

PORT OF TACOMA FILE: C:\Users\Vector\OneDrive\Vector\Clients\04-Cardno\Maintenance\Mezzanine\CAD\Sheet Files\MID 101140.01 COVER_SHED

BINDING EDGE

PORT OF TACOMA

MAINTENANCE SHED HEATING

PROJECT NO. 101140.01
CONTRACT NO. 070735

PORT COMMISSIONERS:

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DON MEYER
DONALD C. JOHNSON
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JOHN WOLFE
Chief Executive Officer

DAKOTA CHAMBERLAIN
Director of Facilities
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JANE VANDENBERG, PE
Director of Engineering

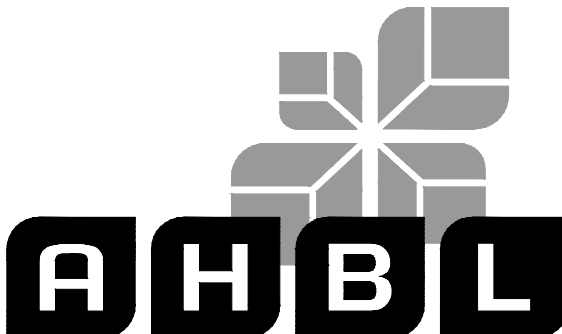
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Project Manager

CONSULTANTS:



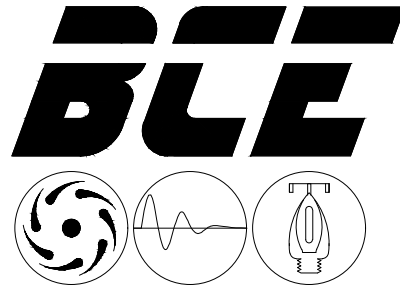
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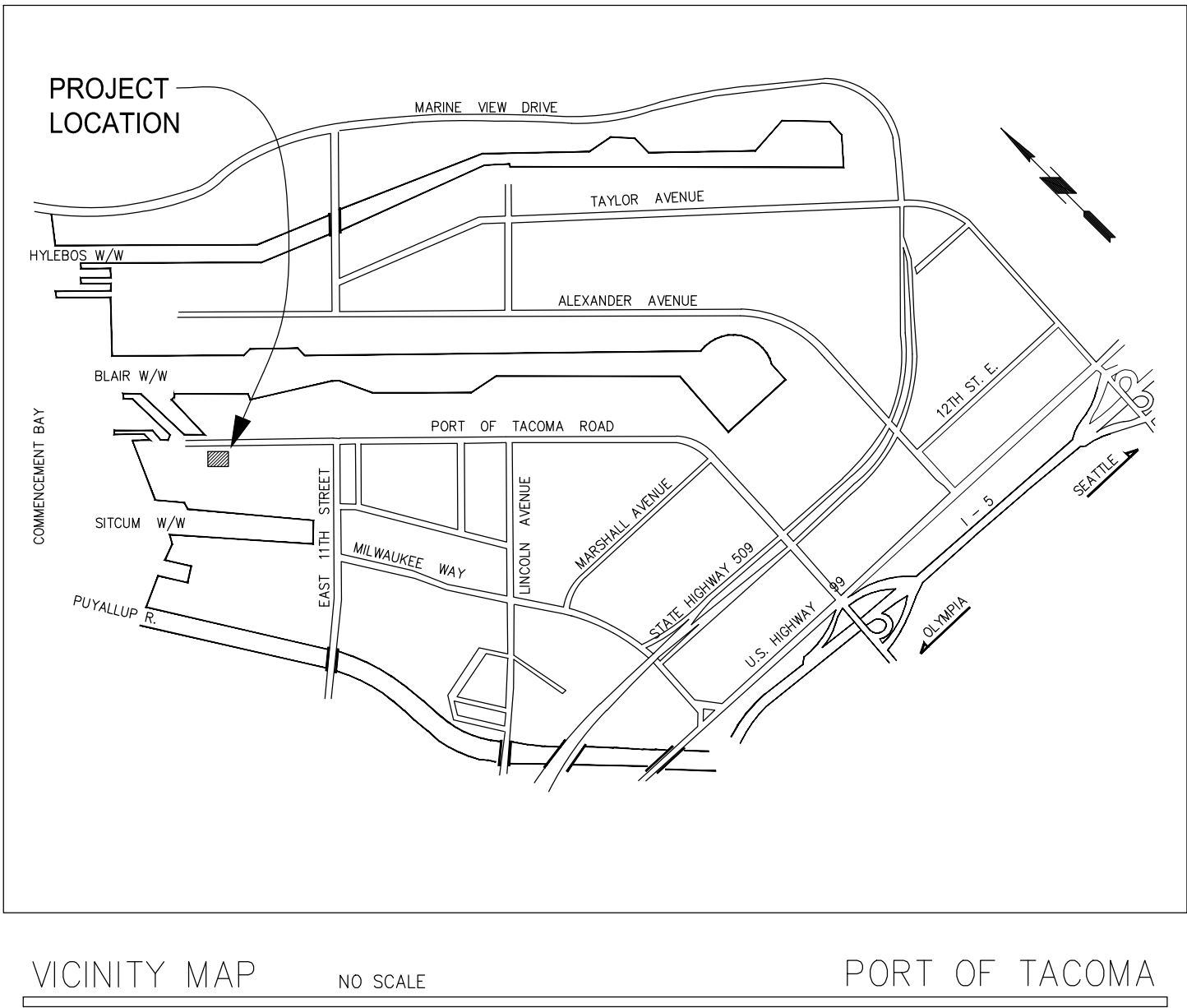
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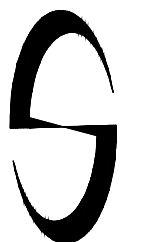


DRAWING LIST			
SHEET DESIGNATION	SHEET #	SHEET TITLE	REVISION
G1.1	1	COVER SHEET	0
A1.1	2	SHED FLOOR PLAN	0
A1.2	3	SHED ELEVATION	0
M1.3	4	MECHANICAL SHED PLAN	0
EO.2	5	ELECTRICAL LEGEND AND POWER RISER DIAGRAM	0
E4.1	6	SHED ELECTRICAL PLAN	0

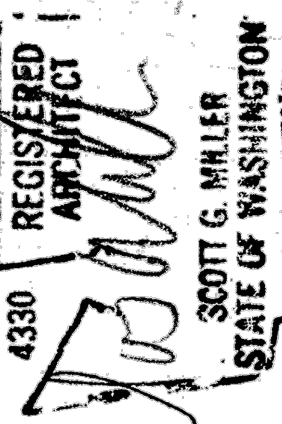
SPECIAL INSPECTION



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APPROVED:

SCM 12-19-17
CHECKED BY: DATE

DIRECTOR:

ENG. DATE
PRINTED BY: vecto Dec 22, 2017

PORT ADDRESS: T001 PORT OF TACOMA RD
TACOMA, WA 98421

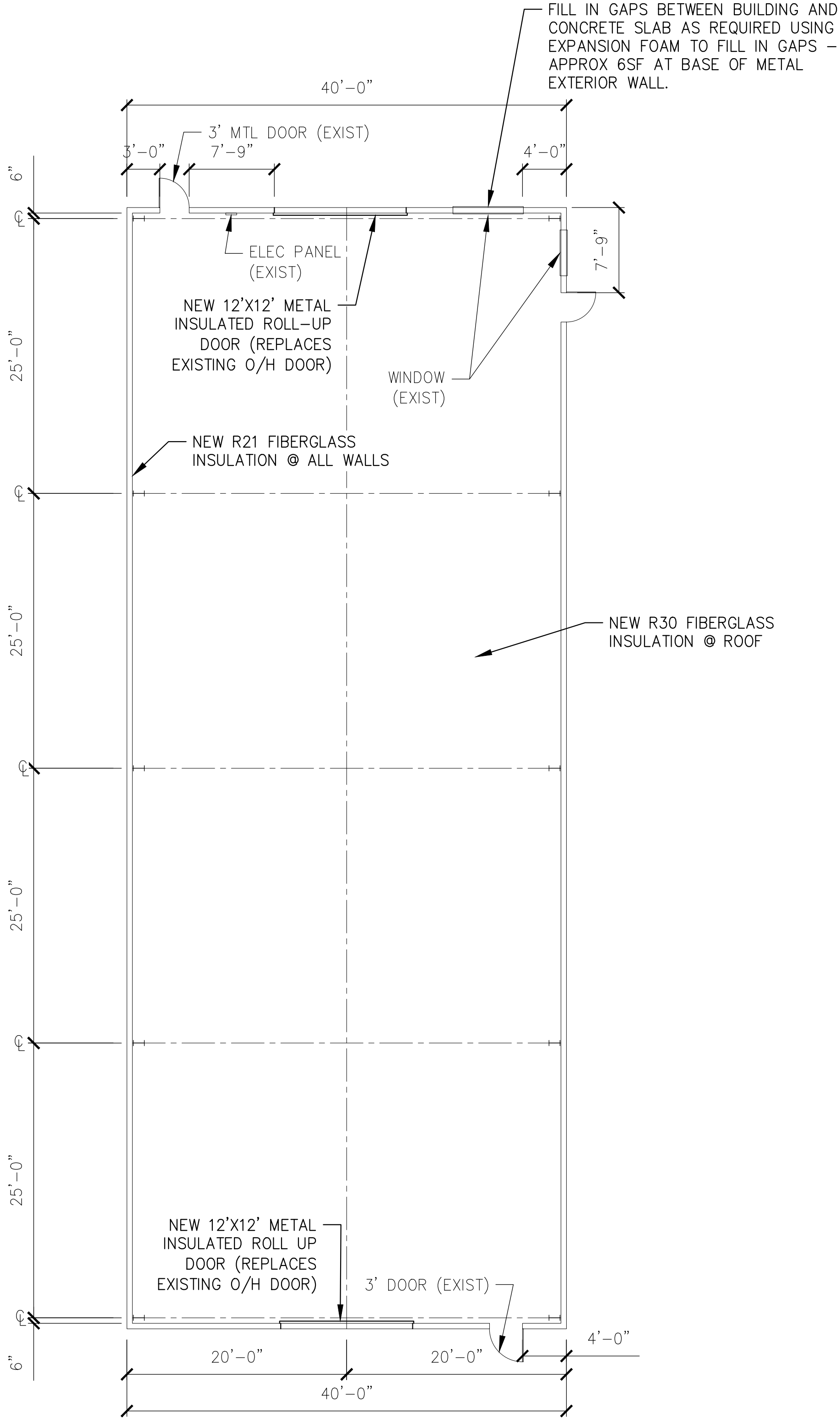
6582
G1.1
SH 1 OF 6

CONT/CONS: 070735
M. ID: 101140.01
PHASE: BID SET

MAINTENANCE SHED HEATING
COVER SHEET

TOWNSHIP: 21N RANGE: 3E SECTION: 34
DAT-HRZ: WA83-SF VERT: MLLW 19.18' @ Tide 22 1933
PARCEL: 2275200610 DRAWING SCALE: AS NOTED

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SHED FLOOR PLAN
SCALE: 1/8" = 1'-0"

NOTE: ALL NEW INSULATION TO HAVE VINYL PROTECTIVE COVER ON INTERIOR BUILDING SIDE OF INSULATION (SIMILAR TO EXISTING)

6582 A1.1 SH 2 OF 6	MAINTENANCE SHED HEATING				APPROVED:		SCM	12-19-17
	SHED FLOOR PLAN				CHECKED BY: DATE		DATE	
							DATE	
							DATE	
CONT/CONS: 070735	TOWNSHIP: 21N	RANGE: 3E	SECTION: 34	DIRECTOR ENG. DATE	PROJECT ENG. DATE	PROJECT ENG. DATE		
M. ID: 101140.01	DAT-HRZ: WA83-SF	VERT: MLLW 19.18' @ Tide 22 1933		PRINTED BY: vecto	Dec 19, 2017	PORT ADDRESS: T001 PORT OF TACOMA RD		
PHASE: BID SET	PARCEL: 2275200610	DRAWING SCALE: AS NOTED		TACOMA, WA 98421				

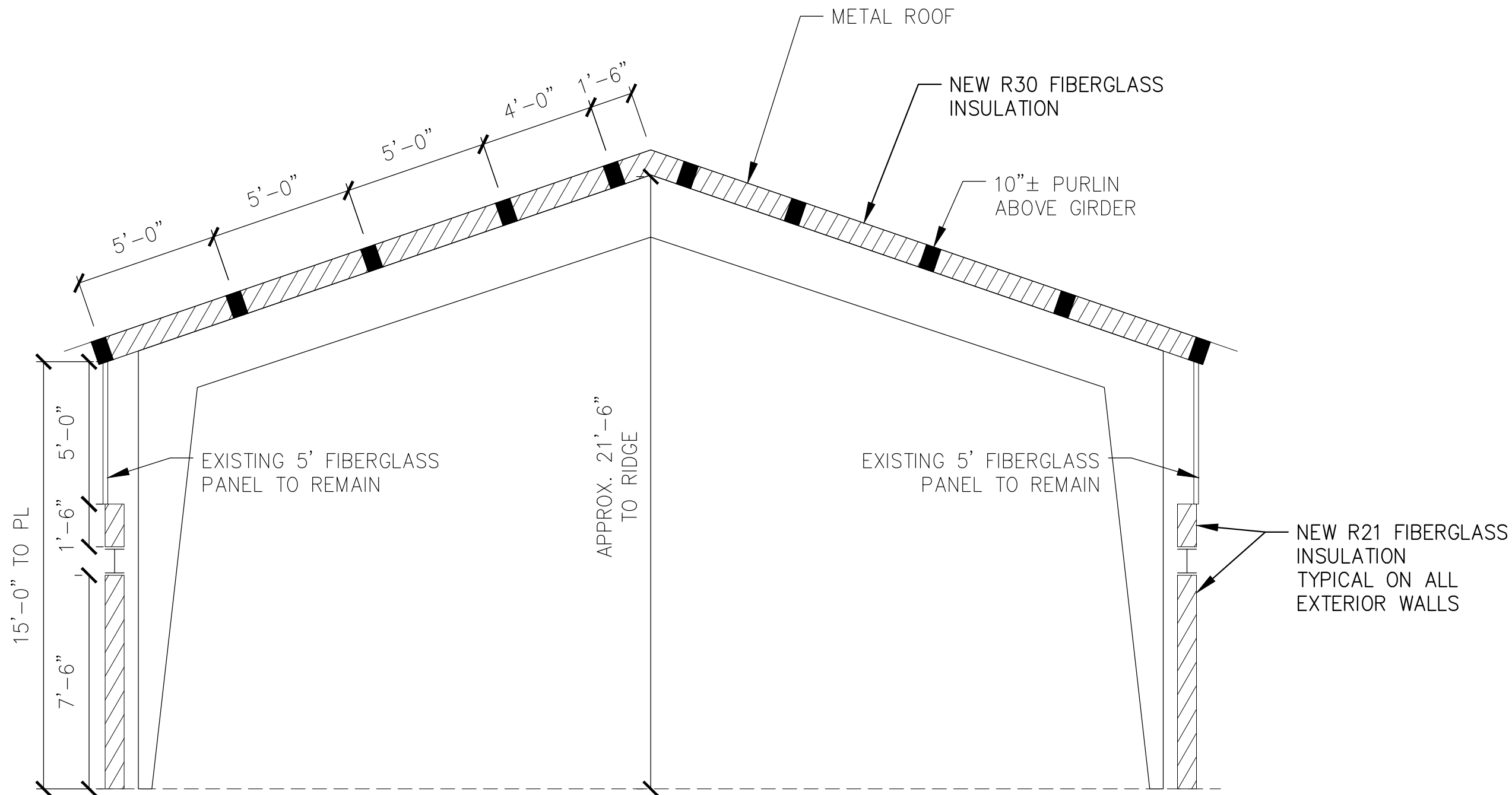
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4330 REGISTERED ARCHITECT
SCOTT G. MILLER
STATE OF WASHINGTON

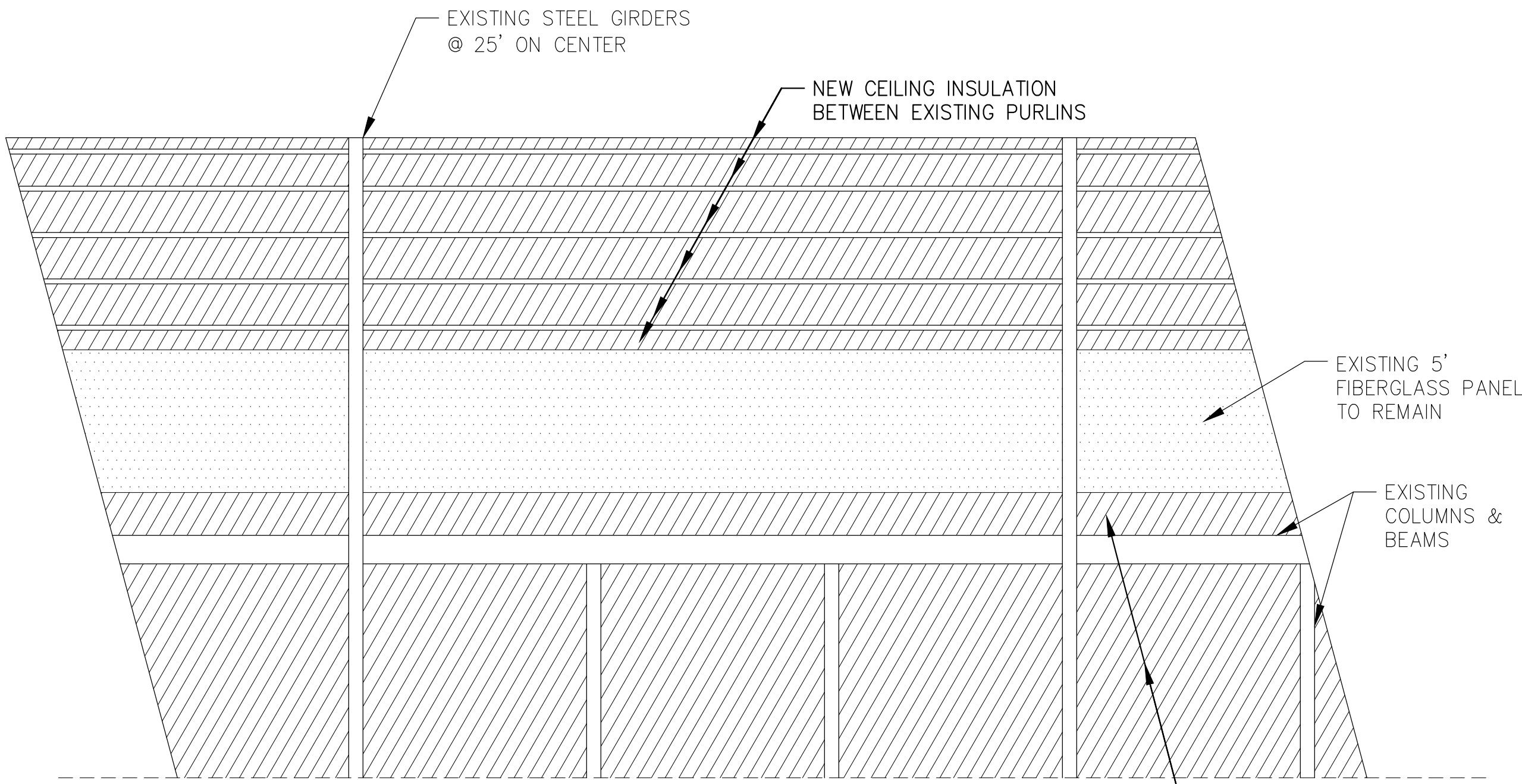
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SHED ELEVATION
SCALE: 1/4" = 1'-0"

NOTE: DIMENSIONS APPROX. —
CONTRACTOR TO VERIFY



PARTIAL INTERIOR WALL ELEVATION
SCALE: 1/4" = 1'-0"

6582

A1.2

SH 3 OF 6

MAINTENANCE SHED HEATING

SHED ELEVATION

CONT./CONS:	070735	TOWNSHIP:	21N	RANGE:	3E	SECTION:	34
M. ID:	101140.01	DAT—HRZ:	WA83—SF	VERT:	MLLW 19.18' @ Tide	22 1933	
PHASE:	BID SET	PARCEL:	2275200610	DRAWING SCALE:	AS NOTED		

APPROVED:

SCM 12-19-17
CHECKED BY: DATE:

DIRECTOR ENG. DATE: PROJ. ENGR DATE:
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4330 REGISTERED ARCHITECT
SCOTT G. MILLER
STATE OF WASHINGTON

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Port of Tacoma

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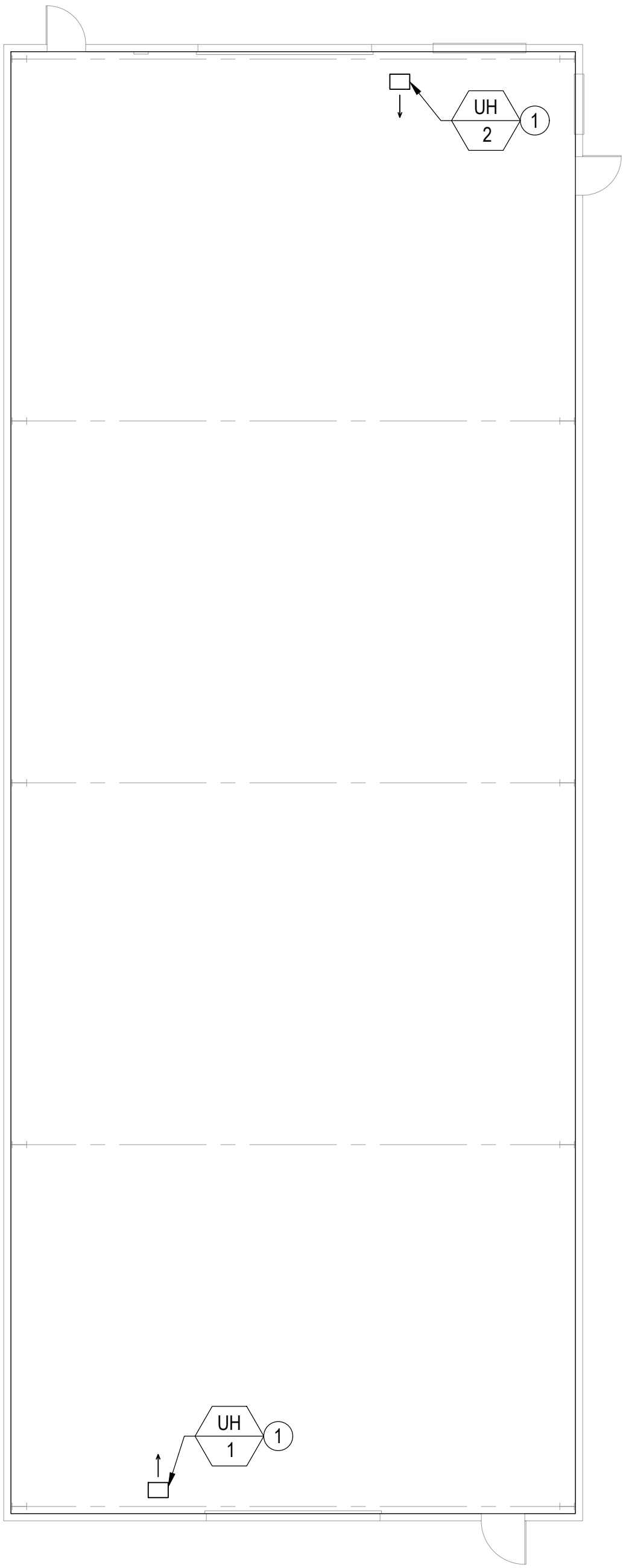
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1
M1.3

MECHANICAL SHED PLAN

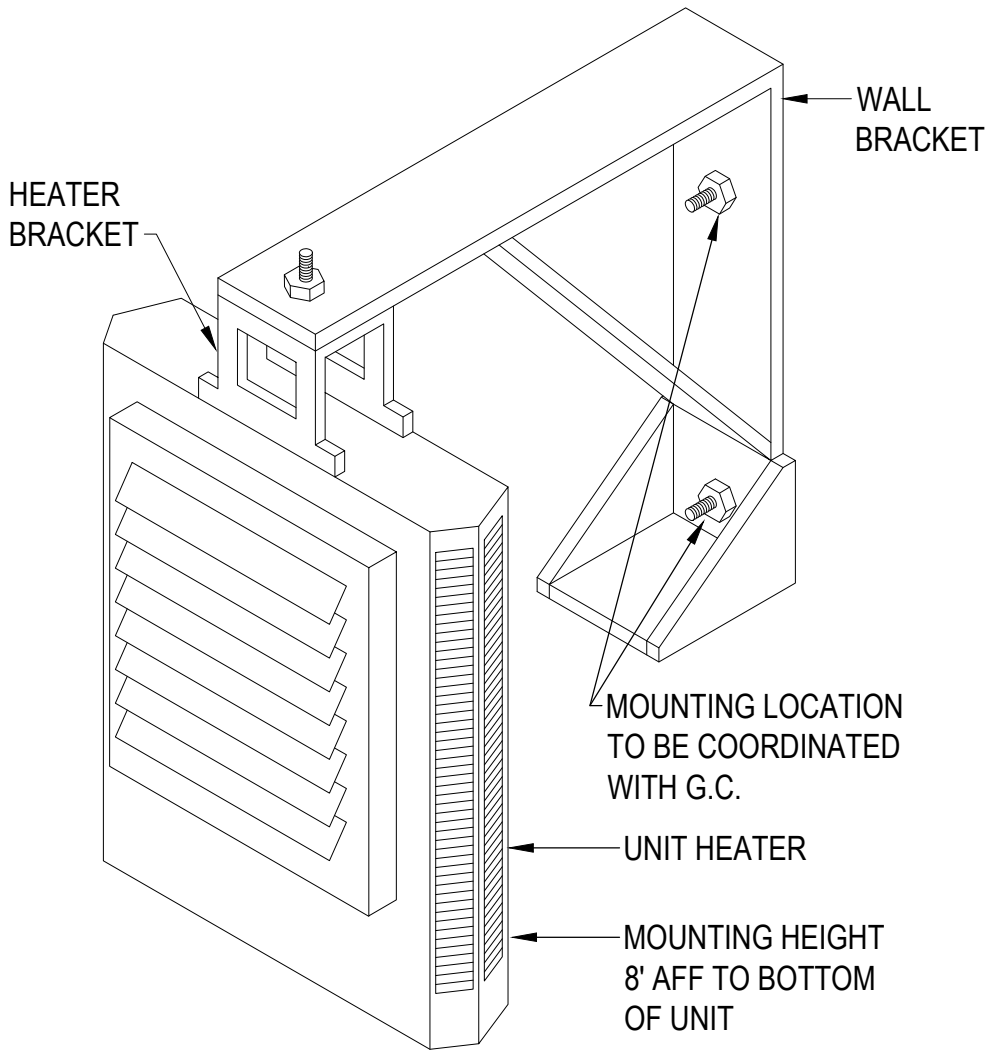
SCALE : 1/8" = 1'-0"



2
M1.3

SCALE : NOT TO SCALE

ELECTRIC HEATER
INSTALLATION DETAIL



CONSTRUCTION NOTES

- 1
- INSTALL UNIT HEATER PER MANUFACTURER RECOMMENDATIONS. INSTALL 8' ABOVE FINISHED FLOOR WHILE MAINTAINING REQUIRED CLEARANCES. SEE INSTALLATION DETAIL 2 ON THIS SHEET.

ELECTRIC UNIT HEATER SCHEDULE										
UNIT NO	MANUFACTURER	MODEL	LOCATION	INTERLOCK	ELECTRICAL			STARTER FURN. BY	DISCONNECT FURN. BY	REMARKS
					WATTS	VOLTS	Ø			
UH-1	INDEECO	UHIR	SHED	T'STAT	7500	480	3	MFR	EC	1234
UH-2	INDEECO	UHIR	SHED	T'STAT	7500	480	3	MFR	EC	1234

- NOTES FOR UNIT HEATER SCHEDULE:
- 1
- UNIT TO BE CONTROLLED WITH INTEGRAL 2-STAGE FACTORY-INSTALLED THERMOSTAT. SET POINT TO BE 55°F.
- 2
- INSTALL PER MANUFACTURER INSTALLATION INSTRUCTIONS. PROVIDE WITH FACTORY DIRECTIONAL DIFFUSERS.
- 3
- INSTALL WITH ENGRAVED PLASTIC LAMINATE IDENTIFICATION NAMEPLATE PER 23 05 53.
- 4
- PROVIDE BASIS OF DESIGN MODEL OR APPROVED EQUAL.

6582

M1.3
SH # 4 OF 16

CONT/CONS: 070735
M. ID: 101140.01
PHASE: 100% SUBMITTAL

TOWNSHIP: 21N
RANGE: 3E
SECTION: 34
DATE-HRZ: W483-SF
PARCEL: 27
DRAWING SCALE: AS NOTED

MAINTENANCE SHED HEATING

MECHANICAL SHED PLAN

APPROVED:

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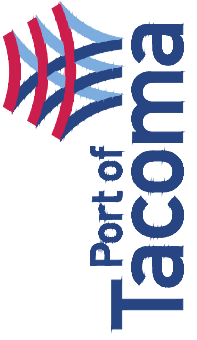
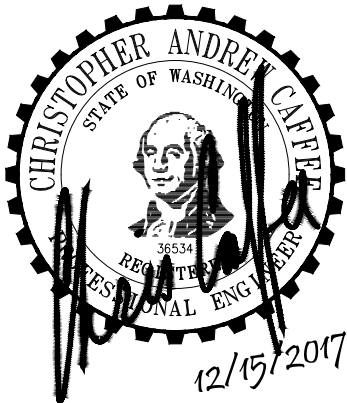
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PORT ADDRESS: ONE SITCUM PLAZA

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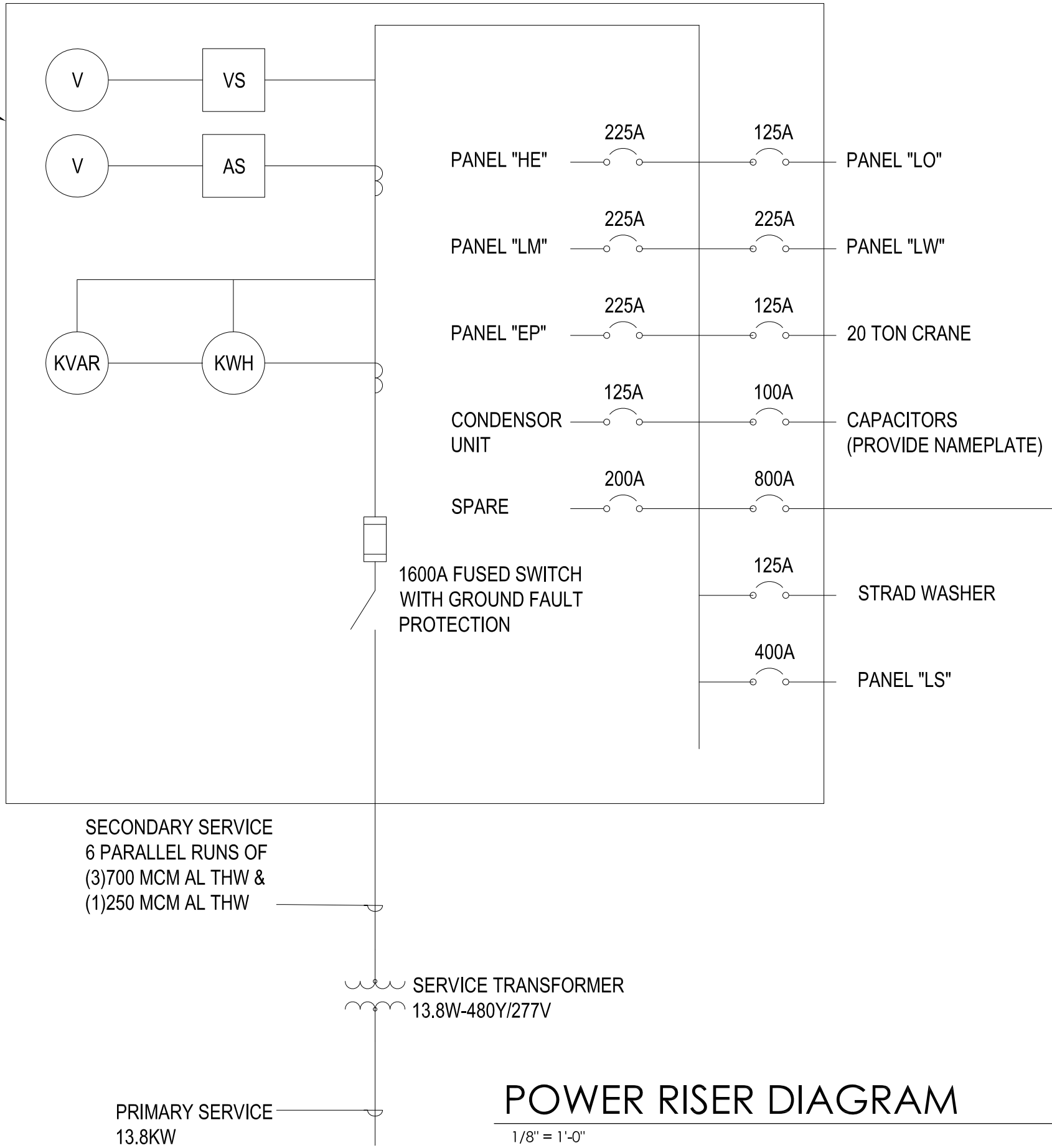
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ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	SPECIAL PURPOSE OUTLET - 1Ø, VOLTAGE AND AMPERES AS INDICATED
	EXISTING PANELBOARD TO BE RETAINED
	NEW 480Y/277, 3Ø PANELBOARD
	FUSED DISCONNECT SWITCH - COORDINATE EXACT FUSE SIZE WITH MANUFACTURER'S NAMEPLATE MOP
	CONSTRUCTION NOTES

CONSTRUCTION NOTES

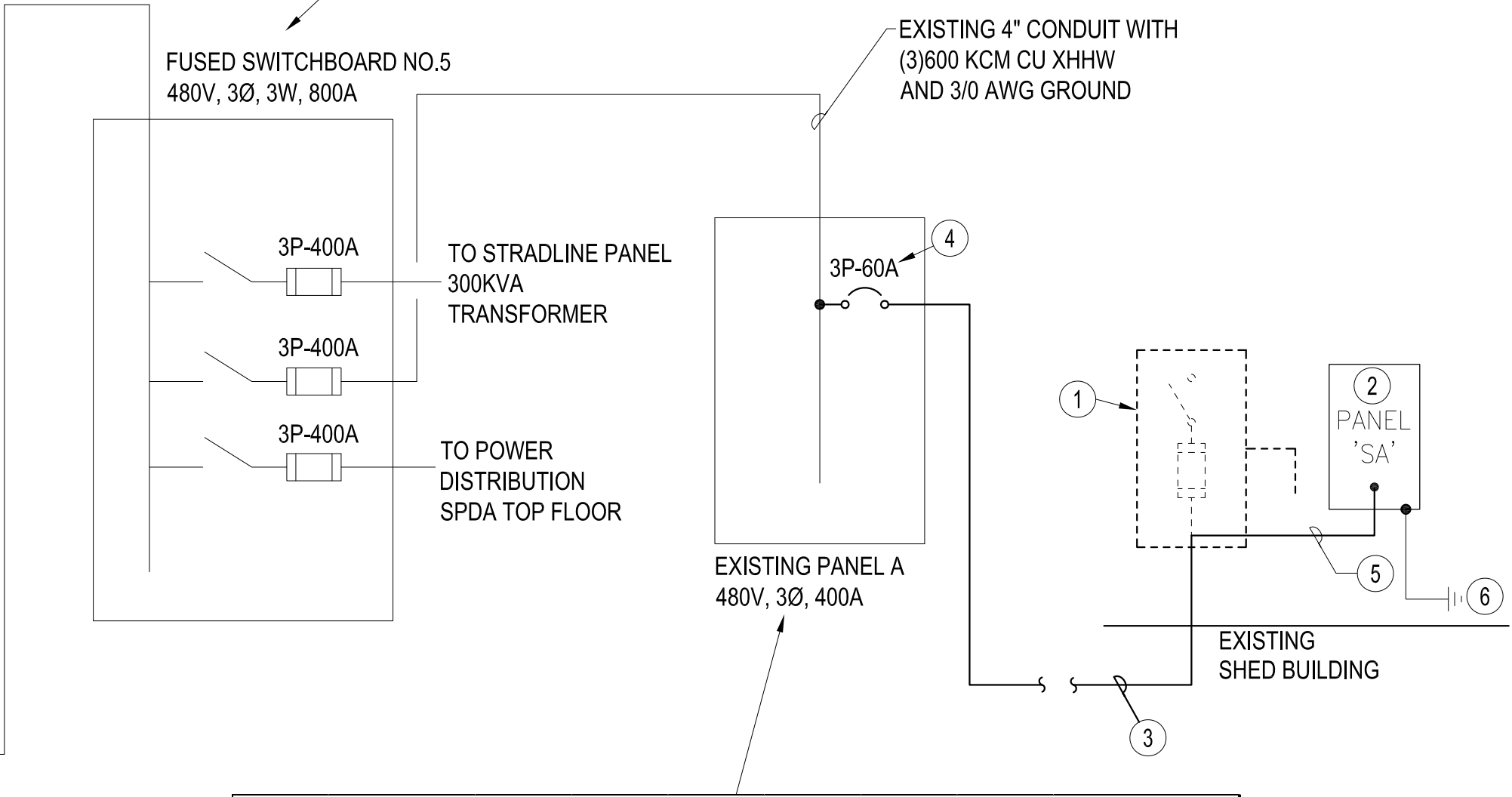
- 1
- DISCONNECT AND REMOVE EXISTING SHED EQUIPMENT OUTLET DISCONNECT SWITCH.
- 2
- REPLACE EXISTING DISCONNECT SWITCH WITH NEW PANEL "SA" - 480V, 3Ø, 3-WIRE, 60A, 20-POLE PANELBOARD.
- 3
- UTILIZE EXISTING 480V, 3Ø, (3) #6 WAG-Cu WITH GROUND UNDERGROUND FEEDER. SEE SHEET E4.1 FOR CONTINUATION.
- 4
- EXISTING 3P-60A CIRCUIT BREAKER.
- 5
- RECONNECT EXISTING FEEDERS TO NEW PANEL "SA".
- 6
- PROVIDE #8AWG-Cu GROUNDING ELECTRODE CONDUCTOR TO BUILDING STEEL AND EXISTING MAIN SERVICE ENTRANCE GROUND.

SERVICE ENTRANCE
SWITCHBOARD MDB-1
480Y/277V 1000A



POWER RISER DIAGRAM
1/8" = 1'-0"

DEMAND CALCULATION EXISTING FUSED SWITCHBOARD #5					
NEC 220-87 AND WAC 296-46B-010(16)(J)					
Phase to Phase Voltage(volts):	480				
Phases(1 = Single Phase, 3 = Three Phase):	3				
Peak Demand 30-Day Meter Reading	=	220.78 kW			
Demand Adjustment Factor Per NEC 220-87(2)	x	1.25			
Adjusted Peak Demand		275.98 kVA			
		(332.10 A)			
Added New Load					
Added load from the Bridge Crane Project	+	30.75 kVA			
New Added load from Shed Heater	+	15.00 kVA			
Calculated Demand Load		321.73 kVA			
Calculated Demand Current		387 Amps			
Existing Switchboard Size		800 Amps			



DEMAND CALCULATION EXISTING PANEL "A"					
NEC 220-87 AND WAC 296-46B-010(16)(J)					
Phase to Phase Voltage(volts):	480				
Phases(1 = Single Phase, 3 = Three Phase):	3				
Peak Demand 30-Day Meter Reading	=	91.88 kW			
Demand Adjustment Factor Per NEC 220-87(2)	x	1.25			
Adjusted Peak Demand		114.85 kVA			
		(138.21 A)			
Added New Load					
Added load from the Bridge Crane Project	+	30.75 kVA			
New Added load from Shed Heater	+	15.00 kVA			
Calculated Demand Load		160.60 kVA			
Calculated Demand Current		193 Amps			
Existing Switchboard Size		400 Amps			

6582

E0.2

SH# 5 OF 6

CONT/CONS: 070735

M. ID: 101140.01

PHASE: 100% SUBMITTAL

TOWNSHIP: 21N

DAT-HRZ: WA83-SF

PARCEL: 27

RANGE: 3E

VERT: MLW 19.18 @ Tide 22 1933

DRAWING SCALE: AS NOTED

SECTION: 34

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DATE: 12/19/17

TACOMA, WA 98401-4837

APPROVED:

HS

CHECKED BY: CH

DATE: 12/19/17

MAINTENANCE SHED HEATING

ELECTRICAL LEGEND AND POWER RISER DIAGRAM

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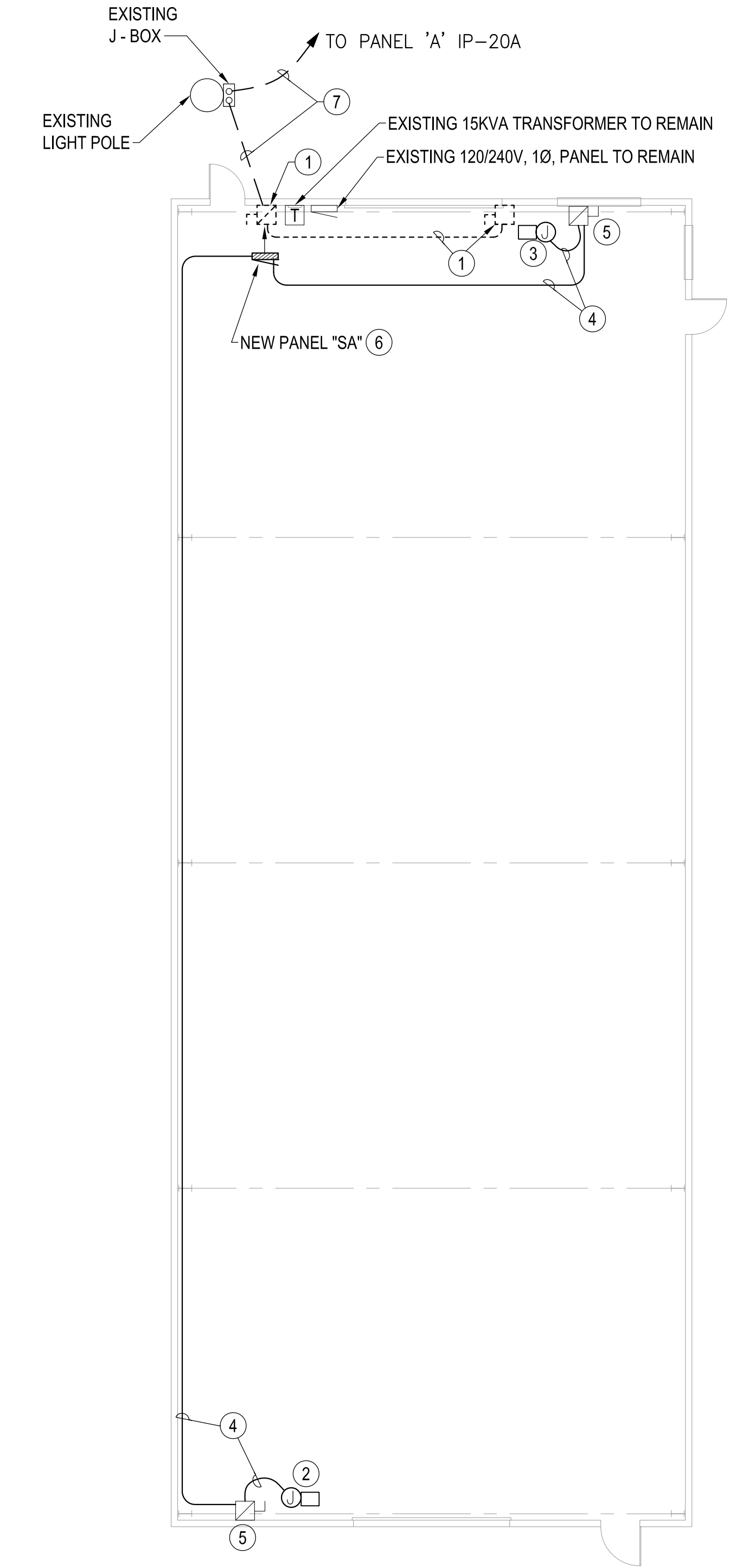
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PANEL: SA		3 PH		3 WIRE		VOLTAGE: 480V		60A MCB								
LOC: EXISTING SHED BUILDING		MOUNT: SURFACE		FEED: BOTTOM												
TYPE: NEMA 1		POLES: 20		SF MAINS:				10,000 MINIMUM								
LOAD TYPE	LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIR. BRKR		A	B	C	CIR. BRKR		CIR. NO.	CIRCUIT DIRECTORY	LOAD	LOAD TYPE		
				P	AMP				P	AMP						
H	2500		1			5000			1		2		2500	H		
H	2500	UH-1	3				5000				4	UH-2	2500	H		
H	2500		5		20			5000		20	6		2500	H		
			7								8					
			9								10					
			11								12					
			13								14					
			15								16					
			17								18					
			19								20					
	7500	TOTAL	THIS PANEL->			5000	5000	5000	TOTAL						7500	
						5000	5000	5000	TOTAL CONNECTED LOAD (VA): 15,000.00							
									TOTAL CONNECTED CURRENT (A): 18.04							
									TOTAL DEMAND LOAD (VA): 15,000.00							
									TOTAL DEMAND CURRENT (A) 18.04							
NOTES: L=LIGHTING, R=RECEPTACLES, H=ELECTRIC HEAT, ML=LARGEST MOTOR, MO=OTHER MOTORS, WH=WATER HEATERS, K=KITCHEN LOADS, A=APPLIANCES, D=DEDICATED, X=MISC, SF=SUB FEED																

CONSTRUCTION NOTES

- 1DISCONNECT AND REMOVE EXISTING DISCONNECT SWITCH AND CONDUCTORS.
- 2PROVIDE CONNECTION TO NEW UNIT UH-1, 480V, 3Ø, 7.5KW.
- 3PROVIDE CONNECTION TO NEW UNIT UH-2, 480V, 3Ø, 7.5KW.
- 4PROVIDE 3/4" EMT CONDUIT WITH (3) #12AWG-Cu PLUS GROUND.
- 5PROVIDE NEW 3P-20A FUSED DISCONNECT SWITCH.
- 6INSTALL NEW PANELBOARD "SA" AND RECONNECT TO EXISTING 60A FEEDER. PROVIDE 75°C RATED LUGS.
- 7UTILIZE EXISTING 480V, 3Ø, #6 WAG-Cu UNDERGROUND FEEDER FOR NEW OCU-1 STEPDOWN TRANSFORMER. SEE SHEET E0.01 FOR POWER RISER DIAGRAM.



1

SHED ELECTRICAL PLAN

SCALE: 1/8" = 1'-0"

N

6582

E4.1

SH # 6 OF 6

CONT/CONS: 070735

M. ID: 101140.01

PHASE: 100% SUBMITTAL

TOWNSHIP: 21N

DAT-HRZ: WA83-SF

PARCEL: 27

RANGE: 3E

VERT: MLW 19.18 @ Tide 22 1933

DRAWING SCALE: AS NOTED

SECTION: 34

MAINTENANCE SHED HEATING

SHED ELECTRICAL PLAN

APPROVED:

HS

12/19/17

CHECKED BY: CH

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DIRECTOR ENG. DATE: NOV 20, 2017

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