

LSS Life Safety Systems, LLC

Life Safety Systems, LLC
10143 ROYALTON ROAD, SUITE R
NORTH ROYALTON, OHIO 44133
PHONE: 440 888-1960
FAX: 440 888-1961
www.lifesafetyllc.com

FIRE ALARM DESIGN BY:
DAMON G. LEWIS, SET
NICET CER. LEVEL IV #102567
OHIO FIRE ALARM DESIGNER #3191

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REVISIONS

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2	12/28/2021	ADDED ANIMAL HOSPITAL NORTH
3	03/04/2022	CITY REVIEW REVISION

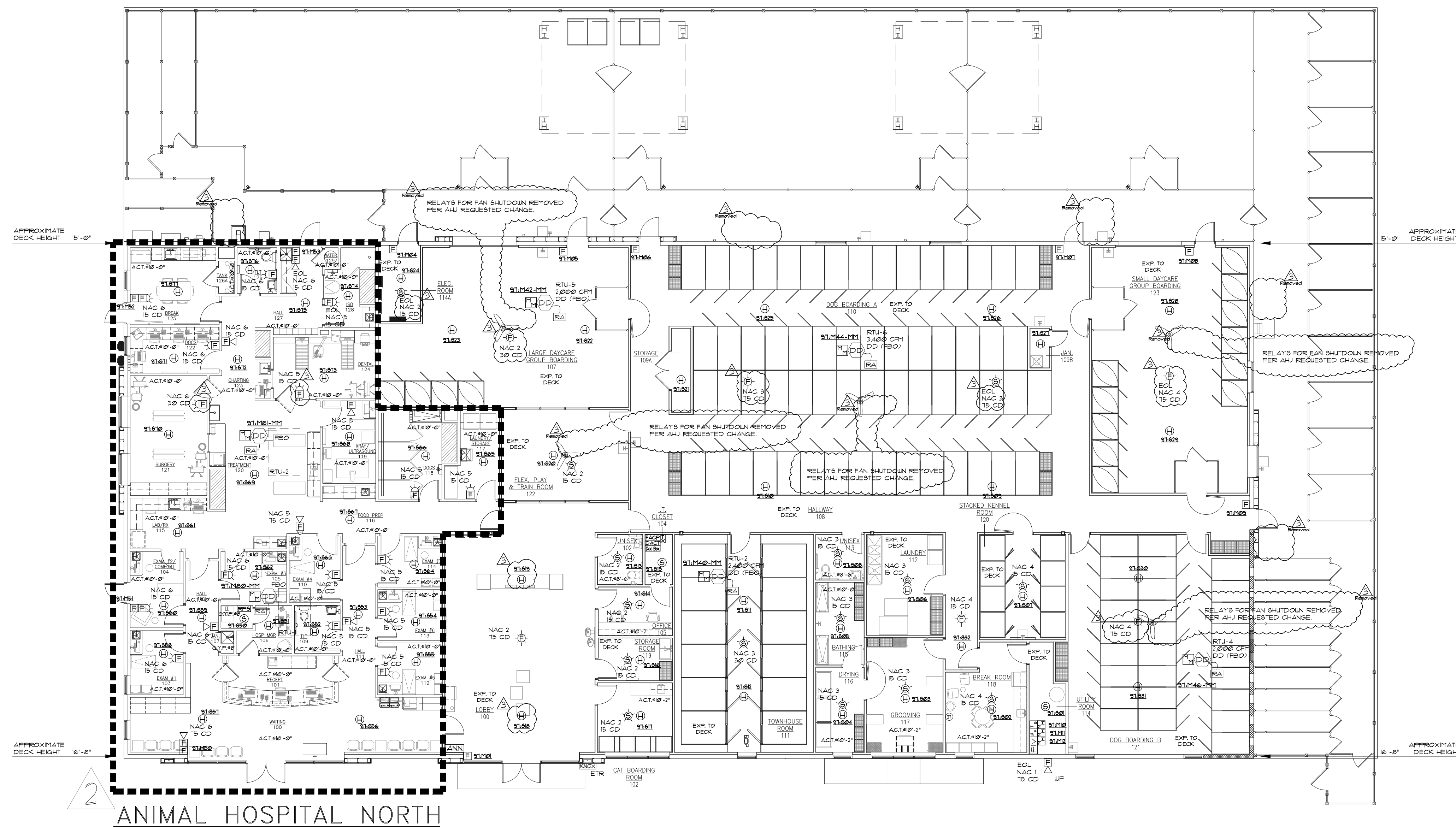
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- THE INSTALLING CONTRACTOR SHALL PROVIDE QUALIFIED EXPERIENCED INSTALLERS THAT ARE CURRENTLY LICENSED TO INSTALL FIRE ALARMS IN THE STATE OF MISSOURI. ALL PERSONS WORKING ON THE FIRE ALARM SYSTEM ARE TO BE LICENSED FOR SUCH WORK.
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- ALL FIRE ALARM CONTROL PANELS SHALL RECEIVE ITS OPERATING POWER FROM A DEDICATED 120VAC SOURCE. THIS BREAKER SHALL BE IDENTIFIED AND MECHANICALLY LOCKED IN THE "ON" POSITION.
- MANUAL FULL STATIONS SHALL BE MOUNTED AT 48" AFF.
- HORN/ STROBES AND STROBES SHALL BE MOUNTED AT 80" AFF. AT THE BOTTOM OF THE DEVICE UNLESS OTHERWISE NOTED, OR CEILING MOUNT DEVICES ARE TO BE USED. ALL STROBE DEVICES SHALL BE SET AT 15 CANDELA UNLESS OTHERWISE NOTED.
- PROVIDE FIRE STOPPING AT ALL PENETRATIONS OF FIRE OR SMOKE PARTITIONS.
- UPON COMPLETION, THE INSTALLING CONTRACTOR SHALL PERFORM A 100% TEST OF THE SYSTEM BEFORE THE LOCAL AUTHORITIES HAVING JURISDICTION ARE CONTACTED FOR THE REQUIRED ACCEPTANCE TEST.
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JOB NAME:
Lee's Summit Animal Hospital North
250 NW McNary Court
Lee's Summit, MO 64086
FIRE ALARM PLAN

DRAWN BY: Jacob A. DATE: 02/18/2022
CHECKED BY: DATE: .

FA-01



SYMBOL LEGEND

Quan.	Symbol	Description
2	Ⓢ	ADDRESSABLE SMOKE DETECTOR SILENT KNIGHT IDP-PHOTO
30	Ⓜ	ADDRESSABLE HEAT DETECTOR SILENT KNIGHT IDP-HEAT
6	Ⓢ	HORN/STROBE (Ceiling Mounted) SYSTEM SENSOR F2RL
1	Ⓢ	HORN/STROBE OUTDOOR (Wall Mounted) SYSTEM SENSOR F2RK
15	Ⓢ	STROBE (Ceiling Mounted) SYSTEM SENSOR SCRL
0	Ⓢ	STROBE OUTDOOR (Wall Mounted) SYSTEM SENSOR SRK
1	Ⓢ	ADDRESSABLE FULL STATION SILENT KNIGHT IDP-FULL-SA
1	FACP	FIRE ALARM CONTROL PANEL SILENT KNIGHT FARENHYT IFF-300
1	ANN	FIRE ALARM REMOTE ANNUNCIATOR SILENT KNIGHT RA-1000R
1	DACT	NARCO DIGITAL ALARM COMMUNICATOR STARLINK SLE-LTEV1-CFEP5
1	Ⓢ	SURGE PROTECTIVE DEVICE DITEK DTK-120HW
0	Ⓢ	ADDRESSABLE RELAY SILENT KNIGHT IDP-RELAY
FBO	DD	DUCT DETECTOR Mounted In Return Duct (unless otherwise noted) (FURNISHED BY OTHERS)
FBO	RA	REMOTE ALARM L.E.D. (FURNISHED BY OTHERS)
1	M	ADDRESSABLE MONITOR MODULE SILENT KNIGHT IDP-MINIMON
1	Doc Box	DOCUMENT BOX
FBO	KNOX	KNOX BOX FURNISHED BY GENERAL CONTRACTOR
FBO	W	SPRINKLER WATERFLOW SWITCH FURNISHED BY OTHERS (FBO)
FBO	TS	SPRINKLER TAMPER SWITCH FURNISHED BY OTHERS (FBO)
FBO	PIV	POST INDICATOR VALVE FURNISHED BY OTHERS (FBO)
WP		= WEATHER PROOF DEVICE
FBO		= FURNISHED BY OTHERS
A.C.T.		= ACOUSTIC CEILING TILE

NOTE:
"EXP. TO DECK" REFERS TO THE ROOM THAT DOES NOT HAVE A FINISHED CEILING. THE DECK HEIGHT VARIES DUE TO THE ROOF SLOPE AND WILL HAVE A RANGE FROM 15'-0" TO 16'-8" AFF.

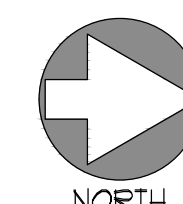
PRIVACY MODE SIGNALING SYSTEM

IN CONSIDERATION FOR ANIMAL CARE AND BOARDING WITHIN THIS PUBLIC ACCESS RESTRICTED FACILITY, THE USE OF PRIVATE SIGNALING MODE SHOULD BE USED, AND IS THE BASIS FOR THIS DESIGN UNDER NFPA 72, SECTION 18.4.4.2. MINIMAL USE OF AUDIBLE SIGNALS BUT COMPLETE VISUAL COVERAGE THROUGHOUT THE FACILITY ALLOWS FOR ALERTING STAFF TO TAKE ACTION DURING AN ALARM EVENT WHILE KEEPING THE DECIBEL LEVELS DOWN SO AS NOT TO STRESS AND PANIC ANIMALS WITHIN THE FACILITY.

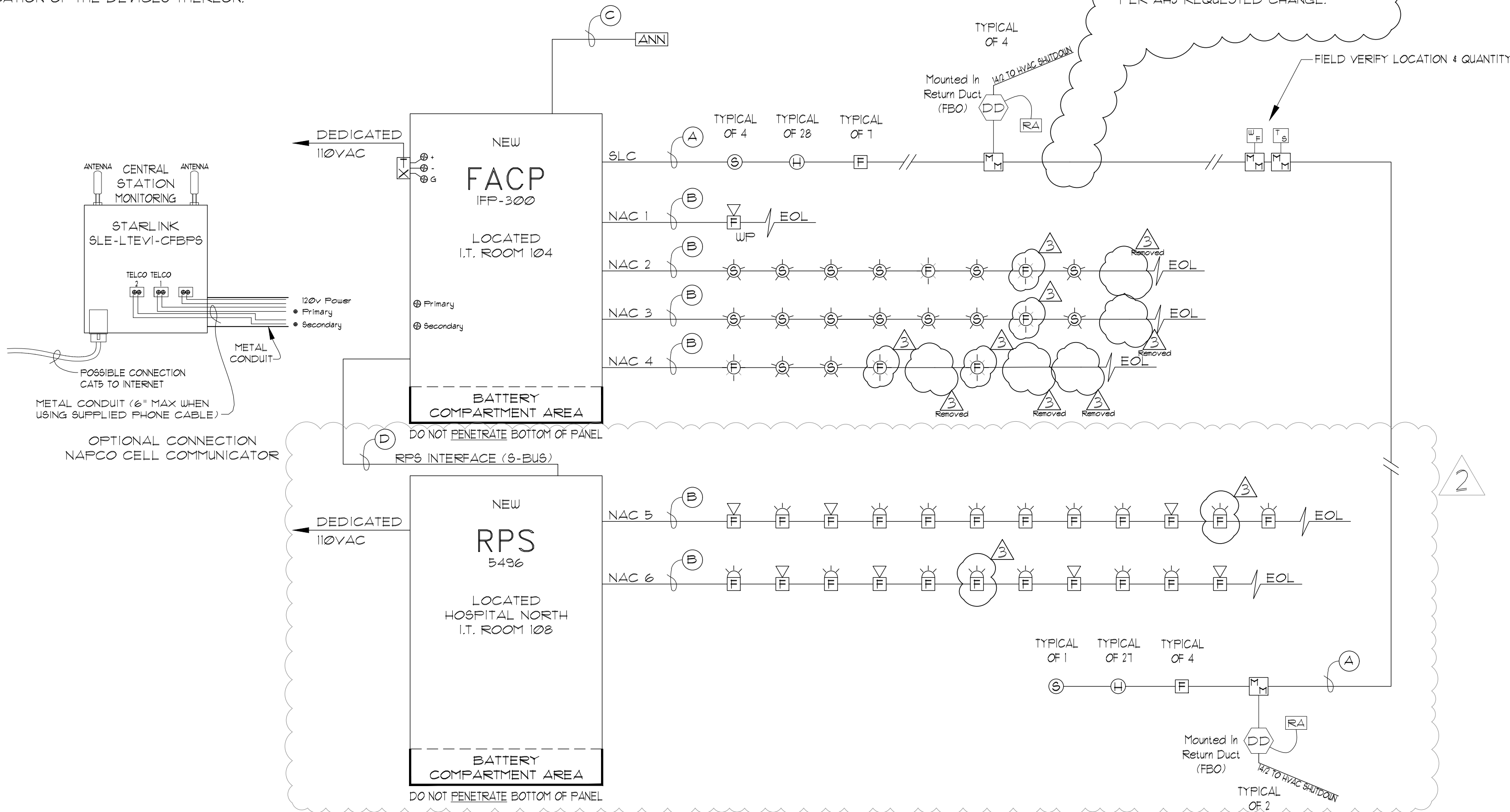
ANIMAL HOSPITAL NORTH SYMBOL LEGEND

Quan.	Symbol	Description
1	Ⓢ	NEW ADDRESSABLE SMOKE DETECTOR SILENT KNIGHT IDP-PHOTO
21	Ⓜ	NEW ADDRESSABLE HEAT DETECTOR SILENT KNIGHT IDP-HEAT
7	Ⓢ	NEW HORN/STROBE (Wall Mounted) SYSTEM SENSOR F2RL
16	Ⓢ	NEW STROBE (Wall Mounted) SYSTEM SENSOR SRL
4	Ⓢ	NEW ADDRESSABLE FULL STATION SILENT KNIGHT IDP-FULL-SA
ETR	FACP	EX MAIN FIRE ALARM CONTROL PANEL SILENT KNIGHT FARENHYT IFF-300
1	RPS	NEW REMOTE POWER SUPPLY SILENT KNIGHT 5496
2	M	NEW ADDRESSABLE MONITOR MODULE SILENT KNIGHT IDP-MINIMON
FBO	DD	EX DUCT DETECTOR Mounted In Return Duct (unless otherwise noted) (FURNISHED BY OTHERS)
FBO	RA	EX REMOTE ALARM L.E.D. (FURNISHED BY OTHERS)

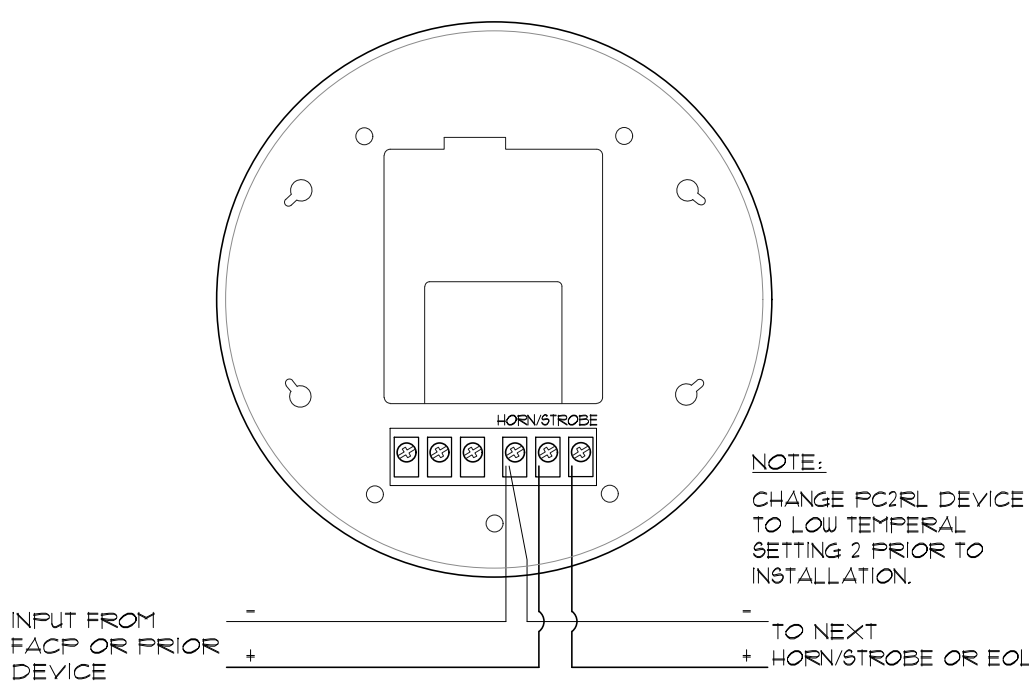
FIRE ALARM PLAN
SCALE 3/32" = 1'-0"



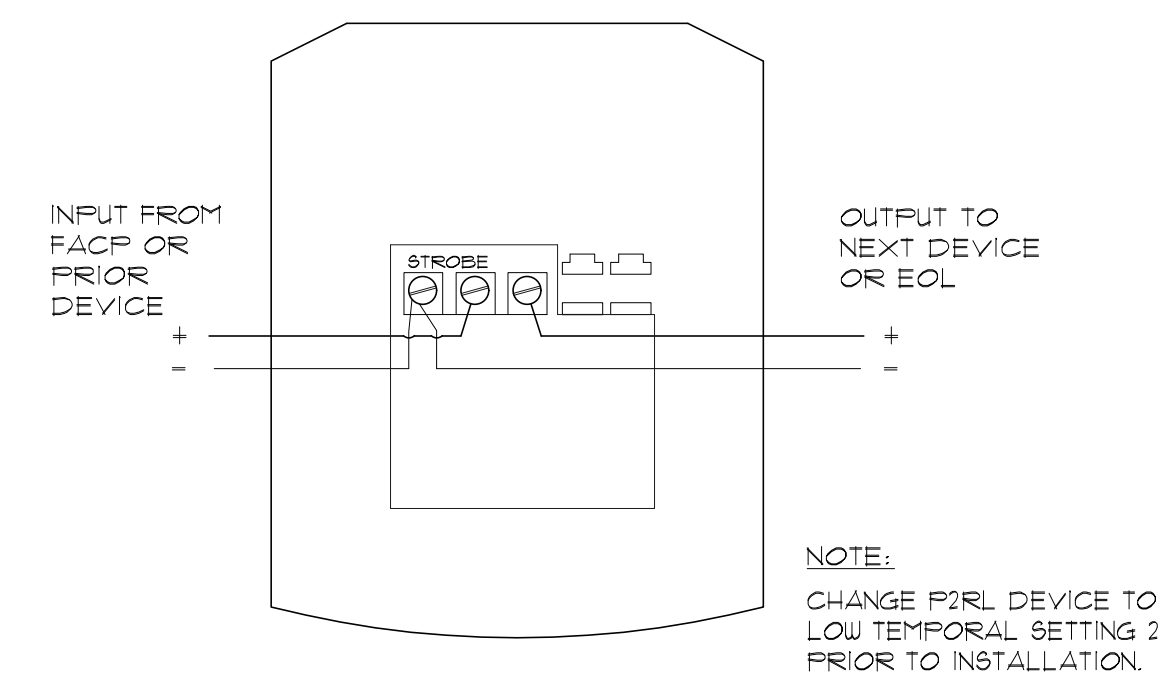
NOTE:
CIRCUITS SHOWN ARE DIAGRAMMATIC AND SHALL BE VERIFIED WITH THE PLANS TO DETERMINE THE EXACT NUMBER, TYPE AND LOCATION OF THE DEVICES THEREON.



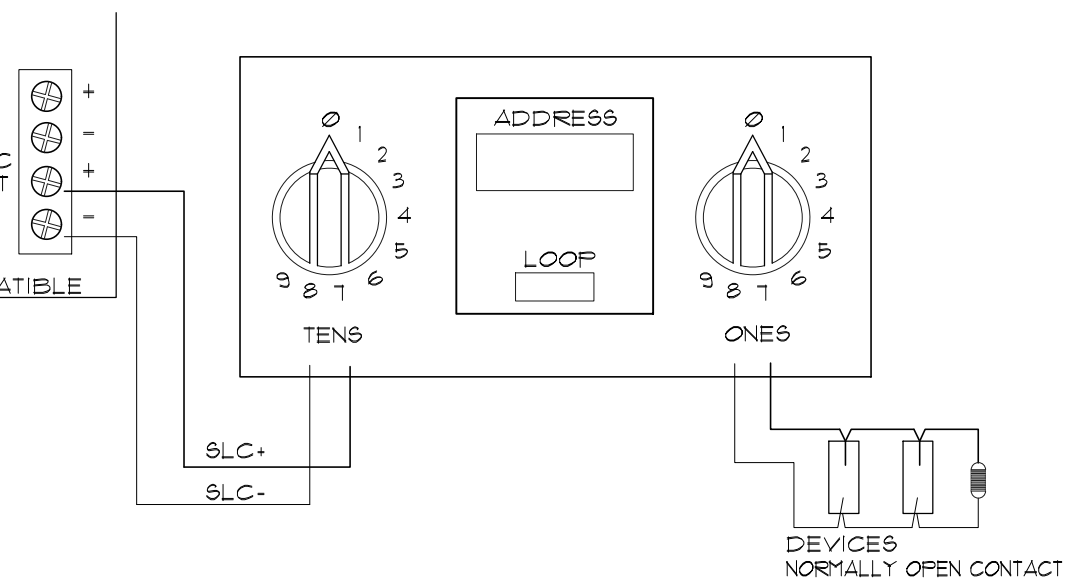
RISER DIAGRAM DETAIL
SCALE N.T.S.



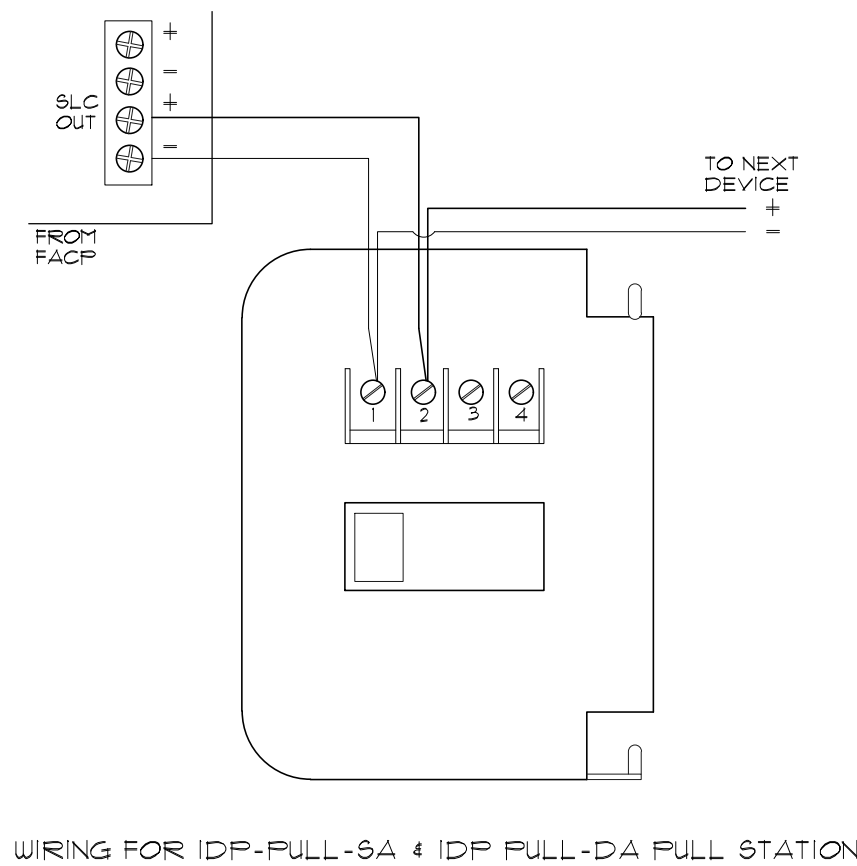
SYSTEM SENSOR PC2RL
CEILING MOUNTED HORN/STROBE
SCALE N.T.S.



SYSTEM SENSOR HORN/STROBE
P2RL & STROBE SRL CONNECTIONS
SCALE N.T.S.

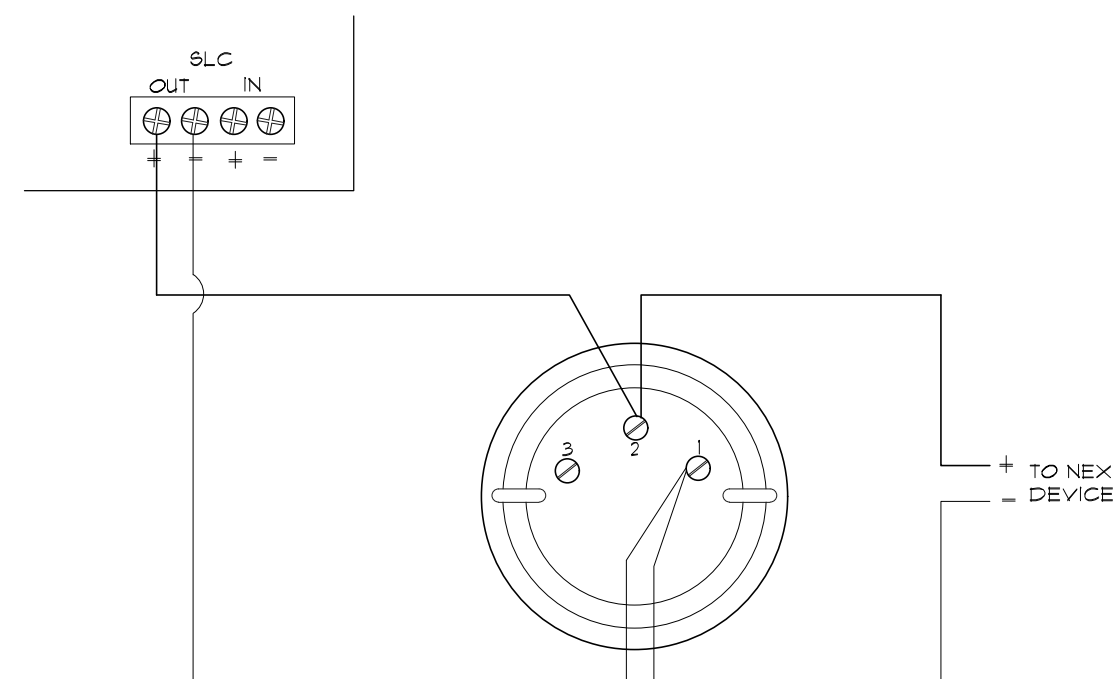


MONITORING MODULE IDP-MINIMON
SCALE N.T.S.



WIRING FOR IDP-PULL-SA & IDP-PULL-DA PULL STATION

PULL STATION IDP-PULL
SCALE N.T.S.



WIRING IDP-SERIES DETECTOR MOUNTING BASES

SMOKE & HEAT DETECTOR IDP-PHOTO
SCALE N.T.S.

NAC VOLTAGE DROP

#	STANDBY CURRENT	ALARM CURRENT	AUG	MAX WIRE RUN	ACTUAL OHMS	VOLTS @EOL	% DROP
1	0	0.176	14	175	0.28	20.31	0.43
2	0	0.479	14	225	1.13	19.86	2.66
3	0	0.435	14	275	1.39	19.80	2.96
4	0	0.361	14	275	1.39	19.07	6.53
5	0	0.616	14	195	0.98	19.79	2.97
6	0	0.593	14	215	1.08	19.76	3.15

FACP BATTERY CALCULATIONS

TOTAL STANDBY CURRENT (AMPS)	0.238	2.612	TOTAL ALARM CURRENT (AMPS)
STANDBY TIME IN HOURS	24	0.083	ALARM TIME IN MINUTES/ 60 (5 MIN)
TOTAL STANDBY AH REQUIRED	5.706	0.218	TOTAL ALARM AH REQUIRED
TOTAL COMBINED AH REQUIRED		5.92	
MULTIPLY BY THE DERATING FACTOR		1.20	
MINIMUM BATTERY AMPHOURS REQUIRED		7.11	18 amp Hour Batteries Provided

NEW RPS BATTERY CALCULATIONS

TOTAL STANDBY CURRENT (AMPS)	0.040	1.369	TOTAL ALARM CURRENT (AMPS)
STANDBY TIME IN HOURS	24	0.083	ALARM TIME IN MINUTES/ 60 (5 MIN)
TOTAL STANDBY AH REQUIRED	0.960	0.114	TOTAL ALARM AH REQUIRED
TOTAL COMBINED AH REQUIRED		1.07	
MULTIPLY BY THE DERATING FACTOR		1.20	
MINIMUM BATTERY AMPHOURS REQUIRED		1.29	7 amp Hour Batteries Provided

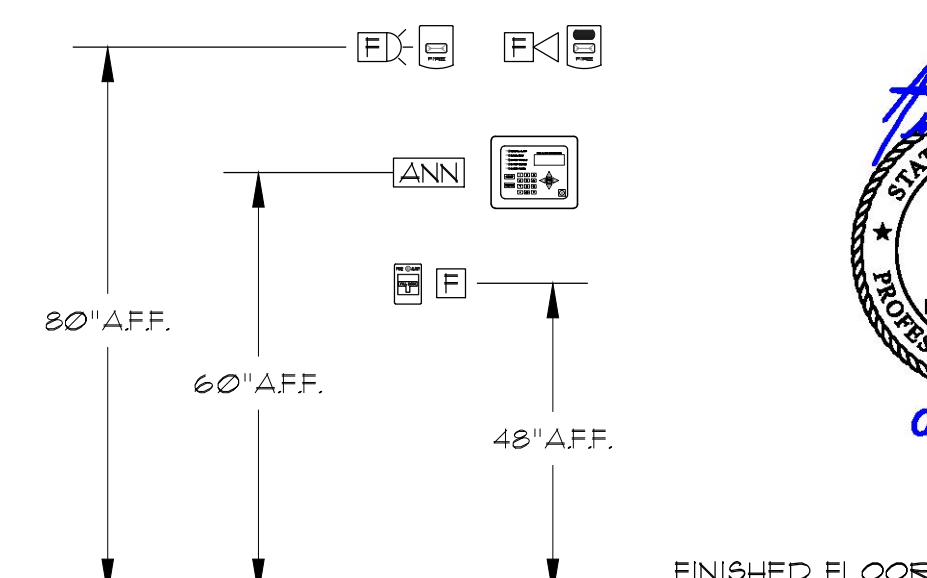
WIRING LEGEND

- A SIGNALING LINE CIRCUIT
16 GAUGE 2 CONDUCTOR
- B NOTIFICATION APPLIANCE CIRCUIT
14 GAUGE 2 CONDUCTOR
- C ANNUNCIATOR CIRCUIT
18 GAUGE 4 CONDUCTOR
- D RPS INTERFACE CIRCUIT (S-BUS)
18 GAUGE 4 CONDUCTOR

DO NOT T-TAP
NOTIFICATION CIRCUITS

SYSTEM INPUTS	SYSTEM OUTPUTS	PANEL ALARM INDICATOR	PANEL TROUBLE INDICATOR	PANEL SUPPLY/FAULT INDICATOR	ACTIVATE NOTIFICATION DEVICES	TRANSIT DIGITAL DIALER	AIR HANDLER SHUTDOWN
MANUAL FIRE ALARM STATION	X			X	X		
SMOKE DETECTOR	X			X	X		
HEAT DETECTOR	X			X	X		
AC POWER FAIL		X		X			
LOW BATTERY		X		X			
OPEN/SHORT CIRCUIT	X			X			
TAMPER SWITCH			X	X			
WATER FLOW SWITCH	X			X	X		
DUCT DETECTOR			X	X	X	X	

FINISHED CEILING
MOUNT ON CEILING



NOTE:
If Required For This Project, All Devices Shall Be Mounted In Compliance With NFPA 72 & Manufacturer's Specification, Unless Otherwise Directed By The AHJ (Authority Having Jurisdiction)

MOUNTING HEIGHTS OF DEVICES
SCALE N.T.S.

LSS Life Safety Systems, LLC

Life Safety Systems, LLC
10143 ROYALTON ROAD, SUITE R
NORTH ROYALTON, OHIO 44133
PHONE: 440 888-7360
FAX: 440 888-7361
www.lifesafetysystems.com

FIRE ALARM DESIGN BY:
DAMON G. LEWIS, SET
NICET CER. LEVEL IV #02567
OHIO FIRE ALARM DESIGNER #3191

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Lee's Summit, MO 64086
FIRE ALARM RISER & DETAILS

DRAWN BY: Jacob A. DATE: 02/18/2022
CHECKED BY: DATE: .

FA-02