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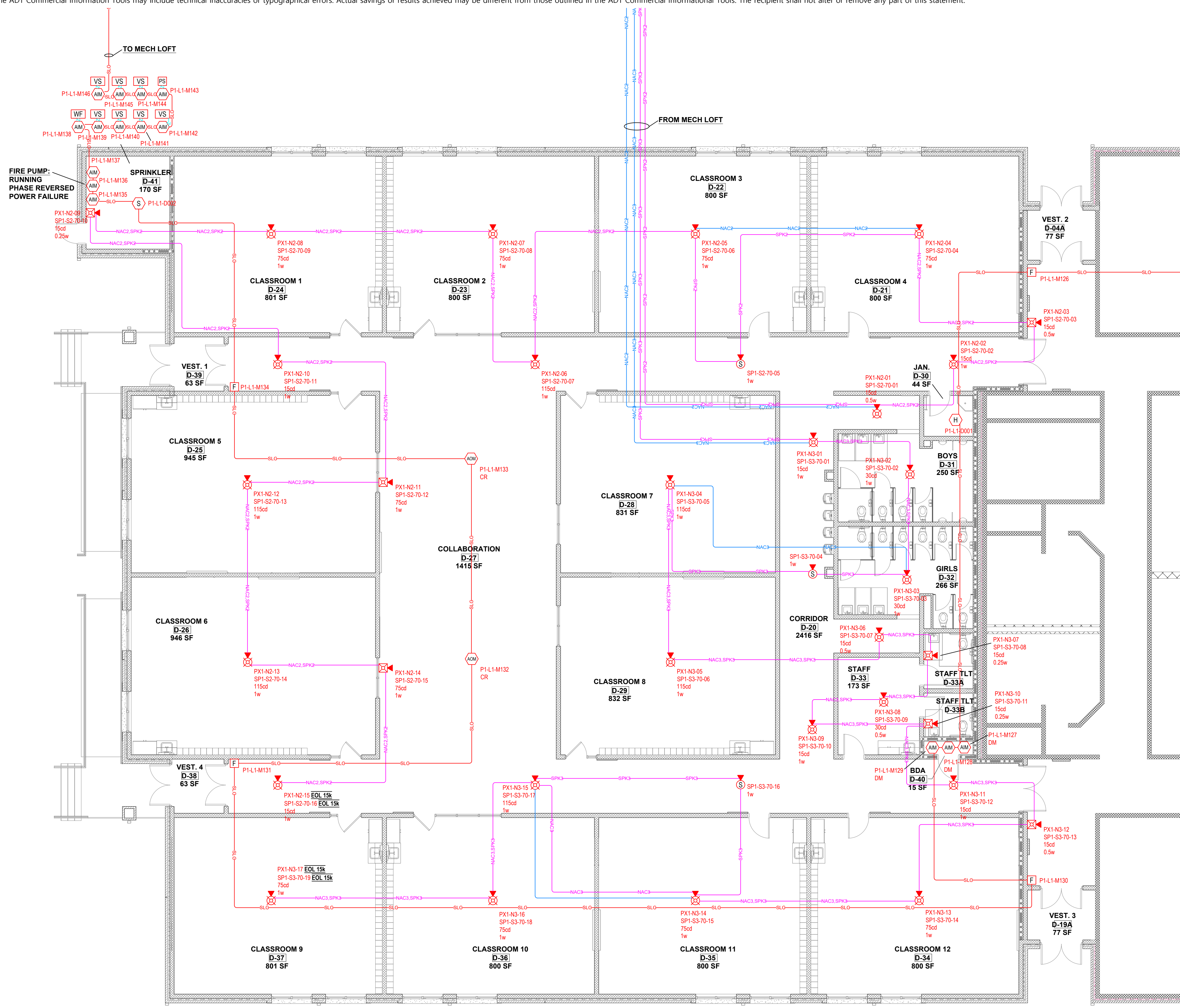
HARNETT COUNTY SCHOOLS
HIGHLAND ELEMENTARY
ADDITION/RENOVATION
1915 BUFFALO LAKE ROAD
SANFORD, NC 27332
FIRE ALARM SYSTEM

REVISIONS

NO.	DATE	REVISION
BY:		
BY:		
BY:		
BY:		
BY:		
BY:		

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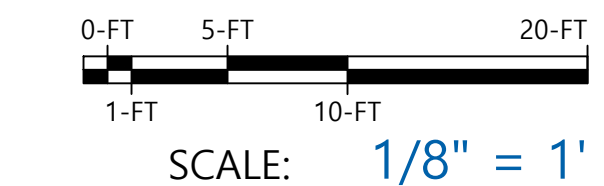
Dated: 01-12-2023
Signed: *James L. Carroll*
James L. Carroll, CET
NICET #: 106506
NICET LEVEL IV
FIRE ALARM SYSTEMS



SYMBOL		QTY	EXISTING	DEVICE LEGEND	MANUFACTURER	PART NO	DESCRIPTION
[TAGU]		1	X	FACP / W CPU, 4 LOOPS, 4 NACS, 4 32A08 AMPLIFIERS, INC. 3-CAB21	EDWARDS	EST3 MAIN FACP	LIQUID CRYSTAL DISPLAY MODULE
[LCD]		1	X	LIQUID CRYSTAL DISPLAY MODULE	EDWARDS	3-LCD	SIGNATURE DUAL DRIVER CONTROLLER (LHM)
[SDDC1]		1	X	SIGNATURE DUAL DRIVER CONTROLLER (LHM)	EDWARDS	3-SDDC1	BACK BOX W/ 14 LRM SPACE W/O DOOR
[CAB14B]		1	X	BACK BOX W/ 14 LRM SPACE W/O DOOR	EDWARDS	3-CAB14B	PRIMARY POWER SUPPLY 120V
[PPSM]		1	X	PRIMARY POWER SUPPLY 120V	EDWARDS	3-PPSM	REMOTE BOOSTER POWER SUPPLY, 6 SA, 120VAC, RED
[BPS6A]		1		REMOTE BOOSTER POWER SUPPLY, 6 SA, 120VAC, RED	EDWARDS	BPS6A	OVERVOLTAGE PROTECTOR CIRCUIT PROTECTION-120V
[DTK120HW]		1		OVERVOLTAGE PROTECTOR CIRCUIT PROTECTION-120V	DITEK	DTK120HW	50W AUDIO
[12V6AS]		2		50W AUDIO	EDWARDS	12V6AS	NOTIFICATION PANEL, RED
[ANS50MDR2]		1		NOTIFICATION PANEL, RED	EDWARDS	ANS50MDR2	ZONE MODULE, 4 CLASS B OR 2 CLASS A CIRCUITS
[ANS24M2A]		1		ZONE MODULE, 4 CLASS B OR 2 CLASS A CIRCUITS	EDWARDS	ANS24M2A	7.2 AH BATTERY
[12V6AS]		2		7.2 AH BATTERY	EDWARDS	12V6AS	
[AIR PRESSURE SWITCH]		1		AIR PRESSURE SWITCH	GENERIC		
[VALVE TAMPER SUPERVISORY SWITCH]		7		VALVE TAMPER SUPERVISORY SWITCH	GENERIC		
[DOUBLE ACTION FIRE ALARM STATION]		4		DOUBLE ACTION FIRE ALARM STATION	EDWARDS	SIGA-278	SIGNATURE SINGLE INPUT SIGNAL SYNCHRONIZATION MODULE
[SIGNAL INPUT MODULE]		1		SIGNAL INPUT MODULE	EDWARDS	SIGA-CC1S	SINGLE INPUT MODULE
[CONTROL RELAY MODULE]		12		CONTROL RELAY MODULE	EDWARDS	SIGA-CT1	DUAL INPUT MODULE
[TEMPERATURE-FIXED HEAT DETECTOR]		3		TEMPERATURE-FIXED HEAT DETECTOR	EDWARDS	SIGA-CT2	INTELLIGENT OPTICAL SMOKE DETECTOR
[TEMPERATURE-FIXED HEAT DETECTOR]		2		TEMPERATURE-FIXED HEAT DETECTOR	EDWARDS	SIGA-CR	MULTISENSOR SMOKE AND HEAT DETECTOR
[INTELLIGENT OPTICAL SMOKE DETECTOR]		1		INTELLIGENT OPTICAL SMOKE DETECTOR	EDWARDS	SIGA-HRD W/SIGA-SB4 BASE	WATERFLOW SWITCH
[MULTISENSOR SMOKE AND HEAT DETECTOR]		2		MULTISENSOR SMOKE AND HEAT DETECTOR	EDWARDS	SIGA-OSD W/SIGA-SB4 BASE	SPEAKER/STROBE, WALL, WHITE, FIRE
[WATERFLOW SWITCH]		14		WATERFLOW SWITCH	EDWARDS	SIGA-OSH W/SIGA-SB4 BASE	SPEAKER/STROBE, WALL, WHITE, FIRE
[SPEAKER/STROBE, WALL, WHITE, FIRE]		7		SPEAKER/STROBE, WALL, WHITE, FIRE	EDWARDS	G4SWF/GRSW	SPEAKER, CEILING, WHITE, FIRE
[SPEAKER, CEILING, WHITE, FIRE]		2	X	SPEAKER, CEILING, WHITE, FIRE	EDWARDS	G4SWF/GRSW	SPEAKER/STROBE, CEILING, WHITE, FIRE
[SPEAKER/STROBE, CEILING, WHITE, FIRE]		3		SPEAKER/STROBE, CEILING, WHITE, FIRE	EDWARDS	GCSWF/GRSW	
		37			EDWARDS	GCSWF/GRSW	

CABLE AND WIRE LEGEND					
LABEL	PART NO	AWG	RESISTANCE (OHM/FT)	DESCRIPTION	TOTAL LENGTH
NAC1	14/2 FPLP (NAC)	14	3.07	2 COND. SOLID COPPER FPLP/IR ANALOG UNSHIELDED	389'
NAC2	14/2 FPLP (NAC)	14	3.07	2 COND. SOLID COPPER FPLP/IR ANALOG UNSHIELDED	481'
NAC3	14/2 FPLP (NAC)	14	3.07	2 COND. SOLID COPPER FPLP/IR ANALOG UNSHIELDED	454'
P	14/2 FPLP/IR (AUX)	14	3.07	2 COND. SOLID COPPER FPLP/IR UNSHIELDED	4'
SLC	16/2 FPLP SLC	16	4.89	2 COND. SOLID COPPER FPLP ADDRESSABLE UNSHIELDED	986'
SPK1	16/2 FPLP (SPEAKER)	16	4.89	2 COND. SOLID COPPER FPLP/IR ANALOG SPEAKER	374'
SPK2	16/2 FPLP (SPEAKER)	16	4.89	2 COND. SOLID COPPER FPLP/IR ANALOG SPEAKER	519'
SPK3	16/2 FPLP (SPEAKER)	16	4.89	2 COND. SOLID COPPER FPLP/IR ANALOG SPEAKER	409'
Z	18/2 FPLP/IR (DC)	18	7.77	2 COND. SOLID COPPER FPLP/IR ANALOG UNSHIELDED	5'

1 FIRST FLOOR ADDITION FIRE ALARM
SCALE: 1/8" = 1'0"



PREPARED BY: **J.Carroll**
CHECKED BY:
PROJECT MANAGER: **B.Heath**
DATE: **01-12-2023**
PROJECT NO: **314275**
TITLE: **FIRE ALARM SHOP DRAWINGS**
SHEET: **FA01**



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FIRE ALARM SYSTEM

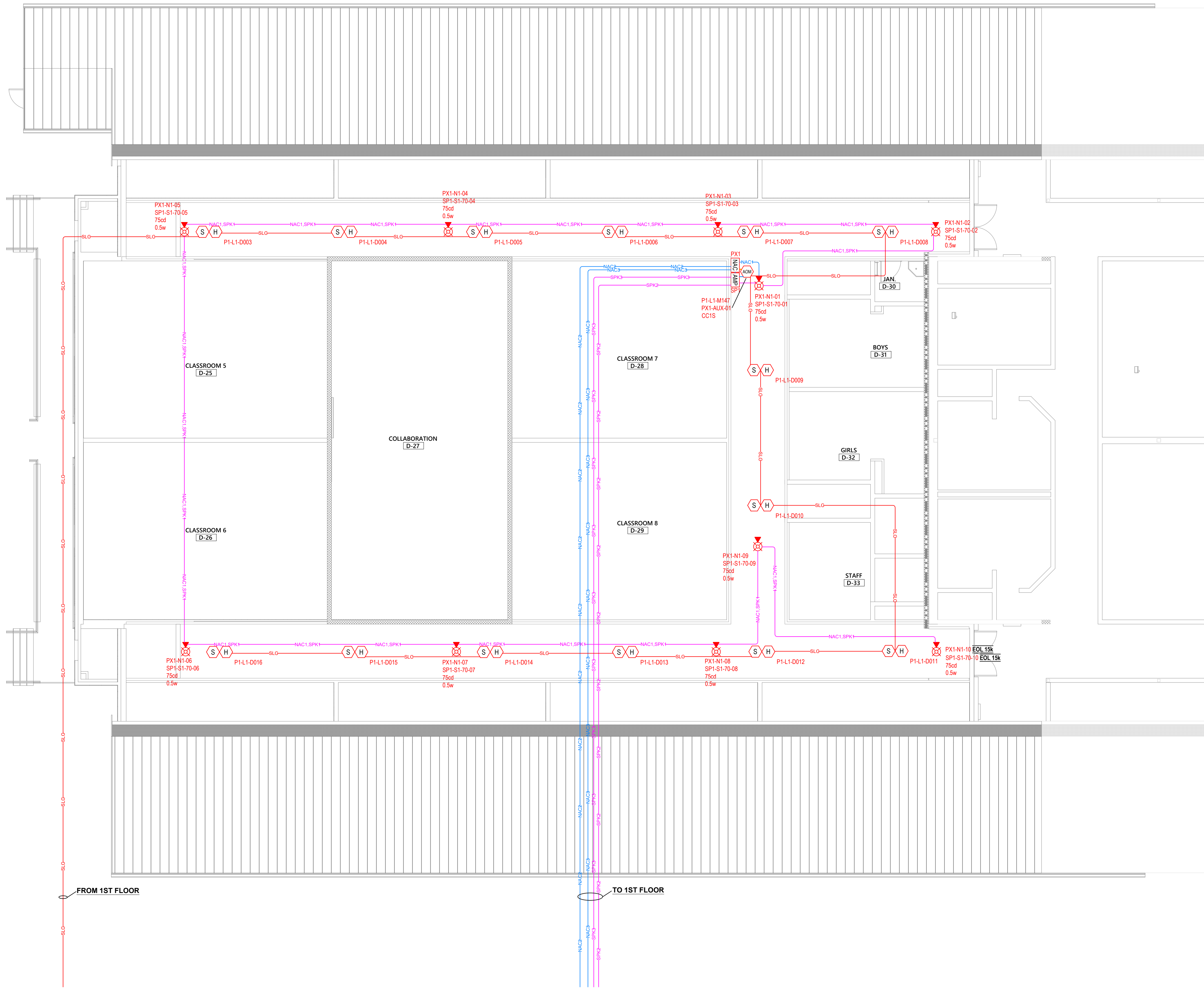
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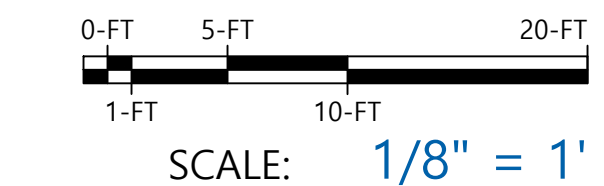
Signed: *James L. Carroll*
James L. Carroll, CET
NICET #: 106506
NICET LEVEL IV
FIRE ALARM SYSTEMS



DEVICE LEGEND				
SYMBOL	QTY	EXISTING	MANUFACTURER	DESCRIPTION
[FACU]	1	X	EDWARDS	EST3 MAIN FACP
	1	X	EDWARDS	3-LCD
	1	X	EDWARDS	3-SDDC1
	1	X	EDWARDS	3-CAB14B
	1	X	EDWARDS	3-PPSM
[NAC]	1		EDWARDS	BPS6A
	1		DITEK	DTK-120HW
	2		EDWARDS	12V6A5
[AMP]	1		EDWARDS	ANS50MR2
	1		EDWARDS	ANSZM4B2A
	2		EDWARDS	12V6A5
[PS]	1		GENERIC	AIR PRESSURE SWITCH
[VTS]	7		GENERIC	VALVE TAMPER SUPERVISORY SWITCH
[F]	4		EDWARDS	SIGA-278
[CCIS]	1		EDWARDS	SIGA-CC1S
[CMI]	12		EDWARDS	SIGA-CT1
[DIM]	3		EDWARDS	SIGA-CT2
[CR]	2		EDWARDS	SIGA-CR
[H]	1		EDWARDS	SIGA-HRD WISIGA-SB4
[S]	2		EDWARDS	SIGA-OSD WISIGA-SB4
[O]	14		EDWARDS	SIGA-OSHD WISIGA-SB4
[WF]	1		GENERIC	WATERFLOW SWITCH
[S]	7		EDWARDS	GASVWFGRSW
[S]	2	X	EDWARDS	GASVWFGRSW
[S]	3		EDWARDS	GCSWFGRSW
[S]	37		EDWARDS	GCSVWFGRSW

CABLE AND WIRE LEGEND				
LABEL	PART NO	AWG	RESISTANCE (D/KFT)	TOTAL LENGTH
NAC1	142 FPLP (NAC)	14	3.07	389'
NAC2	142 FPLP (NAC)	14	3.07	481'
NAC3	142 FPLP (NAC)	14	3.07	454'
P	142 FPLP (AUX)	14	3.07	4'
SLC	16/2 FPLP SLC	16	4.89	986'
SPK1	16/2 FPLP (SPEAKER)	16	4.89	374'
SPK2	16/2 FPLP (SPEAKER)	16	4.89	519'
SPK3	16/2 FPLP (SPEAKER)	16	4.89	469'
Z	18/2 FPLP (IDC)	18	7.77	5'

1 MECHANICAL LOFT FIRE ALARM
SCALE: 1/8" = 1'0"



SCALE: 1/8" = 1'

PREPARED BY: J.Carroll
CHECKED BY:
PROJECT MANAGER: B.Heath
DATE: 01-12-2023
PROJECT NO: 314275
TITLE: FIRE ALARM SHOP DRAWINGS
SHEET: FA02



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FIRE ALARM SYSTEM

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Dated: 01-12-2023
Signed: *James L. Carroll*
James L. Carroll, CET
NICET #: 106506
NICET LEVEL IV
FIRE ALARM SYSTEMS

NOT TO SCALE

PREPARED BY: J.Carroll
CHECKED BY:
PROJECT MANAGER: B.Heath
DATE: 01-12-2023
PROJECT NO: 314275
TITLE:

FIRE ALARM CALCULATIONS

SHEET: **FA04**

PX1 N1 POINT-TO-POINT REPORT										
CIRCUIT SETTINGS							TOTALS			
Starting Calculation Voltage: 19.7							Max. Voltage Drop: 0.41			
Min. Operational Voltage: 16							End Of Line Voltage: 19.29			
Max. Circuit Current (A): 3							Voltage Drop Percent: 2.10 %			
Wire Resistance (Dk/Ft): 3.07							Total Circuit Current (A): 0.35			
Total Circuit Length (Ft): 377							Spare Current (A): 2.65			
Total Circuit Resistance (Ω): 2.315151							Spare Current (A) Percent: 88.33 %			
Circuit Wiring Properties: NAC2 14/2 FPLP (NAC) 14 AWG, 2 Cond. Solid Copper FPLPR Analog Unshielded Distance measured using drawn segment lengths with 10.00 % additional length calculated										
Device Label	Part No.	Description	Device Current (A)	Remaining Current (A)	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent
PX1-N1-01	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.35	5	0.032923	0.01	19.69	0.01	0.06 %
PX1-N1-02	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.315	35	0.217395	0.07	19.62	0.08	0.41 %
PX1-N1-03	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.28	35	0.213765	0.06	19.56	0.14	0.71 %
PX1-N1-04	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.245	43	0.26559	0.07	19.5	0.2	1.04 %
PX1-N1-05	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.21	42	0.259721	0.05	19.44	0.26	1.32 %
PX1-N1-06	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.175	66	0.405848	0.07	19.37	0.33	1.68 %
PX1-N1-07	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.14	43	0.266774	0.04	19.33	0.37	1.87 %
PX1-N1-08	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.105	42	0.25584	0.03	19.31	0.39	2.00 %
PX1-N1-09	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.07	21	0.131898	0.01	19.3	0.4	2.05 %
PX1-N1-10 EOL 15k	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.035	43	0.265407	0.01	19.29	0.41	2.10 %

Calculation Methods:
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)

PX1 N2 POINT-TO-POINT REPORT										
CIRCUIT SETTINGS							TOTALS			
Starting Calculation Voltage: 19.7							Max. Voltage Drop: 0.79			
Min. Operational Voltage: 16							End Of Line Voltage: 18.91			
Max. Circuit Current (A): 3							Voltage Drop Percent: 4.01 %			
Wire Resistance (Dk/Ft): 3.07							Total Circuit Current (A): 0.497			
Total Circuit Length (Ft): 481							Spare Current (A): 2.503			
Total Circuit Resistance (Ω): 2.953278							Spare Current (A) Percent: 83.43 %			
Circuit Wiring Properties: NAC2 14/2 FPLP (NAC) 14 AWG, 2 Cond. Solid Copper FPLPR Analog Unshielded Distance measured using drawn segment lengths with 10.00 % additional length calculated										
Device Label	Part No.	Description	Device Current (A)	Remaining Current (A)	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent
PX1-N2-01	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 15cd	0.035	0.497	50	0.307	0.15	19.55	0.15	0.77 %
PX1-N2-02	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 15cd	0.035	0.462	18	0.18964	0.05	19.5	0.2	1.03 %
PX1-N2-03	G4SWVF	Speaker/Strobe, Wall, White, FIRE 15cd	0.028	0.427	18	0.111205	0.05	19.45	0.25	1.27 %
PX1-N2-04	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.399	31	0.190972	0.06	19.37	0.33	1.66 %
PX1-N2-05	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.364	36	0.221525	0.08	19.29	0.41	2.07 %
PX1-N2-06	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 115cd	0.035	0.329	45	0.278867	0.09	19.2	0.5	2.53 %
PX1-N2-07	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.294	26	0.161096	0.05	19.15	0.55	2.77 %
PX1-N2-08	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.259	35	0.213626	0.06	19.1	0.6	3.05 %
PX1-N2-09	G4SWVF	Speaker/Strobe, Wall, White, FIRE 15cd	0.028	0.224	31	0.188046	0.04	19.06	0.64	3.27 %
PX1-N2-10	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 15cd	0.035	0.196	52	0.321329	0.06	18.99	0.71	3.59 %
PX1-N2-11	G4SWVF	Speaker/Strobe, Wall, White, FIRE 15cd	0.028	0.161	36	0.218261	0.04	18.96	0.74	3.77 %
PX1-N2-12	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 115cd	0.035	0.133	21	0.127943	0.02	18.94	0.76	3.85 %
PX1-N2-13	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 115cd	0.035	0.098	27	0.163286	0.02	18.93	0.77	3.93 %
PX1-N2-14	G4SWVF	Speaker/Strobe, Wall, White, FIRE 75cd	0.028	0.063	21	0.127729	0.01	18.92	0.78	3.97 %
PX1-N2-15 EOL 15k	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 15cd	0.035	0.035	35	0.213429	0.01	18.91	0.79	4.01 %

Calculation Methods:
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)

PX1 N3 POINT-TO-POINT REPORT										
CIRCUIT SETTINGS							TOTALS			
Starting Calculation Voltage: 19.7							Max. Voltage Drop: 0.85			
Min. Operational Voltage: 16							End Of Line Voltage: 18.85			
Max. Circuit Current (A): 3							Voltage Drop Percent: 4.32 %			
Wire Resistance (Dk/Ft): 3.07							Total Circuit Current (A): 0.574			
Total Circuit Length (Ft): 454							Spare Current (A): 2.426			
Total Circuit Resistance (Ω): 2.788397							Spare Current (A) Percent: 80.87 %			
Circuit Wiring Properties: NAC2 14/2 FPLP (NAC) 14 AWG, 2 Cond. Solid Copper FPLPR Analog Unshielded Distance measured using drawn segment lengths with 10.00 % additional length calculated										
Device Label	Part No.	Description	Device Current (A)	Remaining Current (A)	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent
PX1-N3-01	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 15cd	0.035	0.574	50	0.307	0.18	19.52	0.18	0.89 %
PX1-N3-02	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 30cd	0.035	0.539	19	0.114771	0.06	19.46	0.24	1.21 %
PX1-N3-03	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 30cd	0.035	0.504	15	0.09176	0.05	19.42	0.28	1.44 %
PX1-N3-04	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 115cd	0.035	0.469	51	0.312802	0.15	19.27	0.43	2.19 %
PX1-N3-05	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 115cd	0.035	0.434	27	0.163556	0.07	19.2	0.5	2.55 %
PX1-N3-06	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 15cd	0.035	0.399	36	0.221902	0.09	19.11	0.59	3.00 %
PX1-N3-07	G4SWVF	Speaker/Strobe, Wall, White, FIRE 15cd	0.028	0.364	10	0.063513	0.02	19.09	0.61	3.12 %
PX1-N3-08	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 30cd	0.035	0.336	13	0.07845	0.03	19.06	0.64	3.25 %
PX1-N3-09	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 15cd	0.035	0.301	14	0.087527	0.03	19.03	0.67	3.38 %
PX1-N3-10	G4SWVF	Speaker/Strobe, Wall, White, FIRE 15cd	0.028	0.266	18	0.110514	0.03	19	0.7	3.53 %
PX1-N3-11	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 15cd	0.035	0.238	19	0.116338	0.03	18.98	0.72	3.67 %
PX1-N3-12	G4SWVF	Speaker/Strobe, Wall, White, FIRE 15cd	0.028	0.203	19	0.113652	0.02	18.95	0.75	3.79 %
PX1-N3-13	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.175	28	0.173499	0.03	18.92	0.78	3.94 %
PX1-N3-14	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.14	35	0.214626	0.03	18.89	0.81	4.10 %
PX1-N3-15	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 115cd	0.035	0.105	42	0.257725	0.03	18.87	0.83	4.23 %
PX1-N3-16	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.07	24	0.146071	0.01	18.86	0.84	4.29 %
PX1-N3-17 EOL 15k	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0.035	0.035	35	0.214491	0.01	18.85	0.85	4.32 %

Calculation Methods:
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)

1 VOLTAGE DROP CALCULATIONS - PX1

PANEL PX1 (BPS6A) BATTERY CALCULATION									
(SECONDARY POWER SOURCE REQUIREMENTS)									
PANEL COMPONENTS		QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	STANDBY CURRENT (AMPS)	SECONDARY ALARM CURRENT (AMPS)	TOTAL
CIRCUIT		QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)	
PX1-AUX	CCIS	1	SIGA-CCIS	Mainboard for BPS6A assembly	0.07	0.07	0.27	0.27	0.27
PX1-N1		10	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 75cd	0	0	0.035	0.35	0.35
PX1-N2		4	G4SWVF	Speaker/Strobe, Wall, White, FIRE 15cd	0	0	0.028	0.112	0.112
		11	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 15cd	0	0	0.035	0.385	0.385
PX1-N3		3	G4SWVF	Speaker/Strobe, Wall, White, FIRE 15cd	0	0	0.028	0.084	0.084
		14	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 30cd	0	0	0.035	0.49	0.49
TOTAL STANDBY (A)							0.07	TOTAL ALARM (A)	1.691
SECONDARY STANDBY LOAD (A)							0.07	REQUIRED STANDBY TIME = 24 HOURS	1.68
SECONDARY ALARM LOAD (A)							1.691	REQUIRED ALARM TIME = 15 MINUTES	0.42
STANDBY AND ALARM SUBTOTAL (AMP HOURS)							24	1.2	
DERATING FACTOR								2.1	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)								2.52	
PROVIDE (2) 12V 7AH BATTERIES									
*BATTERY BOX SIZE CAPACITY NOT SPECIFIED. REFER TO MANUFACTURER DOCUMENTATION.									

PANEL SP1 (ANS50MR2) BATTERY CALCULATION										
(SECONDARY POWER SOURCE REQUIREMENTS)										
PANEL COMPONENTS		QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	STANDBY CURRENT (AMPS)	SECONDARY ALARM CURRENT (AMPS)	TOTAL	
CIRCUIT		QTY	PART NO.	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)		
SP1-S1-70		10	GCSWVF	50 Watt audio notification module with DMR and microphone	0.15	0.15	0.8	0.8	0.8	
SP1-S2-70		1	ANSZMB2A	Zone Module, 4 Class B or 2 Class A circuits	0.015	0.015	0.035	0.035	0.035	
		1	G4SWVF	Speaker/Strobe, Ceiling, White, FIRE 0.5w	0	0	0	0	0	
		1	G4SWVF	Speaker/Strobe, Wall, White, FIRE 0.25w	0	0	0	0	0	
		1	G4SWVF	Speaker/Strobe, Wall, White, FIRE 0.5w	0	0	0	0	0	
		2	G4SWVF	Speaker/Strobe, Wall, White, FIRE 1w	0	0	0	0	0	
		1	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 0.5w	0	0	0	0	0	
		10	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 1w	0	0	0	0	0	
		1	GCSWF	Speaker, Ceiling, White, FIRE 1w	0	0	0	0	0	
	SP1-S3-70		2	G4SWVF	Speaker/Strobe, Wall, White, FIRE 0.25w	0	0	0	0	0
			1	G4SWVF	Speaker/Strobe, Wall, White, FIRE 0.5w	0	0	0	0	0
		2	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 0.5w	0	0	0	0	0	
		12	GCSWVF	Speaker/Strobe, Ceiling, White, FIRE 1w	0	0	0	0	0	
	2	GCSWF	Speaker, Ceiling, White, FIRE 1w	0	0	0	0	0		
TOTAL STANDBY (A)							0.165	TOTAL ALARM (A)	0.835	
SECONDARY STANDBY LOAD (A)							0.165	REQUIRED STANDBY TIME = 24 HOURS	3.96	
SECONDARY ALARM LOAD (A)							0.835	REQUIRED ALARM TIME = 15 MINUTES	0.21	
STANDBY AND ALARM SUBTOTAL (AMP HOURS)							24	4.17		
DERATING FACTOR								1.2		
SECONDARY LOAD REQUIREMENTS (AMP HOURS)								5		
PROVIDE (2) 12V 7AH BATTERIES										
*BATTERY BOX SIZE CAPACITY NOT SPECIFIED. REFER TO MANUFACTURER DOCUMENTATION.										

2 BATTERY CALCULATIONS - PX1/SP1

Project: Highland Elementary FA Shop Drawings Date: 1/12/2023													
Speaker Schedule Summary													
Source: Voltage: 0v Watts: 0													
PANEL/CIRCUIT	G4SWVF			GCSWVF			WATTS	CIRCUIT LENGTH	START VOLTAGE	DECIBEL LOSS	AWG	OHMS/KFT	TOTAL RESISTANCE (OHMS)
RATING	0.25w	0.5w	1w										