

THE PORTLAND LOO

SHEET INDEX:

A0.0	COVER SHEET
A1.0	FLOOR PLAN
A2.0	EXTERIOR ELEVATIONS FRONT & RIGHT SIDE
A3.0	EXTERIOR ELEVATIONS BACK & LEFT SIDE
A4.0	ROOF LAYOUT
A5.0	INTERIOR SECTION VIEW
A6.0	INTERIOR SECTION VIEWS
A7.0	BACK VIEW PLUMBING & ELECTRICAL PANELS INTERIOR AND EXTERIOR
S1.0	COLUMN AND BEAM LAYOUT
S2.0	FRONT DOOR
S3.0	FOUNDATION & ANCHOR BOLT LOCATIONS
P1.0	PLUMBING FLOOR PLAN
P2.0	PLUMBING DETAIL
P3.0	COLD WEATHER TOILET
E1.0	ELECTRICAL SCHEMATIC
E2.0	ELECTRICAL - SOLAR

DESIGN INFORMATION

1. INTERNATIONAL BUILDING CODE 2021

2. LIVE LOAD = 20 PSF

3. WIND LOAD:

Vult = 98 MPH

Vasd = 75.9mph

Iw = 1.0

Exposure = C

Risk Category = II

Internal Pressure = +/- 0.18

4. SEISMIC LOAD:

Ie = 1.0

Ss =1.438

S1 = 0.49

Sds = 1.15

Sd1 = 0.494

Site Class D

SDC = D

Seismic Base Shear = 0.78 kip

Light Frame (Cold Formed Steel) Wall w/ steel sheets

Analysis = Equivalent Lateral Force

R = 7.0

Cs = 0.143

5. SNOW LOAD:

Pg = 20 psf

Is = 1.0

Ct = 1.0

Ce = 1.0

Pf = 20 psf

6. NET ALLOWABLE SOIL BEARING PRESSURE: 1500 PSF

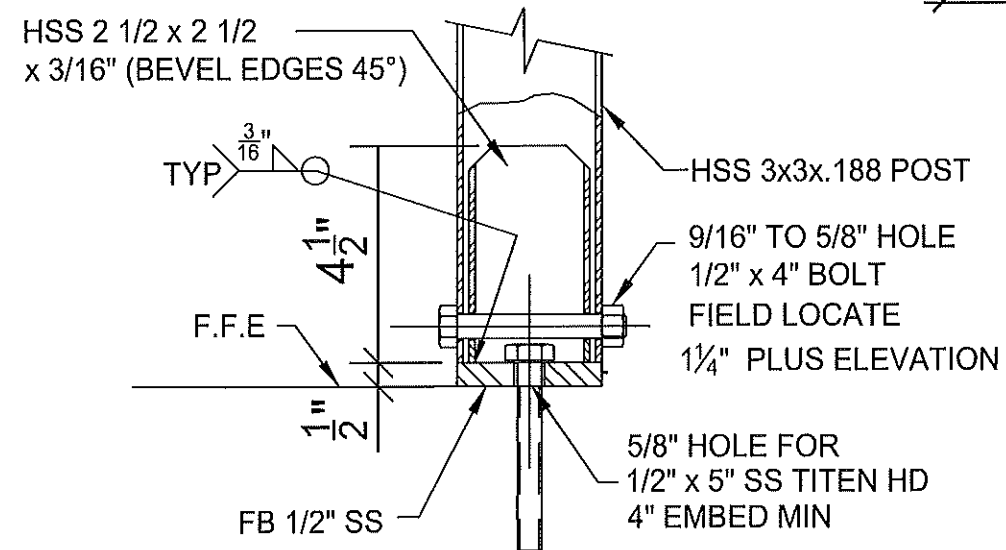
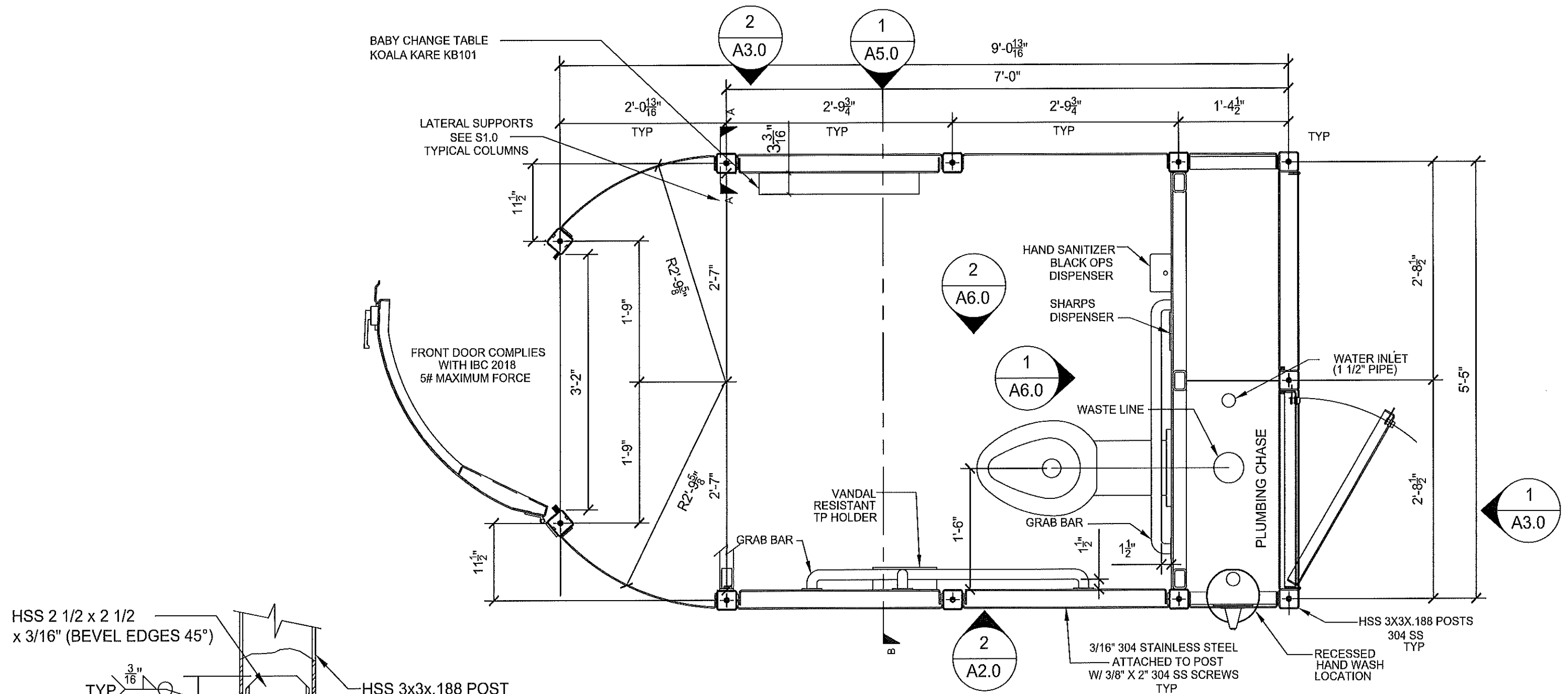
F'C=4000 PSI

7. CONTRACTOR TO VERIFY DESIGN PARAMETERS SHOWN WITH ACTUAL SITE CONDITIONS AND ENSURE ACTUAL SITE PARAMETERS DO NOT EXCEED DESIGN

GENERAL NOTES

1. WEIGHT : 6,013 lbs
2. SQUARE FOOTAGE : 51.5
3. ALL STRUCTURAL STEEL TO BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC MANUAL 15TH EDITION & A.W.S. ALL PANELS, LOUVERS, AND ROOF TO BE 304 STAINLESS STEEL Fy = 30 ksi
4. STRUCTURAL TUBING 304SS OR 316SS.
5. ANCHOR BOLTS 1/2" X 5" SIMPSON SS TITEN HD ANCHORS
6. ALL WELDING TO BE DONE BY CERTIFIED WELDERS. WELD FILLER ELECTRODE MATERIAL TO BE 70 ksi LOW HYDROGEN
7. ALL EXPOSED BOLTS AND SCREWS TO BE TAMPER RESISTANT FOR HEX PIN BITS.
8. RIVET NUTS TO BE C.F.T. SERIES AND STAINLESS STEEL 302.
9. ALL MATERIALS TO BE SAND BLASTED AND POWDER COATED
10. ALL STRUCTURES TO BE FABRICATED OFF SITE SHALL BE DONE IN SHOPS OR FABRICATORS LICENSED OR APPROVED BY THE BUILDING AND ENGINEERING DIVISION OF THE CITY FOR WHICH THE INSTALLATION WILL OCCUR

	05/20/25	INITIAL ISSUE	JBG		MADDEN FABRICATION 2550 NW 25th Place Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446	COVER SHEET			
						NAME	DATE	SERIAL NO.	DRW. NO.
REV	DATE	DESCRIPTION	DRN	APP'D		JBG	05/20/25		A0.0



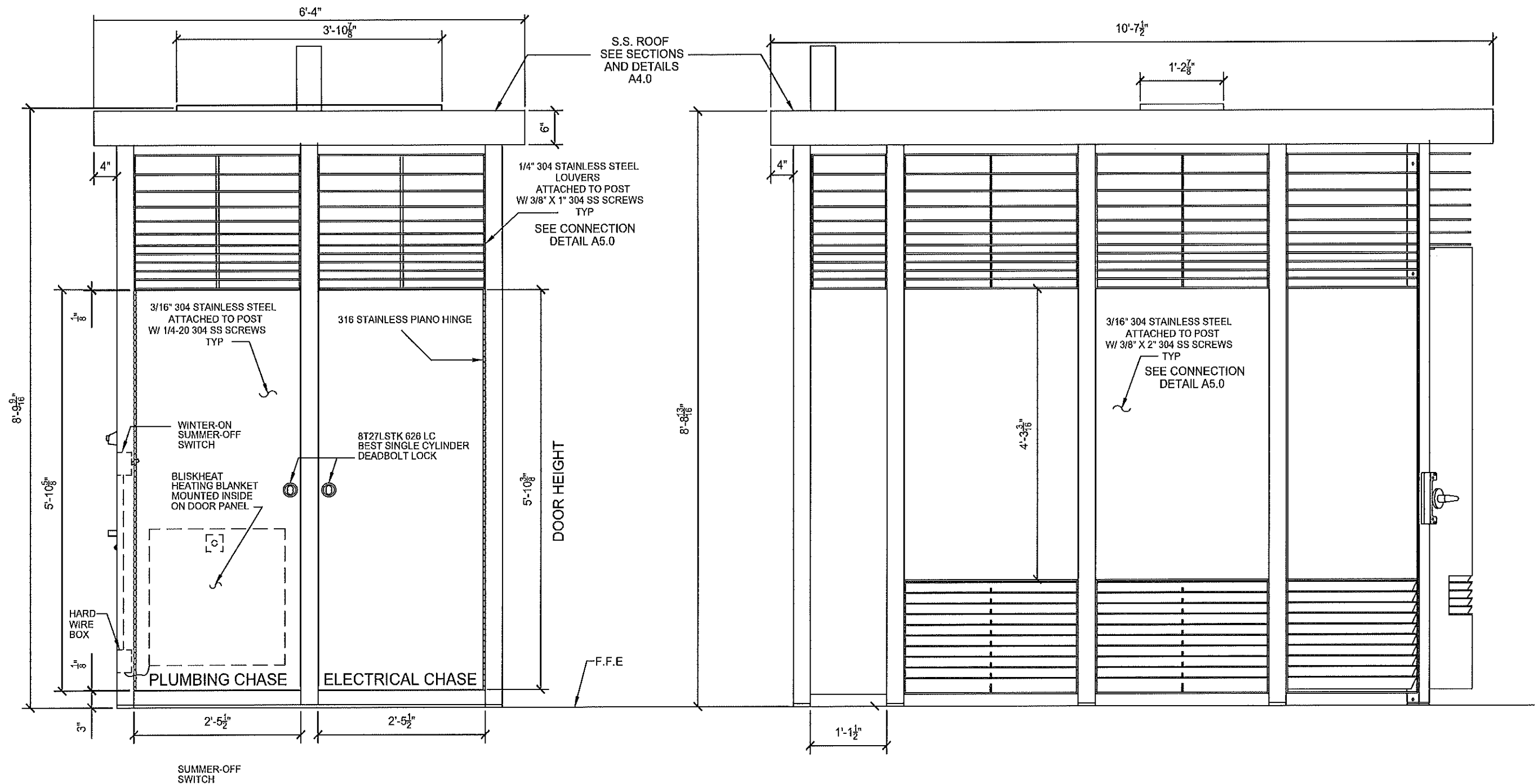
INTERNAL TOP VIEW
AND ANCHOR BOLT LOCATIONS

1	05/20/25	INITIAL ISSUE	JBG			MADDEN FABRICATION 2550 NW 25th Place Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446				FLOOR PLAN			
REV	DATE	DESCRIPTION	DRN	APP'D						NAME	DATE	SERIAL NO.	DRW. NO.
						JBG	05/20/25						A1.0



	05/20/25	INITIAL ISSUE	JBG		MADDEN FABRICATION 2550 NW 25th Place Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446	EXTERIOR ELEVATIONS FRONT & RIGHT SIDES			
REV	DATE	DESCRIPTION	DRN	APP'D		NAME	DATE	SERIAL NO.	DRW. NO.
						JBG	05/20/25		A2.0

	07/23/24	INITIAL ISSUE	AYK		MADDEN FABRICATION 2550 NW 25th Place Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446	PORTLAND, OR			
						EXTERIOR ELEVATIONS FRONT & RIGHT SIDES			
						NAME	DATE	SERIAL NO.	DRW. NO.
REV	DATE	DESCRIPTION	DRN	APP'D		AYK	06/27/2024		A3.0



1
A3.0

BACK ELEVATION VIEW

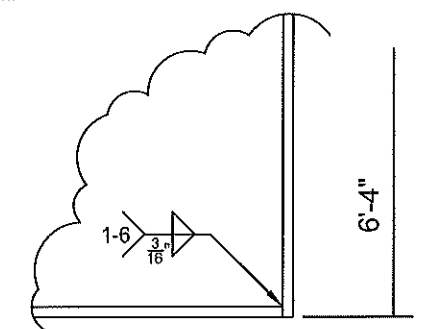
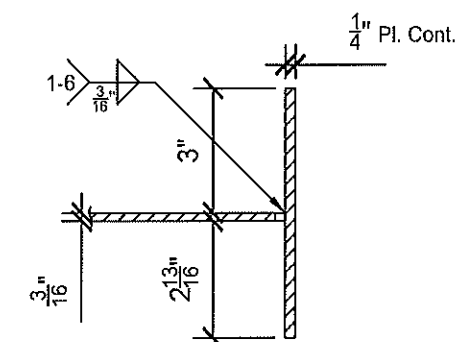
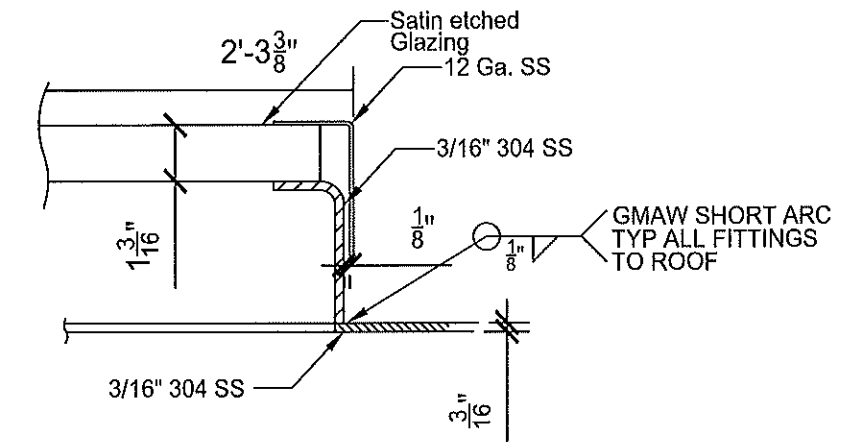
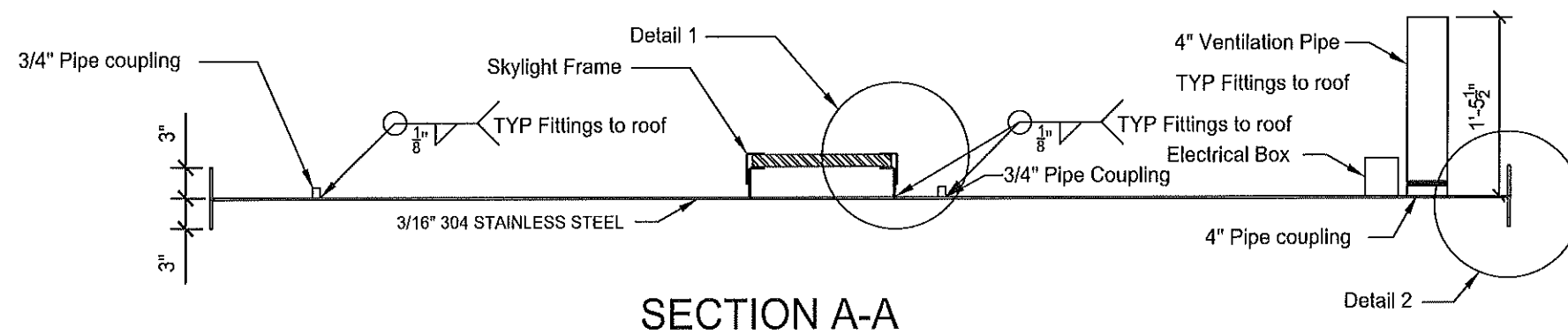
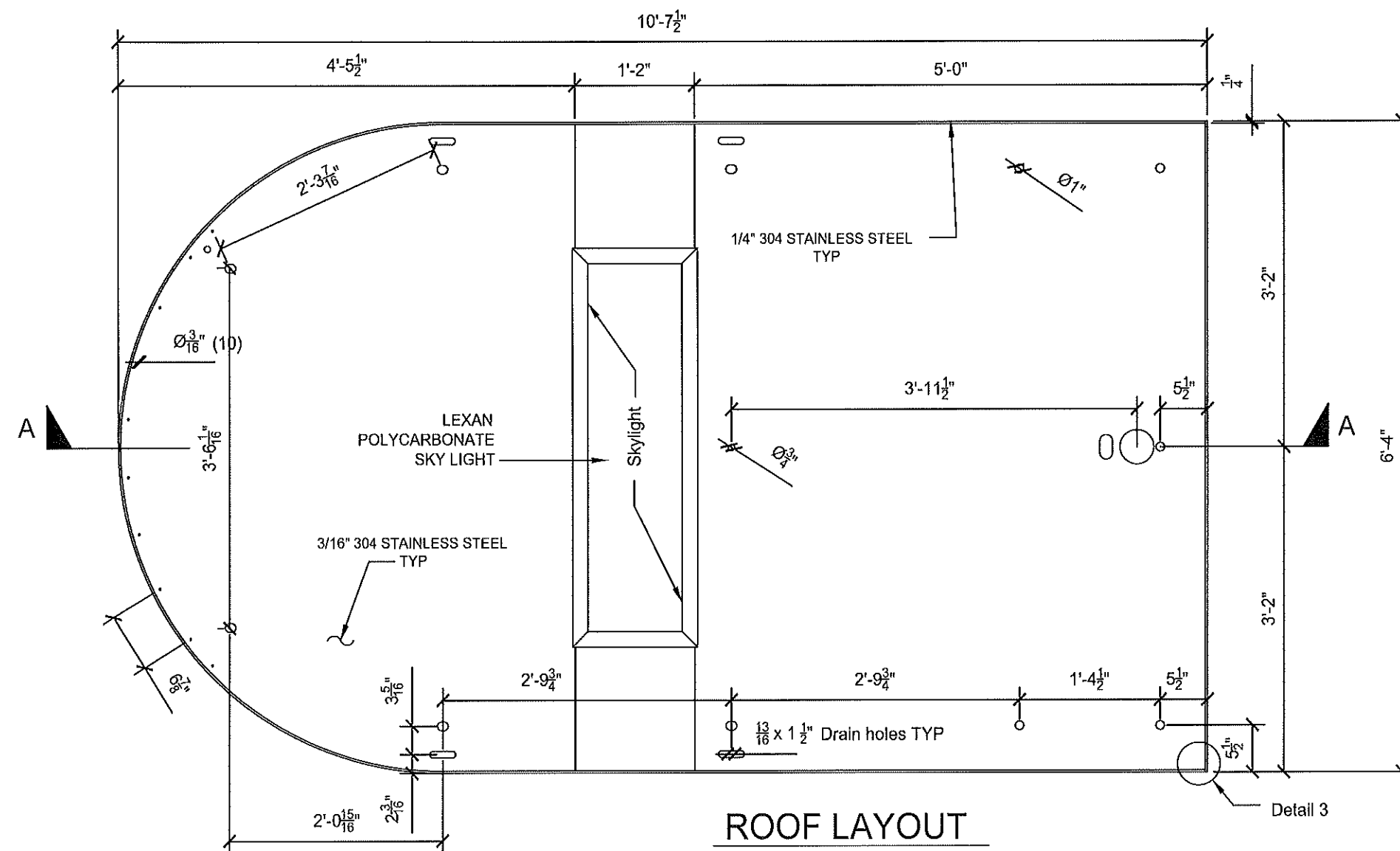
***PLUMBING CHASE GIVES ACCESS
TO WATER/SEWER CONNECTIONS,
PLUMBING MANIFOLD, AND HAND SANITIZER

***ELECTRICAL CHASE GIVES ACCESS
TO SHARPS DISPOSAL, SOAP DISPENSER
AND HAND WASH COMPONENTS

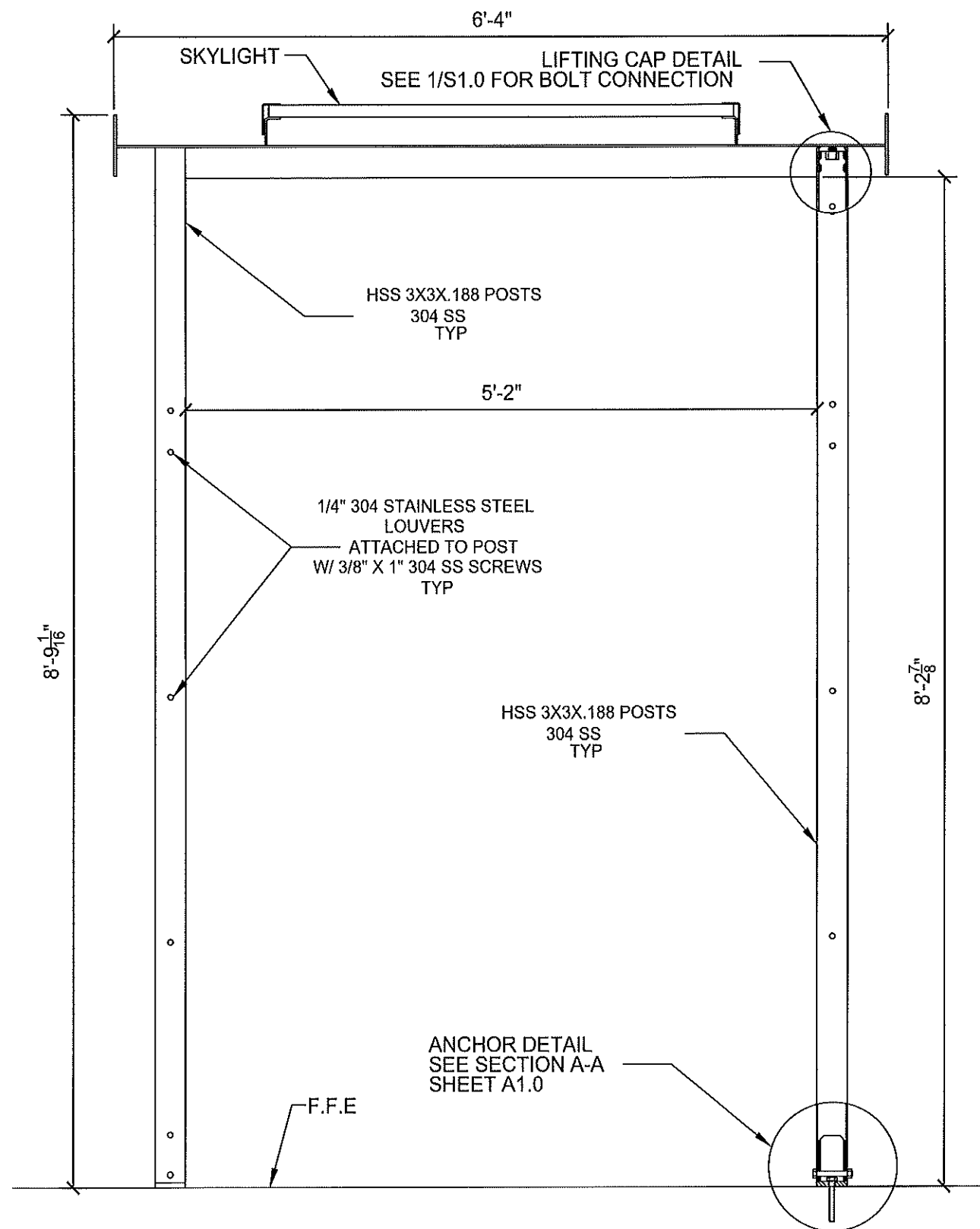
2
A3.0

LEFT ELEVATION VIEW

1	05/20/25	INITIAL ISSUE	JBG		MADDEN FABRICATION	EXTERIOR ELEVATIONS BACK & LEFT SIDE			
						NAME	DATE	SERIAL NO.	DRW. NO.
REV	DATE	DESCRIPTION	DRN	APPD	2550 NW 25th Place Portland, OR 97210 Phone: (503) 226-3968 Fax (503) 242-2446	JBG	05/20/25		A3.0

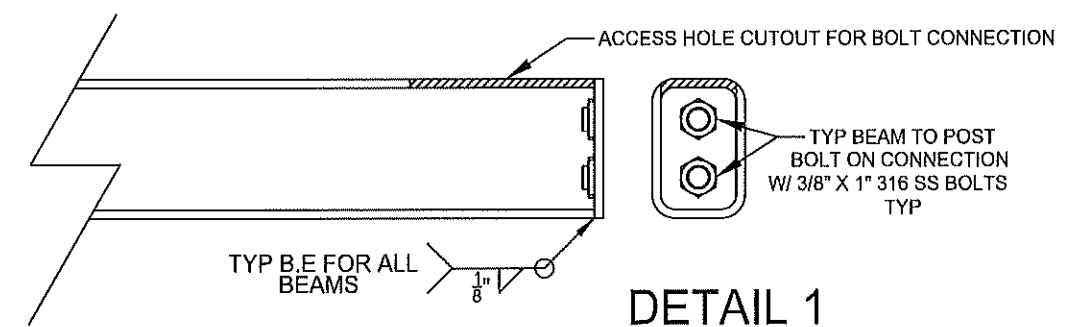


	05/20/25	INITIAL ISSUE	JBG		MADDEN FABRICATION	ROOF LAYOUT				
REV	DATE	DESCRIPTION	DRN	APP'D		2550 NW 25th Place Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446	NAME	DATE	SERIAL NO.	DRW. NO.
						JBG	05/20/25		A4.0	

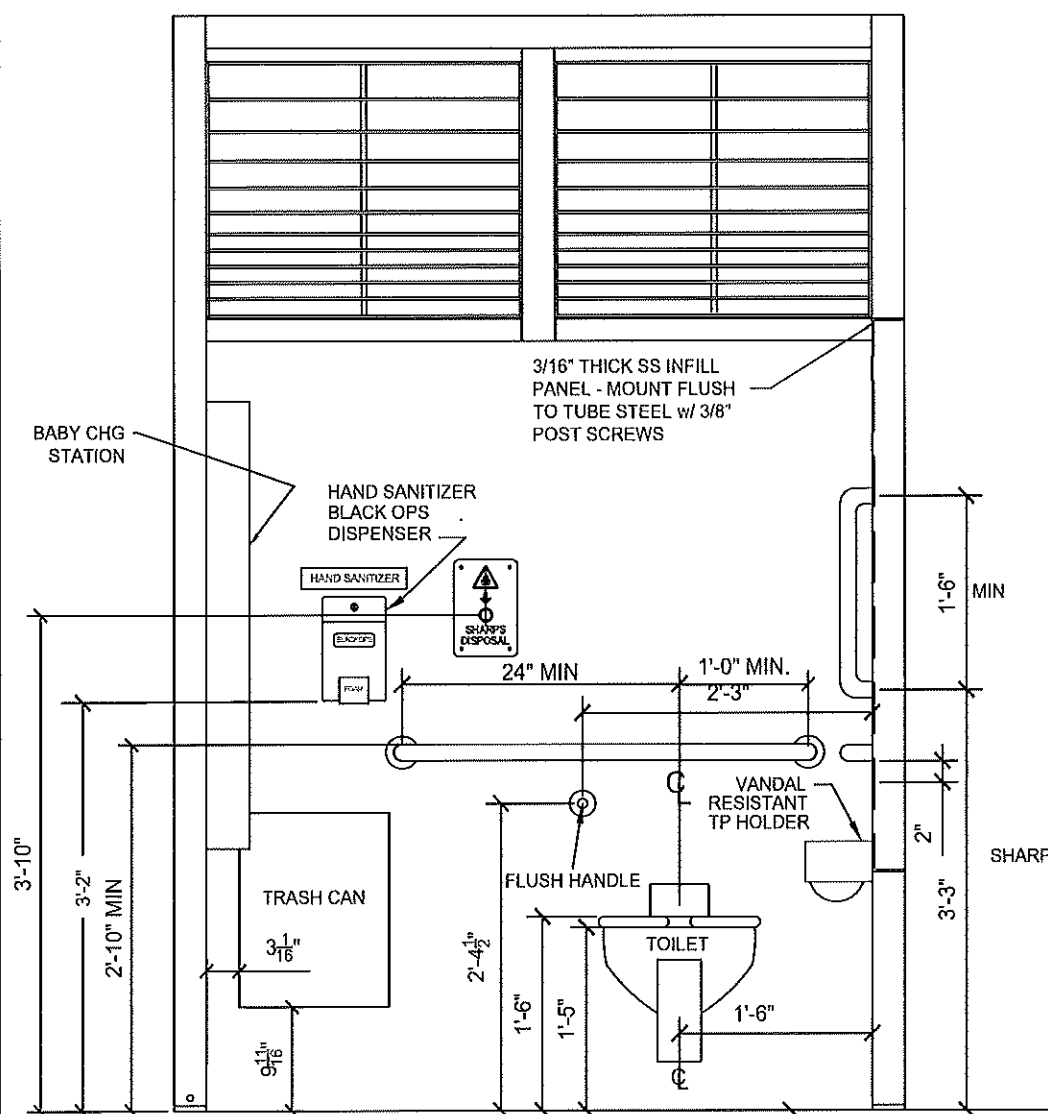


B-B
A1.0

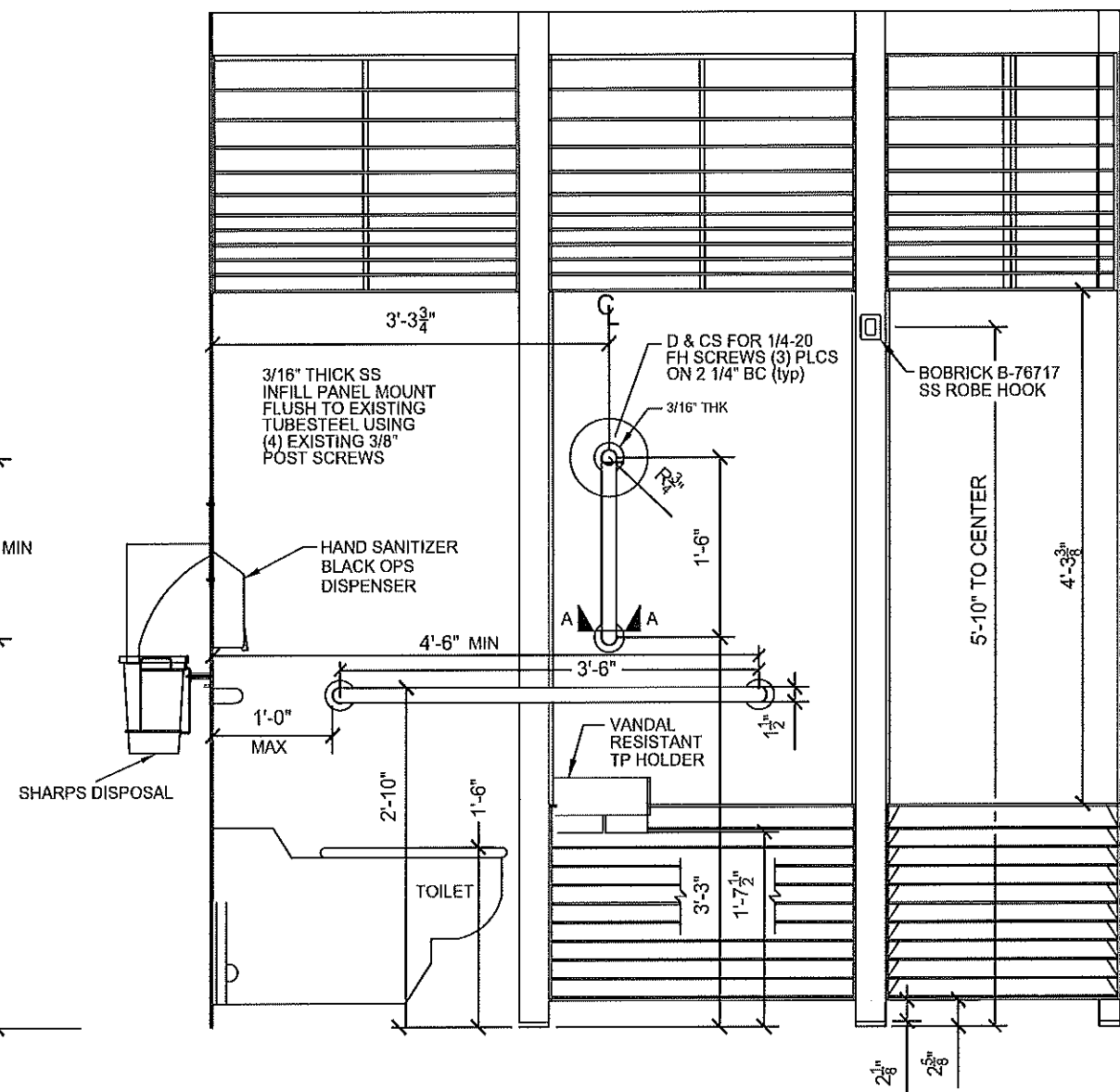
INTERIOR ELEVATION VIEW



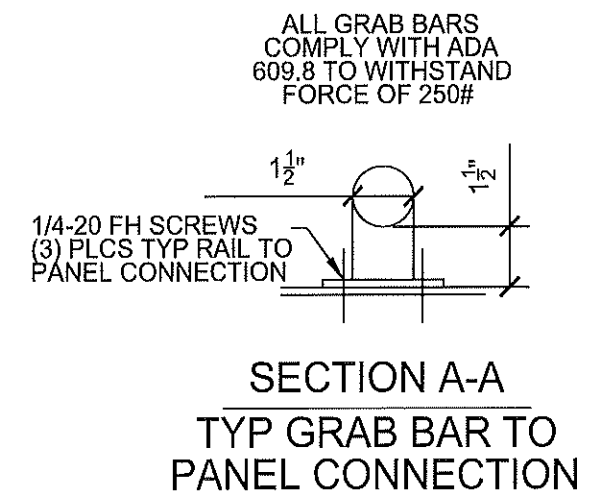
	07/23/24	INITIAL ISSUE	AYK	MADDEN FABRICATION 2550 NW 25th Place Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446	PORTLAND, OR			
					INTERIOR SECTION VIEW			
REV	DATE	DESCRIPTION	DRN	APP'D	NAME	DATE	SERIAL NO.	DRW. NO.
					AYK	06/27/2024		A5.0



1 WATER CLOSET RAILING
A6.0
1 1/2"Øx.120" wall ss
PL 3/16" 304 SS
(1) Assm REQ'D



2 WATER CLOSET RAILING
A6.0
1 1/2"Øx.120" wall ss
PL 3/16" 304SS
(1) Assm REQ'D

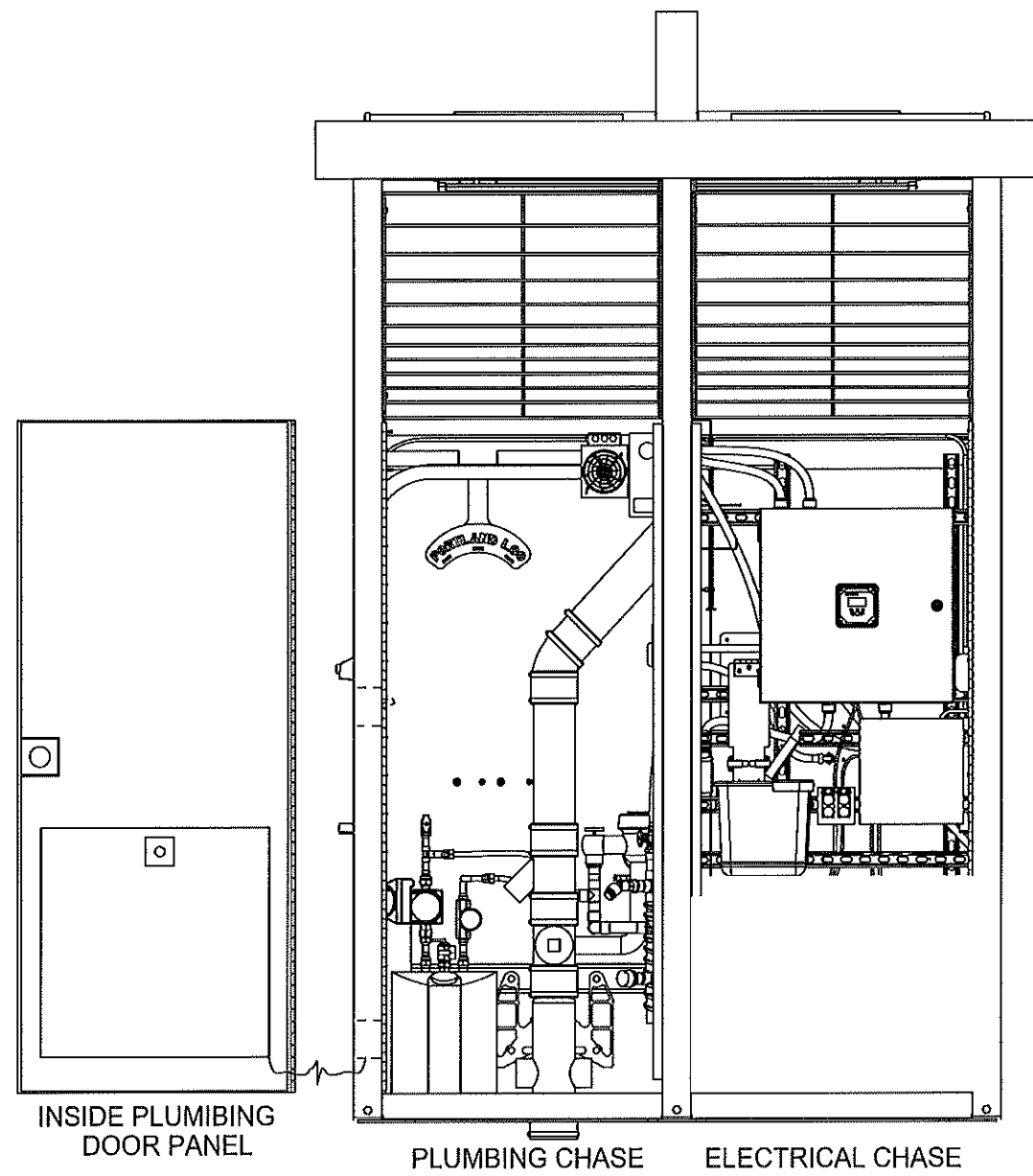


1	05/20/25	INITIAL ISSUE	JBG						
REV	DATE	DESCRIPTION	DRN	APPD					

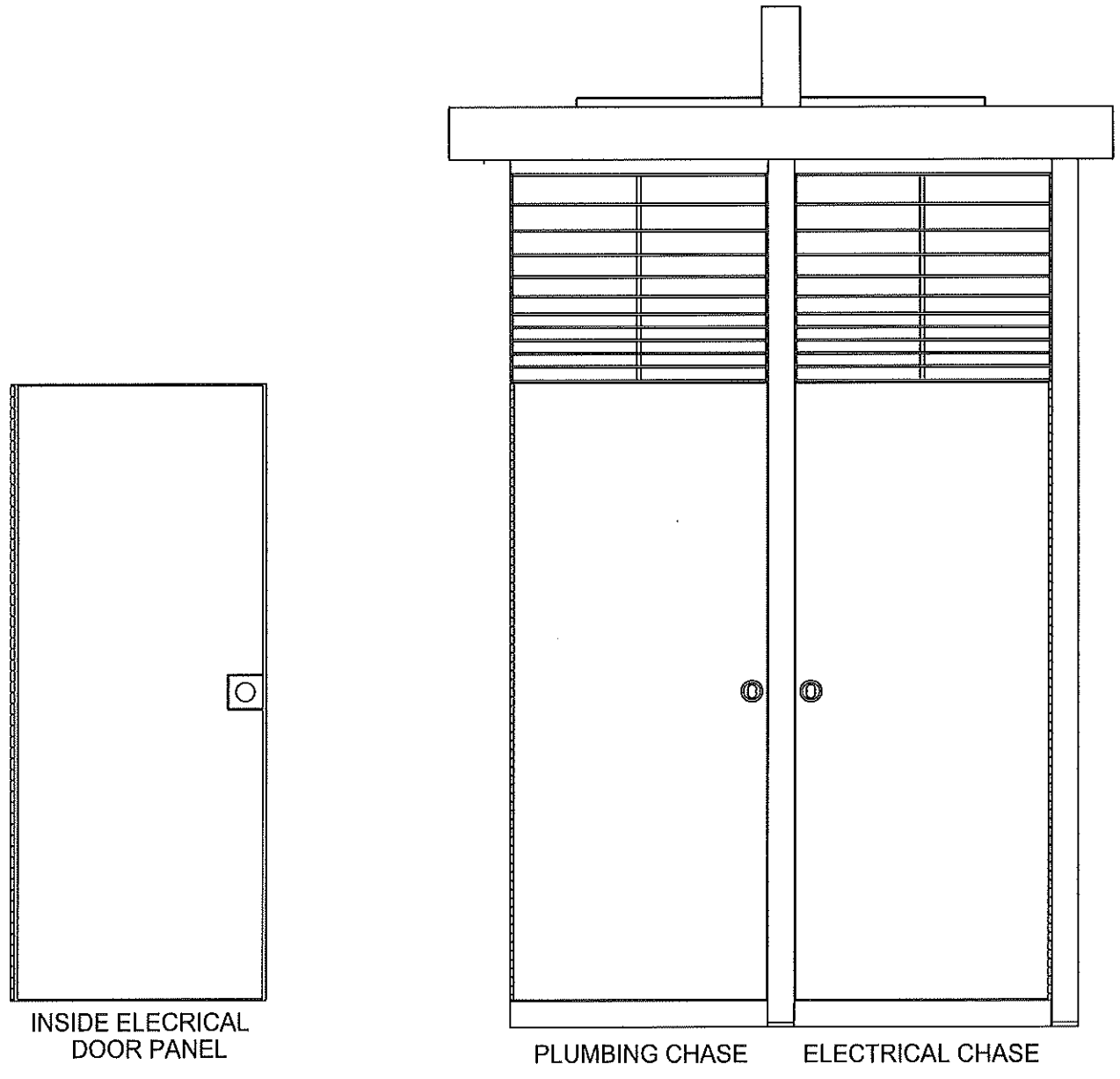
MADDEN
FABRICATION

2550 NW 25th Place Portland, OR. 97210
Phone: (503) 226-3968 Fax (503) 242-2446

INTERIOR SECTION VIEWS			
NAME	DATE	SERIAL NO.	DRW. NO.
JBG	05/20/25		A6.0

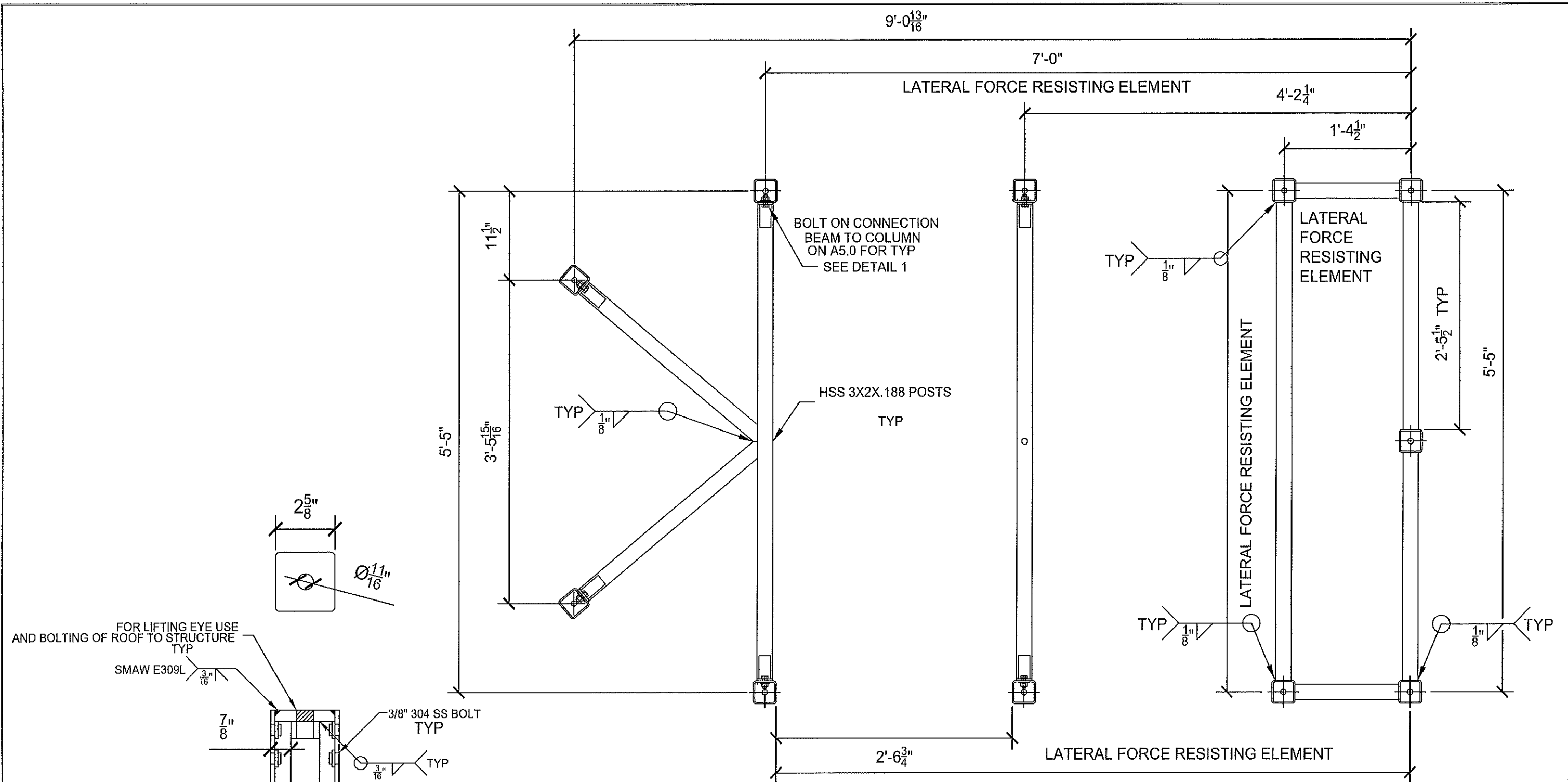


1
A3.0 BACK INTERIOR ELEVATION VIEW



1
A3.0 BACK EXTERIOR ELEVATION VIEW

1	05/20/25	INITIAL ISSUE	JBG		MADDEN FABRICATION	Extreme Cold Weather			
						BACK VIEW PLUMBING & ELECTRICAL PANELS INTERIOR AND EXTERIOR			
REV	DATE	DESCRIPTION	DRN	APP'D	2550 NW 25th Place • Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446	NAME	DATE	SERIAL NO.	DRW. NO.
						JBG	05/20/25		A7.0



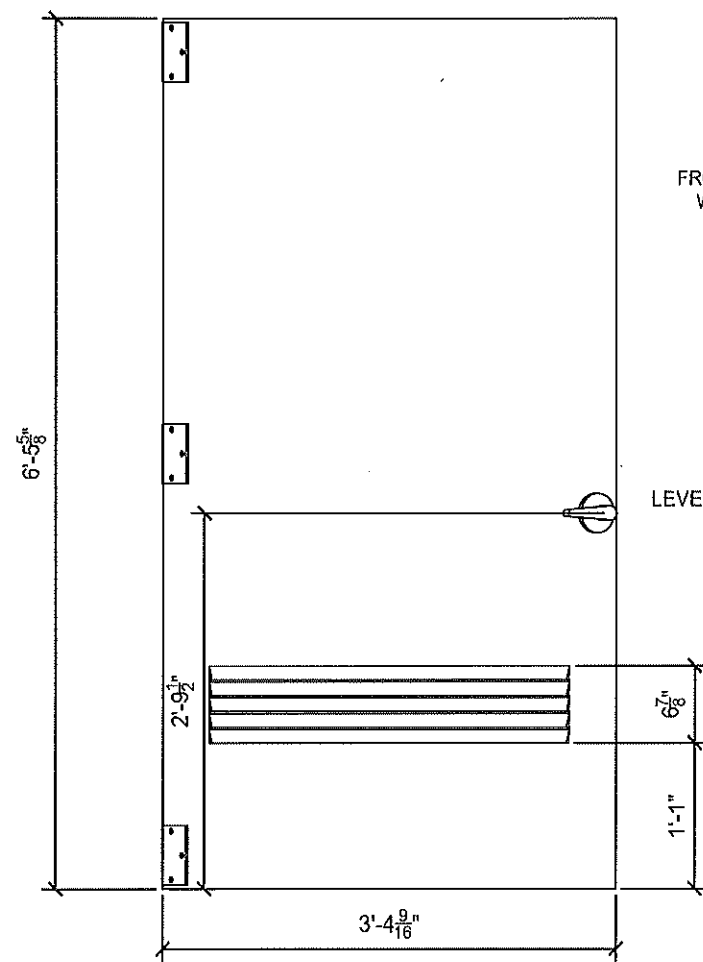
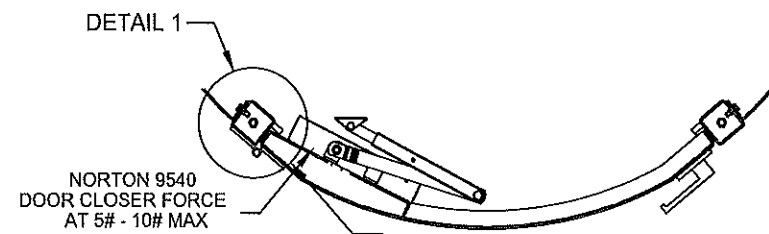
COLUMN AND BEAM LAYOUT

SCALE 1:32

1
S1.0

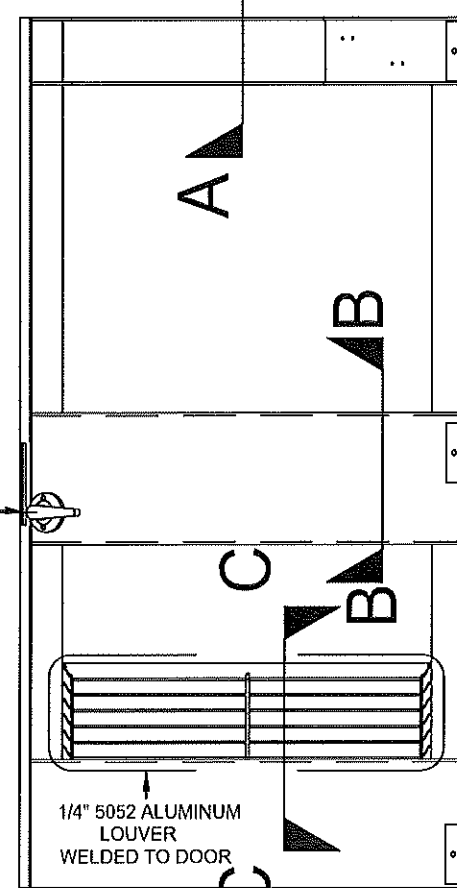
COLUMN LIFTING CAP
1/2" 304 SS
TAP FOR 3/4-10 Bolt
(11) REQ'D

1	05/20/25	INITIAL ISSUE	JBG			MADDEN FABRICATION	COLUMN & BEAM LAYOUT			
							NAME	DATE	SERIAL NO.	DRW. NO.
REV	DATE	DESCRIPTION	DRN	APPD		2550 NW 25th Place Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446	JBG	05/20/25		S1.0



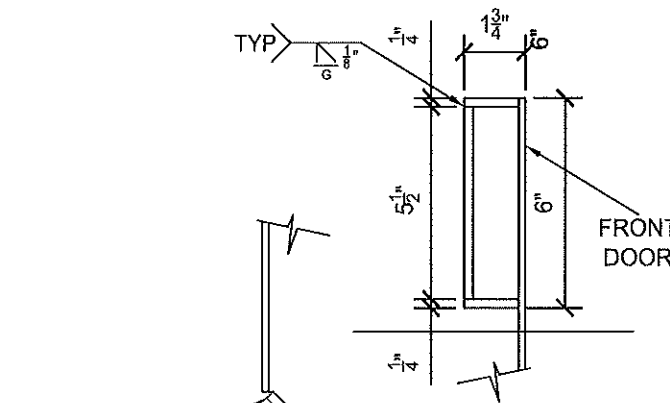
LEVER HANDLE

FRONT DOOR COMPLIES WITH ADA 404.2.9



FLOOR

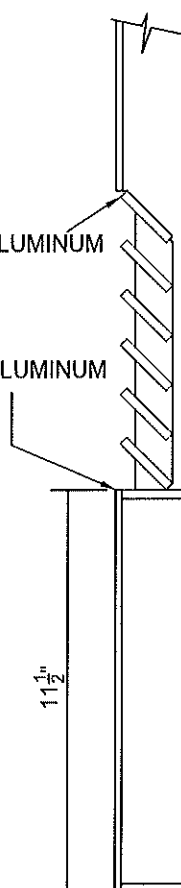
BACKSIDE (INTERIOR)



SECTION A-A

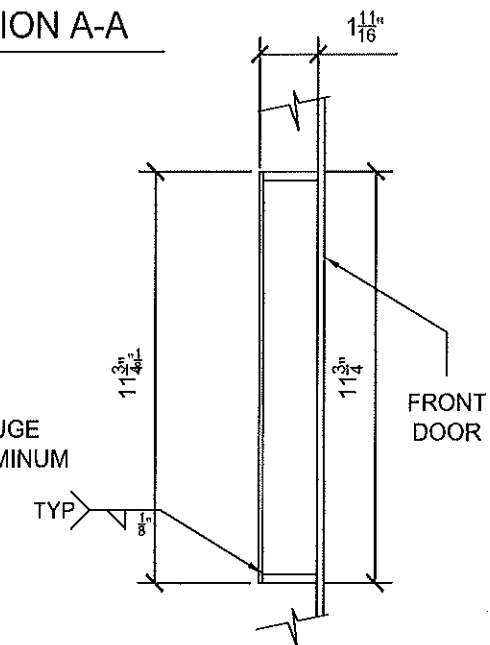
1/4" 5052 ALUMINUM

3/16" 5052 ALUMINUM



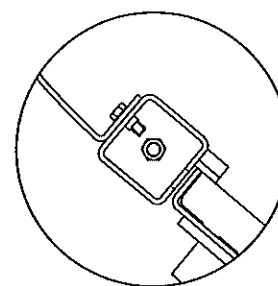
SECTION C-C

12 GAUGE 5052 ALUMINUM



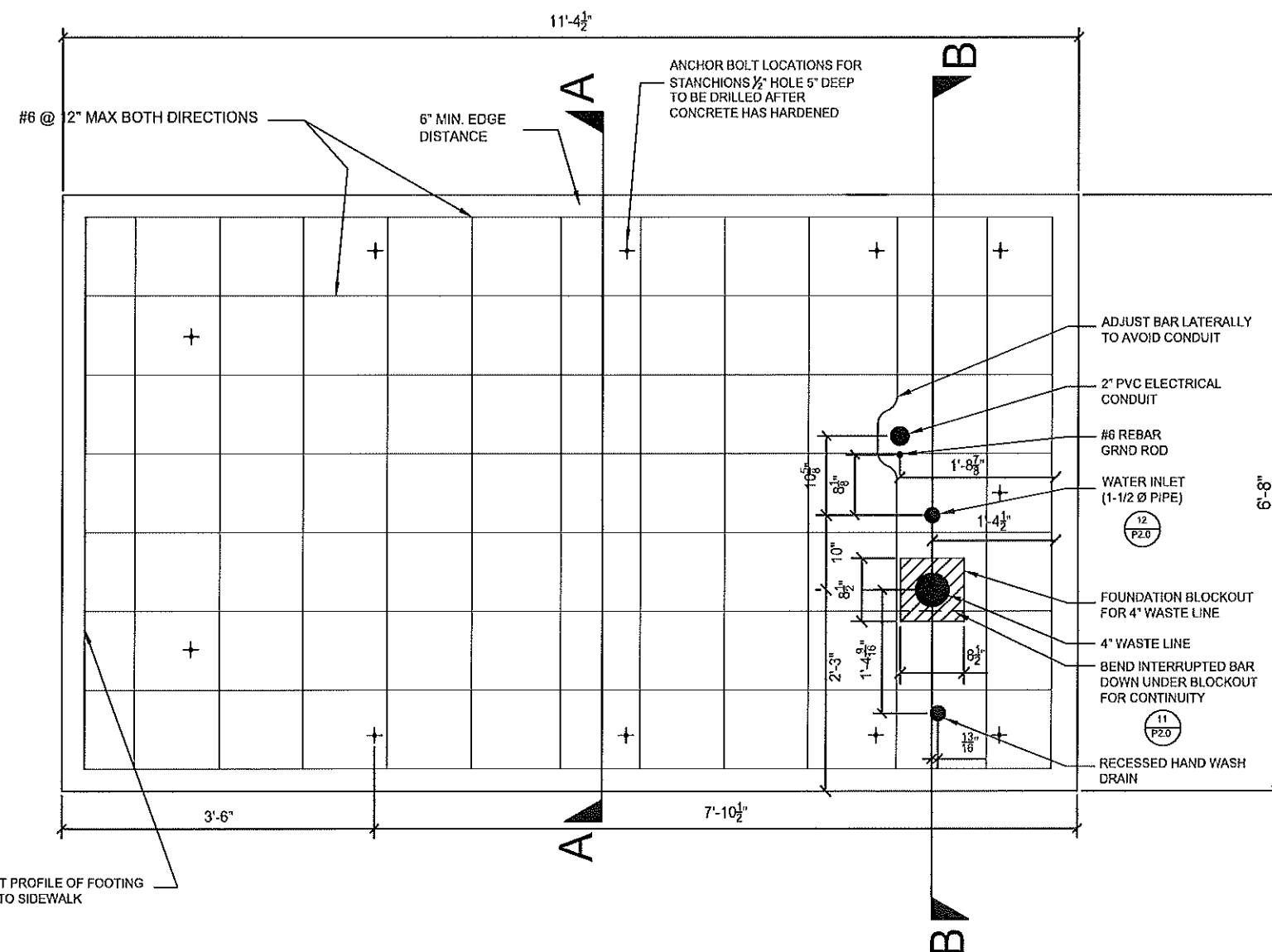
SECTION B-B

1 RIGHT ENTRY DOOR (STANDARD)
PL 3/16" 5052 ALUMINUM
(1) REQ'D



DETAIL 1

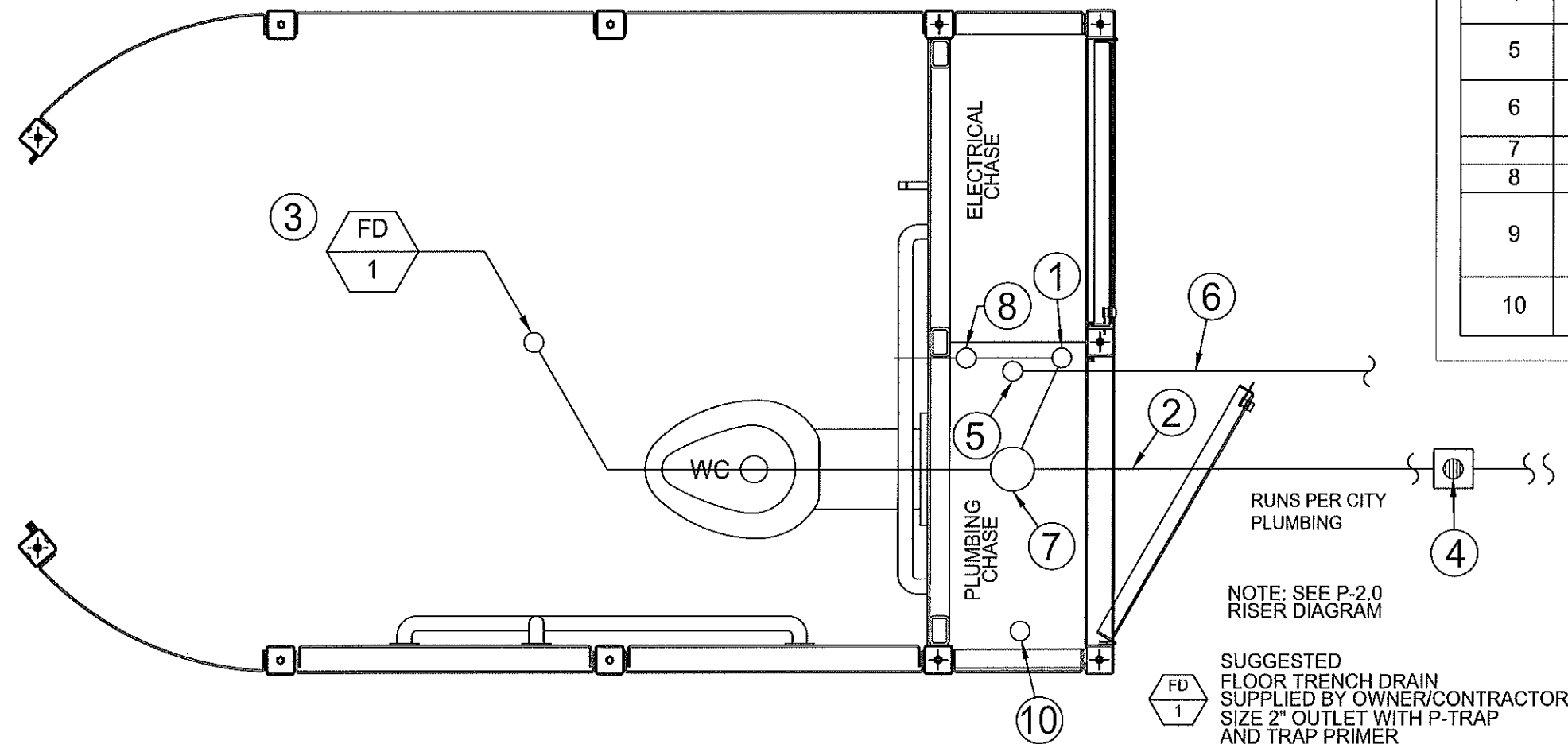
△	07/23/24	INITIAL ISSUE	AYK		MADDEN FABRICATION	PORTLAND, OR			
						FRONT DOOR			
REV	DATE	DESCRIPTION	DRN	APP'D	2550 NW 25th Place Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446	NAME	DATE	SERIAL NO.	DRW. NO.
						AYK	06/27/2024		S2.0



GENERAL NOTES:

1. Provide all materials and perform all work according to the current edition of the Specifications of the Authority Having Jurisdiction.
2. All concrete shall be Structural Class 4000. FC = 4000 PSI.
3. All reinforcing steel shall conform to ASTM A706 or A615 Grade 60.
4. Place bars 3 inches clear of the nearest face of concrete unless shown otherwise.
5. Concrete footing may be poured integrally with 4' sidewalk, providing a deep cut tool joint is located around perimeter of footing.
6. Stanchions section "A-A" / A1.0 to be fastened to the concrete using 5/8" hole for 1/2" x 5 SS TITEN HD 3.5" embeded min. The Loos columns to be fastened to the stanchions.
7. Location of anchor bolts to be located and drilled using template provided before installation by Madden Fabrication.
8. For Grade/Slope and location of floor drains see civil plans.

	07/23/24	INITIAL ISSUE	AYK			PORTLAND, OR			
						FOUNDATION & ANCHOR BOLT LOCATIONS			
REV	DATE	DESCRIPTION	DRN	APP'D	2550 NW 25th Place Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446	NAME	DATE	SERIAL NO.	DRW. NO.
						AYK	08/27/2024		S3.0



PLUMBING FLOOR PLAN

BILL OF MATERIAL

ITEM	QTY	DESCRIPTION	MFG.
1	ONE	2" VENT PIPE TUBE TO ROOF	VARIOUS
2	ONE	LINE TO P.O.C.	VARIOUS
3	ONE	ROUTE CW SUPPLY TO FLOOR DRAIN P-TRAP FROM TRAP PRIMING LOCATED IN PLUMBING CHASE	JAY R. SMITH
4	ONE	4" GRADE CLEAN-OUT (QTY & LOCATION PER LOCAL CODE)	VARIOUS
5	ONE	WATER INLET 1-1/2" C.W. SUPPLY SHOWN ON SHEET 7	VARIOUS
6	ONE	1-1/2" C.W. SUPPLY TO SOV SHOWN ON SHEET 7	VARIOUS
7	ONE	4" SEWER LINE CARRIER SHOW ON P2.0	VARIOUS
8	ONE	TRAP PRIMER VALVE (PER LOCAL CODE)	PRIME-RIGHT
9	ONE	WASH BASIN FLOOR DRAIN P-TRAP FROM TRAP PRIMING LOCATED IN PLUMBING CHASE	VARIOUS
10	ONE	2" SEWER DRAIN FOR RECESSED HAND WASH	VARIOUS

NOTE: SEE P-2.0
RISER DIAGRAM

SUGGESTED
FLOOR TRENCH DRAIN
SUPPLIED BY OWNER/CONTRACTOR
SIZE 2" OUTLET WITH P-TRAP
AND TRAP PRIMER
FITTING

07/23/24	INITIAL ISSUE	AYK							
REV	DATE	DESCRIPTION	DRN	APP'D					

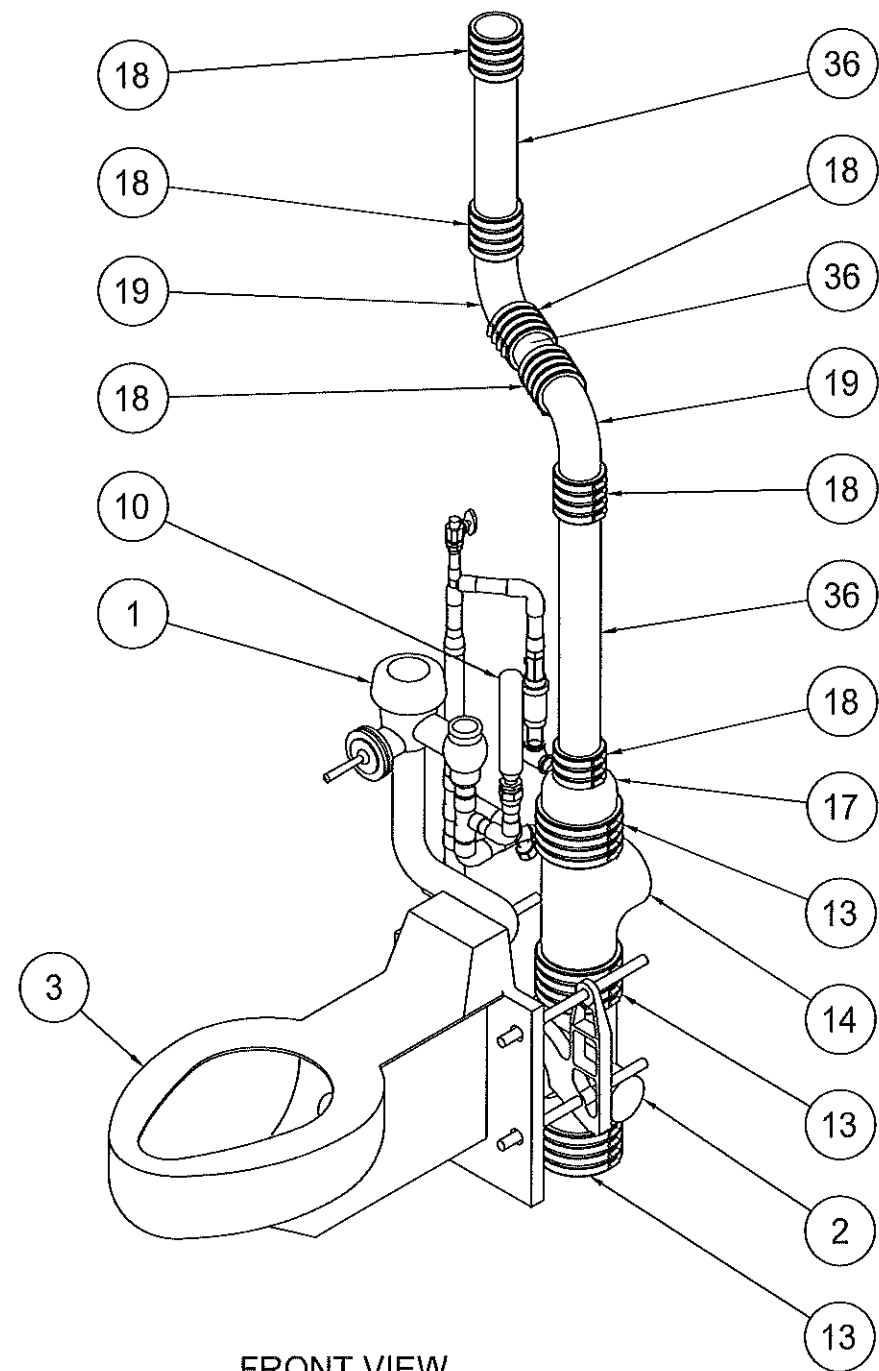
**MADDEN
FABRICATION**

2550 NW 25th Place Portland, OR. 97210
Phone: (503) 226-3968 Fax (503) 242-2446

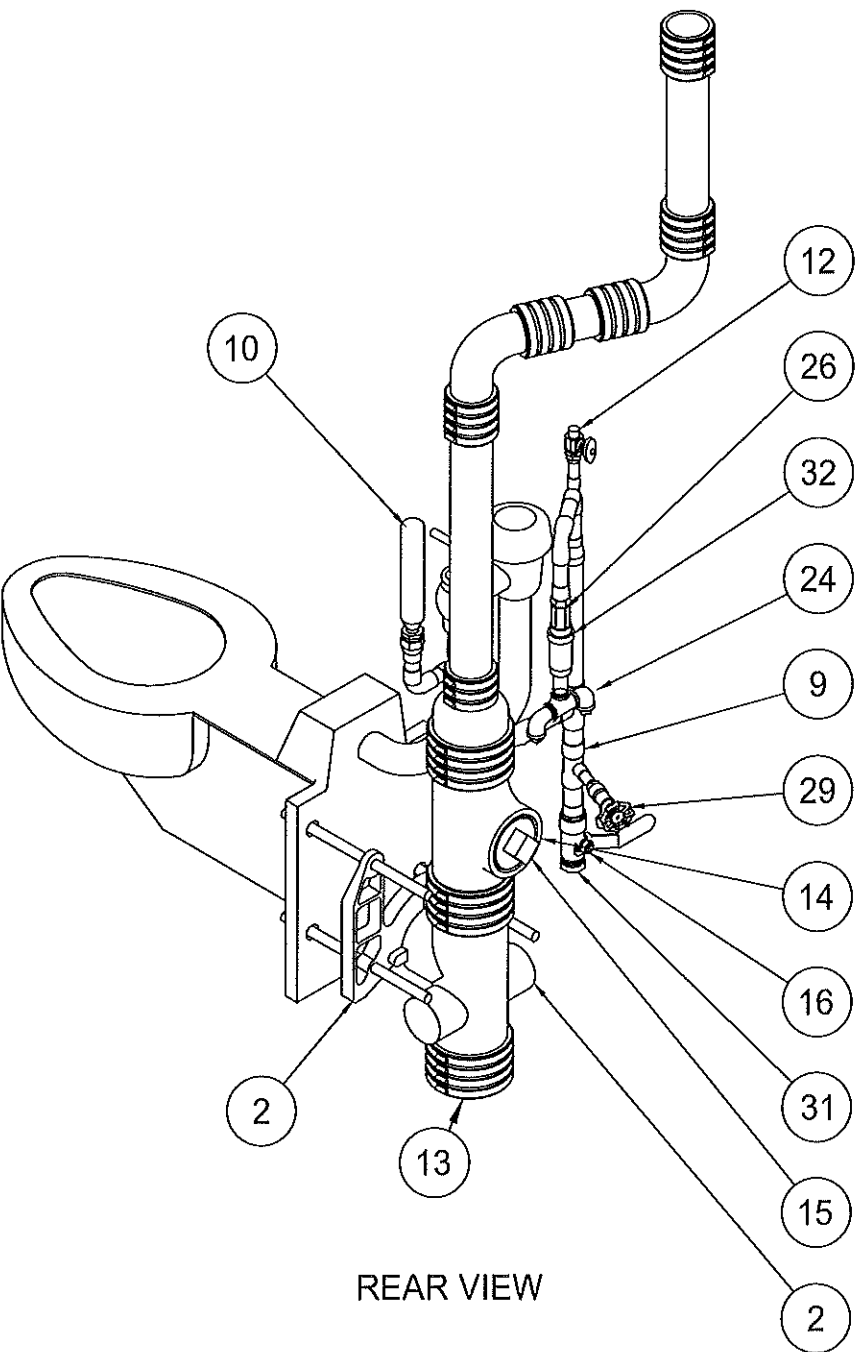
PORTLAND, OR

PLUMBING DETAIL

NAME	DATE	SERIAL NO.	DRW. NO.
AYK	06/27/2024		P1.0



FRONT VIEW

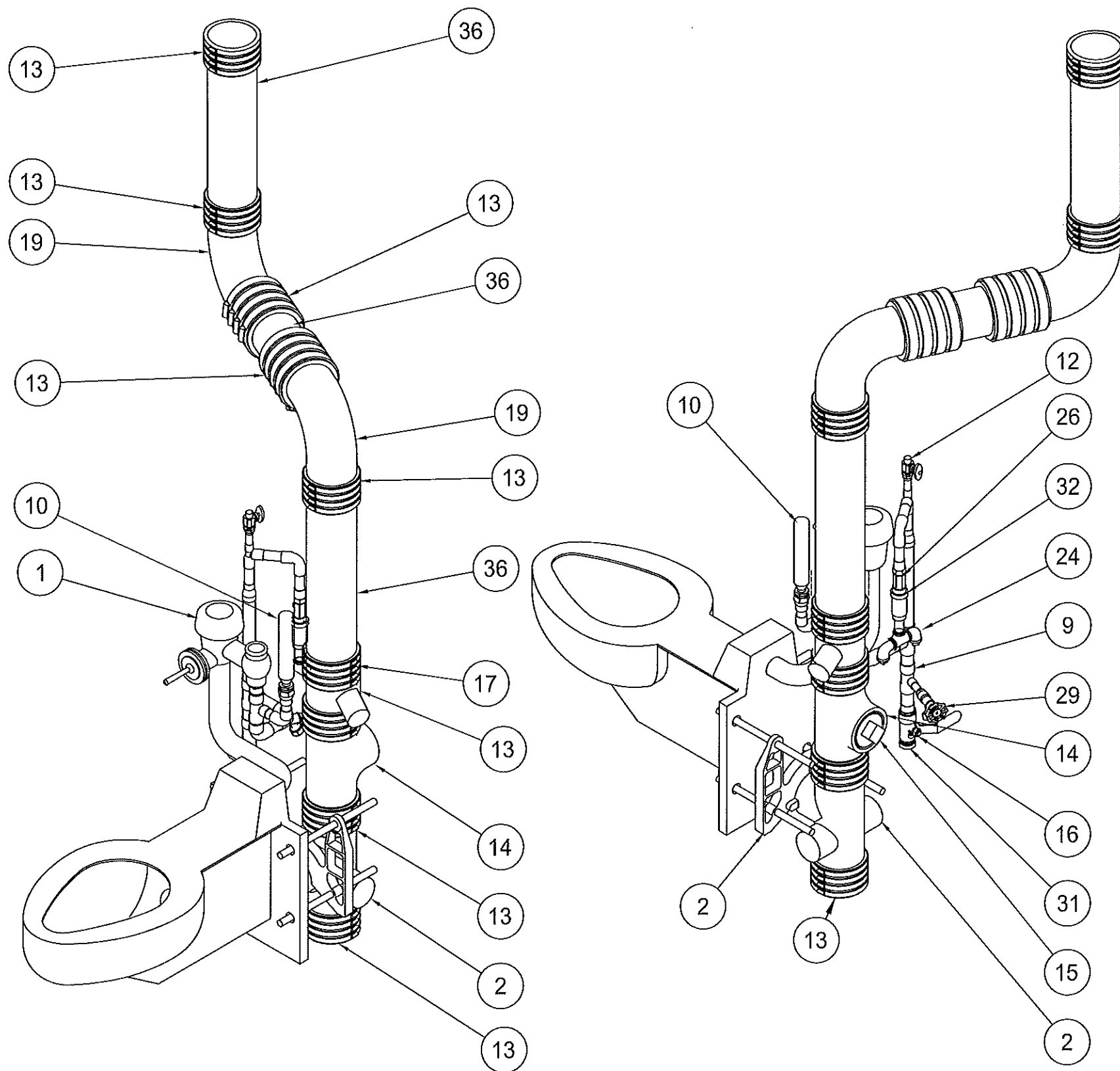


REAR VIEW

BILL OF MATERIAL

ITEM NO.	QTY.	MANUFACTURER NO	DESCRIPTION
1	1	ROYAL 143-1.28	SLOAN - ROYAL 143 FLUSHOMETER, 1.28 GPF, 3-3/4 L, BRASS FINISH
2	1	JR SMITH 0440Y	440 Y W 8" NIPPLE CARRIER - JR SMITH
3	1	2105-W-1-CN-HS	DURA-WARE TOILET W SEAT, 1 1/2" SS 304 CL
4	2	VIEGA 77022	3/4" ELBOW 90 DEG
5	2	VIEGA 79245	1" MALE ADAPTER
6	2	VIEGA 77027	1" ELBOW 90 DEG
7	1	VIEGA 79315	3/4 FEMALE ADAPTER
8	1	VIEGA 77412	1" TEE
9	1	VIEGA 77432	1" X 1/2" TEE
10	1	PPP SC-750B	WATER HAMMER ARRESTOR 3/4 NPT MALE
11	1	VIEGA 77437	1" X 3/4" TEE
12	1	BRASSCRAFT OR12X-C	1/2" X 3/8" STRAIGHT STOP VALVE
13	3	ANACO 2010	4" NO-HUB RUBBER COUPLING
14	1	AB&I 00190	4" CAST IRON TEE LOW-PRESSURE
15	1	PASCO 1851	4" BRASS PLUG
16	1	UPBA475B-1	1" BALL VALVE
17	1	AB&I 02142	4" X 2" NO-HUB REDUCER
18	6	ANACO 2006	2" NO-HUB RUBBER COUPLING
19	2	AB&I 00190	2" NO-HUB 90 ELBOW CAST IRON
20	2	VIEGA 79215	1/2" MALE ADAPTER
21	1	VIEGA 77417	COPPER TEE 3/4" X 3/4" X 1/2"
22	1	VIEGA 78152	1" X 3/4" REDUCER
23	1	LEGEND 310-103NL	1/2" THREADED BRASS TEE
24	2	LEGEND 310-043 NL	1/2" THREADED BRASS STREET 90 ELBOW
25	1	4568K175 OR EQUIVALENT	1/2" X 3" THREADED BRASS PIPE NIPPLE
26	1	BRASSCRAFT DR583X-R	1/2" SCREWDRIVER STOP
27	1	VIEGA 79310	3/4 X 1/2 FPT" FEMALE FITTING
28	1	PASCO 2152	3/4" PLASTIC CAPS
29	1	LEGEND 107-154NL	1/2" HOSE BIB
30	2	LEGEND 310-183 NL	1/2" BRASS PLUG
31	1	LASCO 450-010	1" PVC PLUG
32	1	PPP P2-500	TRAP PRIMER
33	7	5175K126 OR EQUIVALENT	TUBING, TYPE L, 1 TUBE SIZE, COPPER
34	5	5175K125 OR EQUIVALENT	TUBING, TYPE L, 3/4 TUBE SIZE, COPPER
35	2	5175K122 OR EQUIVALENT	TUBING, TYPE K, 1/2 TUBE SIZE, COPPER
36	3	1910N12 OR EQUIVALENT	2" SCH-40 NO-HUB PIPE CAST IRON

	07/23/24	INITIAL ISSUE	AYK		MADDEN FABRICATION 2550 NW 25th Place Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446	PORTLAND, OR			
						PLUMBING DETAIL			
						NAME	DATE	SERIAL NO.	DRW. NO.
REV	DATE	DESCRIPTION	DRN	APP'D	AYK	06/27/2024		P2.0	

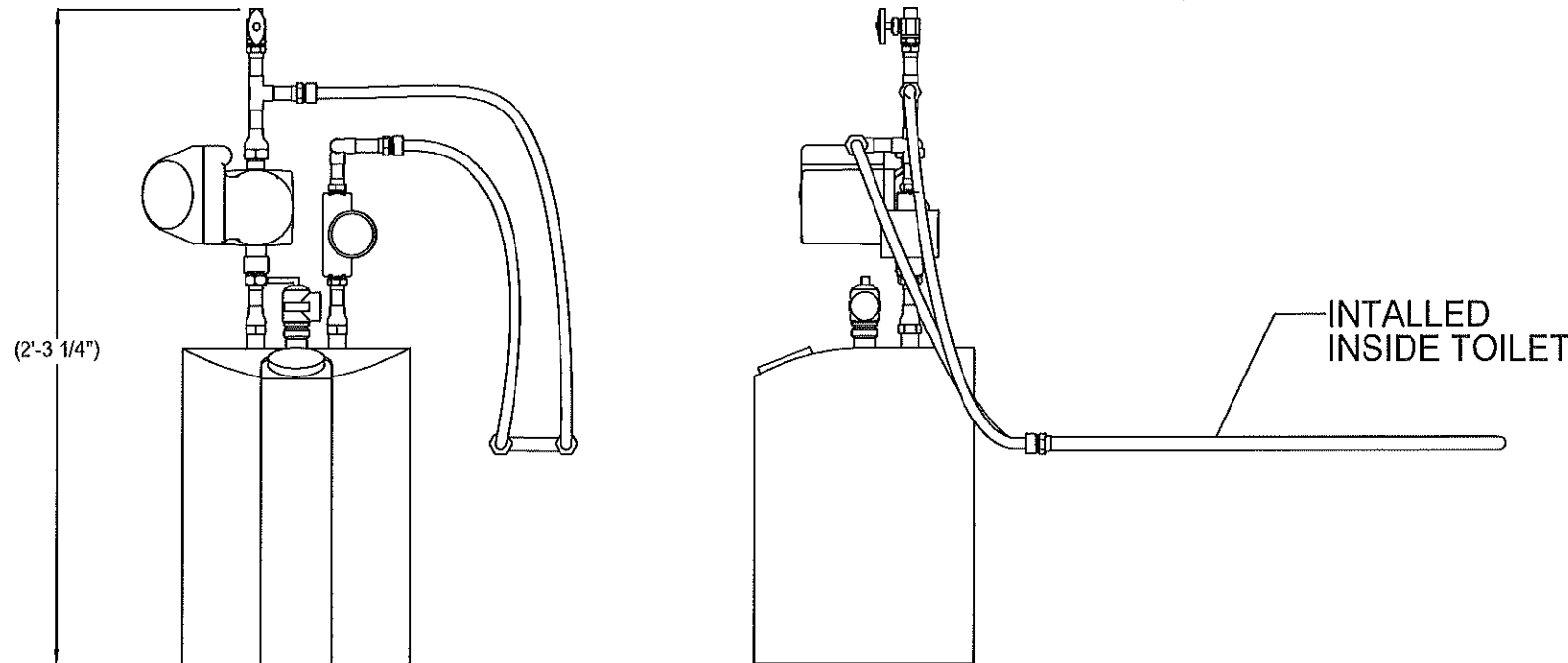
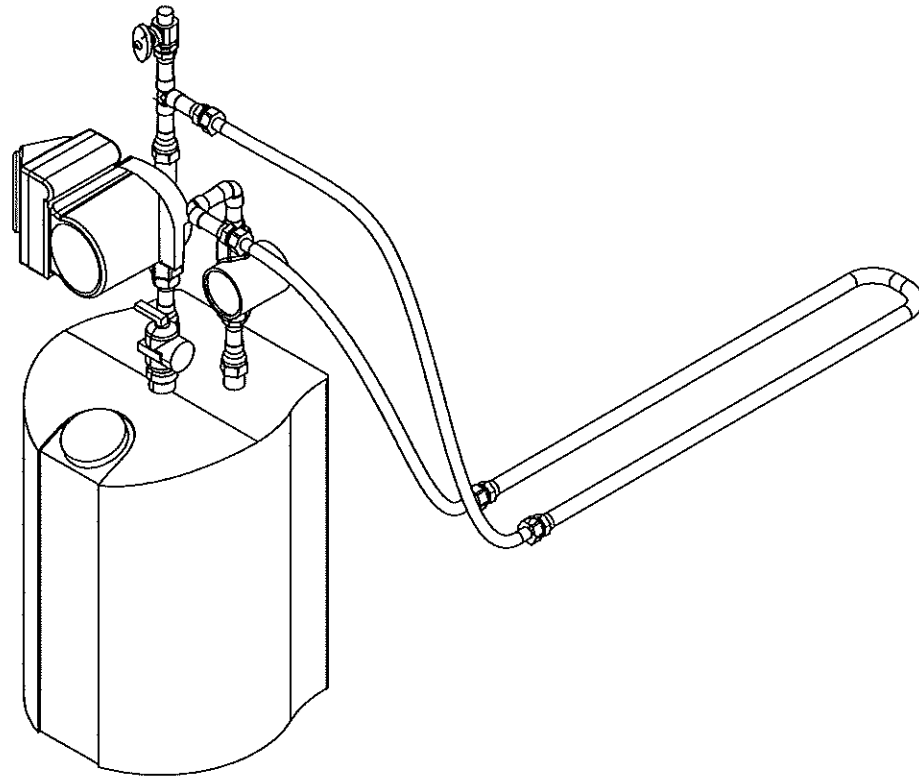


BILL OF MATERIAL

ITEM NO.	QTY.	MANUFACTURER NO	DESCRIPTION
1	1	ROYAL 143-1.28	SLOAN - ROYAL 143 FLUSHOMETER, 1.28 GPF, 3-3/4 L, BRASS FINISH
2	1	JR SMITH 0440Y	440 Y W 8" NIPPLE CARRIER - JR SMITH
3	1	2105-W-1-CN-HS	DURA-WARE TOILET W SEAT, 1 1/2" SS 304 CL
4	2	VIEGA 77022	3/4" ELBOW 90 DEG
5	2	VIEGA 79245	1" MALE ADAPTER
6	2	VIEGA 77027	1" ELBOW 90 DEG
7	1	VIEGA 79315	3/4 FEMALE ADAPTER
8	1	VIEGA 77412	1" TEE
9	1	VIEGA 77432	1" X 1/2" TEE
10	1	PPP SC-750B	WATER HAMMER ARRESTOR 3/4 NPT MALE
11	1	VIEGA 77437	1" X 3/4" TEE
12	1	BRASSCRAFT OR12X-C	1/2" X 3/8" STRAIGHT STOP VALVE
13	9	ANACO 2010	4" NO-HUB RUBBER COUPLING
14	1	AB&I 00190	4" CAST IRON TEE LOW-PRESSURE
15	1	PASCO 1851	4" BRASS PLUG
16	1	UPBA475B-1	1" BALL VALVE
17	1	CHARLETTE 0027	4"x4"x2" CAST IRON WYE
18	6	ANACO 2006	2" NO-HUB RUBBER COUPLING
19	2	AB&I 00610	4" NO-HUB 45 ELBOW CAST IRON
20	2	VIEGA 79215	1/2" MALE ADAPTER
21	1	VIEGA 77417	COPPER TEE 3/4" X 3/4" X 1/2"
22	1	VIEGA 78152	1" X 3/4" REDUCER
23	1	LEGEND 310-103NL	1/2" THREADED BRASS TEE
24	2	LEGEND 310-043 NL	1/2" THREADED BRASS STREET 90 ELBOW
25	1	4568K175 OR EQUIVALENT	1/2" X 3" THREADED BRASS PIPE NIPPLE
26	1	BRASSCRAFT DR583X-R	1/2" SCREWDRIVER STOP
27	1	VIEGA 79310	3/4 X 1/2 FPT" FEMALE FITTING
28	1	PASCO 2152	3/4" PLASTIC CAPS
29	1	LEGEND 107-154NL	1/2" HOSE BIB
30	2	LEGEND 310-183 NL	1/2" BRASS PLUG
31	1	LASCO 450-010	1" PVC PLUG
32	1	PPP P2-500	TRAP PRIMER
33	7	5175K126 OR EQUIVALENT	TUBING, TYPE L, 1 TUBE SIZE, COPPER
34	5	5175K125 OR EQUIVALENT	TUBING, TYPE L, 3/4 TUBE SIZE, COPPER
35	2	5175K122 OR EQUIVALENT	TUBING, TYPE K, 1/2 TUBE SIZE, COPPER
36	3	1910N12 OR EQUIVALENT	4" SCH-40 NO-HUB PIPE CAST IRON
37	1	BRISK	SILICONE ENCLOSURE HEATER 18X8 405W 120V

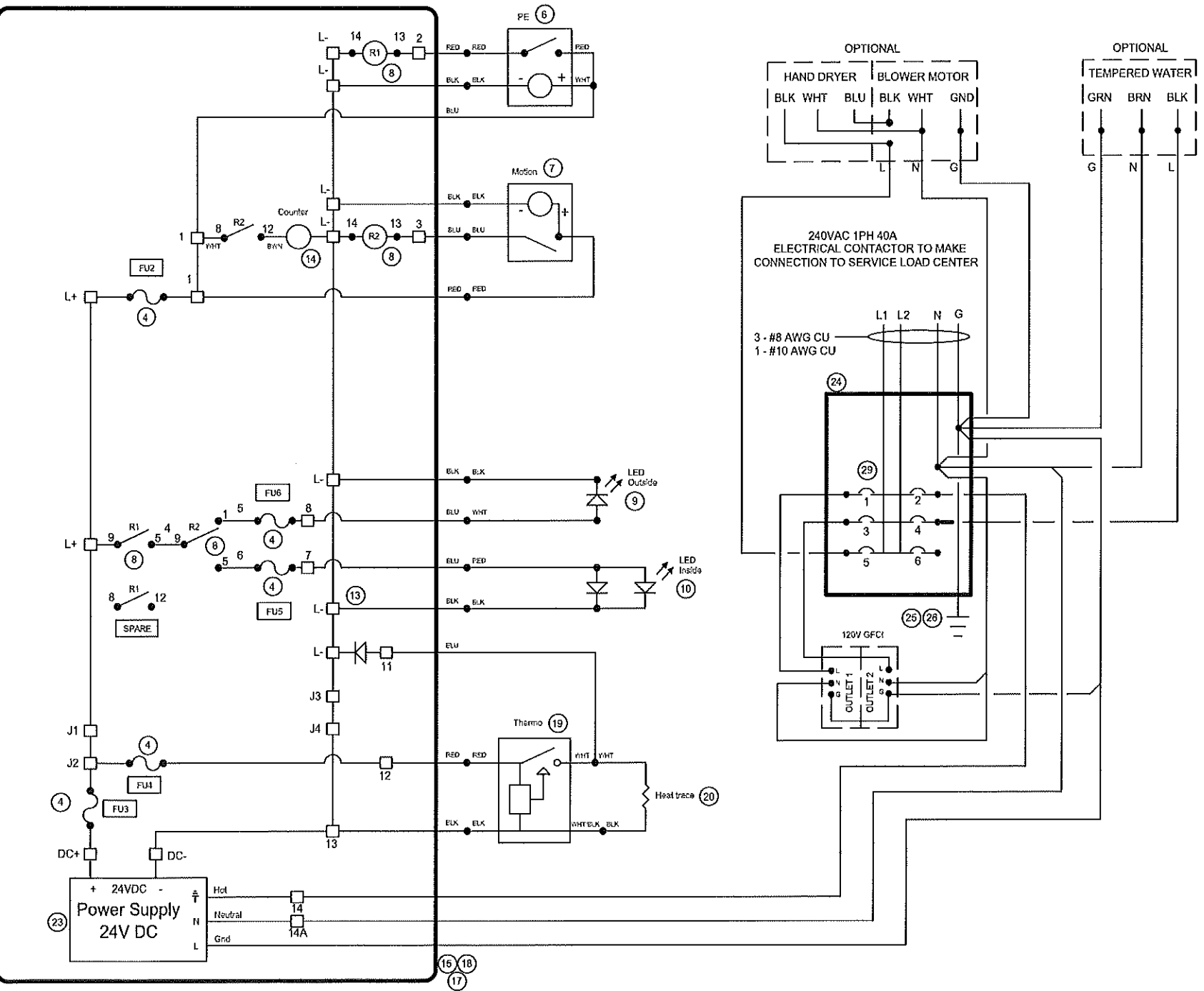
	05/20/25	INITIAL ISSUE	JBG	MADDEN FABRICATION 2550 NW 25th Place Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446	Extreme Cold Weather			
					PLUMBING DETAIL			
					NAME	DATE	SERIAL NO.	DRW. NO.
					JBG	05/20/25		P2.0
REV	DATE	DESCRIPTION	DRN		APP'D			

2550 NW 25th Place Portland, OR. 97210
Phone: (503) 226-3968 Fax (503) 242-2446



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	EEMAX EMT2.5	WATER HEATER - COMPACT - 2.5 GAL
2	1	WATTS 500800	HOT WATER RECIRCULATING PUMP
3	1	DWYER SFI-100-3/4	SIGHT FLOW INDICATOR - 100 SERIES
4	2	VIEGA 79300	1/2" FEMALE FITTING
5	3	VIEGA 79220	1/2" X 3/4" MPT MALE ADAPTER
6	1	VIEGA 77317	1/2" 90 DEG ELBOW
7	3	VIEGA 79215	1/2" X 1/2" MPT MALE FITTING
8	1	VIEGA 79445	FITTING - 1/2 TUBE SIZE X 3/4 NPT FEMALE - COPPER
9	1	VIEGA 78147	FITTING - 3/4" X 1/2" REDUCER - COPPER
10	1	VIEGA 77377	FITTING - TEE - FEMALE SOCKET - 1/2" TUBE - COPPER
11	2	FISHER 10022	HOSE - BRAIDED - 1/2 FIP X 1/2 FIP X 36 SS
13	1	30407 OR EQ	3/4" PVC ADAPTER SLIP BY FIP
14	1	30707 OR EQ	3/4" PVC ELBOW SLIP BY SLIP
15	-	5175K22 OR EQ	TUBING, TYPE K, 1/2 TUBE SIZE, COPPER
16	-	VARIOUS	3/4" PVC PIPE

△	05/20/25	INITIAL ISSUE	JBG		MADDEN FABRICATION	COLD WEATHER TOILET			
						NAME	DATE	SERIAL NO.	DRW. NO.
					2550 NW 25th Place Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446	JBG	05/20/25		P3.0
REV	DATE	DESCRIPTION	DRN	APP'D					



FUSE/BREAKER DESCRIPTION

FU2	PE/MOTION
FU3	DC POWER
FU4	HEAT TRACE
FU5	INSIDE LED LIGHT
FU6	OUTSIDE LED LIGHT
FU7	INSIDE LED LIGHT
FU8	OUTSIDE LED LIGHT
CB8	MAIN 24VDC BREAKER
CB9	PV1 BREAKER
CB10	PV2 BREAKER
CB11	PV3 BREAKER

TERMINAL DETAIL

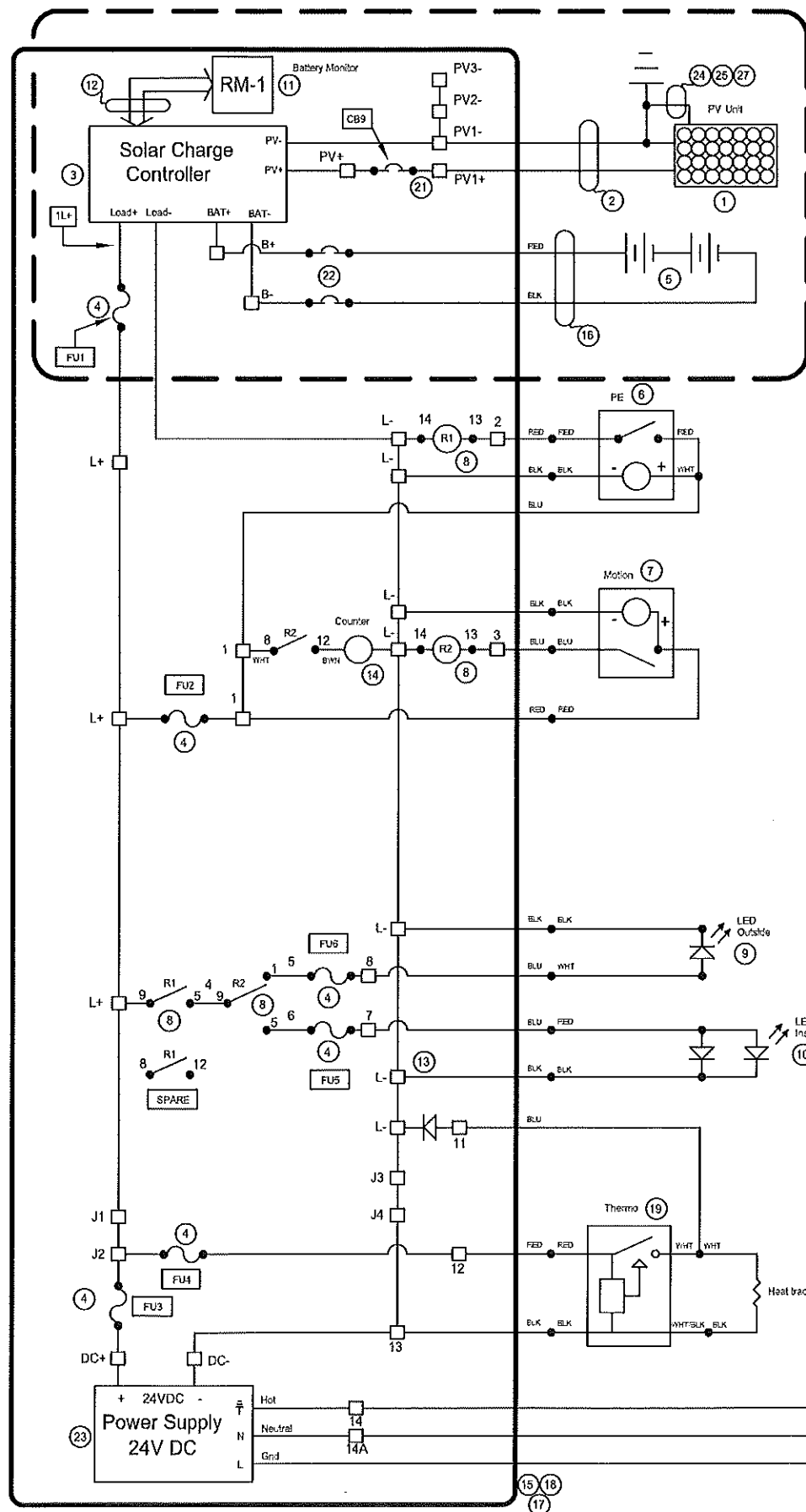
Sol+
Sol+
Sol-
Sol-
L -
L -
L -
L -
L +
L +
1
1
1
2
3
3
7
8
11
12
13
13
14
14A
15
16
J1
J2
J3
J4

BILL OF MATERIAL

ITEM	QTY	DESCRIPTION	MFG.
4	5-7	6A-600V Fuse LPCC-6	Buss
6	ONE	24V PhotoCell EM-24A2	Watt Stopper
7	ONE	Occupancy Sensor FSP-202	Watt Stopper
8	TWO	24V DC relay 782-2C-24D	Automation Direct
9	ONE	24V LED Light Rope, White 3W/Ft x 4ft	Infra Corp
10	TWO	24", 24V,5W LED Blue Actinic	Current USA
11	ONE	Battery system monitor RM-1	Morningstar
12	ONE	RJ-11 Meter Cable	VARIOUS
13	ONE	Ground Bus 44CONN-AL	ITE
14	ONE	1A768 24VDC Electromechanical Counter	Dayton
15	ONE	NEMA1 Enclosure 20"x20" 20206-1	BENC
16	ONE	6ga Battery Harness cable	ALLBATTERY
17	Lot	14ga Cu wire THHN-14-19STR-CU	VARIOUS
18	Lot	10ga Cu wire Varies	VARIOUS
19	ONE	Solstat 2-10 Solid State Thermostat	ENGENTY
20	ONE	Heat trace - 10 ft, 24V, 3W/R Kompensator	HEATLINE
21	ONE	15 Amp, 150V DC Breaker	ALTEC CORP
22	ONE	63 Amp, 125V DC Breaker	ALTEC CORP
23	ONE	PULS Dimension CP10.241 Power Supply	PULS
24	ONE	LOAD CENTER, 70A Q624L70S 2 BRKR	SQUARE D
25	ONE	Approved UFER ground connection to rebar Sht S2.0	BY OTHERS
26	ONE	4ga Cu wire Insulated	VARIOUS
27	LOT	6ga Cu wire Insulated	VARIOUS
28	1-3	6ga crimp eyelet and mechanical fastener to PV	VARIOUS
29	ONE	20 Amp Breaker Panel BR48L125SP	EATON
30	ONE	Internatio FM1D14 Series	VARIOUS
31	ONE	Smart Pac	VARIOUS
32	ONE	Lock Solenoid	VARIOUS
VARIOUS			
Items not shown on schematic			
A	Lot	Din Rail 2M - 2 ft	WEIDMULLER
B	EIGHT	Modular Fuse Holder CHCC1DI	BUSS
C	TWO	Relay Pin Base 782-2C-SKT	Automation Direct
D	20	Terminal splice unit	WEIDMULLER
E	TWO	1-5/8" x 1-5/8" x 69" B22SH strut	B-Line or Equal
F	FOUR	3/8" Spring Nut N228	B-Line or Equal
G	FOUR	10-1/2" Shelf Bracket S-205	B-Line or Equal
H	ONE	NEMA1 Panel 20"x20" AW2020	BENC

Jumper Power Configuration	J1 to J2	J3 to J4
Solar Powered only (3 panels)	Yes	Yes
AC Power Only	Yes	Yes
Hybrid AC/Solar Powered (1-2 panels)	No	No

	07/23/24	INITIAL ISSUE	AYK	MADDEN FABRICATION 2550 NW 25th Place Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446	PORTLAND, OR			
					ELECTRICAL SCHEMATIC			
					NAME	DATE	SERIAL NO.	DRW. NO.
REV	DATE	DESCRIPTION	DRN		APP'D	AYK	06/27/2024	E1.0



Solar Component Option:
See Jumper Power
Configuration Table

FUSE/BREAKER DESCRIPTION

- FU1 SOLAR POWER
- FU2 PE/MOTION
- FU3 DC POWER
- FU4 HEAT TRACE
- FU5 INSIDE LED LIGHT
- FU6 OUTSIDE LED LIGHT
- FU7 INSIDE LED LIGHT
- FU8 OUTSIDE LED LIGHT
- CB8 MAIN 24VDC BREAKER
- CB9 PV1 BREAKER
- CB10 PV2 BREAKER
- CB11 PV3 BREAKER

TERMINAL DETAIL

- Sol+
- Sol+
- Sol-
- Sol-
- L -
- L -
- L -
- L -
- L +
- L +
- 1
- 1
- 1
- 2
- 3
- 3
- 7
- 8
- 11
- 12
- 13
- 13
- 14
- 14A
- 15
- 16
- J1
- J2
- J3
- J4

BILL OF MATERIAL

ITEM	QTY	DESCRIPTION	MFG.
1	1 - 3	Grape Solar 160W PV Module (or equal)	GRAPE SOLAR
2	1 - 3	MC 4 Cable 30' #10AWG	RLH INDUSTRIES
3	ONE	SS-MPPT-15L SOLAR CHARGE CONTROLLER	MORNINGSTAR CORP
4	5-7	6A-600V Fuse LPCC-6	Buss
5	TWO	MK BA24 LTP Sealed AGM Battery	MK Battery
6	ONE	24V Photocell EM-24A2	Watt Stopper
7	ONE	Occupancy Sensor FSP-202	Watt Stopper
8	TWO	24V DC relay 782-2C-24D	Automation Direct
9	ONE	24V LED Light Rope, Blue 3W/ft x 4ft	Infra Corp
10	TWO	24", 24V, 5W LED Blue Actinic	Current USA
11	ONE	Battery system monitor RM-1	Morningstar
12	ONE	RJ-11 Meter Cable	VARIOUS
13	ONE	Ground Bus 44CONN-AL	ITE
14	ONE	1A788 24VDC Electromechanical Counter	Dayton
15	ONE	NEMA1 Enclosure 20"x20" 2020B-1	BENC
16	ONE	6ga Battery Harness cable	ALLBATTERY
17	Lot	14ga Cu wire THHN-14-19STR-CU	VARIOUS
18	Lot	10ga Cu wire Varies	VARIOUS
19	ONE	Solstat 2-10 Solid State Thermostat	ENGENTITY
20	ONE	Heat trace - 10 ft, 24V, 3W/ft Kompensator	HEATLINE
21	ONE	15 Amp, 150V DC Breaker	ALTEC CORP
22	ONE	63 Amp, 125V DC Breaker	ALTEC CORP
23	ONE	PULS Dimension CP10 241 Power Supply	PULS
24	ONE	LOAD CENTER, 125A BR48L125SP	EATON
25	ONE	Approved UFER ground connection to rebar Sht S2.0	BY OTHERS
26	ONE	#8AWG Bare Cu GEC	VARIOUS
27	LOT	6ga Cu wire insulated	VARIOUS
28	1-3	6ga crimp eyelet and mechanical fastener to PV	VARIOUS
29	SIX	20 Amp Breaker Panel BR48L125SP	EATON
30	1	720 WATT ENCLOSURE HEATER SRP24241PSA	BRISK
Items not shown on schematic			
A	Lot	D'n Rail 2M - 2 ft	WEIDMULLER
B	EIGHT	Modular Fuse Holder CHCC1DI	BUSS
C	TWO	Relay Pin Base 782-2C-SKT	Automation Direct
D	20	Terminal splice unit	WEIDMULLER
E	TWO	1-5/8" x 1-5/8" x 69" B22SH strut	B-Line or Equal
F	FOUR	3/8" Spring Nut N228	B-Line or Equal
G	FOUR	10-1/2" Shelf Bracket S-205	B-Line or Equal
H	ONE	NEMA1 Panel 20"x20" AY2020	BENC
VARIOUS			

Jumper Power Configuration	J1 to J2	J3 to J4
Solar Powered only (3 panels)	Yes	Yes
AC Power Only	Yes	Yes
Hybrid AC/Solar Powered (1-2 panels)	No	No

05/20/25

INITIAL ISSUE

JBG

REV

DATE

DESCRIPTION

DRN

APP'D

MADDEN

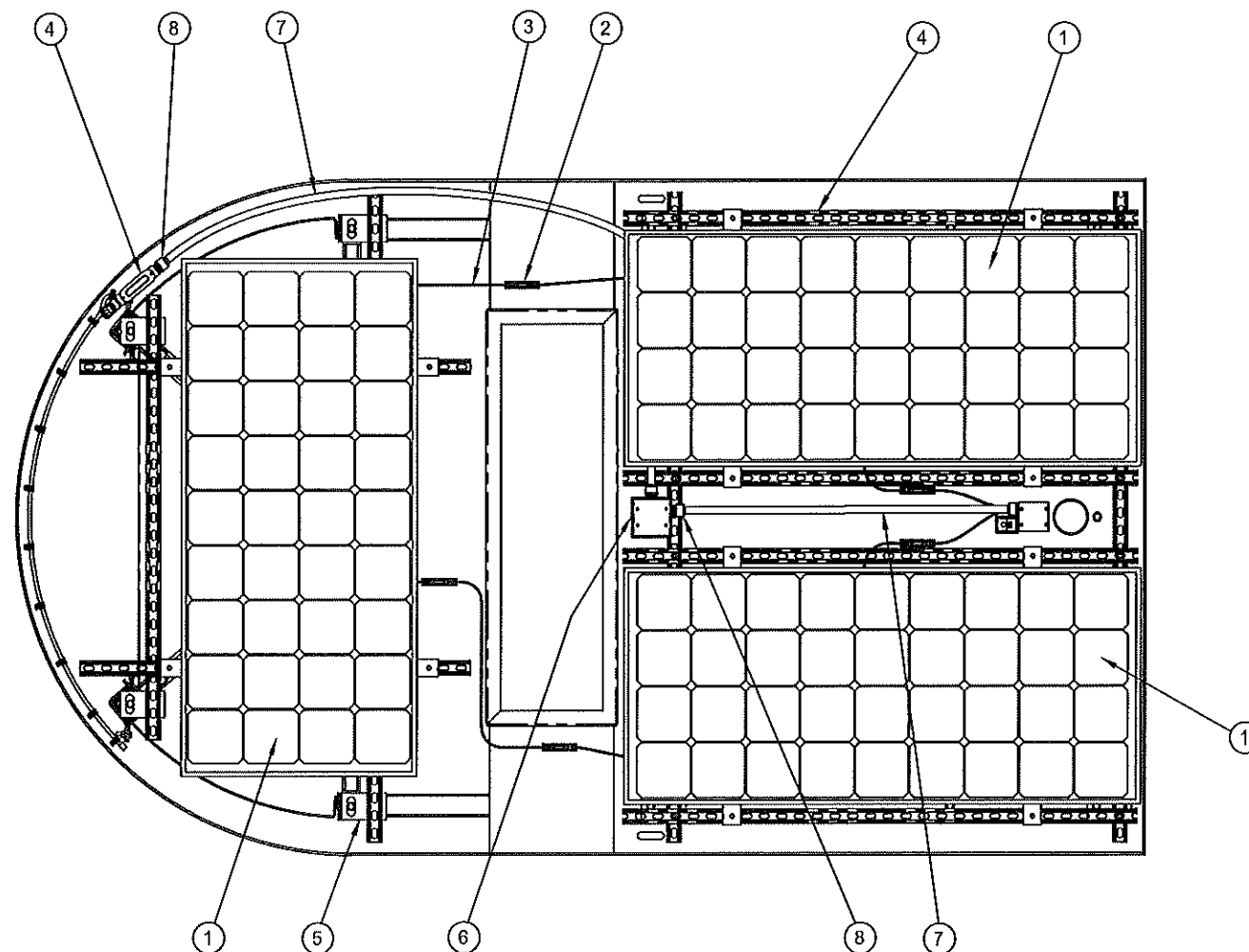
FABRICATION

2550 NW 25th Place Portland, OR 97210
Phone: (503) 226-3968 Fax (503) 242-2446

With Solar

ELECTRICAL SCHEMATIC

NAME	DATE	SERIAL NO.	DRW. NO.
JBG	05/20/25		E1.0



SOLAR ROOF PARTS

SOLAR BILL OF MATERIAL

ITEM	QTY	DESCRIPTION	MFG.
1	3	SOLAR PANEL NPA180S-12I	NEWPOWA
2	12	H4 DV CONNECTOR	AMPHENOL
3	24	6G RED/BLK WIRE	KTW CO
4	12	SS UNISTRUT 5/8"	VARIOUS
5	14	SS SPRING NUT 3/8"	VARIOUS
6	1	RACO 5341 GANG BOX	RACO
7	8	NON MET CARLON	HYDROMAX
8	4	NM STRT CONNECTOR	HYDROMAX
9	1	STRT CONDUIT BODY	RACO

△	05/20/25	INITIAL ISSUE	JBG		MADDEN FABRICATION	ELECTRICAL- SOLAR			
REV	DATE	DESCRIPTION	DRN	APP'D		NAME	DATE	SERIAL NO.	DRW. NO.
					2550 NW 25th Place Portland, OR. 97210 Phone: (503) 226-3968 Fax (503) 242-2446	JBG	05/20/25		E2.0