

CODE ANALYSIS

BUILDING INFORMATION:

- A) OCCUPANCY CLASSIFICATION(S): B
- B) OCCUPANCY LOAD(S): 83 OCC
- C) SPRINKLERS: YES
- D) CONSTRUCTION TYPE: IIB
- E) BUILDING HEIGHT: 1 STORY
- F) PROJECT SQUARE FOOTAGE: ~6,146 S.F.
- G) APPLICABLE CODES:
2021 INTERNATIONAL FIRE CODE
2019 NFPA 72
2021 NEC
STATE AND LOCAL MARSHAL REGULATIONS
- H) CIRCUIT CLASSIFICATION: POWER LIMITED
- I) PARCEL NUMBER: 6021010051

**JD SPORTS
SOUTH HILL MALL #1315
3500 SOUTH MERIDIAN, SPACE #530
PUYALLUP, WA 98373
FIRE ALARM TENANT IMPROVEMENT DRAWINGS**



JD SPORTS - SOUTH HILL MALL
3500 SOUTH MERIDIAN,
530 # PUYALLUP, WA 98373

AC Branch Current				
AC Branch Current:	2.08 Amps @ 120V			
Maximum NAC Output				
Panel Max:	6.50 Amps			
Circuit Max:	3.00 Amps			
Regulated Load in Standby				
Device Type	Model	Number of Devices	Current (Amps)	Total Current (Amps)
TOTAL STANDBY LOAD 0.000000				
Regulated Load in ALARM				
Device Type	Model	Number of Devices	Current (Amps)	Total Current (Amps)
FPS1 Additional Load.1 (See Voltage Drop Calculations) 1.087000 = 1.087000				
TOTAL ALARM LOAD 1.087000				
Battery Requirements				
Standby Load	Required Standby Time in Hours			
Current (Amps)	0.000000 X	24.00000	=	0.000000
Alarm Load	Required Alarm Time in Hours			
Current (Amps)	1.087000 X	0.250000	=	0.271750
Total Ampere Hours (before derating factor)				0.271750
Derating Factor		X		1.2
TOTAL AMPERE HOURS REQUIRED = 0.326100				
BATTERIES TO BE PROVIDED (2 - 12v) FIELD VERIFY				

NOTE: THE ABOVE BATTERY CALCULATION IS A COMBINED TOTAL OF THE ADDITIONAL LOADS THAT WILL BE ADDED FROM THE SCOPE OF THIS PROJECT. FIELD VERIFY THE SIZE OF THE EXISTING BATTERIES AND UPSIZE ACCORDINGLY.

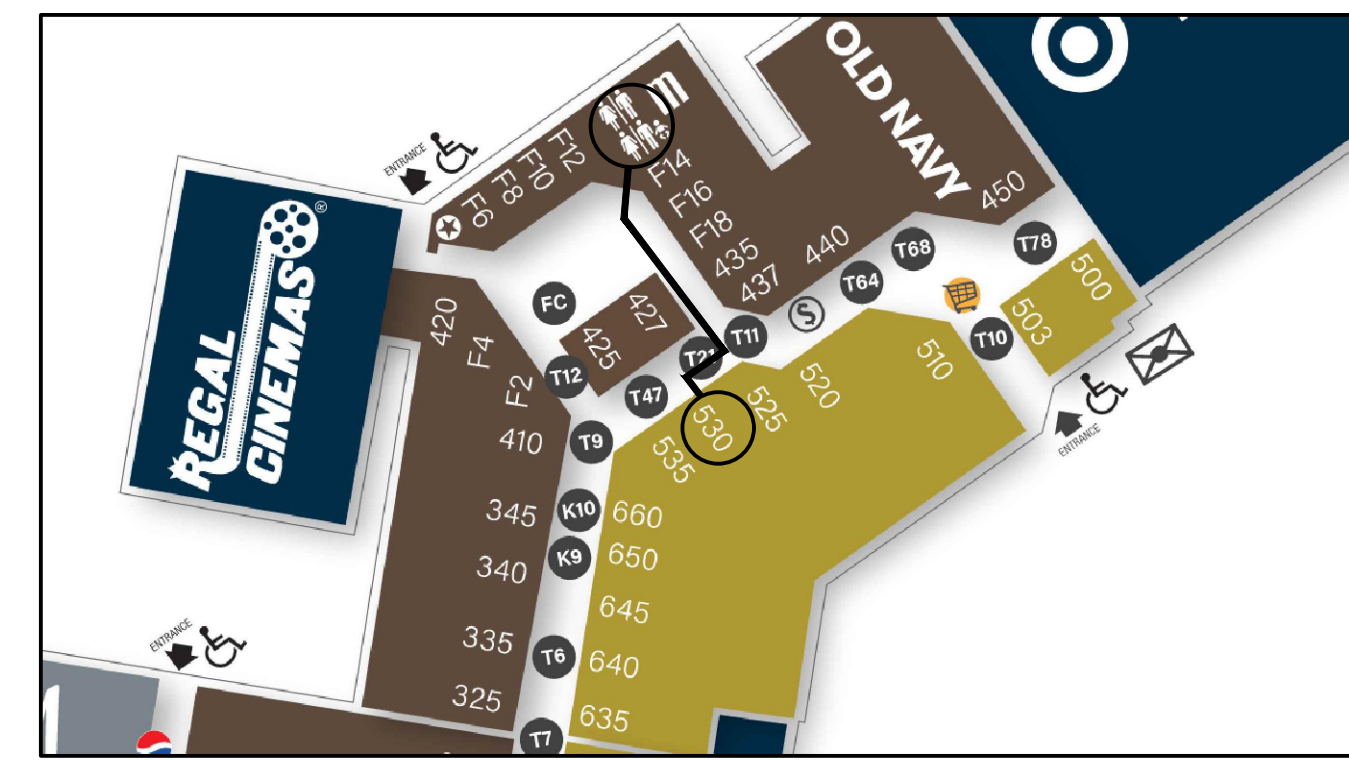
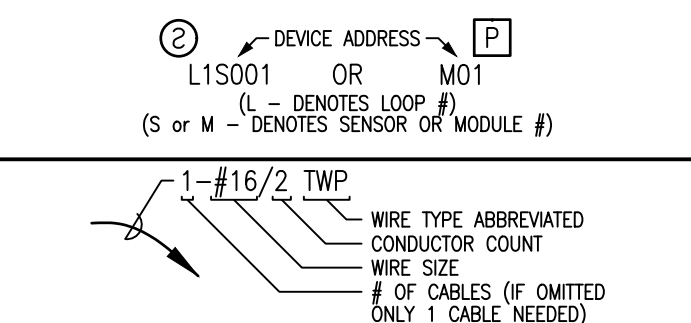
Point to Point NAC Voltage Drop Calculation								
Date	5/3/2024							
Project Name	JD SPORTS TI							
Circuit Number	FPS1.1							
Nominal System Voltage	20.4 volts							
Minimum Device Voltage	16.0 volts							
Distance from source to 1st device	45 feet							
Wire Gauge for balance of circuit	14							
Wire Resistance	3.07							
Gauge Per 1000	3.07							
Max Output Current	3.00 amps							
Total Circuit Current	1.087 amps							
Spare Current Capacity	20%							
End of Line Voltage	19.16 volts							
Notification Appliance Manufacturer	System Sensor							
Circuit is within limits								
Speaker Identifier	NAC Identifier	Device Model # and Candela	Device Wattage	Device Current	Distance Previous Device	Voltage at Device	Drop From Source	Percent Drop
S1.1.1	N1.1.1	SPSCL 75	1/2	0.111	45	20.10	0.300	1.47%
S1.1.2	N1.1.2	SPSCL 15	1/4	0.041	17	20.00	0.402	1.97%
S1.1.3	N1.1.3	SPSCL 15	1/4	0.041	16	19.91	0.494	2.42%
S1.1.4	N1.1.4	SPSCL 115	1/2	0.158	44	19.66	0.736	3.61%
S1.1.5	N1.1.5	SPSCL 115	1	0.158	24	19.56	0.844	4.14%
S1.1.6	N1.1.6	SPSCL 15	1/4	0.041	31	19.45	0.954	4.68%
S1.1.7	N1.1.7	SPSCL 30	1	0.063	16	19.39	1.007	4.94%
S1.1.8	N1.1.8	SPSCL 115	1	0.158	39	19.28	1.120	5.49%
S1.1.9	N1.1.9	SPSCL 115	1	0.158	37	19.21	1.192	5.84%
S1.1.10	N1.1.10	SPSCL 115	1	0.158	46	19.16	1.237	6.06%
Totals			6 3/4	1.087	315			
Notes: Wire resistance is doubled in the calculations for two wires (Positive and Negative). The voltage calculated to the last device must not be lower than the manufactures listed minimum operating voltage (IE: rated operating voltage 16-33 VDC (24 VDC nominal)).								

FIRE ALARM SYMBOL LEGEND

NOTE: ALL SYMBOLS MAY NOT BE USED ON THIS PROJECT

QTY	SYMBOL	DESCRIPTION	MANUF. & PART #	MOUNTING	MOUNT IN
E	[E]	FIRE ALARM CONTROL PANEL	EXISTING	WALL - TOP @ 66"	EXISTING TO REMAIN
E	[FPS]	FIRE ALARM POWER SUPPLY	EXISTING	WALL - TOP @ 66"	EXISTING TO REMAIN
E	[E]	FIRE ALARM POWER SUPPLY	EXISTING	WALL - TOP @ 66"	EXISTING TO REMAIN
10 (R)	[S]	CEILING MOUNT SPEAKER / STROBE	SYSTEM SENSOR - SPSCL(W/L)	CEILING	REMOVE AND RELOCATE

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
E	EXISTING	AWG	AMERICAN WIRE GAUGE
G	WITH GUARD	TWP	TWISTED PAIR
P	PENDENT MOUNT	TWSP	TWISTED SHIELDED PAIR
R	REMOVE AND RELOCATE	FPLP	FIRE POWER LIMITED PLENUM
S	SOUNDER BASE	FPLR	FIRE POWER LIMITED RISER
WP	WEATHERPROOF		
EOL	END OF LINE RESISTOR		
EOLR	END OF LINE RELAY		



CONSTRUCTION CLASSIFICATION (TABLE 601)- TYPE 2B

BUILDING ELEMENT	FIRE RATING
STRUCTURAL BEARING WALLS	0-HR
EXTERIOR INTERIOR	0-HR
NONBEARING WALLS AND PARTITIONS EXTERIOR	N/A
NONBEARING WALLS AND PARTITIONS INTERIOR	0-HR
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS	0-HR
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS	0-HR

GENERAL NOTES:

- SCOPE OF WORK: THIS PROJECT SHALL INCLUDE. TENANT IMPROVEMENTS TO EXISTING FIRE ALARM SYSTEM AT THE SOUTH HILLS MALL. REMOVE AND RELOCATE EXISTING SPEAKER STROBES IN TENANT SPACE. CONNECT NEWLY RELOCATED SPEAKER STROBES TO EXISTING SPEAKER AND STROBE CIRCUITS LOCATED IN TENANT SPACE. EXISTING FIRE ALARM POWER SUPPLY IN ELECTRICAL ROOM TO REMAIN. EXISTING SMOKE DETECTOR IN ELECTRICAL ROOM TO REMAIN.
- THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
- INSTALLATION SHALL COMPLY WITH NEC, NFPA 72 AND ALL OTHER APPLICABLE CODES AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- WIRING DEPICTED ON THESE PLANS IS SCHEMATIC - ACTUAL WIRE LOCATIONS MAY DIFFER FROM THESE PLANS. WIRING SHALL BE PERFORMED AS ACTUAL BUILDING CONSTRUCTION CONDITIONS ALLOW AND TO MINIMIZE PENETRATIONS THROUGH AREA SEPARATION WALLS AND FIRE WALLS. THE USE OF A RACEWAY IS PERMITTED AS LONG AS NO 110V OR HIGHER VOLTAGE CABLES ARE IN THE SAME RACEWAY.
- FIRE RATINGS SHALL BE MAINTAINED FOR ALL PENETRATIONS THROUGH FIRE-RATED CONSTRUCTION.
- POWER FOR ALL FIRE ALARM PANELS AND FIRE ALARM POWER SUPPLIES MUST BE PROVIDED BY A DEDICATED AC BRANCH CIRCUIT. THE LOCATION OF THE BRANCH CIRCUIT BREAKER SHALL BE PERMANENTLY IDENTIFIED AT THE CONTROL UNIT, MECHANICALLY PROTECTED, ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL AND SHALL BE RED AND LABELED "FIRE ALARM CIRCUIT CONTROL" IN ACCORDANCE WITH NFPA 72. ELECTRICAL CONTRACTOR SHALL PERFORM LOAD CALCULATIONS TO DETERMINE SIZE OF WIRING AND BREAKERS FOR ALL FIRE ALARM AC BRANCH CIRCUITS BASED ON THE INFORMATION PROVIDED IN THE BATTERY CALCULATIONS FOR THE FIRE ALARM EQUIPMENT.
- POWER-LIMITED AND NONPOWER-LIMITED CIRCUIT WIRING MUST REMAIN SEPARATED IN CABINET. ALL POWER-LIMITED CIRCUIT WIRING MUST REMAIN AT LEAST 0.25" AWAY FROM ANY NONPOWER-LIMITED CIRCUIT WIRING. FURTHERMORE, ALL POWER-LIMITED AND NONPOWER-LIMITED CIRCUIT WIRING MUST ENTER AND EXIT THE CABINET THROUGH DIFFERENT KNOCK OUTS AND/OR SEPARATE CONDUITS.
- WHEN UTILIZING CLASS "A" CIRCUITS, SEPARATE OUTGOING AND RETURN CONDUCTORS OF CLASS "A" CIRCUITS BY A MINIMUM OF 12" WHERE RUN VERTICALLY AND 48" WHERE RUN HORIZONTALLY.
- WHEN UTILIZING SHIELDED CABLE TIE SHIELDS THROUGH AND INSULATE AT EACH JUNCTION BOX. INSULATE AND TAPE BACK AT END.
- ALL FIRE ALARM CABLING SHALL BE ACCEPTABLE TO THE FIRE ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE. CABLES USED IN VERTICAL RUNS SHALL BE TYPE FPLP OR FPLR. CABLE SPLICES OR TERMINATIONS SHALL BE MADE IN LISTED FITTINGS, BOXES, ENCLOSURES, FIRE ALARM DEVICES, OR UTILIZATION EQUIPMENT. WHERE INSTALLED EXPOSED, CABLES SHALL BE ADEQUATELY SUPPORTED AND INSTALLED IN SUCH A WAY THAT MAXIMUM PROTECTION AGAINST PHYSICAL DAMAGE IS AFFORDED BY BUILDING CONSTRUCTION. WHERE LOCATED WITHIN 7 FT OF THE FLOOR, CABLES SHALL BE SECURELY FASTENED IN AN APPROVED MANNER AT INTERVALS OF NOT MORE THAN 18 IN.
- SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER CONSTRUCTION CLEAN-UP IS COMPLETED AND FINAL.
- LOCATE SMOKE DETECTORS A MINIMUM OF THREE (3) FEET FROM MECHANICAL DIFFUSERS. WALL-MOUNTED SMOKE DETECTORS SHALL BE LOCATED A MAXIMUM OF 12" FROM CEILING.
- PROVIDE SYNCHRONIZATION OF ALL VISUAL NOTIFICATION APPLIANCE CIRCUITS. PROVIDE ALL REQUIRED SYNC MODULES. PROVIDE A MULTI-SYNC MODE SLAVE CONNECTION BETWEEN ALL SYNC MODULES.
- UPON COMPLETION OF THE FIRE ALARM SYSTEM INSTALLATION AND PROGRAMMING, THE INSTALLING CONTRACTOR SHALL PERFORM FINAL TESTING OF THE ENTIRE SYSTEM, PER ALL APPLICABLE CODES, AND SHALL COORDINATE AND PERFORM A FINAL FIRE ALARM SYSTEM INSPECTION.
- PROVIDE OFF-SITE MONITORING AS REQUIRED BY THE INTERNATIONAL FIRE CODE, SECTION 907.6.6 AND THE LOCAL AUTHORITY HAVING JURISDICTION.
- INSTALLING CONTRACTOR SHALL, PHYSICALLY, LABEL ALL INITIATING DEVICES AND NOTIFICATION APPLIANCE CIRCUIT END OF LINE (WHEN WIRING CLASS "B"). THESE LABELS SHALL BE IN PLACE PRIOR TO START-UP AND TESTING.
- ROOMS CONTAINING CONTROLS FOR AIR-CONDITIONING SYSTEMS, SPRINKLER RISERS AND VALVES OR OTHER FIRE DETECTION, SUPPRESSION OR CONTROL ELEMENTS SHALL BE IDENTIFIED WITH PERMANENTLY MOUNTED SIGNS WITH LETTERING NOT LESS THAN 2 INCHES TALL WITH A PRINCIPAL STROKE OF NOT LESS THAN 3/8 INCH. LETTERS SHALL CONTRAST WITH BACKGROUND.



**JD SPORTS #1315 - SOUTH HILLS MALL
3500 SOUTH MERIDIAN - SPACE #530
PUYALLUP, WA 98373
FIRE ALARM PLAN**

DATE	5/3/2024
DESCRIPTION	ISSUED FOR REVIEW & APPROVAL
REVISION	0

14214 NE 21st Street Bellevue, WA. 98007
(425) 641-2127 FAX (425) 562-6662

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DRAWN	CORY W. HAWS UNICAD JOB #24294
CHECKED	CORY W. HAWS, SET NICET IV FAS 112381
DATE	5/3/2024
REVISION	0
SCALE	1/8"=1'-0"

FA-1

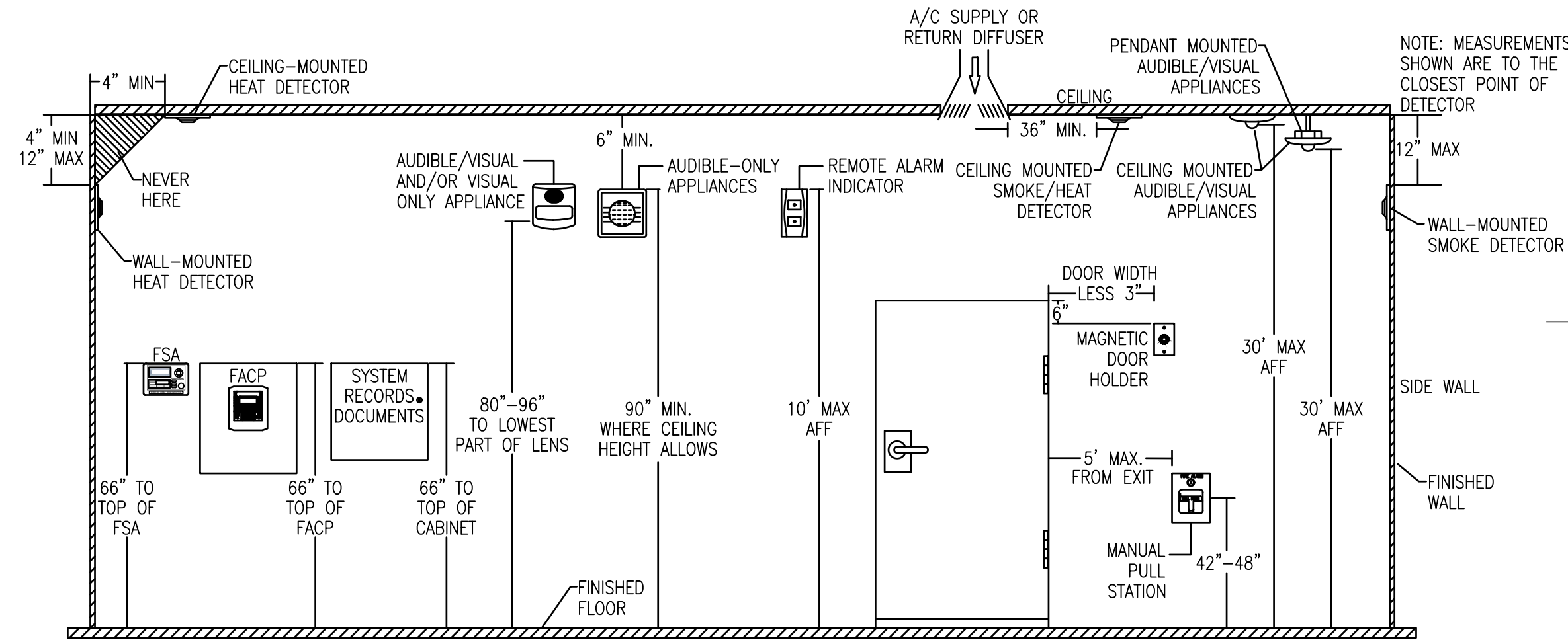
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5784 W. 4600 St.
Hesper, UT 84315
Office: 801.985.0410

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OPERATIONS MATRIX

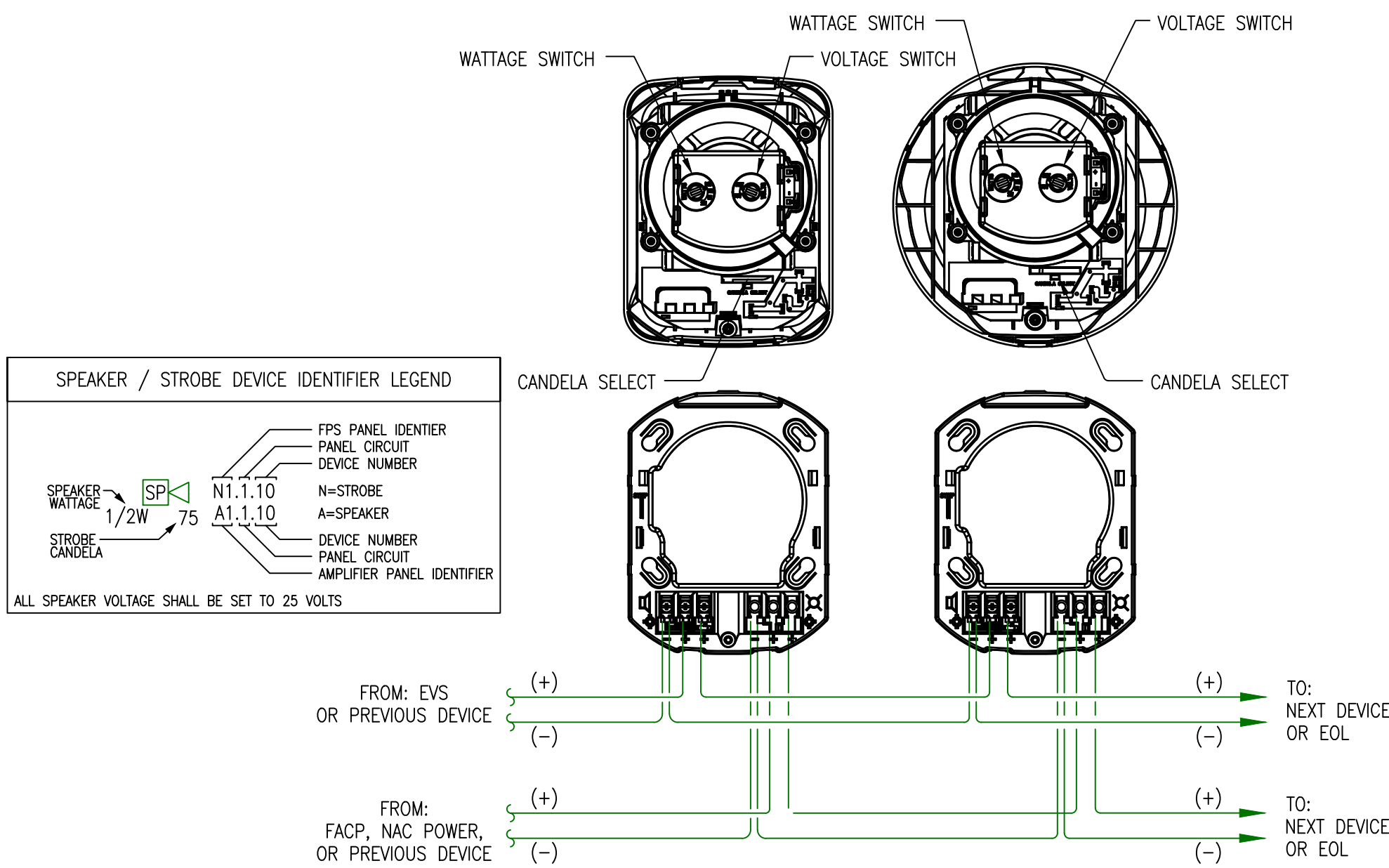
FIRE ALARM INPUT	FIRE ALARM OUTPUT											
	DISPLAY DESCRIPTIVE TEXT AT FACP AND/OR ANNUNCIATOR	ACTIVATE ALARM INDICATOR AT FACP	ACTIVATE AUDIBLE ALARM AT FACP	ACTIVATE SUPERVISORY INDICATOR AT FACP	ACTIVATE AUDIBLE SUPERVISORY SIGNAL AT FACP	ACTIVATE TROUBLE INDICATOR AT FACP	ACTIVATE AUDIBLE TROUBLE INDICATOR AT FACP	TRANSMIT WATERFLOW SIGNAL	TRANSMIT ALARM SIGNAL	TRANSMIT SUPERVISORY SIGNAL	TRANSMIT TROUBLE SIGNAL	ACTIVATE NOTIFICATION APPLIANCES
SMOKE DETECTORS	●	●	●	●	●	●	●	●	●	●	●	●
PULL STATIONS	●	●	●	●	●	●	●	●	●	●	●	●
WATERFLOW SWITCHES	●	●	●	●	●	●	●	●	●	●	●	●
VALVE SUPERVISORY SWITCHES	●	●	●	●	●	●	●	●	●	●	●	●
FIRE ALARM AC POWER FAIL	●	●	●	●	●	●	●	●	●	●	●	●
FIRE ALARM LOW BATTERY	●	●	●	●	●	●	●	●	●	●	●	●
OPEN CIRCUIT	●	●	●	●	●	●	●	●	●	●	●	●
GROUND FAULT	●	●	●	●	●	●	●	●	●	●	●	●
NAC SHORT CIRCUIT	●	●	●	●	●	●	●	●	●	●	●	●
LOSS OF AC TO BUILDING	●	●	●	●	●	●	●	●	●	●	●	●

NOTE: NO NEW INITIATING DEVICES ARE BEING INSTALLED AS PART OF THIS SCOPE OF WORK. EXISTING INPUT/OUTPUT OPERATIONS SHALL REMAIN. NOTIFICATION APPLIANCES ARE BEING REMOVED AND RELOCATED AND SHALL MAINTAIN EXISTING OUTPUT MAPPING.



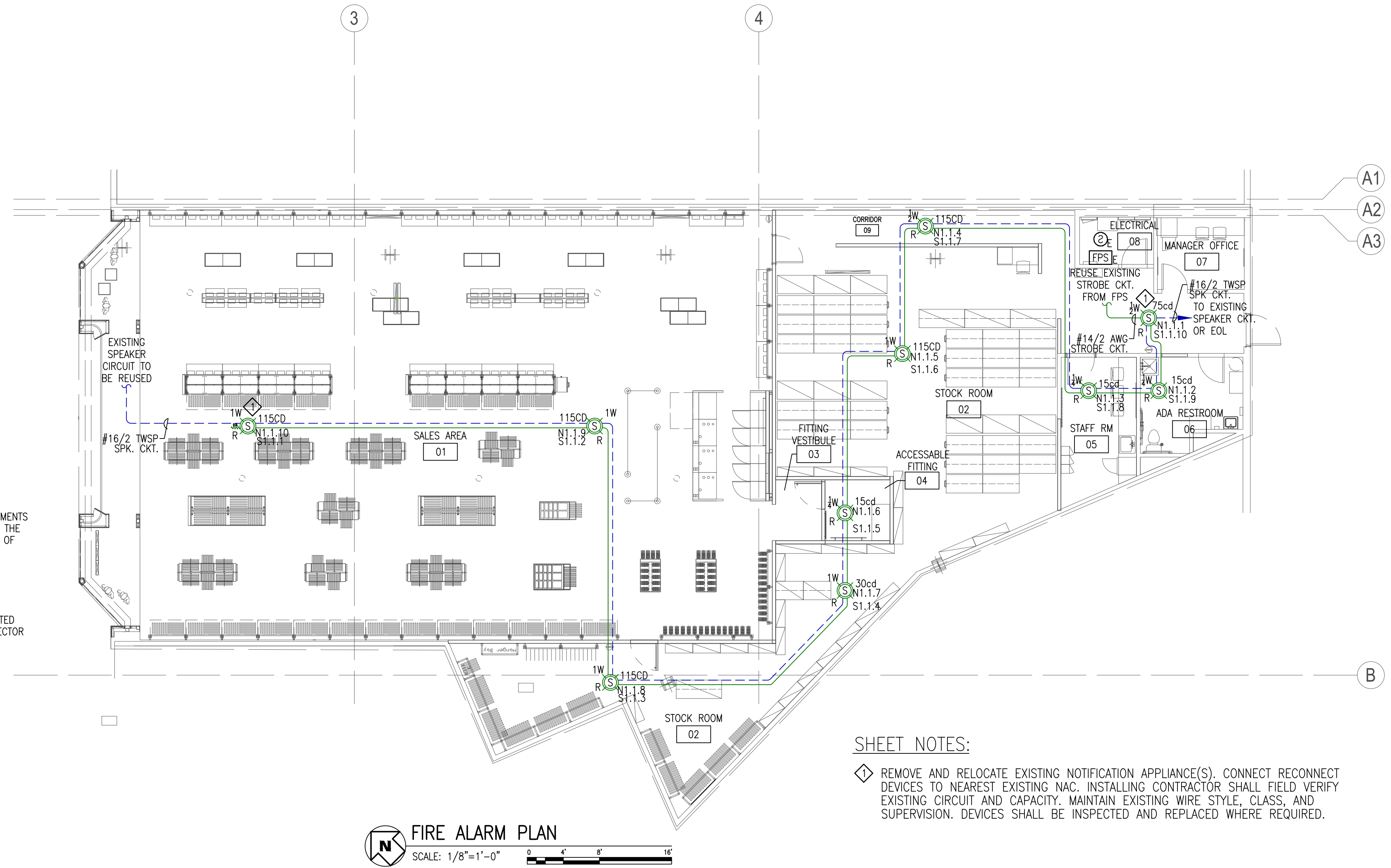
FIRE ALARM DEVICE MOUNTING HEIGHTS

SCALE: NOT TO SCALE



TYPICAL SPEAKER STROBE WIRING DIAGRAM

SCHEMATIC: NO SCALE

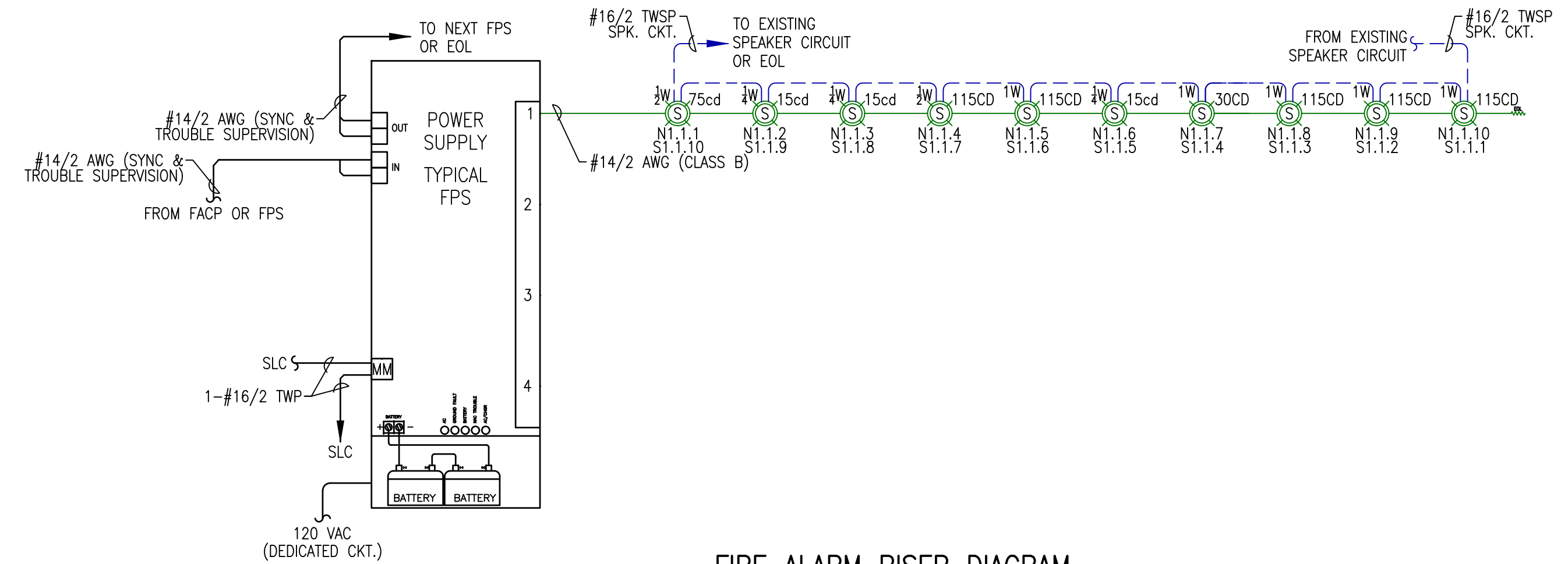


FIRE ALARM PLAN

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

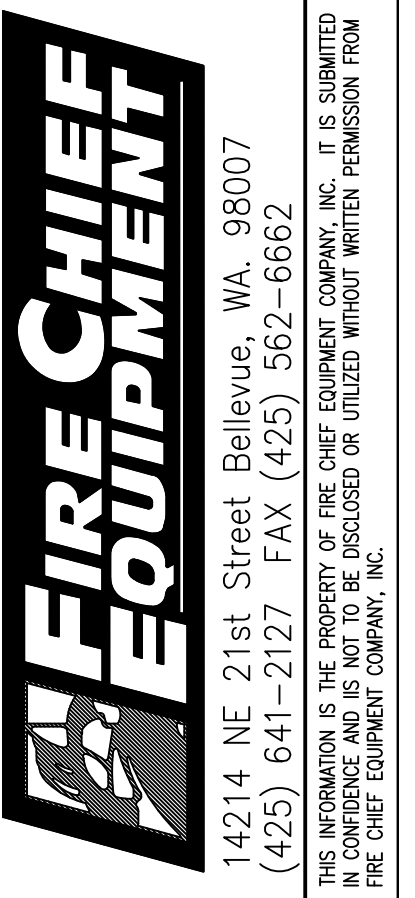
SHEET NOTES:

- ◇ REMOVE AND RELOCATE EXISTING NOTIFICATION APPLIANCE(S). CONNECT RECONNECT DEVICES TO NEAREST EXISTING NAC. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXISTING CIRCUIT AND CAPACITY. MAINTAIN EXISTING WIRE STYLE, CLASS, AND SUPERVISION. DEVICES SHALL BE INSPECTED AND REPLACED WHERE REQUIRED.



FIRE ALARM RISER DIAGRAM

SCHEMATIC: NOT TO SCALE



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