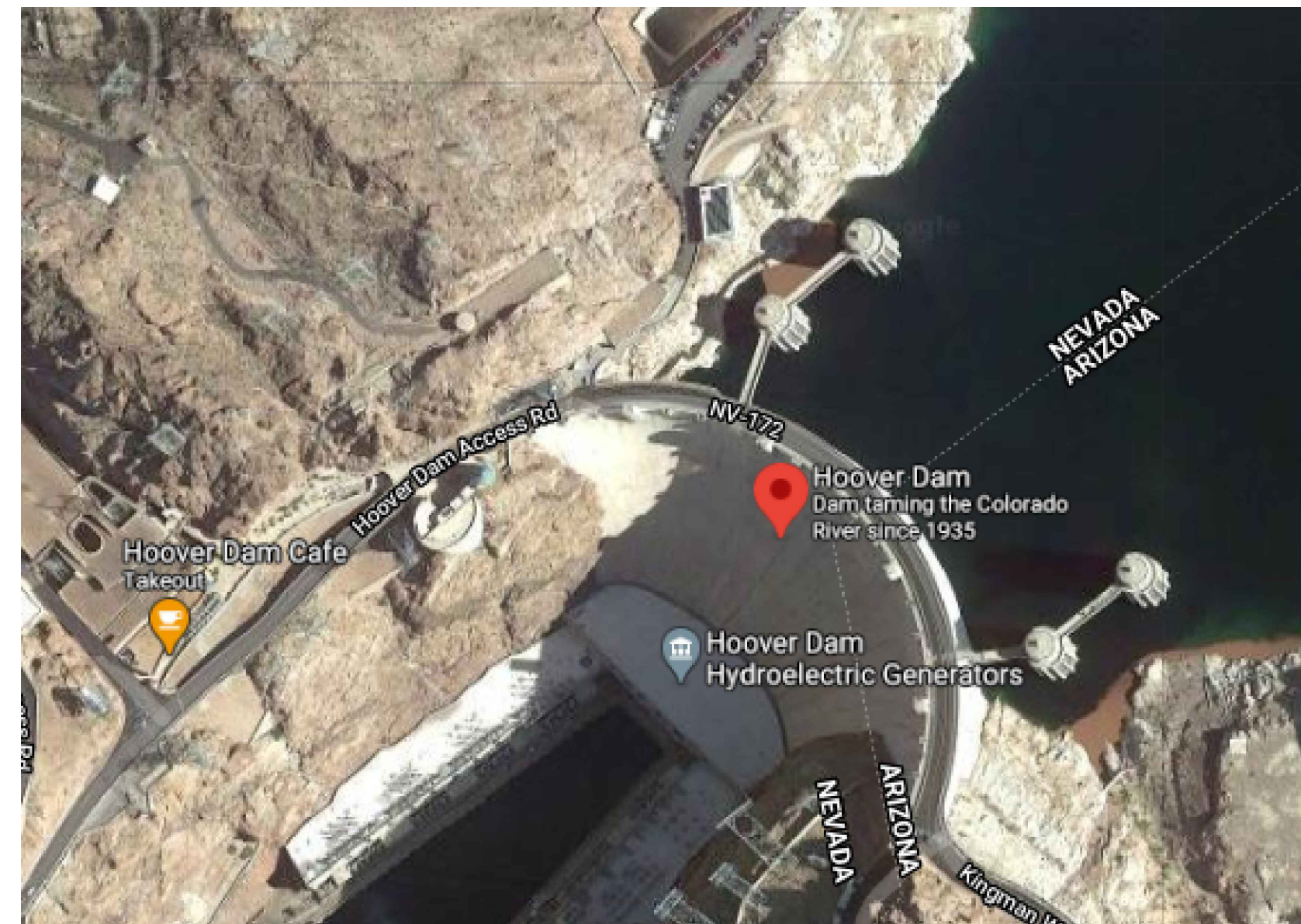


CUSTOMER'S NAME
CUSTOMER'S ADDRESS
CUSTOMER'S CITY STATE ZIP CODE

AUTHORIZED DEALER'S NAME
AUTHORIZED DEALER'S ADDRESS
AUTHORIZED DEALER'S CITY STATE & ZIP CODE



1 VICINITY MAP @500FT

THE SCOPE OF WORK FOR THIS PROJECT IS AS FOLLOWS:

1. PROVIDE NEW FIRE ALARM EQUIPMENT, DEVICES AND NOTIFICATION APPLIANCES WITHIN THE PROJECT AREA IN ACCORDANCE WITH THE DRAWINGS TO MEET CURRENT CODE REQUIREMENTS.
2. PERFORM ALL WORK IN ACCORDANCE WITH THE PROJECT REQUIREMENTS.
3. PROVIDE AN ADDRESSABLE RELAY MODULE AND MULTIVOLTAGE RELAY FOR THE RELEASE OF ROLL-DOWN DOORS, MAGNETIC DOORS, AUTOMATIC CLOSING DOORS AND FIRE SMOKE DAMPERS.
4. CONNECT THE NEW DEVICES TO THE NEW FIRE ALARM CONTROL UNIT (FACU) LOCATED IN ELECTRICAL ROOM.
5. CONDUCT A PRETEST OF ALL NEW DEVICES AND APPLIANCES CONNECTED TO THE FIRE ALARM SYSTEM. THE PRETEST MUST BE WITNESSED BY THE PROJECT INSPECTOR TO DEMONSTRATE AND ENSURE THAT THE SYSTEM IS READY FOR THE FINAL ACCEPTANCE TEST.
6. CONDUCT A FINAL ACCEPTANCE TEST OF THE FIRE ALARM SYSTEM AND ALL FIRE ALARM COMPONENTS RELATED TO THE PROJECT'S AREA OF WORK. FINAL ACCEPTANCE MUST BE WITNESSED BY THE AUTHORITY HAVING JURISDICTION.

PROJECT INTENT: THE FIRE ALARM SYSTEM BASIS OF DESIGN IS PRESCRIPTIVE AND IS INTENDED TO MEET THE APPLICABLE CODES AND STANDARDS AS INDICATED. THE BASIS OF DESIGN IS AS FOLLOWS:

- SMOKE DETECTION - PROVIDED AT LOCATIONS TO COMPLY WITH NFPA 72 AND LOCAL CODES.

2 Scope Of Work

Sheet Number	Sheet Title
Cover Sheet - Series 000	
FAS-000	COVER SHEET
Device Placement Plan - Series 1XX	
FAS-101	DEVICE PLACEMENT PLAN - FIRST FLOOR
FAS-102	DEVICE PLACEMENT PLAN - SECOND FLOOR
FAS-103	DEVICE PLACEMENT PLAN - THIRD FLOOR
FAS-104	DEVICE PLACEMENT PLAN - FOURTH FLOOR
Riser Diagram - Series 2XX	
FAS-201	RISER DIAGRAM
FAS-202	RISER DIAGRAM
Calculations - Series 3XX	
FAS-301	CALCULATIONS
FAS-302	CALCULATIONS
Panel Details - Series 4XX	
FAS-401	PANEL DETAILS
Typical Details - Series 5XX	
FAS-501	TYPICAL DETAILS

BUILDING OCCUPANCY TYPE	BUILDING OCCUPANCY TYPE
NUMBER OF STORIES	NUMBER OF STORIES
PROJECT AREA	PROJECT AREA SQ. FT.
TYPE OF SYSTEM	ADDRESSABLE
APPLICABLE CODES	IBC(2018), IFC(2018), IMC(2018), ASME/ANSI A117.1(2017)
STANDARDS	NFPA 72 (2019), NFPA 70 (2017)
LISTING AGENCIES (UL, FM, MEA, ULC)	UL S624
WIRING TYPES	OPEN CEILING, CONDUIT
AUDIBLE NOTIFICATION	TEMPORAL 3 / VOICE MESSAGE
VISUAL NOTIFICATION	PUBLIC MODE
BUILDING SPRINKLER SYSTEM	FULLY SPRINKLERED
SLC CIRCUIT	CLASS A
NOTIFICATION CIRCUIT	CLASS A

4 Sheet List Table

5 Code Analysis

GENERAL NOTES

1. ALL APPLICABLE CODES SHALL BE OBTAINED PRIOR TO START WORK.
2. ALL FIRE ALARM DEVICES SHALL BE INSTALLED ACCORDING TO REQUIREMENTS OF NFPA 72 AND MANUFACTURER SPECIFICATIONS.
3. ALL CABLES SHALL BE RATED FOR THE ENVIRONMENT IN WHICH THEY ARE INSTALLED.
4. ALL CABLES SHALL BE INSTALLED ACCORDING TO APPLICABLE ELECTRICAL CODES.
5. ALL CABLES SHALL BE POWER LIMITED FPLP UNLESS OTHERWISE NOTED.
6. ALL SHIELDED WIRE MUST HAVE SHIELD CONTINUITY AT FULL LENGTH OF THE WIRE.
7. ONLY FIRE ALARM SYSTEM CABLES SHALL BE RUN IN THE SAME CONDUIT.
8. 120V AC IS NOT PERMITTED IN THE SAME CONDUIT WITH LOW VOLTAGE WIRING.
9. MAINTAIN MAXIMUM CONDUIT FILL RATIO AS PER APPLICABLE ELECTRICAL CODES REQUIREMENTS.
10. WORST CASE VOLTAGE DROP SHALL NOT EXCEED 10% (SEE CALCULATIONS).
11. ALL FIRE ALARM DEVICES ARE TO BE U.L. LISTED AND COMPATIBLE.
12. ALL VISUAL DEVICES SHALL HAVE THE CANDELA SET PER APPROVED PRINTS. CANDELA VALUE NOTED NEAR THE DEVICE ON DRAWINGS.
13. THE TOTAL SOUND PRESSURE LEVEL PRODUCED BY COMBINING THE AMBIENT SOUND PRESSURE LEVEL WITH ALL AUDIBLE NOTIFICATION APPLIANCES OPERATION SHALL NOT EXCEED 110 dBA AT THE MINIMUM HEARING DISTANCE.
14. A FIRE ALARM SYSTEM SHALL PRODUCE A SOUND LEVEL AT LEAST 15 dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS.
15. THE POWER CIRCUIT TO THE FACU AND TO THE FIRE ALARM POWER SUPPLIES SHALL BE ON A DEDICATED 120V, 20A BRANCH CIRCUIT BREAKER AND SHALL HAVE A RED MARKING, LOCK-ON PROVISION AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL." THE LOCATION OF THE CIRCUIT DISCONNECT MEANS (CIRCUIT BREAKER) SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
16. SMOKE DETECTOR HEADS SHALL BE NOT BE INSTALLED UNTIL AFTER CONSTRUCTION CLEAN UP OF ALL TRADES IS COMPLETE AND FINAL.
17. THE FIRE ALARM INSTALLER WILL MAINTAIN THE FIRE RESISTANCE INTEGRITY OF ALL WALL, CEILING AND ROOF ASSEMBLIES ANY TIME THAT WORK IS NOT ACTIVELY BEING PERFORMED.
18. TRANSIENT SUPPRESSION IS REQUIRED, ONE WHERE WIRE LEAVES THE BUILDING AND ONE WHERE IT RE-ENTERS THE NEXT BUILDING. SUPPRESSION IS REQUIRED REGARDLESS IF WIRING IS OVERHEAD, AERIAL OR UNDERGROUND.
19. WIRE ROUTINGS SHOWN IS DIAGRAMMATICAL AND DOES NOT REPRESENT ACTUAL RUNS. CIRCUIT LENGTH SHALL NOT EXCEED DISTANCES PROVIDED IN VOLTAGE DROP CALCULATIONS OR PANELS MAXIMUM SIGNAL LINE CIRCUIT CAPABILITIES.

QTY	SYMBOL	MODEL	DEVICE DESCRIPTION
1	FACU	4350-001	FIRE ALARM CONTROL UNIT
2	GAP	4350-002	GRAPHIC ANNUNCIATOR PANEL
10	S _{pe}	4350-010	SMOKE DETECTOR - PHOTOELECTRIC
3	S _{co}	4350-011	SMOKE/CO DETECTOR COMBINATION
64	S _h	4350-012	SMOKE DUCT DETECTOR
5	H _{pe}	4350-013	HEAT DETECTOR FIXED TEMP
23	F	4350-014	ADDR PULL STATION SINGLE ACTION
117	AM	4350-015	ADDRESSABLE INPUT CONTROL MODULE
63	AM	4350-016	ADDRESSABLE OUTPUT CONTROL MODULE
64	R	4350-017	CONTROL RELAY ENCAPSULATED
64	R	4350-018	CONTROL RELAY TRACK MOUNTED
64	R	4350-019	REMOTE TEST SWITCH
1	SS	4350-020	SURGE SUPPRESSOR
48	X	4350-021	STROBE WALL MOUNTED
70	X	4350-022	SPEAKER/STROBE WALL MOUNTED WHITE
1	X	4350-023	SPEAKER/STROBE WP WALL MOUNT WHITE
60	X	4350-024	SPEAKER/STROBE CEILING MOUNT WHITE
1	B	4350-025	BELL WEATHERPROOF WALL MOUNTED
1	WF	4350-026	FLOW SWITCH / DETECTOR
1	VS	4350-027	VALVE SUPERVISORY / TAMPER SWITCH
1	FSD	4350-028	FIRE SMOKE DAMPER
1	JB	4350-029	JUNCTION BOX

3 SYMBOL LEGEND

SYSTEM INPUTS	SYSTEM OUTPUTS																										
	ACTIVATE COMMON ALARM SIGNAL INDICATOR	ACTIVATE AUDIBLE ALARM SIGNAL	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE AUDIBLE SUPERVISORY SIGNAL	ACTIVATE COMMON TROUBLE SIGNAL INDICATOR	ACTIVATE AUDIBLE TROUBLE SIGNAL	ACTIVATE APPROPRIATE LOCATION INDICATOR	RECORD INFORMATION ON CPU	ACTIVATE ALL VISIBLE EVACUATION SIGNALS	ACTIVATE ALL VISIBLE EVACUATION SIGNALS	DISPLAY CHANGE OF STATUS	TRANSMIT ALARM SIGNAL TO SUPERVISING STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION	ACTIVATE TEMPIR COBLED AUDIBLES AND VISUALS	SHUTDOWN SOUND MARKING SYSTEM	UNLOCK SECURITY DOORS	RELEASE ELEVATOR FIRE DOORS	MAIN FLOOR ELEVATOR RECALL	ELEVATOR FLOOR ELEVATOR RECALL	ELEVATOR HAT FLASH	ELEVATOR SHUNT TRIP	RELEASE MAGNETICALLY HELD SMOKE DOORS	FAN SHUTDOWN	DAMPER SHUTDOWN	REMOVEDLY DISPLAY ACTIVE STATUS	
	CTRL UNIT ANNUNCIATION			NOTIFICATION										FIRE SAFETY CONTROL													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y		
SMOKE SENSOR/DETECTOR	X	X					X										X	X	X	X							
MANUAL PULL STATION	X	X					X										X	X	X	X							
HEAT SENSOR/DETECTOR	X	X					X										X	X	X	X							
CO DETECTOR	X	X	X				X										X	X	X	X							
DUCT SENSOR/DETECTOR - SUPERVISORY	X	X					X										X	X	X	X							
MAIN FLR. ELEV. LOBBY SMOKE DETECTOR	X	X					X										X	X	X	X							
ELEVATOR LOBBY SMOKE DETECTORS (EXC. MAIN FLR)	X	X					X										X	X	X	X							
ELEVATOR MECH. ROOM HEAT DETECTOR	X	X					X										X	X	X	X							
ELEVATOR MECH. ROOM SMOKE DETECTOR	X	X					X										X	X	X	X							
ELEVATOR SHAFT HEAT DETECTOR	X	X					X										X	X	X	X							
ELEVATOR SHAFT SMOKE DETECTOR	X	X					X										X	X	X	X							
ELEVATOR POWER MONITOR							X										X	X	X	X							
WATERFLOW SWITCH	X	X					X										X	X	X	X							
PRESSURE SWITCH	X	X					X										X	X	X	X							
TAMPER SWITCH							X										X	X	X	X							
GENERATOR RUNNING							X										X	X	X	X							
GENERATOR FAULT							X										X	X	X	X							
FIRE ALARM AC POWER FAILURE							X										X	X	X	X							
FIRE ALARM SYSTEM LOW BATTERY							X										X	X	X	X							
OPEN CIRCUIT OR GROUND FAULT							X										X	X	X	X							
FIRE DEPARTMENT RADIO COMMUNICATION ENHANCEMENT SYSTEM - ANTENNA MALFUNCTION							X										X	X	X	X							
FIRE DEPARTMENT RADIO COMMUNICATION ENHANCEMENT SYSTEM - SIGNAL BOOSTER FAILURE							X										X	X	X	X							
FIRE DEPARTMENT RADIO COMMUNICATION ENHANCEMENT SYSTEM - POWER SUPPLY LOSS OF NORMAL AC POWER							X										X	X	X	X							
FIRE DEPARTMENT RADIO COMMUNICATION ENHANCEMENT SYSTEM - POWER SUPPLY FAILURE OF BATTERY CHARGER							X										X	X	X	X							
FIRE DEPARTMENT RADIO COMMUNICATION ENHANCEMENT SYSTEM - POWER SUPPLY LOW BATTERY - 70% CAPACITY							X										X	X	X	X							

6 SEQUENCE OF OPERATION

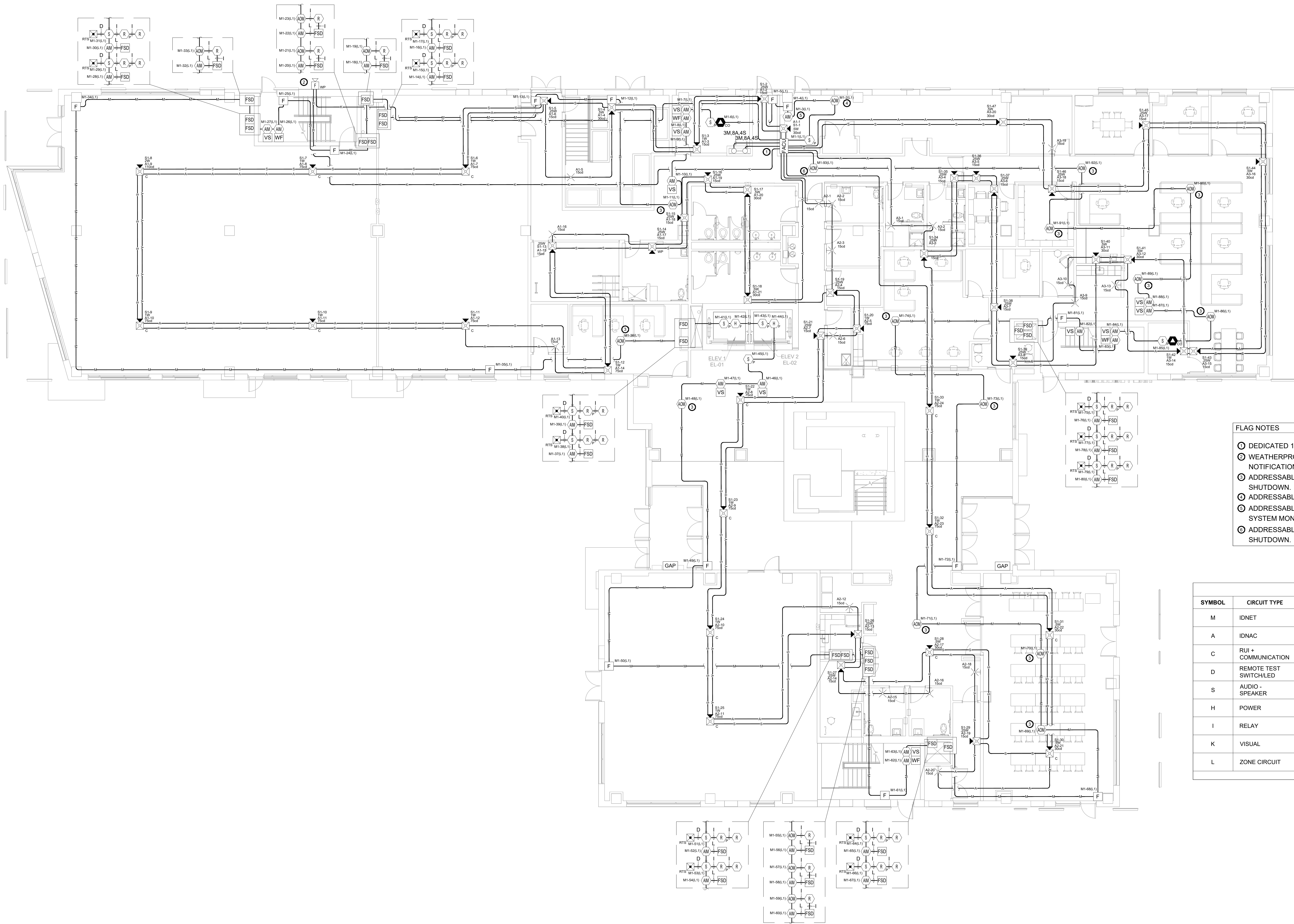
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DRAWN BY: DATE: SALESFORCE CASE

COVER SHEET

FAS-000



- FLAG NOTES**
- ① DEDICATED 120VAC FOR FANU POWER CONECTION.
 - ② WEATHERPROOF BELL FOR SPRINKLER NOTIFICATION.
 - ③ ADDRESSABLE RELAY FOR FAN COIL UNIT SHUTDOWN.
 - ④ ADDRESSABLE RELAY FOR ACCESS CONTROL.
 - ⑤ ADDRESSABLE MODULE FOR RESCUE ASSISTANCE SYSTEM MONITORING.
 - ⑥ ADDRESSABLE RELAY FOR SOUND MASKING SYSTEM SHUTDOWN.

WIRE CHART

SYMBOL	CIRCUIT TYPE	GAUGE	CONSTRUCTION	TYPE
M	IDNET	18 AWG	UTP SOLID	FPLR FPLP
A	IDNAC	14 AWG	UTP SOLID	FPLR FPLP
C	RUI + COMMUNICATION	18 AWG	UTP SOLID	FPLR FPLP
D	REMOTE TEST SWITCH/LED	14 AWG	(2) 2 COND. SOLID	FPLR FPLP
S	AUDIO - SPEAKER	18 AWG	UTP SOLID	FPLR FPLP
H	POWER	14 AWG	2 COND. SOLID	FPLR FPLP
I	RELAY	14 AWG	2 COND. SOLID	FPLR FPLP
K	VISUAL	14 AWG	2 COND. SOLID	FPLR FPLP
L	ZONE CIRCUIT	14 AWG	2 COND. SOLID	FPLR FPLP

ISSUE LOG

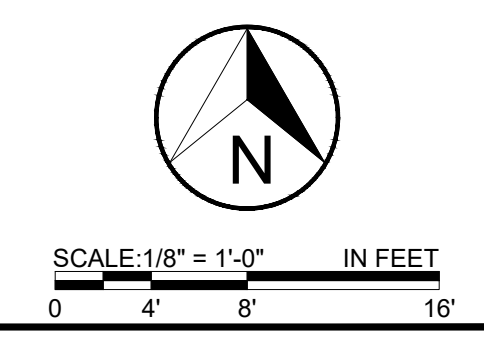
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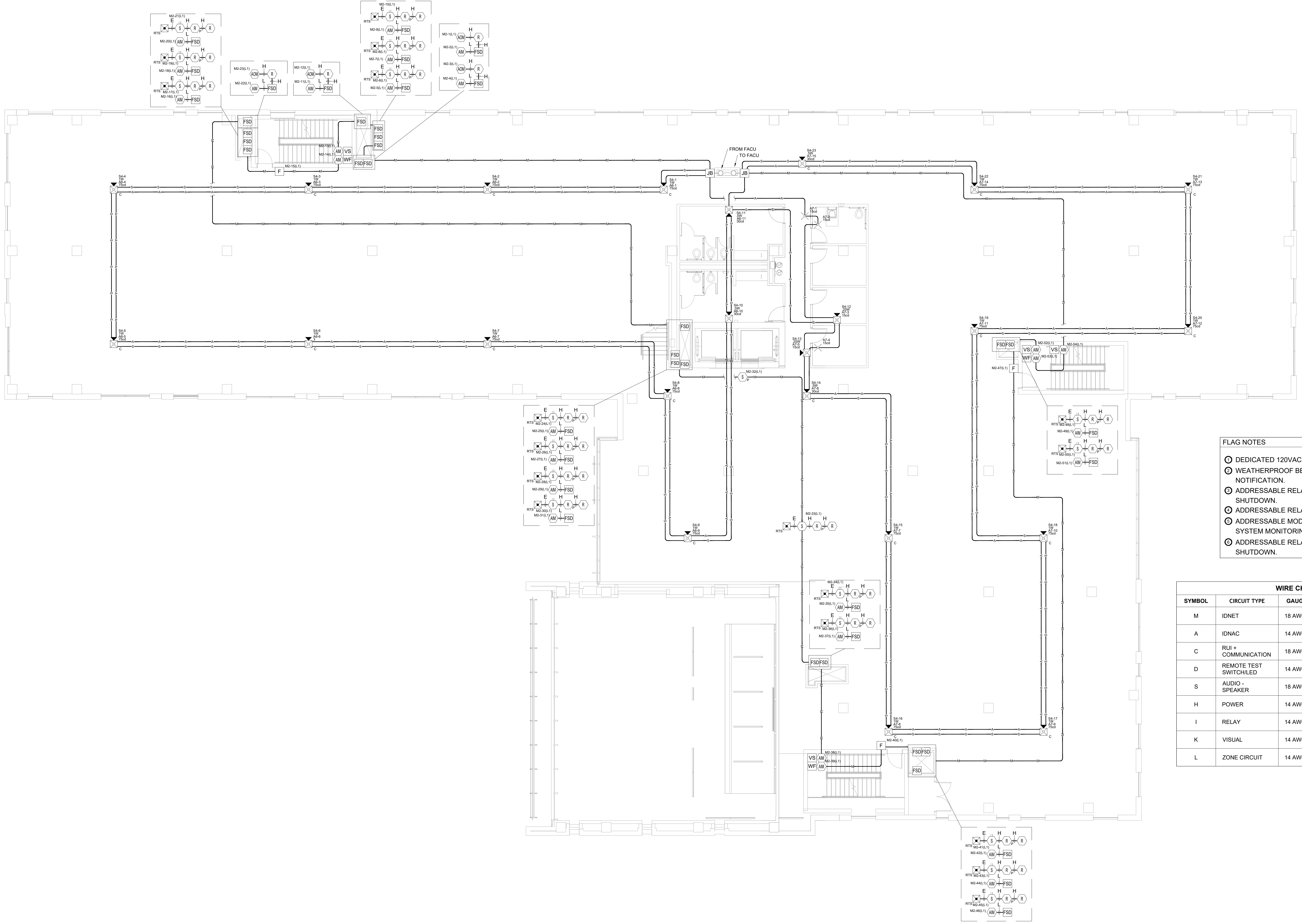
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DRAWN BY: DATE: SALESFORCE CASE

DEVICE PLACEMENT PLAN - FIRST FLOOR

FAS-101





- FLAG NOTES**
- Ⓞ DEDICATED 120VAC FOR FACU POWER CONNECTION.
 - Ⓞ WEATHERPROOF BELL FOR SPRINKLER NOTIFICATION.
 - Ⓞ ADDRESSABLE RELAY FOR FAN COIL UNIT SHUTDOWN.
 - Ⓞ ADDRESSABLE RELAY FOR ACCESS CONTROL.
 - Ⓞ ADDRESSABLE MODULE FOR RESCUE ASSISTANCE SYSTEM MONITORING.
 - Ⓞ ADDRESSABLE RELAY FOR SOUND MASKING SYSTEM SHUTDOWN.

WIRE CHART

SYMBOL	CIRCUIT TYPE	GAUGE	CONSTRUCTION	TYPE
M	IDNET	18 AWG	UTP SOLID	FPLR FPLP
A	IDNAC	14 AWG	UTP SOLID	FPLR FPLP
C	RUI + COMMUNICATION	18 AWG	UTP SOLID	FPLR FPLP
D	REMOTE TEST SWITCH/LED	14 AWG	(2) 2 COND. SOLID	FPLR FPLP
S	AUDIO - SPEAKER	18 AWG	UTP SOLID	FPLR FPLP
H	POWER	14 AWG	2 COND. SOLID	FPLR FPLP
I	RELAY	14 AWG	2 COND. SOLID	FPLR FPLP
K	VISUAL	14 AWG	2 COND. SOLID	FPLR FPLP
L	ZONE CIRCUIT	14 AWG	2 COND. SOLID	FPLR FPLP

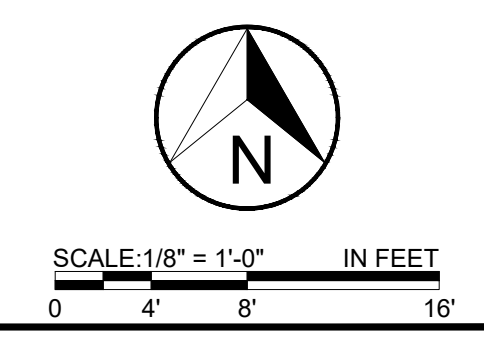
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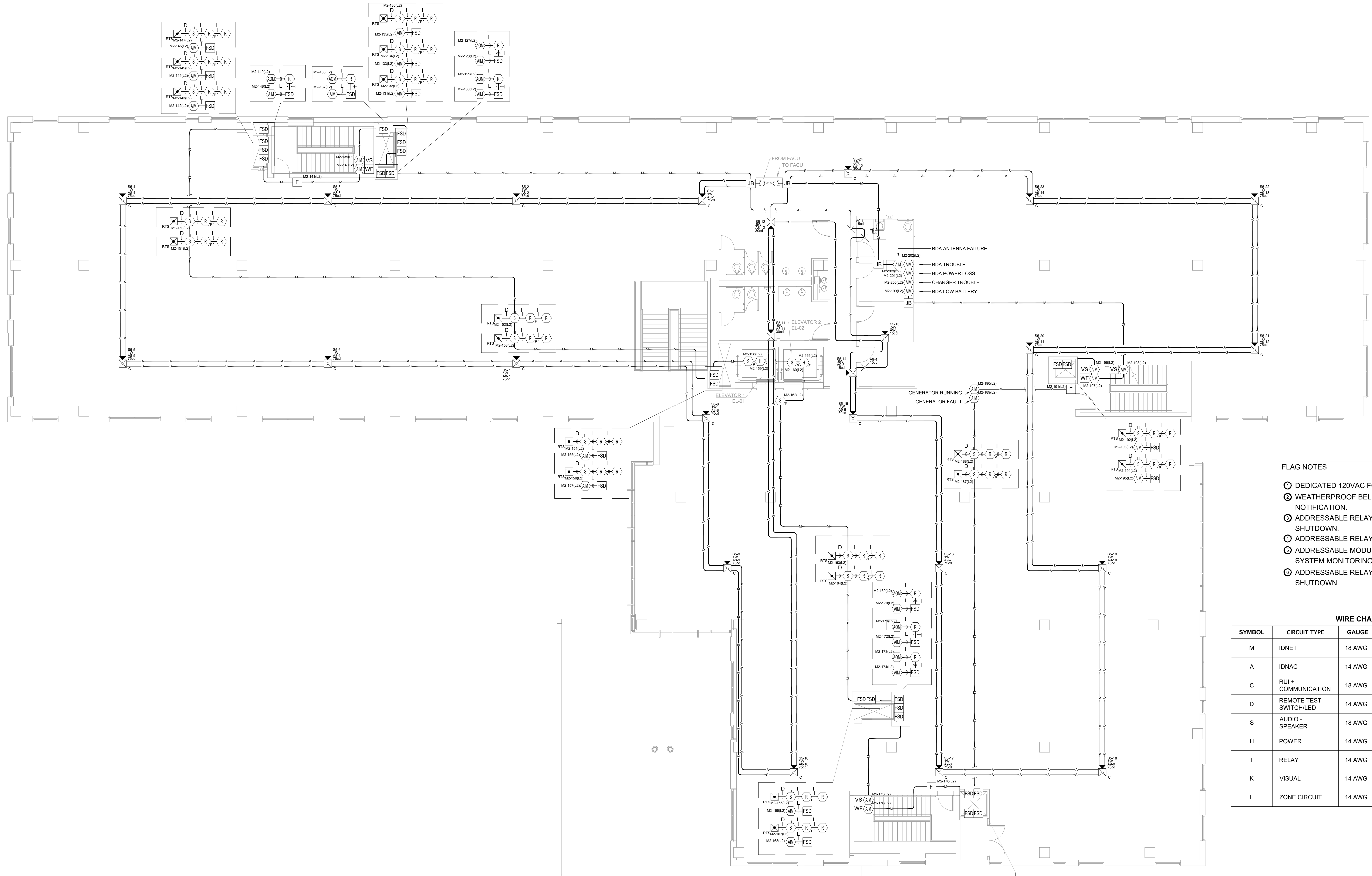
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 JOB OR CASE # _____ SALESFORCE CASE _____

DEVICE PLACEMENT PLAN - THIRD FLOOR

FAS-103





- FLAG NOTES**
- ⊙ DEDICATED 120VAC FOR FACU POWER CONNECTION.
 - ⊙ WEATHERPROOF BELL FOR SPRINKLER NOTIFICATION.
 - ⊙ ADDRESSABLE RELAY FOR FAN COIL UNIT SHUTDOWN.
 - ⊙ ADDRESSABLE RELAY FOR ACCESS CONTROL.
 - ⊙ ADDRESSABLE MODULE FOR RESCUE ASSISTANCE SYSTEM MONITORING.
 - ⊙ ADDRESSABLE RELAY FOR SOUND MASKING SYSTEM SHUTDOWN.

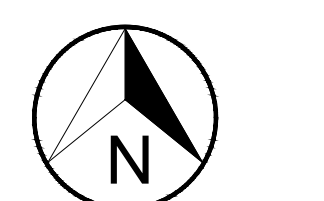
WIRE CHART

SYMBOL	CIRCUIT TYPE	GAUGE	CONSTRUCTION	TYPE
M	IDNET	18 AWG	UTP SOLID	FPLR FPLP
A	IDNAC	14 AWG	UTP SOLID	FPLR FPLP
C	RUI + COMMUNICATION	18 AWG	UTP SOLID	FPLR FPLP
D	REMOTE TEST SWITCHED	14 AWG	(2) 2 COND. SOLID	FPLR FPLP
S	AUDIO - SPEAKER	18 AWG	UTP SOLID	FPLR FPLP
H	POWER	14 AWG	2 COND. SOLID	FPLR FPLP
I	RELAY	14 AWG	2 COND. SOLID	FPLR FPLP
K	VISUAL	14 AWG	2 COND. SOLID	FPLR FPLP
L	ZONE CIRCUIT	14 AWG	2 COND. SOLID	FPLR FPLP

ISSUE LOG

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DRAWN BY: _____ DATE: _____
 JOB OR CASE # _____ SALESFORCE CASE _____



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

DEVICE PLACEMENT PLAN - FOURTH FLOOR

FAS-104

PID/SKU#	Qty.	Description	Standby current	Total standby Current	Alarm Current	Total Alarm Current
Panel Parts						
A100-9701	1	ES PS Master Controller - English	0.277	0.277	0.321	0.321
A100-9634	2	POWER DISTRIBUTION MODULE 120V	0	0	0	0
A100-5451	3	IDNet Card	0.124	0.372	0.23	0.69
A100-5402	2	ES-XPS Expansion Supply	0.068	0.136	0.077	0.154
A100-5401	2	ES Power Supply Only	0.068	0.136	0.077	0.154
A100-1327	3	DIGITAL FLEX 50W AMP W/3 NACS - 70V	0.085	0.255	2.27	6.81
A100-9621	1	BASIC AUDIO WITH MICROPHONE - DIGITAL	0.12	0.12	0.45	0.45
A100-1246	3	FLEX 50 CLASS A ADAPTER	0.001	0.003	0.03	0.09
A100-1241	1	MESSAGE EXPANSION BOARD - 8 MINUTES	0.002	0.002	0.017	0.017
A100-1255	1	3-8 CHANNEL AUDIO OPERATOR INTERFACE	0	0	0.024	0.024
A100-9090	1	SERIAL DACT SIDE MOUNT	0.03	0.03	0.04	0.04
A100-1280	1	8 SWITCH 8 RED LED MODULE	0	0	0.024	0.024
A100-1288	1	64x64 LEDSWITCH CONTROLLER	0.02	0.02	0.212	0.212
A100-2320	2	AUDIO EXPANSION BAY KIT	0	0	0	0
A100-6103	2	DUAL CLASS A ADDRESSABLE INTERFACE, DCAI	0.0083	0.0166	0.0185	0.037
A100-2300	3	EXPANSION BAY (PHASE 10 ONLY)	0	0	0	0
A100-3109	1	IDNet2 MODULE - UP TO 250 DEVICES 2 ISOLATED LOOPS	0.05	0.05	0.1	0.1
A100-2106	1	3 BAY GLASS DOOR&RETAINER PLATINUM	0	0	0	0
2975-9440	2	4100 BOX, #3 PLATINUM	0	0	0	0
A100-2116	1	3 BAY SOLID DOOR&RETAINER PLATINUM	0	0	0	0
A100-9636	1	BOX TO BOX HARNESS KIT	0	0	0	0
A100-0637	1	AUDIO BOX TO BOX HARNESS KIT	0	0	0	0
A100-5128	2	EXTERNAL BATTERY POWER	0	0	0	0
A100-8401	2	PANEL MOUNTED GRAPHICS	0	0	0	0
A100-7402	2	64x64 LEDSW CONTROLLER MODULE	0.067	0.134	0.285	0.57
A100-7403	2	32 POINT LED DRIVER MODULE	0	0	0	0
A100-2402	2	4 UNIT PKG W/GLASS DOOR & RETAINER	0	0	0	0

Initiating and Peripheral Devices						
A4098-9714	10	TRUEALARM PHOTO SMOKE SENSOR	0	0	0	0
A4098-9792	10	TRUEALARM SENSOR BASE	0.0008	0.008	0.001	0.01
A4098-9714	3	TRUEALARM PHOTO SMOKE SENSOR	0	0	0	0
A4098-9770	3	TRUEALARM SENSOR BASE WITH CO MODULE	0.0008	0.0024	0.001	0.003
A4098-9733	5	TRUEALARM HEAT SENSOR	0	0	0	0
A4098-9792	5	TRUEALARM SENSOR BASE	0.0008	0.004	0.001	0.005
A4098-9756	64	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	0.0008	0.0512	0.001	0.064
A4098-9004	23	ADDRESSABLE SINGLE ACTION MANUAL STATION	0.0008	0.0184	0.001	0.023
A4098-9001	117	IDNET SUPERVISED IAM	0.0008	0.0936	0.001	0.117
A4098-9002	63	IDNET RELAY IAM	0.0008	0.0504	0.001	0.063
A4098-9843	64	ENCAPSULATED RELAY PAM-SD	0	0	0.015	0.96
A2088-9008	82	TRACK MOUNTED SINGLE RELAY SPDT W/ ENCLOSURE	0	0	0.018	1.476
A2098-9806	64	REMOTE TEST STATION W/ LED AND KEY SWITCH	0	0	0	0

Notification Appliances						
A49SV-APPLW15	31	S/V APPLIANCE ONLY, WALL MT	0.0008	0.0248	0.047	1.457
A49SV-APPLW30	13	S/V APPLIANCE ONLY, WALL MT	0.0008	0.0104	0.057	0.741
A49VO-APPLW15	30	VO APPLIANCE ONLY WALL MT	0.0008	0.024	0.047	1.41
A49SV-APPLC175	44	S/V APPLIANCE ONLY, CEILING MT	0.0008	0.0352	0.145	6.38
A49SV-APPLC110	1	S/V APPLIANCE ONLY, CEILING MT	0.0008	0.0008	0.193	0.193
A49SV-APPLW175	5	S/V APPLIANCE ONLY, WALL MT	0.0008	0.004	0.1	0.5
A49SV-APPLW-QWP15	1	S/V WEATHERPROOF APPLIANCE ONLY, WALL MT	0.0008	0.0008	0.081	0.081
A49SV-APPLC30	9	S/V APPLIANCE ONLY, CEILING MT	0.0008	0.0072	0.082	0.738
A49VO-APPLW30	2	VO APPLIANCE ONLY WALL MT	0.0008	0.0016	0.057	0.114
A49SV-APPLC15	1	S/V APPLIANCE ONLY, CEILING MT	0.0008	0.0008	0.059	0.059
A49SV-APPLW15	11	S/V APPLIANCE ONLY, WALL MT	0.0008	0.0088	0.047	0.517
A49VO-APPLW15	13	VO APPLIANCE ONLY WALL MT	0.0008	0.0104	0.047	0.611
A49SV-APPLW175	4	S/V APPLIANCE ONLY, WALL MT	0.0008	0.0032	0.1	0.4
A49SV-APPLW30	6	S/V APPLIANCE ONLY, WALL MT	0.0008	0.0048	0.057	0.342
A49SV-APPLC15	2	S/V APPLIANCE ONLY, CEILING MT	0.0008	0.0016	0.059	0.118
A49SV-APPLC175	3	S/V APPLIANCE ONLY, CEILING MT	0.0008	0.0024	0.145	0.435
A49VO-APPLW30	3	VO APPLIANCE ONLY WALL MT	0.0008	0.0024	0.057	0.171

Third Party Parts						
MBA-10-24	1	BELL WEATHERPROOF	0	0	0.06	0.06
		Remote Unit Interface (RU) Current / mA		0.007		0.007
		Spare Addressable Capacity		0.000		0.035
		Subtotal / A		1.930		26.783
		Subtotal AH		53.017		
		Subtotal + Spare %		63.620		
		Total (including aging factor)		76.34		
		Min Battery Set Required		N/A-Must use multiple battery sets		

Battery Set Group #1		
	Total Standby Current	Total Alarm Current
PANEL PARTS	0.925	2.193
INITIATING DEVICES	0.228	2.721
NOTIFICATION DEVICES	0.000	0.000
THIRD PARTY PARTS	0.000	0.000
REMOTE UNIT INTERFACE	0.007	0.007
SPARE ADDRESSABLE POINT CAPACITY	0.000	0.035
STANDBY TIME / ALARM TIME	24	15
SUBTOTAL AH	27.835	1.239
SUBTOTAL AH + SPARE %		34.888
BATTERY DISCHARGE AGING FACTOR	20.00%	34.888
TOTAL AH		41.87 Ah
MIN. BATTERY REQUIRED		2081-9296 50AH (2x)
BATTERY SET SUPPLIED		2081-9296 50AH (2x)

Battery Set Group #2		
	Total Standby Current	Total Alarm Current
PANEL PARTS	0.627	7.500
INITIATING DEVICES	0.000	0.000
NOTIFICATION DEVICES	0.143	14.267
THIRD PARTY PARTS	0.000	0.000
REMOTE UNIT INTERFACE	0.000	0.000
SPARE ADDRESSABLE POINT CAPACITY	0.000	0.000
STANDBY TIME / ALARM TIME	24	15
SUBTOTAL AH	18.488	5.457
SUBTOTAL AH + SPARE %		28.733
BATTERY DISCHARGE AGING FACTOR	20.00%	28.733
TOTAL AH		34.48 Ah
MIN. BATTERY REQUIRED		2081-9296 50AH (2x)
BATTERY SET SUPPLIED		2081-9296 50AH (2x)

	CURRENT	SPARE VOLTAGE DROP	SPARE CURRENT	MIN VOLTAGE
POWER SUPPLY -A1	1.750 A	30.41%	41.67%	24.82 V
POWER SUPPLY -A2	1.874 A	21.43%	37.53%	24.29 V
POWER SUPPLY -A3	0.980 A	66.32%	67.33%	26.98 V

Power Supply - CIRCUIT 1	
Total Current Load for Circuit	1.75
Total Current Load for Power Supply 1	4.604
Circuit Length (ft)	731

PID	Address	From	Setting	Distance / Feet	Wire Gauge	Current (A) Device	Current(A) at the appliance	Voltage(V) at the device	Voltage(V) drop	Class A Return		
										Current(A) at the appliance	Voltage(V) drop	Voltage(V) at the device
A49SV-APPLW	A1-1	PANEL	30	14	14	0.057	1.75	28.8481	0.1519	0.057	0.0067146	24.824684
A49SV-APPLW	A1-2	A1-1	15	19	14	0.047	1.693	28.6486646	0.1994354	0.104	0.0206336	24.831399
A49SV-APPLW	A1-3	A1-2	15	32	14	0.047	1.646	28.3220982	0.3265664	0.151	0.032767	24.852033
A49SV-APPLW	A1-4	A1-3	30	35	14	0.057	1.599	27.9751152	0.346983	0.208	0.0425568	24.8848
A49VO-APPLW	A1-5	A1-4	15	33	14	0.047	1.542	27.659622	0.3154832	0.255	0.04743	24.927356
A49SV-APPLW	A1-6	A1-5	15	30	14	0.047	1.495	27.381552	0.27807	0.302	0.074896	24.974786
A49SV-APPLC	A1-7	A1-6	75	40	14	0.145	1.448	27.022448	0.359104	0.447	0.1136274	25.049682
A49SV-APPLC	A1-8	A1-7	75	41	14	0.145	1.303	26.6912254	0.3312226	0.592	0.1688384	25.16331
A49SV-APPLC	A1-9	A1-8	110	46	14	0.193	1.158	26.3609638	0.3302616	0.785	0.204414	25.332148
A49SV-APPLC	A1-10	A1-9	75	42	14	0.145	0.965	26.1096778	0.251286	0.93	0.25947	25.536562
A49SV-APPLC	A1-11	A1-10	75	45	14	0.145	0.82	25.8808978	0.22878	1.075	0.27993	25.796032
A49SV-APPLC	A1-12	A1-11	75	42	14	0.145	0.675	25.7051278	0.17577	1.22	0.242048	26.075962
A49VO-APPLW	A1-13	A1-12	15	32	14	0.047	0.53	25.5999758	0.105152	1.267	0.2042404	26.31801
A49SV-APPLW	A1-14	A1-13	75	26	14	0.1	0.483	25.5221162	0.0778596	1.367	0.3898684	26.522251
A49SV-APPLW	A1-15	A1-14	15	46	14	0.047	0.383	25.4128846	0.1092316	1.414	0.1227352	26.912119
A49VO-APPLW	A1-16	A1-15	15	14	14	0.047	0.336	25.3837198	0.0291648	1.461	0.3079788	27.034854
A49SV-APPLW-O	A1-17	A1-16	WP15	34	14	0.081	0.289	25.3227986	0.0609212	1.542	0.2198892	27.342833
A49SV-APPLW	A1-18	A1-17	15	23	14	0.047	0.208	25.2931378	0.0296608	1.589	0.2167396	27.562722
A49SV-APPLW	A1-19	A1-18	15	22	14	0.047	0.161	25.2711774	0.0219604	1.636	0.2231504	27.779462
A49SV-APPLW	A1-20	A1-19	30	22	14	0.057	0.114	25.2556278	0.0155496	1.693	0.3463878	28.0002612
A49SV-APPLW	A1-21	A1-20	30	33	14	0.057	0.057	25.2438656	0.0116622	1.75	0.651	28.349
	PANEL	A1-21		60	14	0	0	25.2438656	0	0	0	29

Power Supply - CIRCUIT 2	
Total Current Load for Circuit	1.874
Total Current Load for Power Supply 1	4.604
Circuit Length (ft)	742

PID	Address	From	Setting	Distance / Feet	Wire Gauge	Current (A) Device	Current(A) at the appliance	Voltage(V) at the device	Voltage(V) drop	Class A Return		
										Current(A) at the appliance	Voltage(V) drop	Voltage(V) at the device
A49VO-APPLW	A2-1	PANEL	15	28	14	0.047	0.094	28.9918408	0.0081592	0.047	0.0037882	24.285526
A49VO-APPLW	A2-2	A2-1	15	13	14	0.047	0.094	28.9880526	0.0037882	0.094	0.011656	24.289314
A49VO-APPLW	A2-3	A2-2	15	20	14	0.047	0.094	28.9822246	0.005828	0.141	0.0166098	24.30097
A49SV-APPLW	A2-4	A2-3	15	19	14	0.047	0.147	28.976688	0.0053566	0.188	0.0268088	24.31758
A49SV-APPLW	A2-5	A2-4	75	23	14	0.1	0.147	28.952428	0.01426	0.288	0.0268096	24.344389
A49VO-APPLW	A2-6	A2-5	15	16	14	0.047	0.094	28.9577656	0.0046624	0.335	0.027001	24.37295

	CURRENT	SPARE VOLTAGE DROP	SPARE CURRENT	MIN VOLTAGE
POWER SUPPLY -A4	2.145 A	60.87%	28.50%	26.65 V
POWER SUPPLY -A5	2.046 A	32.51%	31.80%	24.95 V
POWER SUPPLY -A6	1.419 A	48.99%	52.70%	25.92 V

Power Supply - CIRCUIT 1
Total Current Load for Circuit: 2.145
Total Current Load for Power Supply 1: 5.61
Circuit Length (ft): 1273

PID	Address	From	Setting	Distance / Feet	Wire Gauge	Current (A) Device	Current(A) at the appliance	Voltage(V) at the device	Voltage(V) drop	Class A Return		
										Current(A) at the appliance	Voltage(V) drop	Voltage(V) at the device
A49VO-APPLW	A4-1	PANEL	15	44	14	0.047	1.127	28.692544	0.3074456	0.047	0.0061194	26.651967
A49VO-APPLW	A4-2	A4-1	15	21	14	0.047	1.08	28.5519384	0.140616	0.094	0.0151528	26.658086
A49SV-APPLW	A4-3	A4-2	15	26	14	0.047	1.033	28.3854188	0.1665196	0.141	0.0183582	26.673239
A49SV-APPLW	A4-4	A4-3	15	21	14	0.047	0.986	28.2570416	0.1283772	0.188	0.0419616	26.691597
A49VO-APPLW	A4-5	A4-4	30	36	14	0.057	0.939	28.0474568	0.2096948	0.245	0.042532	26.733559
A49VO-APPLW	A4-6	A4-5	15	28	14	0.047	0.882	27.9843416	0.1531152	0.292	0.0561224	26.776091
A49VO-APPLW	A4-7	A4-6	15	31	14	0.047	0.835	27.7338546	0.160487	0.339	0.0585004	26.832213
A49VO-APPLW	A4-8	A4-7	15	28	14	0.047	0.788	27.5970578	0.1367988	0.386	0.0789756	26.891064
A49VO-APPLW	A4-9	A4-8	15	33	14	0.047	0.741	27.4454492	0.1516086	0.433	0.0724842	26.970039
A49SV-APPLW	A4-10	A4-9	15	27	14	0.047	0.694	27.3292736	0.1161756	0.48	0.077376	27.042524
A49VO-APPLW	A4-11	A4-10	15	26	14	0.047	0.647	27.2249772	0.1042964	0.527	0.0718828	27.1199
A49VO-APPLW	A4-12	A4-11	15	22	14	0.047	0.6	27.1431372	0.08184	0.574	0.1103228	27.191872
A49SV-APPLW	A4-13	A4-12	75	31	14	0.1	0.553	27.0368506	0.1062866	0.674	0.1629732	27.302105
A49VO-APPLW	A4-14	A4-13	15	39	14	0.047	0.453	26.9273152	0.1095354	0.721	0.111755	27.465078
A49VO-APPLW	A4-15	A4-14	15	25	14	0.057	0.406	26.8643852	0.06293	0.778	0.0771776	27.576833
A49SV-APPLC	A4-16	A4-15	30	16	14	0.059	0.349	26.8297644	0.0346208	0.837	0.2023866	27.654011
A49SV-APPLC	A4-17	A4-16	30	39	14	0.082	0.29	26.7596424	0.070122	0.919	0.1766318	27.856398
A49SV-APPLW	A4-18	A4-17	30	31	14	0.057	0.208	26.7196648	0.0399776	0.976	0.2541504	28.033029
A49VO-APPLW	A4-19	A4-18	15	42	14	0.047	0.151	26.6803444	0.0393204	1.023	0.1078242	28.28718
A49SV-APPLW	A4-20	A4-19	15	17	14	0.047	0.104	26.6693828	0.0109616	1.07	0.185752	28.395004
A49SV-APPLW	A4-21	A4-20	30	28	14	0.057	0.057	26.6594876	0.0098952	1.127	0.419244	28.580756
	PANEL	A4-21		60	14	0	0	26.6594876	0	0	0	29
					14	0	0	0	0	0	0	0
A49SV-APPLW	A4-32	PANEL	15	57	14	0.047	1.018	28.6402388	0.3597812	0.047	0.0089936	27.01135
A49VO-APPLW	A4-33	A4-32	15	24	14	0.047	0.971	28.495754	0.1444848	0.094	0.0110732	27.018344
A49VO-APPLW	A4-34	A4-33	15	19	14	0.047	0.924	28.3869068	0.1088472	0.141	0.0192324	27.029471
A49SV-APPLW	A4-35	A4-34	75	22	14	0.1	0.877	28.267284	0.1196228	0.241	0.044826	27.048649
A49SV-APPLW	A4-36	A4-35	30	30	14	0.057	0.777	28.122762	0.144522	0.298	0.0332568	27.093475
A49VO-APPLW	A4-37	A4-36	15	18	14	0.047	0.72	28.04241	0.080352	0.345	0.117645	27.126732
A49SV-APPLC	A4-38	A4-37	15	55	14	0.059	0.673	27.812917	0.229493	0.404	0.06262	27.244377
A49SV-APPLW	A4-39	A4-38	75	25	14	0.1	0.614	27.711747	0.09517	0.504	0.1156176	27.306997
A49VO-APPLW	A4-40	A4-39	15	37	14	0.047	0.514	27.5998354	0.1179116	0.551	0.1298156	27.422615
A49SV-APPLW	A4-41	A4-40	75	38	14	0.1	0.467	27.4898102	0.1100252	0.651	0.1856652	27.55243
A49VO-APPLW	A4-42	A4-41	15	46	14	0.047	0.367	27.3851418	0.1046684	0.698	0.1384832	27.738095
A49SV-APPLC	A4-43	A4-42	15	32	14	0.059	0.32	27.3216538	0.063488	0.757	0.1924294	27.876579
A49SV-APPLW	A4-44	A4-43	75	41	14	0.1	0.261	27.2553076	0.0683462	0.857	0.1361464	28.069008
A49VO-APPLW	A4-45	A4-44	15	26	14	0.047	0.181	27.2293544	0.0256532	0.904	0.1233056	28.207156
A49SV-APPLW	A4-46	A4-45	30	22	14	0.057	0.114	27.1380408	0.0155496	0.961	0.417074	28.330462
A49SV-APPLW	A4-47	A4-46	30	70	14	0.057	0.057	27.1890668	0.024738	1.018	0.252464	28.747536
	PANEL	A4-47		40	14	0	0	27.1890668	0	0	0	29

Power Supply - CIRCUIT 2
Total Current Load for Circuit: 2.046
Total Current Load for Power Supply 1: 5.61
Circuit Length (ft): 1018

PID	Address	From	Setting	Distance / Feet	Wire Gauge	Current (A) Device	Current(A) at the appliance	Voltage(V) at the device	Voltage(V) drop	Class A Return		
										Current(A) at the appliance	Voltage(V) drop	Voltage(V) at the device
A49SV-APPLW	A5-1	PANEL	15	107	14	0.047	0.47	28.688202	0.311798	0.047	0.0049598	28.294583
A49VO-APPLW	A5-2	A5-1	15	17	14	0.047	0.423	28.6436178	0.0445842	0.094	0.0128216	28.299536
A49SV-APPLW	A5-3	A5-2	15	22	14	0.047	0.376	28.5923314	0.0512864	0.141	0.0253518	28.312358
A49SV-APPLW	A5-4	A5-3	75	29	14	0.1	0.329	28.5331772	0.0591542	0.241	0.097123	28.33771
A49SV-APPLC	A5-5	A5-4	30	65	14	0.082	0.229	28.4408902	0.092287	0.323	0.0640832	28.434833
A49SV-APPLW	A5-6	A5-5	15	32	14	0.047	0.147	28.4117254	0.0291648	0.37	0.151404	28.498916
A49SV-APPLW	A5-7	A5-6	75	66	14	0.1	0.1	28.3708054	0.04092	0.47	0.34968	28.65032
	PANEL	A5-7		120	14	0	0	28.3708054	0	0	0	29
					14	0	0	0	0	0	0	0
A49SV-APPLC	A5-18	PANEL	75	105	14	0.145	1.192	28.224008	0.775992	0.145	0.038859	24.95052
A49SV-APPLW	A5-19	A5-18	30	41	14	0.057	1.047	27.9578906	0.2661474	0.202	0.0676296	24.987379
A49VO-APPLW	A5-20	A5-19	30	54	14	0.057	0.99	27.6264086	0.331452	0.259	0.0545972	25.055008
A49SV-APPLW	A5-21	A5-20	30	34	14	0.057	0.933	27.4297322	0.1966764	0.316	0.04898	25.109605
A49VO-APPLW	A5-22	A5-21	15	25	14	0.047	0.876	27.2939522	0.13578	0.363	0.0742698	25.158585
A49SV-APPLW	A5-23	A5-22	15	33	14	0.047	0.829	27.1243388	0.1699134	0.411	0.045756	25.232855
A49VO-APPLW	A5-24	A5-23	15	18	14	0.047	0.782	27.0370676	0.0872712	0.457	0.095902	25.278611
A49SV-APPLW	A5-25	A5-24	15	30	14	0.047	0.735	26.9003576	0.13671	0.504	0.0687456	25.363613
A49VO-APPLW	A5-26	A5-25	15	22	14	0.047	0.688	26.8065144	0.0938432	0.551	0.081988	25.432359
A49SV-APPLW	A5-27	A5-26	15	24	14	0.047	0.641	26.7111336	0.0953808	0.598	0.0963976	25.514348
A49VO-APPLW	A5-28	A5-27	30	26	14	0.057	0.594	26.6153808	0.0957528	0.655	0.158379	25.610745
A49VO-APPLW	A5-29	A5-28	15	39	14	0.047	0.537	26.4855342	0.1298466	0.702	0.1566864	25.769124
A49SV-APPLW	A5-30	A5-29	15	36	14	0.047	0.49	26.3761662	0.109368	0.749	0.1718206	25.925811
A49SV-APPLW	A5-31	A5-30	15	37	14	0.047	0.443	26.274542	0.1016242	0.796	0.1036392	26.097631
A49SV-APPLW	A5-32	A5-31	15	21	14	0.047	0.396	26.2229828	0.0515592	0.843	0.078399	26.20127
A49VO-APPLW	A5-33	A5-32	30	15	14	0.057	0.349	26.1905258	0.032457	0.9	0.1116	26.279669
A49VO-APPLW	A5-34	A5-33	15	20	14	0.047	0.292	26.1543178	0.036208	0.947	0.0821996	26.391269
A49VO-APPLW	A5-35	A5-34	15	14	14	0.047	0.245	26.1330518	0.021266	0.994	0.1787212	26.473469
A49SV-APPLW	A5-36	A5-35	15	29	14	0.047	0.198	26.0974514	0.0356004	1.041	0.1161756	26.65219
A49SV-APPLW	A5-37	A5-36	15	18	14	0.047	0.151	26.0805998	0.0168516	1.088	0.2293504	26.768366
A49SV-APPLW	A5-38	A5-37	30	34	14	0.057	0.104	26.0586786	0.0219232	1.145	0.149079	26.997716
A49SV-APPLW	A5-39	A5-38	15	21	14	0.047	0.192	26.0525272	0.0061194	1.192	0.3547392	27.146795
A49SV-APPLC	A5-40	A5-39	75	48	14	0.145	0.29	26.0094052	0.043152	1.337	0.331576	27.501534
A49SV-APPLC	A5-41	A5-40	75	40	14	0.145	0.192	25.9734452	0.03596	1.482	0.389128	27.83311
A49SV-APPLW	A5-42	A5-41	15	42	14	0.047	0.094	25.9612064	0.0122388	1.529	0.3412728	28.219023
A49VO-APPLW	A5-43	A5-42	15	36	14	0.047	0.047	25.950716	0.0104904	1.576	0.439704	28.560296
	PANEL	A5-43		45	14	0	0	25.950716	0	0	0	29

Power Supply - CIRCUIT 3
Total Current Load for Circuit: 1.419
Total Current Load for Power Supply 1: 5.61
Circuit Length (ft): 646

PID	Address	From	Setting	Distance / Feet	Wire Gauge	Current (A) Device	Current(A) at the appliance	Voltage(V) at the device	Voltage(V) drop	Class A Return		
										Current(A) at the appliance	Voltage(V) drop	Voltage(V) at the device
A49SV-APPLC	A6-1	PANEL	75	80	14	0.145	1.419	28.296176	0.703824	0.145	0.042253	25.9151032
A49SV-APPLC	A6-2	A6-1	75	47	14	0.145	1.274	27.9249324	0.3712436	0.29	0.086304	25.9573562
A49SV-APPLC	A6-3	A6-2	75	48	14	0.145	1.129	27.588942	0.3359904	0.435	0.137547	26.0436602
A49SV-APPLC	A6-4	A6-3	75	51	14	0.145	0.984	27.2778012	0.3111408	0.58	0.154628	26.1812072
A49SV-APPLC	A6-5	A6-4	75	43	14	0.145						

