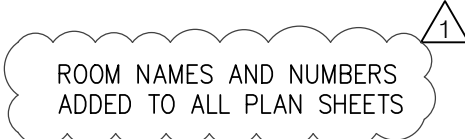


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FIRE ALARM PLANS

FA101



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

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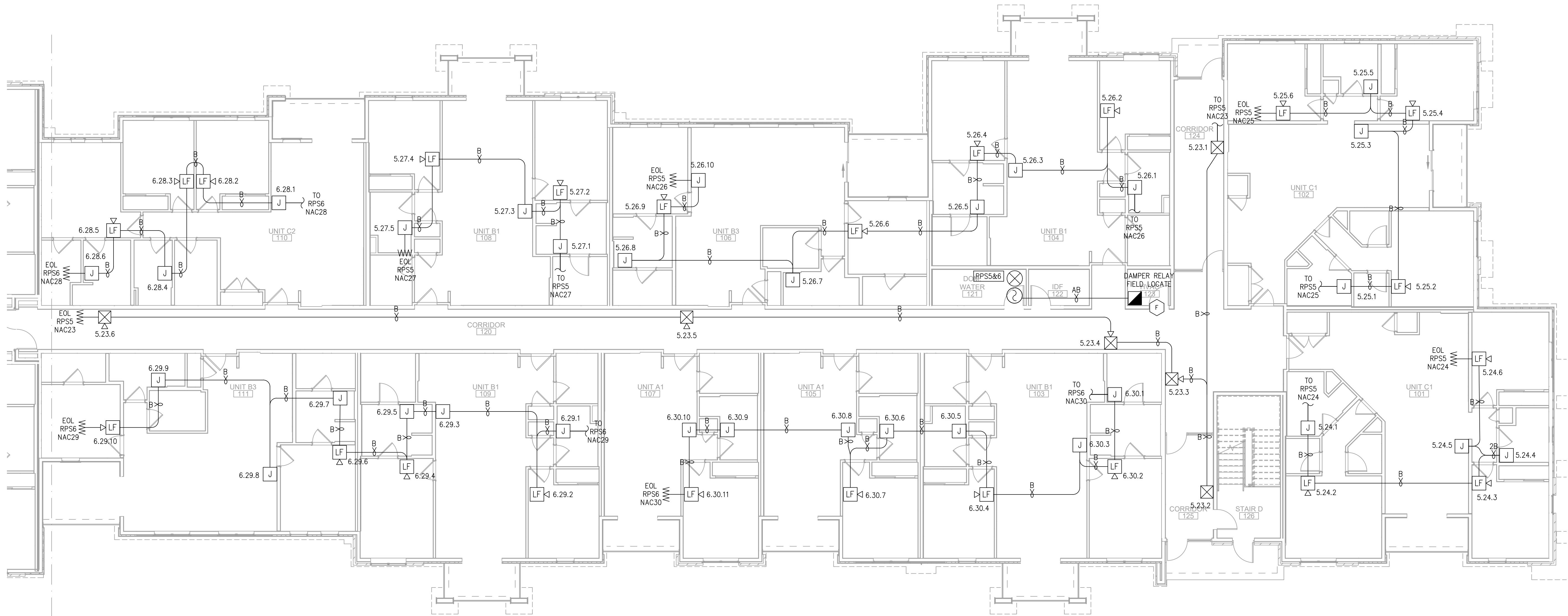
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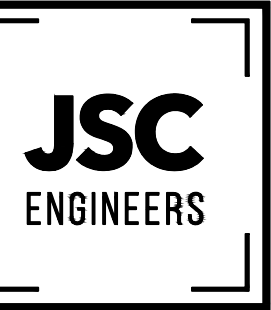
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FIRE ALARM PLAN - BUILDING 1 - FLOOR 1 - AREA C

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

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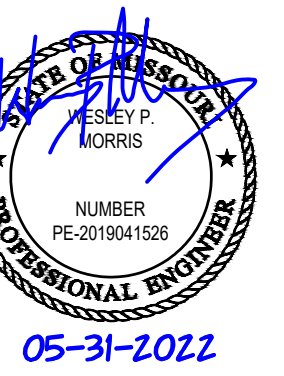
FIRE ALARM
PLANS

DATE: 04.13.2022

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FIRE ALARM PLAN - BUILDING 1 - FLOOR 2 - AREA A

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

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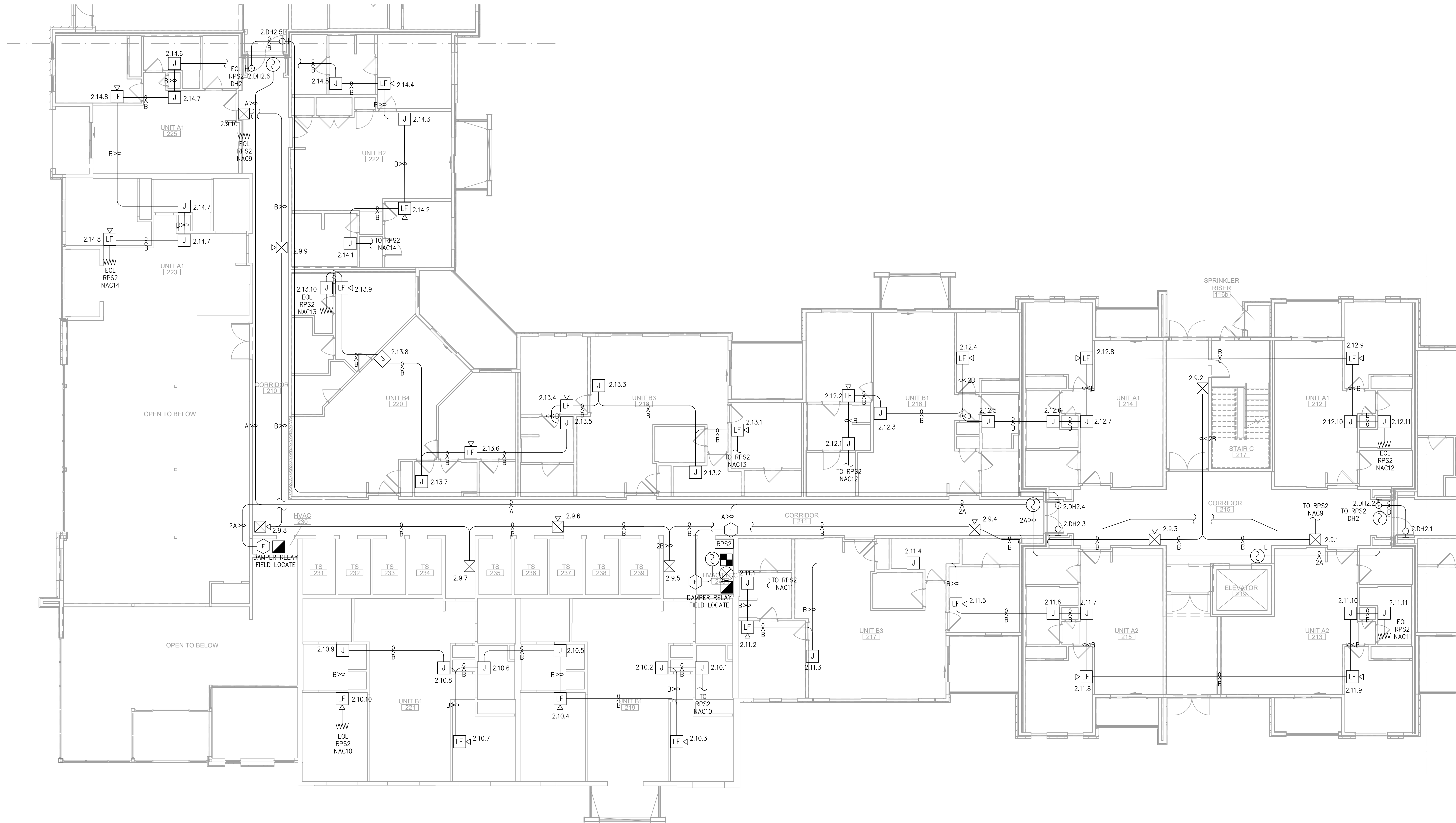
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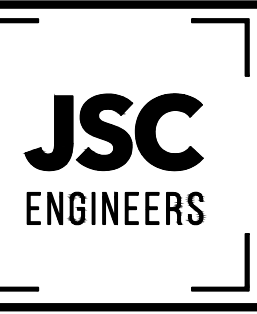
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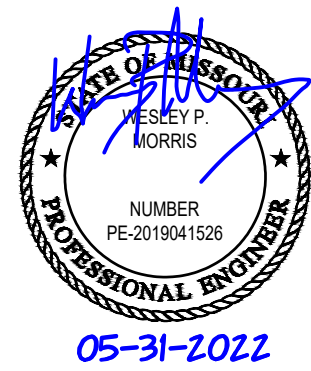
FIRE ALARM PLAN - BUILDING 1 - FLOOR 2 - AREA B

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

1



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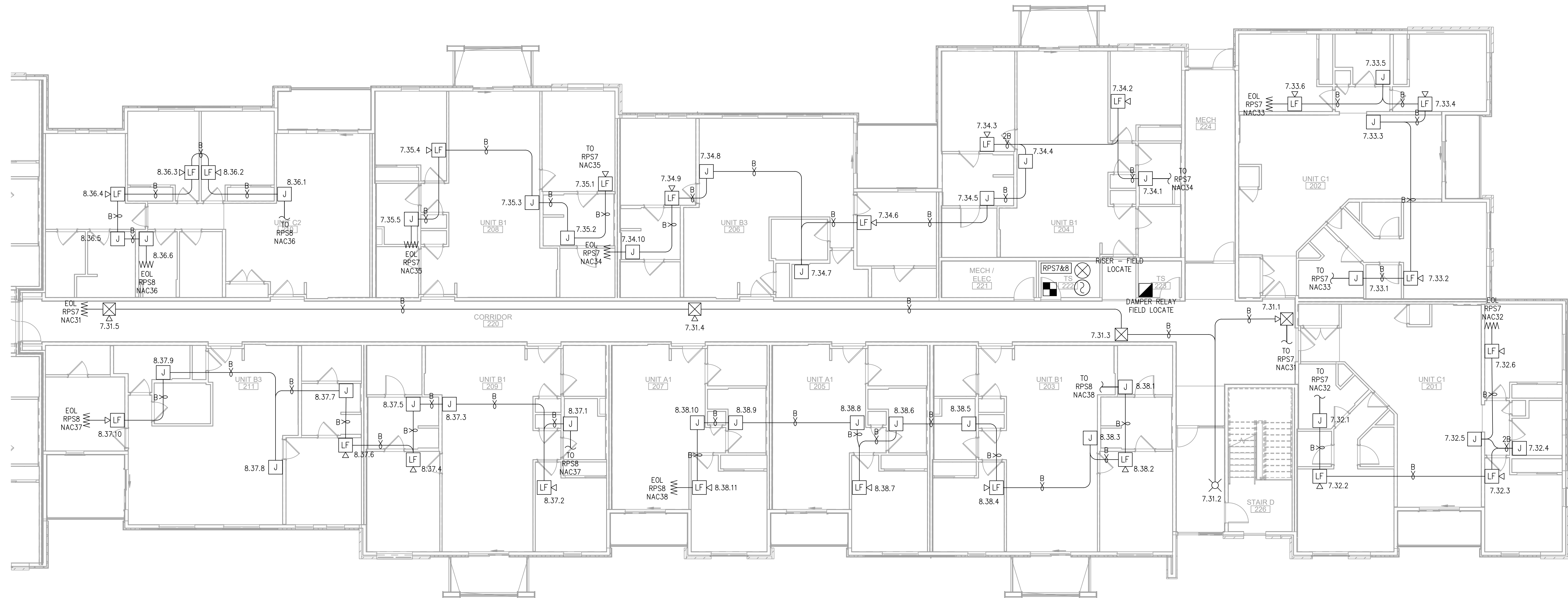
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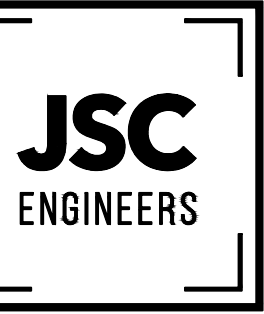
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FIRE ALARM PLAN - BUILDING 1 - FLOOR 2 - AREA C

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

1



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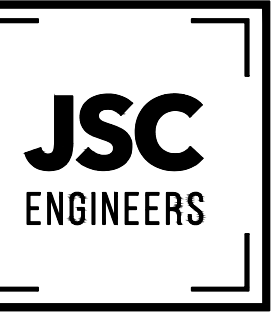
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FIRE ALARM PLAN - BUILDING 1 - FLOOR 3 - AREA A

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

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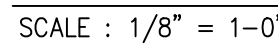
FIRE ALARM PLANS

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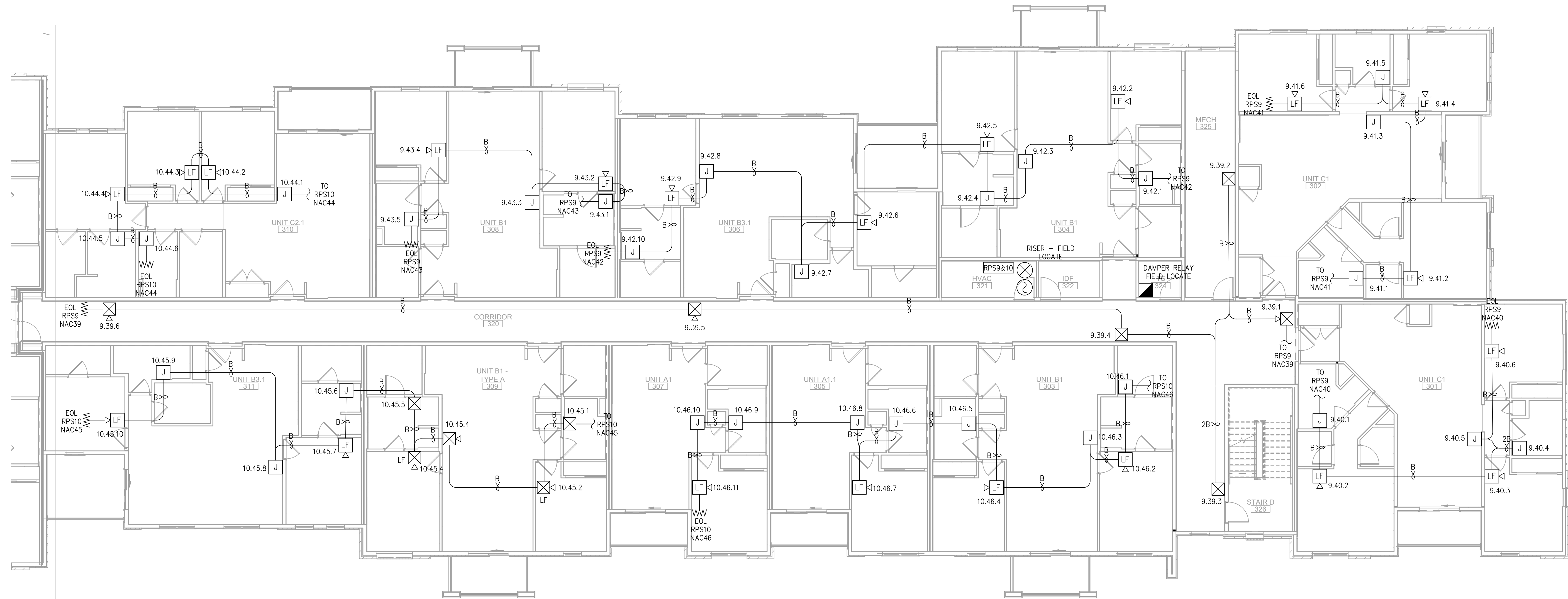
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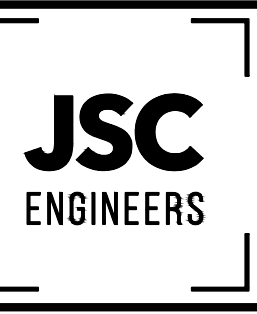
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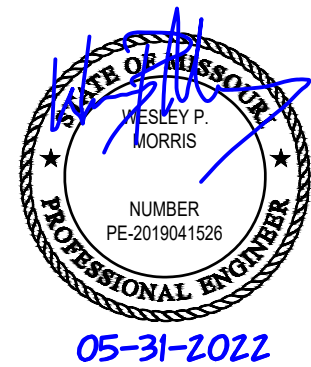
FIRE ALARM PLAN - BUILDING 1 - FLOOR 3 - AREA C

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

1



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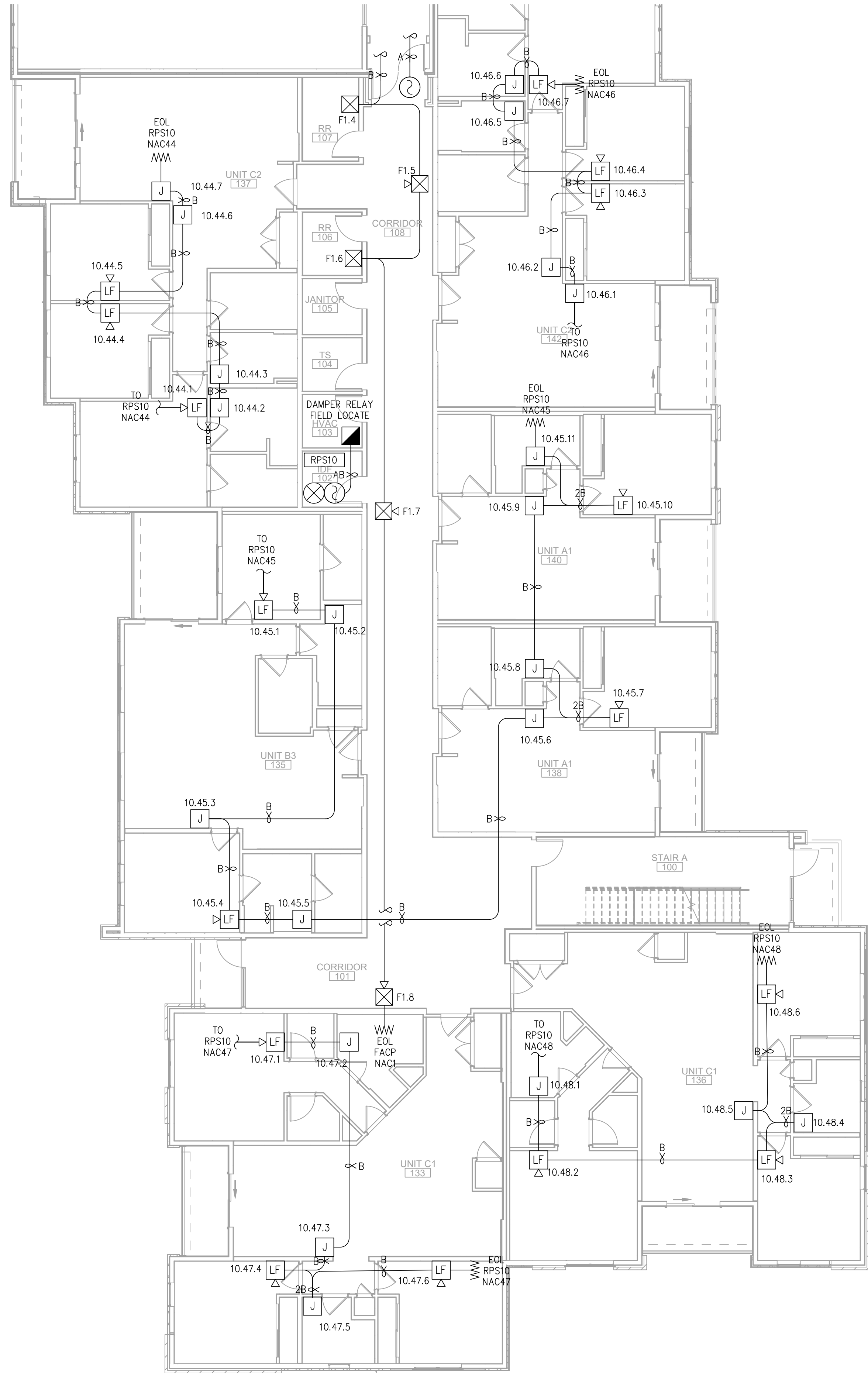
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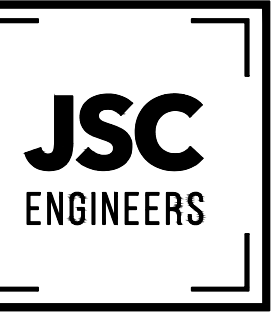
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FIRE ALARM PLAN - BUILDING 2 - FLOOR 1 - AREA A

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

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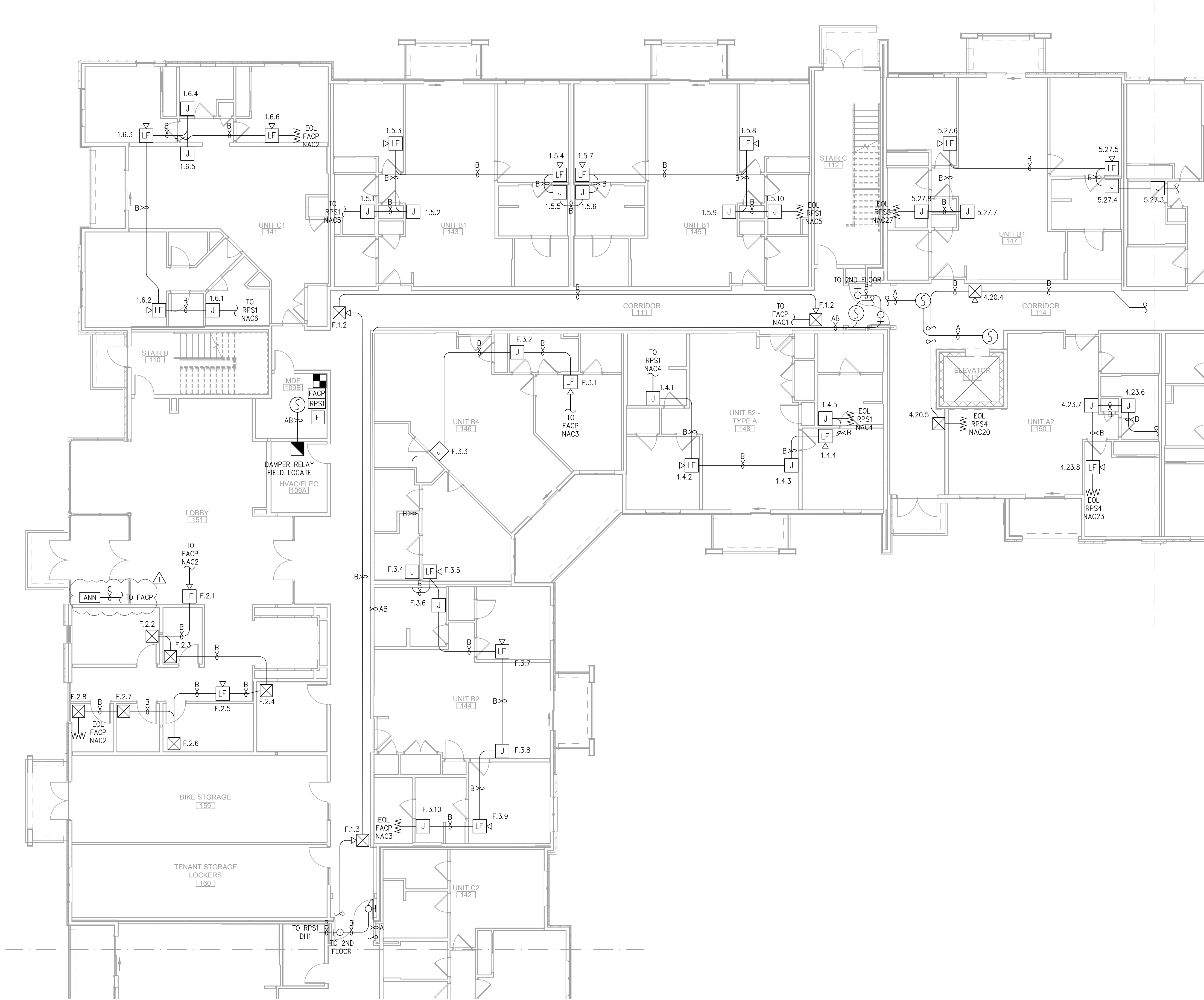
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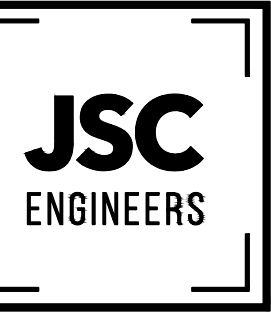
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FIRE ALARM PLAN - BUILDING 2 - FLOOR 1 - AREA B

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

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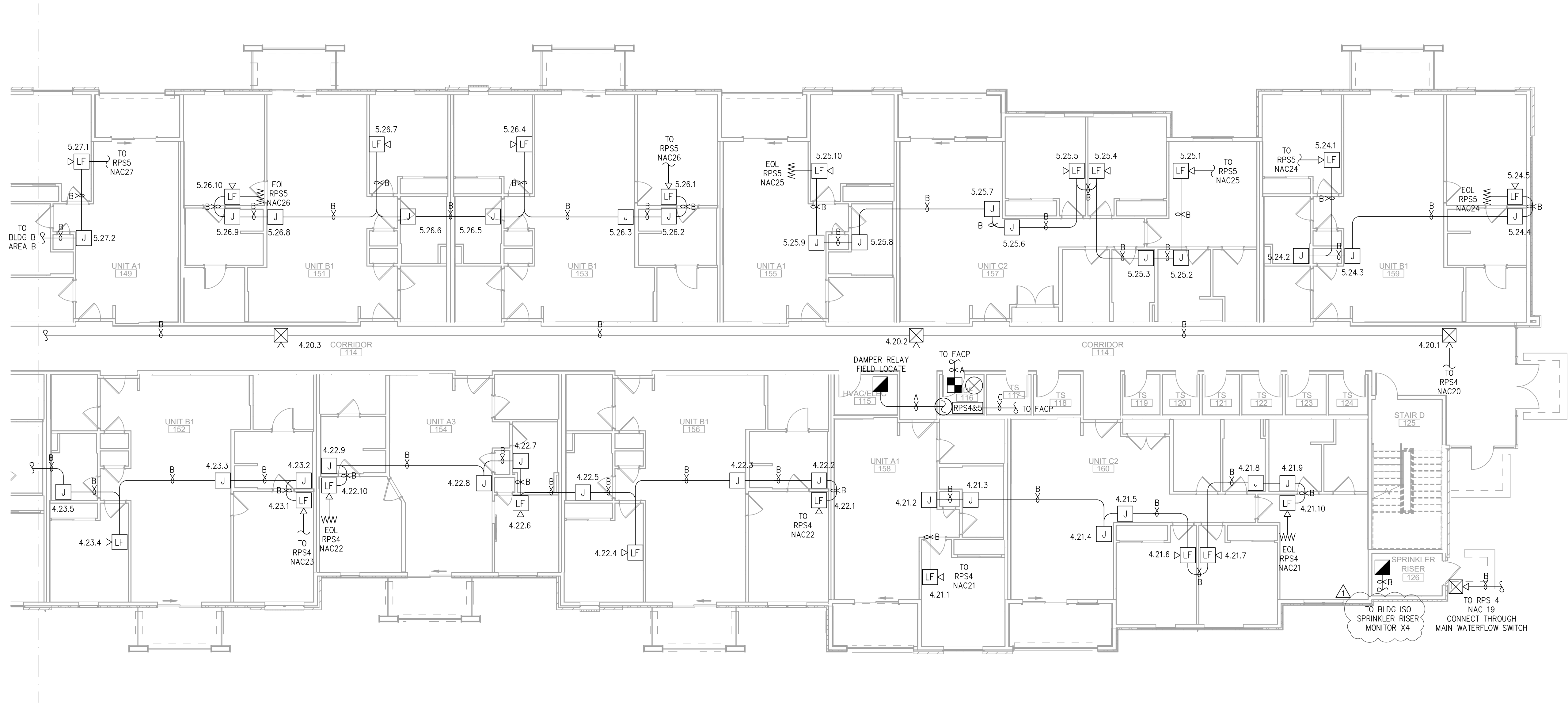
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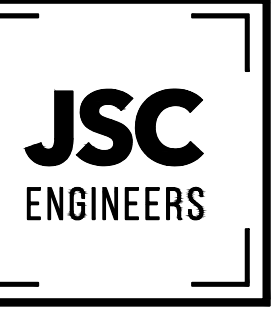
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FIRE ALARM PLAN - BUILDING 2 - FLOOR 1 - AREA C

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

1



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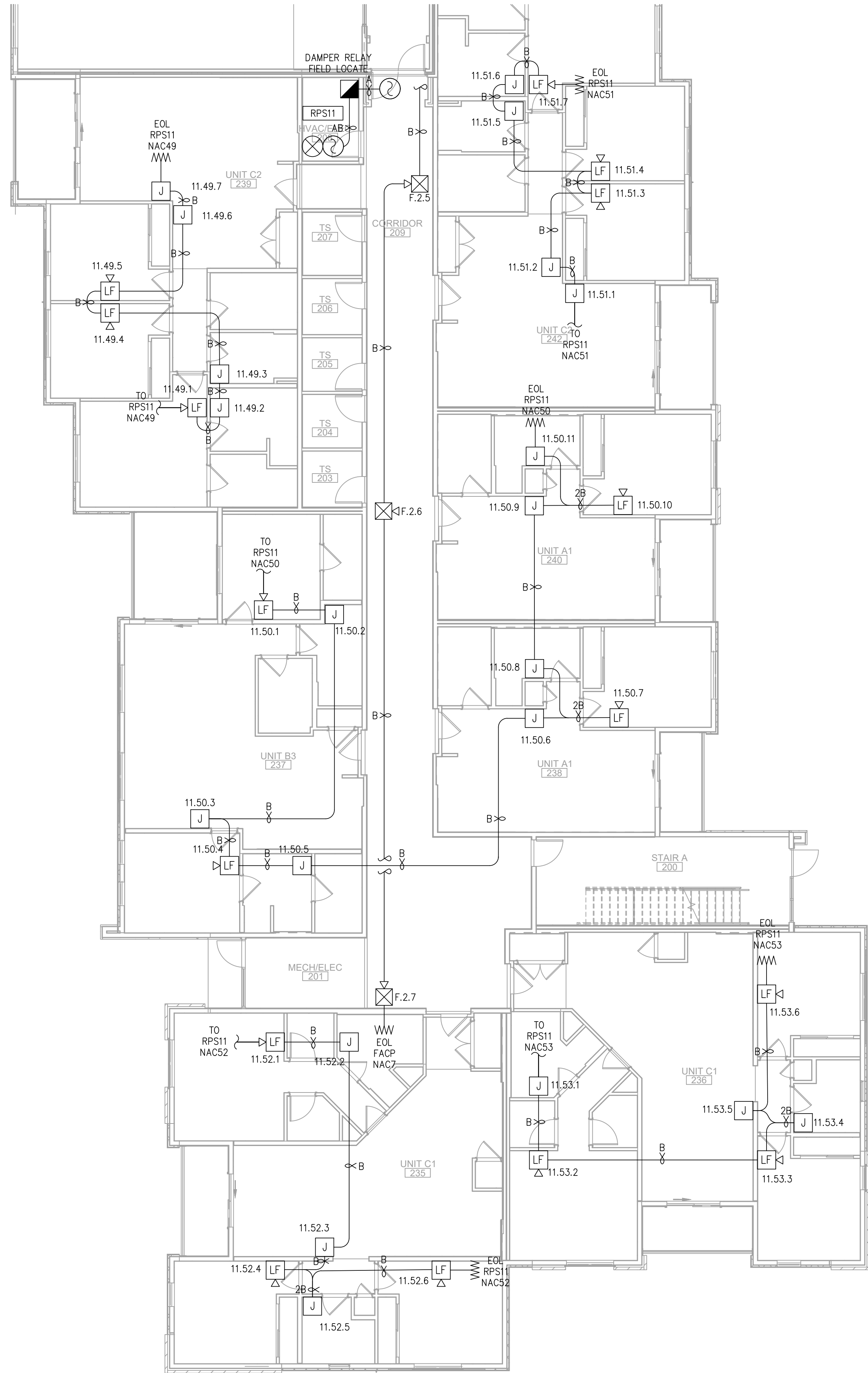
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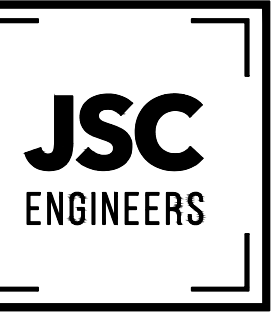
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FIRE ALARM PLAN - BUILDING 2 - FLOOR 2 - AREA A

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

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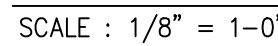
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FIRE ALARM PLANS

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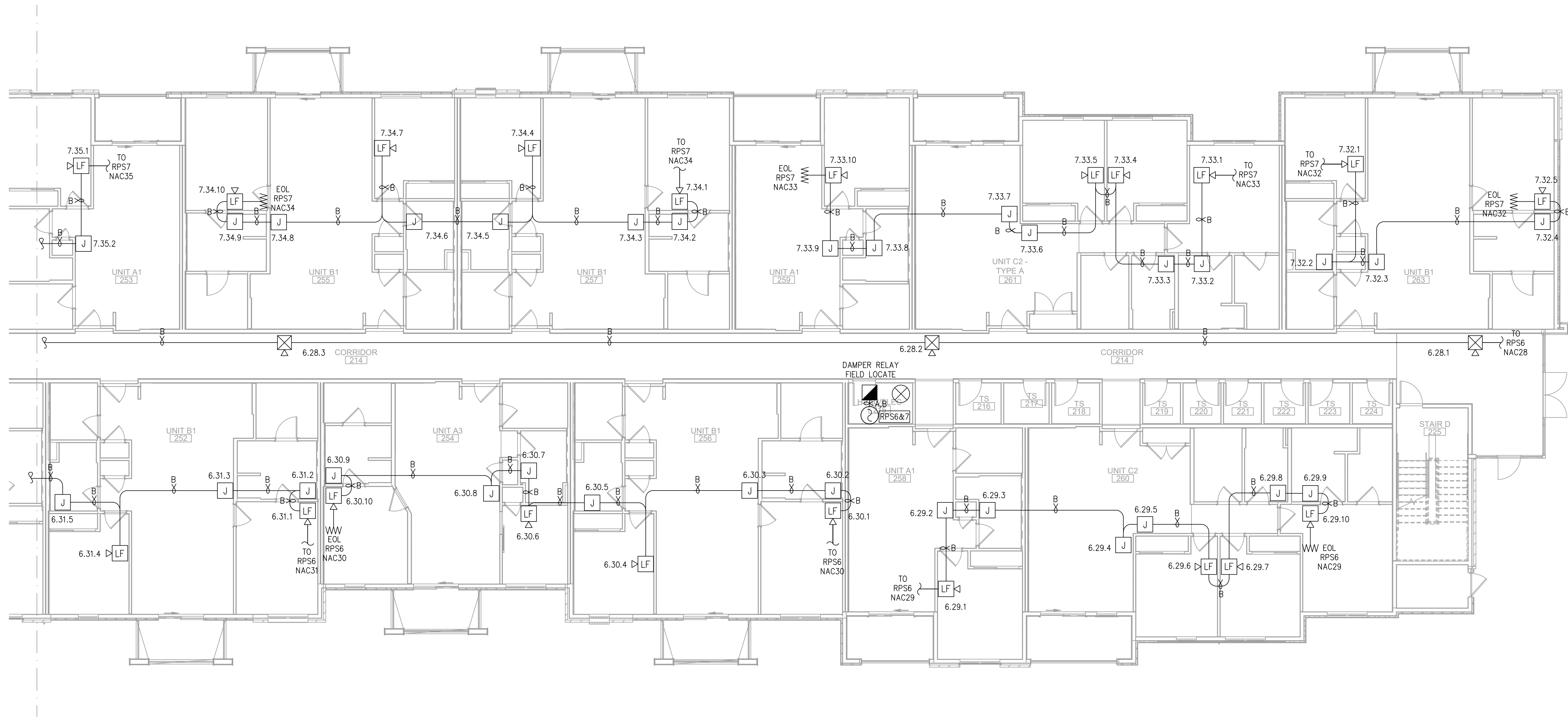
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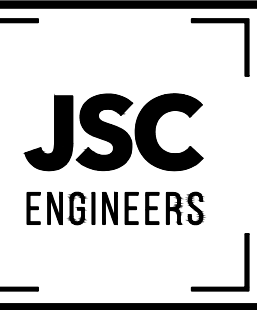
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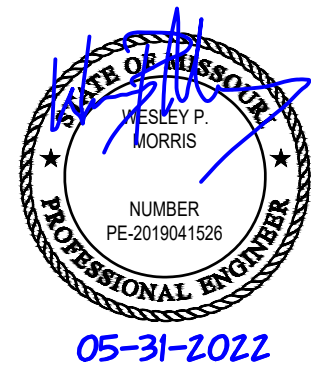
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SCALE : 1/8" = 1'-0"

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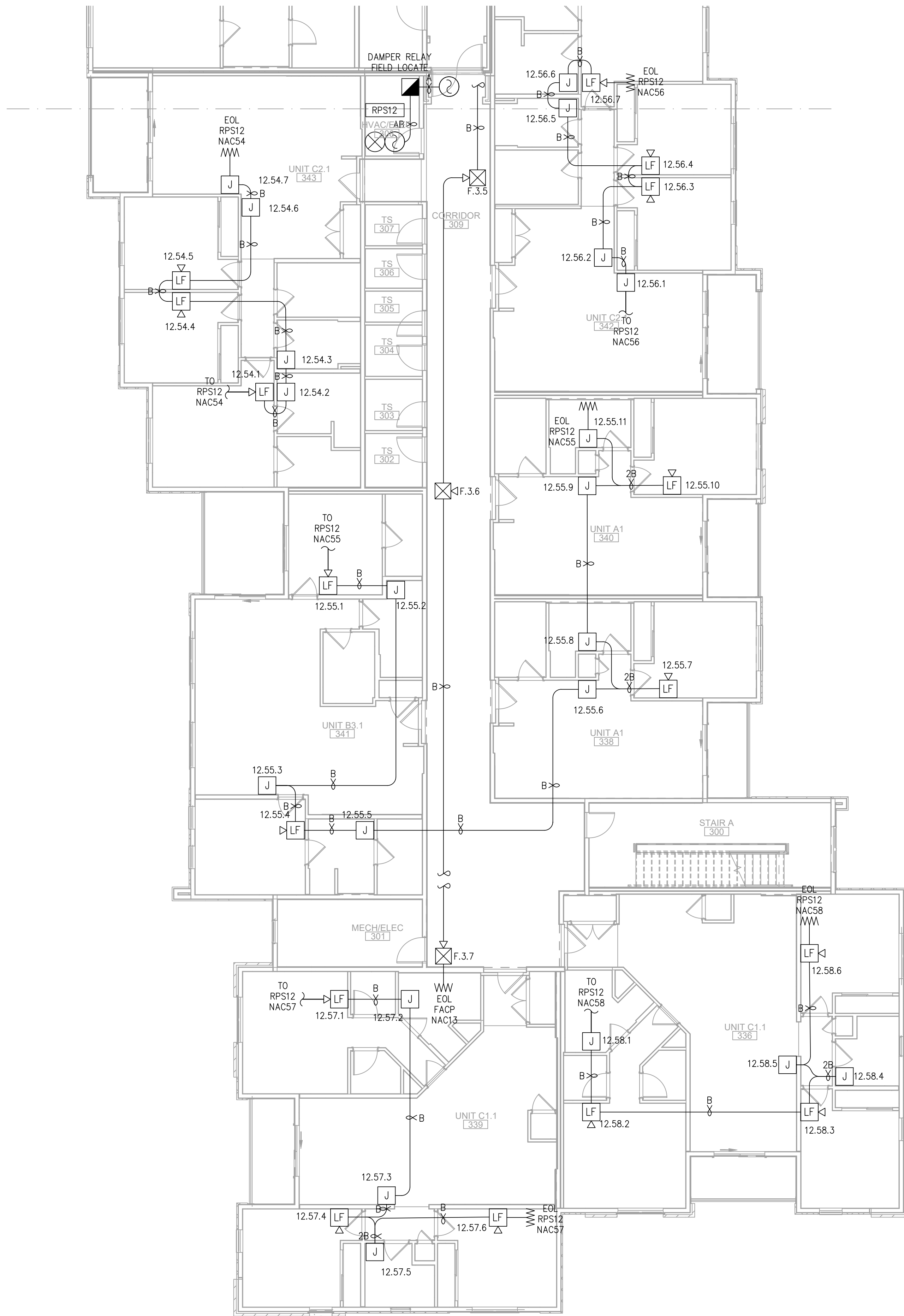
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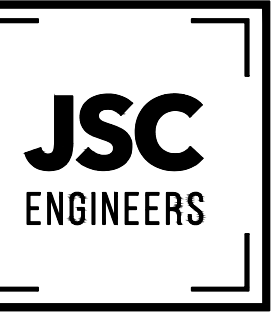
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FIRE ALARM PLAN - BUILDING 2 - FLOOR 3 - AREA A

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

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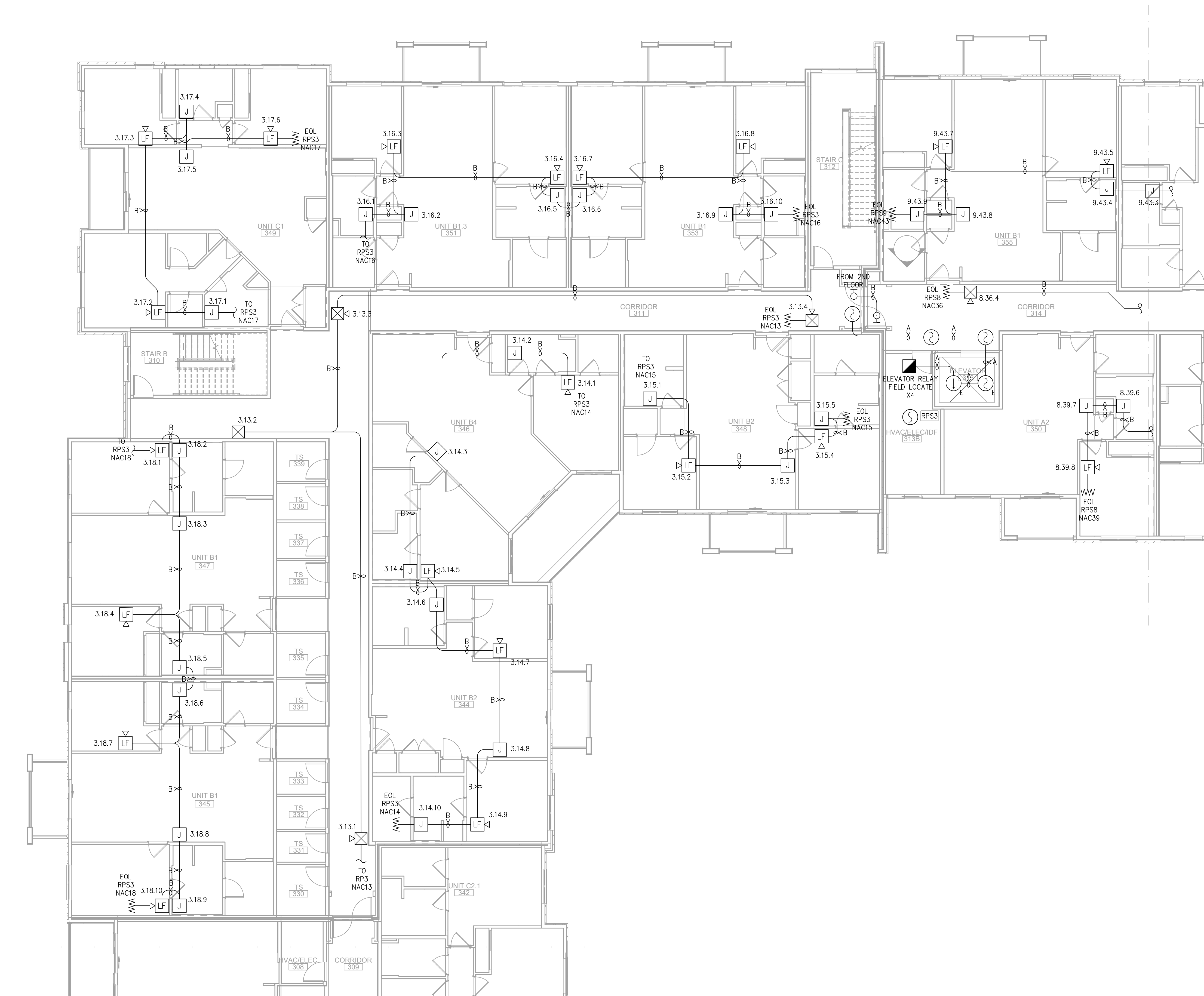
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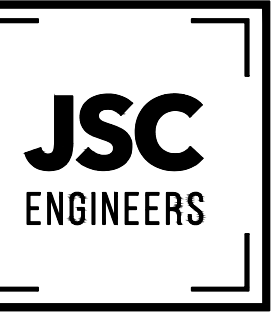
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FIRE ALARM PLAN - BUILDING 2 - FLOOR 3 - AREA B

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

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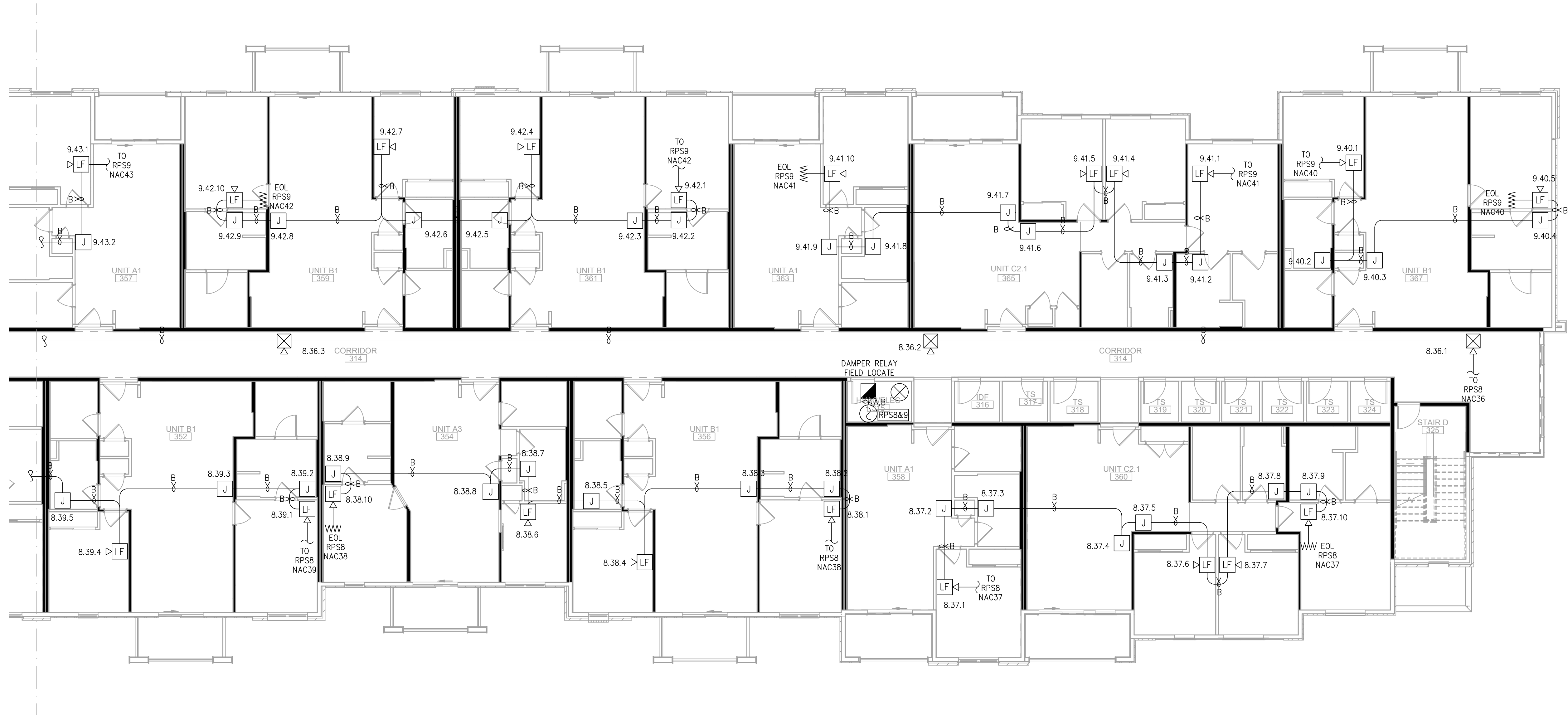
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SHEET:

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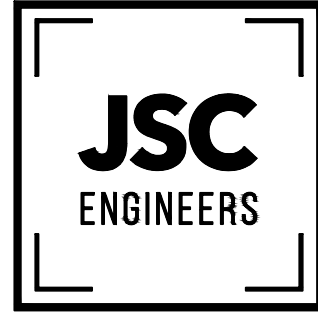
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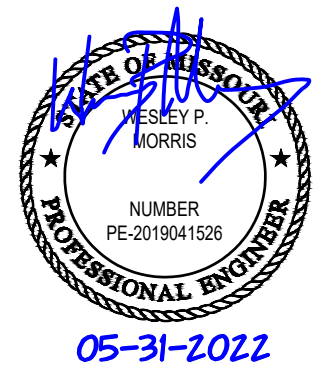


FIRE ALARM PLAN - BUILDING 2 - FLOOR 3 - AREA C
SCALE : 1/8" = 1'-0"

1



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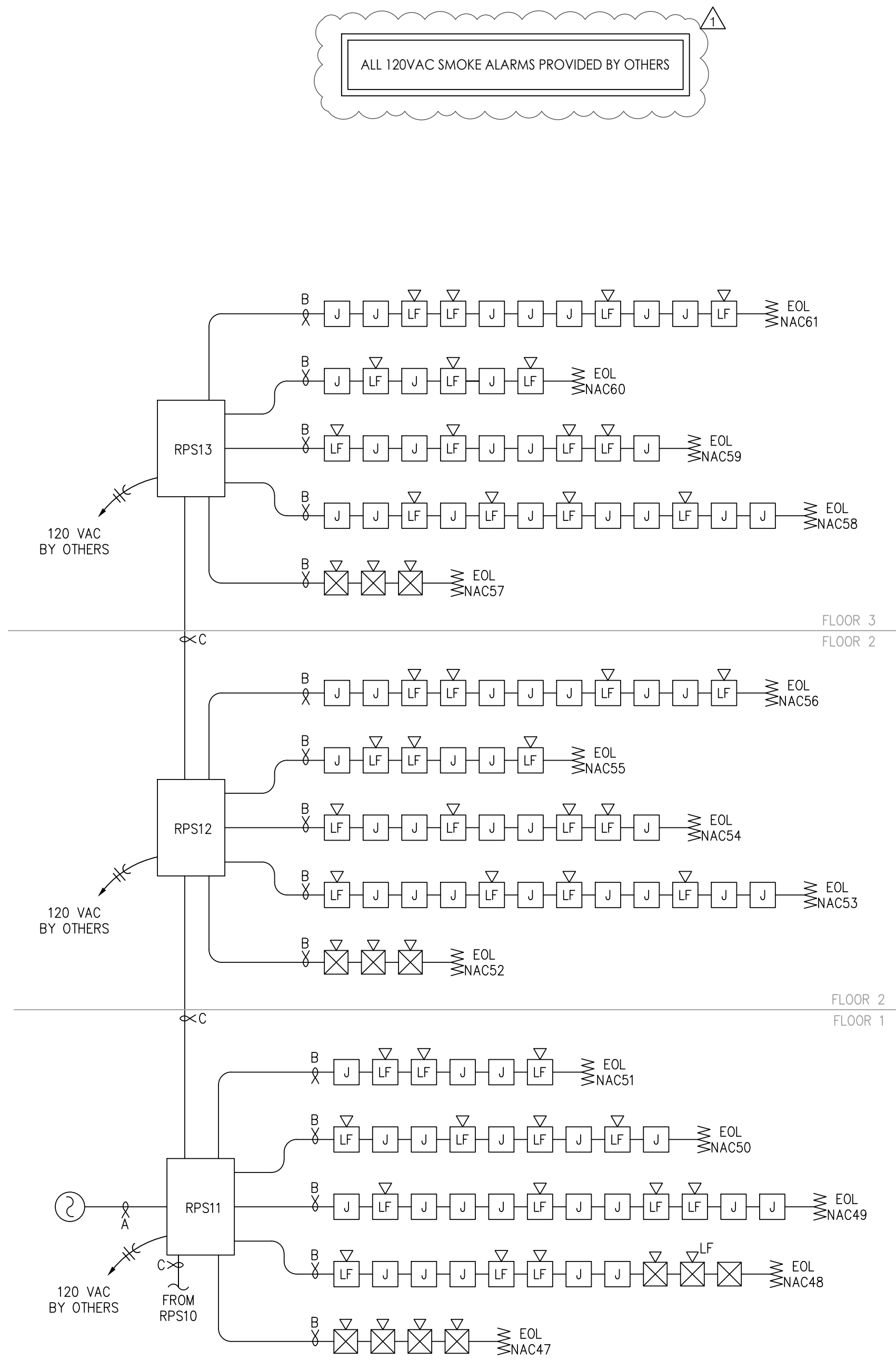
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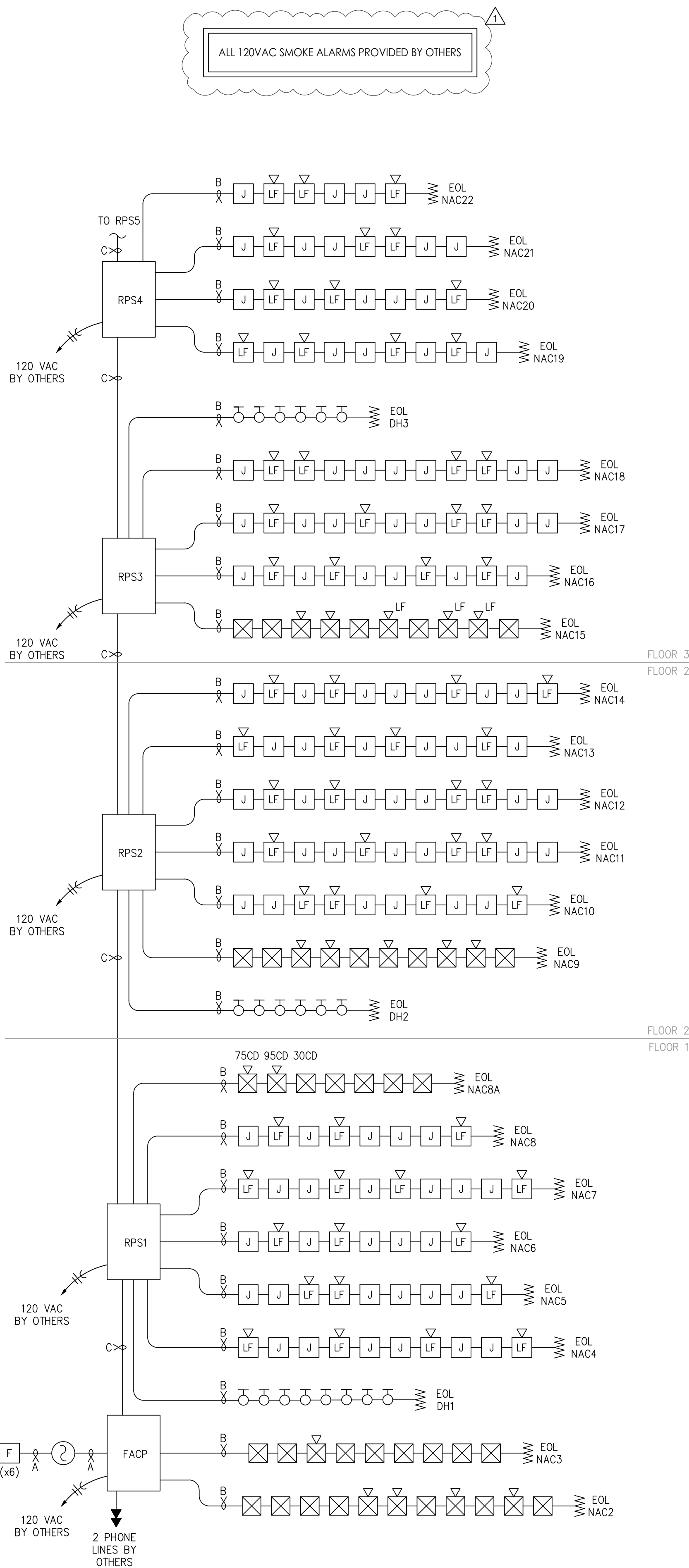
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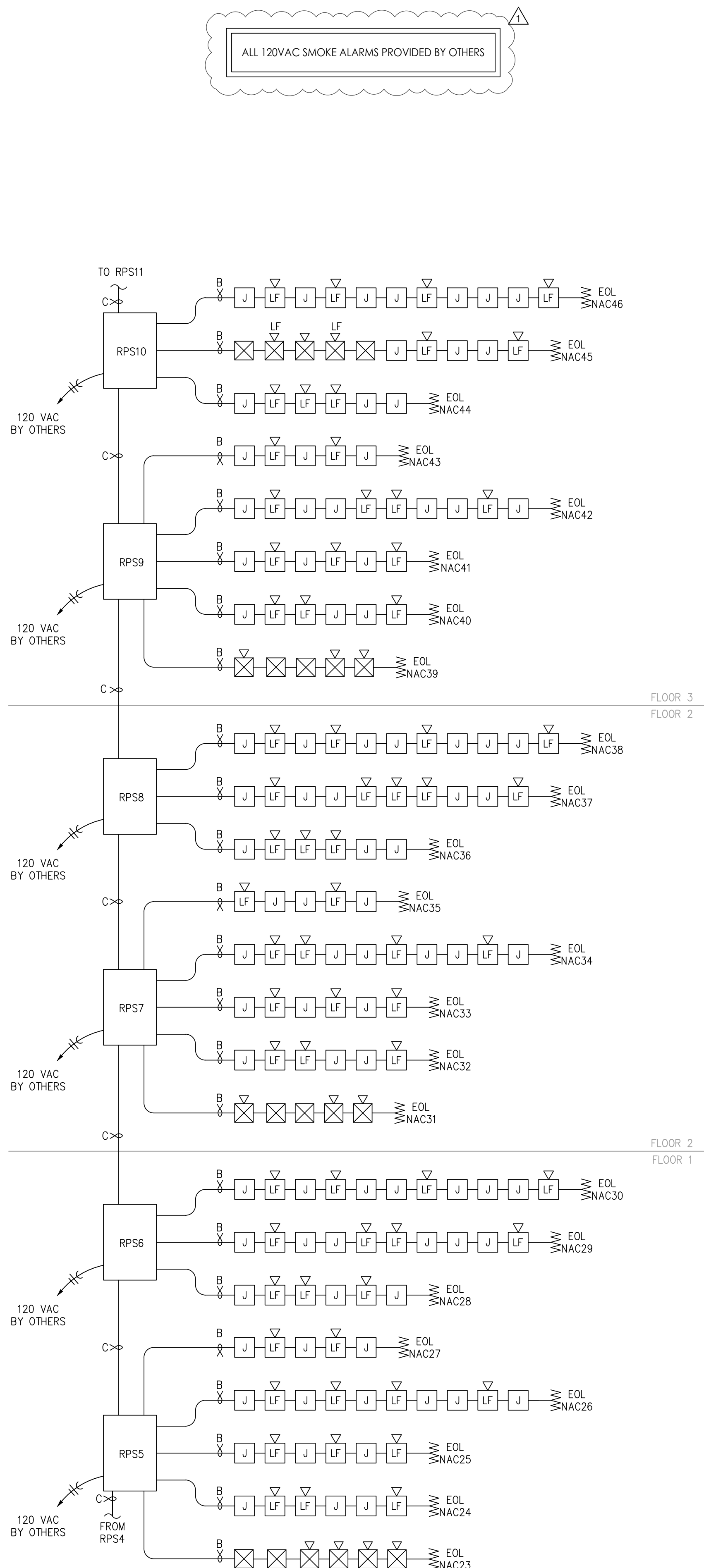
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RISER - BUILDING 1 - AREA B

SCALE : N/A

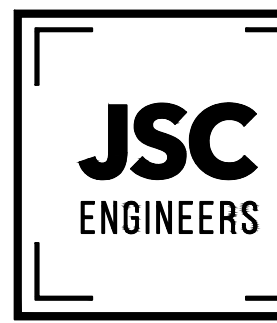
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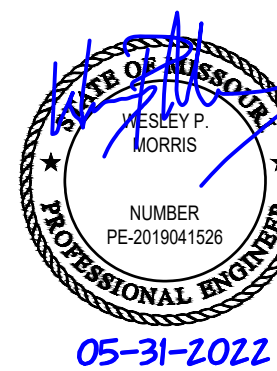
RISER - BUILDING 1 - AREA C

SCALE : N/A

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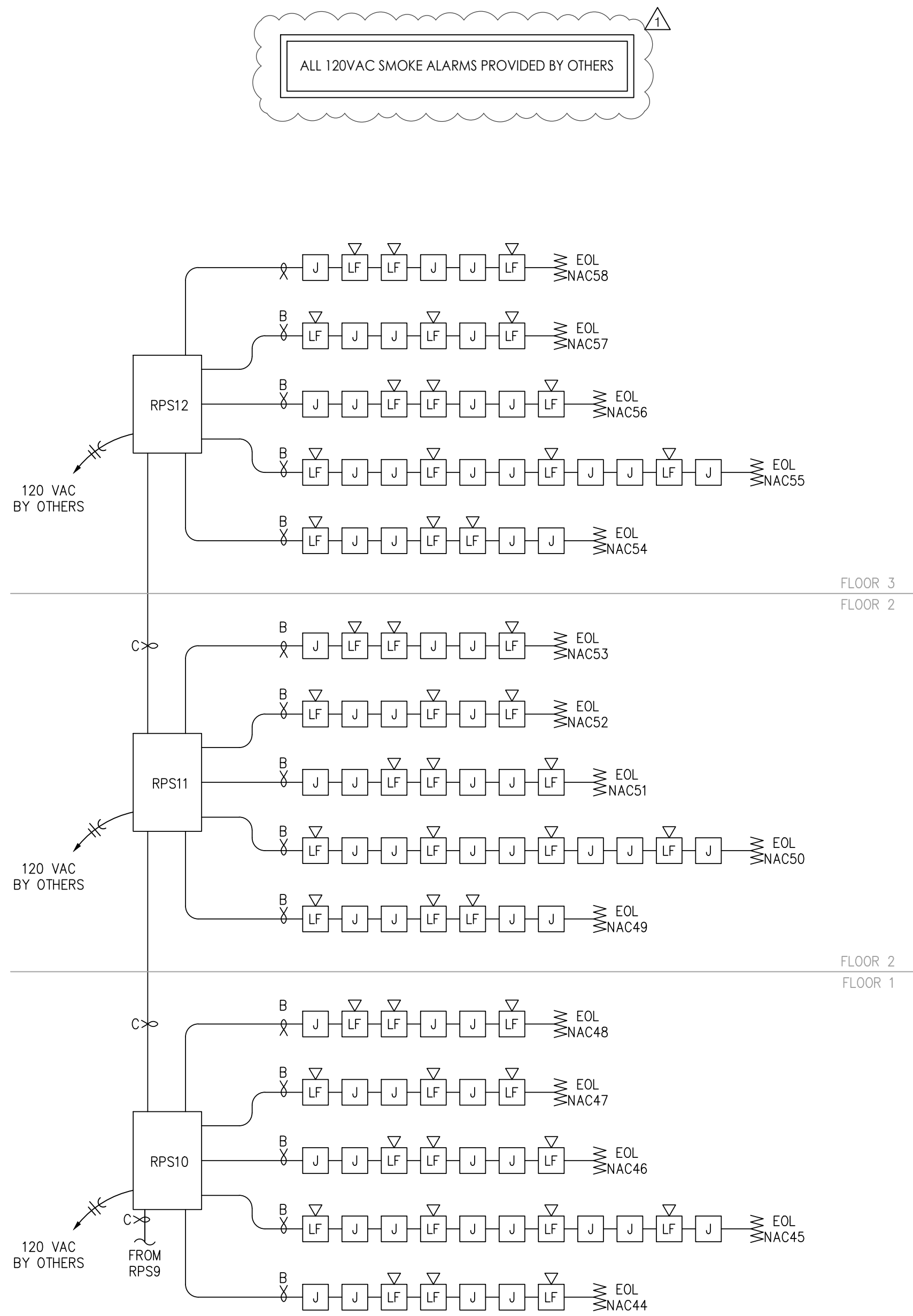
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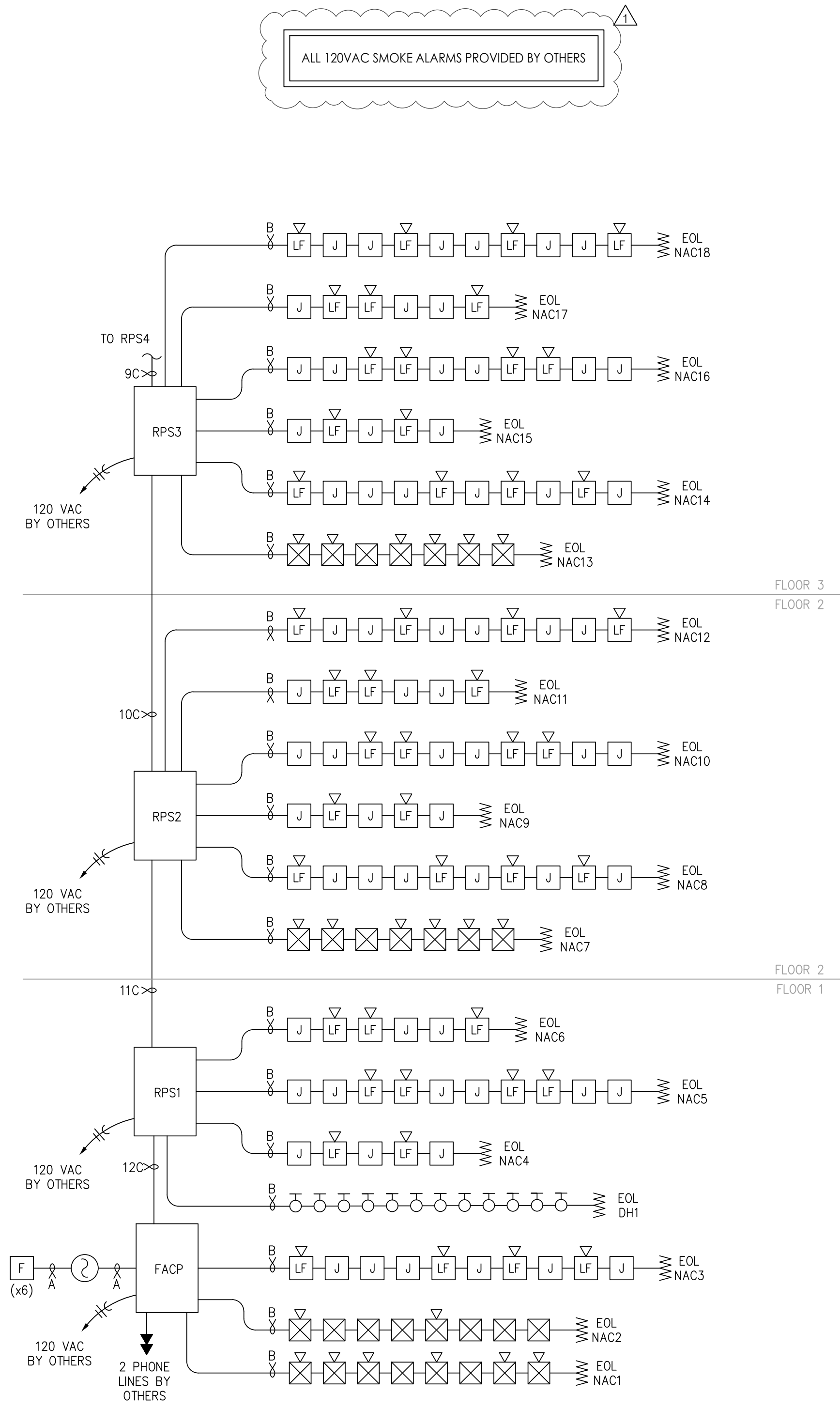
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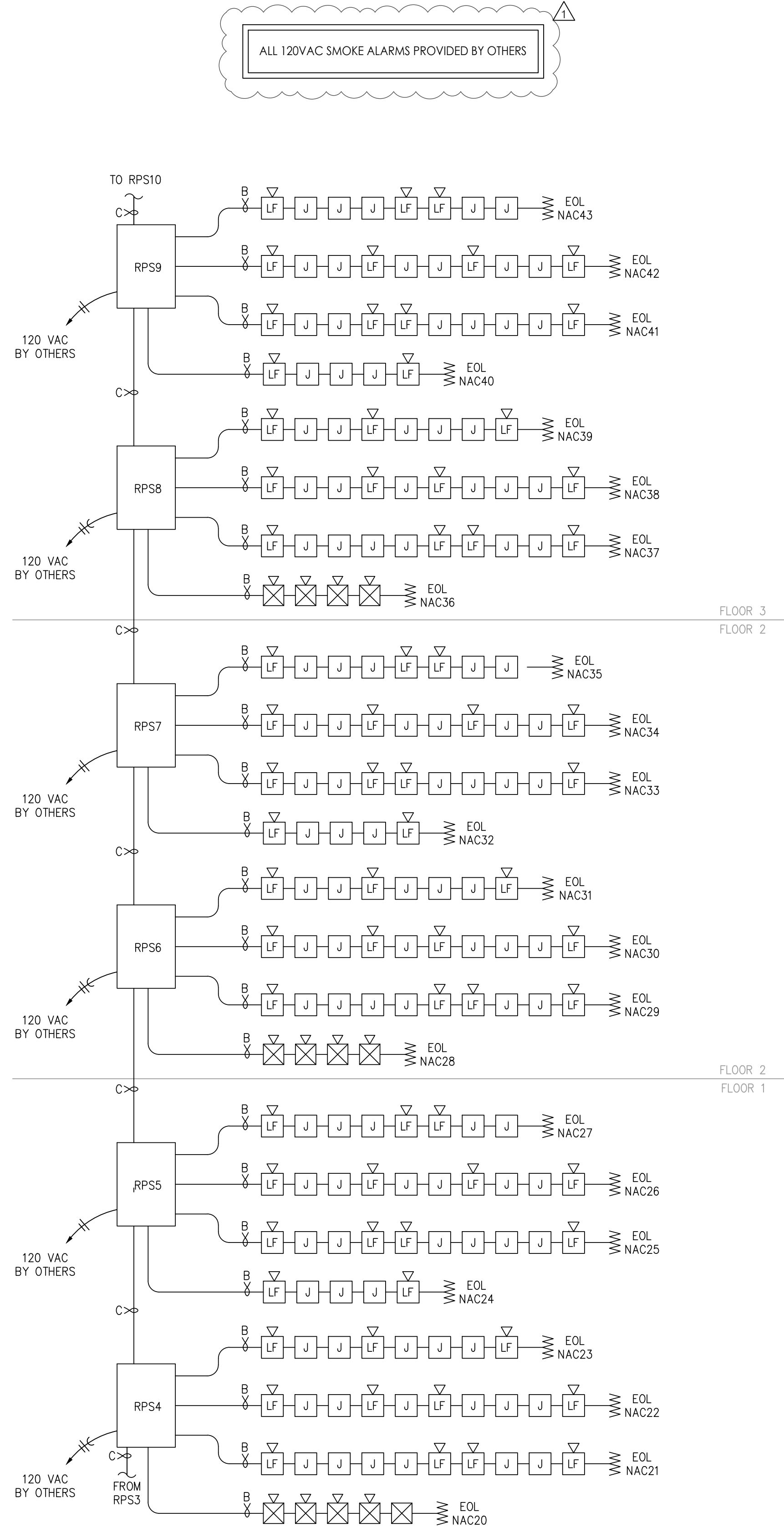
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SCALE : N/A

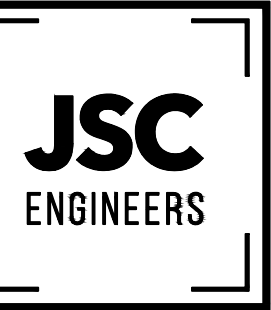
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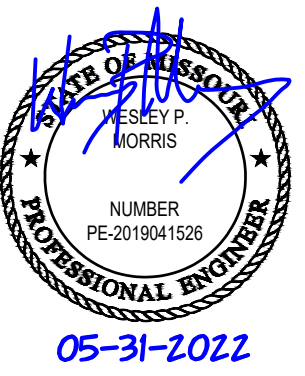
RISER - BUILDING 2 - AREA C

SCALE : N/A

1



MO COA NO. 201900786 / KS COA NO. E-2818
1925 CENTRAL ST. SUITE #201
KANSAS CITY, MO 64108
phone: (816) 272-8289
email: jsmothers@jscengineers.com



FIRE ALARM CONTRACTOR:



SYSTEM INTEGRATION GROUP

PROJECT: **SIGNATURE AT PRYOR II**
2100 AND 2150 NW LOWENSTEIN DR.
LEE'S SUMMIT, MISSOURI 64081

REVISIONS:	DATE:	DESCRIPTION:
1	05-31-22	PLANCH/CHK COMMENTS
2		
3		
4		
5		

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ISSUED:

PERMIT

SHEET TITLE:

FIRE ALARM
PLANS

DATE: 04.13.2022

JOB NO.: 22-094

SHEET:

FA202

E

D

C

B

A

Honeywell THE POWER OF CONNECTED			IFP-300 Battery Calculation FACP											
Farenhyt Series			Secondary Power Source Requirements											
			Standby Current (amps)				Secondary Alarm Current (amps)							
Device Type	Qty	Current Draw	Total		Qty	Current Draw	Total							
1. Control Panel														
IFP-300 Control Panel	1	x	0.190000	=	0.190000	1	x	0.250000	=	0.250000				
2. Addressable SLC Devices														
IDP-PHOTO	0	x	0.000300	=		0	x	0.000300	=					
IDP-PHOTO-T	0	x	0.000300	=		0	x	0.000300	=					
IDP-PHOTOR	0	x	0.000300	=		0	x	0.000300	=					
IDP-ION	0	x	0.000300	=		0	x	0.000300	=					
IDP-HEAT	0	x	0.000300	=		0	x	0.000300	=					
IDP-HEAT-HT	0	x	0.000300	=		0	x	0.000300	=					
IDP-HEAT-ROR	0	x	0.000300	=		0	x	0.000300	=					
IDP-BEAM	0	x	0.002000	=		0	x	0.002000	=					
IDP-BEAM-T	0	x	0.002000	=		0	x	0.002000	=					
IDP-FIRE-CO	0	x	0.030000	=		0	x	0.007200	=					
IDP-ACCLIMATE	0	x	0.000300	=		0	x	0.000300	=					
3. Addressable SLC Detectors														
IDP-CONTROL	0	x	0.000375	=		0	x	0.000375	=					
IDP-MONITOR	5	x	0.000375	=	0.001875	5	x	0.000375	=	0.001875				
IDP-MINIMON	0	x	0.000375	=		0	x	0.000375	=					
IDP-PULL-SA	0	x	0.000375	=		0	x	0.000375	=					
IDP-PULL-DA	1	x	0.000375	=	0.000375	1	x	0.000375	=	0.000375				
IDP-MONITOR-2	0	x	0.000750	=		0	x	0.000750	=					
IDP-MONITOR-10	0	x	0.003500	=		0	x	0.003500	=					
IDP-RELAY-6	0	x	0.001450	=		0	x	0.001450	=					
IDP-CONTROL-6	0	x	0.002250	=		0	x	0.002250	=					
IDP-RELAY	13	x	0.000255	=	0.003315	13	x	0.000255	=	0.003315				
IDP-RELAYMON-2	0	x	0.001300	=		0	x	0.024000	=					
IDP-ZONE	0	x	0.002000	=		0	x	0.002000	=					
IDP-ZONE-6	0	x	0.002000	=		0	x	0.002000	=					
4. SLC Accessories														
B200S	0	x	0.000300	=		0	x	0.000300	=					
B200S-LF	0	x	0.003000	=		0	x	0.003000	=					
B200SR	0	x	0.000300	=		0	x	0.000300	=					
B200SR-LF	0	x	0.001000	=		0	x	0.125000	=					
B224RB	0	x	0.000500	=		0	x	0.000500	=					
RTS151KEY	0	x	0.000000	=		0	x	0.007500	=					
RA100Z	0	x	0.000000	=		0	x	0.010000	=					
5. Auxiliary Power Draw - SLC Devices														
IDP-CONTROL (Aux. Power)	0	x	0.001700	=		0	x	0.007000	=					
IDP-CONTROL-6 (Aux. Power)	0	x	0.008000	=		0	x	0.020000	=					
IDP-ZONE (Aux. Power)	0	x	0.012000	=		0	x	0.080000	=					
IDP-ZONE-6 (Aux. Power)	0	x	0.050000	=		0	x	0.270000	=					
B200S (Aux. Power)	0	x	0.000500	=		0	x	0.035000	=					
B200S-LF (Aux. Power)	0	x	0.000550	=		0	x	0.140000	=					
B200SR (Aux. Power)	0	x	0.000500	=		0	x	0.035000	=					
B200SR-LF (Aux. Power)	0	x	0.001000	=		0	x	0.125000	=					
6. SLC Isolator Devices														
IDP-ISG	5	x	0.000450	=	0.002250	5	x	0.000450	=	0.002250				
B224RB1	0	x	0.000500	=		0	x	0.000500	=					
7. Accessory Modules														
RA-2000	0	x	0.025000	=		0	x	0.050000	=					
RA-2000GRAY	0	x	0.025000	=		0	x	0.050000	=					
6815	0	x	0.078000	=		0	x	0.078000	=					
RA-100	0	x	0.020000	=		0	x	0.025000	=					
RA-1000	1	x	0.020000	=	0.020000	1	x	0.025000	=	0.025000				
RA-1000R	0	x	0.020000	=		0	x	0.025000	=					
5924	0	x	0.045000	=		0	x	0.045000	=					
5486	0	x	0.010000	=		0	x	0.010000	=					
RPS-1000	2	x	0.010000	=	0.020000	2	x	0.010000	=	0.020000				
5865-4	0	x	0.035000	=		0	x	0.145000	=					
5865-3	0	x	0.035000	=		0	x	0.145000	=					
5880	0	x	0.035000	=		0	x	0.200000	=					
5883	0	x	0.000000	=		0	x	0.220000	=					
8. Network Cards														
SK-NIC	1	x	0.021000	=	0.021000	1	x	0.021000	=	0.021000				
SK-FML	0	x	0.053000	=		0	x	0.053000	=					
SK-FSL	1	x	0.079000	=	0.079000	1	x	0.079000	=	0.079000				
9. Auxiliary Devices														
IPDACT-2	0	x	0.093000	=		0	x	0.136000	=					
IPDACT-2UD	0	x	0.098000	=		0	x	0.155000	=					
CELL-MOD	1	x	0.055000	=	0.055000	1	x	0.100000	=	0.100000				
CELL-CAB-SK	0	x	0.055000	=		0	x	0.100000	=					
10. Miscellaneous Devices														
Conventional Detectors	0	x	0.000000	=		0	x	0.000000	=					
R-10E	10	x	0.020000	=	0.200000	10	x	0.020000	=	0.200000				
DPH24120FPC	1	x	0.020000	=	0.020000	1	x	0.000000	=	0.000000				
IDP-HEAT-W	1	x	0.000300	=	0.000300	1	x	0.000000	=	0.000000				
IDP-PHOTO-W	21	x	0.000300	=	0.006300	21	x	0.000000	=	0.000000				
Miscellaneous Device 5	0	x	0.000000	=		0	x	0.000000	=					
11. Output Circuits														
NAC 1			0.000000	=				0.221000	=	0.221000				
NAC 2			0.000000	=				0.093000	=	0.093000				
NAC 3			0.000000	=				0.974000	=	0.974000				
Constant Power 1			0.000000	=				0.000000	=					
Total Standby Load					0.619415	Total Alarm Load					2.490815			

E

D

C

B

A



PSN-106
Battery & Voltage Drop
Calculations

Project Name: The Signature
Standby Hours: 24
Alarm Mins: 5
Safety Margin: 20%
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2022
NAC Source Voltage: 20.4

Model #: PSN-106
Panel ID: RPS-1
Location: MDP Room

Max Panel Current (amps): 10

User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submit.

Qty	Panel	Part #	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-106		NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:				0.075		Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)	Class	Standby (amps) Each	Alarm (amps) Each
1 Notification NAC 4	Class B	0.00000	0.55200
2 Notification NAC 5	Class B	0.00000	0.41400
3 Notification NAC 6	Class B	0.00000	0.41400
4 Notification NAC 7	Class B	0.00000	0.55200
5 Notification NAC 8	Class B	0.00000	0.41400
6 Notification NAC 8A	Class B	0.00000	0.53000
AUX Door Holders		0.00000	0.00000
NAC Standby:		0.00000	NAC Alarm: 2.87600

Battery Calculation Summary				Standby (amps)	Alarm (amps)
Panel Current:				0.07500	0.07500
NAC Circuit Current:				0.00000	2.87600
Total Standby:				0.07500	2.95100
Standby Hours:				24	5
AH Required:				1.80	0.25
Total Combined Standby & Alarm AmperHours Required:				2.05	2.05
Efficiency Factor:				20%	20%
Required Battery AmperHours:				2.46	
Battery AmperHours Provided:					



NAC Circuit Configuration & Voltage Drop

The Signature 1/11/2022

NAC 1				MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	Notification	Description:	NAC 4

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	230	1.467	0.552	19.59	16

Qty	Lookup Type	Circuit Devices	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF		0.000000	0.000000	0.138000	0.552000
1							
User can add devices on the fly to these bottom 5 rows (No lookup function)							
Total Standby:				0.00000		Total Alarm:	0.55200

NAC 2				MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	Notification	Description:	NAC 5

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	250	1.595	0.414	19.74	16

Qty	Lookup Type	Circuit Devices	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	S/S HLF		0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)							
Total Standby:				0.00000		Total Alarm:	0.41400



NAC Circuit Configuration & Voltage Drop (cont'd)

The Signature 1/11/2022

NAC 3				MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	Notification	Description:	NAC 6

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	220	1.404	0.414	19.82	16

Qty	Lookup Type	Circuit Devices	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	S/S HLF		0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)							
Total Standby:				0.00000		Total Alarm:	0.41400

NAC 4				MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	Notification	Description:	NAC 7

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	200	1.276	0.552	19.70	16

Qty	Lookup Type	Circuit Devices	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF		0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)							
Total Standby:				0.00000		Total Alarm:	0.55200



NAC Circuit Configuration & Voltage Drop (cont'd)

The Signature 1/11/2022

NAC 5				MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	Notification	Description:	NAC 8

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	250	1.595	0.414	19.74	16

Qty	Lookup Type	Circuit Devices	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	S/S HLF		0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)							
Total Standby:				0.00000		Total Alarm:	0.41400

NAC 6				MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	Notification	Description:	NAC 8A

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	240	1.531	0.530	19.59	16

Qty	Lookup Type	Circuit Devices	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	User Defined	S S P2L 95cd Temp Low		0.000000	0.000000	0.133000	0.133000
1	User Defined	S S P2L 75 cd Temp High		0.000000	0.000000	0.119000	0.119000
1	User Defined	S S SL 30cd		0.000000	0.000000	0.063000	0.063000
5	User Defined	S S SL 15cd		0.000000	0.000000	0.043000	0.215000
User can add devices on the fly to these bottom 5 rows (No lookup function)							
Total Standby:				0.00000		Total Alarm:	0.53000

AUX Power				MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Usage:	Door Holders	Description:	Door Hold		

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Req'd
#14 Solid	3.19	475	3.031	0.000	20.40	16

Qty	Lookup Type	Circuit Devices	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
0	User Defined	DH		0.040000	0.000000	0.000000	0.000000
User can add devices on the fly to these bottom 5 rows (No lookup function)							
Total Standby:				0.00000		Total Alarm:	0.00000



PSN-106
Battery & Voltage Drop
Calculations

Project Name: The Signature
Standby Hours: 24
Alarm Mins: 5
Safety Margin: 20%
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2022
NAC Source Voltage: 20.4

Model #: PSN-106
Panel ID: RPS-2
Location: 2nd Floor Mech/Elec 240

Max Panel Current (amps): 10

User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submit.

Qty	Panel	Part #	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-106		NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:				0.075		Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)	Class	Standby (amps) Each	Alarm (amps) Each
1 Notification NAC 9	Class B	0.00000	0.43700
2 Notification NAC 10	Class B	0.00000	0.55200
3 Notification NAC 11	Class B	0.00000	0.55200
4 Notification NAC 12	Class B	0.00000	0.55200
5 Notification NAC 13	Class B	0.00000	0.55200
6 Notification NAC 14	Class B	0.00000	0.55200
AUX Door Holders		0.00000	0.00000
NAC Standby:		0.00000	NAC Alarm: 3.19700

Battery Calculation Summary				Standby (amps)	Alarm (amps)
Panel Current:				0.07500	0.07500
NAC Circuit Current:				0.00000	3.19700
Total Standby:				0.07500	3.27200
Standby Hours:				24	5
AH Required:				1.80	0.28
Total Combined Standby & Alarm AmperHours Required:				2.08	2.08
Efficiency Factor:				20%	20%
Required Battery AmperHours:				2.50	
Battery AmperHours Provided:					7



NAC Circuit Configuration & Voltage Drop

The Signature 1/11/2022

NAC 1				MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	Notification	Description:	NAC 9

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	500	3.190	0.437	19.01	16

Qty	Lookup Type	Circuit Devices	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S S SL 15cd		0.000000	0.000000	0.043000	0.172000
5	User Defined	System Sensor P2L 15cd Temp Hig		0.000000	0.000000	0.053000	0.265000
User can add devices on the fly to these bottom 5 rows (No lookup function)							
Total Standby:				0.00000		Total Alarm:	0.43700

NAC 2				MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	Notification	Description:	NAC 10

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	180	1.148	0.552	19.77	16

Qty	Lookup Type	Circuit Devices	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF		0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)							
Total Standby:				0.00000		Total Alarm:	0.55200



NAC Circuit Configuration & Voltage Drop (cont'd)

The Signature 1/11/2022

NAC 3				MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	Notification	Description:	NAC 11

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	220	1.404	0.552	19.63	16

Qty	Lookup Type	Circuit Devices	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF		0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)							
Total Standby:				0.00000		Total Alarm:	0.55200

NAC 4				MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	Notification	Description:	NAC 12

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	220	1.404	0.552	19.63	16

Qty	Lookup Type	Circuit Devices	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF		0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)							
Total Standby:				0.00000		Total Alarm:	0.55200



NAC Circuit Configuration & Voltage Drop (cont'd)

The Signature 1/11/2022

NAC 5				MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage:	Notification	Description:	NAC 13

7

6

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1



PSN-64 Battery & Voltage Drop Calculations

Project Name: The Signature
Standby Hours: 24
Alarm Mins: 5
Safety Margin: 20%
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2021
NAC Source Voltage: 20.4

Model #: PSN-64
Panel ID: RPS-3
Location: 3rd floor HVAC 338
Max Panel Current (amps): 6
User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Qty	Panel	Part #	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-64		NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:				0.075		Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)	Ckt	Use	Description	Class	Standby (amps) Total	Alarm (amps) Total
1	Notification		NAC 15	Class B	0.00000	0.48000
2	Notification		NAC 16	Class B	0.00000	0.55200
3	Notification		NAC 17	Class B	0.00000	0.55200
4	Notification		NAC 18	Class B	0.00000	0.55200
AUX					0.00000	
NAC Standby:					0.00000	NAC Alarm: 2.13600

Battery Calculation Summary				Standby (amps)	Alarm (amps)
Panel Current:				0.07500	0.07500
NAC Circuit Current:				0.00000	2.13600
Total Standby:				0.07500	2.21100
Standby Hours:				24	Alarm Mins: 5
AH Required:				1.80	AH Required: 0.19
Total Combined Standby & Alarm Amperes Required:				1.99	
					Safety Margin: 20%
Required Battery Amperes:				2.39	
Battery Amperes Provided:				7	



NAC Circuit Configuration & Voltage Drop

The Signature 1/11/2021

NAC 1			MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4		
Class: Class B		Usage: Notification		Description: NAC 15			
Wire Type		Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid		3.19	500	3.190	0.480	18.87	16
Circuit Devices			Standby (amps)		Alarm (amps)		
Qty	Lookup Type	Description	Each	Total	Each	Total	
5	User Defined	System Sensor P2L15cd Temp High	0.000000	0.000000	0.053000	0.265000	
5	User Defined	S S SL15cd	0.000000	0.000000	0.043000	0.215000	
		User can add devices on the fly to these bottom 5 rows (No lookup function)					
Total Standby:			0.00000		Total Alarm:		0.48000

NAC 2			MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4	
Class: Class B		Usage:	Notification		Description:	NAC 16
Wire Type		Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load amps	Volts @ EOL
#14 Solid		3.19	180	1.148	0.552	19.77
						Min Volts Req'd 16
Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
		User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000		Total Alarm:	0.55200



NAC Circuit Configuration & Voltage Drop (cont'd)

The Signature 1/11/2021

NAC3			MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4		
Class: Class B		Usage: Notification		Description: NAC 17			
Wire Type		Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid		3.19	220	1.404	0.552	19.63	16
Circuit Devices			Standby (amps)		Alarm (amps)		
Qty	Lookup Type	Description	Each	Total	Each	Total	
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000	
		User can add devices on the fly to these bottom 5 rows (No lookup function)					
Total Standby:			0.00000		Total Alarm:	0.55200	

NAC 4

MAX Circuit Current (amps): 3

Source Voltage Used (VDC): 20.4

Class:

Class B

Usage:

Notification

Description:

NAC 18

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	220	1.404	0.552	19.63	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000

AUX Power			MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4	
Usage:			Description:			
Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Req'd
#12 Solid	2.01		0.000	0.000	20.40	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
		User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000		Total Alarm:	0.00000



PSN-64 Battery & Voltage Drop Calculations

Project Name: The Signature
Standby Hours: 24
Alarm Mins: 5
Safety Margin: 20%
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2021
NAC Source Voltage: 20.4

Model #: PSN-64
Panel ID: RPS-4
Location: 3rd floor HVAC 338
Max Panel Current (amps): 6
User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Qty	Panel	Part #	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-64		NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:				0.075		Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)	Ckt	Use	Description	Class	Standby (amps) Total	Alarm (amps) Total
1	Notification		NAC 19	Class B	0.00000	0.55200
2	Notification		NAC 20	Class B	0.00000	0.41400
3	Notification		NAC 21	Class B	0.00000	0.41400
4	Notification		NAC 22	Class B	0.00000	0.41400
AUX					0.00000	0.00000
NAC Standby:					0.00000	NAC Alarm: 1.79400

Battery Calculation Summary				Standby (amps)	Alarm (amps)
Panel Current:				0.07500	0.07500
NAC Circuit Current:				0.00000	1.79400
Total Standby:				0.07500	1.86900
Standby Hours:				24	Alarm Mins: 5
AH Required:				1.80	AH Required: 0.16
Total Combined Standby & Alarm Amperes Required:				1.96	
					Safety Margin: 20%
Required Battery Amperes:				2.35	
Battery Amperes Provided:				7	



NAC Circuit Configuration & Voltage Drop

The Signature 1/11/2021

NAC 1			MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4	
Class: Class B		Usage: Notification		Description: NAC 19		
Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	190	1.212	0.552	19.73	16
Circuit Devices						
Qty	Lookup Type	Description	Standby (amps)		Alarm (amps)	
			Each	Total	Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
		User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000		Total Alarm:	0.55200

NAC 2			MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4		
Class:	Class B	Usage:	Notification	Description:	NAC 20		
	Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
	#14 Solid	3.19	240	1.531	0.414	19.77	16
Circuit Devices				Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total	
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000	
		User can add devices on the fly to these bottom 5 rows (No lookup function)					
					</		



NAC Circuit Configuration & Voltage Drop (cont'd)

The Signature 1/11/2021

NAC 3

MAX Circuit Current (amps): 3

Source Voltage Used (VDC): 20.4

Class: Class B

Usage: Notification

Description: NAC 21

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	240	1.531	0.414	19.77	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
		User can add devices on the fly to these bottom 5 rows (No lookup function)				

NAC 4

MAX Circuit Current (amps): 3

Source Voltage Used (VDC): 20.4

Class: Class B

Usage: Notification

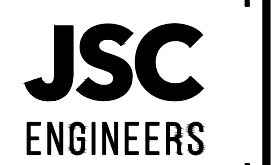
Description: NAC 22

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	190	1.212	0.414	19.90	16

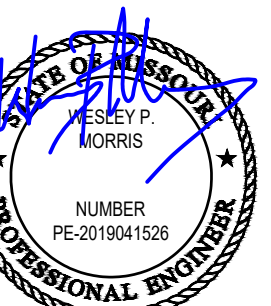
Circuit Devices

Qty	Lookup Type	Description	Standby (amps)		Alarm (amps)	
			Each	Total	Each	Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
		User can add devices on the fly to these bottom 5 rows (No lookup function)				

AUX Power			MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4	
Usage:			Description:			
Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Required
#12 Solid	2.01		0.000	0.000	20.40	16
Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.00000	



MO COA NO. 2019000786 / KS COA NO. E-2818
1925 CENTRAL ST. SUITE #201
KANSAS CITY, MO 64108
phone: (816) 272-8289
email: jsc@jscengineers.com



05-31-2022

FIRE ALARM CONTRACTOR:



SYSTEM INTEGRATION GROUP

SIGNATURE AT PRYOR II
2100 AND 2150 NW LOWENSTEIN DR.
LEE'S SUMMIT, MISSOURI 64081

REVISIONS	DATE	DESCRIPTION
1	05-31-22	PLAN CHECK COMMENTS
2		
3		
4		
5		

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ISSUED:

PERMIT

SHEET TITLE:

BATTERY
CALCULATIONS

DATE: 04.13.2022

JOB NO.: 22-094

SHEET:

FA303

BATTERY CALCS - BLDG 1 (CONT.)

SCALE : N/A

1

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
2	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.276000
		User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000		Total Alarm:	0.27600

SYSTEM INTEGRATION GROUP

FA304

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PSN-64
Battery & Voltage Drop
Calculations

Project Name: The Signature
BLDG 1-C
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2021
Standby Hours: 24
Alarm Mins: 5
Safety Margin: 20%
NAC Source Voltage: 20.4

Model #: PSN-64
Panel ID: RPS-8
Location: 2nd Flr MECH 221
Max Panel Current (amps): 6
User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Qty	Part #	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-64	NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:			0.075	0.075	Panel Alarm: 0.075	

NAC Circuits (See NAC Configuration below)	Class	Standby (amps) Total	Alarm (amps) Total
1 Notification NAC 36	Class B	0.00000	0.41400
2 Notification NAC 37	Class B	0.00000	0.55200
3 Notification NAC 38	Class B	0.00000	0.55200
4 Aux Power AUX3	Class B	0.00000	0.00000
AUX		0.00000	0.00000
NAC Standby:		0.00000	NAC Alarm: 1.51800

Battery Calculation Summary		Standby (amps)	Alarm (amps)
Panel Current:		0.07500	0.07500
NAC Circuit Current:		0.00000	1.51800
Total Standby:		0.07500	1.59300
Standby Hours:		24	Alarm Mins: 5
AH Required:		1.80	AH Required: 0.14
Total Combined Standby & Alarm AmpHours Required:		1.94	
Safety Margin:		20%	
Required Battery AmpHours:		2.33	
Battery AmpHours Provided:		7	



NAC Circuit Configuration & Voltage Drop The Signature 1/11/2021

NAC 1 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 36

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	210	1.340	0.414	19.85	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.41400	

NAC 2 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 37

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	275	1.755	0.552	19.43	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.55200	



NAC Circuit Configuration & Voltage Drop (cont'd) The Signature 1/11/2021

NAC 3 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 38

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	210	1.340	0.552	19.66	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.55200	

NAC 4 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Aux Power Description: AUX3

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	220	1.404	0.000	20.40	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.00000	

AUX Power MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Usage: Unused Description:

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Req'd
#14 Solid	3.19	160	1.021	0.000	20.40	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.00000	



PSN-64
Battery & Voltage Drop
Calculations

Project Name: The Signature
BLDG 1-C
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2021
Standby Hours: 24
Alarm Mins: 5
Safety Margin: 20%
NAC Source Voltage: 20.4

Model #: PSN-64
Panel ID: RPS-9
Location: 3rd flr IDF 322
Max Panel Current (amps): 6
User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Qty	Part #	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-64	NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:			0.075	0.075	Panel Alarm: 0.075	

NAC Circuits (See NAC Configuration below)	Class	Standby (amps) Total	Alarm (amps) Total
1 Notification NAC 39	Class B	0.00000	0.24500
2 Notification NAC 40	Class B	0.00000	0.41400
3 Notification NAC 41	Class B	0.00000	0.41400
4 Notification NAC 42	Class B	0.00000	0.55200
AUX NAC 43		0.00000	0.27600
NAC Standby:		0.00000	NAC Alarm: 1.90100

Battery Calculation Summary		Standby (amps)	Alarm (amps)
Panel Current:		0.07500	0.07500
NAC Circuit Current:		0.00000	1.90100
Total Standby:		0.07500	1.97600
Standby Hours:		24	Alarm Mins: 5
AH Required:		1.80	AH Required: 0.17
Total Combined Standby & Alarm AmpHours Required:		1.97	
Safety Margin:		20%	
Required Battery AmpHours:		2.36	
Battery AmpHours Provided:		7	



NAC Circuit Configuration & Voltage Drop The Signature 1/11/2021

NAC 1 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 39

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	300	1.914	0.245	19.93	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	System Sensor P2L 15cd Temp High	0.000000	0.000000	0.053000	0.159000
2	User Defined	S/S SL 15cd	0.000000	0.000000	0.043000	0.086000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.24500	

NAC 2 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 40

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	150	0.957	0.414	20.00	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.41400	



NAC Circuit Configuration & Voltage Drop (cont'd) The Signature 1/11/2021

NAC 3 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 41

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	150	0.957	0.414	20.00	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.41400	

NAC 4 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 42

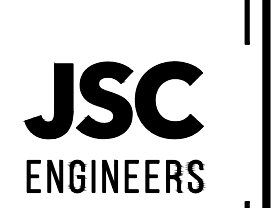
Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	220	1.404	0.552	19.63	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.55200	

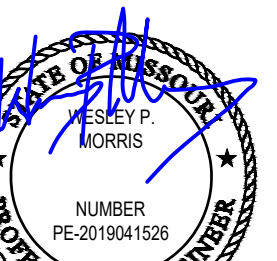
NAC 5 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Usage: Notification Description: NAC 43

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Req'd
#14 Solid	3.19	160	1.021	0.276	20.12	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
2	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.276000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.27600	



MO COA NO. 2019000786 / KS COA NO. E-2818
1925 CENTRAL ST. SUITE #201
KANSAS CITY, MO 64108
phone: (816) 272-8289
email: jsmothers@jscengineers.com



05-31-2022

FIRE ALARM CONTRACTOR:



SYSTEM INTEGRATION GROUP

SIGNATURE AT PRYOR II
2100 AND 2150 NW LOWENSTEIN DR.
LEE'S SUMMIT, MISSOURI 64081

REVISIONS:	DATE / DESCRIPTION
1	05-31-22/PLANCHICK COMMENTS
2	
3	
4	
5	

ISSUED:

PERMIT

SHEET TITLE:

BATTERY CALCULATIONS

DATE: 04.13.2022

JOB NO.: 22-094

SHEET:

FA305

BATTERY CALCS - BLDG 1 (CONT.)

SCALE : N/A

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PSN-64
Battery & Voltage Drop
Calculations

Project Name: The Signature
BLDG 1-C
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2021
NAC Source Voltage: 20.4

Max Panel Current (amps): 6

Model #: PSN-64
Panel ID: RPS-10
Location: 3rd flr IDF 322

User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Qty	Panel	Part #	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-64		NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:				0.075		Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)	Use	Description	Class	Standby (amps) Total	Alarm (amps) Total
1	Notification	NAC 44	Class B	0.00000	0.41400
2	Notification	NAC 45	Class B	0.00000	0.96100
3	Notification	NAC 46	Class B	0.00000	0.55200
4	Unused		Class B	0.00000	0.00000
AUX				0.00000	0.00000
NAC Standby:				0.00000	NAC Alarm: 1.92700

Battery Calculation Summary

Standby (amps)	Alarm (amps)
Panel Current: 0.07500	0.07500
NAC Circuit Current: 0.00000	1.92700
Total Standby: 0.07500	Total Alarm: 2.00200
Standby Hours: 24	Alarm Mins: 5
AH Required: 1.80	AH Required: 0.17
Total Combined Standby & Alarm Amphours Required: 1.97	Safety Margin: 20%
Required Battery Amphours: 2.36	
Battery Amphours Provided: 7	



NAC Circuit Configuration & Voltage Drop

The Signature 1/11/2021

NAC 1		MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4		
Class:	Class B	Usage:	Notification	Description:	NAC 44	
Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	210	1.340	0.414	19.85	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.41400

NAC 2		MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4		
Class:	Class B	Usage:	Notification	Description:	NAC 45	
Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	275	1.755	0.961	18.71	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
2	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.276000
2	User Defined	S/S P2HLF 135cd	0.000000	0.000000	0.277000	0.554000
2	User Defined	S/S SL 15cd	0.000000	0.000000	0.043000	0.086000
1	User Defined	System Sensor P2L 15cd temp low	0.000000	0.000000	0.045000	0.045000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.96100



NAC Circuit Configuration & Voltage Drop (cont'd)

The Signature 1/11/2021

NAC 3		MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4		
Class:	Class B	Usage:	Notification	Description:	NAC 46	
Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	210	1.340	0.552	19.66	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.55200

NAC 4	MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class: Class B	Usage: Unused	Description: Notification

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19		0.000	0.000	20.40	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.00000

NAC 5		MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Usage:		Description:	

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Req'd
#14 Solid	3.19	160	1.021	0.000	20.40	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.00000



RPS-1000 Calculations
Version 02.24.09

Panel ID: RPS-11
Location: IDF 106
Model: RPS-1000 Addressable Power Expander
Volts: 24 VDC
Max NAC Current: 3.0 Amps
Max Panel Current: 6.0 Amps

Part #	Description	Qty	Current Draw Standby Alarm	Wire AWG & Type	Ohms Per 1000 Ft.	Length(ft) One-Way	Actual Ohms	Volts @ EOL	%Drop						
RPS-1000	Power Expander	1	0.040 0.160	N/A											
IDP	Photo, Photo-T		0.000 0.000												
IDP	Ion		0.000 0.000												
IDP	Heat, Heat-HT		0.000 0.000												
IDP	Beam, Beam-T		0.000 0.000												
IDP	Pduct (non relay)		0.000 0.000												
IDP	Pduct-R (with relay)		0.000 0.000												
IDP	Acclimate, ROR		0.000 0.000												
IDP	Control		0.000 0.000												
IDP	Control-6		0.000 0.000												
IDP	Monitor, Minimon		0.000 0.000												
IDP	Monitor-2		0.000 0.000												
IDP	Monitor-10		0.000 0.000												
IDP	Pull-SA, Pull-DA		0.000 0.000												
IDP	Relay		0.000 0.000												
IDP	Relay-6		0.000 0.000												
IDP	Zone, Zone-6		0.000 0.000												
IDP	Iso (Isolator Module)		0.000 0.000												
SSB224BI	Isolator Base		0.000 0.000												
SSB501BHT	Sounder Base		0.000 0.000												
SSB224RB	Relay Base		0.000 0.000												
RTS451	Magnetic Remote Test		0.000 0.000												
RTS451KEY	Key Activated Test		0.000 0.000												
RA4002	Remote LED		0.000 0.000												
5815XL	SLC Expander		0.000 0.000												
RA-100	LCD Remote Annunc		0.000 0.000												
RA-1000	LCD Remote Annunc		0.000 0.000												
5824	Serial/Parallel Module		0.000 0.000												
5496	Power Expander		0.000 0.000												
RPS-1000	Power Expander		0.000 0.000												
5865-4	LED Annunciator (4G)		0.000 0.000												
5865-3	LED Annunciator (3G)		0.000 0.000												
5880	LED Driver Module		0.000 0.000												
5883	Relay Module		0.000 0.000												
VIP-VC	Voice Control Module		0.000 0.000												
VIP-SW16	Switch Expander		0.000 0.000												
VIP-50	50 Amplifier		0.000 0.000												
VIP-RM	Remote Microphone		0.000 0.000												
PGM-I/O #1	NAC 47	c.f.g.	0.000 0.552							#14 Solid	2.52	250	1.26	19.70	3.41%
PGM-I/O #2	NAC 48	c.f.g.	0.000 0.779							#14 Solid	2.52	230	1.16	19.50	4.43%
PGM-I/O #3	NAC 49	c.f.g.	0.000 0.552	#14 Solid	2.52	300	1.51	19.57	4.09%						
PGM-I/O #4	NAC 50	c.f.g.	0.000 0.552	#14 Solid	2.52	210	1.06	19.82	2.86%						
PGM-I/O #5	NAC 51	c.f.g.	0.000 0.414	#14 Solid	2.52	170	0.86	20.05	1.74%						
PGM-I/O #6	trigger, bldg 1-A	c.f.g.	0.000 0.030	#14 Solid	2.52	150	0.76	20.38	0.11%						
Total Standby Current (Amps)			0.040	Total Alarm Current (Amps)											
Standby Time In Hours			24	Alarm Time In Minutes / 60 (5 Mins)											
Total Standby AH Required			0.960	Total Alarm AH Required											
Total Combined AH Required			1.21	Command Shortcuts											
Multiply By The Derating Factor			1.20												
Minimum Battery Amphours Required			1.46	Configure Circuits		Print Page									

Command Shortcuts

Configure Circuits | Print Page



PSN-64
Battery & Voltage Drop
Calculations

Project Name: The Signature
BLDG 1-A
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2021
NAC Source Voltage: 20.4

Max Panel Current (amps): 6

Model #: PSN-64
Panel ID: RPS-12
Location: 2nd Flr

User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Qty	Panel	Part #	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-64		NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:				0.075		Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)	Use	Description	Class	Standby (amps) Total	Alarm (amps) Total
1	Notification	NAC 52	Class B	0.00000	0.15900
2	Notification	NAC 53	Class B	0.00000	0.55200
3	Notification	NAC 54	Class B	0.00000	0.55200
4	Notification	NAC 55	Class B	0.00000	0.41400
AUX	NAC 56	NAC 56		0.00000	0.55200
NAC Standby:				0.00000	NAC Alarm: 2.22900

Battery Calculation Summary

Standby (amps)	Alarm (amps)
Panel Current: 0.07500	0.07500
NAC Circuit Current: 0.00000	2.22900
Total Standby: 0.07500	Total Alarm: 2.30400
Standby Hours: 24	Alarm Mins: 5
AH Required: 1.80	AH Required: 0.20
Total Combined Standby & Alarm Amphours Required: 2.00	Safety Margin: 20%
Required Battery Amphours: 2.40	
Battery Amphours Provided: 7	



NAC Circuit Configuration & Voltage Drop

The Signature 1/11/2021

NAC 1		MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4		
Class:	Class B	Usage:	Notification	Description:	NAC 52	
Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	140	0.893	0.159	20.26	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	System Sensor P2L 15cd Temp High	0.000000	0.000000	0.053000	0.159000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.15900

NAC 2		MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4		
Class:	Class B	Usage:	Notification	Description:	NAC 53	
Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	220	1.404	0.552	19.63	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.55200



NAC Circuit Configuration & Voltage Drop (cont'd)

The Signature 1/11/2021

NAC 3						
MAX Circuit Current (amps): 3			Source Voltage Used (VDC): 20.4			
Class:	Class B	Usage:	Notification	Description:	NAC 54	
Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	280	1.786	0.552	19.41	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.55200



MO COA NO. 2012000786 / KS COA NO. E-2818
1925 CENTRAL ST. SUITE #201
KANSAS CITY, MO 64108
phone: (816) 272-8289
email: jmcrothers@jseengineers.com



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PSN-64
Battery & Voltage Drop
Calculations

Project Name: The Signature
BLDG 1-A
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2021
Standby Hours: 24
Alarm Mins: 5
Safety Margin: 20%
NAC Source Voltage: 20.4

Model #: PSN-64
Panel ID: RPS-13
Location: 3rd Flr IDF 306
Max Panel Current (amps): 6
User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Qty	Panel Part #	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-64	NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:			0.075		Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)		Class	Standby (amps) Total	Alarm (amps) Total
Ckt	Description			
1	Notification NAC57	Class B	0.00000	0.15900
2	Notification NAC58	Class B	0.00000	0.55200
3	Notification NAC59	Class B	0.00000	0.55200
4	Notification NAC 60	Class B	0.00000	0.41400
AUX	NAC 61		0.00000	0.55200
NAC Standby:			0.00000	NAC Alarm: 2.22900

Battery Calculation Summary		Standby (amps)	Alarm (amps)
Panel Current:		0.07500	0.07500
NAC Circuit Current:		0.00000	2.22900
Total Standby:		0.075000	Total Alarm: 2.30400
Standby Hours:		24	Alarm Mins: 5
AH Required:		1.80	AH Required: 0.20
Total Combined Standby & Alarm AmptHours Required:		2.00	Safety Margin: 20%
Required Battery AmptHours:		2.40	
Battery AmptHours Provided:		7	



NAC Circuit Configuration & Voltage Drop

The Signature 1/11/2021

NAC 1		MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage: Notification	Description: NAC 57
Wire Type	#14 Solid	Ohms/1000ft: 3.19	Length 1-Way: 140
Actual Ohms	0.893	Max Load (amps): 0.159	Volts @ EOL: 20.26
Min Volts Req'd	16		

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
3	User Defined	System Sensor P2L 15cd Temp High	0.000000	0.000000	0.053000	0.159000
		User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000		Total Alarm:	0.15900

NAC 2		MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage: Notification	Description: NAC 58
Wire Type	#14 Solid	Ohms/1000ft: 3.19	Length 1-Way: 220
Actual Ohms	1.404	Max Load (amps): 0.552	Volts @ EOL: 19.63
Min Volts Req'd	16		

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
		User can add devices on the fly to these bottom 5 rows (No lookup function)				



NAC Circuit Configuration & Voltage Drop (cont'd)

The Signature 1/11/2021

NAC 3		MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage: Notification	Description: NAC 59
Wire Type	#14 Solid	Ohms/1000ft: 3.19	Length 1-Way: 280
Actual Ohms	1.786	Max Load (amps): 0.552	Volts @ EOL: 19.41
Min Volts Req'd	16		

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
		User can add devices on the fly to these bottom 5 rows (No lookup functions)				
Total Standby:			0.00000		Total Alarm:	0.55200

NAC 4		MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage: Notification	Description: NAC 60
Wire Type	#14 Solid	Ohms/1000ft: 3.19	Length 1-Way: 250
Actual Ohms	1.595	Max Load (amps): 0.414	Volts @ EOL: 19.74
Min Volts Req'd	16		

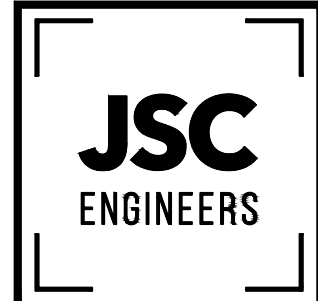
Wire Type		Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid		3.19	250	1.595	0.414	19.74	16

Circuit Devices				Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description		Each	Total	Each	Total
3	User Defined	S/S HLF		0.000000	0.000000	0.138000	0.414000
		User can add devices on the fly to these bottom 5 rows (No lookup function)					

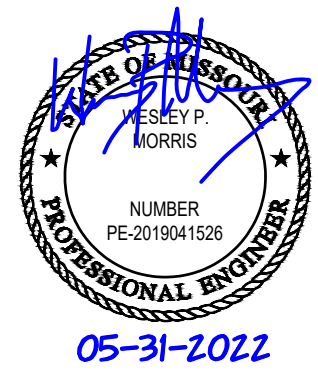
NAC 5		MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class:	Class B	Usage: Notification	Description: NAC 61
Wire Type	#14 Solid	Ohms/1000ft: 3.19	Length 1-Way: 210
Actual Ohms	1.340	Max Load (amps): 0.552	Volts @ Last Device: 19.66
Min Volts Req'd	16		

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Req'd
#14 Solid	3.19	210	1.340	0.552	19.66	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
		User can add devices on the fly to these bottom 5 rows (No lookup function)				



MO COA NO. 2019000786 / KS COA NO. E-2818
1925 CENTRAL ST. SUITE #201
KANSAS CITY, MO 64108
phone: (816) 272-8289
email: jcmothers@jseengineers.com



FIRE ALARM CONTRACTOR:



SYSTEM INTEGRATION GROUP

SIGNATURE AT PRYOR II
2100 AND 2150 NW LOWENSTEIN DR.
LEE'S SUMMIT, MISSOURI 64081

REVISIONS:	DATE /	DESCRIPTION
1	05-31-22/PLANCH	CHECK COMMENTS
2		
3		
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5		

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SHEET TITLE:

BATTERY
CALCULATIONS

DATE: 04.13.2022
JOB NO.: 22-094
SHEET:

FA307

BATTERY CALCS - BLDG 1 (CONT.)

SCALE : N/A

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[illegible]

Note: All Resistance values are taken from Table 8 Conductor Properties of the NFPA 70 National Electrical Code. All values are for Direct Current Resistance at 75°C (167°F).

POTTER The Gold Standard				PAPERWORK															
NAC Circuit Configuration & Voltage Drop (cont'd)				<i>The Signature _____</i>															
				<i>1/11/2021</i>															
NAC 3		MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4															
Class: CLASS B		Usage: Notification		Description: NAC 6															
<table style="width: 100%;"> <tr> <th style="width: 20%;">Wire Type</th> <th style="width: 20%;">Ohms/1000ft.</th> <th style="width: 20%;">Length 1-Way</th> <th style="width: 10%;">Actual Ohms</th> <th style="width: 10%;">Max Load Amps</th> <th style="width: 10%;">Volts @ EOL</th> <th style="width: 10%;">Min Volts Req'd</th> </tr> <tr> <td>#14 Solid</td> <td>3.19</td> <td>140</td> <td>0.893</td> <td>0.414</td> <td>20.03</td> <td>16</td> </tr> </table>						Wire Type	Ohms/1000ft.	Length 1-Way	Actual Ohms	Max Load Amps	Volts @ EOL	Min Volts Req'd	#14 Solid	3.19	140	0.893	0.414	20.03	16
Wire Type	Ohms/1000ft.	Length 1-Way	Actual Ohms	Max Load Amps	Volts @ EOL	Min Volts Req'd													
#14 Solid	3.19	140	0.893	0.414	20.03	16													
Circuit Devices																			
Qty	Lookup Type	Description	Standby (amps)		Alarm (amps)														
			Each	Total	Each	Total													
3	User Defined	S/S HLP	0.000000	0.000000	0.138000	0.414000													
		User can add devices on the fly to these bottom 5 rows (No lookup function)																	
Total Standby:			0.000000	Total Alarm:		0.414000													

AUX Power

MAX Circuit Current (amps): 3

Source Voltage Used [VDC]: 20.4

Usage:

Description:

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Req'd
#12 Solid	2.01		0.000	0.000	20.40	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
		User can add devices on the fly to these bottom 5 rows (No lookup function)				

Total Standby:

0.00000

Total Alarm:

0.00000

SYSTEM INTEGRATION GROUP

DATE: 04.13.2022
JOB NO.: 22-094
SHEET:

FA308

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PSN-106
Battery & Voltage Drop
Calculations

Project Name: The Signature
Building 2
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2022
NAC Source Voltage: 20.4

Standby Hours: 24

Alarm Mins: 5

Safety Margin: 20%

Model #: PSN-106
Panel ID: RPS-2
Location: MDP Room

Max Panel Current (amps): 10

User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Qty	Part #	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-106	NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:			0.075		Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)				Standby (amps)	Alarm (amps)
Ckt	Use	Description	Class	Total	Total
1	Notification	NAC 7	Class B	0.00000	0.35900
2	Notification	NAC 8	Class B	0.00000	0.55200
3	Notification	NAC 9	Class B	0.00000	0.27600
4	Notification	NAC 10	Class B	0.00000	0.55200
5	Notification	NAC 11	Class B	0.00000	0.41400
6	Notification	NAC 12	Class B	0.00000	0.55200
AUX	Unused			0.00000	0.00000

Battery Calculation Summary			Standby (amps)	Alarm (amps)
Panel Current:			0.07500	0.07500
NAC Circuit Current:			0.00000	2.70500
Total Standby:			0.075000	Total Alarm: 2.780000
Standby Hours:			24	Alarm Mins: 5
AH Required:			1.80	AH Required: 0.24
Total Combined Standby & Alarm AmperHours Required:			2.04	
Efficiency Factor:			20%	
Required Battery AmperHours:			2.45	
Battery AmperHours Provided:			7	



NAC Circuit Configuration & Voltage Drop The Signature 1/11/2022

NAC 1 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 7

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	480	3.062	0.359	19.30	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
6	User Defined	System Sensor P2L 15cd Temp Hlg	0.000000	0.000000	0.053000	0.318000
1	User Defined	S/S SCL 15cd	0.000000	0.000000	0.041000	0.041000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.35900

NAC 2 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 8

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	250	1.595	0.552	19.52	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.55200



NAC Circuit Configuration & Voltage Drop (cont'd) The Signature 1/11/2022

NAC 3 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 9

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	170	1.085	0.276	20.10	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
2	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.276000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.27600

NAC 4 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 10

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	210	1.340	0.552	19.66	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.55200



NAC Circuit Configuration & Voltage Drop (cont'd) The Signature 1/11/2022

NAC 5 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 11

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	170	1.085	0.414	19.95	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.41400

NAC 6 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 12

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	240	1.531	0.552	19.55	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.55200

AUX Power MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Usage: Unused Description:

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Req'd
#14 Solid	3.19	475	3.031	0.000	20.40	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.00000



PSN-106
Battery & Voltage Drop
Calculations

Project Name: The Signature
Building 2
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2022
NAC Source Voltage: 20.4

Standby Hours: 24

Alarm Mins: 5

Safety Margin: 20%

Model #: PSN-106

Panel ID: RPS-3

Location: MDP Room

Max Panel Current (amps): 10

User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Qty	Part #	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-106	NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:			0.075		Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)			Class	Standby (amps)	Alarm (amps)
Ckt	Use	Description		Total	Total
1	Notification	NAC 13	Class B	0.00000	0.41400
2	Notification	NAC 14	Class B	0.00000	0.55200
3	Notification	NAC 15	Class B	0.00000	0.27600
4	Notification	NAC 16	Class B	0.00000	0.55200
5	Notification	NAC 17	Class B	0.00000	0.41400
6	Notification	NAC 18	Class B	0.00000	0.55200
AUX	Unused			0.00000	0.00000

Battery Calculation Summary			Standby (amps)	Alarm (amps)
Panel Current:			0.07500	0.07500
NAC Circuit Current:			0.00000	2.76000
Total Standby:			0.075000	Total Alarm: 2.83500
Standby Hours:			24	Alarm Mins: 5
AH Required:			1.80	AH Required: 0.24
Total Combined Standby & Alarm AmperHours Required:			2.04	
Efficiency Factor:			20%	
Required Battery AmperHours:			2.45	
Battery AmperHours Provided:			7	



NAC Circuit Configuration & Voltage Drop The Signature 1/11/2022

NAC 1 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 13

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	370	2.361	0.414	19.42	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.41400

NAC 2 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 14

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	280	1.786	0.552	19.41	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.55200



NAC Circuit Configuration & Voltage Drop (cont'd) The Signature 1/11/2022

NAC 3 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 15

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	200	1.276	0.276	20.05	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
2	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.276000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.27600

NAC 4 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 16

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	240	1.531	0.552	19.55	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.55200



NAC Circuit Configuration & Voltage Drop (cont'd) The Signature 1/11/2022

NAC 5 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 17

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	200	1.276	0.414	19.87	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.41400

NAC 6 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 18

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	270	1.723	0.552	19.45	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.55200

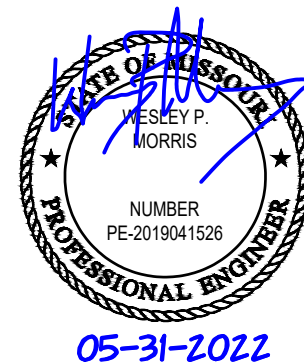
AUX Power MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Usage: Unused Description:

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Req'd
#14 Solid	3.19	475	3.031	0.000	20.40	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.00000

JSC
ENGINEERS

MO COA NO. 201600786 / KS COA NO. E-2818
1925 CENTRAL ST. SUITE #201
KANSAS CITY, MO 64108
phone: (816) 272-8289
email: jsc@jscengineers.com



FIRE ALARM CONTRACT

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		Global Project Values	
Project Name: The Signature		Standby Hours: 24	
Project ID: BLDG 2-C		Alarm Mins: 5	
Prepared By: David Johnson		Derating Factor: 1.2	
Date: 1/11/2022		Voltage Drop Warning Threshold %: 10	
RPS-1000 Calculations Version 02.24.09			

Panel ID: RPS-4	Model: RPS-1000 Addressable Power Expand.	Max NAC Current: 3.0 Amps
Location: IDF 116	Volts: 24 VDC	Max Panel Current: 6.0 Amps

Part.#	Description	Qty	Current Draw		Wire AWG & Type	Ohms Per 1000 Ft	Length(ft) One-Way	Actual Ohms	Volts @ EOL	%Drop
			Standby	Alarm						
RPS-1000	Power Expander	1	0.040	0.160						
IDP	Photo, Photo-T		0.000	0.000						
IDP	Ion		0.000	0.000						
IDP	Heat, Heat-HT		0.000	0.000						
IDP	Beam, Beam-T		0.000	0.000						
IDP	Pduct (non relay)		0.000	0.000						
IDP	Pduct-R (with relay)		0.000	0.000						
IDP	Accclimate, ROR		0.000	0.000						
IDP	Control		0.000	0.000						
IDP	Control-6		0.000	0.000						
IDP	Monitor, Minimon		0.000	0.000						
IDP	Monitor-2		0.000	0.000						
IDP	Monitor-10		0.000	0.000						
IDP	Pull-SA, Pull-DA		0.000	0.000						
IDP	Relay		0.000	0.000						
IDP	Relay-6		0.000	0.000						
IDP	Zone, Zone-6		0.000	0.000						
IDP	Iso (Isolator Module)		0.000	0.000						
SSB224BI	Isolator Base		0.000	0.000						
SSB501BHT	Sounder Base		0.000	0.000						
SSB224RB	Relay Base		0.000	0.000						
RTS451	Magnetic Remote Test		0.000	0.000						
RTS451KEY	Key Activated Test		0.000	0.000						
RA400Z	Remote LED		0.000	0.000						
5815XL	SLC Expander		0.000	0.000						
RA-100	LCD Remote Annunc		0.000	0.000						
RA-1000	LCD Remote Annunc		0.000	0.000						
5824	Serial/Parallel Module		0.000	0.000						
5496	Power Expander		0.000	0.000						
RPS-1000	Power Expander		0.000	0.000						
5865-4	LED Annunciator (4G)		0.000	0.000						
5865-3	LED Annunciator (3G)		0.000	0.000						
5890	LED Driver Module		0.000	0.000						
5863	Relay Module		0.000	0.000						
VIP-VCM	Voice Control Module		0.000	0.000						
VIP-SW16	Switch Expander		0.000	0.000						
VIP-50	50 Amplifier		0.000	0.000						
VIP-RM	Remote Microphone		0.000	0.000						
PGM-I/O #1	NAC 19	cfg	0.000	0.164	#14 Solid	2.52	150	0.76	20.28	0.61%
PGM-I/O #2	NAC 20	cfg	0.000	0.255	#14 Solid	2.52	360	1.81	19.94	2.27%
PGM-I/O #3	NAC 21	cfg	0.000	0.552	#14 Solid	2.52	170	0.86	19.93	2.32%
PGM-I/O #4	NAC 22	cfg	0.000	0.552	#14 Solid	2.52	175	0.88	19.91	2.39%
PGM-I/O #5	NAC 23	cfg	0.000	0.414	#14 Solid	2.52	215	1.08	19.95	2.20%
PGM-I/O #6	trigger, bldg 1-A	cfg	0.000	0.075	#14 Solid	2.52	150	0.76	20.34	0.28%
Total Standby Current (Amps)			0.040	2.172	Total Alarm Current (Amps)					
Standby Time In Hours			24	0.083	Alarm Time In Minutes / 60 (5 Mins)					
Total Standby AH Required			0.960	0.181	Total Alarm AH Required					
Total Combined AH Required			1.14							
Multiply By The Derating Factor			1.20							
Minimum Battery AmpHours Required			1.37							

Command Shortcuts

Configure Circuits

Print Page

		Project Name: The Signature		Standby Hours: 24	
		Building 2		Alarm Mins: 5	
Installed By: System Integration Group		Safety Margin: 20%			
Designed By: David Johnson		Date: 1/11/2021		NAC Source Voltage: 20.4	

Model #: PSN-64
Panel ID: RPS-5
Location: IDF-116

Max Panel Current (amps): 6
User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Qty	Part #	Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
1	PSN-64	NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:			0.075		Panel Alarm: 0.075	

NAC Circuits (See NAC Configuration below)	Use	Description	Class	Standby (amps) Total	Alarm (amps) Total
1	Notification	NAC 24	Class B	0.00000	0.27600
2	Notification	NAC 25	Class B	0.00000	0.55200
3	Notification	NAC 26	Class B	0.00000	0.55200
4	Notification	NAC 27	Class B	0.00000	0.41400
AUX				0.00000	0.00000
NAC Standby:				0.00000	NAC Alarm: 1.79400

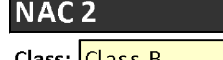
Battery Calculation Summary			Standby (amps)	Alarm (amps)
	Panel Current:	0.07500	0.07500	0.07500
	NAC Circuit Current:	0.00000	0.00000	1.79400
Total Standby:	0.075000	Total Alarm:	1.86900	
Standby Hours:	24	Alarm Mins:	5	
AH Required:	1.80	AH Required:	0.16	
Total Combined Standby & Alarm AmpHours Required:		1.96		
Safety Margin:		20%		
Required Battery AmpHours:		2.35		
Battery AmpHours Provided:		7		

		The Signature		1/11/2021	
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NAC Circuit Configuration & Voltage Drop

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	140	0.893	0.276	20.15	16

Qty	Lookup Type	Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
2	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.276000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.27600	

		The Signature		1/11/2021	
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NAC 2

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	160	1.021	0.552	19.84	16

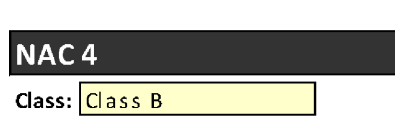
Qty	Lookup Type	Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.55200	

		The Signature		1/11/2021	
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NAC Circuit Configuration & Voltage Drop (cont'd)

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	200	1.276	0.552	19.70	16

Qty	Lookup Type	Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.55200	

		The Signature		1/11/2021	
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NAC 4

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	220	1.404	0.414	19.82	16

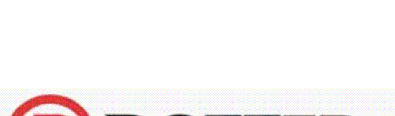
Qty	Lookup Type	Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.41400	

		The Signature		1/11/2021	
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AUX Power

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Req'd
#12 Solid	2.01		0.000	0.000	20.40	16

Qty	Lookup Type	Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.00000	

		The Signature		1/11/2021	
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PSN-64 Battery & Voltage Drop Calculations

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	215	1.372	0.414	19.83	16

Qty	Part #	Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
1	PSN-64	NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:			0.075		Panel Alarm: 0.075	

NAC Circuits (See NAC Configuration below)	Use	Description	Class	Standby (amps) Total	Alarm (amps) Total
1	Notification	NAC 28	Class B	0.00000	0.21200
2	Notification	NAC 29	Class B	0.00000	0.55200
3	Notification	NAC 30	Class B	0.00000	0.55200
4	Notification	NAC 31	Class B	0.00000	0.41400
AUX				0.00000	0.00000
NAC Standby:				0.00000	NAC Alarm: 1.73000

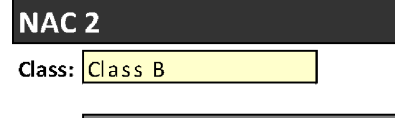
Battery Calculation Summary			Standby (amps)	Alarm (amps)
	Panel Current:	0.07500	0.07500	0.07500
	NAC Circuit Current:	0.00000	0.00000	1.73000
Total Standby:	0.075000	Total Alarm:	1.80500	
Standby Hours:	24	Alarm Mins:	5	
AH Required:	1.80	AH Required:	0.16	
Total Combined Standby & Alarm AmpHours Required:		1.96		
Safety Margin:		20%		
Required Battery AmpHours:		2.35		
Battery AmpHours Provided:		7		

		The Signature		1/11/2021	
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NAC Circuit Configuration & Voltage Drop

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	340	2.169	0.212	19.94	16

Qty	Lookup Type	Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
4	User Defined	System Sensor P2L 15cd Temp High	0.000000	0.000000	0.053000	0.212000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.21200	

		The Signature		1/11/2021	
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NAC 2

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	170	1.085	0.552	19.80	16

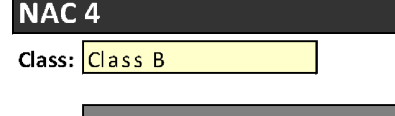
Qty	Lookup Type	Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.55200	

		The Signature		1/11/2021	
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NAC Circuit Configuration & Voltage Drop (cont'd)

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Req'd
#14 Solid	3.19	175	1.117	0.552	19.78	16

Qty	Lookup Type	Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.55200	

		The Signature		1/11/2021	
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NAC 4

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	215	1.372	0.414	19.83	16

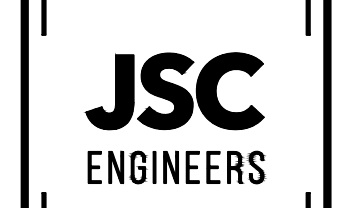
Qty	Lookup Type	Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.41400	

		The Signature		1/11/2021	
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AUX Power

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Req'd
#12 Solid	2.01		0.000	0.000	20.40	16

Qty	Lookup Type	Description	Standby (amps) Each	Standby (amps) Total	Alarm (amps) Each	Alarm (amps) Total
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm: 0.00000	



MO COA NO. 2019000786 / KS COA NO. E-2818
1925 CENTRAL ST. SUITE #201
KANSAS CITY, MO 64108
phone: (816) 272-8289
email: jmcrothers@jseengineers.com



FIRE ALARM CONTRACTOR:



SYSTEM INTEGRATION GROUP

PROJECT: SIGNATURE AT PRYOR II
2100 AND 2150 NW LOWENSTEIN DR.
LEE'S SUMMIT, MISSOURI 64081

REVISIONS: DATE / DESCRIPTION
1 05-31-22/PLANCHCK COMMENTS
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PSN-64
Battery & Voltage Drop
Calculations

Project Name: The Signature
Building 2
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2021
NAC Source Voltage: 20.4

Standby Hours: 24

Alarm Mins: 5

Safety Margin: 20%

Model #: PSN-64

Max Panel Current (amps): 6

Panel ID: RPS-7

User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Location: HVAC/ELEC 215

Qty	Panel	Description	Standby (amps)	Alarm (amps)	Total
1	PSN-64	NAC Power Expander	0.075	0.075	0.075
Panel Standby:			0.075	Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)			Standby (amps)	Alarm (amps)
Qty	Use	Description	Class	Total
1	Notification	NAC 32	Class B	0.00000
2	Notification	NAC 33	Class B	0.00000
3	Notification	NAC 34	Class B	0.00000
4	Notification	NAC 35	Class B	0.00000
AUX				0.00000
				0.00000

Battery Calculation Summary			Standby (amps)	Alarm (amps)
Panel Current:			0.07500	0.07500
NAC Circuit Current:			0.00000	1.62400
Total Standby:			0.075000	Total Alarm: 1.69900
Standby Hours:			24	Alarm Mins: 5
AH Required:			1.80	AH Required: 0.15
Total Combined Standby & Alarm AmHours Required:			1.95	
Safety Margin:			20%	
Required Battery AmHours:			2.34	
Battery AmHours Provided:			7	



NAC Circuit Configuration & Voltage Drop The Signature 1/11/2021

NAC 1			MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class: Class B			Usage: Notification	Description: NAC 32
Wire Type Ohms/1000ft Length 1-Way Actual Ohms Max Load (amps) Volts @ EOL Min Volts Req'd				
#14 Solid 3.19 140 0.893 0.106 20.31 16				
Circuit Devices			Standby (amps)	Alarm (amps)
Qty	Lookup Type	Description	Each	Total
2	User Defined	System Sensor P2L 15cd Temp High	0.000000	0.000000
				0.053000
				0.106000
User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000	Total Alarm: 0.10600

NAC 2			MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class: Class B			Usage: Notification	Description: NAC 33
Wire Type Ohms/1000ft Length 1-Way Actual Ohms Max Load (amps) Volts @ EOL Min Volts Req'd				
#14 Solid 3.19 160 1.021 0.552 19.84 16				
Circuit Devices			Standby (amps)	Alarm (amps)
Qty	Lookup Type	Description	Each	Total
4	User Defined	S/S HLF	0.000000	0.000000
				0.138000
				0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000	Total Alarm: 0.55200



NAC Circuit Configuration & Voltage Drop (cont'd) The Signature 1/11/2021

NAC 3			MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class: Class B			Usage: Notification	Description: NAC 34
Wire Type Ohms/1000ft Length 1-Way Actual Ohms Max Load (amps) Volts @ EOL Min Volts Req'd				
#14 Solid 3.19 200 1.276 0.352 19.70 16				
Circuit Devices			Standby (amps)	Alarm (amps)
Qty	Lookup Type	Description	Each	Total
4	User Defined	S/S HLF	0.000000	0.000000
				0.138000
				0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000	Total Alarm: 0.55200

NAC 4			MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class: Class B			Usage: Notification	Description: NAC 35
Wire Type Ohms/1000ft Length 1-Way Actual Ohms Max Load (amps) Volts @ EOL Min Volts Req'd				
#14 Solid 3.19 250 1.595 0.414 19.74 16				
Circuit Devices			Standby (amps)	Alarm (amps)
Qty	Lookup Type	Description	Each	Total
3	User Defined	S/S HLF	0.000000	0.000000
				0.138000
				0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000	Total Alarm: 0.41400

AUX Power			MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Usage: Description:				
Wire Type Ohms/1000ft Length 1-Way Actual Ohms Max Load (amps) Volts @ Last Device Min Volts Req'd				
#12 Solid 2.01 0.000 0.000 20.40 16				
Circuit Devices			Standby (amps)	Alarm (amps)
Qty	Lookup Type	Description	Each	Total
User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000	Total Alarm: 0.00000

NAC Circuit Configuration & Voltage Drop The Signature 1/11/2021



PSN-64
Battery & Voltage Drop
Calculations

Project Name: The Signature
Building 2
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2021
NAC Source Voltage: 20.4

Standby Hours: 24

Alarm Mins: 5

Safety Margin: 20%

Model #: PSN-64

Max Panel Current (amps): 6

Panel ID: RPS-8

User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Location: HVAC/ELEC 315

Qty	Panel	Description	Standby (amps)	Alarm (amps)	Total
1	PSN-64	NAC Power Expander	0.075	0.075	0.075
Panel Standby:			0.075	Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)			Standby (amps) Total	Alarm (amps) Total	
Ckt	Use	Description			
1	Notification	NAC 36	Class B	0.00000	0.21200
2	Notification	NAC 37	Class B	0.00000	0.55200
3	Notification	NAC 38	Class B	0.00000	0.55200
4	Notification	NAC 39	Class B	0.00000	0.41400
AUX			0.00000	0.00000	

Battery Calculation Summary			Standby (amps)	Alarm (amps)
Panel Current:			0.07500	0.07500
NAC Circuit Current:			0.00000	1.73000
Total Standby:			0.075000	Total Alarm: 1.80500
Standby Hours:			24	Alarm Mins: 5
AH Required:			1.80	AH Required: 0.16
Total Combined Standby & Alarm AmHours Required:			1.96	
Safety Margin:			20%	
Required Battery AmHours:			2.35	
Battery AmHours Provided:			7	



NAC Circuit Configuration & Voltage Drop The Signature 1/11/2021

NAC 1			MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class: Class B			Usage: Notification	Description: NAC 36
Wire Type Ohms/1000ft Length 1-Way Actual Ohms Max Load (amps) Volts @ EOL Min Volts Req'd				
#14 Solid 3.19 340 2.169 0.212 19.94 16				
Circuit Devices			Standby (amps)	Alarm (amps)
Qty	Lookup Type	Description	Each	Total
4	User Defined	System Sensor P2L 15cd Temp High	0.000000	0.000000
				0.053000
				0.212000
User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000	Total Alarm: 0.21200

NAC 2			MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class: Class B			Usage: Notification	Description: NAC 37
Wire Type Ohms/1000ft Length 1-Way Actual Ohms Max Load (amps) Volts @ EOL Min Volts Req'd				
#14 Solid 3.19 170 1.085 0.552 19.80 16				
Circuit Devices			Standby (amps)	Alarm (amps)
Qty	Lookup Type	Description	Each	Total
4	User Defined	S/S HLF	0.000000	0.000000
				0.138000
				0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000	Total Alarm: 0.55200



NAC Circuit Configuration & Voltage Drop (cont'd) The Signature 1/11/2021

NAC 3			MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class: Class B			Usage: Notification	Description: NAC 38
Wire Type Ohms/1000ft Length 1-Way Actual Ohms Max Load (amps) Volts @ EOL Min Volts Req'd				
#14 Solid 3.19 175 1.117 0.552 19.78 16				
Circuit Devices			Standby (amps)	Alarm (amps)
Qty	Lookup Type	Description	Each	Total
4	User Defined	S/S HLF	0.000000	0.000000
				0.138000
				0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000	Total Alarm: 0.55200

NAC Circuit Configuration & Voltage Drop (cont'd) The Signature 1/11/2021

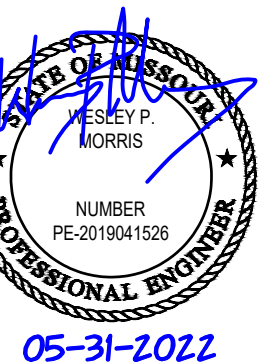
NAC 4			MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Class: Class B			Usage: Notification	Description: NAC 39
Wire Type Ohms/1000ft Length 1-Way Actual Ohms Max Load (amps) Volts @ EOL Min Volts Req'd				
#14 Solid 3.19 215 1.372 0.414 19.83 16				
Circuit Devices			Standby (amps)	Alarm (amps)
Qty	Lookup Type	Description	Each	Total
3	User Defined	S/S HLF	0.000000	0.000000
				0.138000
				0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000	Total Alarm: 0.41400

AUX Power			MAX Circuit Current (amps): 3	Source Voltage Used (VDC): 20.4
Usage: Description:				
Wire Type Ohms/1000ft Length 1-Way Actual Ohms Max Load (amps) Volts @ Last Device Min Volts Req'd				
#12 Solid 2.01 0.000 0.000 20.40 16				
Circuit Devices			Standby (amps)	Alarm (amps)
Qty	Lookup Type	Description	Each	Total
User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000	Total Alarm: 0.00000

NAC Circuit Configuration & Voltage Drop The Signature 1/11/2021

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MO COA NO. 2019000786 / KS COA NO. E-2818
1925 CENTRAL ST. SUITE #201
KANSAS CITY, MO 64108
phone: (816) 272-8289
email: jsmothers@jscengineers.com



FIRE ALARM CONTRACTOR:



SYSTEM INTEGRATION GROUP

SIGNATURE AT PRYOR II
2100 AND 2150 NW LOWENSTEIN DR.
LEE'S SUMMIT, MISSOURI 64081

REVISIONS:	DATE / DESCRIPTION
1	05-31-22/PLANCHICK COMMENTS
2	
3	
4	
5	

ISSUED:

PERMIT

SHEET TITLE:

BATTERY CALCULATIONS

DATE: 04.13.2022

JOB NO.: 22-094

SHEET:

FA311

BATTERY CALCS - BLDG 2 (CONT.)

SCALE: N/A

1

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6

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2

1



PSN-64
Battery & Voltage Drop
Calculations

Project Name: The Signature
Building 2
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2021
Standby Hours: 24
Alarm Mins: 5
Safety Margin: 20%
NAC Source Voltage: 20.4

Model #: PSN-64
Panel ID: RPS-9
Location: HVAC/ELEC 315
Max Panel Current (amps): 6
User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submittal.

Qty	Part #	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-64	NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:			0.075		Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)		Standby (amps)		Alarm (amps)	
Qty	Description	Class	Total	Each	Total
1	Notification NAC 40	Class B	0.00000	0.00000	0.13800
2	Notification NAC 41	Class B	0.00000	0.00000	0.55200
3	Notification NAC 42	Class B	0.00000	0.00000	0.55200
4	Notification NAC 43	Class B	0.00000	0.00000	0.41400
AUX			0.00000	0.00000	0.00000
NAC Standby:			0.00000	NAC Alarm:	1.65600

Battery Calculation Summary		Standby (amps)		Alarm (amps)	
Panel Current:		0.07500		0.07500	
NAC Circuit Current:		0.00000		1.65600	
Total Standby:		0.075000		Total Alarm: 1.73100	
Standby Hours:		24		Alarm Mins: 5	
AH Required:		1.80		AH Required: 0.15	
Total Combined Standby & Alarm AmpHours Required:				1.95	
Safety Margin:				20%	
Required Battery AmpHours:				2.34	
Battery AmpHours Provided:				7	



NAC Circuit Configuration & Voltage Drop

The Signature 1/11/2021

NAC 1		MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4	
Class:	Class B	Usage:	Notification	Description:	NAC 40

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	140	0.893	0.138	20.28	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
1	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.138000
		User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000		Total Alarm:	0.13800

NAC 2		MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4	
Class:	Class B	Usage:	Notification	Description:	NAC 41

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	160	1.021	0.552	19.84	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
		User can add devices on the fly to these bottom 5 rows (No lookup function)				
			Total Standby:	0.00000	Total Alarm:	0.55200



NAC Circuit Configuration & Voltage Drop (cont'd)

The Signature 1/11/2021

NAC 3		MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4	
Class:	Class B	Usage:	Notification	Description:	NAC 42

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	200	1.276	0.552	19.70	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
		User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000		Total Alarm:	0.55200

NAC 4		MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4	
Class:	Class B	Usage:	Notification	Description:	NAC 43

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	215	1.372	0.414	19.83	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
		User can add devices on the fly to these bottom 5 rows (No lookup function)				

AUX Power		MAX Circuit Current (amps): 3		Source Voltage Used (VDC): 20.4	
Usage:		Description:			

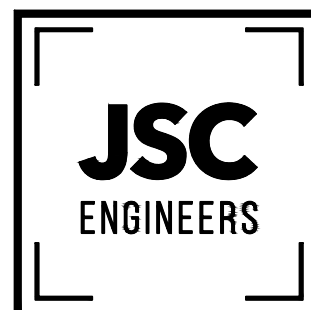
Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ Last Device	Min Volts Req'd
#12 Solid	2.01		0.000	0.000	20.40	16

Circuit Devices			Standby (amps)		Alarm (amps)	
Qty	Lookup Type	Description	Each	Total	Each	Total
		User can add devices on the fly to these bottom 5 rows (No lookup function)				
Total Standby:			0.00000		Total Alarm:	0.00000

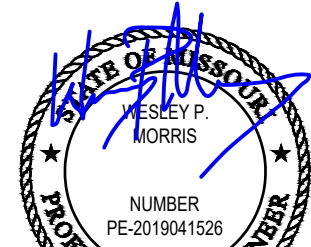


RPS-1000 Calculations
Version 02-24-09

Panel ID: RPS-10			Model: RPS-1000 Addressable Power Expand.			Max NAC Current: 3.0 Amps				
Location: IDF 102			Volts: 24 VDC			Max Panel Current: 6.0 Amps				
Part #	Description	Qty	Current Draw		Wire AWG & Type	Ohms Per 1000 Ft.	Length(ft) One-Way	Actual Ohms	Volts @ EOL	%Drop
RPS-1000	Power Expander	1	0.040	0.160	N/A					
IDP	Photo, Photo-T		0.000	0.000						
IDP	Ion		0.000	0.000						
IDP	Heat, Heat-HT		0.000	0.000						
IDP	Beam, Beam-T		0.000	0.000						
IDP	Pduct (non relay)		0.000	0.000						
IDP	Pduct-R (with relay)		0.000	0.000						
IDP	Accclimate, ROR		0.000	0.000						
IDP	Control		0.000	0.000						
IDP	Control-6		0.000	0.000						
IDP	Monitor, Minimon		0.000	0.000						
IDP	Monitor-2		0.000	0.000						
IDP	Monitor-10		0.000	0.000						
IDP	Pull-SA, Pull-DA		0.000	0.000						
IDP	Relay		0.000	0.000						
IDP	Relay-6		0.000	0.000						
IDP	Zone, Zone-6		0.000	0.000						
IDP	Iso (Isolator Module)		0.000	0.000						
SSB224BI	Isolator Base		0.000	0.000						
SSB501BHT	Sounder Base		0.000	0.000						
SSB224RB	Relay Base		0.000	0.000						
RTS451	Magnetic Remote Test		0.000	0.000						
RTS451KEY	Key Activated Test		0.000	0.000						
RA400Z	Remote LED		0.000	0.000						
5815XL	SLC Expander		0.000	0.000						
RA-100	LCD Remote Annunc		0.000	0.000						
RA-1000	LCD Remote Annunc		0.000	0.000						
5824	Serial/Parallel Module		0.000	0.000						
5496	Power Expander		0.000	0.000						
RPS-1000	Power Expander		0.000	0.000						
5865-4	LED Annunciator (4G)		0.000	0.000						
5865-3	LED Annunciator (3G)		0.000	0.000						
5880	LED Driver Module		0.000	0.000						
5883	Relay Module		0.000	0.000						
VIP-VCM	Voice Control Module		0.000	0.000						
VIP-SW16	Switch Expander		0.000	0.000						
VIP-50	50 Amplifier		0.000	0.000						
VIP-RM	Remote Microphone		0.000	0.000						
PGM-I/O #1	NAC 44	cfg.	0.000	0.414	#14 Solid	2.52	80	0.40	20.23	0.82%
PGM-I/O #2	NAC 45	cfg.	0.000	0.552	#14 Solid	2.52	225	1.13	19.77	3.07%
PGM-I/O #3	NAC 46	cfg.	0.000	0.414	#14 Solid	2.52	120	0.60	20.15	1.23%
PGM-I/O #4	NAC 47	cfg.	0.000	0.414	#14 Solid	2.52	160	0.81	20.07	1.64%
PGM-I/O #5	NAC 48	cfg.	0.000	0.414	#14 Solid	2.52	190	0.96	20.00	1.94%
PGM-I/O #6	trigger, bldg 1-A	cfg.	0.000	0.030	#14 Solid	2.52	150	0.76	20.38	0.11%
Total Standby Current (Amps)			0.040	2.398	Total Alarm Current (Amps)					
Standby Time In Hours			24	0.083	Alarm Time In Minutes / 60		(5 Mins)			
Total Standby AH Required			0.960	0.200	Total Alarm AH Required					
Total Combined AH Required			1.16		Command Shortcuts					
Multiply By The Derating Factor			1.20							
Minimum Battery AmpHours Required			1.39		Configure Circuits		Print Page			



MO COA NO. 2012000786 / KS COA NO. E-2818
1925 CENTRAL ST. SUITE #201
KANSAS CITY, MO 64108
phone: (816) 272-8289
email: jsmothers@jseengineers.com



05-31-2022

FIRE ALARM CONTRACTOR:



SYSTEM INTEGRATION GROUP

PROJECT: SIGNATURE AT PRYOR II
2100 AND 2150 NW LOWENSTEIN DR.
LEE'S SUMMIT, MISSOURI 64081

REVISIONS:	DATE / DESCRIPTION
1	05-31-22/PLANCHK: COMMENTS
2	
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ISSUED:

PERMIT
BATTERY CALCULATIONS

DATE: 04.13.2022
JOB NO.: 22-094
SHEET:

FA312

BATTERY CALCS - BLDG 2 (CONT.)

SCALE : N/A

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PSN-64
Battery & Voltage Drop
Calculations

Project Name: The Signature
Building 2
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2021
Standby Hours: 24
Alarm Mins: 5
Safety Margin: 20%
NAC Source Voltage: 20.4

Model #: PSN-64
Panel ID: RPS-11
Location: HVAC/ELEC 208
Max Panel Current (amps): 6
User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submit.

Qty	Panel Part #	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-64	NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:			0.075		Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)			Standby (amps)		Alarm (amps)
Ckt	Use	Description	Class	Total	Total
1	Notification	NAC 49	Class B	0.00000	0.41400
2	Notification	NAC 50	Class B	0.00000	0.55200
3	Notification	NAC 51	Class B	0.00000	0.41400
4	Notification	NAC 52	Class B	0.00000	0.41400
AUX	NAC 53	NAC 53		0.00000	0.41400
NAC Standby:				0.00000	NAC Alarm: 2.20800

Battery Calculation Summary

Standby (amps)	Alarm (amps)
Panel Current: 0.07500	0.07500
NAC Circuit Current: 0.00000	2.20800
Total Standby: 0.075000	Total Alarm: 2.28300
Standby Hours: 24	Alarm Mins: 5
AH Required: 1.80	AH Required: 0.20
Total Combined Standby & Alarm AmpHours Required: 2.00	
Safety Margin: 20%	
Required Battery AmpHours: 2.40	
Battery AmpHours Provided: 7	



NAC Circuit Configuration & Voltage Drop

The Signature 1/11/2021

NAC 1 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 49

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	80	0.510	0.414	20.19	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.41400

NAC 2 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 50

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	225	1.436	0.552	19.61	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.55200



NAC Circuit Configuration & Voltage Drop (cont'd)

The Signature 1/11/2021

NAC 3 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 51

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	120	0.766	0.414	20.08	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.41400



PSN-64
Battery & Voltage Drop
Calculations

Project Name: The Signature
Building 2
Installed By: System Integration Group
Designed By: David Johnson
Date: 1/11/2021
Standby Hours: 24
Alarm Mins: 5
Safety Margin: 20%
NAC Source Voltage: 20.4

Model #: PSN-64
Panel ID: RPS-12
Location: HVAC/ELEC 308
Max Panel Current (amps): 6
User assumes all responsibility to ensure the quantities and current draw values in this worksheet are accurate prior to submit.

Qty	Panel Part #	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
1	PSN-64	NAC Power Expander	0.075	0.075	0.075	0.075
Panel Standby:			0.075		Panel Alarm:	0.075

NAC Circuits (See NAC Configuration below)			Standby (amps)		Alarm (amps)	
Ckt	Use	Description	Class	Total	Total	
1	Notification	NAC 54	Class B	0.00000		0.41400
2	Notification	NAC 55	Class B	0.00000		0.55200
3	Notification	NAC 56	Class B	0.00000		0.41400
4	Notification	NAC 57	Class B	0.00000		0.41400
AUX	NAC 58	NAC 58		0.00000		0.41400
NAC Standby:				0.00000	NAC Alarm:	2.20800

Battery Calculation Summary

Standby (amps)	Alarm (amps)
Panel Current: 0.07500	0.07500
NAC Circuit Current: 0.00000	2.20800
Total Standby: 0.075000	Total Alarm: 2.28300
Standby Hours: 24	Alarm Mins: 5
AH Required: 1.80	AH Required: 0.20
Total Combined Standby & Alarm AmpHours Required: 2.00	
Safety Margin: 20%	
Required Battery AmpHours: 2.40	
Battery AmpHours Provided: 7	



NAC Circuit Configuration & Voltage Drop

The Signature 1/11/2021

NAC 1 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 54

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	80	0.510	0.414	20.19	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.41400

NAC 2 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 55

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	225	1.436	0.552	19.61	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
4	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.552000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.55200



NAC Circuit Configuration & Voltage Drop (cont'd)

The Signature 1/11/2021

NAC 3 MAX Circuit Current (amps): 3 Source Voltage Used (VDC): 20.4
Class: Class B Usage: Notification Description: NAC 56

Wire Type	Ohms/1000ft	Length 1-Way	Actual Ohms	Max Load (amps)	Volts @ EOL	Min Volts Req'd
#14 Solid	3.19	120	0.766	0.414	20.08	16

Qty	Lookup Type	Description	Standby (amps) Each	Total	Alarm (amps) Each	Total
3	User Defined	S/S HLF	0.000000	0.000000	0.138000	0.414000
User can add devices on the fly to these bottom 5 rows (No lookup function)						
Total Standby:			0.00000		Total Alarm:	0.41400

JSC
ENGINEERS

MO COA NO. 2019000786 / KS COA NO. E-2818
1925 CENTRAL ST. SUITE #201
KANSAS CITY, MO 64108
phone: (816) 272-8289
email: jsc@jscengineers.com



FIRE ALARM CONTRACTOR:



SYSTEM INTEGRATION GROUP

SIGNATURE AT PRYOR II
2100 AND 2150 NW LOWENSTEIN DR.
LEE'S SUMMIT, MISSOURI 64081

REVISIONS:	DATE / DESCRIPTION
1	05-31-22/PLANCHUCK COMMENTS
2	
3	
4	
5	

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ISSUED:

PERMIT

SHEET TITLE:

BATTERY
CALCULATIONS

DATE: 04.13.2022

JOB NO.: 22-094

SHEET:

FA313

BATTERY CALCS - BLDG 2 (CONT.)

SCALE : N/A

1