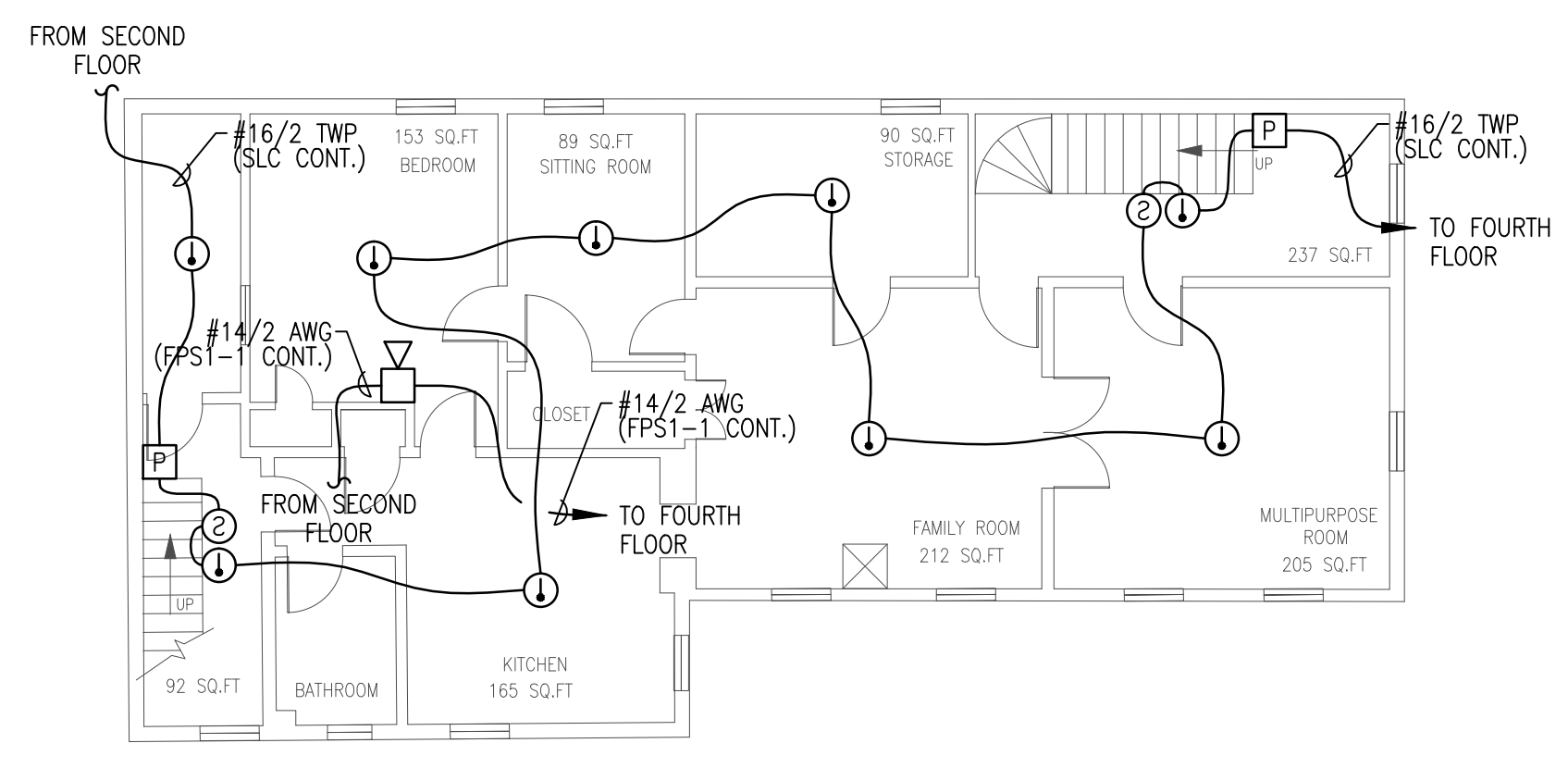


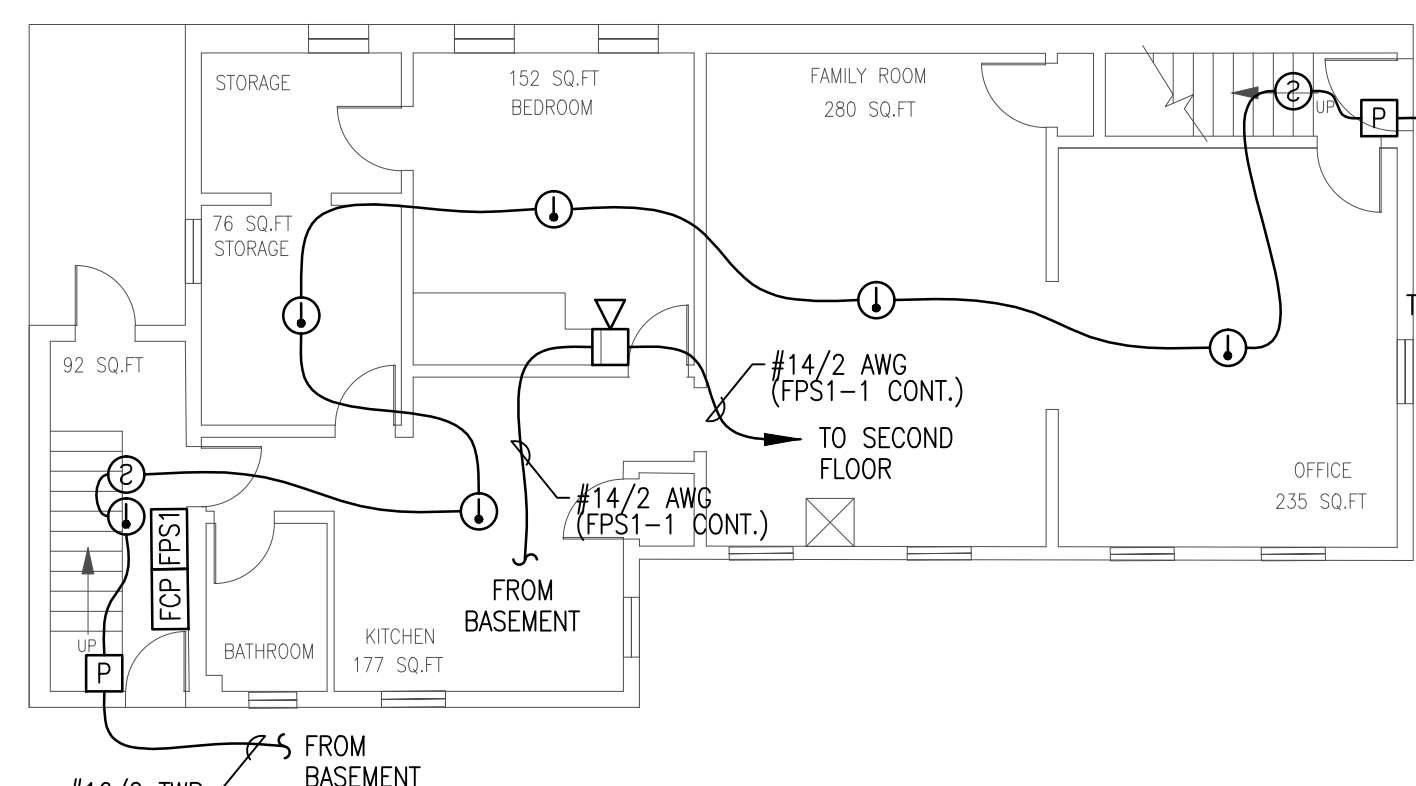
**BASEMENT FIRE ALARM PLAN**

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



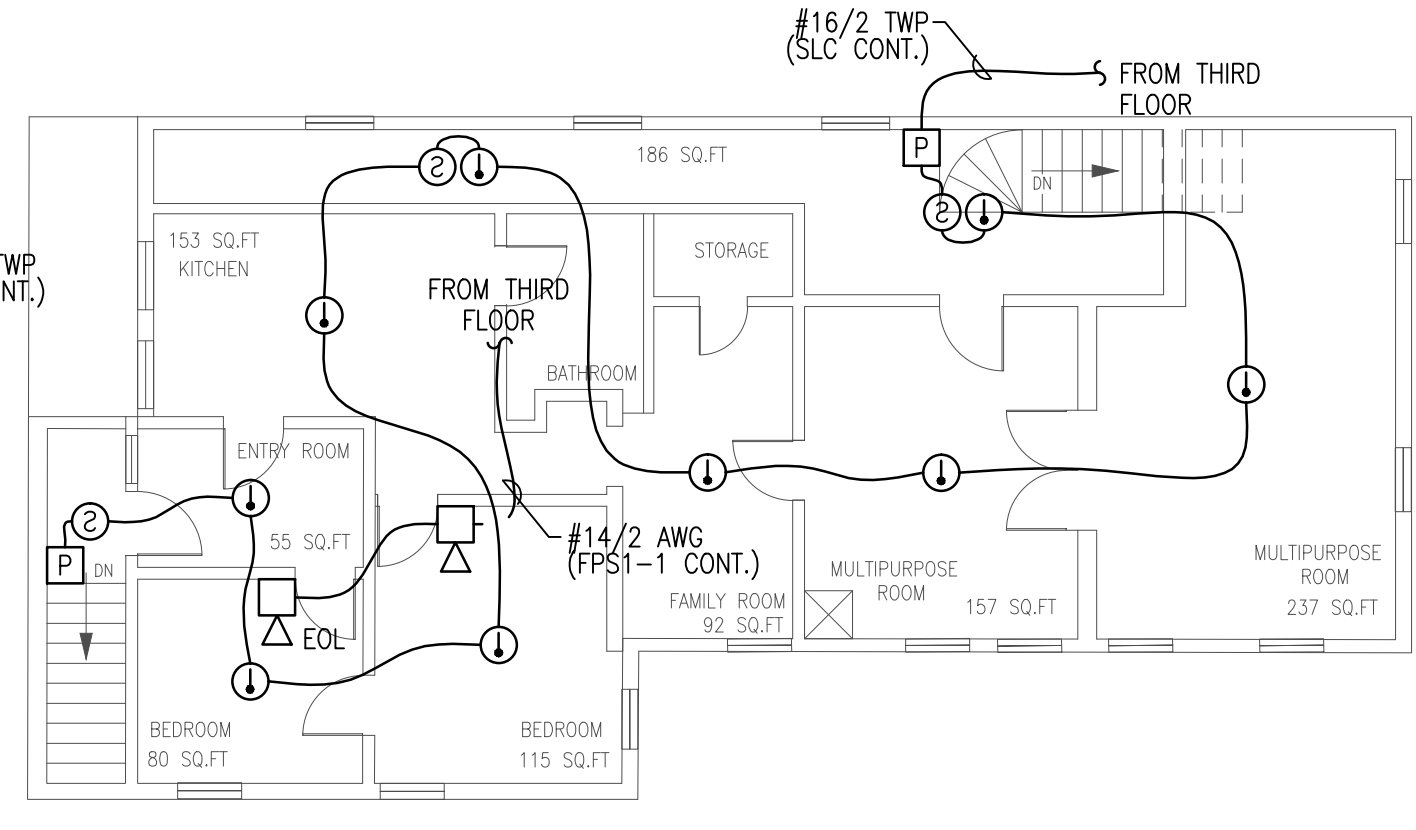
**THIRD FLOOR FIRE ALARM PLAN**

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



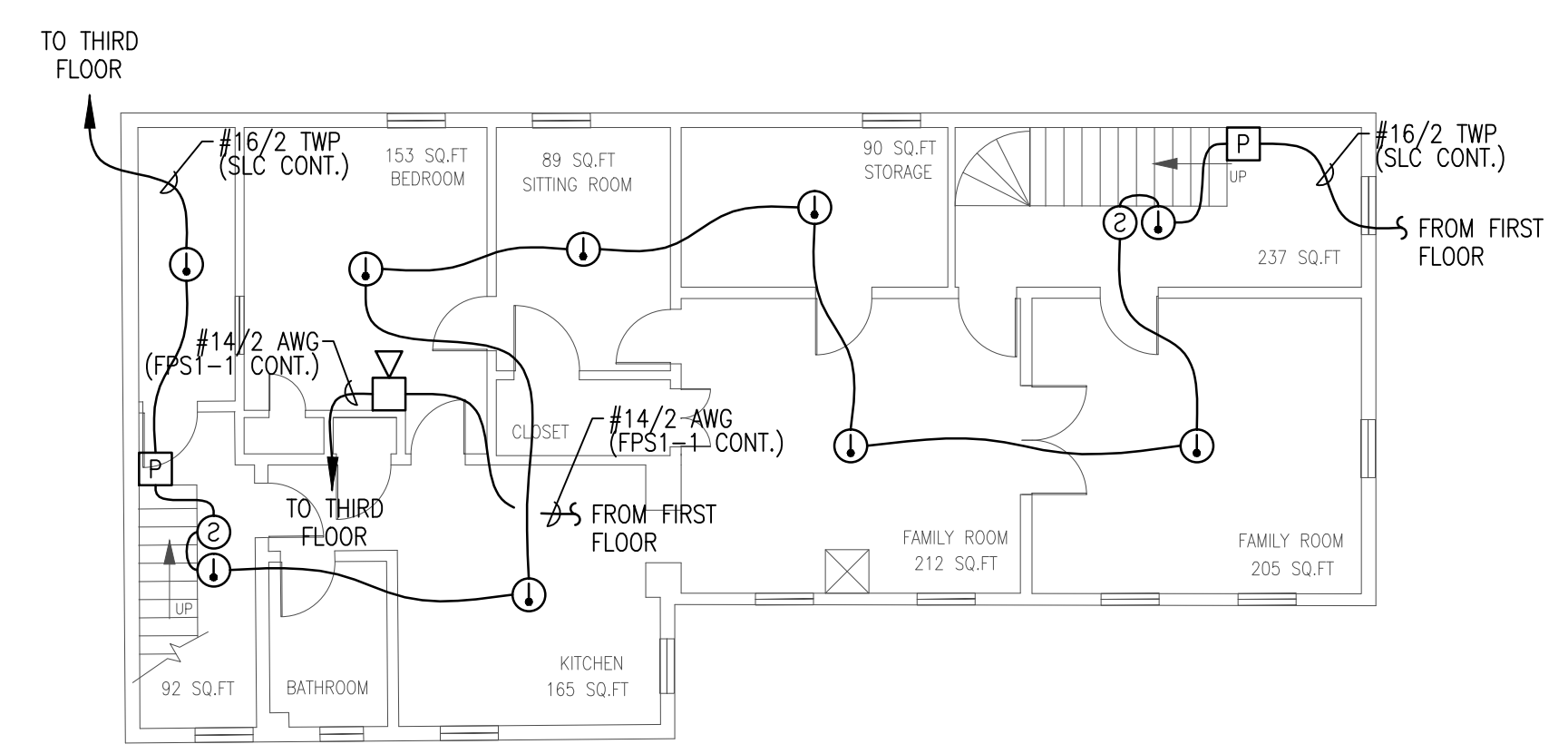
**FIRST FLOOR FIRE ALARM PLAN**

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



**FOURTH FLOOR FIRE ALARM PLAN**

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



**SECOND FLOOR FIRE ALARM PLAN**

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

**GENERAL NOTES:**

- 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.
- 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.
- 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 MINIMUM OF 4" AND A MAXIMUM OF 12" FROM CEILING. CEILING-MOUNTED SMOKE DETECTORS SHALL BE MOUNTED ON CEILINGS AND NOT ON THE BOTTOMS OF BEAMS OR JOISTS.
- PROVIDE SYNCHRONIZATION OF ALL VISUAL NOTIFICATION APPLIANCE CIRCUITS. PROVIDE ALL REQUIRED SYNC MODULES. PROVIDE A MULTI-SYNC MODE SLAVE CONNECTION BETWEEN ALL SYNC MODULES.
- VERIFY ALL FIELD SELECTABLE AUDIBILITY SETTINGS OF NOTIFICATION APPLIANCES WITH FIRE ALARM CONTRACTOR.
- 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 907.15 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.

**FIRE ALARM SYMBOL LEGEND**

NOTE: ALL SYMBOLS MAY NOT BE USED ON THIS PROJECT

SYMBOL	DESCRIPTION	MOUNTING
FCP	FIRE ALARM CONTROL PANEL	WALL-TOP @ 66"
FPS	FIRE ALARM POWER SUPPLY	FIELD VERIFY
FSA	FIRE SYSTEM ANNUNCIATOR	WALL-TOP @ 66"
FSD	FIRE/SMOKE DAMPER	BY OTHERS
⊙	SMOKE DETECTOR	CEILING
⊙	DUCT SMOKE DETECTOR	BY OTHERS
⊙	HEAT DETECTOR	CEILING
SIM	SERIAL INTERFACE MODULE	FIELD VERIFY
CM	ADDRESSABLE CONTROL MODULE	FIELD VERIFY
MM	ADDRESSABLE MONITOR MODULE	FIELD VERIFY
P	MANUAL PULL STATION	WALL @ 48"
R	CONTROL RELAY (MULTI-VOLTAGE)	FIELD VERIFY
RM	ADDRESSABLE RELAY MODULE	FIELD VERIFY
⊙	MAGNETIC DOOR HOLDER	FIELD VERIFY
⊙	WATER FLOW SWITCH	BY OTHERS
⊙	VALVE TAMPER SWITCH	BY OTHERS
⊙	BELL	BY OTHERS
⊙	CEILING MOUNT STROBE	FIELD VERIFY
⊙	CEILING MOUNT HORN / STROBE	FIELD VERIFY
⊙	CEILING MOUNT SPEAKER / STROBE	FIELD VERIFY
⊙	MINI HORN	WALL @ 10'-0"
⊙	HORN / STROBE	WALL 80"-96"
⊙	SPEAKER / STROBE	WALL 80"-96"
⊙	SPEAKER	WALL @ 90"
⊙	STROBE	WALL 80"-96"

ABBREVIATION	DESCRIPTION
E	EXISTING
G	WITH GUARD
P	PENDENT MOUNT
R	RESIDENTIAL (110V)
S	SOUNDER BASE
WP	WEATHER PROOF
EOL	END OF LINE RESISTOR
EOLR	END OF LINE RELAY
AWG	AMERICAN WIRE GAUGE
TWP	TWISTED PAIR
TWSP	TWISTED SHIELDED PAIR
FPLP	FIRE POWER LIMITED PLENUM
FPLR	FIRE POWER LIMITED RISER

SPEAKER WATTAGE (W) 75 STROBE CANDELA 30  
 ⊙ DEVICE ADDRESS ⊙  
 L1D001 OR D01  
 (L - DENOTES LOOP #)  
 (D or M - DENOTES DETECTOR OR MODULE #)  
 ⊙ #16/2 TWP WIRE TYPE ABBREVIATED CONDUCTOR COUNT WIRE SIZE # OF CABLES (IF OMITTED ONLY 1 CABLE NEEDED)

**OPERATIONS MATRIX**

	FIRE ALARM OUTPUT	ACTIVATE ALARM INDICATOR	ACTIVATE AUDIBLE ALARM	ACTIVATE TROUBLE INDICATOR	ACTIVATE AUDIBLE TROUBLE INDICATOR	TRANSMIT ALARM SIGNAL	TRANSMIT TROUBLE SIGNAL
FIRE ALARM INPUT							
SMOKE DETECTORS	●	●	●				
HEAT DETECTORS	●	●	●				
PULL STATIONS	●	●	●				
FIRE ALARM AC POWER FAIL			●	●	●		●
FIRE ALARM LOW BATTERY			●	●	●		●
OPEN CIRCUIT			●	●	●		●
GROUND FAULT			●	●	●		●
NAC SHORT CIRCUIT			●	●	●		●
LOSS OF AC TO BUILDING			●	●	●		●

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	2/7/2013

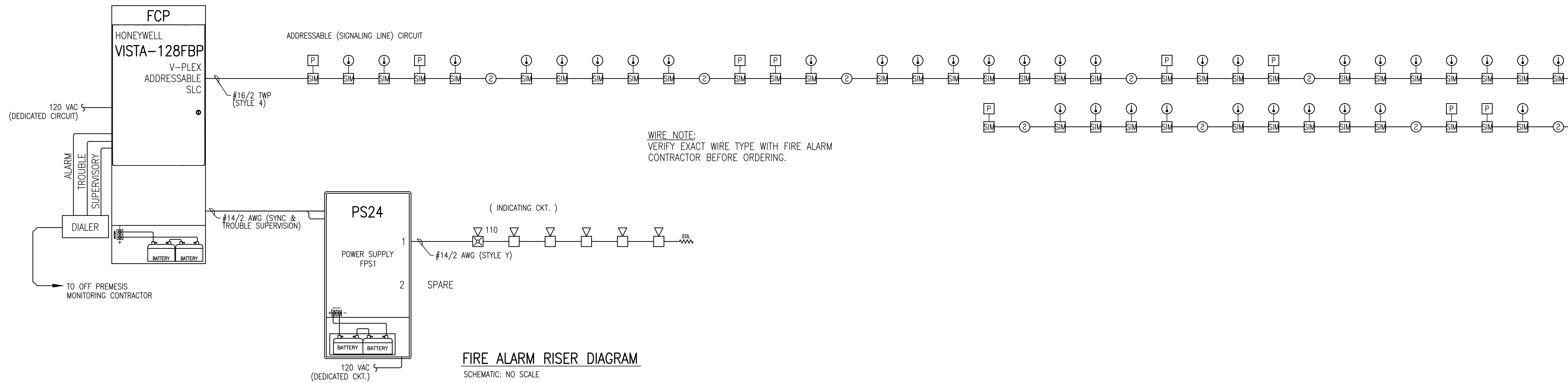
**CUNNINGHAM**  
**Security Systems**  
 10 Princes Point Road, Yarmouth, Maine 04096  
 Office: 207.846.3350 • Fax: 207.846.6080

**33 HAMPSHIRE STREET**  
**PORTLAND, MAINE**  
**FIRE ALARM PLAN**

DRAWN	JPB UNICAD JOB #13041
CHECKED	WAYNE B. HAWS NICET N 90496
DATE	2/4/2013
REVISION	0
SCALE	1/8"=1'-0"

shop drawings created by  
 5784 W. 4900 St.  
 Hesper, UT 84313  
 Office: 801.985.0410  
**UNICAD** Inc.  
 Fire Alarm Design & Drafting Services  
 www.unicad.net

**FA-1**



Facility Information		Standby and Alarm Times		Battery Contingency	
Location:	33 HAMPSHIRE STREET	Battery Standby (hours):	24	Factor:	10%
Account #:		Alarm Duration (minutes):	5		
Model:	Vista-128FBP	Recommended Battery (AH):	13.2		
Engineer:		Recommended Battery Capacity OK for 48-Hr Recharge:			
Date:	2/7/2013				

SELECTED PANEL MAXIMUM OUTPUT RATINGS										
PANEL:	Poling\ (Loop (mA)	Standby Auxiliary Power (mA)	Alarm Auxiliary Power (mA)	Panel Standby Alarm (mA)	Panel Alarm (mA)	Bell #1 Output (mA)	Bell #2 Output (mA)	Maximum Panel Standby Output	Maximum Panel Alarm Output	Max. Battery Supported by Panel
Vista-128FBP	128	1000	1700	300	470	1700	1700	1300	2800	34.4
Calculated Current Draw	76.8	95	250	Calculated Bell Draw		0	0	Total Standby	Total Alarm	
Power Budget	51.2	905.0	1450.0	Bell Power Budget		1700.0	1700.0	1128.2	2473.2	
	Current OK	Current OK	Current OK	Current OK		Current OK	Current OK	Ext. UL Power Req'd (mA):		0.0

AUXILIARY POWERED DEVICES	Enter Quantity	How many powered by 4297?	Standby (aux per)	Alarm Current (aux)	Poling Loop	Total Poling Loop	Total Standby Current	Total Alarm Current	Total External Current Required
PS24 24 VOLT POWER SUPPLY MODULE	1	0	50	100			50	110	

POLLING LOOP DEVICES	Enter Quantity	How many powered by 4297?	Standby (aux per)	Alarm Current (aux)	Poling Loop	Total Poling Loop	Total Standby Current	Total Alarm Current	Total External Current Required
4193SN TWO ZONE SIM	44	0			1.5	66			
5192SD SMOKE DETECTOR	9	0			1.2	10.8			

Standby/Alarm Durations		Battery Contingency	
Battery Standby (hours):	24	Factor:	10%
Alarm Duration (minutes):	5		
Required Capacity (AH):	1.108	Recommended Battery (AH):	7.0
		Recommended Battery Capacity OK for 48-Hr Recharge:	

PS24 POWER SUPPLY MODULE, MAXIMUM CAPACITIES									
Panel 12V Standby (mA)	Panel 12V Alarm (mA)	Output A Standby (mA)	Output A Alarm (mA)	Output B Standby (mA)	Output B Alarm (mA)	PS24 PC Board (mA)	Maximum Panel Standby Output	Maximum Panel Alarm Output	Max. Battery Capacity
472	797	570	1700	570	1700	40	610	4180	34.4
Calculated Current Draw	0.0	0.0	0	55.7	0	0	40	Total Standby	Total Alarm
Power Budget	471.8	796.8	570.0	1143.0	570.0	1700.0	570.0	3583.0	

24V NOTIFICATION APPLIANCES	Enter Quantity	Which PS24 Output	Device Standby Load (mA)	Device Alarm Load (mA)	Subtotal A Standby	Subtotal A Alarm	Subtotal B Standby	Subtotal B Alarm
MINI HORNS	5	A	0	69	0	345	0	0
HORN STROBES (110CD)	1	A	0	212	0	212	0	0

NAC Circuit Voltage Drop Calculation				2/7/2013	
Project Name	33 HAMPSHIRE STREET				
Circuit Number	FPS1-1				
Nominal System Voltage	20.4 volts	Wire Gauge	14	Resistance Per 1000	6.14
Minimum Device Voltage	16 volts	Wire Gauge	14	Resistance Per 1000	6.14
Distance from source to 1st device	20				
Wire Gauge for balance of circuit					
Max Output Current	2.0 amps				
Total Circuit Current	0.557 amps				

Circuit is within limits					
Device	Device Current	Distance previous device	Voltage at Device	Drop from source	Percent Drop
Device 1	0.212		20.33	0.07	0%
Device 2	0.069	30	20.27	0.13	1%
Device 3	0.069	25	20.23	0.17	1%
Device 4	0.069	10	20.21	0.19	1%
Device 5	0.069	20	20.20	0.20	1%
Device 6	0.069	12	20.19	0.21	1%
Totals	0.557	117			

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	2/7/2013

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**33 HAMPSHIRE STREET**  
**PORTLAND, MAINE**

**CALCULATIONS AND RISER DIAGRAM**

DRAWN	JPB UNICAD JOB #13041
CHECKED	WAYNE B. HAWS NICET N 90496
DATE	2/4/2013
REVISION	0
SCALE	NONE

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