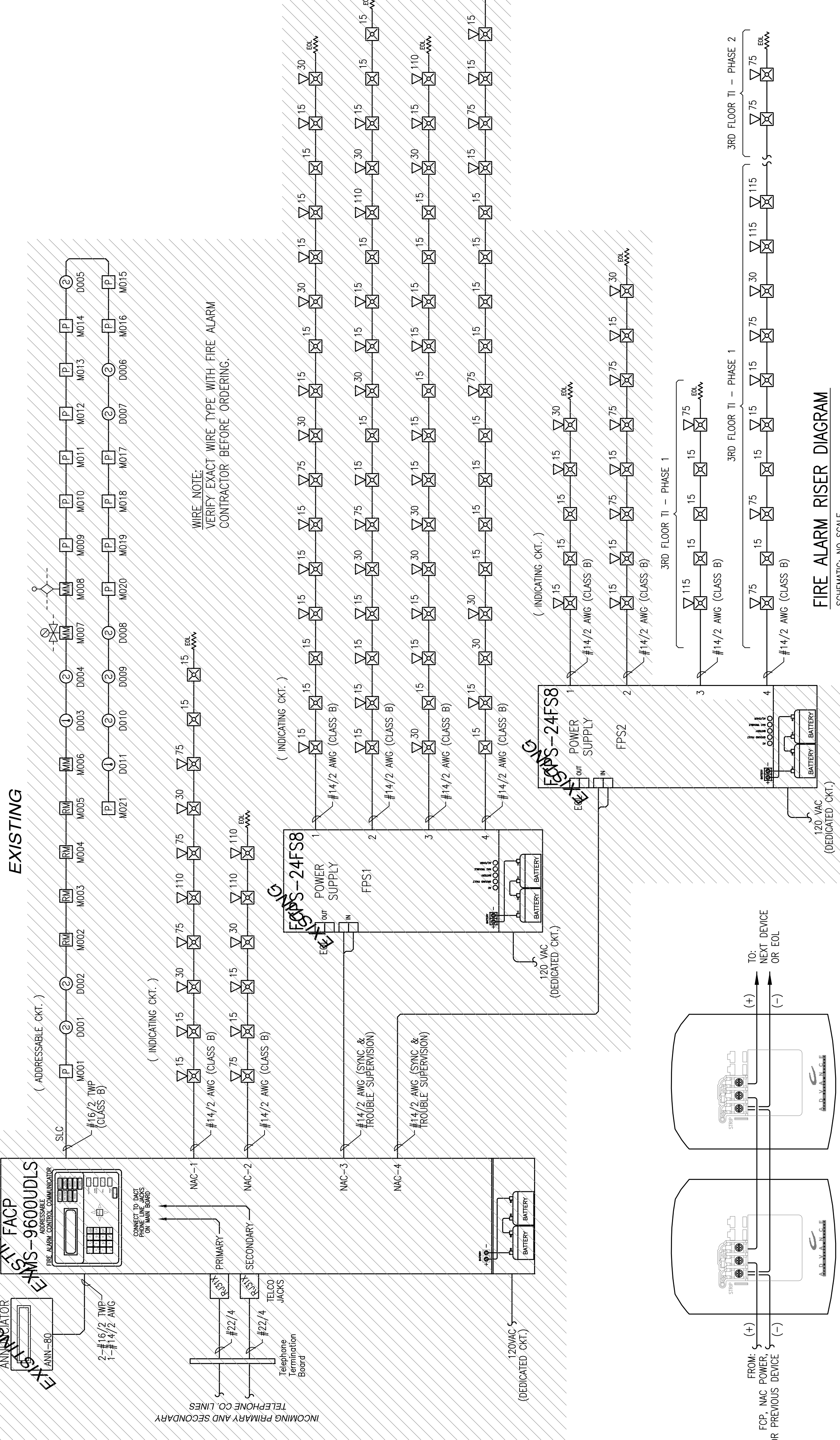


<b>FPS2 Battery Calculation</b>		3/22/2016	
PROJECT NAME: 66 PEARL STREET			
Required Standby Time:	24 Hours		
Required Alarm Time:	5 Minutes		
<b>AC Branch Current</b>			
AC Branch Current:	3 Amps	120V	
<b>Regulated Load in Standby</b>			
Device Type	Number of Devices	Total Current (Amps)	
FPS2-4 FSB Main Circuit Board	1	0.06500	
TOTAL STANDBY LOAD = 0.06500			
<b>Regulated Load in ALARM</b>			
Device Type	Number of Devices	Current (Amps)	Total Current (Amps)
FPS2-4 FSB Main Circuit Board	1	0.14500	0.14500
FPS2-1 (EXISTING)	1	0.39700	0.39700
FPS2-2 (EXISTING)	1	0.95100	0.95100
FPS2-3 (See voltage drop calcs for device quantity)	1	0.59200	0.59200
FPS2-4 (See voltage drop calcs for device quantity)	1	1.71500	1.71500
TOTAL ALARM LOAD = 3.79800			
<b>Battery Requirements</b>			
Standby Load Current (Amps)	0.06500	X	Required Standby Time in Hours = 1.56000
Alarm Load Current (Amps)	3.79800	X	Required Alarm Time in Hours = 0.31650
Derating Factor	1.2	X	
TOTAL AMPERE HOURS REQUIRED = 2.25180			
<b>BATTERIES TO BE PROVIDED (2 - 12V)</b>			
<b>7 AH</b>			

FIRE ALARM SYMBOL LEGEND		
SYMBOL	DESCRIPTION	MOUNTING
FACP	FIRE ALARM CONTROL PANEL	WALL-TOP @ 66"
FPS	FIRE ALARM POWER SUPPLY	FIELD VERIFY
FSA	FIRE SYSTEM ANNUNCIATOR	WALL-TOP @ 66"
⊙	SMOKE DETECTOR	CEILING
⊙	HEAT DETECTOR	CEILING
P	MANUAL PULL STATION	WALL @ 48"
R	CONTROL RELAY (MULTI-VOLTAGE)	FIELD VERIFY
RM	ADDRESSABLE RELAY MODULE	FIELD VERIFY
MM	ADDRESSABLE MONITOR MODULE	FIELD VERIFY
W	WATER FLOW SWITCH	BY OTHERS
V	VALVE TAMPER SWITCH	BY OTHERS
K	KNOX BOX	FIELD VERIFY
⊙	CEILING MOUNT STROBE	FIELD VERIFY
⊙	CEILING MOUNT HORN / STROBE	FIELD VERIFY
⊙	HORN / STROBE	WALL @ 10'-0"
⊙	STROBE	WALL 80"-96"
⊙	STROBE	WALL 80"-96"
ABBREVIATION	DESCRIPTION	
E	EXISTING	
G	WITH GUARD	
P	PENDENT MOUNT	
R	RESIDENTIAL (LITV)	
S	SCOURER 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	
FRP	FIRE POWER LIMITED PLENUM	
FPLR	FIRE POWER LIMITED RISER	

- 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

**OPERATIONS MATRIX**

	FIRE ALARM INPUT	ACTIVATE ALARM INDICATOR	ACTIVATE ALARM	ACTIVATE SUPERVISORY INDICATOR	ACTIVATE SUPERVISORY SIGNAL	ACTIVATE TROUBLE INDICATOR	ACTIVATE AUDIBLE TROUBLE INDICATOR	TRANSMIT ALARM SIGNAL	TRANSMIT SUPERVISORY SIGNAL	TRANSMIT TROUBLE SIGNAL	ACTIVATE ALTERNATE ELEVATOR RECALL	ACTIVATE PRIMARY RECALL	ACTIVATE ELEVATOR SHUNT
SMOKE DETECTORS													
PULL STATIONS													
PRIMARY RECALL FLR, ELEV LOBBY SMOKE DET													
ALTERNATE RECALL FLR, ELEV LOBBY SMOKE DET													
TOP OF ELEV SHAFT SMOKE DET													
ELEVATOR EQUIPMENT ROOM SMOKE DET													
ELEVATOR EQUIPMENT ROOM HEAT DET													
TOP OF ELEV SHAFT HEAT DET													
WATERFLOW SWITCHES													
VALVE TAMPER SWITCHES													
FIRE ALARM AC POWER FAIL													
FIRE ALARM LOW BATTERY													
GROUND FAULT													
NAC SHORT CIRCUIT													
LOSS OF AC TO BUILDING													

**LEGEND, MATRIX, NOTES, RISER DIAGRAM**

**LIQUID**

**66 PEARL STREET**

**PORTLAND, MAINE 04101**

JOB UNICAD JOB #16179  
 DRAWN BY WAYNE B. HANS  
 CHECKED BY NCTE # 90496  
 DATE 3/24/2016  
 REVISION 0  
 SCALE NONE

**FIRE ALARM RISER DIAGRAM**  
 SCHEMATIC: NO SCALE

**TYPICAL 2 WIRE STROBE WIRING DETAIL**  
 SCHEMATIC: NO SCALE