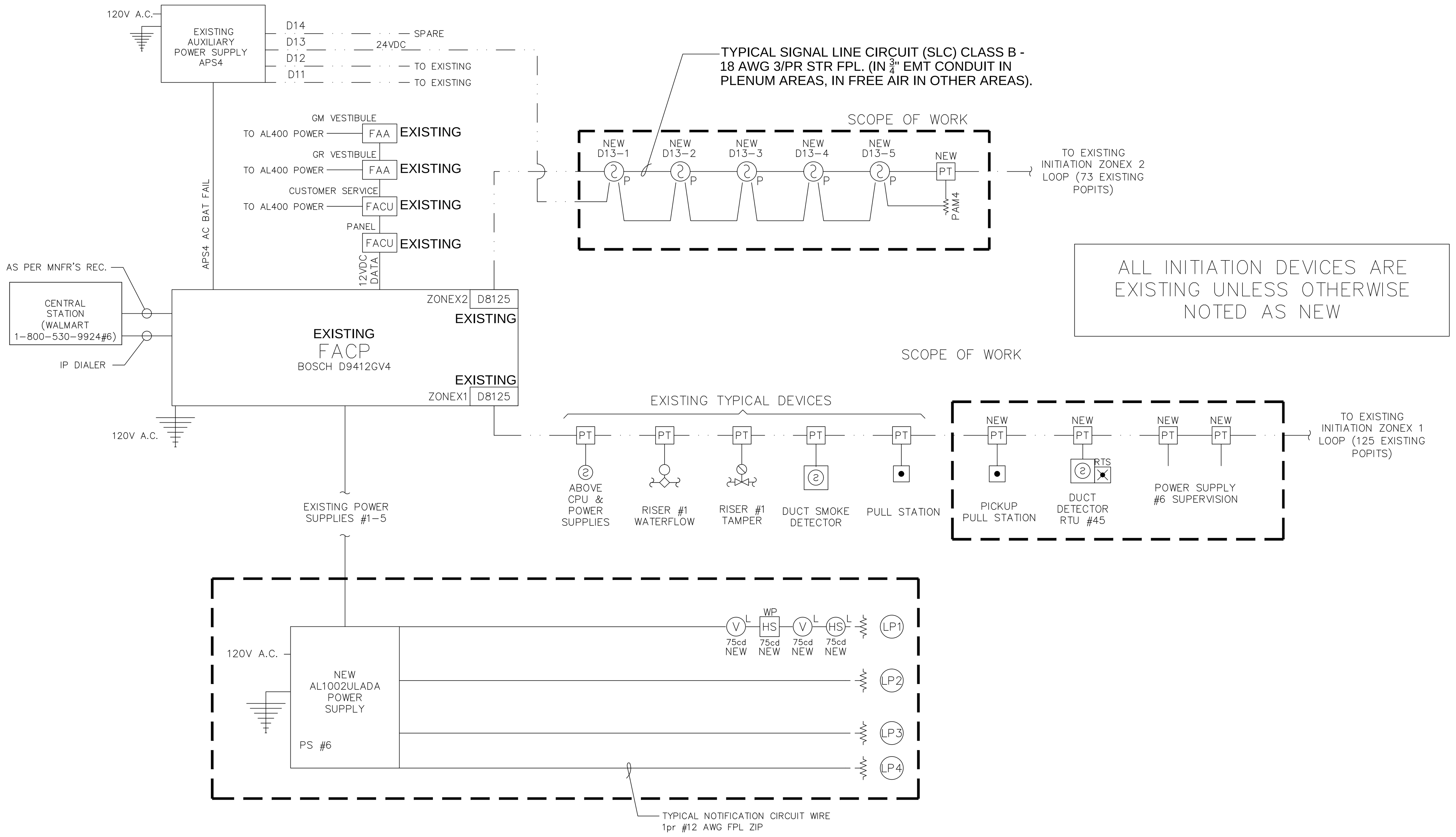

RISER DIAGRAM

FIRE ALARM SYMBOLS LEGEND

SYMBOL	QTY	DESCRIPTION	MAKE/MODEL
FACP	EXISTING	FIRE ALARM CONTROL PANEL	BOSCH D9412GV4
FACU	EXISTING	FIRE ALARM CONTROL ANNUNCIATOR	BOSCH D1256RB
FAA	EXISTING	FIRE ALARM ANNUNCIATOR	BOSCH D1257RB
NAC	1 NEW	NOTIFICATION POWER SUPPLY	ALTRONIX AL1002ULADA
APS	EXISTING	AUXILIARY POWER SUPPLY	ALTRONIX AL400ULPS
P	5 NEW	SMOKE DETECTOR ADDRESSABLE	BOSCH F220-P HEAD WITH BOSCH F220-B6PS POPIT BASE
	EXISTING	COOKING HOOD SUPPRESSION SYSTEM	(POINT OF CONNECTION ONLY)
	1 NEW	DUCT SMOKE DETECTOR	SYSTEM SENSOR D4120. PROVIDED BY MECH DIV. INSTALLED BY ELECTRICAL DIV. (POINT OF CONNECTION ONLY)
RTS	1 NEW	REMOTE TEST SWITCH	SYSTEM SENSOR RTS151KEY.
PT	5 NEW	POPIT MODULE	BOSCH D9127U
	EXISTING	SMOKE DETECTOR	BOSCH D273THE
	1 NEW	MANUAL PULL STATION	BOSCH FMM-100SATK
	EXISTING	WATER FLOW INDICATOR SWITCH	POTTER VSR-F(PROVIDED BY FIRE SPRINKLER DIV)
	EXISTING	SUPERVISORY TAMPER SWITCH	POTTER PCVS-1(PROVIDED BY FIRE SPRINKLER DIV)
V	EXISTING	CEILING MOUNT STROBE MULTI CANDELA	SYSTEM SENSOR SCR
HS	EXISTING	CEILING MOUNT HORN STROBE MULTI CANDELA	SYSTEM SENSOR PC2R
HS WP	1 NEW	WEATHERPROOF WALL MOUNT HORN/STROBE	SYSTEM SENSOR P2RK
HS L	1 NEW	CEILING MOUNT HORN STROBE MULTI CANDELA, L-SERIES	SYSTEM SENSOR SCRL
V L	2 NEW	CEILING MOUNT STROBE MULTI CANDELA, L-SERIES	SYSTEM SENSOR PC2RL
PAM4	1 NEW	POWER SUPERVISON RELAY	PAM-4
		END OF LINE RESISTOR	PER MANUFACTURER
N.O.		NORMALLY OPEN	
WP		WEATHERPROOF	

WIRE LEGEND

A	——— — ——— — ———	FIRE ALARM SYSTEM 3pr #18 AWG FPL TWISTED
B	————————	NOTIFICATION CIRCUIT 1pr #12 AWG FPL ZIP
C	————————	MULTIPLE CABLES

PLENUM RATED CABLE FPLP SHALL BE UTILIZED IN PLENUM RATED CEILING AREAS ONLY

SEQUENCE OF OPERATIONS

ACTIVATION OF PUSH BUTTON	ACTIVATION OF COOKING HOOD SUPRESSION SYSTEM	ACTIVATION OF DUCT SMOKE DETECTOR	ACTIVATION OF WATER FLOW SWITCH	ACTIVATION OF SPRINKLER TAMPER SWITCH/ SUPERVISORY DEVICE	ACTIVATION OF AREA SMOKE/HEAT DETECTORS	ACTIVATION OF MANUAL PULL STATION	FIRE ALARM AC POWER FAILURE	FIRE ALARM LOW BATTERY	OPEN CIRCUIT	GROUND FAULT	
	X		X		X	X					ACTIVATES FIRE HORN/STROBE LIGHTS(TEMPORAL 3)
	X		X		X	X					TRANSMIT ALARM SIGNAL TO APPROVED CENTRAL STATION ALARM MONITORING SERVICE
		X		X							TRANSMIT SUPERVISORY SIGNAL TO APPROVED CENTRAL STATION ALARM MONITORING SERVICE
							X	X	X	X	TRANSMIT TROUBLE SIGNAL TO APPROVED CENTRAL STATION ALARM MONITORING SERVICE
		X									ACTIVATES AHU/RTU UNIT TO SHUTDOWN
			X								ACTIVATES WP NOTIFICATION ABOVE FDC

NOTES:

CENTRAL STATION TO RECEIVE SEPARATE & DISTINCT SIGNALS.

POINT TO BE ANNUNCIATED AS :	POINT TYPE	
	FIRE ALARM	SUPERVISORY ALARM
RISERS WATERFLOW	x	
RISER TAMPERS		x
MANUAL PULL STATION	x	
SMOKE / HEAT DETECTORS	x	
DUCT SMOKE DETECTORS		x
COOKING HOOD SUPPRESSION SYSTEM	x	

ALL FIRE ALARM SYSTEM CIRCUIT WIRING MUST ANNUNCIATE A TROUBLE SIGNAL DURING OPEN AND GROUND FAULT CONDITIONS. ADDITIONALLY ALL OUTPUT CIRCUITS (HORNS/STROBES) ARE REQUIRED TO ANNUNCIATE A TROUBLE SIGNAL DURING A WIRE TO WIRE SHORT CONDITION. THE FIRE ALARM SYSTEM WILL BE TESTED BY THE OWNER'S REPRESENTATIVES TO THE CRITERIA OF NFPA 72.

POWER SUPPLY #6 BATTERY CALCULATIONS

Device	Quantity	Standby Current	Total Standby Current	Alarm Current	Total Alarm Current
AL1002UL-ADA	1	0.090	0.090	0.175	0.175
Notification Appliances LOOP 1					
CEILING HORN STROBE PC2RL@75 CD	1	0.000	0.000	0.143	0.143
CEILING STROBE SCRL@75 CD	2	0.000	0.000	0.111	0.222
WEATHER PROOF WALL HORN STROBE @75 CD	1	0.000	0.000	0.176	0.176
Notification Appliances LOOP 2 (SPARE)					
Notification Appliances LOOP 3 (SPARE)					
Notification Appliances LOOP 4 (SPARE)					
TOTALS		**TOTAL STANDBY**	0.090	**TOTAL ALARM**	0.716
COMPUTATIONS					
TOTAL AMPS USED IN STANDBY=	0.090	X	24 HOURS=	2.160	AH
TOTAL AMPS USED IN ALARM=	0.716	X	5 MINUTES=	0.059	AH
		+20% CONTINTENCY=		0.444	AH
TOTAL BACKUP BATTERY REQUIREMENTS=				2.663	AH
TOTAL BACKUP BATTERY PROVIDED=				7.000	AH
TOTAL BACKUP BATTERY REQUIRED=				2.663	AH
TOTAL BACKUP BATTERY RESERVED=				4.337	AH

Provide (2)12VDC, 7.0 ah batteries for 7.0 amp hours at 24VDC.

SCOPE OF WORK

VOLTAGE DROP CALCULATION
WIRE GAUGE (# 12) R=0.00171 ohm/FT

NAC CIRCUIT	A SOURCE VOLTAGE	B TOTAL AMP	C WIRE LENGTH (FEET)	D VOLT DROP (2xRxBxC)	% DROP (D/A)	VOLTAGE AT LAST DEVICE (A-D)
#6-1	20.4	0.541	990	1.83	8.98	18.57
#6-2	20.4	0	0	0.00	0.00	20.40
#6-3	20.4	0	0	0.00	0.00	20.40
#6-4	20.4	0	0	0.00	0.00	20.40

SCOPE OF WORK

EXISTING POWER SUPPLY #AL400 BATTERY CALCULATIONS (APS #4)

Device	Quantity	Standby Current	Total Standby Current	Alarm Current	Total Alarm Current
ULKT3	1	0.090	0.090	0.175	0.175
CIRCUIT 1					
8240 SMOKE DETECTOR	8	0.006	0.048	0.060	0.480
PAM-4 - POWER SUPERVISION MODULE	1	0.015	0.015	0.015	0.015
CIRCUIT 2					
BEAM1224 BEAM DETECTOR W/BEAMLRK	5	0.017	0.085	0.039	0.193
CIRCUIT 3					
ADDRESSABLE DETECTOR BASE WITH HEAD	5	0.0025	0.013	0.035	0.175
ADDRESSABLE DETECTOR BASE WITH HEAD & PAM4 RELAY	1	0.0185	0.019	0.051	0.051
CIRCUIT 4 (SPARE)					
TOTALS		**TOTAL STANDBY**	0.269	**TOTAL ALARM**	1.089
COMPUTATIONS					
TOTAL AMPS USED IN STANDBY=	0.269	X	24 HOURS=	6.456	AH
TOTAL AMPS USED IN ALARM=	1.089	X	15 MINUTES=	0.272	AH
		+20% CONTINGENCY=		1.346	AH
TOTAL BACKUP BATTERY REQUIREMENTS=				8.074	AH
TOTAL BACKUP BATTERY PROVIDED=				18.000	AH
TOTAL BACKUP BATTERY REQUIRED=				8.074	AH
TOTAL BACKUP BATTERY RESERVED=				9.926	AH

EXISTING (1) 18AH 12VDC BATTERY

SCOPE OF WORK

VOLTAGE DROP CALCULATION
WIRE GAUGE (# 18)

DETECTOR CIRCUIT	SOURCE VOLTAGE	TOTAL AMP	WIRE LENGTH (FEET)	VOLT DROP	% DROP	VOLTAGE AT LAST DEVICE
AL400#4-1	12	0.495	545	3.51	29.23	8.49
AL400#4-2	12	0.1925	730	1.83	15.22	10.17
AL400#4-3	12	0.226	1000	2.94	24.48	9.06
AL400#4-4	12	0	0	0.00	0.00	12.00

SCOPE OF WORK

EXISTING D9412GV4 BATTERY CALCULATIONS

Description	Device	Quantity	Standby Current	Total Standby Current	Alarm Current	Total Alarm Current
Control Panel	D9412GV4	1	0.2250	0.2250	0.3000	0.3000
Battery Lead Supervision Module	D113	1	0.0450	0.0450	0.0450	0.0450
Dual Class A/B NAC Module	D192G	1	0.0350	0.0350	0.1000	0.1000
Dual Phone Line DACT Module	D928	1	0.0200	0.0200	0.1000	0.1000
Annunciator / Keypad (CP-SA)	D1256RB	1	0.1060	0.1060	0.2250	0.2250
POPEX Module	D8125	2	0.0600	0.1200	0.0600	0.1200
NEW INITIATION POPITS	D9127	5	0.0005	0.0025	0.0008	0.0040
NEW POPITS DETECTOR BASE	D9127	5	0.0005	0.0025	0.0008	0.0040
EXISTING POPITS	D9127	420	0.0005	0.2100	0.0008	0.3360
Auxilary Relay Module	D130	1			0.0600	0.0600
OctoRELAY Module	D8129	1	0.0200	0.0200	0.0363	0.0363
12v-4w Smoke Detector	D273THE	1	0.0150	0.0150	0.0360	0.0360
TOTALS			**TOTAL STANDBY**	0.801	**TOTAL ALARM**	1.366
COMPUTATIONS						
TOTAL AMPS USED IN STANDBY =			**0.801**	X 24 HOURS =	**19.224**	AH
TOTAL AMPS USED IN ALARM =			**1.366**	X 5 MIN =	**0.113**	AH
			+20% CONTINGENCY		**3.867**	AH
TOTAL STANDBY BATTERY REQUIREMENTS=					**23.205**	AH
TOTAL BACKUP BATTERY PROVIDED=					**36.000**	AH
TOTAL BACKUP BATTERY REQUIRED=					**23.205**	AH
TOTAL BACKUP BATTERY RESERVED=					**12.795**	AH

EXISTING (2) 18ah batteries to provide 36 amp hours at 12 volts

SCOPE OF WORK

COMPLIANCE NOTES "PROPRIETARY SYSTEM"

1. THIS SYSTEM DESIGN IS BASED UPON COMPLIANCE WITH THE NATIONAL, STATE AND LOCAL CODES. THE OCCUPANCY CLASS IS MERCANTILE. THE FACILITY WILL BE PROTECTED THROUGHOUT BY A FULLY SUPERVISED FIRE SPRINKLER SYSTEM PER NFPA 13 AND NFPA 72.
2. ELECTRONIC SPRINKLER SUPERVISORY SERVICE IS PROVIDED AND IS PROPRIETARY SYSTEM UNDER NFPA 72.
3. FLOW SWITCHES WILL BE PROVIDED ON ALL SPRINKLER RISERS WITH ALARM ZONING COINCIDING WITH SPRINKLER ZONING.
4. TAMPER SWITCHES WITH BE PROVIDED ON ALL VALVES, AND WHERE APPLICABLE, ALL OTHER ELEMENTS ESSENTIAL TO THE PROPER OPERATION OF THE SPRINKLER WILL ALSO BE SUPERVISED.
5. REMOTE ANNUNCIATOR(S) WILL PROVIDE POINT IDENTIFICATION ALL DEVICES/ZONES IN ALPHANUMERIC DISPLAY, AND AT LEAST ONE WILL BE LOCATED AT A CONSTANTLY ATTENDED LOCATION ON SITE. THE FACP CABINET HAS NO ANNUNCIATOR OR USER INTERFACE CONTROLS, AND IS A CABINET HOUSING (NON-ANALOG ADDRESSABLE) CIRCUITRY ONLY.
6. AT LEAST ONE MANUAL STATION WILL BE INSTALLED AND LOCATED WHERE REQUIRED BY THE AHJ, PER NFPA 72. UNLESS OTHERWISE SPECIFIED BY THE AHJ, IT WILL BE LOCATED AT THE CONTINUOUSLY ATTENDED LOCATION ON SITE, PER THE DRAWINGS.
7. ONE SMOKE DETECTOR WILL BE INSTALLED ABOVE THE FACP IN ACCORDANCE WITH NFPA 72 AND ANY REMOTE LOCATIONS WHERE FIRE CONTROL EQUIPMENT IS INSTALLED.
8. AIR HANDLING UNITS IN EXCESS OF 2000 CFM WHICH INCLUDE DUCT SMOKE DETECTORS SHALL SHUT DOWN THEIR RESPECTIVE FANS AND CAUSE A "SUPERVISORY" SIGNAL ON THE FACP PER NFPA 90A. SEE SCOPE OF MECHANICAL CONTRACTOR SHOP DRAWINGS FOR DETAILS.
9. COOKING HOOD SUPPRESSION SYSTEM(S) (IF ANY) SHALL BE CONNECTED TO THE SYSTEM TO CAUSE AN "ALARM" SIGNAL UPON AGENT DISCHARGE, PER NFPA 17 AND NFPA 72. SEE SUPPRESSION CONTRACTOR'S SHOP DRAWINGS FOR DETAILS.
10. ALL NON-REQUIRED DEVICES INDICATED IN THE SUBMITTAL (IF ANY), ARE VOLUNTARILY PROVIDED AND ARE DESIGNATED AS "SUPPLEMENTARY" IN NATURE, AS DEFINED IN NFPA 72.
11. AUDIBLE AND VISUAL NOTIFICATION APPLIANCES ARE PROVIDED AS INDICATED ON THE PLAN.
12. WALMART SECURITY TECHNOLOGY WILL INSTALL THE FIRE ALARM WHERE LEGALLY ENTITLED BY LICENSING, PERMITTING, CERTIFICATION OR EXEMPTION. LOCAL CONTRACTOR TO BE USED ELSEWHERE.
13. OFF PREMISES, AUTOMATIC ALARM NOTIFICATION WILL BE VIA TWO APPROVED MEANS OF COMMUNICATION TO WALMART'S UL LISTED (UUFX) CENTER. SEE UL FILE #S3152-1 FOR CERTIFICATE INFORMATION.
14. WIRING WILL BE INSTALLED PER (THE NEC) NFPA 70 AND ALL OTHER APPLICABLE SECTIONS. ALL EQUIPMENT SHALL BE PROPERLY LISTED PER NFPA 72.
15. THIS SYSTEM IS DESIGNATED AS A "PROPRIETARY SUPERVISING STATION SYSTEM" IN ACCORDANCE WITH NFPA 72 WITH 24 HOURS OF STAND-BY POWER THEN 5 MINUTES IN "ALARM" PER NFPA 72. STORE MANAGEMENT PERSONNEL ARE DESIGNATED FOR 1 HOUR RUNNER SERVICE.
16. THESE NOTES DO NOT SUPERCEDE REQUIREMENTS OF OTHER TRADES, SPECIFICALLY INCLUDING MECHANICAL.
17. APPLICABLE STATE AND LOCAL MODIFICATION ADOPTED THROUGH DUE PROCESS OF LAW AND WHICH CONFLICT WITH THESE NOTES SHALL SUPERCEDE AND COPIES SHOULD BE CONVEYED TO THE CONTACT PERSON INDICATED BELOW.

DIRECT FIRE ALARM RELATED (ONLY) COMPLIANCE ISSUES TO:

SACRAMENTO ENGINEERING CONSULTANTS
10555 OLD PLACERVILLE RD
SACRAMENTO, CA 95827
PHONE: 916-368-4468
FAX: 916-368-4490
EMAIL: rh@saceng.com

STIPULATION FOR REUSE

CONSULTANTS

Walmart
PUYALLUP, WA
310 31ST AVENUE SE PUYALLUP, WA 98374
STORE NO: 2403 - 278
192 GROCERY EXP

ISSUE BLOCK

CHECKED BY:	HB
DRAWN BY:	JK
PROTO CYCLE:	
DOCUMENT DATE:	042522

STORE ADDRESS: 310 31ST AVENUE SE PUYALLUP, WA 98374

CONTRACTOR:
LOW VOLTAGE SECURITIES
16716 2ND ST E, LAKE TAPS, WA 98391
ATTN: MARK SHAW
253-315-1439
MARKLVS@YAHOO.COM

Date Signed: Feb 11, 2025

HIMANSHU BHARTIYA, CET (NICET 131710, FIRE ALARM SYSTEMS, LEVEL III)

ELECTRONIC FIRE PROTECTION RISER, DETAILS, & CALCS

SHEET: EFP2