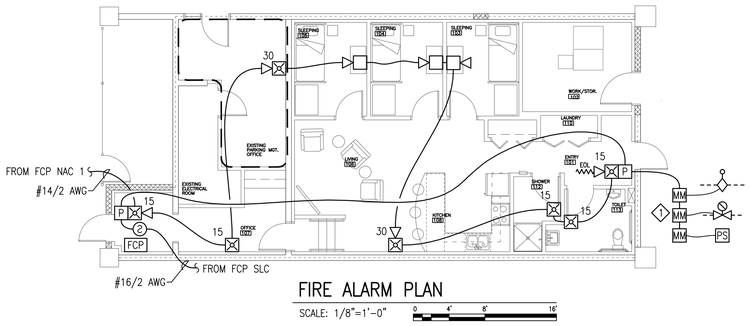
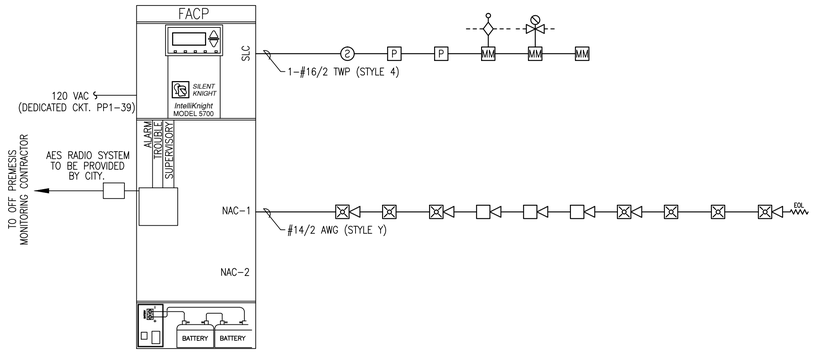


FIRE ALARM PLAN

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



FIRE ALARM RISER DIAGRAM

SCHEMATIC: NO SCALE

SHEET NOTES:

1. ADDRESSABLE MONITOR MODULE(S) PROVIDED TO MONITOR ALL WATER FLOW, PRESSURE SWITCHES, TAMPER SWITCHES AND POST INDICATING VALVES ASSOCIATED WITH THE FIRE SPRINKLER SYSTEM. INSTALLING CONTRACTOR SHALL FIELD VERIFY EXACT MOUNTING, CIRCUITING AND PROGRAMMING REQUIREMENTS. FIELD VERIFY EXACT QUANTITY AND LOCATION(S).

GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
2. INSTALLATION SHALL COMPLY WITH NEC, NFPA 72 AND ALL OTHER APPLICABLE CODES AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
3. 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.
4. FIRE RATINGS SHALL BE MAINTAINED FOR ALL PENETRATIONS THROUGH FIRE-RATED CONSTRUCTION.
5. POWER FOR ALL FIRE ALARM PANELS AND FIRE ALARM POWER SUPPLIES MUST BE PROVIDED BY A DEDICATED AC BRANCH CIRCUIT.
6. 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.
7. 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.
8. WHEN UTILIZING SHIELDED CABLE TIE SHIELDS THROUGH AND INSULATE AT EACH JUNCTION BOX. INSULATE AND TAPE BACK AT END.
9. ALL FIRE ALARM CABLING SHALL BE ACCEPTABLE TO THE FIRE ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE.
10. SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER CONSTRUCTION CLEAN-UP IS COMPLETED AND FINAL.
11. 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.
12. PROVIDE SYNCHRONIZATION OF ALL VISUAL NOTIFICATION APPLIANCE CIRCUITS. PROVIDE ALL REQUIRED SYNC MODULES. PROVIDE A MULTI-SYNC MODE SLAVE CONNECTION BETWEEN ALL SYNC MODULES.
13. VERIFY ALL FIELD SELECTABLE AUDIBILITY SETTINGS OF NOTIFICATION APPLIANCES WITH FIRE ALARM CONTRACTOR.
14. 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.
15. PROVIDE OFF-SITE MONITORING AS REQUIRED BY THE INTERNATIONAL FIRE CODE, SECTION 907.15 AND THE LOCAL AUTHORITY HAVING JURISDICTION.
16. 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.

OPERATIONS MATRIX

FIRE ALARM INPUT	FIRE ALARM OUTPUT: ACTIVATE ALARM INDICATOR	ACTIVATE AUDIBLE ALARM	ACTIVATE SUPERVISORY INDICATOR	ACTIVATE AUDIBLE SUPERVISORY SIGNAL	ACTIVATE TROUBLE INDICATOR	ACTIVATE AUDIBLE TROUBLE INDICATOR	TRANSMIT ALARM SIGNAL	TRANSMIT SUPERVISORY SIGNAL	TRANSMIT TROUBLE SIGNAL
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					●	●			●

FIRE ALARM SYMBOL LEGEND

SYMBOL	DESCRIPTION	MOUNTING
FCP	FIRE ALARM CONTROL PANEL	WALL-TOP @ 66"
(2)	SMOKE DETECTOR	CEILING
MM	ADDRESSABLE MONITOR MODULE	FIELD VERIFY
P	MANUAL PULL STATION	WALL @ 48"
PS	PRESSURE SWITCH	BY OTHERS
	WATER FLOW SWITCH	BY OTHERS
	VALVE TAMPER SWITCH	BY OTHERS
	HORN	WALL @ 10'-0
	HORN / STROBE	WALL 80"-96"
	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

STROBE CANDELA 75 / 30

(2) L1D001 OR D01 — DEVICE ADDRESS (L = DENOTES LOOP #) (D or M = DENOTES DETECTOR OR MODULE #)

1-#16/2 TWP — WIRE TYPE ABBREVIATED; CONDUCTOR COUNT; WIRE SIZE; # OF CABLES (IF OMITTED ONLY 1 CABLE NEEDED)

SILENT KNIGHT
5700 Calculations
Version 12.30.10

Global Project Values:

Project Name:	FIRE BOAT QUARTERS	Standby Hours:	24
Project ID:	13247	Alarm Mins:	5
Prepared By:	DRH	Derating Factor:	1.2
Date:	5/14/2013		

Panel ID: 5700 — Model: 5700 Add. Fire Alarm Control Panel — Max NAC Current: 2.5 Amps
Location: ENTRY — Volts: 24 VDC — Max Panel Current: 2.5 Amps

Ckt.#	Circuit Name	Qty	Current Draw Standby	Current Draw Alarm
5700	5700 CTRL Panel	1	0.200	0.325
SK	Photo, Photo-T	1	0.000	0.000
SK	Monitor, Minimon	3	0.001	0.001
SK	Pull-SA, Pull-DA	2	0.001	0.001
NAC #1	Notification Appl Circuit	cfg	0.000	0.777
NAC #2	Notification Appl Circuit	cfg	0.000	0.000
	Total Standby Current (Amps)		0.202	1.104
	Standby Time In Hours		24	0.083
	Total Standby AH Required		4.851	0.092

"N/A"

Total Alarm Current (Amps)			
Alarm Time In Minutes / 60	(5 Mins)		
Total Alarm AH Required			
Total Combined AH Required	4.94		
Multiply By The Derating Factor	1.20		
Minimum Battery AmpHours Required	5.93		

NAC Circuit Voltage Drop Calculation — 5/14/2013

Project Name	PORTLAND FIRE BOAT QUARTERS		
Circuit Number	NAC 1		
Nominal System Voltage	20.4 volts	Wire Gauge	Resistance Per 1000
Minimum Device Voltage	16 volts		
Distance from source to 1st device	15	14	6.14
Wire Gauge for balance of circuit		14	6.14
Max Output Current	3.0 amps		
Total Circuit Current	0.777 amps		

Circuit is within limits

	Device Current	Distance previous device	Voltage at Device	Drop from source	Percent Drop
Device 1	0.079		20.33	0.07	0%
Device 2	0.066	25	20.22	0.18	1%
Device 3	0.107	30	20.10	0.30	1%
Device 4	0.069	20	20.04	0.36	2%
Device 5	0.069	20	19.98	0.42	2%
Device 6	0.069	10	19.96	0.44	2%
Device 7	0.107	35	19.89	0.51	2%
Device 8	0.066	30	19.85	0.55	3%
Device 9	0.066	10	19.84	0.56	3%
Device 10	0.079	20	19.83	0.57	3%
Totals	0.777	215			

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	5/14/2013

MAINE STATE SECURITY ALARMS
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PORTLAND FIRE BOAT CREW QUARTERS
MAINE STATE PIER
PORTLAND, MAINE
FIRE ALARM PLAN

DRAWN	DRH UNICAD JOB #13247
CHECKED	WAYNE B. HAWS NICET IV 90496
DATE	5/14/2013
REVISION	0
SCALE	1/8"=1'-0"

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