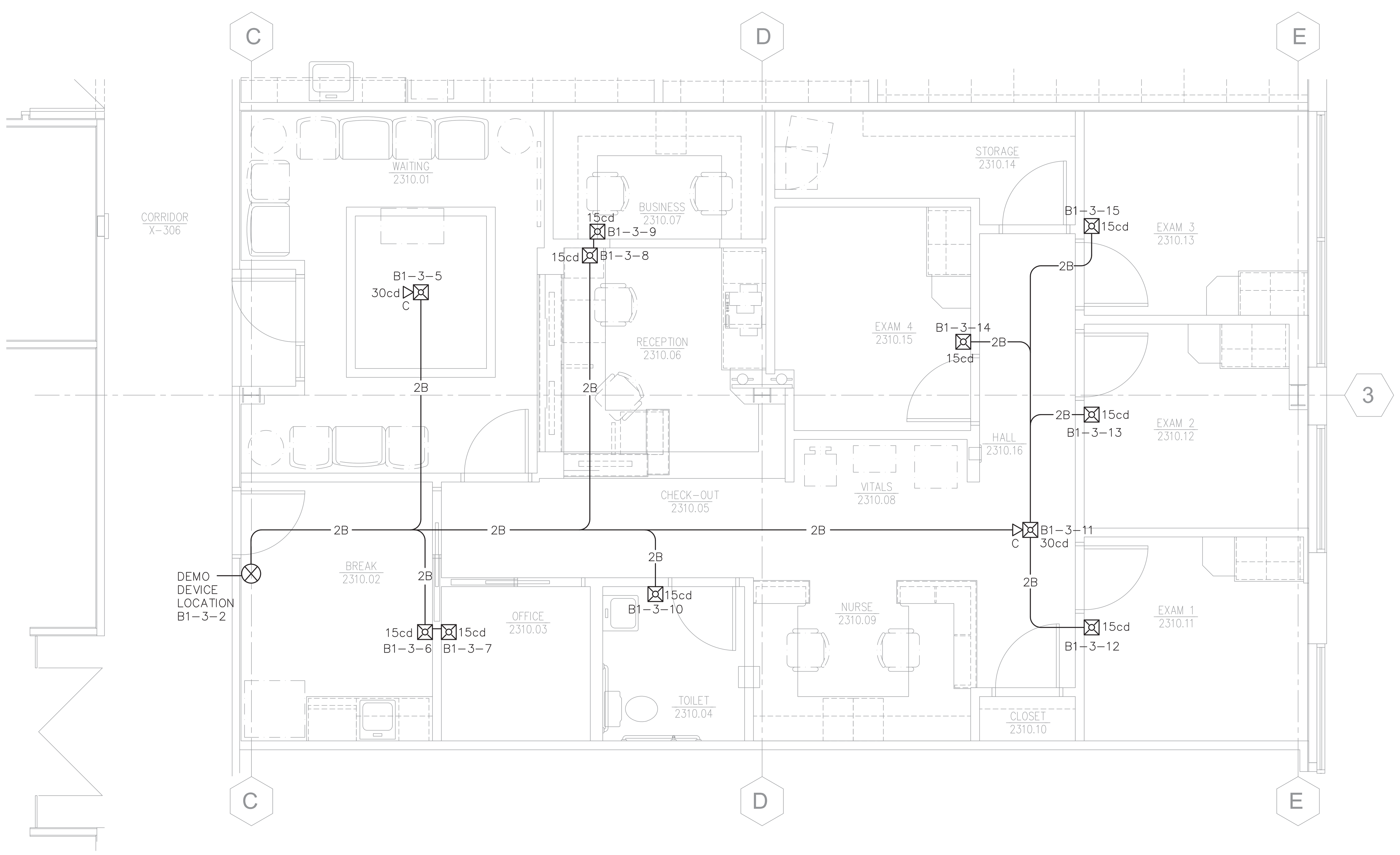

FIRE ALARM PLAN
SCALE: 1/4"=1'-0"

SYMBOL LEGEND — iO 1000 SERIES

SYMBOL	PART NO.	DESCRIPTION	BACK BOX	MOUNTING HGT
FACP	iO1000	IO SERIES FIRE ALARM PANEL	INCLUDED	72" AFF TO TOP
BPS	BPS6	NAC POWER SUPPLY	INCLUDED	N/A
ANN	RS ANN	REMOTE SYSTEM ANNUNCIATOR	CUSTOM	TBD
	SIGA-PD	SMOKE DETECTOR	4" OCTAGON	CEILING
LF S	SIGA-PD W/ SIGA-AB4G-LF	SMOKE DETECTOR WITH 520 HZ LOW FREQ. SOUNDER	SINGLE GANG x 2-1/2" DEEP	CEILING
H	SIGA-HFD	HEAT DETECTOR	4" OCTAGON	CEILING
	SIGA-SD	DUCT DETECTOR	N/A	N/A
F	SIGA-278	MANUAL PULL STATION	SINGLE GANG x 2-1/2" DEEP	BOTTOM OF J-BOX 46" AFF
	SIGA-CT1	MONITOR MODULE	4" SQUARE 1 GANG RING	N/A
	SIGA-CR	ADDRESSABLE RELAY	4" SQUARE 1 GANG RING	N/A
H LF	G4LFWN-H	520 HZ LOW FREQ HORN C=CEILING MOUNT	4" SQUARE x 2-1/8" DEEP	LOCATIONS VARY
	G1VRF	MULTI CANDELA STROBE WALL MOUNT	SINGLE GANG x 2-1/2" DEEP	BOTTOM OF J-BOX 82" AFF
C	GCAVRF	MULTI CANDELA HORN/STROBE CEILING MOUNT LED	4" SQUARE x 2-1/8" DEEP	N/A
WP	CS405-8A-T	OUTDOOR 110CD STROBE	4" SQUARE WP CUSTOM	BOTTOM OF J-BOX 82" AFF
C	GCVRF	CEILING MOUNT LED STROBE	4" SQUARE	N/A
LF	G4LFWM-VMH	MULTI CANDELA SPEAKER/STROBE 520HZ LOW FREQ	4" SQUARE x 2-1/8" DEEP	BOTTOM OF J-BOX 82" AFF
	SIGA-WTM	WATERFLOW AND TAMPER DUAL INPUT MONITOR MODULE	4" SQUARE 1 GANG RING	N/A
WP	757-8A-T	WALL MOUNT HORN / STROBE	4" SQUARE WP CUSTOM	BOTTOM OF J-BOX 82" AFF
	G1AVRF	WALL MOUNT HORN / STROBE WG = WIRE GUARD	SINGLE GANG x 2-1/2" DEEP	BOTTOM OF J-BOX 82" AFF
B	BY OTHERS	120VAC BELL	B.O.	B.O.
S	BY OTHERS	WATERFLOW SWITCH	B.O.	B.O.
T	BY OTHERS	TAMPER SWITCH	B.O.	B.O.
FP		FIRE PHONE WALL JACK	SINGLE GANG x 2-1/2" DEEP	
R	MR101	CONVENTIONAL RELAY		
TK	SD-TRK	REMOTE TEST / RESET SWITCH	SINGLE GANG	

STANDARD WIRE LEGEND

A	SIGNATURE DEVICE CIRCUIT - SLC 18AWG SOLID, 2 CONDUCTOR, TWSTD. CABLE
B	NOTIFICATION APPLIANCE CIRCUIT 14AWG SOLID, 2 CONDUCTOR, TWSTD. CABLE
C	NOTIFICATION APPLIANCE CIRCUIT 14AWG SOLID, 2 CONDUCTOR, TWSTD. CABLE
D	DOOR HOLDER 14AWG SOLID, 2 CONDUCTOR, TWSTD. CABLE
F	FIRE PHONE COMMUNICATION RISER 16AWG SOLID, 2 CONDUCTOR, TWSTD, SHLD CABLE
G	GENESIS SYNC. CIRCUIT 14AWG SOLID, 2 CONDUCTOR, TWSTD,
K	REMOTE MIC KEY CIRCUIT 18AWG SOLID, 2 CONDUCTOR, TWSTD
M	IDC CIRCUIT 18AWG SOLID, 2 CONDUCTOR, TWSTD,
N	FACP NETWORK COMMUNICATIONS CIRCUIT - RS485 18AWG SOLID, 2 CONDUCTOR, TWSTD. CABLE
P	24VDC POWER CIRCUIT 14AWG SOLID, 2 CONDUCTOR, TWSTD. CABLE
Q	REMOTE MICROPHONE INPUT 18AWG SOLID, 2 CONDUCTOR, TWSTD, SHLD CABLE
R	RELAY CONTROL CIRCUIT 14AWG SOLID, 2 CONDUCTOR, TWSTD. CABLE
S	VOICE NOTIFICATION APPLIANCE CIRCUIT 16AWG SOLID, 2 CONDUCTOR, TWSTD
T	REMOTE TEST CIRCUIT 2 X 18AWG SOLID, 2 CONDUCTOR, TWSTD CABLES
W	AUDIO RISER CHANNEL 1 (EVAC) 16AWG SOLID, 2 CONDUCTOR, TWSTD
X	AUDIO RISER CHANNEL 2 (ALERT) 16AWG SOLID, 2 CONDUCTOR, TWSTD
Y	BACK UP AUDIO RISER CHANNEL 1 (EVAC) 16AWG SOLID, 2 CONDUCTOR, TWSTD
Z	BACK UP AUDIO RISER CHANNEL 2 (ALERT) 16AWG SOLID, 2 CONDUCTOR, TWSTD

HORIZONTAL EMT RECOMMENDED CONDUIT SIZING CHART

NO. OF CABLES	CONDUIT SIZE
4 OR LESS	3/4"
5 TO 7	1"
8 TO 12	1-1/4"
13 TO 16	1-1/2"
17 TO 27	2"

SIZING IS BASED ON EACH CABLES MAXIMUM OVERALL DIAMETER OF .215

Edwards System Builder

Smaller Building Analog Systems

	Job Name:	LEES' SUMMIT MOB	9	Entries on this sheet	
			0	Module Addresses this shee	
			1	System Brand	
			0	Color	
Standby Specifications					
24	Enter battery standby supervision time in hours				
15	Enter standby fire alarm time on batteries in minutes				
Analog Control Panel					
1	IO1000GD	FACP, 1-2 Loop, 1000pt max, 4 Cl B NACs, gray, w/dialer, 120v	268	433	
System Modules					
1	IO-SDC1	Expansion Analog Loop, 250pt	55	128	
1	SA-232	RS232 interface Card	13	13	
Panel Battery					
	Battery AH = De-rating Factor*Supervisory Hours*Standby Current + De-rating Factor*Alarm Minutes/60*Alarm Current				
	1.20	Battery De-rating Factor			
	9.92	Calculated Ampere Hours for Fire	336	644	
	9.92	**Total Calculated Battery Ampere Hours**			
2	12V10A	11 AH Battery			
	Battery Ok				

Edwards System Builder

Booster Power Supplies

All current values are in mA

Battery Calculations

Supply Voltage & Battery Periods					
120	Vac Supply Voltage	0	Seismic hardening		
24	Standby Hours from iO Series	7	Entries this sheet		
15	Fire Alarm Minutes from iO Series	0	Module Addresses this sheet		
0	CO Alarm Minutes from iO Series				
Remote Booster Supplies					
Remote Booster Power Supply Specification # 1				Con	Econn
24	Standby Hours	24	Battery Standby Hours Override, this booster spec only		
5	Alarm Minutes	5	Battery Standby Fire Alarm Minutes Override, this booster spec only		
1200	Enter NAC #1 Signal Appliance Alarm Current		1200	Ok	
1200	Enter NAC #2 Signal Appliance Alarm Current		1200	Ok	
1200	Enter NAC #3 Signal Appliance Alarm Current		1200	Ok	
1200	Enter NAC #4 Signal Appliance Alarm Current		1200	Ok	
6	Enter the TOTAL load for the 200mA Auxiliary Power Source		6	Ok	
6	Enter Aux STANDBY load delivered during a power fail	6			
6	Enter Aux ALARM current delivered during a power fail		6		
24	Standby Hours		Battery Standby Hours Override, this booster spec only		
15	Alarm Minutes		Battery Standby Fire Alarm Minutes Override, this booster spec only		
24	Standby Hours		Battery Standby Hours Override, this booster spec only		
15	Alarm Minutes		Battery Standby Fire Alarm Minutes Override, this booster spec only		
24	Standby Hours		Battery Standby Hours Override, this booster spec only		
15	Alarm Minutes		Battery Standby Fire Alarm Minutes Override, this booster spec only		
24	Standby Hours		Battery Standby Hours Override, this booster spec only		
15	Alarm Minutes		Battery Standby Fire Alarm Minutes Override, this booster spec only		
24	Standby Hours		Battery Standby Hours Override, this booster spec only		
15	Alarm Minutes		Battery Standby Fire Alarm Minutes Override, this booster spec only		

FIRE ALARM SYSTEM - SEQUENCE OF OPERATION MATRIX

1	Fire Alarm System Outputs	Activate Digital Alarm Communicator	Activate DACT - Trouble	Activate DACT - Supervisory	Activate Horn Strobes & Strobes	Shutdown All Air Handlers	Unlock Doors	Display Information on Annc.	Activate Display on FACP	Silence Horns & Strobes	Silence Annunciator Audible	Silence FACP audible	Activate Fire Smoke Dampers
2	**Fire Alarm System Inputs**												
3	Manual pull station	X			X	X	X	X	X				X
4	Smoke detector	X			X	X	X	X	X				X
5	CO Detector			X	X	X	X	X	X				X
6	Duct smoke detector AHU			X		X		X	X				
7	Kitchen Hood	X			x	X	X	X	X				X
8	Water flow sw.	X			X	X	X	X	X				X
9	Supervisory Tamper sw.			X				X	X				
10	Fire Alarm Panel trouble		X					X	X				
11	Annunciator trouble		X					X	X				
12	FACP Alarm Silence sw.									X			
13	FACP Trouble Silence sw.											X	
14	Annunciator Alarm Sil. sw.									X			
15	Annuciator Trouble Sil. sw.										X		
16	All system device troubles		X					X	X				
17	All system wiring troubles		X					X	X				
18	All system power troubles		X					X	X				
19													

NAC CIRCUIT and # Dev	DESCRIPTION: Lee's Summit MOB	TOTAL LOAD (AMPS)	WIRE LENGTH (FEET)	WIRE SIZE (AWG)	RESISTANCE MAX (OHMS)	MAXIMUM LENGTH (FEET)	VOLTAGE DROP (4.4V MAX)
1	N1	0.641	192	14	6.86	1118	0.76
2	N2	0.798	235	14	5.51	898	1.15
3	N3	1.038	157	14	4.24	690	1.00
4	N4	1.107	326	14	3.97	647	2.22
5	B1-1	0.966	202	14	4.55	742	1.20
6	B1-2	1.314	268	14	3.35	545	2.16
7	B1-3 & Suite 2310	0.654	371	14	6.73	1096	1.49
8	B1-4	0.981	299	14	4.49	730	1.80
9	B2-1	0.966	233	14	4.55	742	1.38
10	B2-2	1.107	251	14	3.97	647	1.71
11	B2-3	1.314	139	14	3.35	545	1.12
12	B2-4	0.981	299	14	4.49	730	1.80

GENERAL NOTES

1. ELECTRICAL CONDUIT AND WIRING SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE NATIONAL ELECTRIC CODE, NFPA STANDARD, STATE AND LOCAL BUILDING REQUIREMENTS.
2. REFER TO THE WIRE LEGEND FOR APPLICABLE CONDUCTOR TYPE AND SIZE.
3. SIGNALING LINE CIRCUITS MAY BE "TEE-TAPPED" ONLY WHERE SHOWN ON DRAWING OR APPROVED OF BY SYSTEM ENGINEER. NOTIFICATION CIRCUITS, NO "TEE-TAPPING" IS ALLOWED.
4. POWER LIMITED CIRCUITS SHALL BE ISOLATED FROM NON-POWER LIMITED CIRCUITS, ELECTRIC LIGHTS, OR POWER CIRCUITS BY A MINIMUM OF 2 INCHES. POWER LIMITED CIRCUITS SHALL NOT BE PLACED IN THE SAME CONDUIT, ENCLOSURE, RACEWAY, ETC.. WITH NON-POWER LIMITED CIRCUITS.
5. ALL FIRE RATED WALL AND/OR FLOOR PENETRATIONS SHALL BE SEALED WITH AN APPROVED FIRE STOPPING COMPOUND.
6. ALL FIRE ALARM JUNCTION BOX COVERS SHALL BE PAINTED RED OR LABELED FOR DISTINCT IDENTIFICATION.
7. ALL FIRE ALARM CONDUIT SHALL BE SIZED PER NEC, 3/4" MINIMUM.
8. FACP MONITORING - LOOP START PHONE LINES TO FIRE ALARM PANEL DACT SHALL BE PER 2016 EDITION OF NFPA 72, SECTION 8.6.3.2
9. ALL FIRE ALARM CONTROL PANELS REQUIRE A DEDICATED 120VAC CIRCUIT. CONNECT A 12AWG COPPER GROUND WIRE FROM SAFETY GROUND IN THE ELECTRICAL DISTRIBUTION PANEL TO ALL FIRE ALARM CONTROL PANELS.
10. INSTALL NOTIFICATION APPLIANCES 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER. THE ENTIRE LENS OF ALL STROBES MUST BE WITHIN THIS AREA UNLESS OTHERWISE NOTED.
11. ALL SMOKE DETECTORS SHALL BE MOUNTED NO CLOSER THAN 3 FEET FROM ANY SUPPLY AIR DUCT.
12. HVAC SHUTDOWN WIRING FROM RELAY TO UNIT CONROLS BY OTHERS
13. PER NFPA 72, SMOKE DETECTORS SHALL NOT BE INSTALLED UNTILL AFTER FINAL CLEAN UP. UNLESS AUTHORIZED BY THOSE TAKING RESPONSABILITY FOR DIRTY DETECTORS.
14. SYSTEM DESIGN BASED ON COMPLIANCE WITH 2016 EDITION OF NFPA 72 & 2018 EDITION OF IBC.

CODE COMPLIANCE: IBC 2018

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REVISION:

FIRE ALARM PLAN
LEE'S SUMMIT MEDICAL CENTER, MOB
SPEC SUITE 2310, 1980 SE BLUE PARKWAY
LEE' SUMMIT, MO 64063

SEAL
STATE OF MISSOURI
MICHAEL A. PANETHIERE
NUMBER E-29944
REGISTERED PROFESSIONAL ENGINEER
06/28/22

DRAWN BY: MPA	DATE: 06-28-22
REVIEWED BY:	DATE:

SHEET NUMBER: FA 01