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Approval of submitted plans is not an approval of omissions or oversight by this office or noncompliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable building codes and regulations of the local government.

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# CENTERIS DATACENTER 1ST FLOOR VESDA UPDATES

1023 39TH AVE SE, PUYALLUP, WA, 98374

## SYMBOL LEGEND

SYM	DESCRIPTION	MODEL#	MANUFACTURER	BACK BOX
AP50A	POWER SUPPLY - 10A SIGA-CT1 MODULE	APS10A	EST	INCLUDED - 26"H X 15"W X 5.3"D
UIO	UNIVERSAL INPUT/OUTPUT MODULE MOTHERBOARD	UIO	EST	MOUNTED IN TERMINAL CABINET
RELA-EOL	RELEASING END OF LINE MODULE	RELA-EOL	EST	1-GANG
SIGA-CRH	CONTROL RELAY MODULE HIGH VOLTAGE	SIGA-CRH	EST	4" SQUARE BOX, 1-1/2" DEEP, DOUBLE GANG COVER
SIGA-CT2	DUAL INPUT MODULE	SIGA-CT2	EST	4" SQUARE BOX, 1-1/2" DEEP, SINGLE GANG COVER
SIGA-REL	RELEASING MODULE	SIGA-REL	EST	MOUNTED IN TERMINAL CABINET
RELA-SRV-01	SERVICE DISCONNECT	RELA-SRV-01	EST	-
BY OTHERS	LOW AIR SWITCH	BY OTHERS	BY OTHERS	-
BY OTHERS	SOLENOID VALVE	BY OTHERS	BY OTHERS	-
BY OTHERS	TAMPER SWITCH	BY OTHERS	BY OTHERS	-
BY OTHERS	WATER FLOW SWITCH	BY OTHERS	BY OTHERS	-
VEP-A00-1P	XTRALIS AIR SAMPLING DETECTOR (VESDA) 1 PIPE, FIXED SPEED	VEP-A00-1P	XTRALIS	INCLUDED - 8.9"H X 13.8"W X 5.3"D
VEP-A10-P	XTRALIS AIR SAMPLING DETECTOR (VESDA) 4 PIPES	VEP-A10-P	XTRALIS	INCLUDED - 8.9"H X 13.8"W X 5.3"D
VELU-A10	XTRALIS AIR SAMPLING DETECTOR (VESDA) 4 PIPES, LCD DISPLAY	VELU-A10	XTRALIS	INCLUDED - 8.9"H X 13.8"W X 5.3"D
EXISTING	EXISTING SMOKE DETECTOR	EXISTING	-	-
VLP-500	EXISTING XTRALIS VLP-500	EXISTING	-	-
EXISTING	EXISTING NAC BPS6A	EXISTING	-	-

## SCOPE OF WORK

THIS SCOPE OF WORK INCLUDES:  
NEW VESDA ASPIRATING SMOKE DETECTORS TO SUPPORT PRE-ACTION RELEASING FOR NEW BATTERY AND UPS ROOMS, AS WELL AS NEW DETECTOR FOR NEW EXHAUST FAN WALLS.  
NEW VESDA TIED INTO EXISTING ESTS SYSTEM SUPPORTING TENANT / DATAHALL EQUIPMENT. THIS BUILDING HAS A HOUSE PANEL THAT PERFORMS NOTIFICATION AND CENTRAL STATION COMMUNICATIONS, AS WELL AS ANY INITIATING & EMERGENCY CONTROL DEVICES ASSOCIATED WITH THE BUILDING SHELL SUCH AS ELEVATOR RECALL. CHANGES TO THE HOUSE SYSTEM ARE BY OTHERS, UNDER SEPARATE PERMIT.

DESIGN CRITERIA APPLICABLE STANDARDS AND GUIDANCE:  
NFPA 72, 2019 EDITION  
2021 INTERNATIONAL BUILDING CODES  
2021 MECHANICAL CODE  
2023 NATIONAL ELECTRICAL CODE

OCCUPANCY/USE CLASSIFICATIONS:  
B - BUSINESS  
S-2 - STORAGE

DOCUMENTATION AVAILABLE TO CONVERGENT TECHNOLOGIES:  
CENTERIS\_VOLTAGE PARK\_UPS\_MECH PERMIT\_20240222

## CONTACT INFORMATION

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FIRE ALARM DESIGNER: JACOB USHER  
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## GENERAL NOTES

- THE FOLLOWING NOTES ARE INTENDED TO BE GENERAL IN NATURE AND ARE NOT SPECIFIC TO EACH PROJECT. THESE NOTES ARE TO BE FOLLOWED WHERE APPLICABLE TO INDIVIDUAL PROJECTS AND SHOULD NOT BE TAKEN AS SCOPE OR DIRECTION WHERE THEY CONFLICT WITH INFORMATION FOUND ELSEWHERE IN THIS DRAWING SET.
- ALL WIRE AND CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH PLANS AND SPECIFICATIONS AND SHALL MEET ALL APPLICABLE CODES.
  - ALL WIRE AND CABLE SHALL BE RATED FOR FIRE ALARM USE PER THE LATEST REVISIONS OF THE NATIONAL ELECTRICAL CODE (NEC) SECTION 760. THIS IS A POWER LIMITED FIRE ALARM SYSTEM. ALL CABLE MUST BE MARKED PFL, PFLP, PFLR OR CI. FURTHER NEC, REQUIRES ALL WIRE BE RATED FOR THE ENVIRONMENT FOR WHICH IT IS INSTALLED. ANY REFERENCES TO WIRE DESIGNATIONS ASSUME ELECTRICAL CONTRACTOR WILL SUBSTITUTE APPROPRIATE WIRE TO MEET CODE.
  - ALL CONDUCTORS SHALL TEST FREE OF GROUNDS AND SHORTS BEFORE MAKING ANY CONNECTION TO THE FIRE ALARM CONTROL PANEL.
  - TO RETAIN WARRANTY, THE FIRE ALARM EQUIPMENT MUST BE POWERED UP UNDER THE SUPERVISION OF A QUALIFIED MANUFACTURERS TECHNICIAN.
  - THE INSTALLING ELECTRICAL CONTRACTOR SHALL COORDINATE ALL FIELD CHANGES WITH THE FIRE ALARM CONTRACTOR. THIS INCLUDES CHANGES IN DEVICES, WIRE, CONDUIT RUNS AND OPERATION OF THE SYSTEM. FIRE ALARM CONTRACTOR SHALL NOT BE HELD RESPONSIBLE FOR UNDOCUMENTED CHANGES OR THE RESULTS OF THOSE CHANGES.
  - FIRE ALARM NOTIFICATION DEVICES SHALL BE AUDIBLE THROUGHOUT THE SPACE AND SHALL HAVE A SOUND PRESSURE LEVEL NOT LESS THAN 15dB ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5db ABOVE THE MAXIMUM SOUND LEVEL, MEASURED AT 5'0" ABOVE THE FINISHED FLOOR.
  - MAIN BUILDING FIRE ALARM & SUPPRESSION SYSTEMS SHALL BE CLASS "B" WIRING. PRE-ACTION & DELUGE ALARM SYSTEMS SHALL BE CLASS "A" WIRING. CLASS "A" APPLICATIONS SHALL MAINTAIN A MINIMUM SEPARATION OF 48 INCHES HORIZONTALLY & 12 INCHES VERTICALLY BETWEEN OUTGOING AND RETURN CIRCUITS.
  - ALL PULL STATIONS AND NOTIFICATION DEVICES SHALL BE MOUNTED AT HEIGHTS SPECIFIED PER NFPA 72 AND ADA REQUIREMENTS.
  - ALL DETECTOR SPACING SHALL BE PER NFPA 72 & LOCAL CODES.
  - ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ROUGH-IN LOCATIONS WITH OTHER TRADES.
  - ALL FIRE ALARM DEVICES SHALL BE SECURELY FASTENED TO WALLS OR CEILINGS.
  - SMOKE DETECTORS SHALL NOT BE LOCATED CLOSER THAN 36" TO ANY AIR REGISTER OR DIFFUSER.
  - HEAT DETECTORS SHALL NOT BE LOCATED CLOSER THAN 36" TO ANY AIR REGISTER OR DIFFUSER.
  - PER NFPA 72, CHAPTER 17, SMOKE DETECTORS INSTALLED PRIOR TO FINAL CLEAN MUST BE CLEANED AND VERIFIED TO BE OPERATING IN ACCORDANCE WITH THE LISTED SENSITIVITY, OR THEY SHALL BE REPLACED PRIOR TO THE FINAL COMMISSIONING OF THE SYSTEM. CONVERGENT BEARS NO RESPONSIBILITY FOR LABOR OR MATERIAL ASSOCIATED WITH CLEANING, SENSITIVITY TESTING OR REPLACEMENT OF SMOKE DETECTORS INSTALLED PRIOR TO FINAL CLEANING.
  - HEAT DETECTORS SHALL NOT BE LOCATED CLOSER THAN 36" TO ANY HEAT GENERATING DEVICE (FUSES, BOILERS, WATER HEATERS, ETC.) IN MECHANICAL ROOMS.
  - HEAT DETECTORS SHALL NOT BE LOCATED CLOSER THAN 18" TO ANY PART OF ANY LIGHT FIXTURE.
  - HEAT DETECTORS SHALL BE MOUNTED WITHIN 24" OF A SPRINKLER HEAD WHEN USED FOR ELEVATOR SHUNT TRIP IN ELEVATOR MACHINE ROOMS & SHAFTS.
  - INITIATING AND SIGNALING CIRCUITS MAY BE RUN IN SAME CONDUIT.
  - ALL CONDUCTORS SHALL BE LABELED BY ZONE OR SLC LOOP NUMBER.
  - THESE DRAWINGS ARE INTENDED TO SHOW PROJECT SPECIFIC PANELS, DEVICES AND WIRING DEPICTED DIAGRAMMATICALLY. WIRING SHOWN IS NOT INTENDED TO DEPICT RAGWEAY OR PATHWAY LOCATIONS. DEVICE AND PANEL LOCATIONS SHALL BE COORDINATED BY INSTALLING CONTRACTOR AS PART OF THE CONSTRUCTION PROCESS.
  - ALL REFERENCES TO INTERNATIONAL BUILDING CODE (IBC) ARE FROM THE 2015 EDITION. ALL REFERENCES TO NFPA 72 ARE FROM THE 2013 EDITION AS CURRENTLY ADOPTED BY IBC. THE ADOPTED VERSION FOR THE PROJECT JURISDICTION MAY BE DIFFERENT AND UPON REQUEST CONVERGENT WILL PROVIDE UPDATED REFERENCE SECTIONS TO MATCH ADOPTED VERSION. THE SCOPE SECTION OF OUR DRAWINGS WILL PROVIDE THE VERSION REFERENCED FOR THE FIRE ALARM DESIGN.
  - AS THE FIRE ALARM VENDOR UTILIZED FOR THIS BUILDING, NFPA 72 REQUIRES WE KEEP ACCURATE RECORD DRAWING INFORMATION. AS SUCH, IT IS NECESSARY THAT WE DEPICT EXISTING DEVICES AND WIRING IN ADDITION TO THOSE COMPONENTS ASSOCIATED WITH YOUR SCOPE WHERE APPLICABLE. UNLESS OTHERWISE NOTED, IT IS ASSUMED EXISTING COMPONENTS WILL REMAIN UN-DISTURBED BY YOUR SCOPE OF WORK. TO AID IN IDENTIFYING NEW VS. EXISTING, WE WILL TURN EXISTING COMPONENTS TO A LIGHTER SHADE. REMOVAL OF THE EXISTING DEVICES AND WIRING MAY OTHERWISE IMPACT THE CONTEXT OF THE COMPLETE, CODE REQUIRED FIRE ALARM SYSTEM, THEREFORE THEY CANNOT BE OMITTED FROM OUR DRAWING PACKAGE.

## WIRE LEGEND

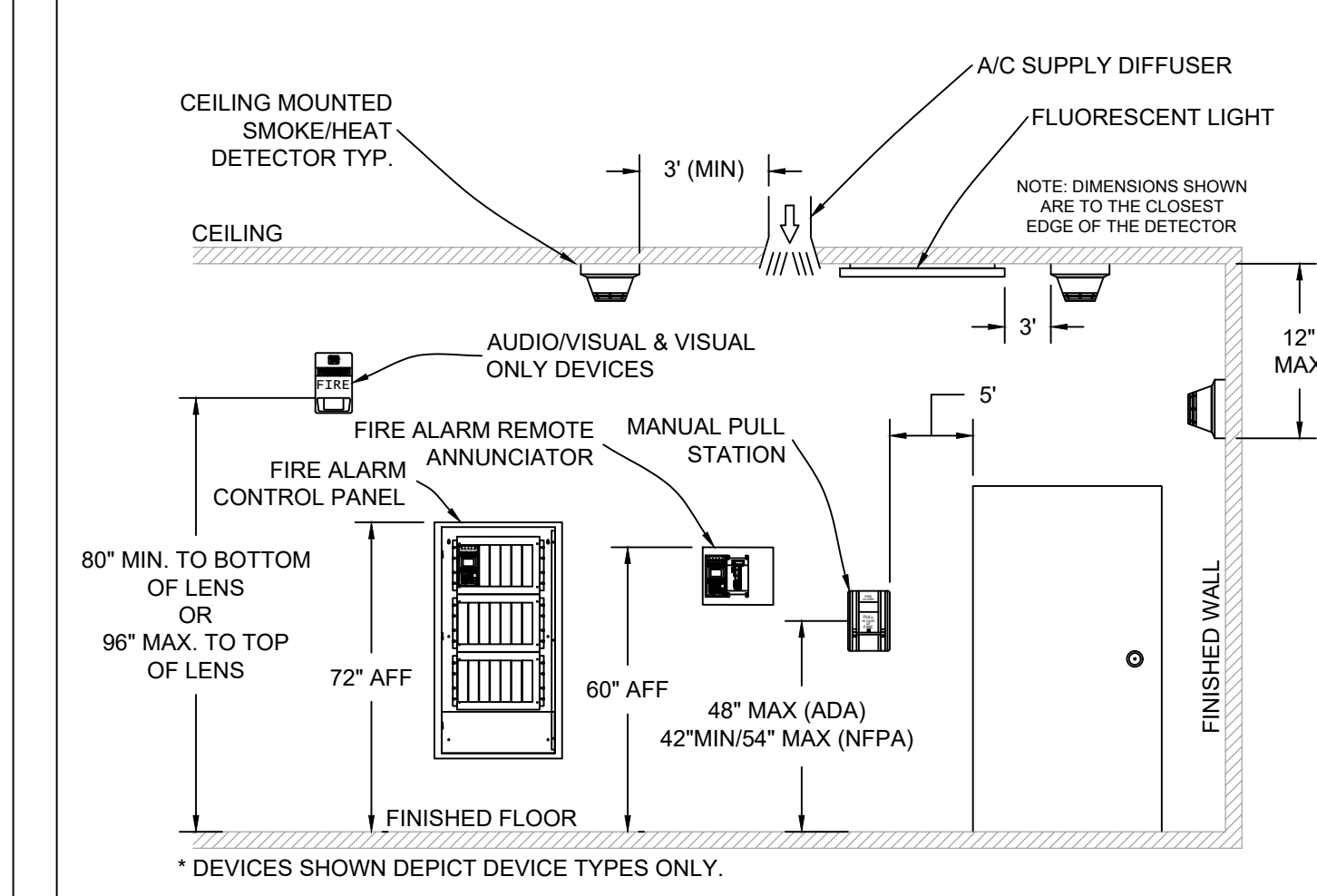
ALL WIRING AND INSTALLATION METHODS SHALL BE IN COMPLIANCE WITH CURRENT RELEVANT NATIONAL AND LOCAL ELECTRICAL CODE ARTICLES AND RELATED SECTION CODE REQUIREMENTS.

WIRING INSTALLATION NOTES:  
\* LABEL ALL ZONE WIRES WITH ZONE NUMBER TAG AND DESCRIPTION.  
\* LABEL ALL SIGNAL CIRCUIT WIRES WITH SIGNAL CIRCUIT NUMBER TAG AND DESCRIPTION  
\* LABEL ALL NETWORK, ANNUNCIATOR AND I/O CONTROL CIRCUIT WIRING WITH CIRCUIT NUMBER TAG AND DESCRIPTION.  
\* VERIFY WITH OWNER AND GENERAL CONTRACTOR THAT OPEN CABLE IS ALLOWED ON SPECIFIC SITE. (PFL, PFLP, RISER, OR 2 HOUR RATED)  
\* WHERE REQUIRED, OUR DRAWINGS WILL NOTE WIRE OR PATHWAY REQUIRING SURVIVABILITY. SUBSTITUTE THE RELEVANT CABLE WITH AN EQUIVALENT CABLE COMPATIBLE WITH THE MEANS OF SURVIVABILITY. THIS OFTEN INCLUDES: C-IC OR CI CABLE (CIRCUIT INTEGRITY), CONCRETE ENCASEMENT OR OTHER MEANS AS APPROVED BY THE A.H.J. REFER TO NFPA 72 FOR FURTHER INFORMATION.

CIRCUIT DESCRIPTION	NON PLENUM: (FPLR, FPL)	SINGLE COND.: (THHN, TFFN)	PLENUM RATED: (FPLP)
A ZONE/INPUT CIRCUIT 2 COND. 16 AWG	BELDEN 8220UL [3.85Q] [24pF/FT]	(2) #16 AWG	BELDEN 8220UL [3.85Q] [37pF/FT]
C NAC CIRCUIT 2 COND. 14 AWG	BELDEN 5120UL [2.43Q] [23pF/FT]	(2) #14 AWG	BELDEN 6120UL [2.43Q] [37pF/FT]
D MASS. NOTIFICATION NAC CIRCUIT 2 COND. 14 AWG	BELDEN 5120UL [2.43Q] [23pF/FT]	(2) #14 AWG	BELDEN 6120UL [2.43Q] [37pF/FT]
E DOOR HOLDER/CONTROL CIRCUIT 2 COND. 14 AWG	BELDEN 5120UL [2.43Q] [23pF/FT]	(2) #14 AWG	BELDEN 6120UL [2.43Q] [37pF/FT]
F FANH/VAC SHUTDOWN 2 COND. 14 AWG	BELDEN 5120UL [2.43Q] [23pF/FT]	(2) #14 AWG	BELDEN 6120UL [2.43Q] [37pF/FT]
G FUTURE ADA NAC CIRCUIT 2 COND. 14 AWG	BELDEN 5120UL [2.43Q] [23pF/FT]	(2) #14 AWG	BELDEN 6120UL [2.43Q] [37pF/FT]
H PHONE CIRCUIT 2 COND. 18 AWG SHIELDED	BELDEN 8220FL [3.8Q] [85.5pF/FT]	N/A	BELDEN 8220FL [3.85Q] [37pF/FT]
J SPEAKER CIRCUIT 2 COND. 16 AWG	BELDEN 8220UL [3.85Q] [24pF/FT]	(2) #16 AWG	BELDEN 8220UL [3.85Q] [37pF/FT]
L ELEVATOR CONTROL 2 COND. 14 AWG	BELDEN 5120UL [2.43Q] [23pF/FT]	(2) #14 AWG	BELDEN 6120UL [2.43Q] [37pF/FT]
M AUDIO RISER 2 COND. 16 AWG SHIELDED	BELDEN 8220FL [3.8Q] [85.5pF/FT]	N/A	BELDEN 8220FL [3.85Q] [37pF/FT]
N NETWORK COMMUNICATIONS 2 COND. 16 AWG	BELDEN 8220UL [3.85Q] [24pF/FT]	(2) #16 AWG	BELDEN 8220UL [3.85Q] [37pF/FT]
P 24VDC AUX. POWER 2 COND. 14 AWG	BELDEN 5120UL [2.43Q] [23pF/FT]	(2) #14 AWG	BELDEN 6120UL [2.43Q] [37pF/FT]
Q VESDA NET 2 COND. 22 AWG	BELDEN 9841 [24Q] [12.8pF/FT]	N/A	BELDEN 89841 [24Q] [12.8pF/FT]
R REMOTE LED CIRCUIT 2 COND. 16 AWG	BELDEN 8220UL [3.85Q] [24pF/FT]	(2) #16 AWG	BELDEN 8220UL [3.85Q] [37pF/FT]
S ADDRESSABLE DATA SLC LOOP 2 COND. 16 AWG	BELDEN 8220UL [3.85Q] [24pF/FT]	(2) #16 AWG	BELDEN 8220UL [3.85Q] [37pF/FT]
T1 ANALOG TWO-WAY COMM. CABLE 2 COND. 18 AWG	N/A	N/A	RATH RP66010001 [2-HOUR CIC]
T2 ANALOG TWO-WAY COMM. CABLE 2 COND. 18 AWG	RATH 66120 [2-HOUR]	N/A	N/A
TP ANALOG TWO-WAY POWER CABLE 2 COND. 18 AWG	N/A	N/A	RATH RP66010001 [2-HOUR CIC]
U SUPPRESSION RELEASING CIRCUIT 2 COND. 14 AWG	BELDEN 5120UL [2.43Q] [23pF/FT]	(2) #14 AWG	BELDEN 6120UL [2.43Q] [37pF/FT]
W SINGLE MODE FIBER NETWORK 8.9u SM	BUDGET SMKL02SMXHX2: 15/25 dbm CONNECTOR: DUPLEX SC		
X MULTIMODE FIBER NETWORK 50/125u, 62.5/125u OR 100/140u MM	BUDGET MMXVR: 10 dbm CONNECTOR: ST		
Y TWO-WAY COMMUNICATIONS CAT5E - (4) PAIR 22 AWG	BELDEN 1583A	N/A	BELDEN 1585A
Z FIRE/SMOKE DAMPER INTERFACE 2 COND. 14 AWG	BELDEN 5120UL [2.43Q] [23pF/FT]	(2) #14 AWG	BELDEN 6120UL [2.43Q] [37pF/FT]

NOTE: ALL LISTED RESISTANCE AND CAPACITANCE ARE CONDUCTOR TO CONDUCTOR. ALL RESISTANCE VALUES ARE PER 1000 FEET.

## MOUNTING HEIGHTS



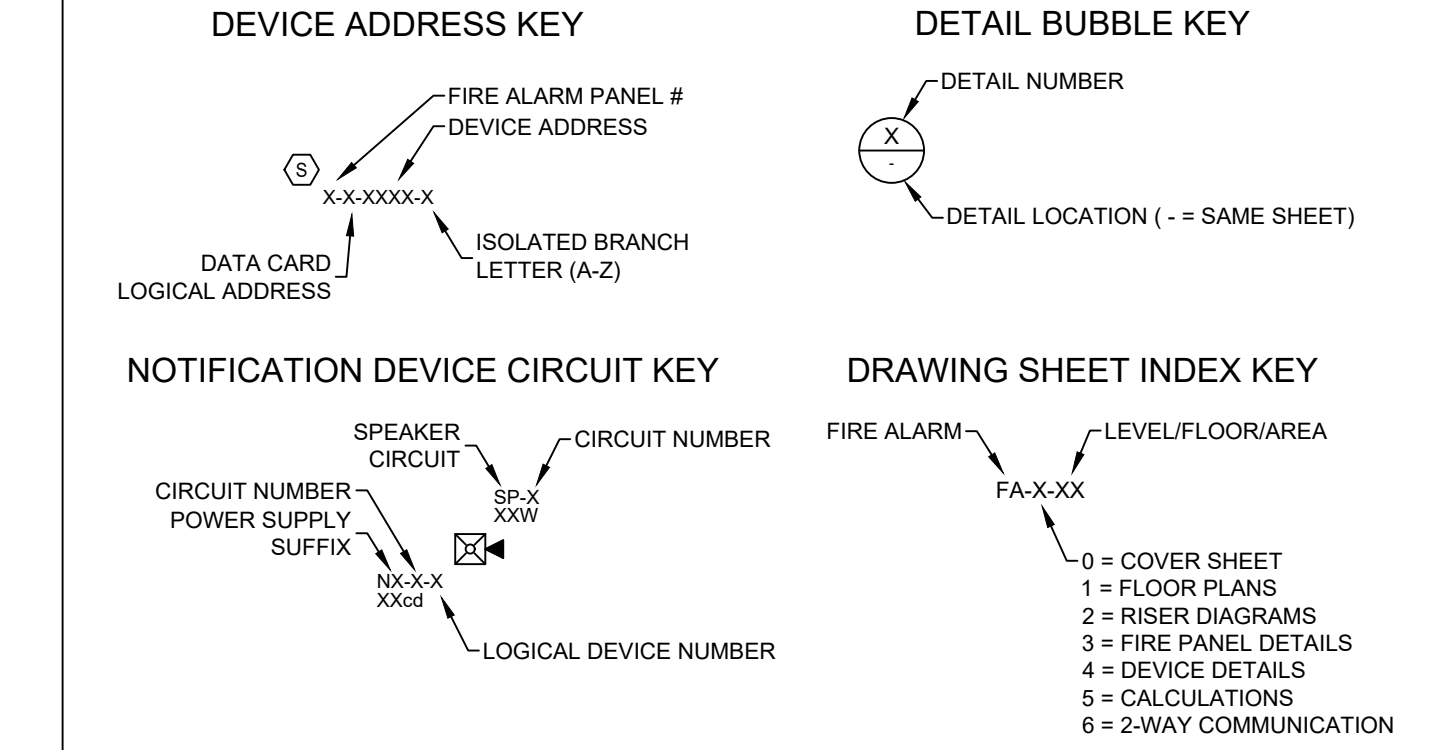
DESIGNER OF RECORD  
JACOB USHER  
NICET III  
FIRE ALARM SYSTEMS  
CERTIFICATION #148102  
EXPIRE DATE: 11/01/2028  
FOR VERIFICATION,  
PLEASE VISIT: WWW.NICET.ORG

City of Puyallup  
Development & Permitting Services  
ISSUED PERMIT  
Building Planning  
Engineering Public Works  
Fire Traffic

## ABBREVIATIONS

- |   |   |
|---|---|
| AC - ABOVE CEILING                              | FSD - FIRE SMOKE DAMPER (THIRD PARTY)                           |
| AFF - ABOVE FINISHED FLOOR                      | HVAC - HEATING, VENTILATION, AND AIR CONDITIONING (THIRD PARTY) |
| ADA - AMERICAN DISABILITIES ACT                 | LA - LOW AIR (THIRD PARTY)                                      |
| AHJ - AUTHORITY HAVING JURISDICTION             | N/A - NOT APPLICABLE  |
| AHU - AIR HANDLING UNIT (THIRD PARTY)           | NAC - NOTIFICATION APPLIANCE CIRCUIT                            |
| ASD - ASPIRATION SMOKE DETECTION                | NFPA - NATIONAL FIRE PROTECTION ASSOCIATION                     |
| CD - CANDELA (EX. ISCD)                         | NIC - NOT IN CONTRACT   |
| CIS - COMMON INTELLIGIBILITY SCALE              | NTS - NOT TO SCALE  |
| DH - DOOR HOLDER (THIRD PARTY UNO)              | PS - POWER SUPPLY   |
| EF - EXHAUST FAN (THIRD PARTY)                  | RTU - ROOF TOP UNIT (THIRD PARTY)                               |
| ELEV - ELEVATOR (THIRD PARTY)                   | SLC - SIGNALING LINE CIRCUIT                                    |
| EOL - END OF LINE                               | SPF - STAIR PRESSURIZATION FAN (THIRD PARTY)                    |
| EPF - ELEVATOR PRESSURIZATION FAN (THIRD PARTY) | STI - SPEECH TRANSMISSION INDEX                                 |
| FA - FIRE ALARM                                 | TYP - TYPICAL   |
| FAA - FIRE ALARM ANNUNCIATOR                    | UNO - UNLESS NOTED OTHERWISE                                    |
| FACP - FIRE ALARM CONTROL PANEL                 | VAV - VARIABLE AIR VOLUME (THIRD PARTY)                         |
| FACU - FIRE ALARM CONTROL UNIT                  | VFD - VARIABLE FREQUENCY DRIVE (THIRD PARTY)                    |
| FATC - FIRE ALARM TERMINAL CABINET              | W - WITH  |
| FBO - FURNISHED BY OTHERS                       | W - WATT (EX. 12W)  |
| FCU - FAN COIL UNIT (THIRD PARTY)               | WP - WEATHERPROOF   |
| FFT - FIREFIGHTER'S TELEPHONE                   | XP - EXPLOSION PROOF  |
| FM - FACTORY MUTUAL                             |   |

## FLOOR PLAN KEY



REV	JOB#	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT		04/15/2024	JU

DRAWN BY: OBADIAH R.  
PROJECT DESIGNER: JACOB U.  
PROJECT MANAGER: CHARITY W.  
JOB NUMBER: 1983-0022129  
SCALE: AS SHOWN DATE: 04/11/2024

CENTERIS DATACENTER  
1ST FLOOR VESDA UPDATES  
1023 39TH AVE SE  
PUYALLUP, WA, 98374

COVER SHEET  
FIRE ALARM SYSTEM

FA-0-1



## INITIATING WIRING

### SIGNATURE LOOP WIRING LIMITATIONS:

SIGNATURE DUAL DRIVER CONTROLLER MODULES SUPPORTS UP TO 250 INTELLIGENT SIGNATURE DETECTORS AND 250 INTELLIGENT SIGNATURE MODULES

### WIRE LENGTH LIMITATIONS:

#### NON-TWISTED, NON-SHIELDED WIRE

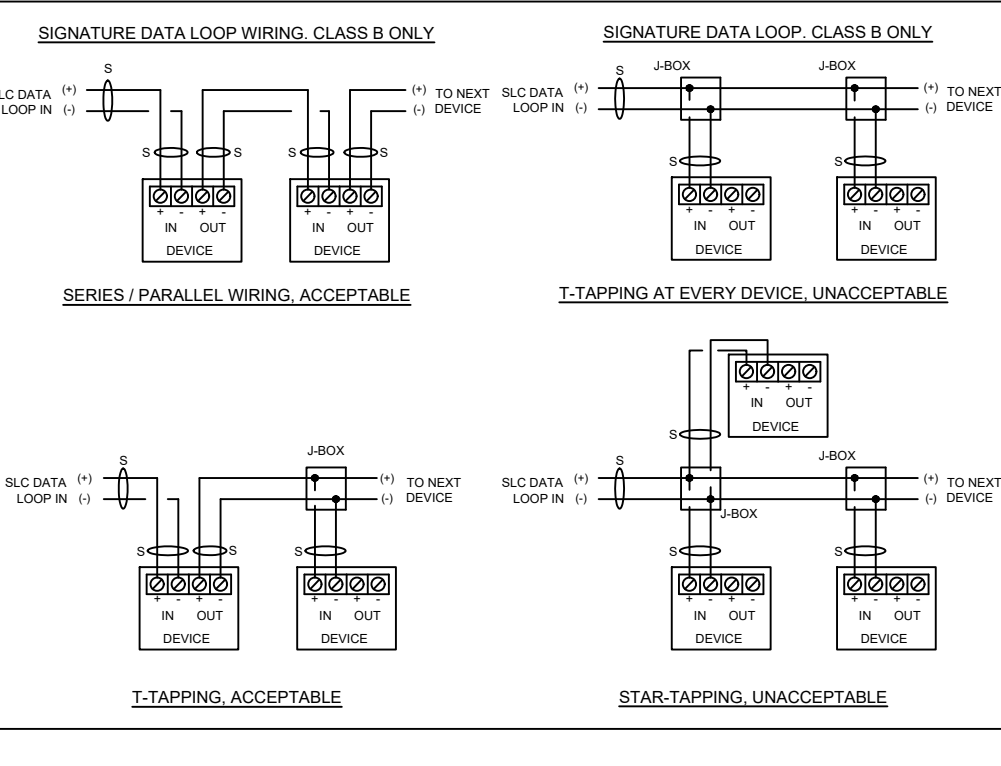
16AWG - 20p#FT & 4.02 OHMS/1000 FEET  
 18AWG - 20p#FT & 6.38 OHMS/1000 FEET  
 DETECTORS ONLY 16AWG - 125 DETECTORS - 9,275'  
 MODULES ONLY 16AWG - 125 MODULES - 7,921'  
 DETECTORS AND MODULES 16AWG - 125 OF EACH - 3,608'  
 DETECTORS ONLY 18AWG - 125 DETECTORS - 5,839'  
 MODULES ONLY 18AWG - 125 MODULES - 4,986'  
 DETECTORS AND MODULES 18AWG - 125 OF EACH - 2,271'

#### TWISTED PAIR, NON-SHIELDED WIRE

16AWG - 36p#FT & 4.02 OHMS/1000 FEET  
 18AWG - 25p#FT & 6.38 OHMS/1000 FEET  
 DETECTORS ONLY 16AWG - 125 DETECTORS - 9,275'  
 MODULES ONLY 16AWG - 125 MODULES - 7,921'  
 DETECTORS AND MODULES 16AWG - 125 OF EACH - 3,608'  
 DETECTORS ONLY 18AWG - 125 DETECTORS - 5,839'  
 MODULES ONLY 18AWG - 125 MODULES - 4,986'  
 DETECTORS AND MODULES 18AWG - 125 OF EACH - 2,271'

#### TWISTED PAIR, SHIELDED WIRE

16AWG - 82p#FT & 4.02 OHMS/1000 FEET  
 18AWG - 58p#FT & 6.38 OHMS/1000 FEET  
 DETECTORS ONLY 16AWG - 125 DETECTORS - 6,098'  
 MODULES ONLY 16AWG - 125 MODULES - 6,098'  
 DETECTORS AND MODULES 16AWG - 125 OF EACH - 3,608'  
 DETECTORS ONLY 18AWG - 125 DETECTORS - 5,839'  
 MODULES ONLY 18AWG - 125 MODULES - 4,986'  
 DETECTORS AND MODULES 18AWG - 125 OF EACH - 2,271'



## RECORD DRAWINGS

### AS-BUILT / RECORD DRAWING REQUIREMENTS:

THE FOLLOWING INFORMATION SHOULD BE RECORDED ON A SEPARATE SET OF DRAWINGS FOR EACH PROJECT:

- ANY CHANGES IN THE LOCATION OF ANY ASSOCIATED FIRE ALARM OR INTERFACE EQUIPMENT, CONTROL PANELS, ANNUNCIATORS, DETECTORS, CONTROL RELAYS, INPUT AND OUTPUT MODULES, TERMINAL CABINETS, ETC.
- ANY CHANGES TO CIRCUIT WIRING. THIS INCLUDES DELETION OR ADDITIONAL WIRING RUNS, ANY RE-ROUTING OF CIRCUIT WIRING, ANY ADDITIONS OR DELETIONS TO THE NUMBER, LOCATION, AND ORDER OF DEVICE WIRING ON A CIRCUIT.
- ADDRESSES AND/OR LABELS FOR ALL ADDRESSABLE DEVICES.
- CANDELA SETTINGS OF ALL VISUAL NOTIFICATION DEVICES.
- WATTAGE TAP SETTINGS OF ALL SPEAKER NOTIFICATION DEVICES.

ANY CHANGES SHALL BE DISCUSSED WITH CONVERGINT PROJECT MANAGER TO ENSURE SYSTEM AND CODE PARAMETERS ARE MET. CONVERGINT SHALL NOT BE HELD ACCOUNTABLE FOR CHANGES MADE WITHOUT APPROVAL.

THIS INFORMATION SHALL BE NEAT AND LEGIBLE WHEN PRESENTED TO THE TECHNICIAN AT THE CONCLUSION OF THE PROJECT. PLEASE NOTE CONTACT INFORMATION ON DRAWINGS FOR INDIVIDUALS WITH FAMILIARITY OF INSTALLATION IN THE EVENT QUESTIONS ARISE DURING THE CLOSEOUT PROCESS.

## SEQUENCE OF OPERATIONS

	ACTIVATION OF LOCAL ALARM SIGNAL AT FACP (LCD DISPLAY & AUDIBLE INDICATION)	ACTIVATION OF LOCAL SUPERVISORY SIGNAL AT FACP (LCD DISPLAY & AUDIBLE INDICATION)	ACTIVATION OF LOCAL TROUBLE SIGNAL AT FACP (LCD DISPLAY & AUDIBLE INDICATION)	ACTIVATION OF LOCAL ALARM SIGNAL AT ANNUNCIATOR (LCD DISPLAY & AUDIBLE INDICATION)	ACTIVATION OF LOCAL SUPERVISORY SIGNAL AT ANNUNCIATOR (LCD DISPLAY & AUDIBLE INDICATION)	ACTIVATION OF LOCAL TROUBLE SIGNAL AT ANNUNCIATOR (LCD DISPLAY & AUDIBLE INDICATION)	ACTIVATE ALARM OUTPUT TO BUILDING FACP	ACTIVATE SUPERVISORY OUTPUT TO BUILDING FACP	ACTIVATE TROUBLE OUTPUT TO BUILDING FACP	ACTIVATE AUDIBLE & VISIBLE DEVICES VIA INTERFACE WITH BUILDING DEVICES	GENERAL ALARM SIGNAL TO ACCESS/SECURITY SYSTEM	PRE-ACTION SOLENOID ACTIVATION	CLOSE ALL FIRE/SMOKE DAMPPERS
SMOKE DETECTOR	X			X			X			X	X	X	
VESDA DETECTOR - URGENT FAULT			X			X			X				
VESDA DETECTOR - ACTION		X		X			X						
VESDA DETECTOR - ALERT		X		X			X						
VESDA DETECTOR - FIRE 1	X			X			X			X	X	X	
VESDA DETECTOR - FIRE 2	X			X			X			X	X	X	
MANUAL PULL STATION	X			X			X			X	X	X	
GENERAL TROUBLE CONDITION		X		X			X						
GENERAL SUPERVISORY CONDITION		X		X			X						
PRE-ACTION WATERFLOW/ALARM SWITCH	X			X			X			X	X	X	
PRE-ACTION TAMPER SWITCH	X			X			X						
PRE-ACTION LOW AIR SWITCH	X			X			X						
PRE-ACTION RELEASE CIRCUIT DISCONNECT SWITCH	X			X			X					A	
FACP - LOSS OF PRIMARY POWER		X		X			X						

## NOTIFICATION WIRING

### SPEAKER CIRCUIT WIRING LIMITATIONS:

#### WIRE LENGTH LIMITATIONS:

THE MAXIMUM ALLOWABLE WIRE LENGTH IS THE FARTHEST DISTANCE THAT A SPEAKER CIRCUIT CAN EXTEND FROM THE AMPLIFIER TO THE LAST SPEAKER WITHOUT LOSING 0.5 dB OF SIGNAL. THE FOLLOWING ARE MAXIMUM DISTANCE BASED ON APPROXIMATE WATTAGE OF THE SPEAKER CIRCUIT. CIRCUIT LENGTHS ARE FURTHER BASED ON ORIGINATION OF A CIRCUIT FROM EITHER THE AMPLIFIER OR FROM THE CC1 MODULE.

ALLOWABLE LENGTH AT 25 Wrms, WITH 0.5 dB LOSS  
 16AWG - 20 WATTS - 231'  
 16AWG - 30 WATTS - 154'  
 16AWG - 40 WATTS - 116'

ALLOWABLE LENGTH AT 70 Wrms, WITH 0.5 dB LOSS  
 16AWG - 20 WATTS - 1815'  
 16AWG - 30 WATTS - 1210'  
 16AWG - 40 WATTS - 907'

### NAC CIRCUIT (HORN, STROBE) WIRING LIMITATIONS:

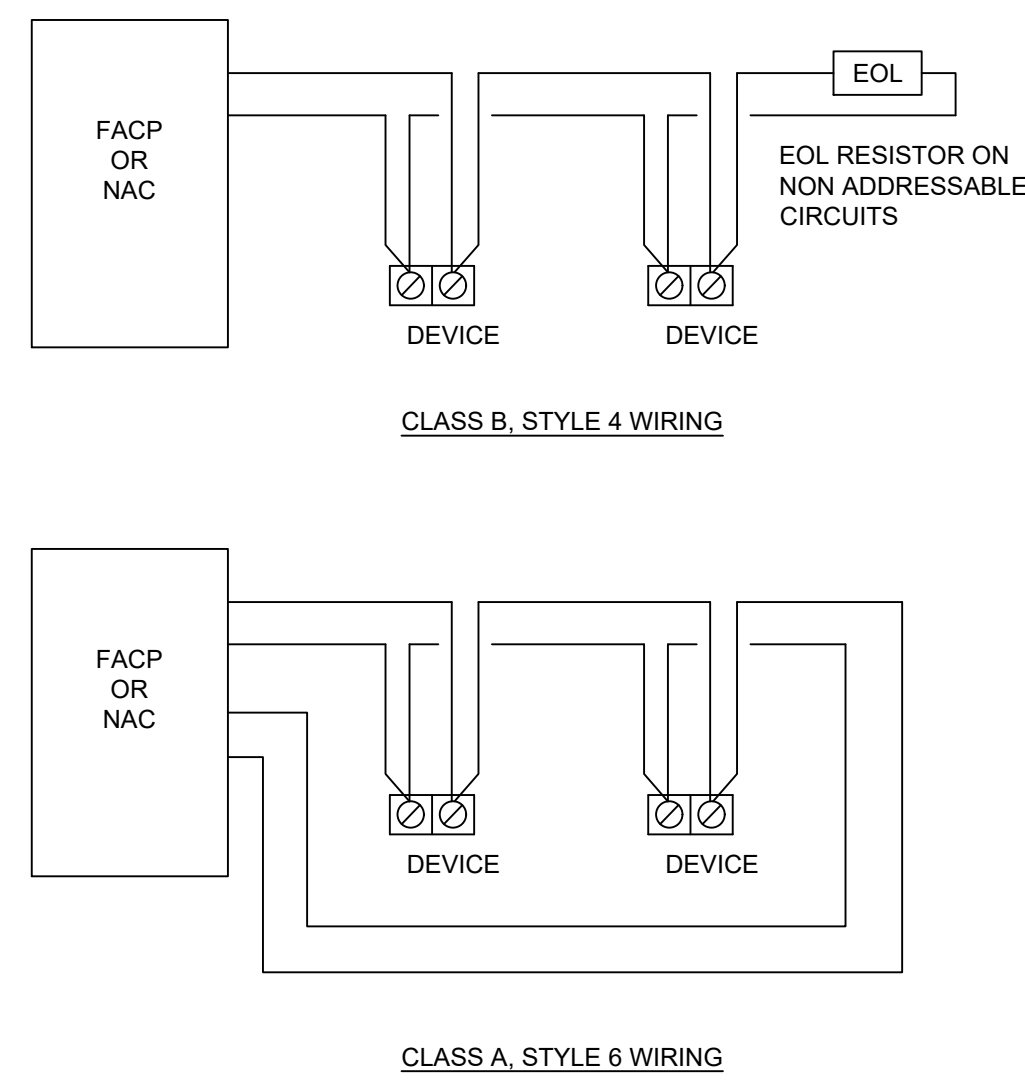
FOR 24VDC SYSTEMS, MINIMUM DEVICE OPERATING VOLTAGE IS 16VDC. VOLTAGE DROP CALCULATIONS ARE BASED ON 16VDC AND POWER SUPPLY DE-RATED AND ON DEPLETED BATTERY BACKUP PER THE PRESCRIBED PERIOD OF STANDBY AND ALARM RING TIME. THE VOLTAGE DROP WILL LIMIT THE CIRCUITS CAPACITY IN ALMOST ALL CASES AND CURRENT CANNOT BE USED AS THE ONLY CIRCUIT WIRING LIMITATION. ALTERATIONS TO CIRCUIT LENGTH FROM THOSE CALCULATED MAY CAUSE CIRCUITS TO BE OUT OF THE TOLERANCES GRANTED BY THE FIRE ALARM CODE. CHANGES TO DEVICE LOCATION OR CIRCUIT LENGTH SHALL BE COMMUNICATED TO THE CONVERGINT TEAM.

NAC CIRCUIT WIRING AND ROUTING MUST NOT EXCEED WHAT IS SHOWN ON THE DESIGN DRAWINGS AND CALCULATIONS. A VOLTAGE DROP TEST IS PART OF MOST FIRE FINALS AND IS REQUIRED BY NFPA. A FAILED FIRE FINAL MAY REQUIRE REWIRING OF THE FAILED CIRCUITS.

WIRE RESISTANCE RATINGS USED FOR CALCULATIONS:  
 16AWG - 13 OHMS PER 1000'  
 16AWG - 8 OHMS PER 1000'  
 14AWG - 5.2 OHMS PER 1000'

EXAMPLE: 1.0 AMP CIRCUIT LOAD USING #14 WIRE = 409 FEET MAXIMUM.

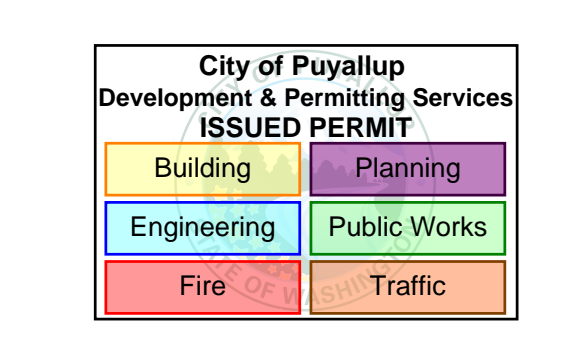
## CLASS A OR B NOTIFICATION WIRING



### SEPARATION OF CLASS A CIRCUITS - INSTALLATION EXCEPTIONS:

CLASS A OUTGOING AND RETURN CONDUCTORS, EXITING AND RETURNING TO THE CONTROL PANEL, ARE TO BE ROUTED SEPARATELY. THE MINIMUM RECOMMENDED SEPARATION IS 1 FT. VERTICALLY AND 4 FT. HORIZONTALLY. THE FOLLOWING EXCEPTIONS STILL DO NOT ELIMINATE THE 2ND PAIR OF WIRES. THEY ALLOW YOU TO USE A SINGLE RACEWAY AND ELIMINATE THE SEPARATION FOR THESE CONDITIONS.

- WHEN MAXIMUM CABLE, ENCLOSURE, OR RACEWAY IS LESS THAN 10 FEET, NO LIMIT TO NUMBER OF DEVICES.
- UNLIMITED CONDUIT OR RACEWAY DROP TO AN INDIVIDUAL DEVICE.
- UNLIMITED CONDUIT OR RACEWAY DROP TO A ROOM NOT EXCEEDING 1000 SQ. FT. NO LIMIT TO THE NUMBER OF DEVICES.



REV	JOB - DESCRIPTION	DATE	BY
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DRAWN BY: OBADIAN R.  
 PROJECT DESIGNER: JACOB U.  
 PROJECT MANAGER: CHARLEY W.  
 JOB NUMBER: 1903-00029139  
 SCALE: AS SHOWN DATE: 04/15/2024

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NOTES  
 FIRE ALARM SYSTEM

DRAWING: FA-0-2



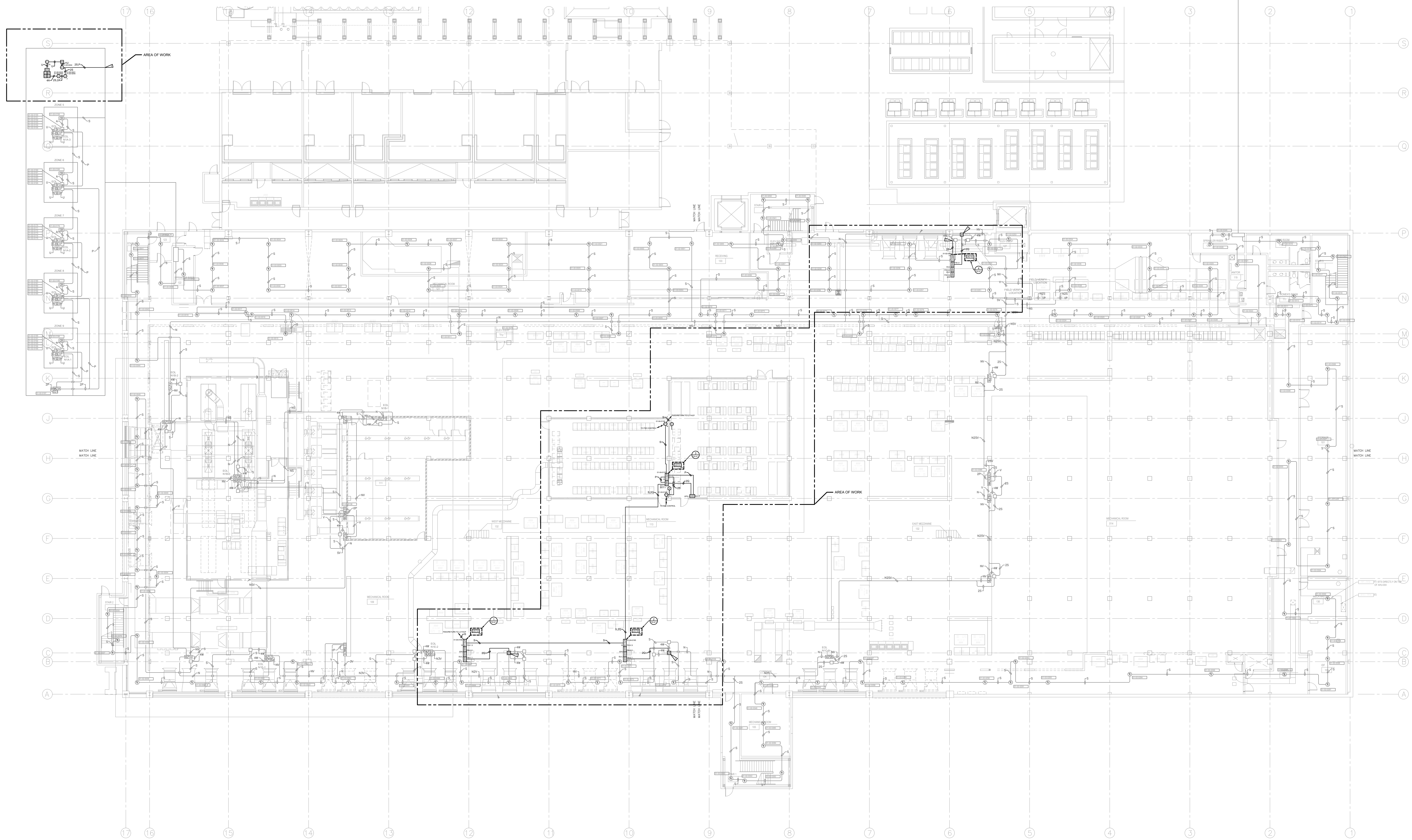
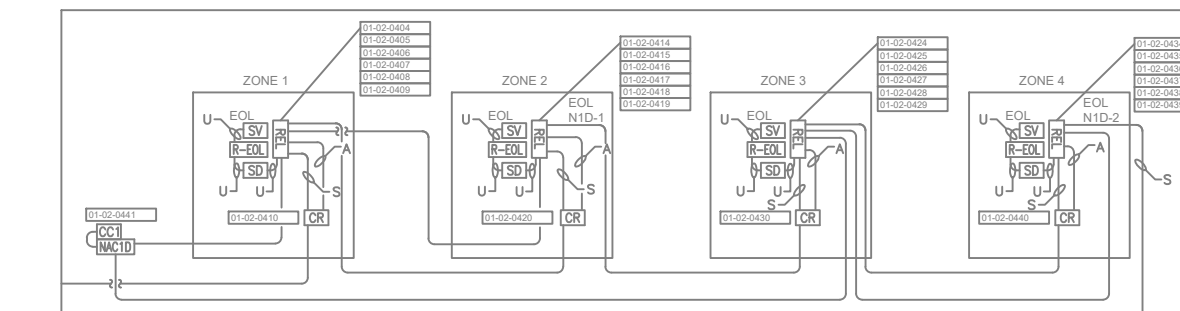
**GENERAL NOTES:**

1. SLC IS CLASS-A. REDUNDANT PATHWAYS MUST BE ROUTED SEPARATELY AND BE SEPARATED BY 48" WHEN ROUTED HORIZONTALLY, 12" WHEN ROUTED VERTICALLY. REDUNDANT PATH MAY USE THE SAME CONDUIT/RACEWAY UNDER THE FOLLOWING CONDITIONS:  
 (A) FOR A DISTANCE NOT TO EXCEED 10 FT (3.0 M) WHERE THE OUTGOING AND RETURN CONDUCTORS ENTER OR EXIT THE INITIATING DEVICE, NOTIFICATION APPLIANCE, OR CONTROL UNIT ENCLOSURES.  
 (B) SINGLE DROPS INSTALLED IN THE RACEWAY TO INDIVIDUAL DEVICES OR APPLIANCES.  
 (C) IN A SINGLE ROOM NOT EXCEEDING 1000 FT IN AREA, A DROP INSTALLED IN THE RACEWAY TO MULTIPLE DEVICES OR APPLIANCES THAT DOES NOT INCLUDE ANY EMERGENCY CONTROL FUNCTION DEVICES.

2. THIS BUILDING IS SERVED BY A SHELL AND CORE PANEL THAT HANDLES ALL NOTIFICATION, CENTRAL STATION MONITORING, AND ANY NON-TENANT SMOKE DETECTION SUCH AS ELEVATOR RECALL. DEVICES ON THE HOUSE SYSTEM ARE NOT SHOWN, AND ANY MODIFICATIONS TO THE NOTIFICATION SYSTEM TO SUPPORT THE ADDED ROOMS ARE BY OTHERS, UNDER SEPARATE PERMIT.

**FLAG NOTES:**

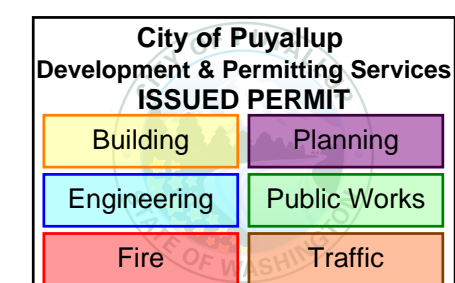
- ▽ REMOVE EXISTING VESDA HEADS AND TIE VESDANET INTO NEW DETECTORS AS SHOWN.
- ▽ TIE NEW DEVICES INTO EXISTING SLC AND/OR AUX POWER RISER.



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**OVERALL 1ST FLOOR PLAN**  
 0 8' 16' 32'  
 SCALE: 1/16"=1'-0"

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DRAWN BY: OBADIAH R.  
 PROJECT DESIGNER: JACOB U.  
 PROJECT MANAGER: CHARLIE W.  
 JOB NUMBER: 1920-0022129  
 SCALE: AS SHOWN DATE: 04/11/2024

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**OVERALL 1ST FLOOR PLAN**  
 FIRE ALARM SYSTEM

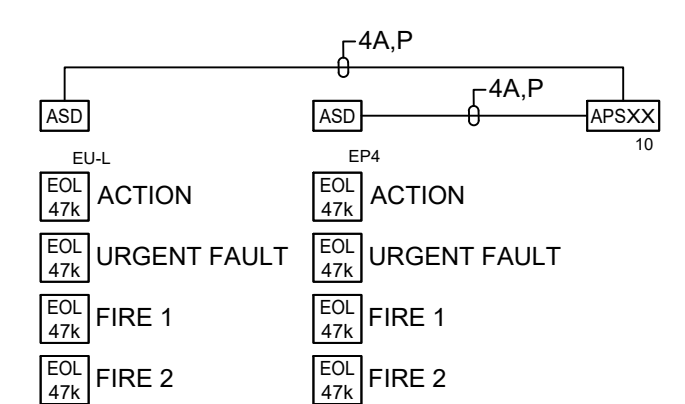
DRAWING: FA-1-1



**GENERAL NOTES:**

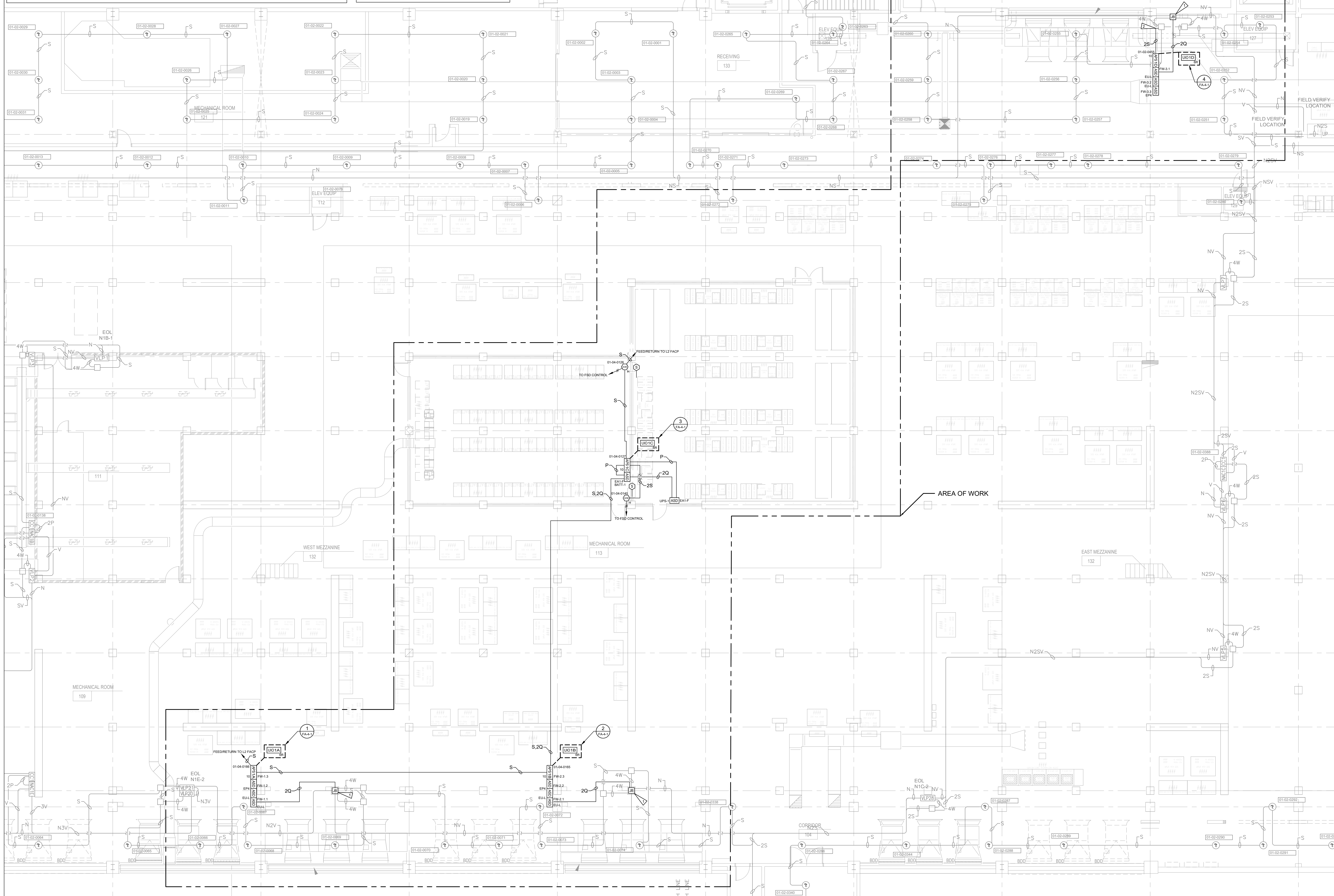
- SLC IS CLASS-A. REDUNDANT PATHWAYS MUST BE ROUTED SEPARATELY AND BE SEPARATED BY 48" WHEN ROUTED HORIZONTALLY, 12" WHEN ROUTED VERTICALLY. REDUNDANT PATH MAY USE THE SAME CONDUIT/RACEWAY UNDER THE FOLLOWING CONDITIONS:
  - FOR A DISTANCE NOT TO EXCEED 10 FT (3.0 M) WHERE THE OUTGOING AND RETURN CONDUCTORS ENTER OR EXIT THE INITIATING DEVICE, NOTIFICATION APPLIANCE, OR CONTROL UNIT ENCLOSURES.
  - SINGLE DROPS INSTALLED IN THE RACEWAY TO INDIVIDUAL DEVICES OR APPLIANCES.
  - IN A SINGLE ROOM NOT EXCEEDING 1000 FT IN AREA, A DROP INSTALLED IN THE RACEWAY TO MULTIPLE DEVICES OR APPLIANCES THAT DOES NOT INCLUDE ANY EMERGENCY CONTROL FUNCTION DEVICES.
- THIS BUILDING IS SERVED BY A SHELL AND CORE PANEL THAT HANDLES ALL NOTIFICATION, CENTRAL STATION MONITORING, AND ANY NON-TENANT SMOKE DETECTION SUCH AS ELEVATOR RECALL DEVICES ON THE HOUSE SYSTEM ARE NOT SHOWN, AND ANY MODIFICATIONS TO THE NOTIFICATION SYSTEM TO SUPPORT THE ADDED ROOMS ARE BY OTHERS, UNDER SEPARATE PERMIT.

**TYPICAL VESDAIAPS CONNECTIONS**



**FLAG NOTES:**

- REMOVE EXISTING VESDA HEADS AND TIE VESDANET INTO NEW DETECTORS AS SHOWN.
- TIE NEW DEVICES INTO EXISTING SLC AND/OR AUX POWER RISER.



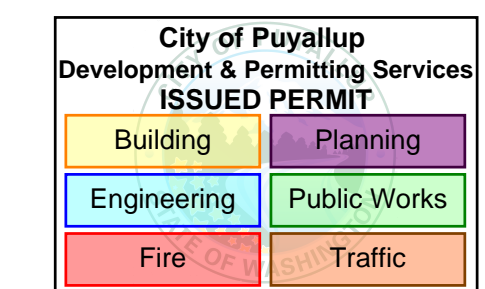
**1ST FLOOR AREA OF WORK**  
 0 4 8 16'  
 SCALE: 1/8"=1'-0"

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450 Shattuck Avenue South, Renton, Washington 98057  
 Phone: 425-272-2250 Fax: 425-251-0949

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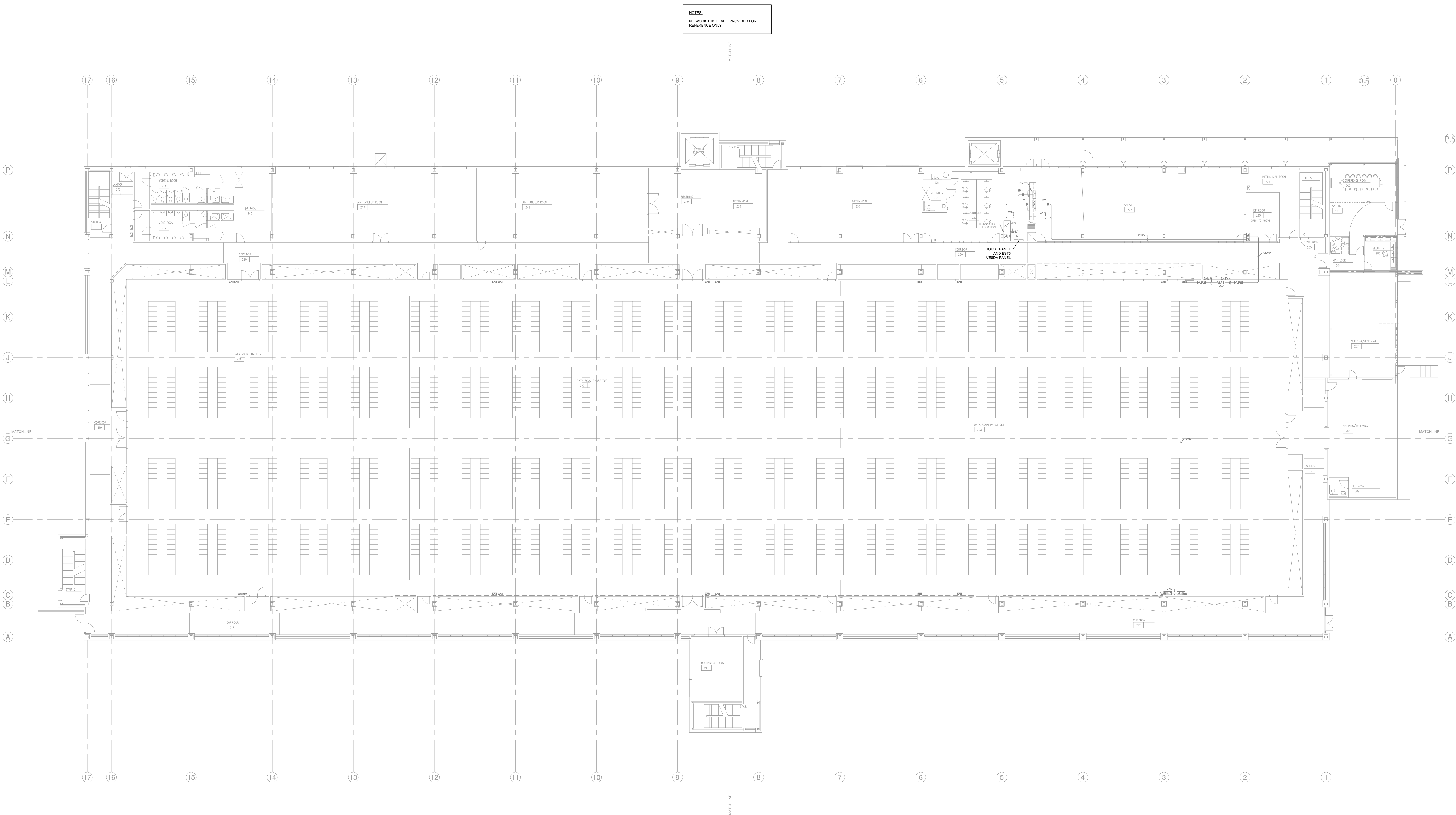
DRAWN BY: OBADIAH R.  
 PROJECT DESIGNER: JACOB U.  
 PROJECT MANAGER: CHARLEY W.  
 JOB NUMBER: 1000-00029129  
 SCALE: AS SHOWN DATE: 04/11/2024

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 1023 39TH AVE SE  
 PUYALLUP, WA, 98374**

**1ST FLOOR AREA OF WORK  
 FIRE ALARM SYSTEM**

DRAWING: **FA-1-1.1**





NOTES:  
NO WORK THIS LEVEL PROVIDED FOR REFERENCE ONLY.

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**OVERALL 2ND FLOOR PLAN**  
SCALE: 1/8"=1'-0"

City of Puyallup  
Development & Permitting Services  
**ISSUED PERMIT**

Building	Planning
Engineering	Public Works
Fire	Traffic

REV	JOB - DESCRIPTION	DATE	BY
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DRAWN BY: OBADIAH R.  
PROJECT DESIGNER: JACOB U.  
PROJECT MANAGER: CHARLIE W.  
JOB NUMBER: URS-2022129  
SCALE: AS SHOWN DATE: 04/11/2024

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PUYALLUP, WA, 98374**

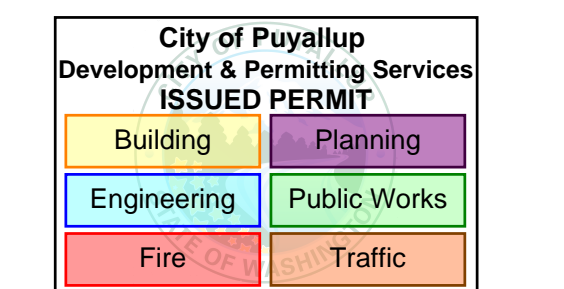
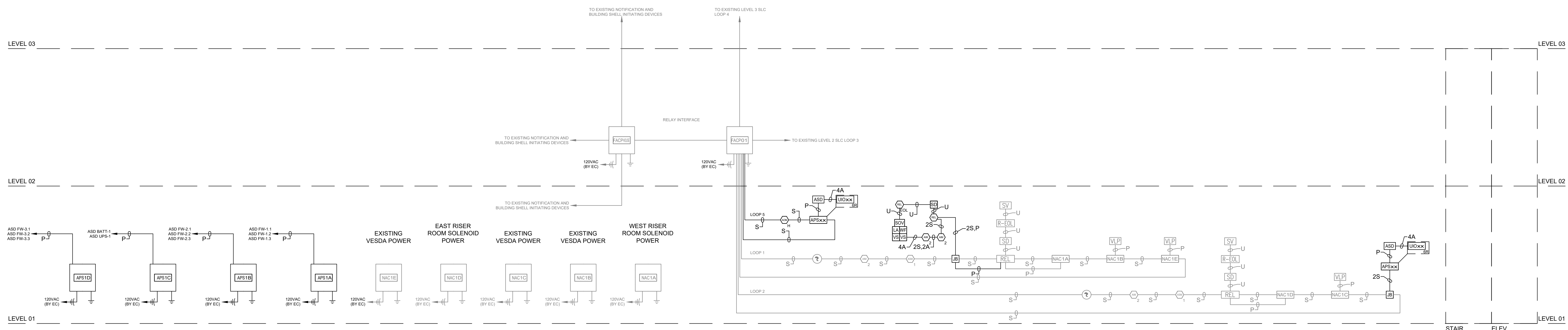
**OVERALL 2ND FLOOR PLAN**  
FIRE ALARM SYSTEM

DRAWING:  
**FA-1-2**



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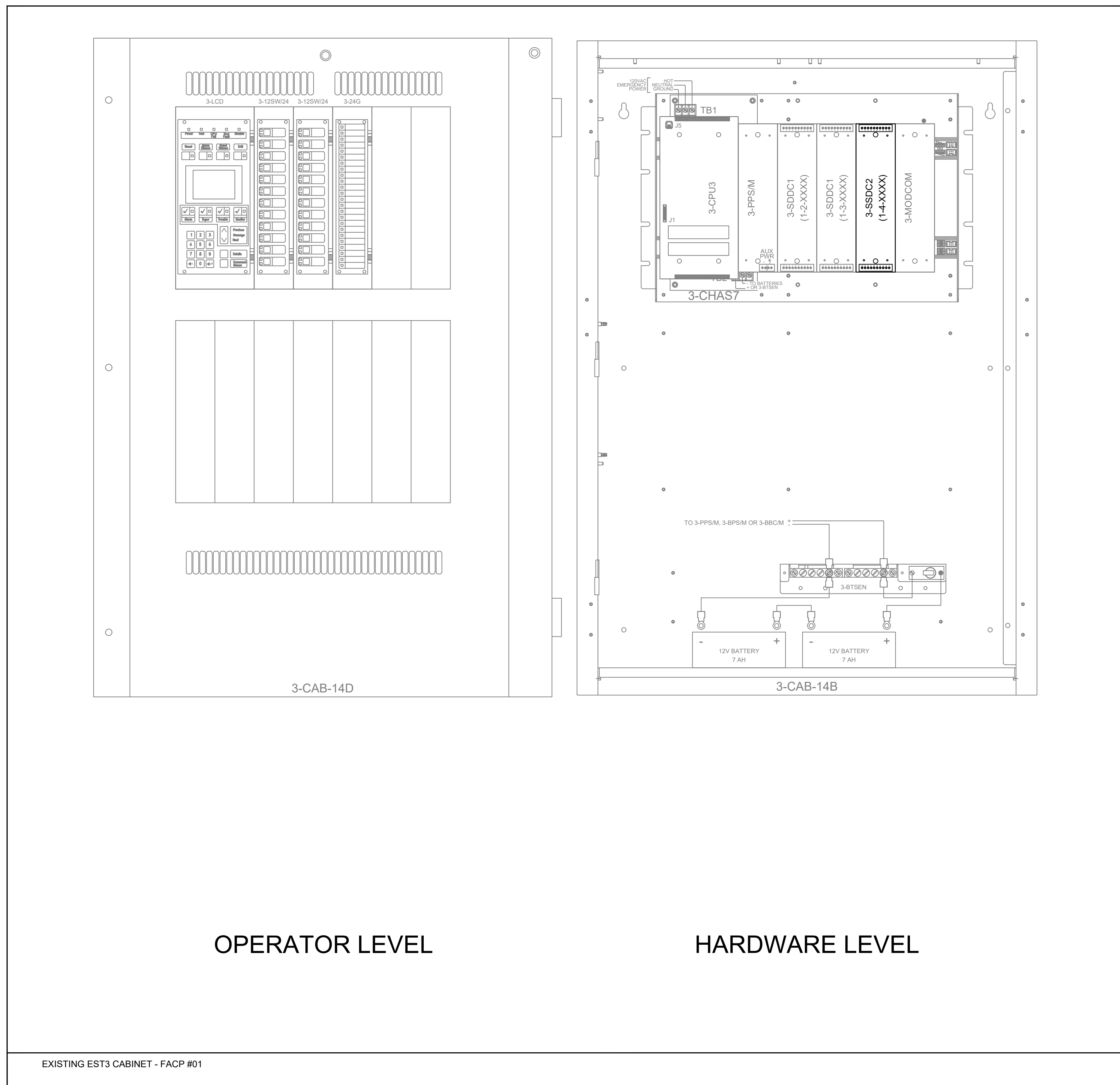
DRAWN BY: OBADIAH R.  
PROJECT DESIGNER: JACOB U.  
PROJECT MANAGER: CHARLIE W.  
JOB NUMBER: 1050-0022129  
SCALE: AS SHOWN DATE: 04/11/2024

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TYPICAL RISER  
FIRE ALARM SYSTEM

DRAWING:  
FA-2-1



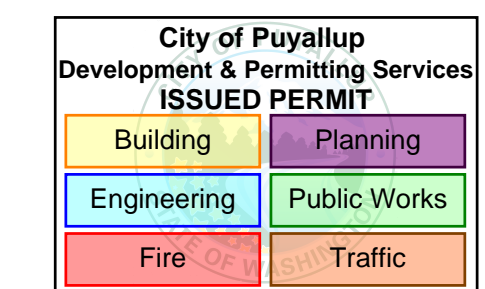


OPERATOR LEVEL

HARDWARE LEVEL

EXISTING EST3 CABINET - FACP #01

EST3 Fire Alarm Panel Battery Calculation						
FACP #	1	STANDBY DURATION REQUIRED (HRS)	4			
FACP LOCATION	LEVEL 2	ALARM RING TIME REQUIRED (MIN)	5			
AREAS SERVED	ALL LEVELS	SPARE CAPACITY (%)	25%			
FIRE ALARM PANEL BASE LOAD/AUXILIARY POWER OUTPUT						
PART #	DESCRIPTION	QTY	SUPERVISORY CURENT (mA)		ALARM CURRENT (mA)	
			EACH	TOTAL	EACH	TOTAL
3-CPU3	CENTRAL PROCESSOR UNIT MODULE	1	155	155	165	165
3-LCD	LIQUID CRYSTAL DISPLAY MODULE	1	40	40	42	42
3-12X	12 SWITCHES DISPLAY/CONTROL MODULE	2	38	76	38	76
3-24G	24 LED DISPLAY MODULES	1	38	38	38	38
4-PPS/M	PRIMARY POWER SUPPLY W/ LOCAL RAIL MODULE 120V 50/60 HZ	1	70	70	70	70
3-SSDC1	SINGLE SIGNATURE DRIVER CONTROLLER	1	144	144	204	204
3-SSDC2	DUAL SIGNATURE DRIVER CONTROLLER	2	264	528	336	672
3-MODCOM	MODEM/DIALER (DACT) VERSION	1	60	60	95	95
			SUBTOTAL SUPERVISORY CURRENT (AMPS):		1.111	
			TOTAL SUPERVISORY CURRENT WITH STANDBY (AMPS):		4.444	
			SUBTOTAL ALARM CURRENT (AMPS):		1.362	
			TOTAL ALARM CURRENT WITH ALARM RING TIME (AMPS):		0.1135	
			SPARE CAPACITY:		25%	
			TOTAL AMP HOUR REQUIRED (AMPS):		5.696875	
			BATTERY SIZE REQUIRED (AH):		18.00	
			BATTERY CABINET PROVIDED:		NO	



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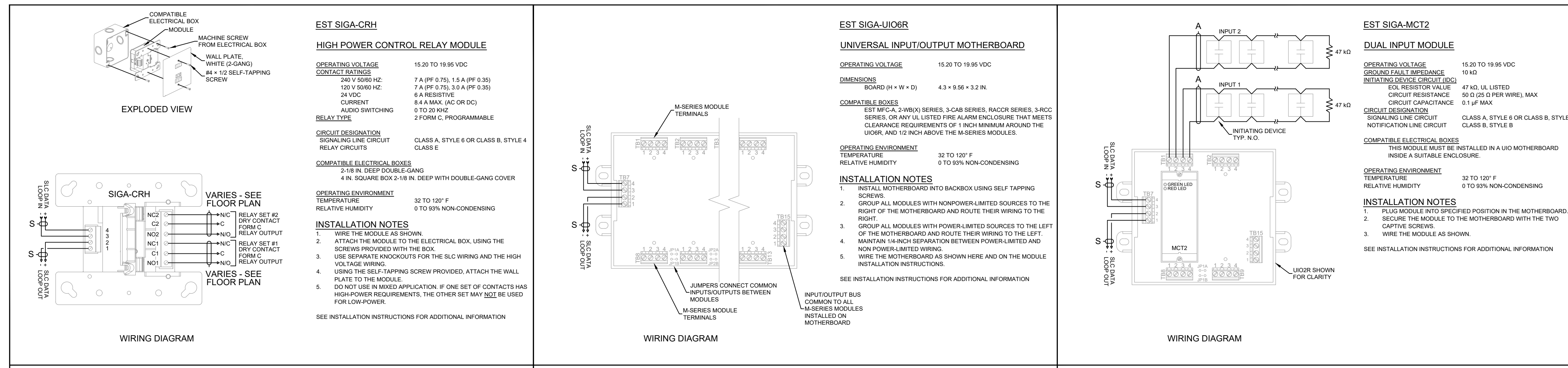
DRAWN BY: OBADIAH R.  
PROJECT DESIGNER: JACOB U.  
PROJECT MANAGER: CHARLIE W.  
JOB NUMBER: 1000-0002129  
SCALE: AS SHOWN DATE: 04/11/2024

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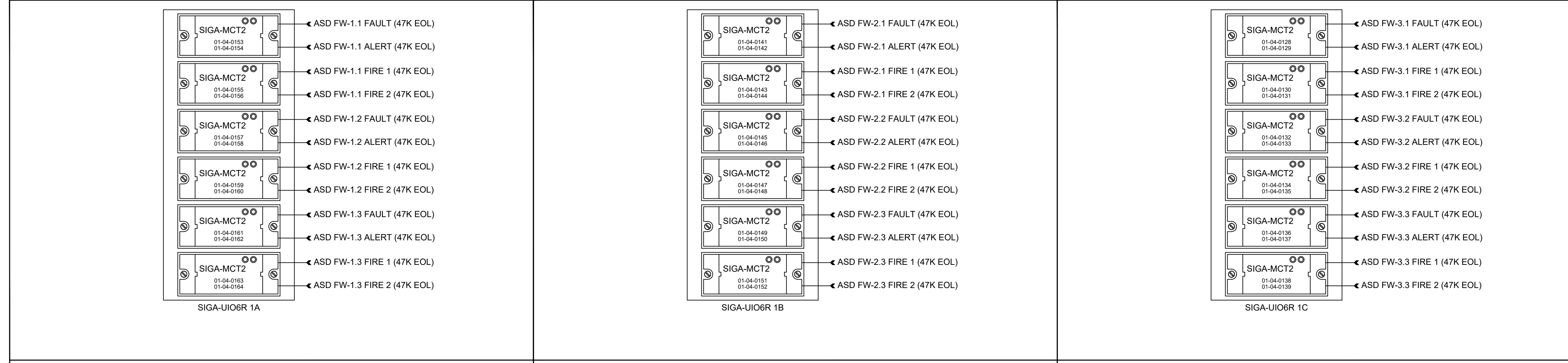
EXISTING FIRE PANEL  
DETAILS  
FIRE ALARM SYSTEM

DRAWING: FA-3-1





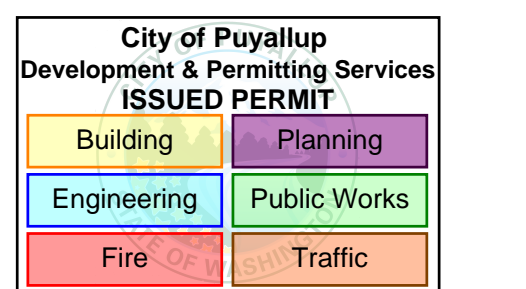
HIGH POWER CONTROL RELAY MODULE - WIRING DIAGRAM EST SIGA-CRH UNIVERSAL INPUT/OUTPUT MOTHERBOARD - WIRING DIAGRAM EST SIGA-UIO6R DUAL INPUT MODULE - WIRING DIAGRAM EST SIGA-MCT2



1 LEVEL 1 - UIO6R 1A APS1A 2 LEVEL 1 - UIO6R 1B APS1B 3 LEVEL 1 - UIO6R 1C APS1C



4 LEVEL 1 - UIO6R 1AD APS1D



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DRAWN BY: OBADIAN R.  
PROJECT DESIGNER: JACOB U.  
PROJECT MANAGER: CHARLEY W.  
JOB NUMBER: URS-2022129  
SCALE: AS SHOWN DATE: 04/11/2024

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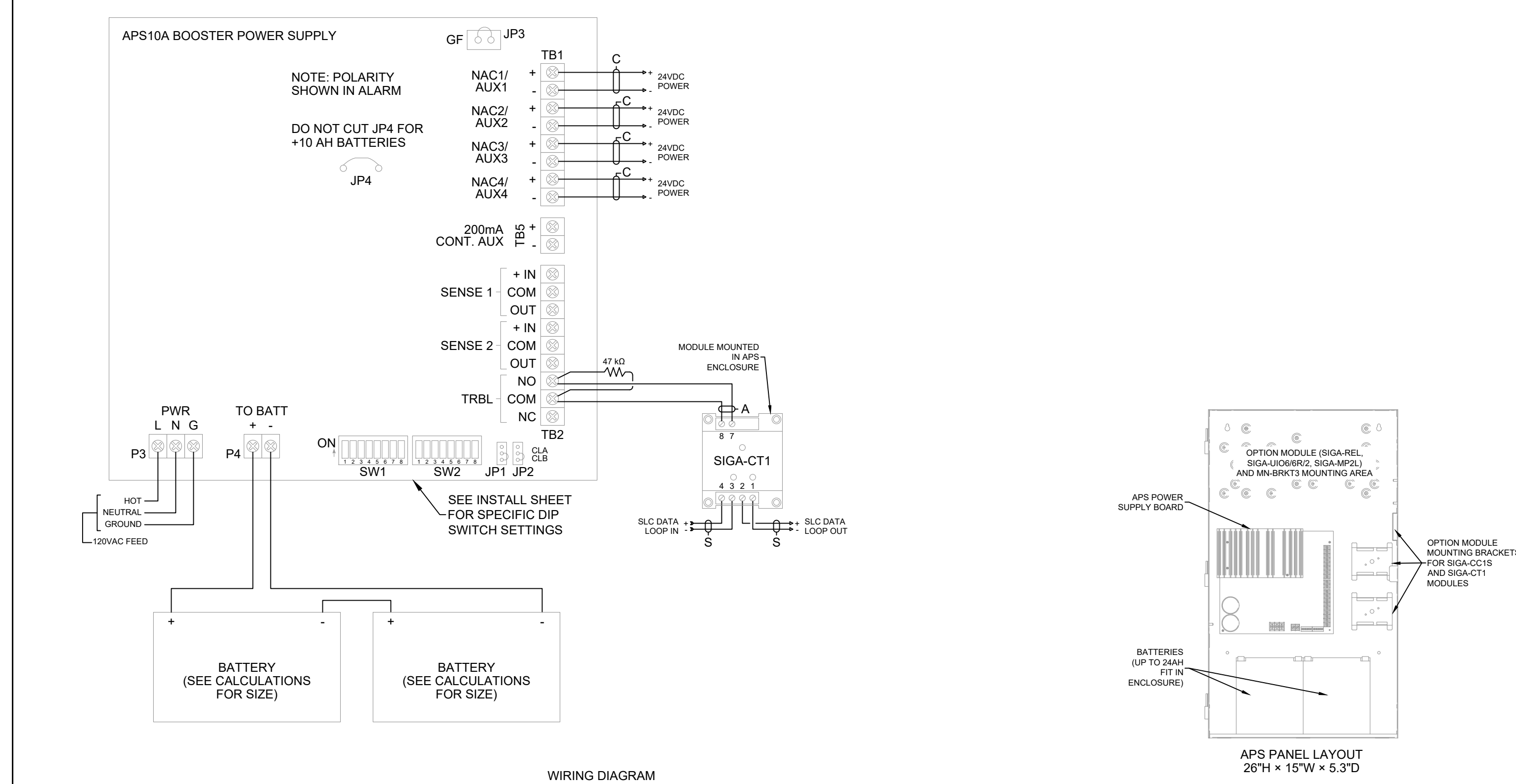
DEVICE DETAILS  
FIRE ALARM SYSTEM

DRAWING: FA-4-1

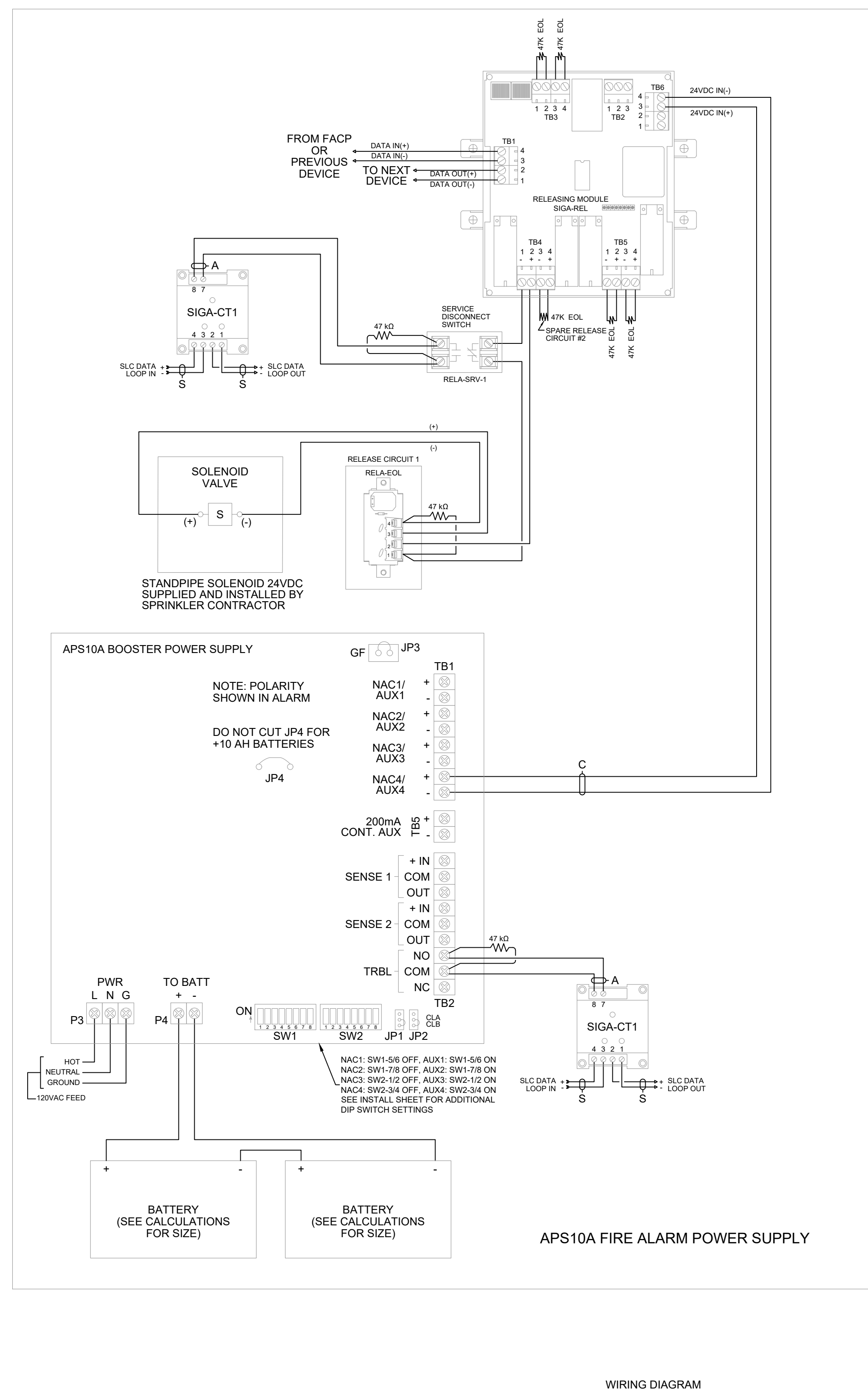


**APS10A \ SIGA-CT1**  
**AUXILIARY POWER SUPPLY WITH FOUR 24VDC CIRCUITS**  
SEE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION

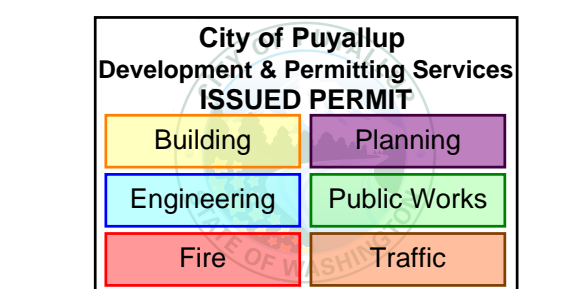
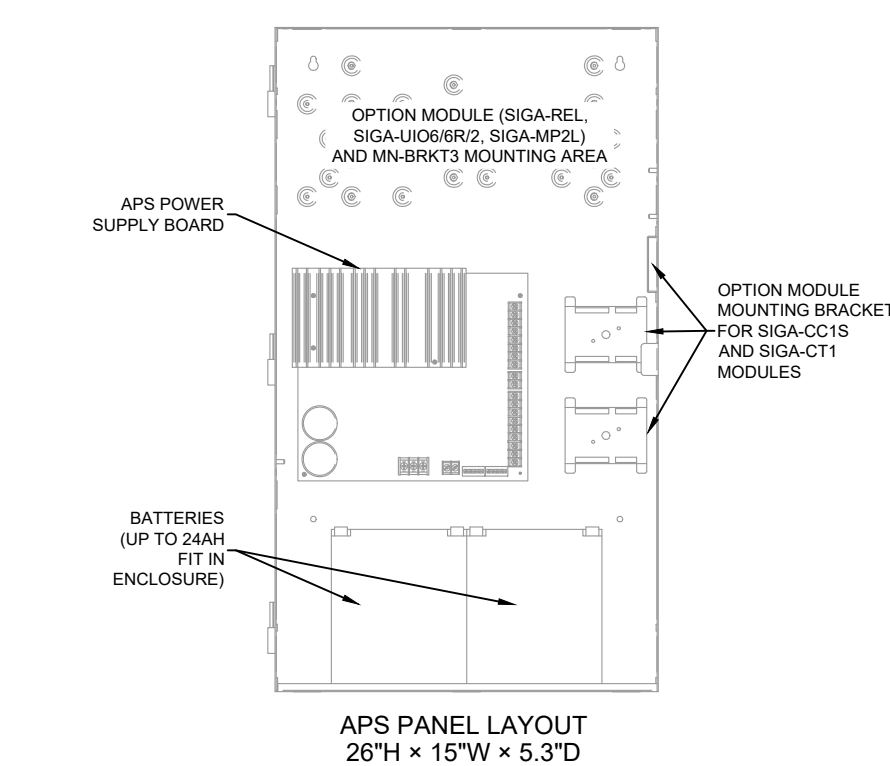
**SIGA-REL \ APS10A**  
**AUXILIARY POWER SUPPLY WITH RELEASE MODULE**  
SEE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION



AUXILIARY POWER SUPPLY WITH FOUR 24VDC CIRCUITS - WIRING DIAGRAM  
APS10A \ SIGA-CT1



AUXILIARY POWER SUPPLY WITH RELEASE MODULE - WIRING DIAGRAM  
SIGA-REL \ APS10A



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PROJECT DESIGNER: JACOB U.  
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DEVICE DETAILS  
FIRE ALARM SYSTEM

DRAWING: FA-4-1



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APS10A NAC 1A - Battery Calculation									
POWER SUPPLY DESIGNATOR	NAC	POWER SUPPLY PREFIX	1A	STANDBY DURATION REQUIRED (HRS)	4				
PANEL LOCATION	LEVEL 1				ALARM RING TIME REQUIRED (MIN)	15			
AREA SERVED	LEVEL 1				SARE CAPACITY (%)	25%			
POWER SUPPLY BASE LOAD/AUXILIARY POWER OUTPUT									
PART #	DESCRIPTION	QTY.	SUPV. CURRENT (mA)		ALARM CURRENT (mA)				
			EACH	TOTAL	EACH	TOTAL			
APS10A	AUXILIARY BOOSTER POWER SUPPLY	1	70	70	270	270			
APS ALX	BPS CIRCUITS SET TO ALX OUTPUT	1	35	35	35	35			
SIGA-CT1	DUAL INPUT MODULE	1	0.396	0.396	0.68	0.68			
NAC/AUX OUTPUTS									
NAC/AUX OUTPUTS	DESCRIPTION	CKT. #	TYPE	SUPV. CURRENT (mA)		ALARM CURRENT (mA)			
				TOTAL	TOTAL	TOTAL	TOTAL		
1	AUX. POWER ASD FW-1.1, ASD FW-1.2, ASD FW-1.3			1733		1868			
2	SPARE SPARE			0		0			
3	SPARE SPARE			0		0			
4	SPARE SPARE			0		0			
				SUBTOTAL SUPERVISORY CURRENT (AMPS):		1.838			
				TOTAL SUPERVISORY CURRENT WITH STANDBY (AMPS):		7.354			
				SUBTOTAL ALARM CURRENT (AMPS):		2.174			
				TOTAL ALARM CURRENT WITH ALARM RING TIME (AMPS):		0.543			
				SPARE CAPACITY:		25%			
				TOTAL AMP HOUR REQUIRED (AMPS):		9.871			
				BATTERY SIZE REQUIRED (AH):		10			
				BATTERY CABINET PROVIDED:		NO			
CIRCUIT N1A-1 - AUX. POWER SUMMARY									
CIRCUIT TYPE		AUX. POWER							
DESCRIPTION		ASD FW-1.1, ASD FW-1.2, ASD FW-1.3							
POWER SUPPLY INFORMATION				CABLE PROPERTIES					
NOMINAL STARTING VOLTAGE (Vdc)	19.7	LOAD FACTOR (LF)	0.59	WIRE GAUGE (AWG)	14				
MINIMUM DEVICE VOLTAGE (Vdc)	16	VOLTAGE W/LOAD FACTOR (VDC)	18.59788	Ω PER 1K FEET (OHMS)	3.07				
TOTAL SUPERVISORY CURRENT (AMPS)	1.733	TOTAL ALARM CURRENT (AMPS)	1.868						
PART #	DEVICE	QTY	STANDBY CURRENT (mA)		ALARM CURRENT (mA)				
			EACH	TOTAL	EACH	TOTAL			
VEP-A10-P (FS)	VESDA-E, ASPIRATOR @ FAN SETTING 5	1	417	417	484	484			
VEU-A10	VESDA-E VEU	2	658	1316	692	1384			

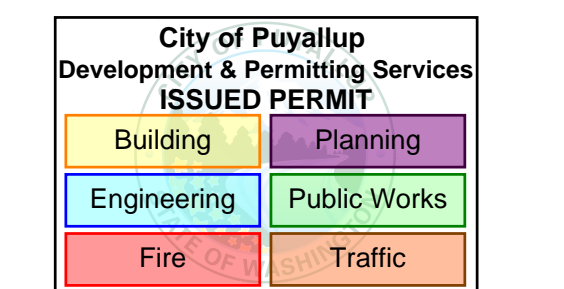
APS10A NAC 1B - Battery Calculation									
POWER SUPPLY DESIGNATOR	NAC	POWER SUPPLY PREFIX	1B	STANDBY DURATION REQUIRED (HRS)	4				
PANEL LOCATION	LEVEL 1				ALARM RING TIME REQUIRED (MIN)	15			
AREA SERVED	LEVEL 1				SARE CAPACITY (%)	25%			
POWER SUPPLY BASE LOAD/AUXILIARY POWER OUTPUT									
PART #	DESCRIPTION	QTY.	SUPV. CURRENT (mA)		ALARM CURRENT (mA)				
			EACH	TOTAL	EACH	TOTAL			
APS10A	AUXILIARY BOOSTER POWER SUPPLY	1	70	70	270	270			
APS ALX	BPS CIRCUITS SET TO ALX OUTPUT	1	35	35	35	35			
SIGA-CT1	DUAL INPUT MODULE	1	0.396	0.396	0.68	0.68			
NAC/AUX OUTPUTS									
NAC/AUX OUTPUTS	DESCRIPTION	CKT. #	TYPE	SUPV. CURRENT (mA)		ALARM CURRENT (mA)			
				TOTAL	TOTAL	TOTAL	TOTAL		
1	AUX. POWER ASD FW-2.1, ASD FW-2.2, ASD FW-2.3			1733		1868			
2	SPARE SPARE			0		0			
3	SPARE SPARE			0		0			
4	SPARE SPARE			0		0			
				SUBTOTAL SUPERVISORY CURRENT (AMPS):		1.838			
				TOTAL SUPERVISORY CURRENT WITH STANDBY (AMPS):		7.354			
				SUBTOTAL ALARM CURRENT (AMPS):		2.174			
				TOTAL ALARM CURRENT WITH ALARM RING TIME (AMPS):		0.543			
				SPARE CAPACITY:		25%			
				TOTAL AMP HOUR REQUIRED (AMPS):		9.871			
				BATTERY SIZE REQUIRED (AH):		10			
				BATTERY CABINET PROVIDED:		NO			
CIRCUIT N1B-1 - AUX. POWER SUMMARY									
CIRCUIT TYPE		AUX. POWER							
DESCRIPTION		ASD FW-2.1, ASD FW-2.2, ASD FW-2.3							
POWER SUPPLY INFORMATION				CABLE PROPERTIES					
NOMINAL STARTING VOLTAGE (Vdc)	19.7	LOAD FACTOR (LF)	0.59	WIRE GAUGE (AWG)	14				
MINIMUM DEVICE VOLTAGE (Vdc)	16	VOLTAGE W/LOAD FACTOR (VDC)	18.59788	Ω PER 1K FEET (OHMS)	3.07				
TOTAL SUPERVISORY CURRENT (AMPS)	1.733	TOTAL ALARM CURRENT (AMPS)	1.868						
PART #	DEVICE	QTY	STANDBY CURRENT (mA)		ALARM CURRENT (mA)				
			EACH	TOTAL	EACH	TOTAL			
VEP-A10-P (FS)	VESDA-E, ASPIRATOR @ FAN SETTING 5	1	417	417	484	484			
VEU-A10	VESDA-E VEU	2	658	1316	692	1384			

APS10A NAC 1C - Battery Calculation									
POWER SUPPLY DESIGNATOR	NAC	POWER SUPPLY PREFIX	1C	STANDBY DURATION REQUIRED (HRS)	4				
PANEL LOCATION	LEVEL 1				ALARM RING TIME REQUIRED (MIN)	15			
AREA SERVED	LEVEL 1				SARE CAPACITY (%)	25%			
POWER SUPPLY BASE LOAD/AUXILIARY POWER OUTPUT									
PART #	DESCRIPTION	QTY.	SUPV. CURRENT (mA)		ALARM CURRENT (mA)				
			EACH	TOTAL	EACH	TOTAL			
APS10A	AUXILIARY BOOSTER POWER SUPPLY	1	70	70	270	270			
APS ALX	BPS CIRCUITS SET TO ALX OUTPUT	1	35	35	35	35			
SIGA-CT1	DUAL INPUT MODULE	1	0.396	0.396	0.68	0.68			
NAC/AUX OUTPUTS									
NAC/AUX OUTPUTS	DESCRIPTION	CKT. #	TYPE	SUPV. CURRENT (mA)		ALARM CURRENT (mA)			
				TOTAL	TOTAL	TOTAL	TOTAL		
1	AUX. POWER BATT-1, UPS-1			734		800			
2	SPARE SPARE			0		0			
3	SPARE SPARE			0		0			
4	SPARE SPARE			0		0			
				SUBTOTAL SUPERVISORY CURRENT (AMPS):		0.839			
				TOTAL SUPERVISORY CURRENT WITH STANDBY (AMPS):		3.358			
				SUBTOTAL ALARM CURRENT (AMPS):		1.106			
				TOTAL ALARM CURRENT WITH ALARM RING TIME (AMPS):		0.276			
				SPARE CAPACITY:		25%			
				TOTAL AMP HOUR REQUIRED (AMPS):		4.543			
				BATTERY SIZE REQUIRED (AH):		7			
				BATTERY CABINET PROVIDED:		NO			
CIRCUIT N1C-1 - AUX. POWER SUMMARY									
CIRCUIT TYPE		AUX. POWER							
DESCRIPTION		BATT-1, UPS-1							
POWER SUPPLY INFORMATION				CABLE PROPERTIES					
NOMINAL STARTING VOLTAGE (Vdc)	19.7	LOAD FACTOR (LF)	0.59	WIRE GAUGE (AWG)	14				
MINIMUM DEVICE VOLTAGE (Vdc)	16	VOLTAGE W/LOAD FACTOR (VDC)	19.228	Ω PER 1K FEET (OHMS)	3.07				
TOTAL SUPERVISORY CURRENT (AMPS)	0.734	TOTAL ALARM CURRENT (AMPS)	0.800						
PART #	DEVICE	QTY	STANDBY CURRENT (mA)		ALARM CURRENT (mA)				
			EACH	TOTAL	EACH	TOTAL			
VEP-A00-1P	VESDA-E, ASPIRATOR @ FIXED RPM	2	367	734	400	800			

APS10A NAC 1D - Battery Calculation									
POWER SUPPLY DESIGNATOR	NAC	POWER SUPPLY PREFIX	1D	STANDBY DURATION REQUIRED (HRS)	4				
PANEL LOCATION	LEVEL 1				ALARM RING TIME REQUIRED (MIN)	15			
AREA SERVED	LEVEL 1				SARE CAPACITY (%)	25%			
POWER SUPPLY BASE LOAD/AUXILIARY POWER OUTPUT									
PART #	DESCRIPTION	QTY.	SUPV. CURRENT (mA)		ALARM CURRENT (mA)				
			EACH	TOTAL	EACH	TOTAL			
APS10A	AUXILIARY BOOSTER POWER SUPPLY	1	70	70	270	270			
APS ALX	BPS CIRCUITS SET TO ALX OUTPUT	1	35	35	35	35			
SIGA-CT1	DUAL INPUT MODULE	1	0.396	0.396	0.68	0.68			
NAC/AUX OUTPUTS									
NAC/AUX OUTPUTS	DESCRIPTION	CKT. #	TYPE	SUPV. CURRENT (mA)		ALARM CURRENT (mA)			
				TOTAL	TOTAL	TOTAL	TOTAL		
1	AUX. POWER ASD FW-1.1, ASD FW-1.2, ASD FW-1.3			1733		1868			
2	SPARE SPARE			0		0			
3	SPARE SPARE			0		0			
4	SPARE SPARE			0		0			
				SUBTOTAL SUPERVISORY CURRENT (AMPS):		1.838			
				TOTAL SUPERVISORY CURRENT WITH STANDBY (AMPS):		7.354			
				SUBTOTAL ALARM CURRENT (AMPS):		2.174			
				TOTAL ALARM CURRENT WITH ALARM RING TIME (AMPS):		0.543			
				SPARE CAPACITY:		25%			
				TOTAL AMP HOUR REQUIRED (AMPS):		9.871			
				BATTERY SIZE REQUIRED (AH):		10			
				BATTERY CABINET PROVIDED:		NO			
CIRCUIT N1D-1 - AUX. POWER SUMMARY									
CIRCUIT TYPE		AUX. POWER							
DESCRIPTION		ASD FW-1.1, ASD FW-1.2, ASD FW-1.3							
POWER SUPPLY INFORMATION				CABLE PROPERTIES					
NOMINAL STARTING VOLTAGE (Vdc)	19.7	LOAD FACTOR (LF)	0.59	WIRE GAUGE (AWG)	14				
MINIMUM DEVICE VOLTAGE (Vdc)	16	VOLTAGE W/LOAD FACTOR (VDC)	18.59788	Ω PER 1K FEET (OHMS)	3.07				
TOTAL SUPERVISORY CURRENT (AMPS)	1.733	TOTAL ALARM CURRENT (AMPS)	1.868						
PART #	DEVICE	QTY	STANDBY CURRENT (mA)		ALARM CURRENT (mA)				
			EACH	TOTAL	EACH	TOTAL			
VEP-A10-P (FS)	VESDA-E, ASPIRATOR @ FAN SETTING 5	1	417	417	484	484			
VEU-A10	VESDA-E VEU	2	658	1316	692	1384			

NOTE:  
CALCULATIONS ASSUME POWER SUPPLIES ARE SUPPORTED BY AN EMERGENCY GENERATOR CAPABLE OF 24 HOURS OF RUNTIME.  
IF GENERATOR SUPPORTED CIRCUITS ARE NOT AVAILABLE< ADDITIONAL POWER SUPPLIES ARE REQUIRED.

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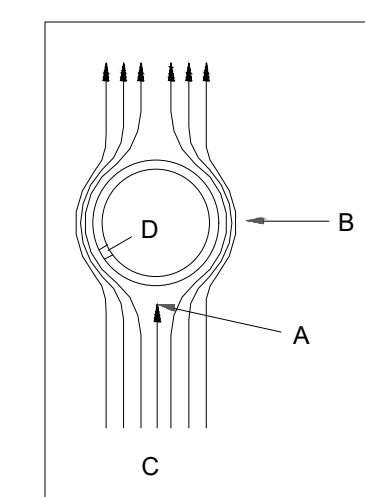
DRAWN BY: OBADIAN R.  
PROJECT DESIGNER: JACOB U.  
PROJECT MANAGER: CHARLEY W.  
JOB NUMBER: 1921-0002129  
SCALE: AS SHOWN DATE: 04/11/2024

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PUYALLUP, WA, 98374

CALCULATIONS  
FIRE ALARM SYSTEM

DRAWING:  
FA-5-1





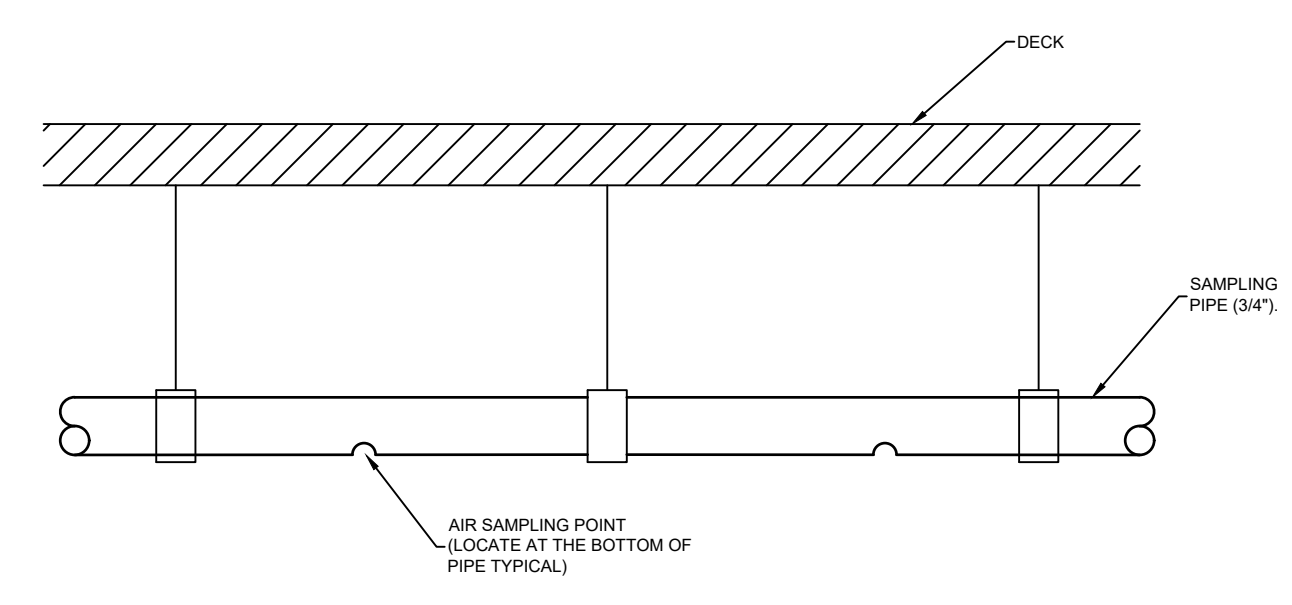
LEGEND	
A	LOW VELOCITY (HIGH STATIC PRESSURE) AREA
B	HIGH VELOCITY (LOW STATIC PRESSURE) AREA
C	AIR STREAMLINES (AIR FLOW DIRECTION)
D	SAMPLING POINT (SEE NOTE 1.)

NOTES:  
1. SAMPLING POINTS SHALL BE DRILLED DIRECTLY INTO THE AIR SAMPLING PIPE DISTRIBUTION NETWORK AND BE ORIENTED 30-45° DOWNWARD TOWARDS THE INCOMING AIRFLOW.  
2. ALWAYS PROVIDE SOCKET UNIONS TO ALLOW FIELD ADJUSTMENT OF HOLE ORIENTATION DURING COMMISSIONING.

VESDA PIPE - ORIENTATION OF HOLES IN HIGH AIRFLOW

VESDA SYSTEM  
SAMPLING PIPE DETAIL

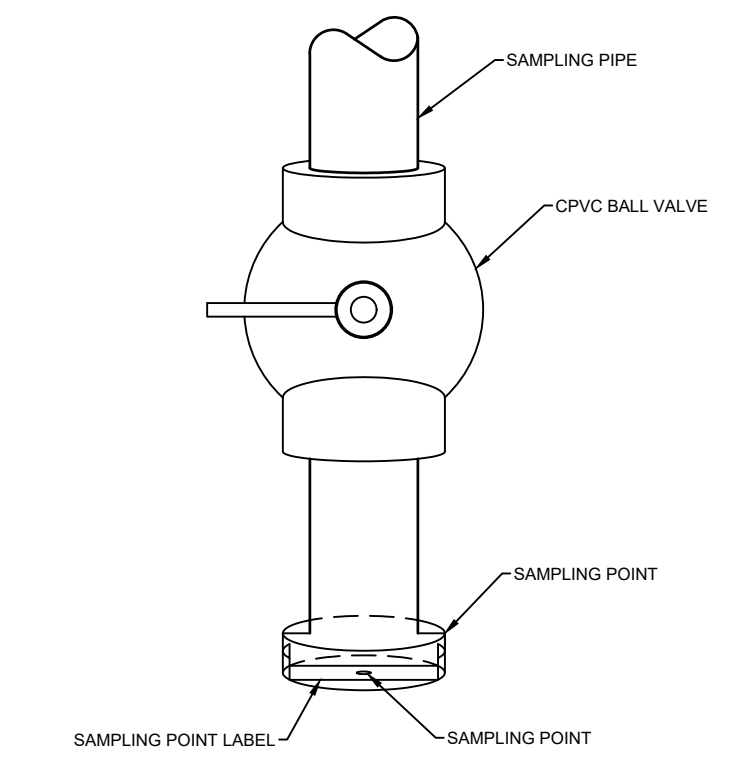
INSTALLATION NOTES  
1. SUPPORT PIPE ON NO GREATER THAN 5 FOOT CENTERS FOR CEILING INSTALLATION.  
2. LOCATE AIR SAMPLING PIPE AS INDICATED ON THE DRAWINGS BUT NOT FARTHER THAN 6 INCHES FROM THE CEILING SLAB.  
SEE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION



VESDA - SAMPLING PIPE DETAIL

VESDA SYSTEM  
TEST PORT WITH BALL VALVE

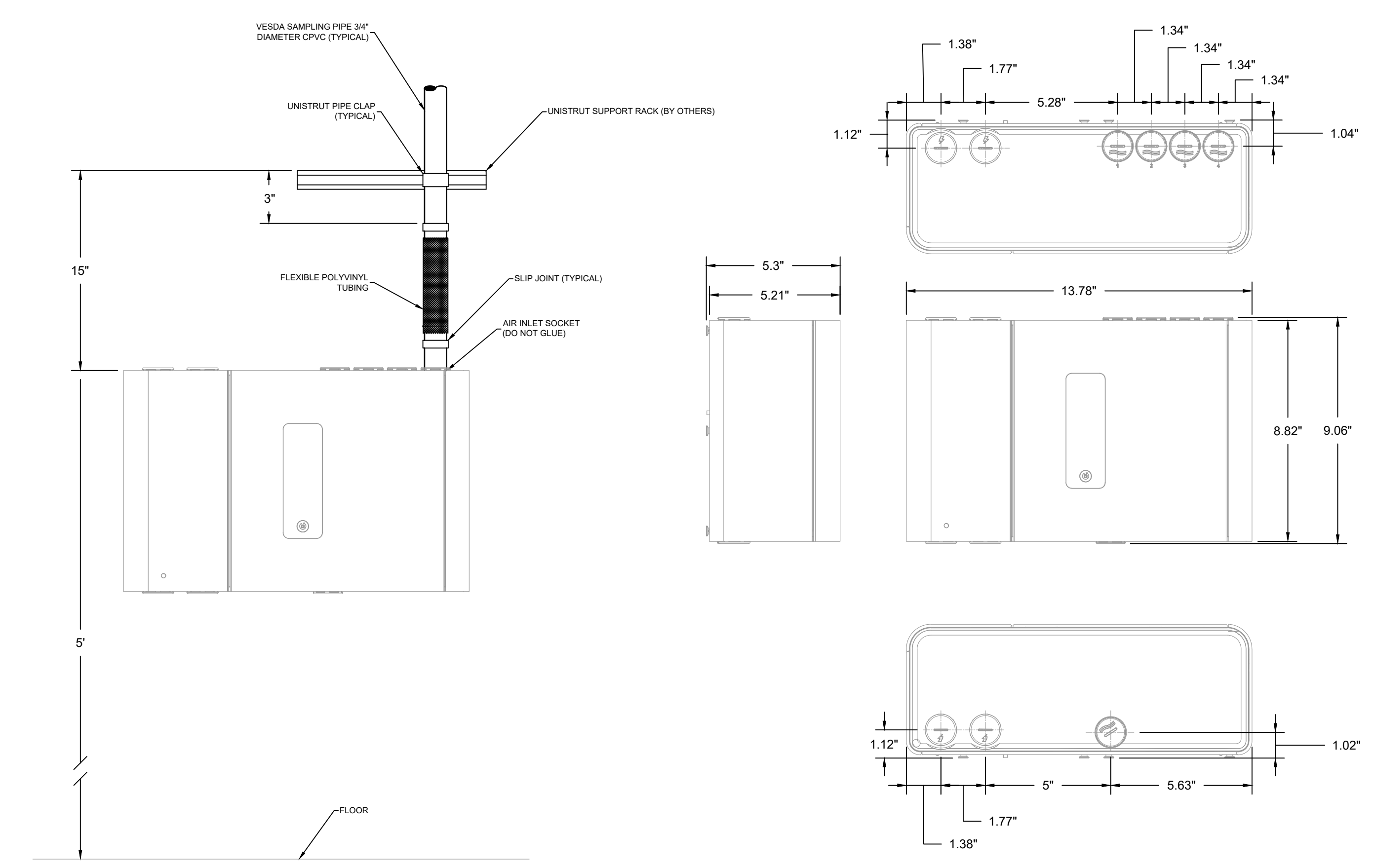
INSTALLATION NOTES  
1. SIZE OF TEST PORT PER DESIGN DRAWINGS.  
2. FURNISH AND INSTALL SAMPLING ORifice LABEL.  
3. END CAP AND SAMPLING ORifice TO BE INSTALLED 6-12" AFF.  
SEE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION



VESDA PIPE - TEST PORT WITH BALL VALVE

VESDA SYSTEM  
VEP/VEU - MOUNTING DETAIL

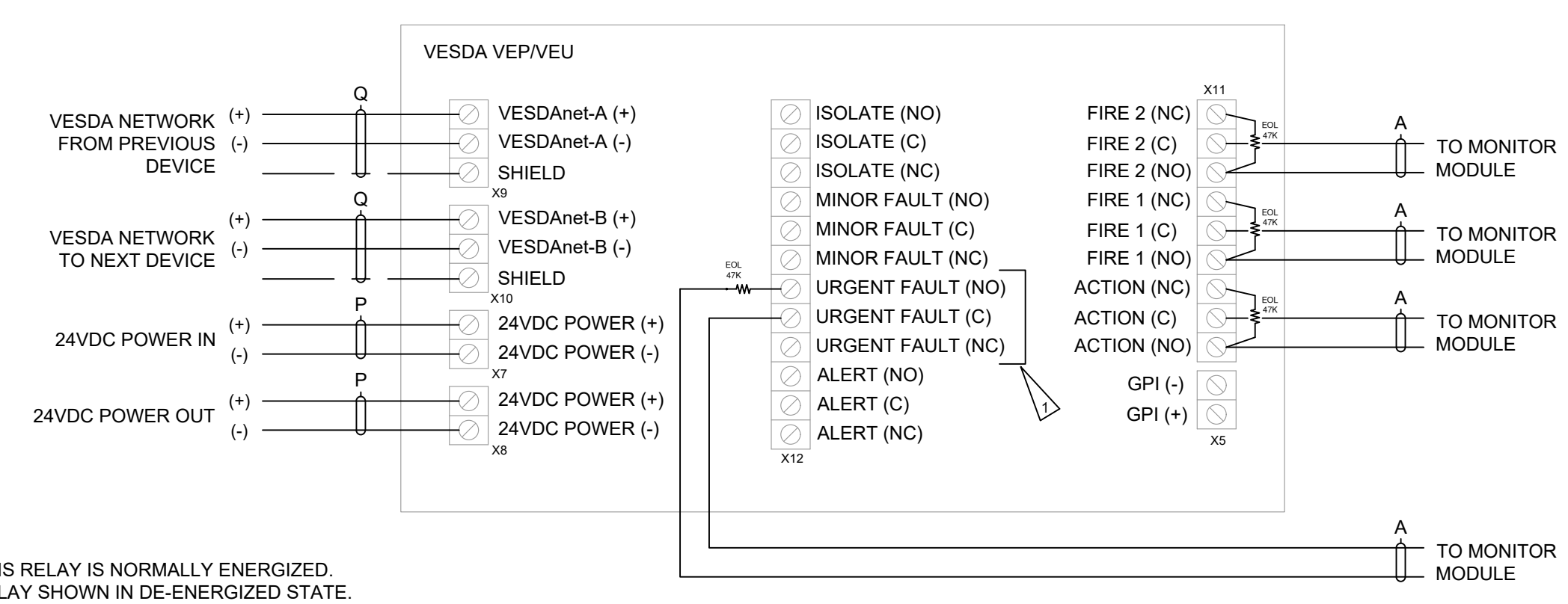
SEE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION



VESDA-E VEP/VEU - MOUNTING DETAIL

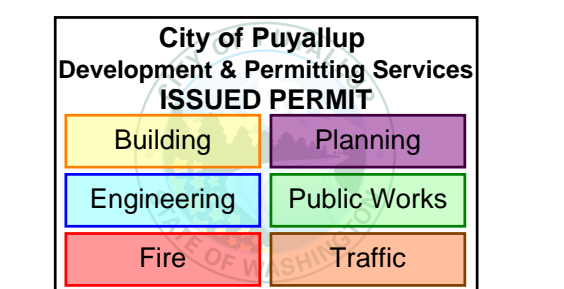
VESDA SYSTEM  
VEP/VEU WIRING DETAIL

SEE INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION



THIS RELAY IS NORMALLY ENERGIZED. RELAY SHOWN IN DE-ENERGIZED STATE.

VESDA VEP/VEU WIRING DETAIL



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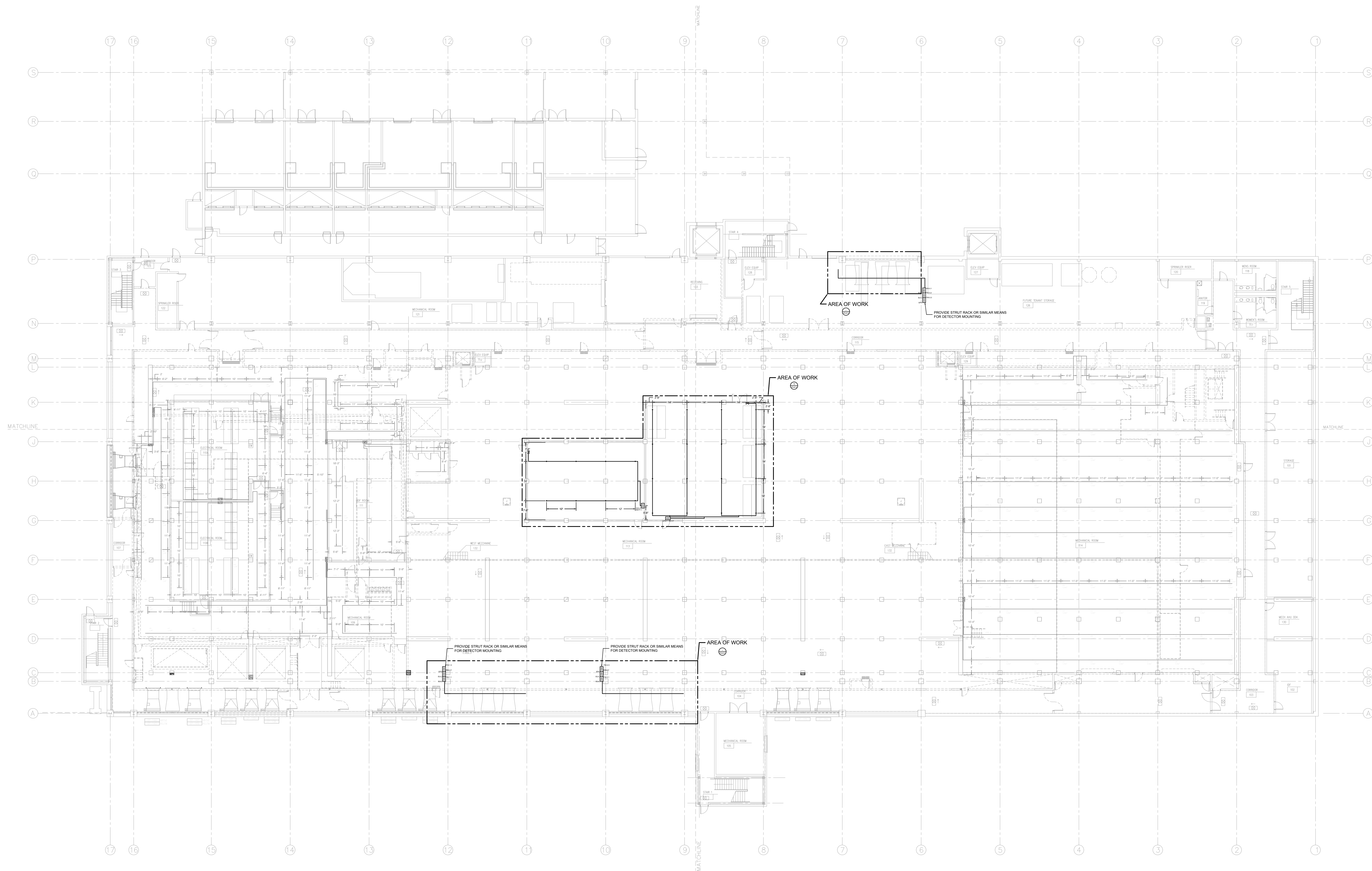
DRAWN BY:	OBADIAH R.
PROJECT DESIGNER:	JACOB U.
PROJECT MANAGER:	CHRISTY W.
JOB NUMBER:	1000-0002129
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VESDA DETAILS  
FIRE ALARM SYSTEM

DRAWING:  
FA-6-0





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**OVERALL VESDA LAYOUT**  
0 8' 16' 32'  
SCALE: 1/16"=1'-0"

City of Puyallup  
Development & Permitting Services  
**ISSUED PERMIT**

Building	Planning
Engineering	Public Works
Fire	Traffic

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DRAWN BY: OBADIAH R.  
PROJECT DESIGNER: JACOB U.  
PROJECT MANAGER: CHARITY W.  
JOB NUMBER: 1800-0002129  
SCALE: AS SHOWN DATE: 04/11/2024

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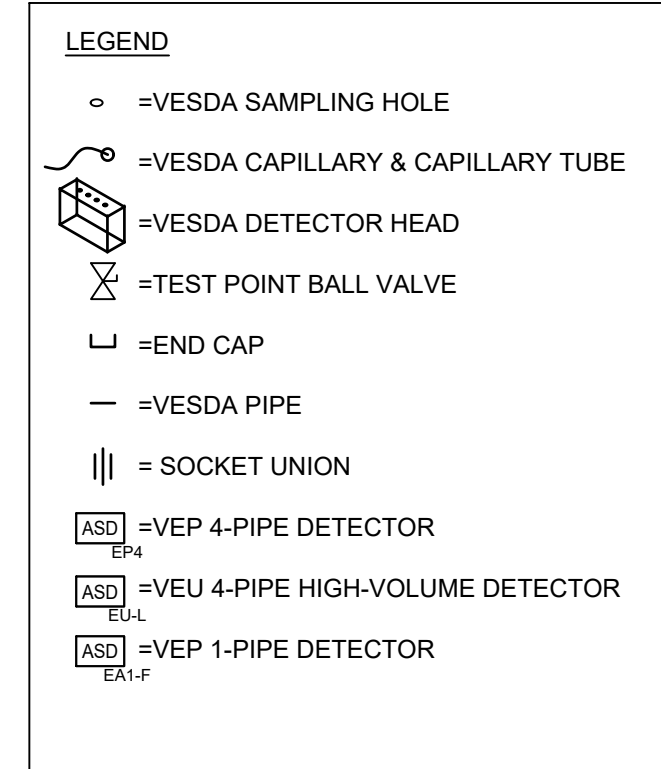
**OVERALL VESDA LAYOUT**  
FIRE ALARM SYSTEM

DRAWING: FA-6-1

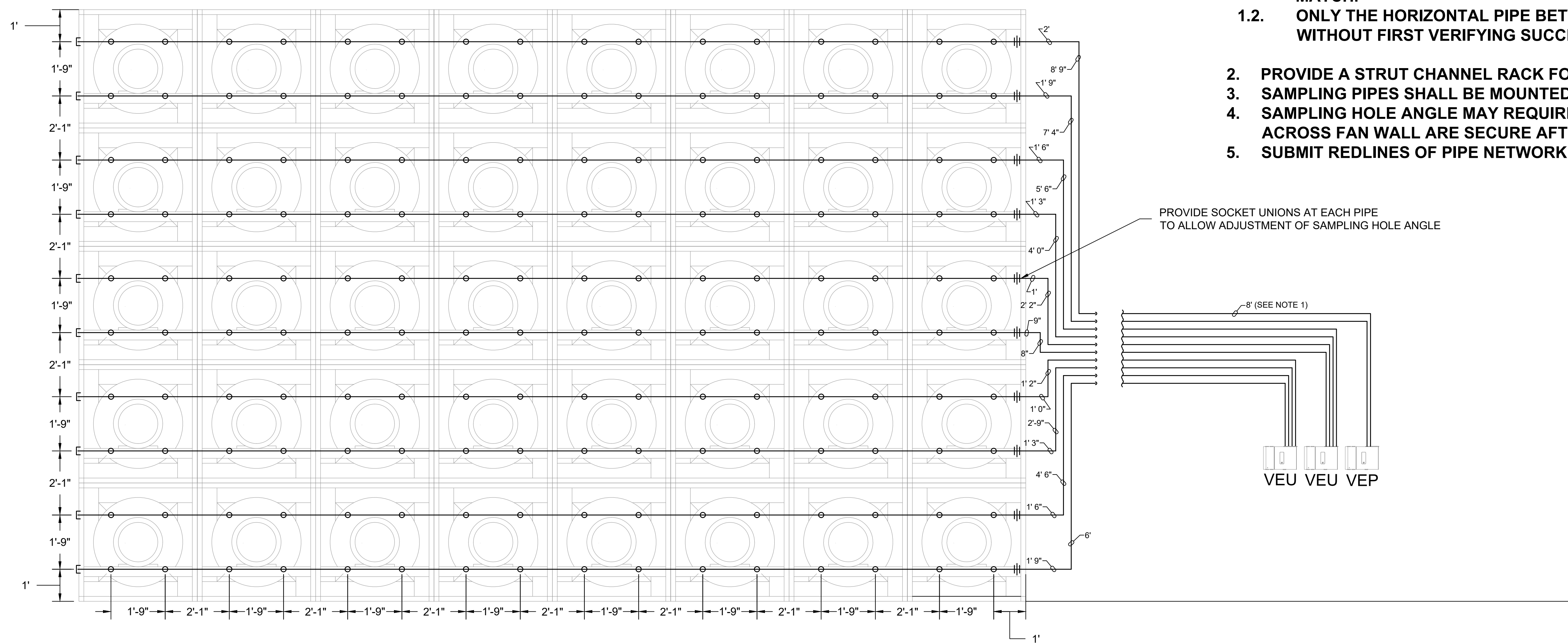


**VESDA INSTALLATION NOTES:**

- DIMENSIONS PROVIDED ON PLANS ARE PRECISE TO +/- .5"
- DEVIATIONS FROM PLANS DUE TO FIELD CONDITIONS MUST BE REDLINED AND RETURNED TO CONVERGINT PRIOR TO COMMISSIONING. VARIATIONS GREATER THAN 3' OR THE ADDITION OF ELBOWS SHOULD BE REPORTED BACK TO CONVERGINT PRIOR TO COMPLETION OF INSTALLATION FOR RE-CALCULATION.
- SUPPORT PIPE ON NO GREATER THAN 5 FOOT CENTERS FOR CEILING INSTALLATION.
- GLUE PIPE WITH THE APPROPRIATE ADHESIVE ON THE OUTSIDE OF THE PIPE. DO NOT ALLOW ANY ADHESIVE INSIDE PIPE.
- DO NOT GLUE PIPE INTO THE VESDA DETECTOR MANIFOLD.
- REMOVE ALL DUST AND SHAVINGS FROM INSIDE PIPE AND SAMPLING HOLES PRIOR TO INSTALLATION.
- VERIFY HOLE LOCATION AND SIZE ACCORDING TO VESDA CALCULATIONS BEFORE DRILLING.
- ORIENT DRILL PERPENDICULAR TO PIPE TO ENSURE HOLES ARE DRILLED STRAIGHT AND NOT AT AN ANGLE.
- INSTALL LABELS AT EACH SAMPLING HOLE.
- INSTALL PIPE LABELS EVERY 20', AND AT EVERY CHANGE OF DIRECTION PER NFPA 72.
- NOTIFY CONVERGINT OF ANY FIELD RELATED OBSTRUCTIONS WHICH COULD EFFECT PIPE PLACEMENT OR ABILITY FOR SOMEONE TO REACH SAMPLING HOLES.
- NOTIFY CONVERGINT PRIOR TO MAKING ANY FIELD CHANGES TO THE PIPE NETWORK. CHANGES IN PIPING MAY RESULT IN CHANGES TO THE SAMPLING HOLE SIZES. DO NOT DRILL HOLES, OR ONLY DRILL 5/64" PILOT HOLES ONLY, IF PIPING CHANGES ARE REQUIRED PRIOR TO RECALCULATING.
- MAINTAIN RED-LINE SET OF INSTALLATIONS DRAWINGS SHOWING ANY MODIFICATIONS TO THE PIPE NETWORK AND DELIVER TO CONVERGINT PRIOR TO FINAL TESTING.
- ALL VESDA PIPING SHALL BE 3/4" CPVC, UNLESS OTHERWISE NOTED
- REFERENCE VESDA PIPING CALCULATIONS FOR PROGRAM SETTINGS REQUIRED TO CONFIGURE THE DETECTOR.



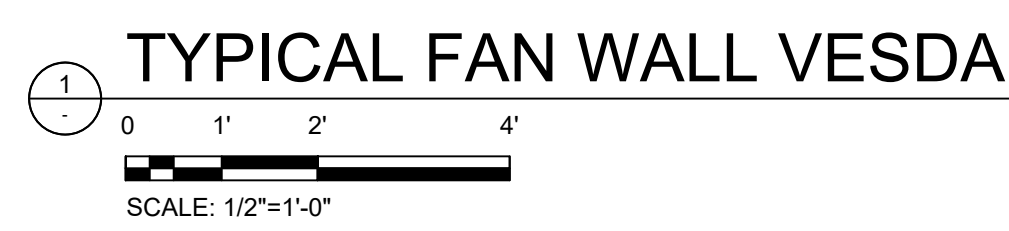
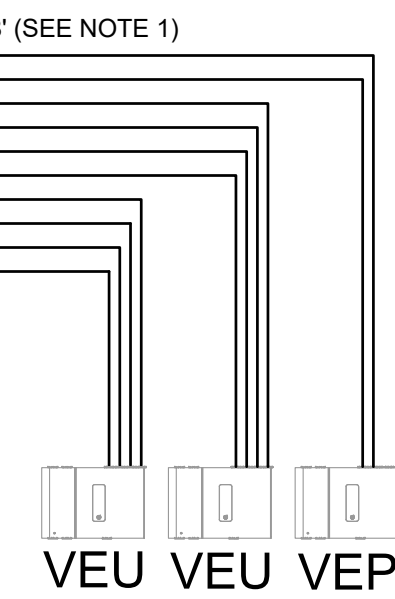
ALL SAMPLING HOLES 5/64"



**FAN WALL VESDA NOTES:**

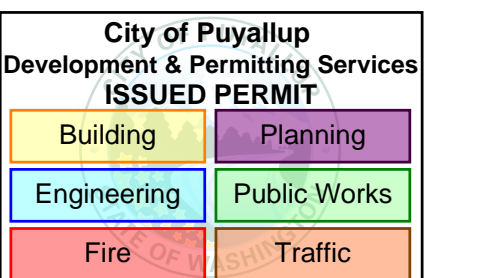
- IF REQUIRED, THE DISTANCE BETWEEN THE VESDA HEADS AND THE EDGE OF THE FAN WALL MAY BE EXTENDED UP TO 25' AND NO MORE THAN TWO ELBOWS MAY BE ADDED TO EACH PIPE.
  - OVERALL SHAPE OF PIPE NETWORK MUST REMAIN, MODIFICATIONS TO ALL 10 PIPES SHOULD MATCH.
  - ONLY THE HORIZONTAL PIPE BETWEEN THE VESDA HEADS AND THE FAN WALL MAY BE EXTENDED WITHOUT FIRST VERIFYING SUCCESSFUL RE-CALCULATION WITH CONVERGINT.
- PROVIDE A STRUT CHANNEL RACK FOR VESDA HEAD MOUNTING.
- SAMPLING PIPES SHALL BE MOUNTED ON STANDOFFS, ~8" IN FRONT OF FAN WALL.
- SAMPLING HOLE ANGLE MAY REQUIRE ADJUSTMENT DURING COMMISSIONING. ENSURE ALL MOUNTS ACROSS FAN WALL ARE SECURE AFTER FINAL TESTING.
- SUBMIT REDLINES OF PIPE NETWORK CHANGES TO CONVERGINT PRIOR TO COMMISSIONING.

PROVIDE SOCKET UNIONS AT EACH PIPE TO ALLOW ADJUSTMENT OF SAMPLING HOLE ANGLE



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DRAWN BY:	OBADIAH R.
PROJECT DESIGNER:	JACOB U.
PROJECT MANAGER:	CHARLITY W.
JOB NUMBER:	1023-0022129
SCALE:	AS SHOWN
DATE:	04/11/2024

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**TYPICAL FAN WALL LAYOUT**  
FIRE ALARM SYSTEM

DRAWING: **FA-6-2**



