

Facility Information		Standby and Alarm Times		Battery Contingency	
Location: 25 RICE STREET		Battery Standby (hours): 24	10%		
Account #:		Alarm Duration (minutes): 5			
Model: Vista-32FB		Recommended Battery (AH): 11.5			
Engineer:		Recommended Battery Capacity OK for 48-Hr Recharge			
Date: 3/12/2014					

SELECTED PANEL MAXIMUM OUTPUT RATINGS										
PANEL:	Poling (mA)	Standby Alarm (mA)	Alarm (mA)	Panel Standby (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-32FB	128	750	1000	300	470	1700	1700	1300	2800	34.4
Calculated Current Draw		14.8	30	Calculated Bell Draw		0	0	Total Standby:	Total Alarm:	105
Power Budget		113.2	660.0	Bell Power Budget		1700.0	1700.0	Standby Budget:	Alarm Budget:	2475.2
Current OK		Current OK	Current OK	Current OK		Current OK	Current OK	Current OK	Current OK	Current OK
External Bell Power Req'd (mA):				Ext. UL Power Req'd (mA):		0.0				0.0

KEYPADS/INTERFACE	Enter Quantity	How many covered by 4897?	Standby (max year)	Alarm Current (Amp)	Poling Loop	Total Poling Loop	Total Standby Current	Total Alarm Current	Total External Current Required
6160CR (PANEL INTERFACE)	1	0	45	150		45	150		
6160CR2 (ANNUNCIATOR)	1	0	45	160		45	150		

POLLING LOOP DEVICES	Enter Quantity	How many covered by 4897?	Standby (max year)	Alarm Current (Amp)	Poling Loop	Total Poling Loop	Total Standby Current	Total Alarm Current	Total External Current Required
4193SN TWO ZONE SIM	8	0			1.5	12			
5192SD SMOKE DETECTOR	1	0			2.8	2.8			

FPS1 Battery Calculation		3/12/2014	
PROJECT NAME: 25 RICE STREET			
Required Standby Time: 24 Hours			
Required Alarm Time: 5 Minutes			
Regulated Load in Standby			
Device Type	Number of Devices	Current (Amps)	Total Current (Amps)
Altronix AL802ULADA	1	0.09000	0.09000
TOTAL STANDBY LOAD			0.09000
Regulated Load in ALARM			
Device Type	Number of Devices	Current (Amps)	Total Current (Amps)
Altronix AL802ULADA	1	0.17500	0.17500
FPS1-1 (See voltage drop calc for device quantity)	1	1.27200	1.27200
FPS1-2	1	0.72900	0.72900
TOTAL ALARM LOAD			2.17600
Battery Requirements			
Standby Load	0.09000	Required Standby Time in Hours	24.00000
Current (Amps)	X	=	2.16000
Alarm Load	2.17600	Required Alarm Time in Hours	0.08333
Current (Amps)	X	=	0.18133
Total Ampere Hours (before derating factor)	2.34133		
Derating Factor	1.2		
TOTAL AMPERE HOURS REQUIRED			2.80960
BATTERIES TO BE PROVIDED (2 - 12v)			7 AH

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.

APPLICABLE CODES:

MAINE UNIFORM ENERGY & BUILDING CODE  
 PORTLAND CITY CODE, CHAPTER 10, FIRE PREVENTION & PROTECTION  
 NFPA 1, FIRE CODE, & NFPA 101, LIFE SAFETY CODE

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
[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
[SIM]	SERIAL INTERFACE MODULE	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
⊙	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

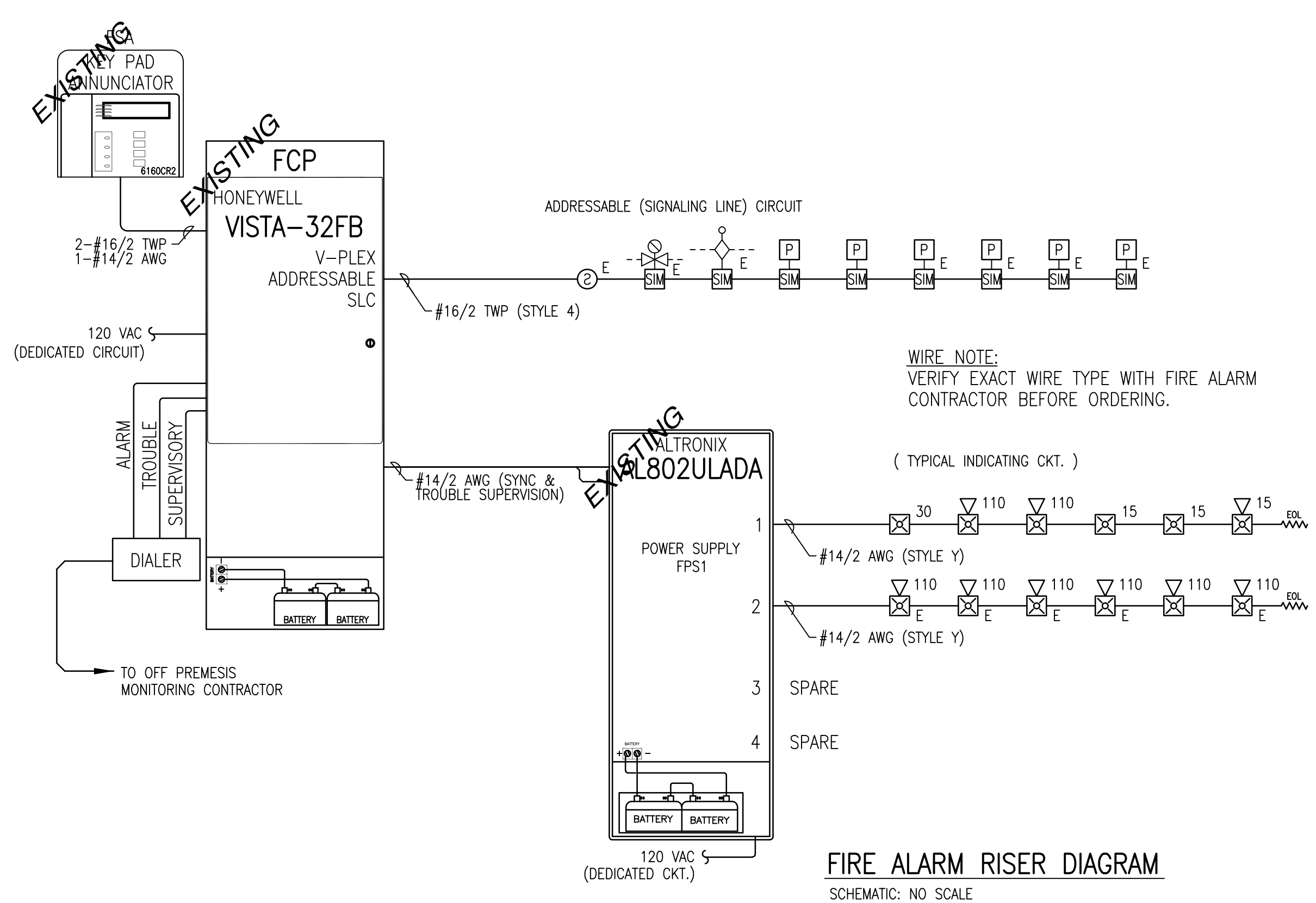
  

WIRE TYPE ABBREVIATED CONDUCTOR COUNT WIRE SIZE # OF CABLES (F OMITTED ONLY 1 CABLE NEEDED)

RESERVED FOR CITY STAMP

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

**SURFACE CREATIONS OF MAINE**  
**25 RICE STREET**  
**PORTLAND, MAINE 04103**  
**CALCS, LEGEND, MATRIX, NOTES, RISER DIAGRAM**



NAC Circuit Voltage Drop Calculation		3/12/2014	
Project Name: 25 RICE STREET			
Circuit Number: FPS1-1			
Nominal System Voltage	20.4 volts	Wire Gauge	Resistance Per 1000
Minimum Device Voltage	16 volts	14	6.14
Distance from source to 1st device	65	14	6.14
Wire Gauge for balance of circuit			
Max Output Current	2.0 amps		
Total Circuit Current	1.272 amps		
Circuit is within limits			
Device	Current	Distance previous device	Voltage at Device
Device 1	0.212		19.89
Device 2	0.212	65	19.47
Device 3	0.212	105	18.92
Device 4	0.212	40	18.77
Device 5	0.212	105	18.49
Device 6	0.212	68	18.40
Totals	1.272	448	

NAC Circuit Voltage Drop Calculation		3/12/2014	
Project Name: 25 RICE STREET			
Circuit Number: FPS1-2			
Nominal System Voltage	20.4 volts	Wire Gauge	Resistance Per 1000
Minimum Device Voltage	105 volts	14	6.14
Distance from source to 1st device		14	6.14
Wire Gauge for balance of circuit			
Max Output Current	2.0 amps		
Total Circuit Current	0.729 amps		
Circuit is within limits			
Device	Current	Distance previous device	Voltage at Device
Device 1	0.094		19.93
Device 2	0.212	34	19.80
Device 3	0.212	12	19.77
Device 4	0.066	34	19.72
Device 5	0.066	14	19.71
Device 6	0.079	11	19.70
Totals	0.729	210	

OPERATIONS MATRIX	FIRE ALARM INPUT										
	FIRE ALARM OUTPUT	ACTIVE ALARM INDICATOR	ACTIVE AUDIBLE ALARM	ACTIVE SUPERVISORY INDICATOR	ACTIVE AUDIBLE SUPERVISORY SIGNAL	ACTIVE TROUBLE INDICATOR	ACTIVE AUDIBLE TROUBLE INDICATOR	TRANSMIT ALARM SIGNAL	TRANSMIT SUPERVISORY SIGNAL	TRANSMIT TROUBLE SIGNAL	RELEASE EGRESS MAGLOCKS/UNLOCK EXITS
SMOKE DETECTORS											
PULL STATIONS											
WATERFLOW SWITCHES											
VALVE TAMPER SWITCHES											
FIRE ALARM AC POWER FAIL											
FIRE ALARM LOW BATTERY											
OPEN CIRCUIT											
GROUND FAULT											
NAC SHORT CIRCUIT											
LOSS OF AC TO BUILDING											

DRAWN	JPB UNICAD JOB #14129
CHECKED	WAYNE B. HAWIS NCET IV 90496
DATE	3/12/2014
REVISION	0
SCALE	NONE