

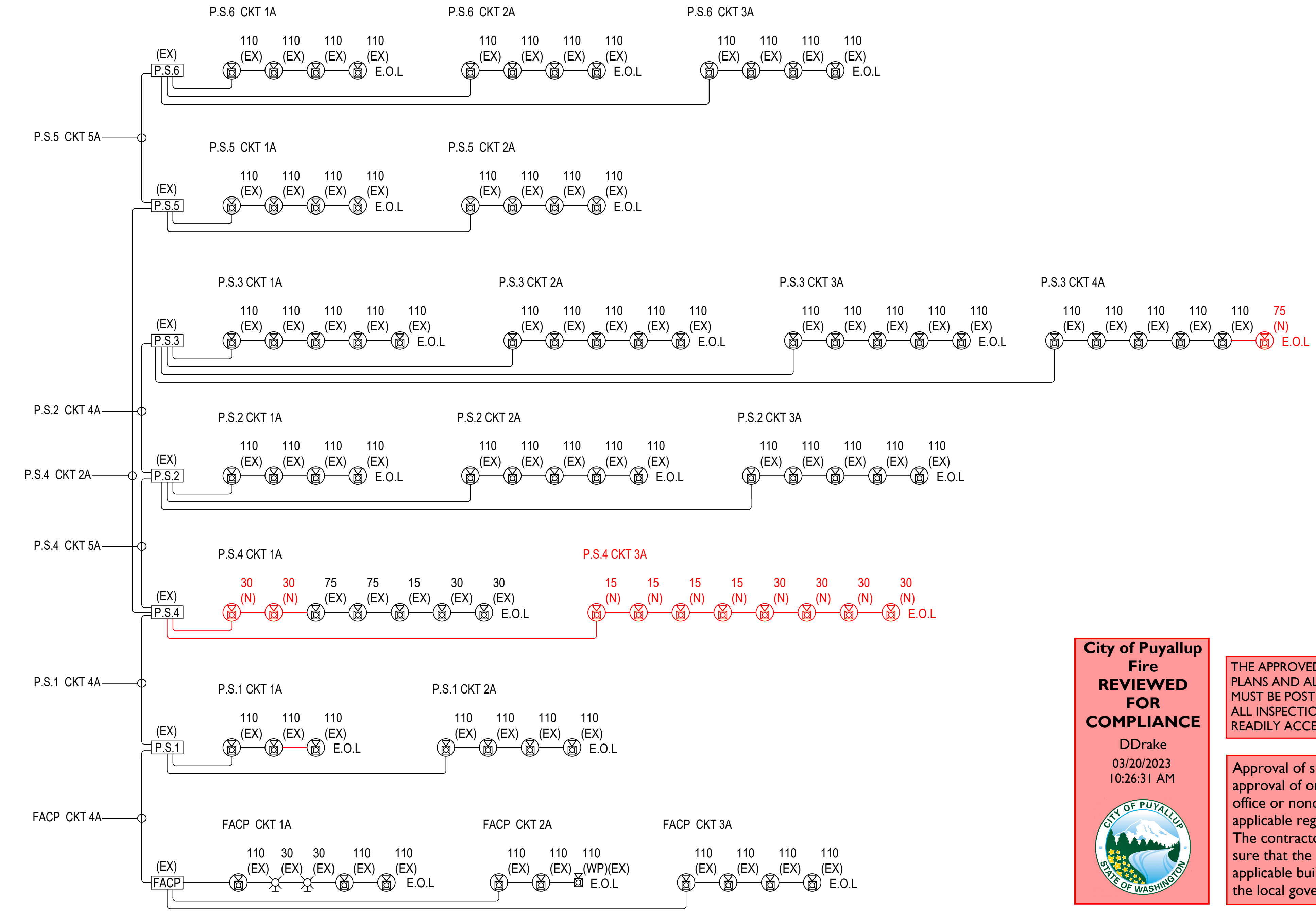
## FIRE ALARM LEGEND

Device Legend	
[FACP]	Fire Alarm Control Panel
[FAA]	Fire Alarm Annunciator
[PS]	Power Supply
[S]	Smoke Detector
[F]	Pull Station
[R]	Relay Module
[T]	Tamper Switch
[JP]	Jockey Pump Controller
[X]	Wall Mount Strobe
[C]	Ceiling Mount Strobe
[W]	Wall Mount Horn Strobe
[C]	Ceiling Mount Horn Strobe
[M]	Mini Horn
[B]	Exterior Bell
[FP]	Fire Pump Controller
[WP]	Weather Proof
[V]	Sprinkler Valve Supervisory Switch
[W]	Sprinkler Flow Switch
[S]	Wall Mounted Smoke Detector
[N]	Non Addressable Heat Detector
[K]	Fire Fighter Phone
[HSC]	Hand Set Center
[SB]	Smoke Beam
[MM]	Mini Module

Wiring Legend	
#	Denotes Ckt. Number
A	14 Gauge 2 Conductor FPLP
B	18 Gauge 2 Conductor FPLP
C	16 Gauge 4 Conductor FPLP

Typical Mounting Height	
[FACP]	60" To $\phi$ AFF
[FAA]	60" To $\phi$ AFF
[F]	48" To $\phi$ AFF
[R]	48" To $\phi$ AFF
[X]	80" To $\phi$ AFF
[C]	80" To $\phi$ AFF
[W]	80" To $\phi$ AFF
[S]	60" To $\phi$ AFF
[N]	4'-12"(MAX) To $\phi$ From Ceiling
[K]	8'-10"(MAX) To $\phi$ From Floor
[WP]	

Notes	
1.	
2.	
3.	
4.	



CONTROL LINE	NOTIFICATION	SMK
PULL STATION		
WATERFLOW		
SPRINKLER VALVE TAMPER		
FACP LOW BATTERY		
FACP AC FAILURE		
HVAC EXACT DETECTOR		
OPEN CIRCUIT		
GROUND FAULT		
WIRE TO WIRE SHORT		
PHONE LINE LOSS		
PUMP MONITORING		

2 OPERATIONS MATRIX  
N.T.S.

**City of Puyallup**  
**Fire**  
**REVIEWED**  
**FOR**  
**COMPLIANCE**  
DDrake  
03/20/2023  
10:26:31 AM

THE APPROVED CONSTRUCTION PLANS AND ALL ENGINEERING MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION.

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.

## DRAWING INDEX

FA1	COVER PAGE
FA2	BATTERY CALCULATIONS
FA3	WAREHOUSE NAC LAYOUT
FA4	WAREHOUSE SLC LAYOUT
FA5	MODULAR OFFICE NAC LAYOUT

1 FIRE ALARM NAC RISER DIAGRAM  
N.T.S.

**OLSEN ELECTRIC INC.**  
Kevin Olsen  
Level III, ET (Engineering Technician)  
Certification # 145198 Exp. 7/01/2023

**OLSEN ELECTRIC INC.**  
Commercial ~ Industrial  
325 Washington Ave S #91  
Kent, WA 98032  
Phone (253)-872-1905  
Fax (253)-269-0268

**RED DOT TI**  
2504 E. MAIN AVENUE  
PUYALLUP, WA 98372

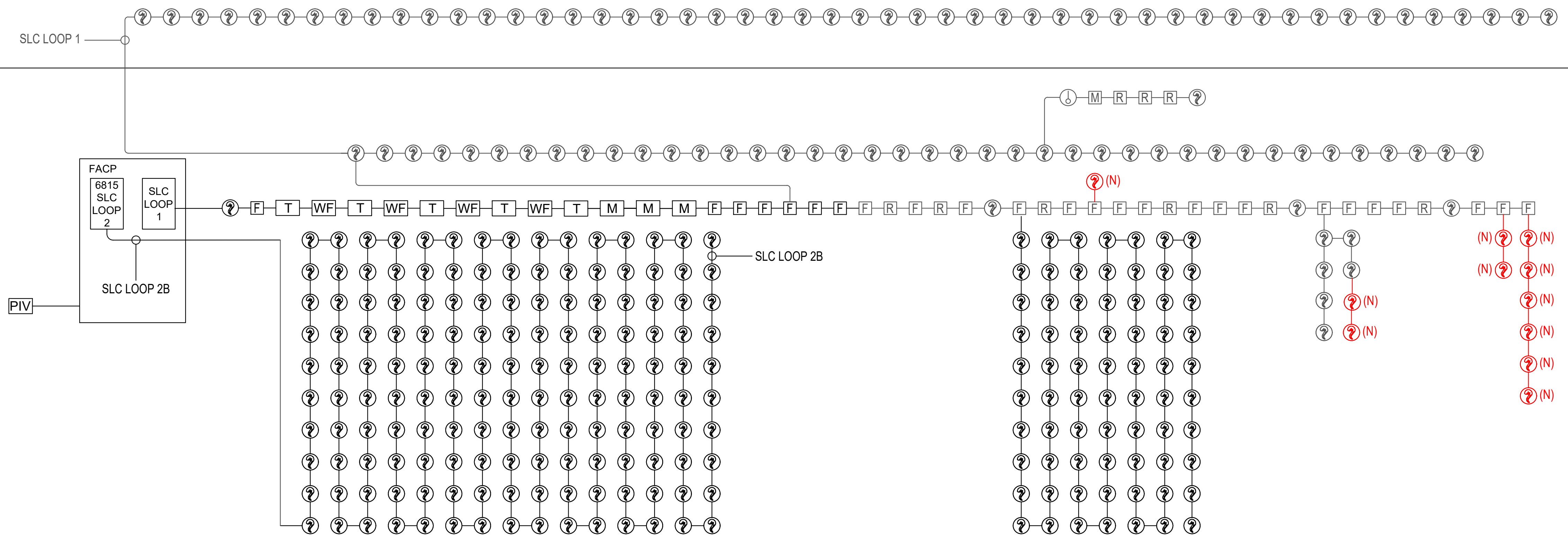
City of Puyallup Development & Permitting Services ISSUED PERMIT	
Building	Planning
Engineering	Public Works
Fire	Traffic

Revisions:	
Rev	Description
1	SHOP
By	RS
Date	3/8/2023
Drawn By:	RS
Sheet Number:	FA1



LEVEL 2

LEVEL 1



1 FIRE ALARM SLC RISER DIAGRAM  
N.T.S.

Ckt #	Circuit Name	Current Draw Standby	Current Draw Alarm	Wire AWG & Type	Ohms Per 1000 Ft.	Length (ft)	Actual Ohms	Volts @ EOL	% Drop
5495	5495 Pwr Module	0.075	0.205						
NAC #1	5495 Circuit 1	0.000	1.105	#14 Solid	2.52	300	1.81	18.40	8.83%
NAC #2	5495 Circuit 2	0.000	1.105	#14 Solid	2.52	300	1.81	18.73	8.19%
NAC #3	5495 Circuit 3	0.000	1.105	#14 Solid	2.52	300	1.81	18.40	9.83%
NAC #4	5495 Circuit 4	0.000	1.281	#12 Solid	1.59	440	1.40	18.81	8.79%
Aux	5495 Aux Power Out	0.000	0.000	#14 Solid	2.52	0.00	0.00	20.40	0.00%
Total Standby Current (Amps)		0.075	4.801	Total Alarm Current (Amps)					
Standby Time in Hours		24	0.083	Alarm Time in Minutes (5 Min)					
Total Standby AH Required		1.800	0.400	Total Alarm AH Required					
Total Combined AH Required		2.20		Wire resistances are based upon an ambient temperature of 72 degrees F. Because of the minimal difference between solid and stranded wire no differential was made.					
Multiply By The Derating Factor		1.20		Minimum Battery Amp/Hours Required		2.64			

Ckt Name	Device	Current Draw Each Standby	Current Draw Each Alarm	Current Draw Total Standby	Current Draw Total Alarm
NAC #1	5495 Circuit 1	0.000	0.221	0.000	1.105
	System Sensor P2PC2 Hom/Stroke (1100d)	0.000	0.000	0.000	0.000
	Unused	0.000	0.000	0.000	0.000
Totals		0.000	0.221	0.000	1.105

Ckt #	Circuit Name	Current Draw Standby	Current Draw Alarm	Wire AWG & Type	Ohms Per 1000 Ft.	Length (ft)	Actual Ohms	Volts @ EOL	% Drop
PS8	PS8 Pwr Module	0.075	0.205						
NAC #1	PS8 Circuit 1	0.000	1.007	#14 Solid	2.52	300	1.51	18.80	7.83%
NAC #2	PS8 Circuit 2	0.000	0.030	#14 Solid	2.52	400	2.02	20.34	0.30%
NAC #3	PS8 Circuit 3	0.000	0.077	#12 Solid	1.59	480	1.53	18.91	7.31%
NAC #4	PS8 Circuit 4	0.000	0.000	#12 Solid	1.59	0.00	0.00	20.40	0.00%
NAC #5	PS8 Circuit 5	0.075	0.205	#12 Solid	1.59	600	1.91	20.01	1.92%
Total Standby Current (Amps)		0.180	2.474	Total Alarm Current (Amps)					
Standby Time in Hours		24	0.083	Alarm Time in Minutes (5 Min)					
Total Standby AH Required		4.300	0.206	Total Alarm AH Required					
Total Combined AH Required		4.53		Multiply By The Derating Factor		1.20		Minimum Battery Amp/Hours Required	
		5.43				8.60		Wire resistances are based upon an ambient temperature of 72 degrees F. Because of the minimal difference between solid and stranded wire no differential was made.	

Ckt Name	Device	Current Draw Each Standby	Current Draw Each Alarm	Current Draw Total Standby	Current Draw Total Alarm
NAC #2	PS8 Circuit 2	0.000	0.030	0.000	0.030
	Unused	0.000	0.000	0.000	0.000
Totals		0.000	0.030	0.000	0.030

2 FIRE ALARM BATTERY CALCULATIONS  
N.T.S.

**OLSEN ELECTRIC INC.**  
Commercial ~ Industrial  
325 Washington Ave S #91  
Kent, WA 98032  
Phone (253)-872-1905  
Fax (253)-269-0268

**RED DOT TI**  
2504 E. MAIN AVENUE  
PUYALLUP, WA 98372

City of Puyallup  
Development & Permitting Services  
ISSUED PERMIT

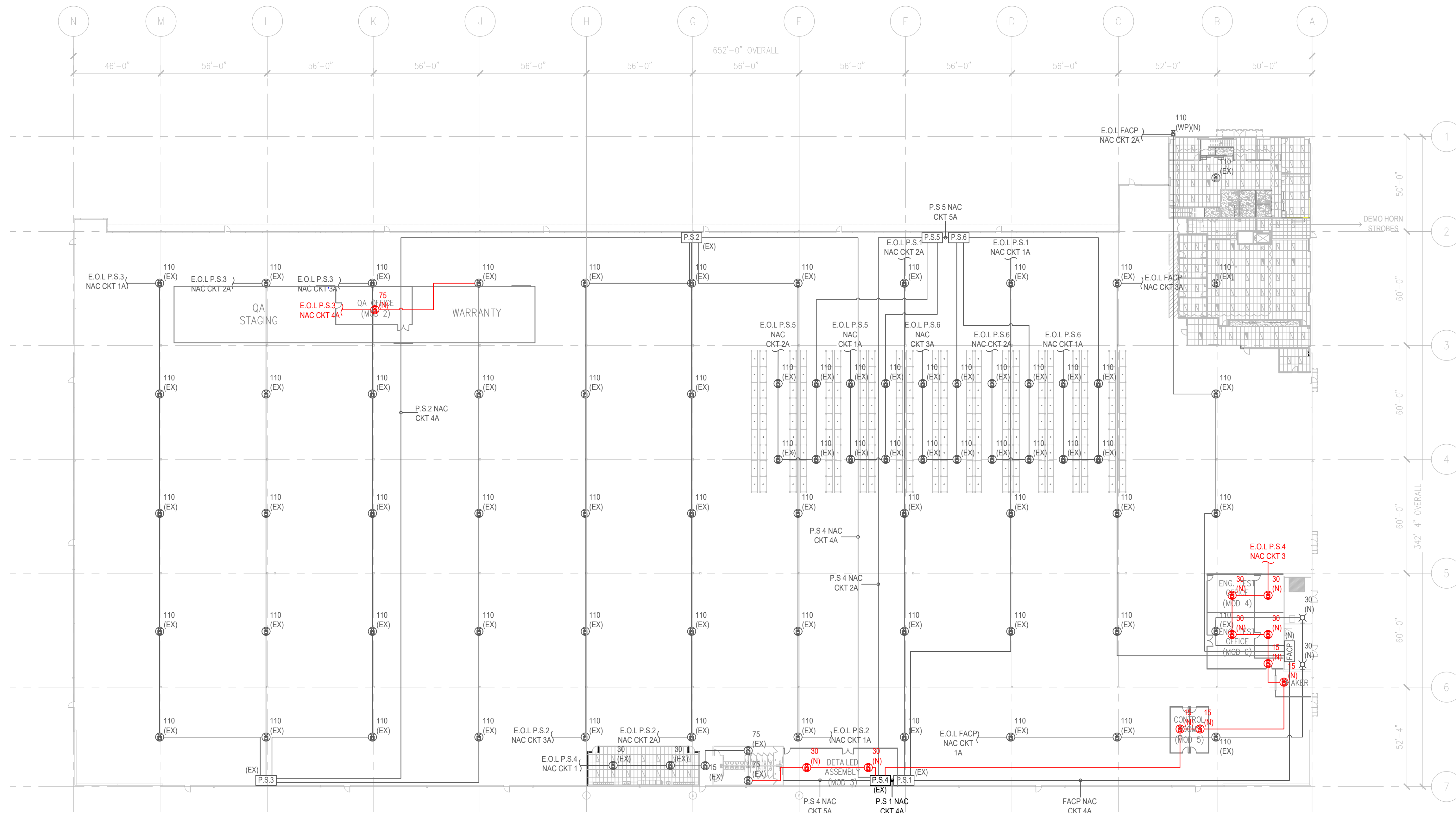
Building	Planning
Engineering	Public Works
Fire	Traffic

Revisions:

Rev	Date	By	Description
1	3/8/23	RS	SHOP

3/8/2023  
Drawn By: RS  
Sheet Number: FA2

**OLSEN ELECTRIC INC.**  
Kevin Olsen  
Level III, ET (Engineering Technician)  
Certification # 145198 Exp. 7/01/2023



1 FIRE ALARM WAREHOUSE NAC LAYOUT  
1/32" = 1'-0"

City of Puyallup  
Development & Permitting Service  
ISSUED PERMIT

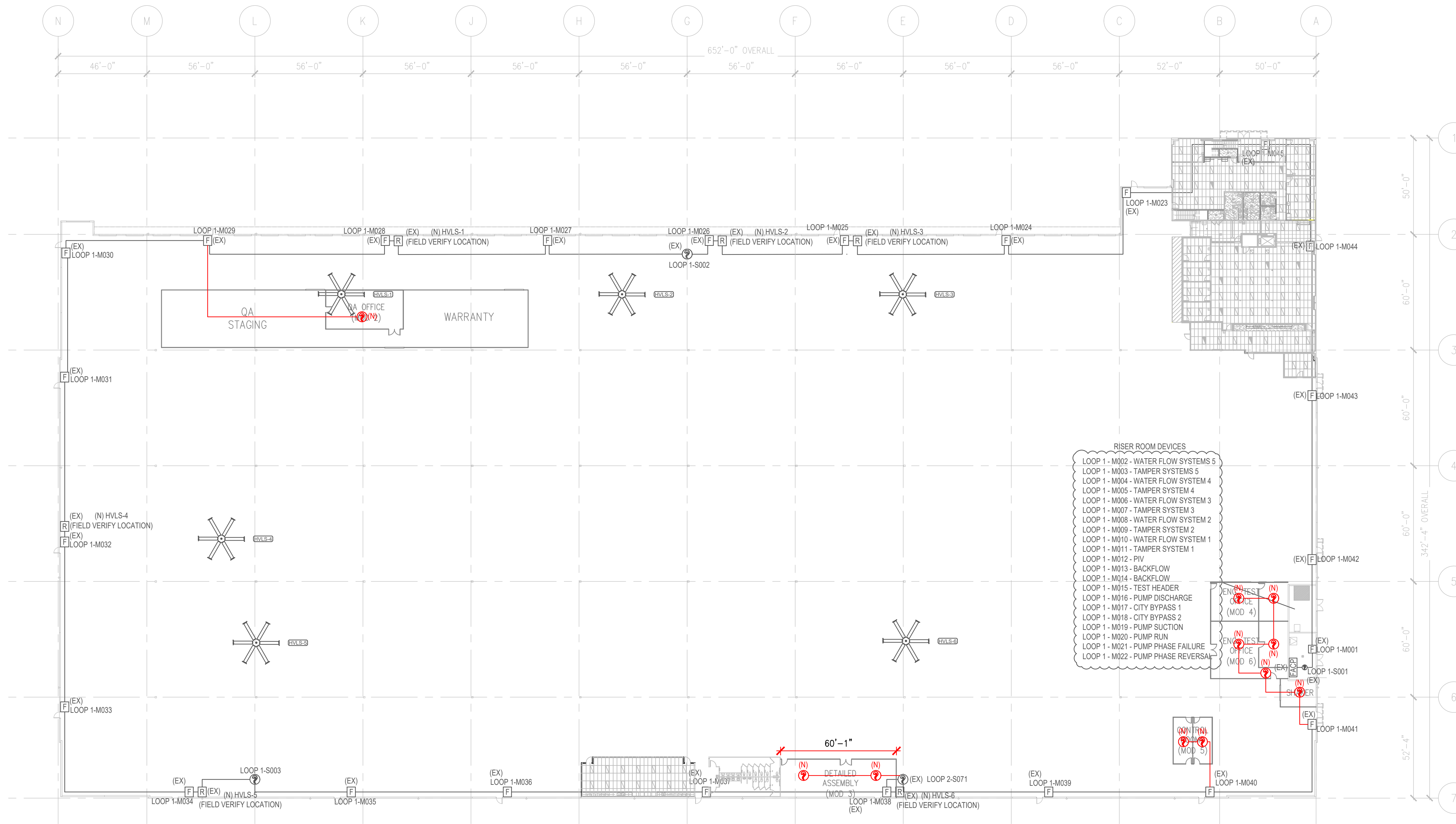
Building	Planning
Engineering	Public Works
Fire	Traffic

Revisions:

Rev	Date	By	Description
1	3/8/23	RS	SHOP

3/8/2023  
Drawn By: RS  
Sheet Number: FA3





1 FIRE ALARM WAREHOUSE SLC LAYOUT  
1/32" = 1'-0"

**OLSEN ELECTRIC INC.**  
Commercial ~ Industrial  
325 Washington Ave S #91  
Kent, WA 98032  
Phone (253)-872-1905  
Fax (253)-269-0268

**RED DOT TI**  
2504 E. MAIN AVENUE  
PUYALLUP, WA 98372

City of Puyallup  
Development & Permitting Services  
ISSUED PERMIT

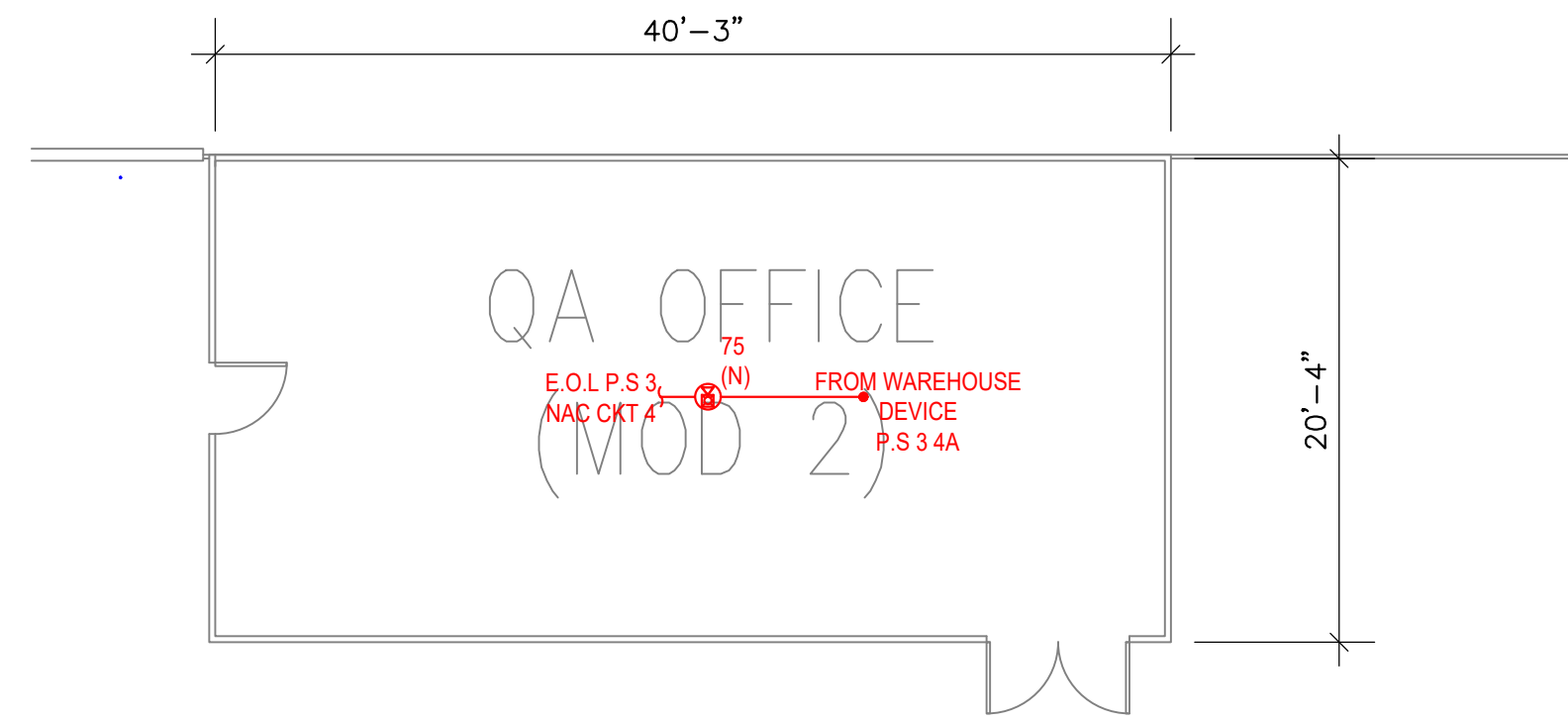
Building	Planning
Engineering	Public Works
Fire	Traffic

Revisions:

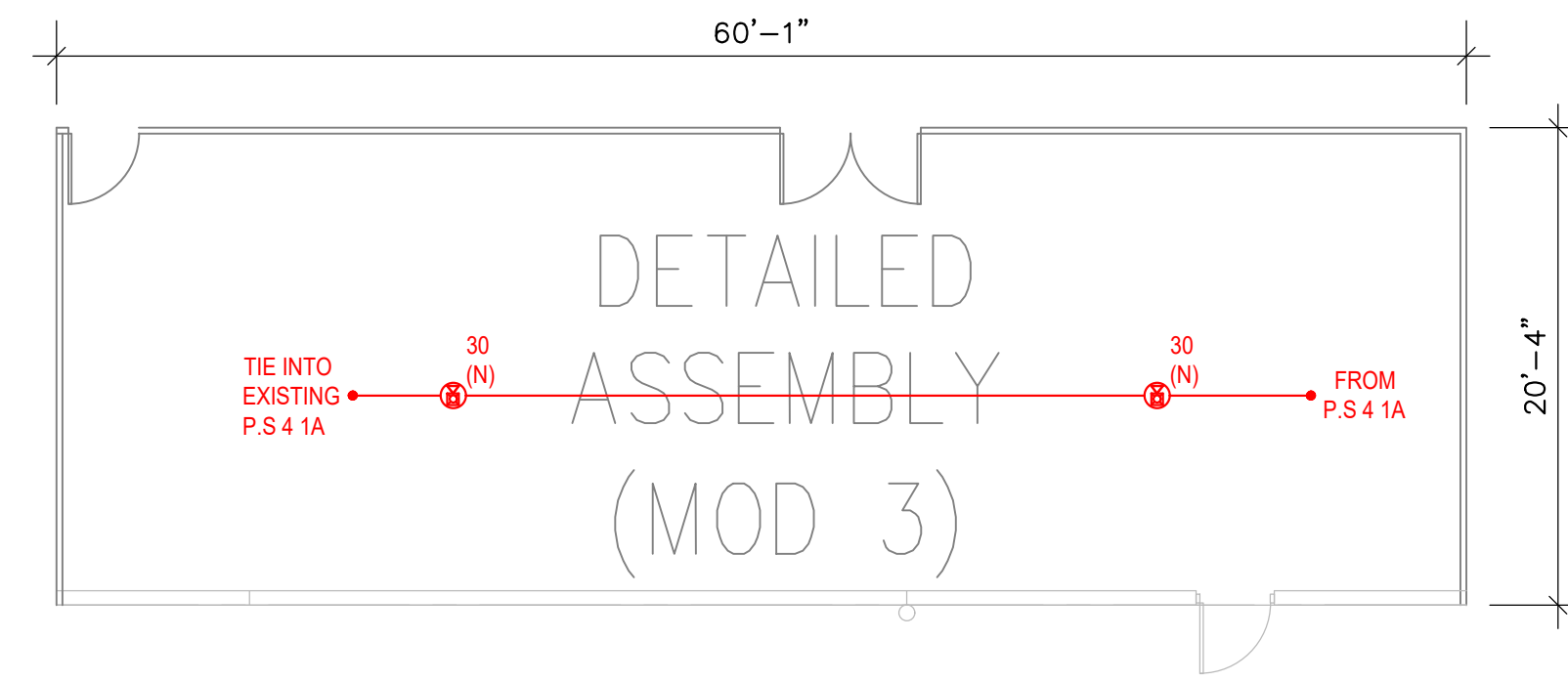
Rev	Date	By	Description
1	3/8/23	RS	SHOP

3/8/2023  
Drawn By: RS  
Sheet Number: FA4

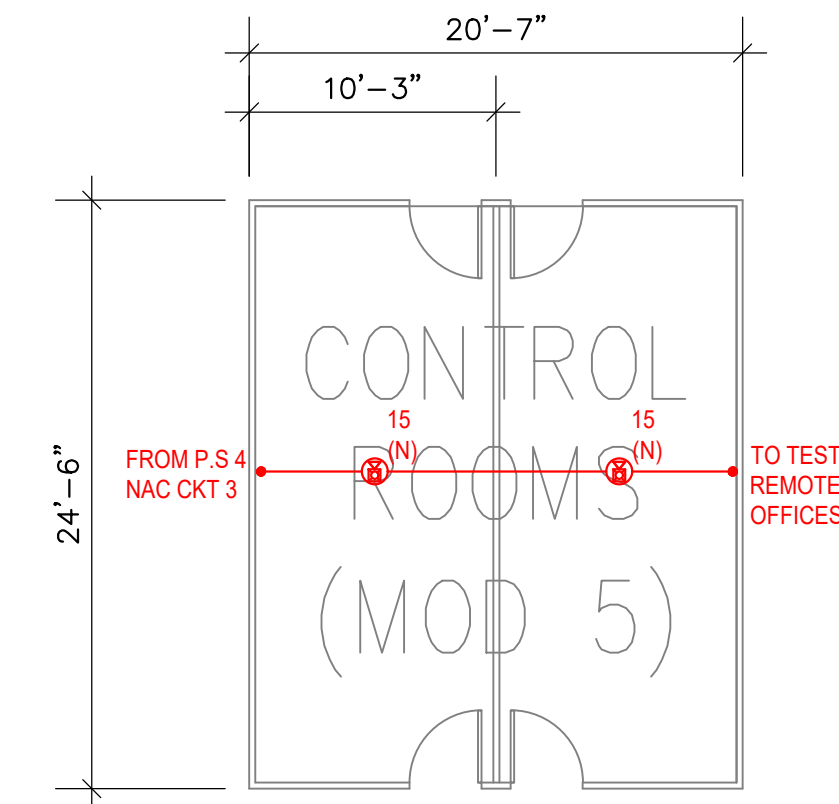
**OLSEN ELECTRIC INC.**  
Kevin Olsen  
Level III, ET (Engineering Technician)  
Certification # 145198 Exp. 7/01/2023



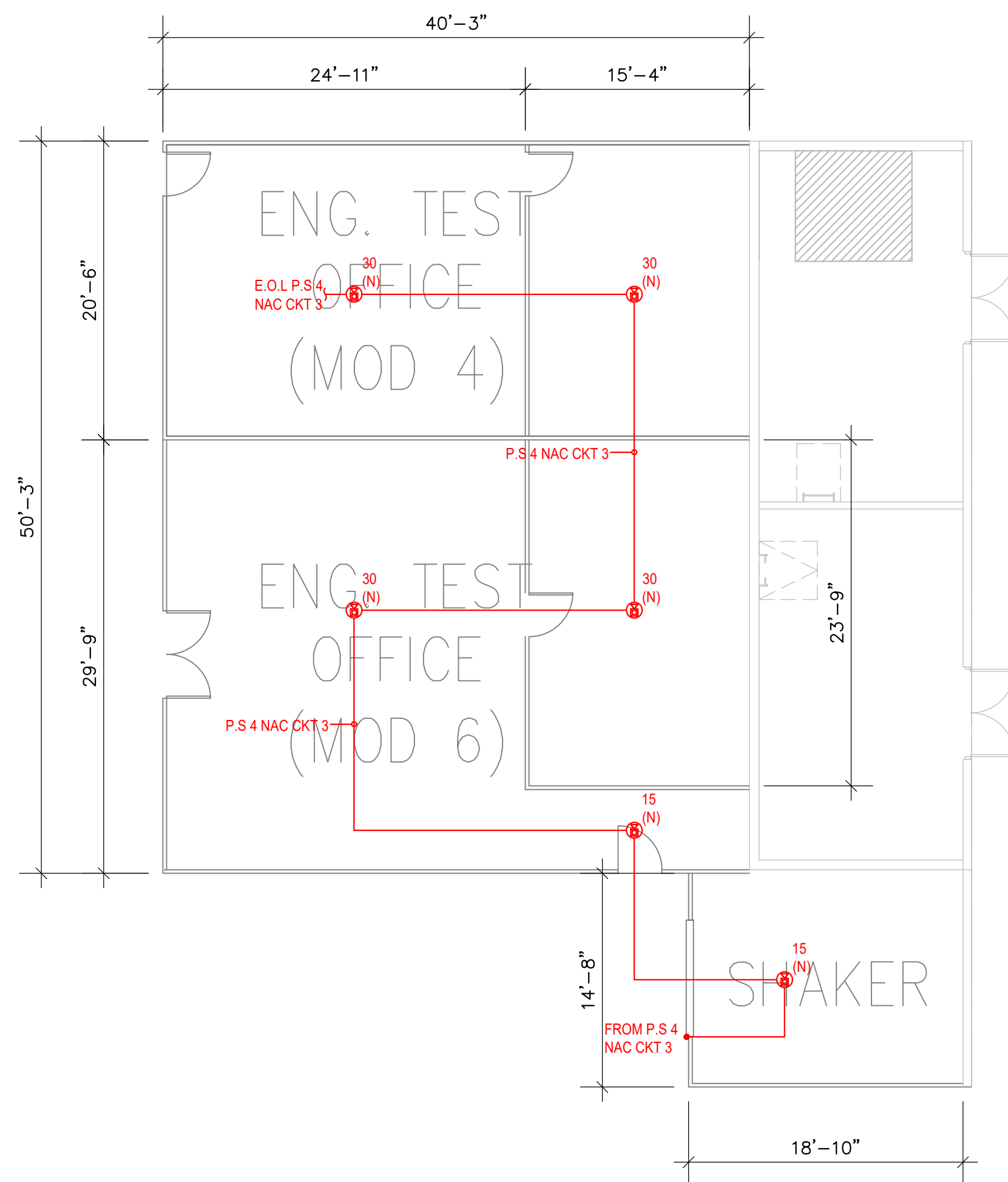
① QA REMOTE OFFICES  
1/8" = 1'-0"



② DETAILED ASSEMBLY REMOTE OFFICE  
1/8" = 1'-0"



③ CONTROL ROOMS REMOTE OFFICES  
1/8" = 1'-0"



④ TESTING REMOTE OFFICES  
1/8" = 1'-0"

**OLSEN**  
**ELECTRIC INC.**  
Kevin Olsen  
Level III, ET (Engineering Technician)  
Certification # 145198 Exp. 7/01/2023

**OLSEN**  
**ELECTRIC INC.**  
Commercial ~ Industrial  
Phone (253)-872-1905  
Fax (253)-269-0268  
325 Washington Ave S #91  
Kent, WA 98032

**RED DOT TI**  
2504 E. MAIN AVENUE  
PUYALLUP, WA 98372

City of Puyallup  
Development & Permitting Services  
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

Revisions:

Rev	Date	By	Description
1	3/8/2023	RS	SHOP

3/8/2023  
Drawn By: RS  
Sheet Number: FA5