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FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX	SYSTEM OUTPUTS																			
	FACP ANNUNCIATION					NOTIFICATION					REQUIRED FIRE SAFETY CONTROL									
SYSTEM INPUTS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1 FIRE ALARM SYSTEM AC POWER FAILURE																				
2 FIRE ALARM SYSTEM LOW BATTERY																				
3 OPEN CIRCUIT																				
4 GROUND FAULT																				
5 NOTIFICATION APPLIANCE CIRCUIT SHORT																				
6 BUILDING MANUAL PULL STATIONS																				
7 AREA SMOKE DETECTORS																				
8 SPRINKLER WATERFLOW IN BUILDING																				
9 HVAC AIR DUCT SMOKE DETECTORS																				
10 HOOD FIRE SUPPRESSION SYSTEM ALARM																				
11 SPRINKLER TAMPER SWITCH																				
12 BACKFLOW VALVE TAMPER																				
13 FAILURE OF SIGNAL TRANSMISSION																				
14 HEAT DETECTORS																				
15 FIRE PUMP FUEL LEAK																				
16 FIRE PUMP FUEL LOW																				
17 FIRE PUMP RUNNING																				
18 FIRE PUMP SYSTEM NOT IN AUTOMATIC																				
19 FIRE PUMP TEMPERATURE LOW																				
20 FIRE PUMP GENERAL TROUBLE																				
21 DRY SYSTEM HIGH/LOW PRESSURE																				

PANEL REPLACEMENT NOTE "COMPATIBILITY"

THE NEW B95120 PANEL IS A LIKE FOR LIKE REPLACEMENT FOR THE EXISTING D94120V4 PANEL.
PLEASE REFERENCE THE B95120 DATASHEET FIRST PAGE LAST PARAGRAPH FOR CONFIRMATION.

PLAN ABBREVIATIONS

(E)-EXISTING TO REMAIN
(N)-RELOCATE
(N)-NEW

WIRE LEGEND

A	-----	FIRE ALARM SYSTEM 3pr #18 AWG FPL TWISTED
B	-----	EXISTING FIRE ALARM SYSTEM 3pr #18 AWG FPL TWISTED
C	-----	NOTIFICATION CIRCUIT 1pr #12 AWG FPL 2P
D	-----	EXISTING NOTIFICATION CIRCUIT 1pr #12 AWG FPL 2P
PLENUM RATED CABLE FPLP SHALL BE UTILIZED IN PLENUM RATED CEILING AREAS ONLY		
WP = WEATHERPROOF CABLE SHALL BE PROVIDED AS REQUIRED		
(+) POSITIVE CIRCUIT POLARITY (-) NEGATIVE CIRCUIT POLARITY		

ALARM SYMBOLS LEGEND

PLAN SYMBOL	QTY	DEVICE DESCRIPTION	PLAN SYMBOL	QTY	DEVICE DESCRIPTION
FAU	1	NEW FIRE ALARM CONTROL PANEL BOSCH B95120	D8129	1	EXISTING OCTO-RELAY MODULE BOSCH D8129
FAA	4	NEW SYSTEM ANNUNCIATOR AND FIRE ALARM KEYPAD BOSCH B926F	B299	3	NEW POPEX MODULE BOSCH B299
S	1	NEW SMOKE DETECTOR BOSCH FCP-350-PFH (WITH FCA-350-B6R12 BASE)	D1640	1	NEW 16.5 VOLT TRANSFORMER BOSCH D1640
EOL	1	RELAY MODULE PAM-4	D8004	1	EXISTING TRANSFORMER ENCLOSURE BOSCH D8004
NPS	5	EXISTING NOTIFICATION POWER SUPPLY ALTRONIX AL1002UL4A P=UNIT NUMBER	X	115cd	EXISTING CEILING MOUNT HORN/STROBE SYSTEM SENSOR PC2R, 115cd
S	84	EXISTING SMOKE DETECTOR BOSCH D273THE	X	75cd	EXISTING CEILING MOUNT HORN/STROBE SYSTEM SENSOR PC2R, 75cd
F	3	NEW/EXISTING MANUAL PULL STATION BOSCH FPM-10	X	15cd	EXISTING CEILING MOUNT HORN/STROBE SYSTEM SENSOR PC2R, 15cd
AM	196	NEW/EXISTING PORT MODULE BOSCH D9127U	(E)	115cd	EXISTING CEILING MOUNT STROBE SYSTEM SENSOR SCR, 115cd
DOC	1	NEW FIRE ALARM DOCUMENT ENCLOSURE PN: 06-SSJ00685	(E)	75cd	EXISTING CEILING MOUNT STROBE SYSTEM SENSOR SCR, 75cd
B444	1	EXISTING CONETIX PLUG-IN 40 LITE CELLULAR COMMUNICATOR BOSCH B444	(E)	15cd	EXISTING CEILING MOUNT STROBE SYSTEM SENSOR SCR, 15cd
D130	4	EXISTING AUXILIARY RELAY MODULE BOSCH D130	(E)	75cd	EXISTING WALL MOUNT HORN/STROBE SYSTEM SENSOR PC2R, 75cd
D8130	1	EXISTING RELEASE MODULE BOSCH D8130	(N)	15cd	NEW CEILING MOUNT STROBE SYSTEM SENSOR PC2R, 15cd
D192G	1	EXISTING NAC MODULE BOSCH D192G	X	75cd	NEW CEILING MOUNT HORN/STROBE SYSTEM SENSOR PC2RL, 75cd
SA	1	NEW SYNC CIRCUIT MODULE SYSTEM SENSOR MDLR			END OF LINE RESISTOR/DEVICE

SCOPE OF WORK

PANEL BATTERY CALCULATIONS					
DEVICE TYPE	QTY	STANDBY CURRENT	ALARM CURRENT	TOTAL STANDBY CURRENT	TOTAL ALARM CURRENT
FAU - B95120 Control Panel	1	0.180	0.260	0.180	0.260
SYNC Circuit Module MDLR	1	0.010	0.050	0.010	0.050
Notification Appliance Circuit (NAC) Module D192G	1	0.035	0.100	0.035	0.100
Fire Keypad B926F	1	0.035	0.070	0.035	0.070
Plug-in Cellular Communicator B444	1	0.035	0.100	0.035	0.100
POPTS D9127U	200	0.0005	0.0008	0.0005	0.0008
Auxiliary Relay Module D130	4	0.000	0.060	0.000	0.240
12v4w Smk Detector D273THE	1	0.015	0.036	0.015	0.036
Release Module D8130	1	0.007	0.060	0.007	0.060
PopeX Module B299	3	0.035	0.035	0.105	0.105
Octo-Relay Module B8129	1	0.020	0.036	0.020	0.036
TOTALS				0.542	1.217
COMPUTATIONS					
TOTAL AMPS USED IN STANDBY =				0.5420 X 24 HOURS =	13.008 AH
TOTAL AMPS USED IN ALARM =				1.2173 X 5 MINUTES =	0.101 AH
				+ 20% CONTINGENCY	2.622 AH
TOTAL STANDBY BATTERY REQUIREMENTS =					15.731 AH
TOTAL BACKUP BATTERY PROVIDED =					18.00 AH
TOTAL STANDBY BACKUP BATTERY REQUIRED =					15.731 AH
TOTAL BACKUP BATTERY RESERVED =					2.269 AH

Provide (1) 18 AH batteries to provide 18 AH at 12 volts

EXISTING POWER SUPPLY AL1002 BATTERY CALCULATIONS (NPS #3)

DEVICE TYPE	QTY	STANDBY CURRENT	STANDBY CURRENT	ALARM CURRENT	TOTAL ALARM CURRENT
AL1002UL-ADA	1	0.130	0.130	0.300	0.300
CIRCUIT1 (EXISTING)					
CEILING HORN/STROBE PC2R @ 115cd	3			0.218	0.654
CEILING STROBE SCR @ 115cd	3			0.210	0.630
WEATHERPROOF WALL HORN/STROBE @ 75cd	2			0.176	0.352
CIRCUIT2 (EXISTING)					
CEILING HORN/STROBE PC2R @ 115cd	2			0.218	0.436
CEILING STROBE SCR @ 115cd	2			0.210	0.420
CEILING HORN/STROBE PC2R @ 75cd	2			0.176	0.352
CEILING STROBE SCR @ 75cd	1			0.158	0.158
WEATHERPROOF WALL HORN/STROBE @ 75cd	2			0.176	0.352
CIRCUIT3 (REVISD)					
CEILING HORN/STROBE PC2R @ 115cd	3			0.218	0.654
CEILING STROBE SCR @ 115cd	2			0.210	0.420
CEILING HORN/STROBE PC2R @ 75cd	1			0.176	0.176
CEILING STROBE SCR @ 75cd	1			0.158	0.158
CEILING HORN/STROBE PC2R @ 15cd	1			0.079	0.079
CEILING STROBE SCR @ 15cd	2			0.066	0.132
CEILING HORN/STROBE PC2RL @ 75cd	1			0.143	0.143
CIRCUIT4 (EXISTING)					
CEILING HORN/STROBE PC2R @ 115cd	2			0.218	0.436
CEILING STROBE SCR @ 115cd	3			0.210	0.630
CEILING HORN/STROBE PC2R @ 75cd	1			0.176	0.176
CEILING STROBE SCR @ 75cd	1			0.158	0.158
CEILING STROBE SCR @ 15cd	1			0.066	0.066
TOTALS			TOTAL STANDBY	0.130	TOTAL ALARM 6.882
COMPUTATIONS					
TOTAL AMPS USED IN STANDBY =				0.130 X 24 HOURS =	3.120 AH
TOTAL AMPS USED IN ALARM =				6.882 X 5 MINUTES =	0.573 AH
				+ 20% CONTINGENCY	0.738 AH
TOTAL STANDBY BATTERY REQUIREMENTS =					4.432 AH
TOTAL BACKUP BATTERY PROVIDED =					7.000 AH
TOTAL STANDBY BACKUP BATTERY REQUIRED =					4.432 AH
TOTAL BACKUP BATTERY RESERVED =					2.568 AH

Existing (2) 12VDC, 7.0Ah Batteries for 7.0 Ah at 24VDC

VOLTAGE DROP CALCULATION

WIRE GAUGE (#12)					
NAC CIRCUIT	SOURCE VOLTAGE	TOTAL AMP	WIRE LENGTH (FEET)	VOLTAGE DROP	% DROP
NPS #1-1	20.4	1.975	525	4.00	19.62
NPS #3-3	20.4	1.762	570	3.88	19.00

SPICES ARE NOT ACCEPTABLE. RUN NEW WIRE TO NEW AND EXISTING DEVICES. (TYP)

EXISTING POWER SUPPLY AL1002 BATTERY CALCULATIONS (NPS #1)					
DEVICE TYPE	QTY	STANDBY CURRENT	TOTAL STANDBY CURRENT	ALARM CURRENT	TOTAL ALARM CURRENT
AL1002UL-ADA	1	0.130	0.130	0.300	0.300
CIRCUIT1 (REVISED)					
CEILING HORN/STROBE PC2R @ 75cd	5			0.176	0.880
CEILING STROBE SCR @ 75cd	5			0.158	0.790
CEILING STROBE SCR @ 15cd	4			0.066	0.264
CEILING STROBE SCRL @ 15cd	1			0.041	0.041
CIRCUIT2 (EXISTING)					
CEILING HORN/STROBE PC2R @ 115cd	3			0.218	0.654
CEILING STROBE SCR @ 115cd	3			0.210	0.630
CEILING HORN/STROBE PC2R @ 75cd	2			0.176	0.352
CEILING STROBE SCR @ 75cd	2			0.158	0.316
CEILING STROBE SCR @ 15cd	2			0.066	0.132
CIRCUIT3 (EXISTING)					
CEILING HORN/STROBE PC2R @ 115cd	2			0.218	0.436
CEILING STROBE SCR @ 115cd	3			0.210	0.630
CEILING HORN/STROBE PC2R @ 75cd	1			0.176	0.176
CEILING STROBE SCR @ 75cd	1			0.158	0.158
WEATHERPROOF WALL HORN/STROBE @ 75cd	1			0.176	0.176
WEATHERPROOF WALL STROBE @ 75cd	1			0.158	0.158
CIRCUIT4 (EXISTING)					
CEILING HORN/STROBE PC2R @ 115cd	3			0.218	0.654
CEILING STROBE SCR @ 115cd	3			0.210	0.630
CEILING HORN/STROBE PC2R @ 75cd	1			0.176	0.176
CEILING STROBE SCR @ 75cd	1			0.158	0.158
TOTALS		TOTAL STANDBY	0.130	TOTAL ALARM	7.711
COMPUTATIONS					
TOTAL AMPS USED IN STANDBY =				0.130 X 24 HOURS =	3.120 AH
TOTAL AMPS USED IN ALARM =				7.711 X 5 MINUTES =	0.643 AH
				+ 20% CONTINGENCY	0.843 AH
TOTAL STANDBY BATTERY REQUIREMENTS =					4.515 AH
TOTAL BACKUP BATTERY PROVIDED =					7.000 AH
TOTAL STANDBY BACKUP BATTERY REQUIRED =					4.515 AH
TOTAL BACKUP BATTERY RESERVED =					2.485 AH

Existing (2) 12VDC, 7.0Ah Batteries for 7.0 Ah at 24VDC

