to 122° F (0° to 50° C)
	with 4098-9714 Smoke Sensor	15° to 122° F (-9° to 50° C)
	With 4098-9734 Heat Sensor	32° to 150° F (0° to 66° C)
Storage Temperature Range		0° F to 140° F (-18° C to 60° C)
Humidity Range		10 to 95% RH
4098-9714 Smoke Sensor Air Velocity Rating		0-4000 ft/min (0-1220 m/min)
Housing Color		Frost White or Black
4098-9791 Base With Supervised Remote Relay 2098-9737 (see page 2 for contact ratings)		
Externally Supplied Relay Coil Voltage		18-32 VDC (nominal 24 VDC)
Supervisory Current		270 μA, from 24 VDC supply
Alarm Current with 2098-9737 Relay		28 mA, from 24 VDC supply
4098-9780 Base With Supervised Remote Relay 4098-9860 (see page 2 for contact ratings)		
Power		Supplied from communications
4098-9822 Unsupervised Relay, Requirements for Bases 4098-9789. 4098-9791, and 4098-9780 (see page 2 for contact ratings)		
Externally Supplied Relay Coil Voltage		18-32 VDC (nominal 24 VDC)
Supervisory Current		Supplied from communications
Alarm Current		13 mA from separate 24 VDC supply

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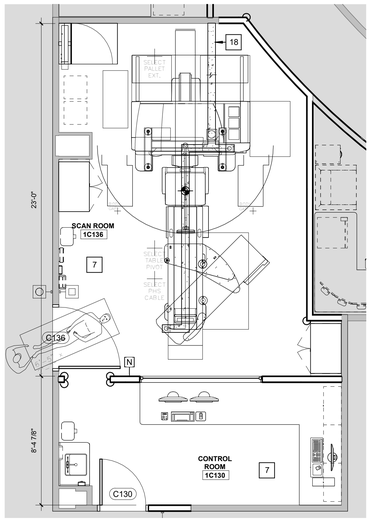
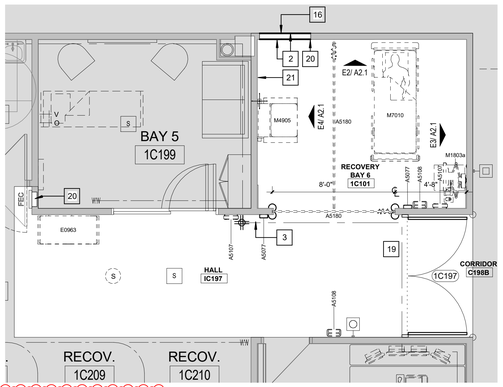
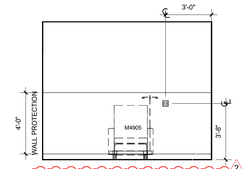


D7 EQUIPMENT LAYOUT
1/4" = 1'-0"

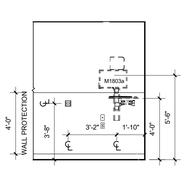


D6 ENLARGED PLAN
1/4" = 1'-0"



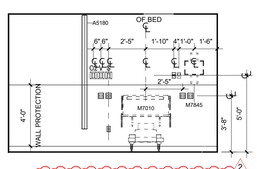
E4 RECOVERY - WEST
1/4" = 1'-0"

1C101	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-



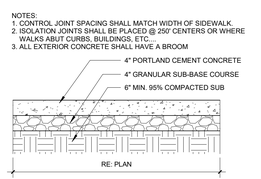
E3 RECOVERY - EAST
1/4" = 1'-0"

1C101	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-

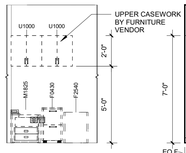


E2 RECOVERY - NORTH
1/4" = 1'-0"

1C101	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-

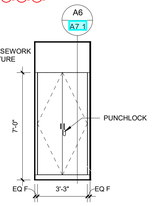


E1 DETAIL AT CONCRETE SIDEWALK
3/4" = 1'-0"



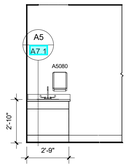
D5 CORRIDOR
1/4" = 1'-0"

C138	
BASE CABINETS	--
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-



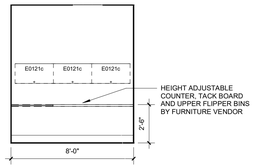
D4 SCAN ROOM
1/4" = 1'-0"

1C136	
BASE CABINETS	PLAM-1
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-



D3 CONTROL ROOM - WEST
1/4" = 1'-0"

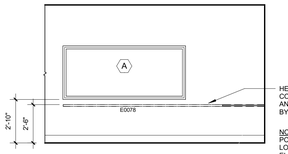
1C130	
BASE CABINETS	PLAM-1
WALL CABINETS	--
COUNTERTOPS	SSF-1
SINKS	IS-1



HEIGHT ADJUSTABLE COUNTER, TACK BOARD AND UPPER FLIPPER BINS BY FURNITURE VENDOR

D2 CONTROL ROOM - EAST
1/4" = 1'-0"

1C130	
BASE CABINETS	PLAM-1
WALL CABINETS	---
COUNTERTOPS	SSF-1
SINKS	IS-1



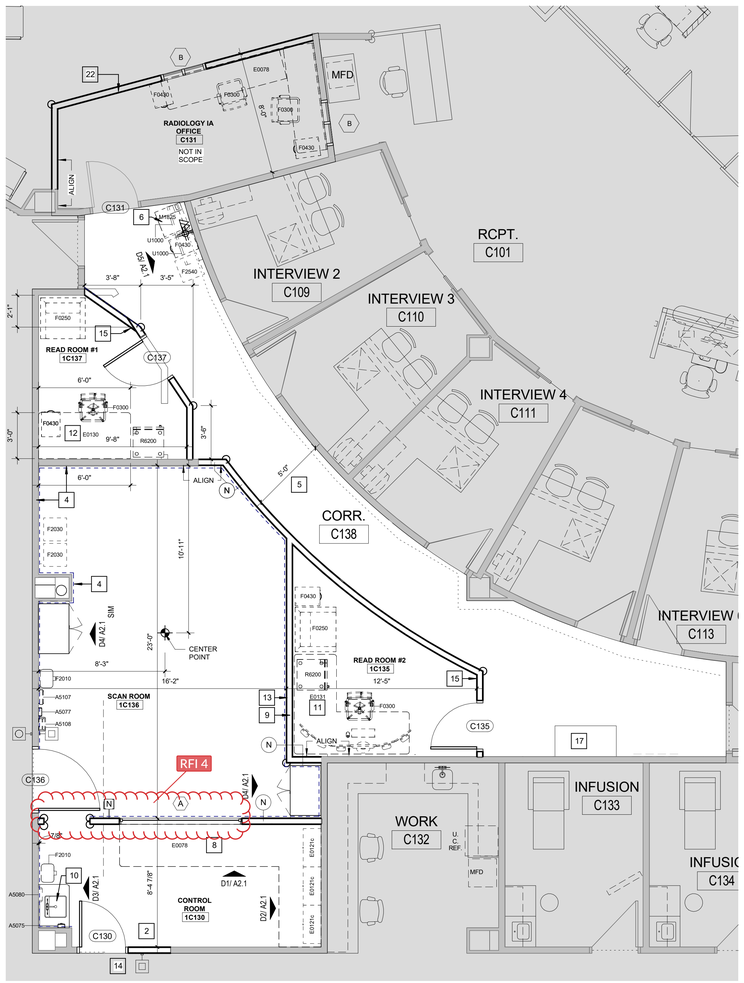
HEIGHT ADJUSTABLE COUNTER, TACK BOARD AND UPPER FLIPPER BINS BY FURNITURE VENDOR

NOTE: REF. ELECT. FOR POWER AND DATA LOCATIONS, TYP. AT ALL ELEVATIONS

D1 CONTROL ROOM - NORTH
1/4" = 1'-0"

1C130	
BASE CABINETS	PLAM-1
WALL CABINETS	---
COUNTERTOPS	SSF-1
SINKS	IS-1

Architural Drawing demonstration use of rooms



B6 ENLARGED PLAN
1/4" = 1'-0"

A4 OVERALL PLAN
1/8" = 1'-0"

NORTH

FFE SCHEDULE

TYPE MARK	DESCRIPTION	RESPONSIBILITY	COMMENTS
A1000			
A5075	SOAP DISPENSER	OFCI	EXISTING TO BE RELOCATED
A5077	HAND SANITIZER	OFCI	
A5080	PAPER TOWEL DISPENSER	OFCI	BLOCKING AS REQUIRED
A5107	GLOVE DISPENSER	OFCI	
A5108	SHARPS	OFCI	
A5145	COAT HOOK	CFCI	BLOCKING AS REQUIRED
A5180	CUBICLE CURTAIN	CFCI	
E0078	"L" WORK STATION	VFVI	BY JAM, BLOCKING AS REQUIRED
E0121c	JAM UPPER FLIPPER BIN, 30" W	VFVI	BY JAM, BLOCKING AS REQUIRED
E0130	EXISTING READ DESK	OFOI	EXISTING TO BE RELOCATED
E0131	NEW READ DESK	OFOI	84"X36"
E0963	EXISTING SHELVING UNIT	OFOI	EXISTING TO BE RELOCATED
F0250	LOUNGE CHAIR	OFOI	EXISTING TO BE RELOCATED
F0300	CHAIR, TASK, SWIVEL, W/ ARMS	OFOI	
F0430	FILE CABINET	OFOI	
F2010	STEP TRASHCAN	OFOI	
F2030	LEAD LINED RECEPTACLE	OFOI	
F2540	SHREDDER	OFOI	
M1801	COMPUTER MONITOR	OFOI	EXISTING TO BE RELOCATED
M1803a	WORKSTATION, WALL MOUNTED	OFCI	PROVIDE IN WALL BLOCKING; POWER AND DATA REQUIRED. RE: MEP
M1825	PRINTER	OFOI	EXISTING TO BE RELOCATED
M4905	RECOVERY CHAIR	OFOI	EXISTING TO BE RELOCATED
M7010	BED, PATIENT, ELECTRIC	OFOI	EXISTING TO BE RELOCATED
M7845	VITALS MONITOR, WALL MOUNTED	OFOI	PROVIDE IN WALL BLOCKING; POWER AND DATA REQUIRED. RE: MEP
R6200	DORM REFRIGERATOR	OFOI	EXISTING TO BE RELOCATED
U1000	UPPER CASEWORK	VFVI	BLOCKING AS REQUIRED

GENERAL PLAN NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH A.D.A. REQUIREMENTS AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL BUILDING CODES AND REGULATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY BUILDING PERMITS.
3. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY THE ARCHITECT OF ANY INCONSISTENCIES OR DISCREPANCIES WITH THE PROJECT DOCUMENTS. ACCESS TO THE SITE AND/OR SPACE UNDER CONSTRUCTION DURING BIDDING AND CONSTRUCTION SHALL BE COORDINATED WITH THE OWNER.
4. IF MATERIAL SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB. IMMEDIATELY NOTIFY ARCHITECT AND OWNER. OWNER SHALL COORDINATE WITH CONTRACTOR ON THE REMOVAL OF SUCH ITEMS. WORK MAY PROCEED AFTER HAZARDOUS MATERIAL HAS BEEN REMOVED.
5. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING AND CONFIRMING ALL SUBSTRATE CONDITIONS WHERE NEW MATERIALS ARE APPLIED. THE SUBSTRATE SHALL BE SMOOTH AND FREE OF DEFECTS AND SHALL CONFORM TO THE REQUIREMENTS OF THE FINISHED MATERIAL MANUFACTURERS RECOMMENDATIONS.
6. CONTRACTOR SHALL FURNISH AND INSTALL CONCEALED FIRE-TREATED WOOD BLOCKING BEHIND ALL CABINETS, TOILET ACCESSORIES, PLUMBING FIXTURES, AND OTHER WALL MOUNTED ITEMS AS REQUIRED FOR ADEQUATE SITE SUPPORT.
7. CONTRACTOR TO PROVIDE ALL REQUIRED LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO MEET AND COMPLETE THE REQUIREMENTS OF THE NEW CONSTRUCTION.
8. ALL EXISTING CONSTRUCTION TO REMAIN SHALL BE PATCHED, REPAIRED, AND PREP AS REQUIRED FOR NEW FINISH APPLICATION.
9. DO NOT CLOSE OR OBSTRUCT WALKWAYS, EXITS, OR OTHER FACILITIES USED BY OCCUPANTS OF BUILDINGS WITHOUT WRITTEN PERMISSION FROM AUTHORITIES HAVING JURISDICTION
10. CONDUCT ALL OPERATIONS IN A SAFE WORKING MANNER TO PREVENT DAMAGE OR INJURY TO ADJACENT SPACES, BUILDING, STRUCTURE, OTHER FACILITIES, AND PERSONS.
11. REFER TO GENERAL NOTES, LEGENDS & SYMBOLS SHEET FOR ADDITIONAL GENERAL NOTES AS APPLICABLE.
12. SEE FINISH SCHEDULE FOR FINISH LOCATION AND SPECIFICATIONS.
13. SEE DOOR SCHEDULE FOR DOOR SPECIFICATIONS.
14. UPON VERIFICATION OF THE EXISTING CONDITIONS, THE CONTRACTOR SHALL DETERMINE AND RECOMMEND THE BEST ACTION TO MINIMAZE THE EXTENT OF REMOVAL WORK FOR INSTALLATION OF NEW WORK.

FLOOR PLAN LEGEND

- NOT IN SCOPE
- NEW WALL
- DOOR No. / NEW DOOR
- WALL REQUIRING 1/16" LEAD SHIELDING PER PHYSICIST'S REPORT
- 4" CONCRETE SIDEWALK
- EXISTING WALL
- EXISTING DOOR

KEYNOTES - FLOOR PLAN

#	NUMBER	COMMENTS
	1	NEW 4" CONCRETE SIDEWALK AND ADA RAMP. COORDINATE SIDEWALK TO AVOID EXISTING DECON TANK
	2	INFILL DEMO'D DOOR OPENING WITH NEW GYP BOARD CONSTRUCTION TO MATCH ADJACENT WALL DEPTH AND FINISHES
	3	RELOCATE EXISTING WALL MOUNTED EQUIPMENT TO NEW LOCATION OUTSIDE ROOM 1C101. COORDINATE PLACEMENT WITH OWNER. PATCH, REPAIR, AND FINISH WALL WHERE EQUIPMENT WAS PREVIOUSLY LOCATED
	4	MODIFY EXISTING WALL TO MEET LEAD LINE REQUIRMENTS PER PHYSICIST'S REPORT
	5	ALIGN NEW WALL 5' FROM EXISTING CORRIDOR WALL
	6	RELOCATED EXISTING MFD
	7	SYMBIA PRO.SPECTA QL REFER TO VENDOR DRAWING
1	8	COUNTER, TACK BOARD AND UPPER FLIPPER BINS BY FURNITURE VENDOR
	9	INSTALL F.R. BLOCKING FOR LEAD HOOKS AND SLIDE BOARD
	10	NEW SINK AND CASEWORK, REINSTALL WALL MOUNTED FIXTURES, OFOI
	11	EXISTING READ DESK RELOCATED FROM EXISTING READ ROOM, OFOI
	12	NEW READ DESK
	13	LOCATE SUCTION CANISTER SLIDE AS DIRECTED BY STAFF
	14	PROVIDE SIGNAGE ON DOOR "NO ENTRY WITHOUT STAFF APPROVAL" FACILITIES TO PROVIDE SIGANGE PROVIDING CONTACT NUMBER
	15	COAT HOOK, LOCATE AS DIRECTED BY STAFF
	16	INSTALL NEW SECTION OF BASE AND HANDRAIL TO MATCH ADJACENT
	17	EXISTING BUILT IN CABINET. PROTECT
	18	PATCH AREA AT NEW FLOOR DUCT, INSTALL NEW VAPOR BARRIER BELOW FLOOR DUCT, TIE INTO EXISTING VAPOR BARRER. INFILL WITH NEW CONCRETE FLOOR WHERE REQD. TO MATCH ADJACENT FLOOR ELEVATION.
	19	ALT #1: NEW GYP BOARD WALL AND DOUBLE EGRESS DOOR WITH EXISTING HARDWARE AND NEW PROX. READER. RESTRUCTURE WALL TO ENSURE ENTIRE WALL CONSTRUCTION IS STABLE AND TIED INTO ADJACENT CONSTRUCTION.
2	20	RELOCATED RECESSED FIRE EXTINGUISHER - PATCH, PAINT AND REPAIR WALL TO MATCH ADJCENT FINISHES
2	21	REMOVE AND RELOCATE EXISTING FIRE EXT. CABINET. PATCH, REPAIR, AND PAINT TO MATCH ADJACENT FINISHES WHERE OLD CABINET WAS LOCATED
	22	NEW BASE AND PAINT TO MATCH EXISTING WAITING ROOM FINISHES

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Date	4/07/2023
Job Number	3-23005
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
1	04.24.23	ADD 1
2	06.12.23	ASI 1 - RECOVERY BAY
3	pending	ASI 2 - RAD OFFICE

A2.1

FIRST FLOOR DIMENSION PLAN

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