

IRONRIDGE AIRE PHOTOVOLTAIC PANEL RACKING SYSTEM WITH IRONRIDGE KNOCKOUT TILE AND L-FOOT ROOF ATTACHMENTS

GENERAL NOTES:

- THIS SYSTEM MEETS ALL OF THE REQUIREMENTS OF THE 7TH EDITION (2020) FLORIDA BUILDING CODE, INCLUDING THE HVHZ PROVISIONS.
- THIS SYSTEM HAS BEEN TESTED PER TAS 100(A) AND ASTM D7147. IT IS NOT A PART OF THE BUILDING ENVELOPE, AND IMPACT RESISTANCE IS NOT REQUIRED.
- THIS SYSTEM SHALL BE INSTALLED PER THE IRONRIDGE AIRE INSTALLATION MANUAL.
- THE PV PANELS ARE BY OTHERS AND ARE NOT A PART OF THIS APPROVAL.
- RAIL SPACING TO BE AS SPECIFIED BY THE PV PANEL MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- THE DESIGN OF THE ROOF SUBSTRATE IS THE RESPONSIBILITY OF THE ENGINEER OF RECORD OR OTHER SPECIALTY ENGINEER, AND IS NOT A PART OF THIS APPROVAL. THE SUBSTRATE MUST SAFELY TRANSMIT THE LOADS APPLIED TO THIS SYSTEM TO THE BUILDING STRUCTURE.
- FIRE RATINGS OR FIRE RESISTANCE IS NOT A PART OF THIS REVIEW.
- ALL ANCHORS SECURING THE SYSTEM TO PRESSURE TREATED WOOD SHALL BE CAPABLE OF RESISTING CORROSION CAUSED BY THE CHEMICALS IN THE WOOD.
- MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL BE PROTECTED PER FBC REQUIREMENTS.
- NO INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS PRODUCT. Cd=1.6 WAS USED FOR WOOD SCREWS ONLY.

WINDLOAD NOTES:

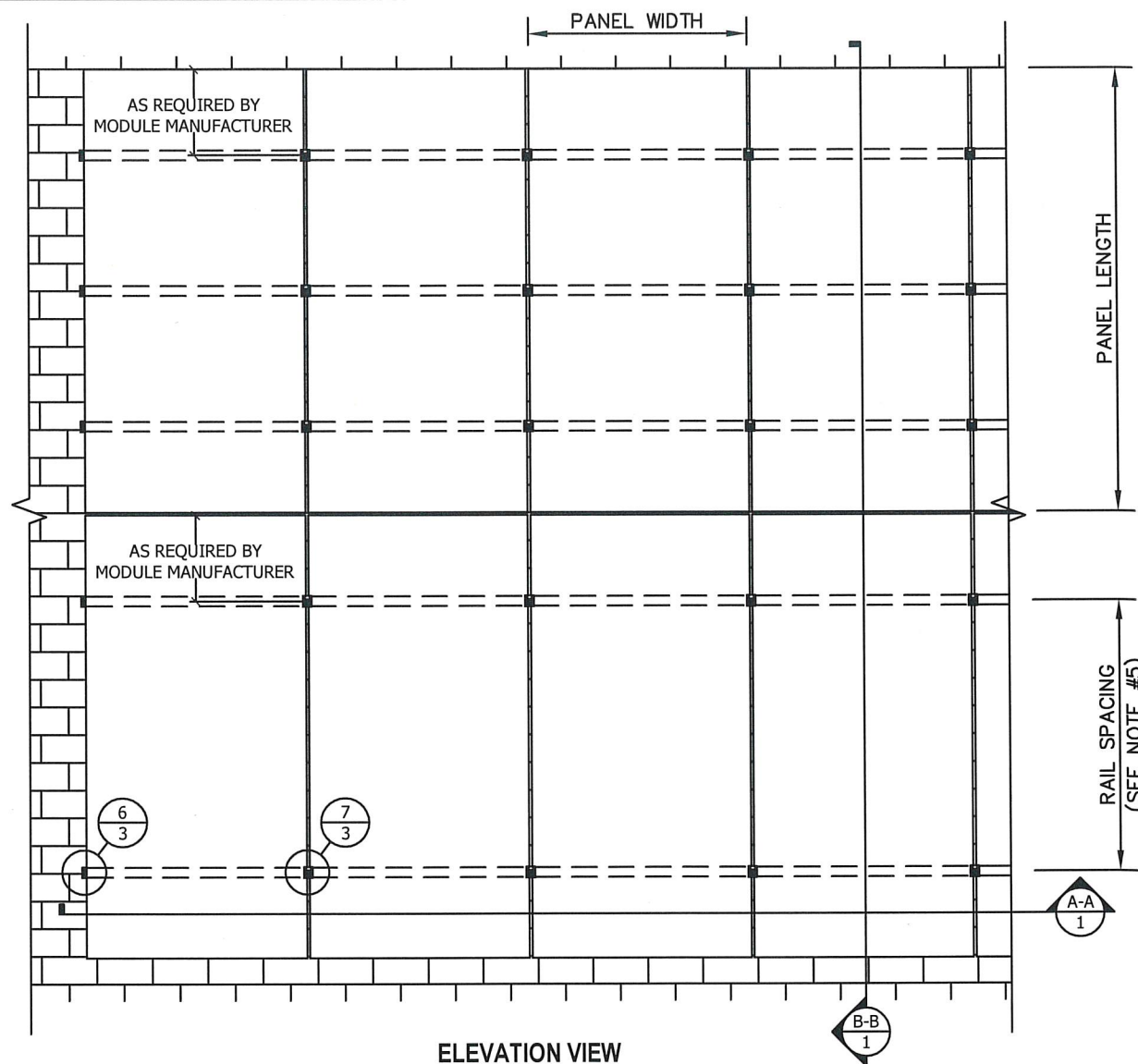
- DESIGN WINDLOADS MUST BE CALCULATED BY A LICENSED PROFESSIONAL ENGINEER OR ARCHITECT FOR EACH PROJECT, PER ASCE 7-16 SECTION 29.4.4. DESIGN WINDLOADS MAY NOT EXCEED THE ALLOWABLE WINDLOADS SHOWN IN THIS CHART.
- PANEL SYSTEM LOCATION, HEIGHT, AND SPACING MUST MEET THE REQUIREMENTS OF ASCE 7-16 SECTION 29.4.4. WINDLOADS ACT NORMAL TO THE SURFACE OF THE PV PANEL SYSTEM.
- OTHER CONFIGURATIONS REQUIRE PROJECT SPECIFIC ANALYSIS BY A LICENSED PROFESSIONAL ENGINEER OR ARCHITECT.
- ALLOWABLE WINDLOADS ARE BASED ON ANCHORING IN WOOD RAFTERS WITH S.G.=0.42 MIN.

ALLOWABLE WINDLOADS

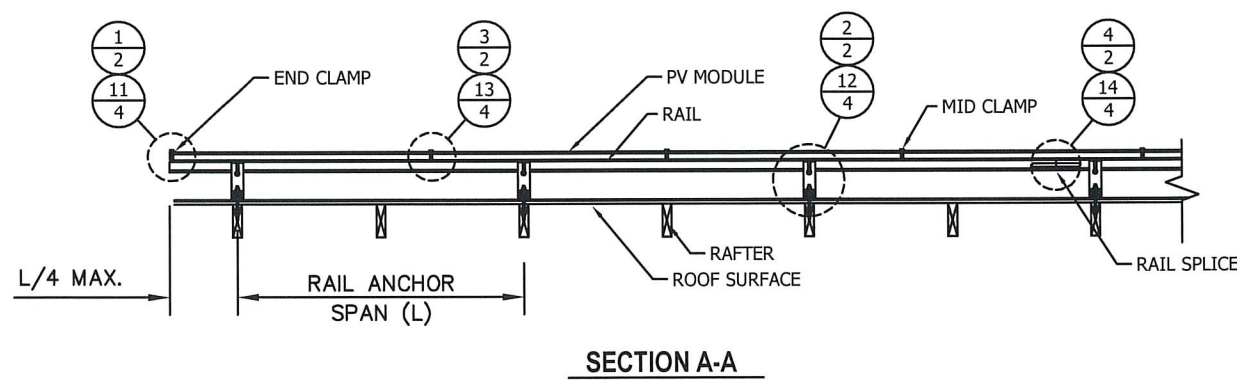
TWO RAIL SYSTEM					THREE RAIL SYSTEM						
PANEL WIDTH (in)	PANEL LENGTH (in)	ANCHOR SPAN (L) (in)	A1 RAIL (+/- psf)	A2 RAIL (+/- psf)	PANEL WIDTH (in)	PANEL LENGTH (in)	ANCHOR SPAN (L) (in)	A1 RAIL (+/- psf)	A2 RAIL (+/- psf)		
45	67 1/2	16	82.7	82.7	45	67 1/2	16	124.1	124.1		
		24	82.7	82.7			24	124.1	124.1		
		32	79.6	82.7			32	119.4	124.1		
		36	78.2	78.8			36	117.3	118.2		
		48	64.5	73.9			48	96.8	110.8		
		64	39.3	52.1			64	59.0	78.2		
	72	31.3	45.3	72		47.0	68.0				
	80	16	69.8	69.8		80	16	104.7	104.7		
		24	69.8	69.8			24	104.7	104.7		
		32	67.2	69.8			32	100.8	104.7		
		36	66	66.5			36	99.0	99.7		
		48	54.4	62.3			48	81.6	93.5		
		64	33.2	43.9			64	49.8	65.9		
	86	72	26.4	38.3		86	72	39.6	57.5		
		16	64.9	64.9			92 1/2	16	97.4	97.4	
		24	64.9	64.9				24	97.4	97.4	
		32	62.5	64.9				32	93.8	97.4	
		36	61.4	61.8				36	92.1	92.8	
		48	50.6	58.0				48	75.9	87.0	
	64	30.9	40.9	64		46.4		61.4			
	92 1/2	72	24.5	35.6		92 1/2	72	36.8	53.4		
		16	60.4	60.4			45	92 1/2	16	90.6	90.6
		24	60.4	60.4					24	90.6	90.6
		32	58.1	60.4					32	87.2	90.6
36		57.1	57.5	36	85.7				86.2		
48		47	53.9	48	70.5				80.9		
64	28.7	38.0	64	43.1	57.0						
LANDSCAPE LAYOUT:	45	92 1/2	72	22.8	33.0	45	92 1/2	72	34.2	49.5	
			16	60.4	60.4			16	90.6	90.6	
			24	60.4	60.4			24	90.6	90.6	
			32	55.3	60.4			32	83.0	90.6	
			36	48.4	57.5			36	72.6	86.2	
			48	32.2	54.6			48	48.3	81.9	
64	28.4	48.4	64	42.6	72.6						
72	27.7	48.4	72	41.6	72.6						

THREE RAIL SYSTEM:

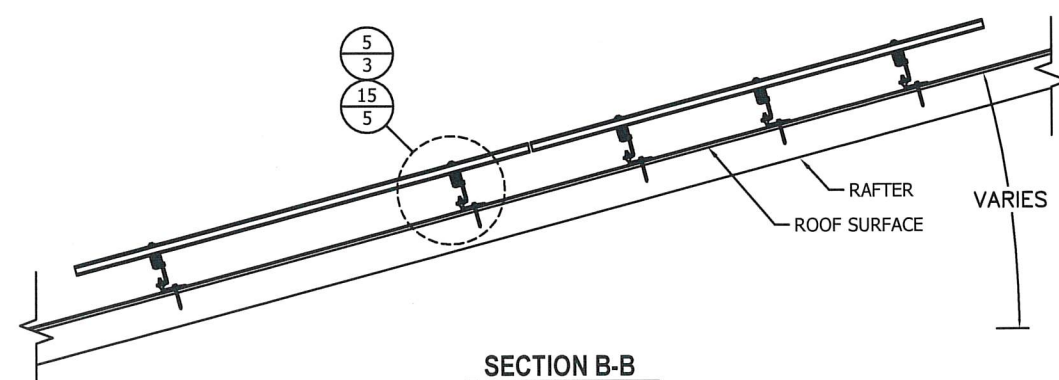
TWO RAIL SYSTEM:



ELEVATION VIEW



SECTION A-A



SECTION B-B

DATE	12/30/22
REV.#	
PRINTS ISSUED FOR	
1ST SUBMITTAL	

SEAL: SCOTT WOLTERS, No. 62354, STATE OF FLORIDA, PROFESSIONAL ENGINEER, DEC 30 2022

SCOTT WOLTERS
FL PE# 62354

WOLTERS ENGINEERING
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15211 97TH ROAD N
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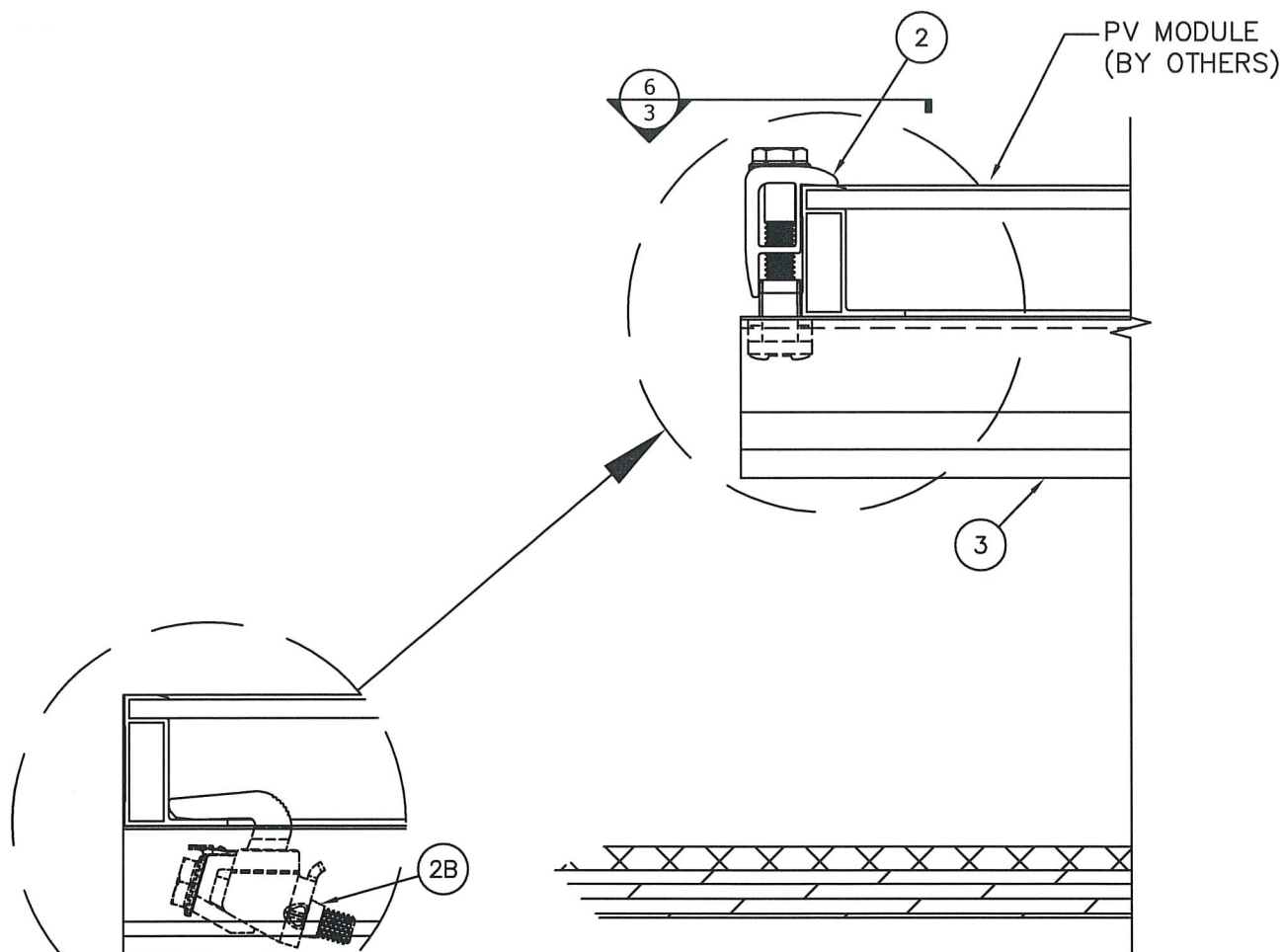
IRONRIDGE

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28357 INDUSTRIAL BLVD.
HAYWARD, CA 94545

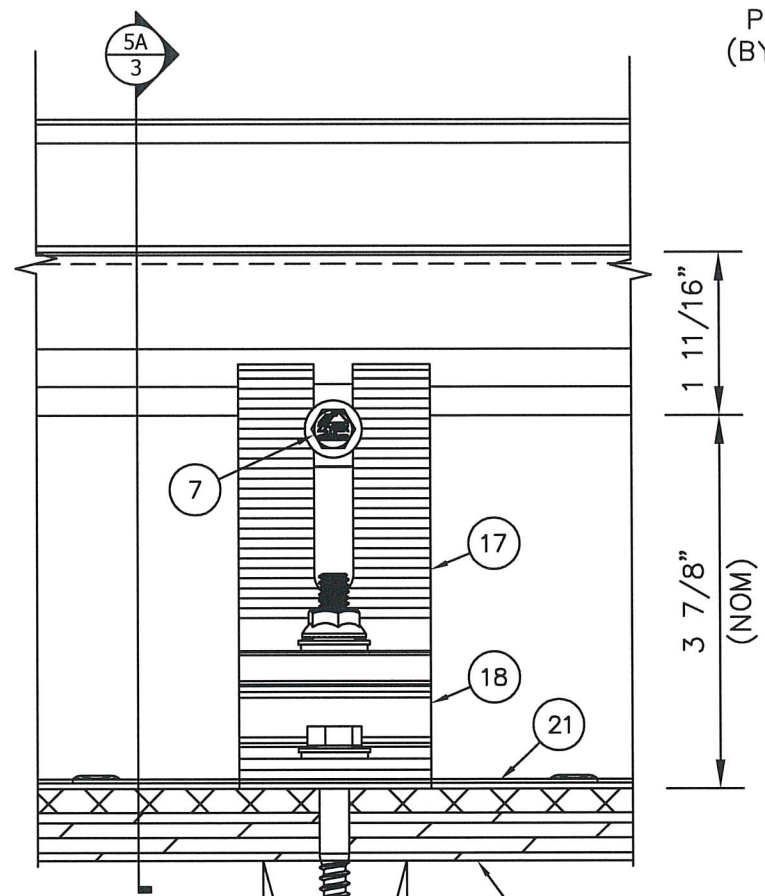
DWG: AIRE-KO
SHEET: 1/11

**IRONRIDGE AIRE PHOTOVOLTAIC PANEL RACKING SYSTEM
WITH IRONRIDGE KNOCKOUT TILE AND L-FOOT ROOF ATTACHMENTS**



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ALTERNATE AIRE LOCK
STEALTH END-CLAMP DETAIL

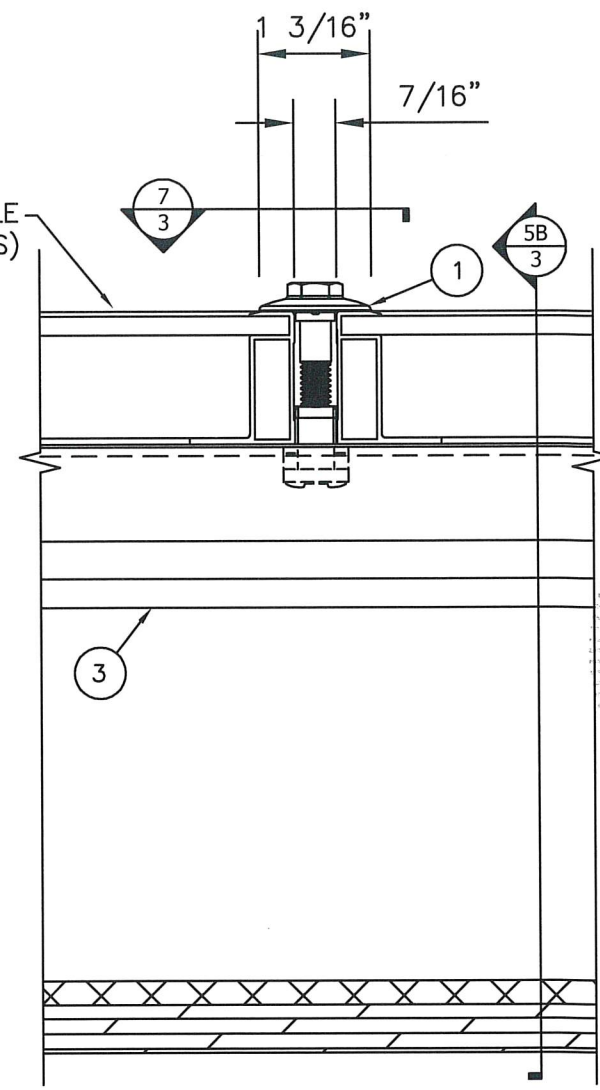
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AIRE LOCK
END-CLAMP DETAIL



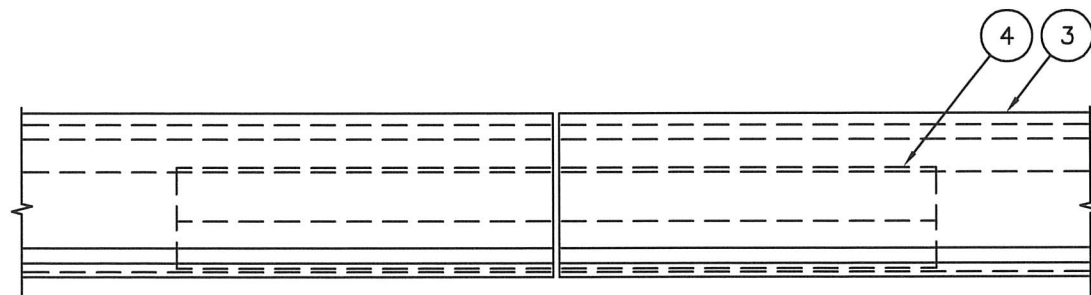
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KNOCKOUT TILE
DETAIL

ROOF DECK.

RAFTER
(2x4, SG=0.42 min)



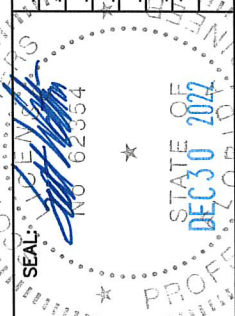
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AIRE LOCK
MID-CLAMP DETAIL



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AIRE TIE
SPLICE DETAIL

SPLICE MAY NOT BE
LOCATED IN A CANTILEVER.

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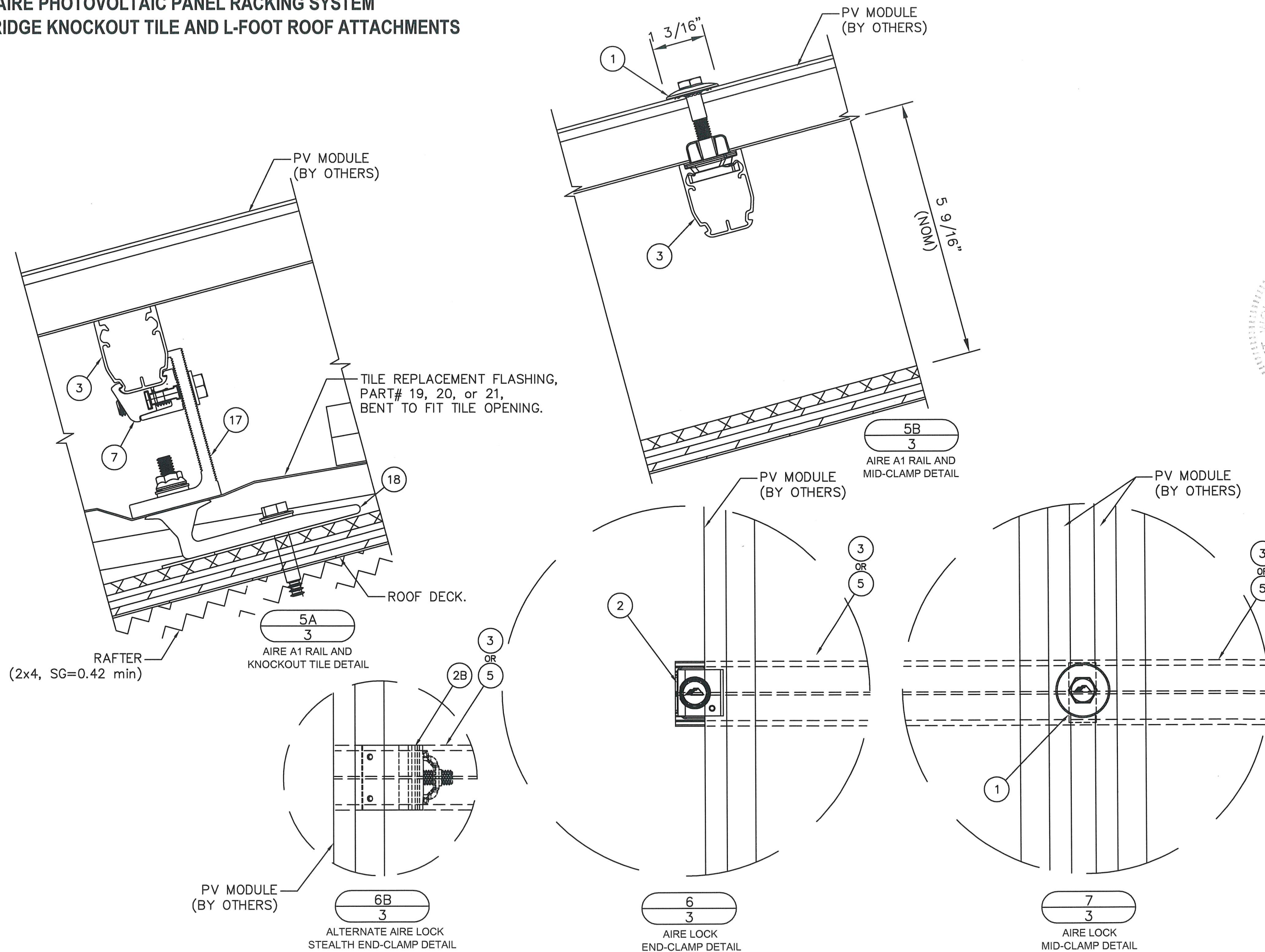


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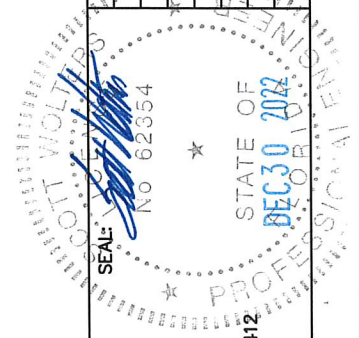


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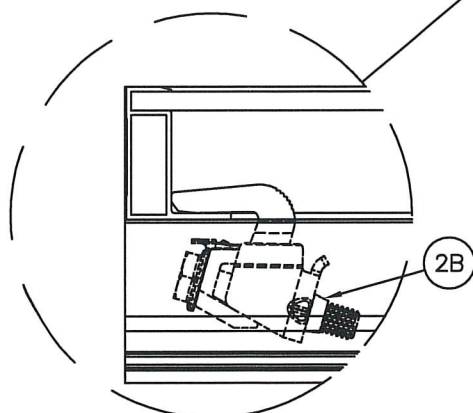
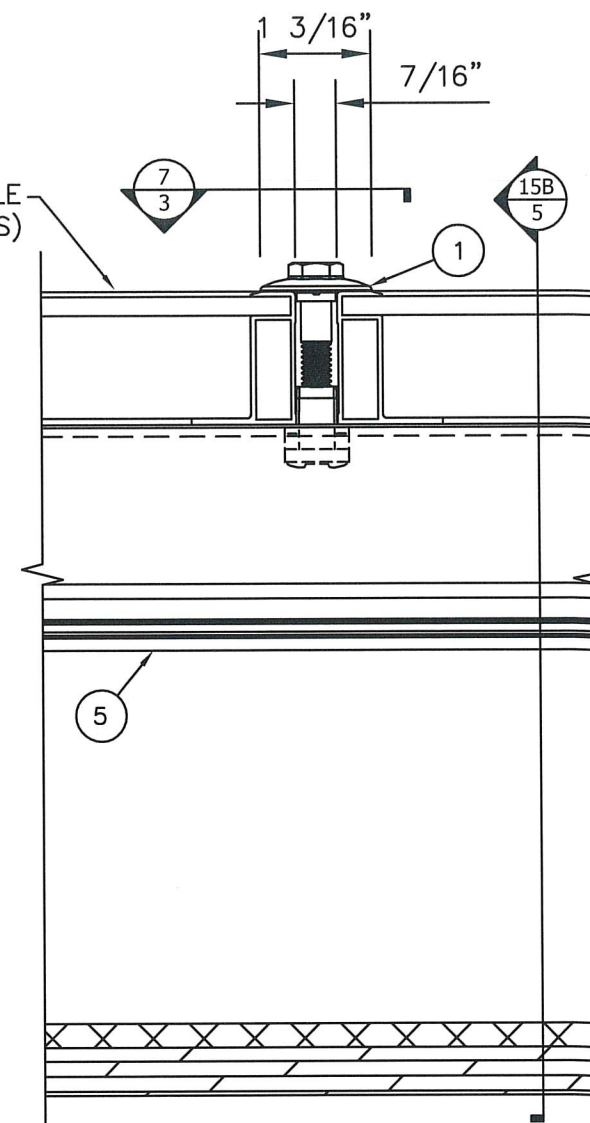
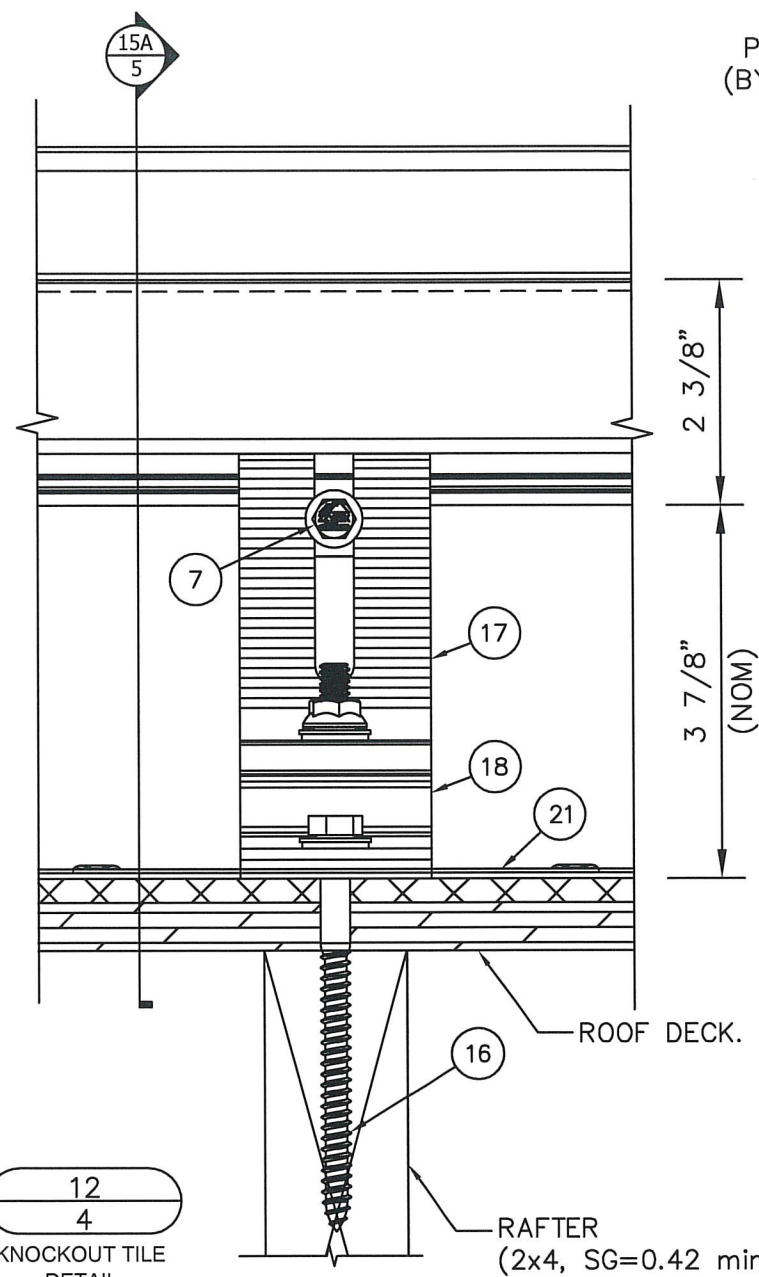
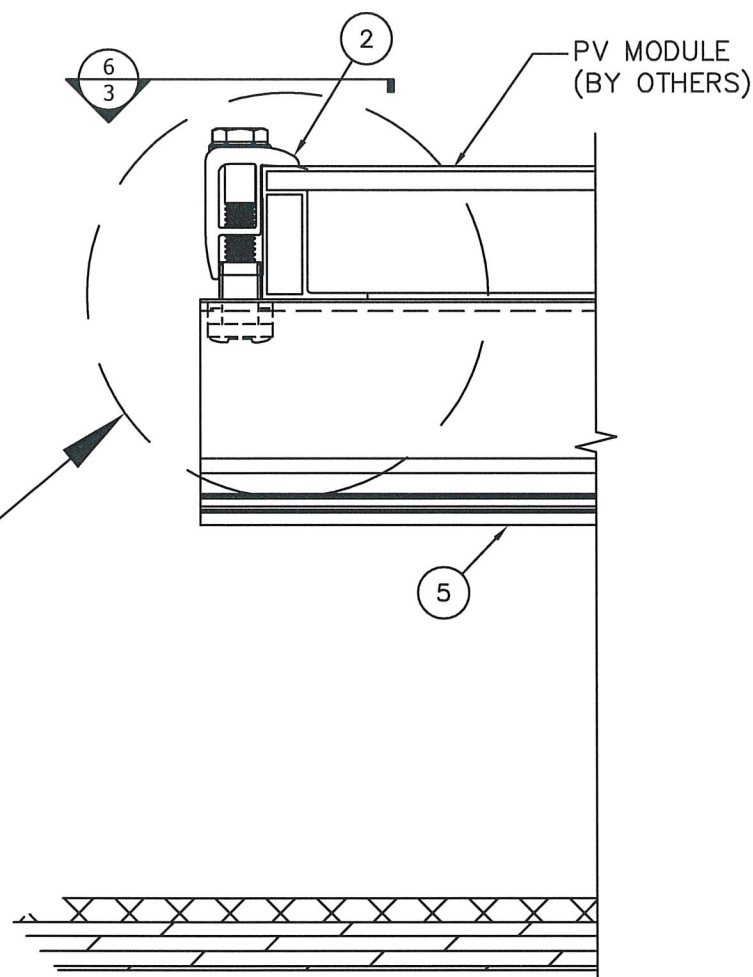


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DWG: **AIRE-KO**
SHEET: **3/11**

**IRONRIDGE AIRE PHOTOVOLTAIC PANEL RACKING SYSTEM
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ALTERNATE AIRE LOCK
STEALTH END-CLAMP DETAIL

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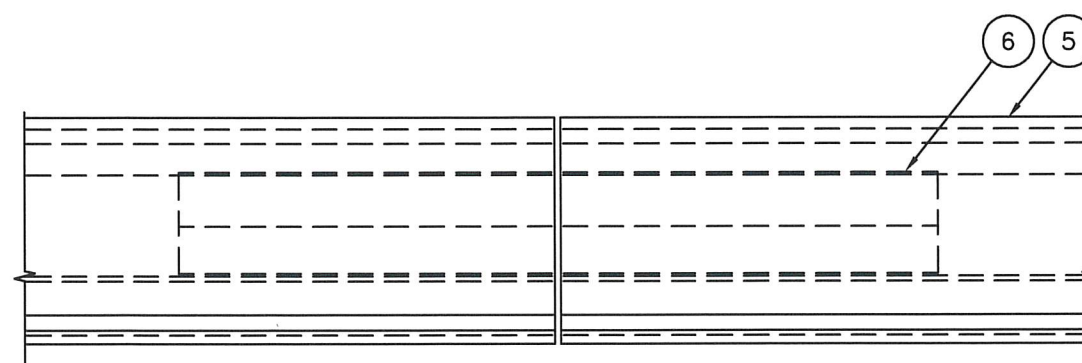
AIRE LOCK
END-CLAMP DETAIL

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KNOCKOUT TILE
DETAIL

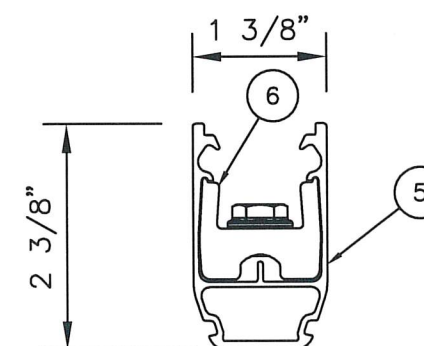
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AIRE LOCK
MID-CLAMP DETAIL



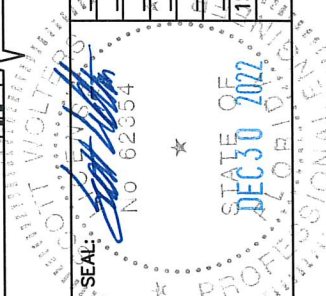
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AIRE TIE
SPLICE DETAIL



SPLICE MAY NOT BE
LOCATED IN A CANTILEVER.

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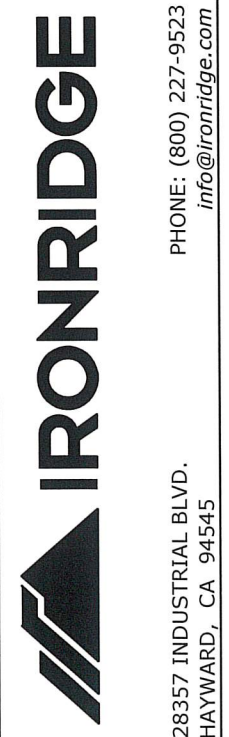
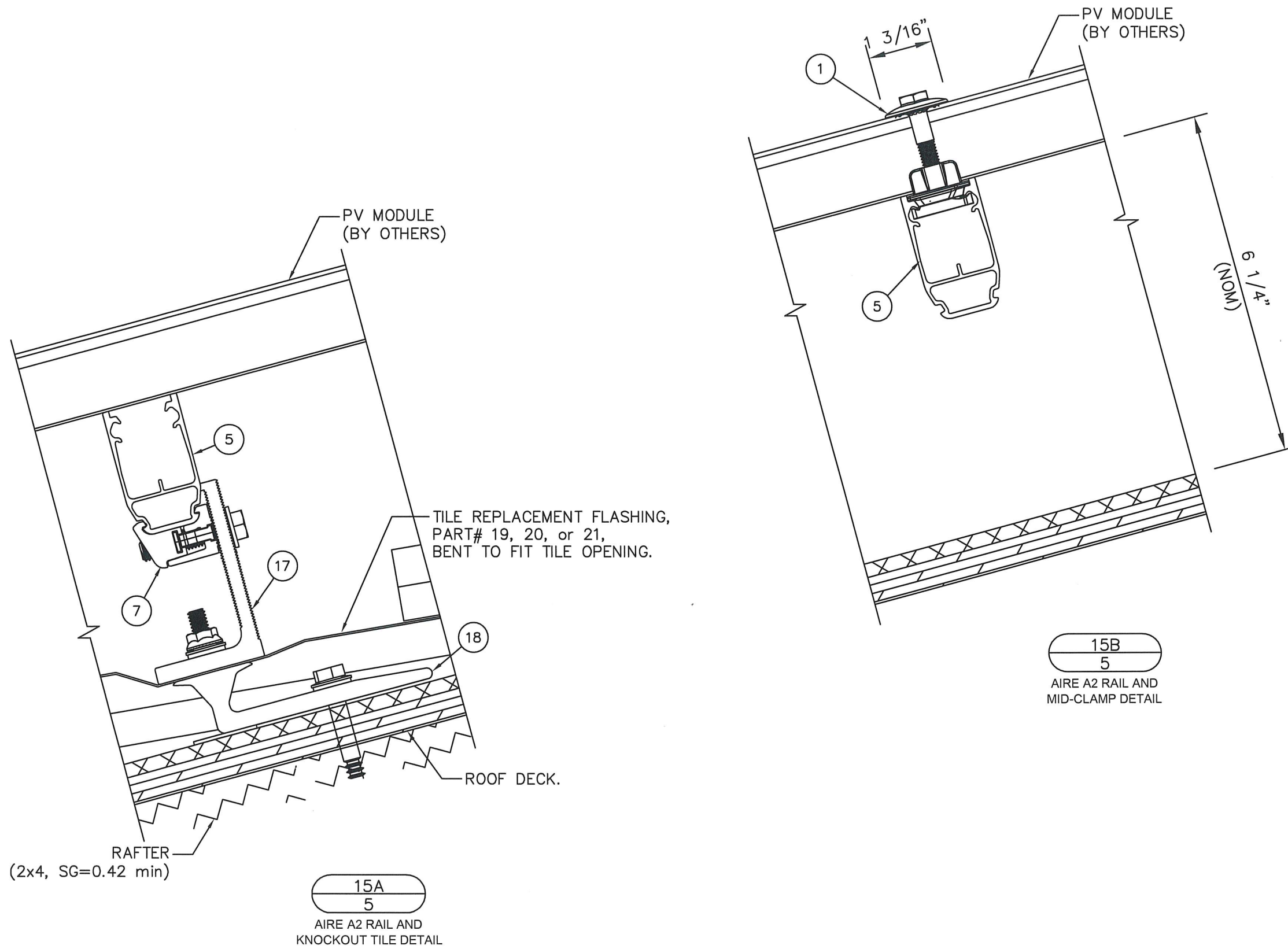


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DWG: AIRE-KO
SHEET: 4/11

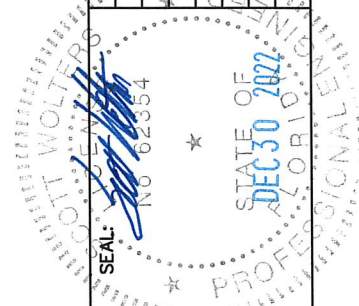
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DWG: **AIRE-KO**
SHEET: **5/11**

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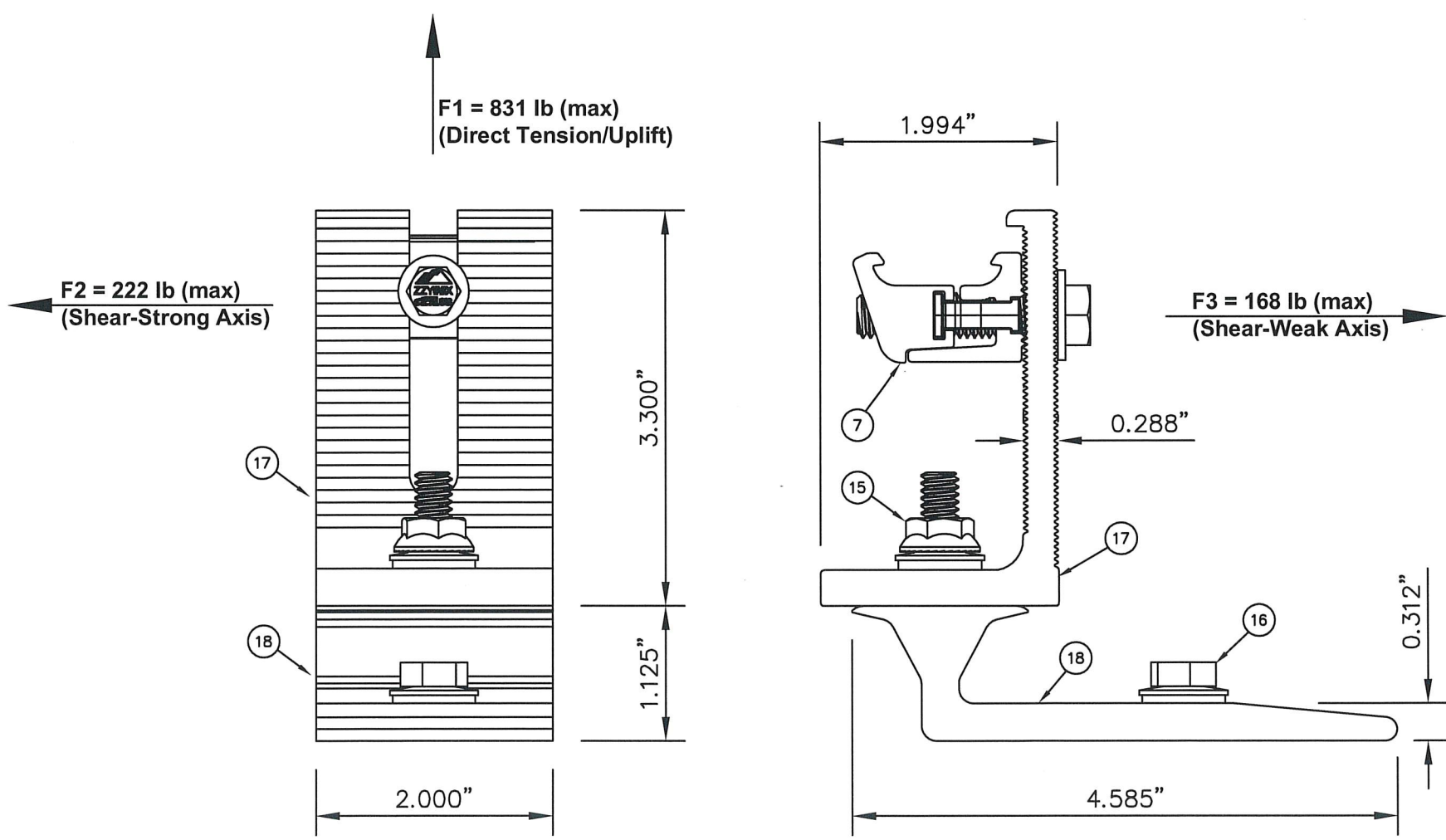
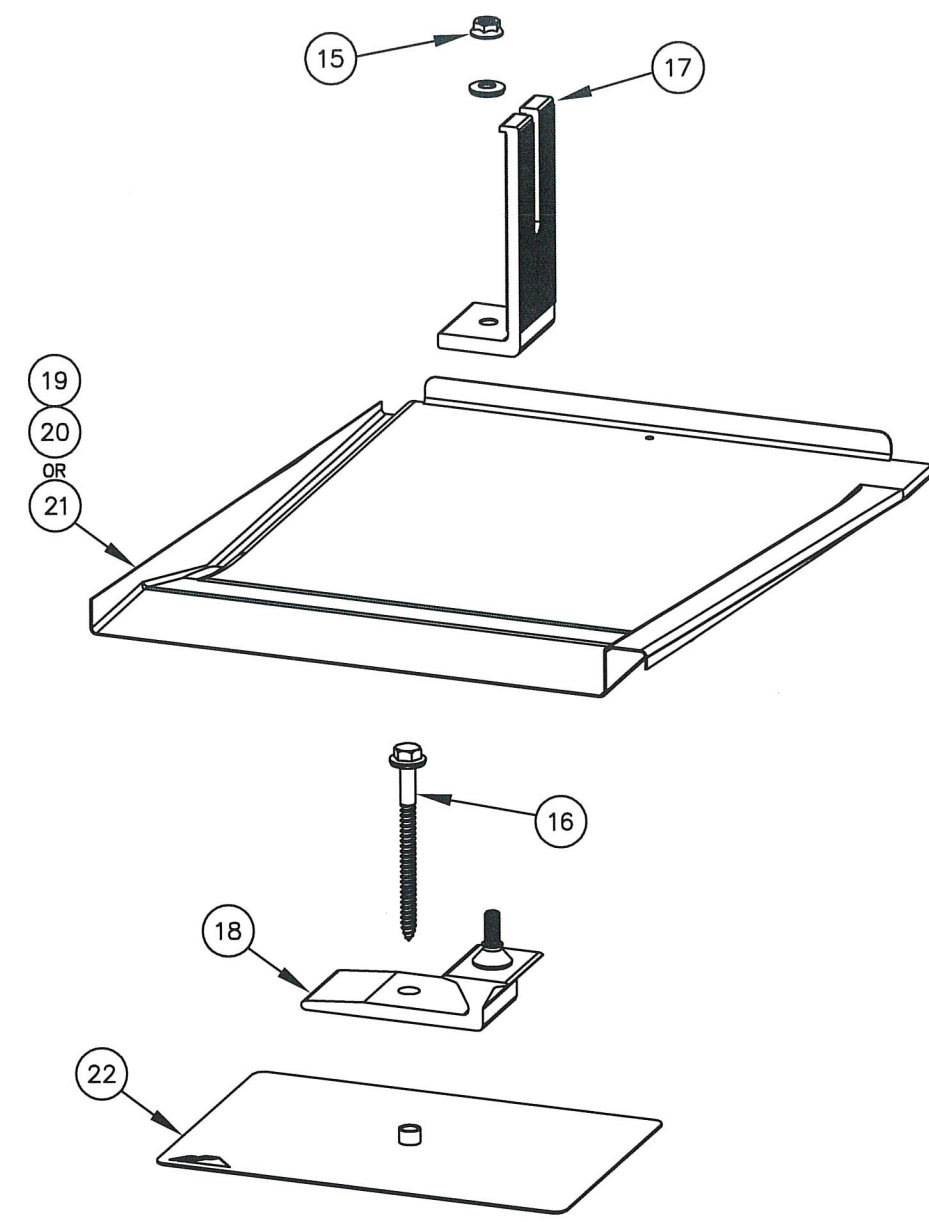
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**IRONRIDGE AIRE PHOTOVOLTAIC PANEL RACKING SYSTEM
WITH IRONRIDGE KNOCKOUT TILE AND L-FOOT ROOF ATTACHMENTS**

BILL OF MATERIALS- IronRidge Knockout Tile with Open Slot L-Foot		
#	DESCRIPTION	MATERIALS/NOTES
15	NUT, FLANGE, HEX, 5/16"	300 SERIES SS
16	5/16" X 4" HH LAG SCREW WITH EPDM WASHER	300 SERIES SS & EPDM
17	L-FOOT, OPEN SLOT L-FOOT	6000 SERIES AL
18	ASSY, BASE	6000 SERIES AL & 300 SERIES SS
19	FLASHING, TILE REPLACEMENT, S-TILE	1000 SERIES AL
20	FLASHING, TILE REPLACEMENT, FLAT TILE	1000 SERIES AL
21	FLASHING, TILE REPLACEMENT, W-TILE	1000 SERIES AL
22	SUB FLASHING (OPTIONAL)	5000 SERIES AL



ANCHOR NOTES:
 1. CAPACITIES APPLY TO RAFTER SIZE OF 2x4 OR GREATER, DECK THICKNESS OF 15/32" OR GREATER, AND LAG BOLTS SECURED WITHIN THE CENTER 1/3 OF RAFTER WITH 2 1/2" MIN. END DISTANCE.

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STATE OF FLORIDA
 PROFESSIONAL ENGINEER
 DEC 30 2022

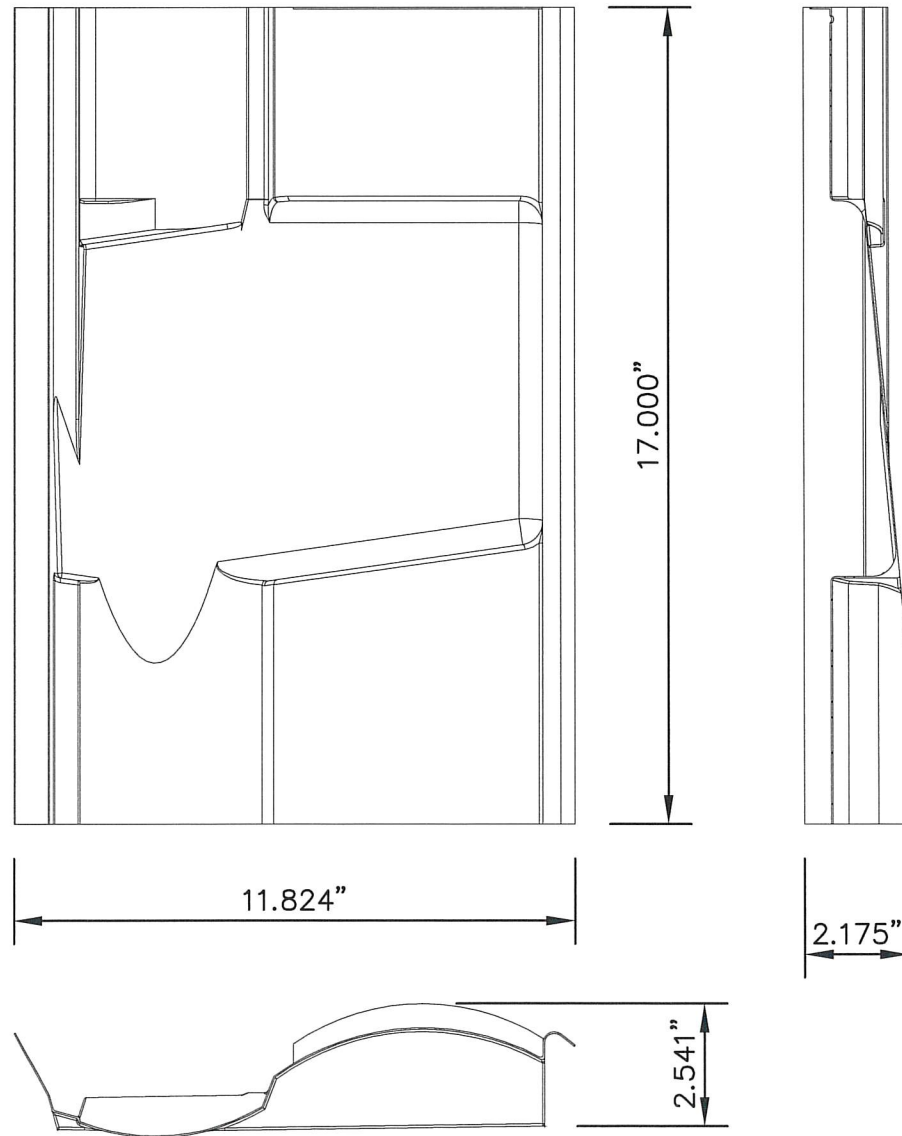
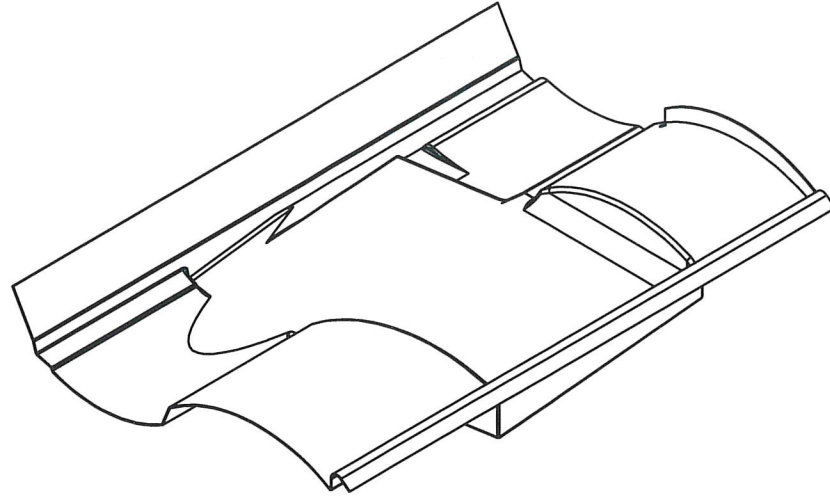
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IRONRIDGE

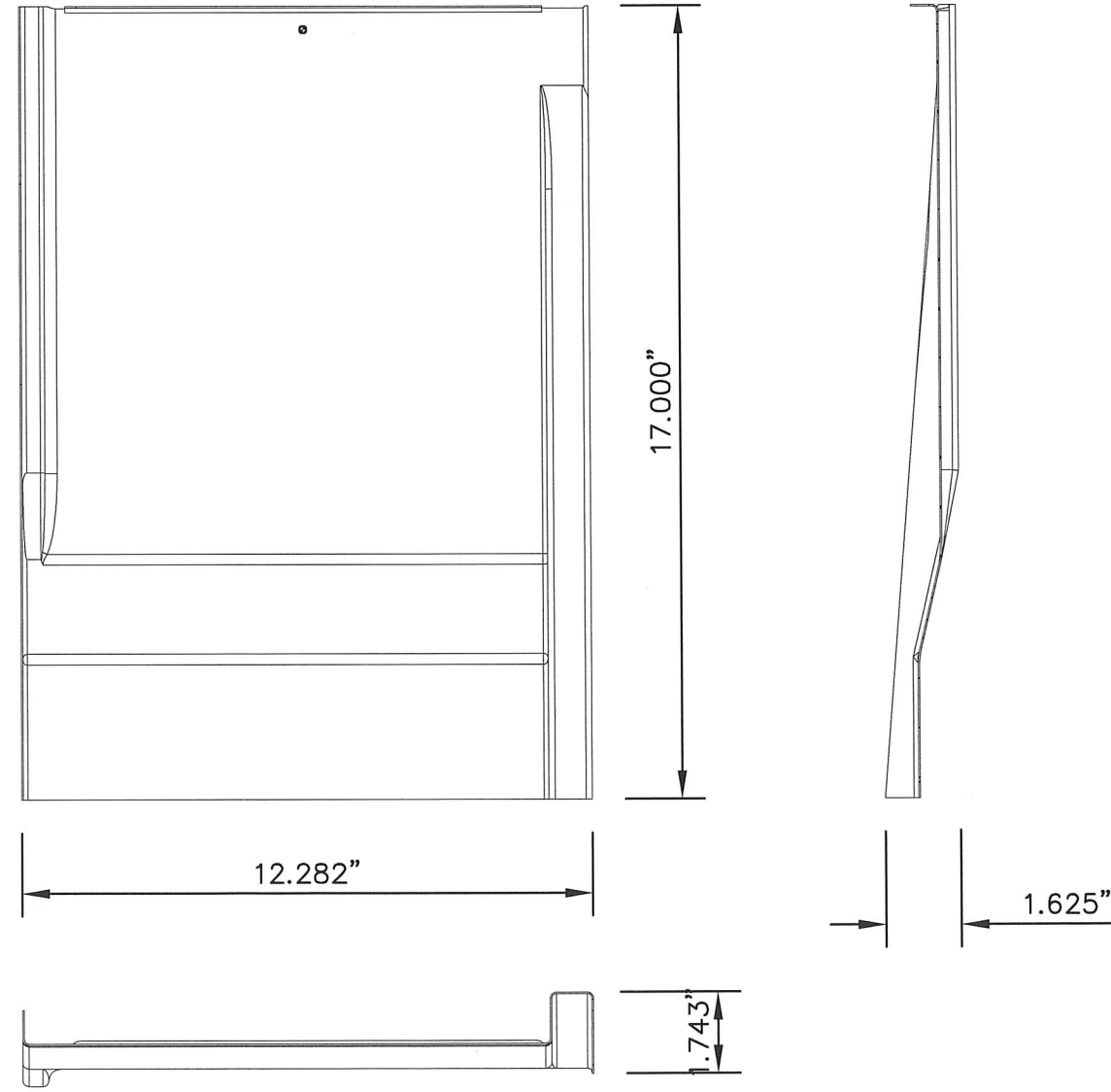
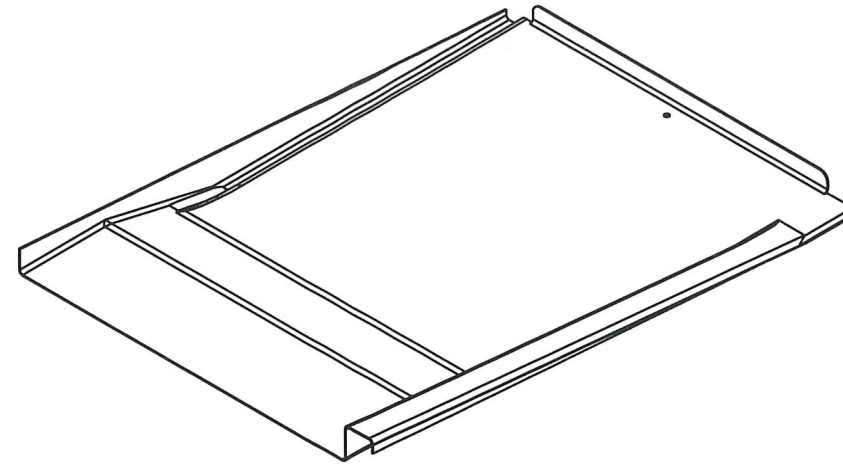
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DWG: **AIRE-KO**
 SHEET: **6/11**

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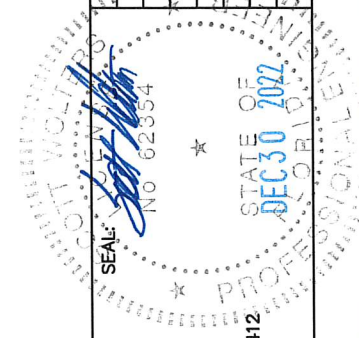


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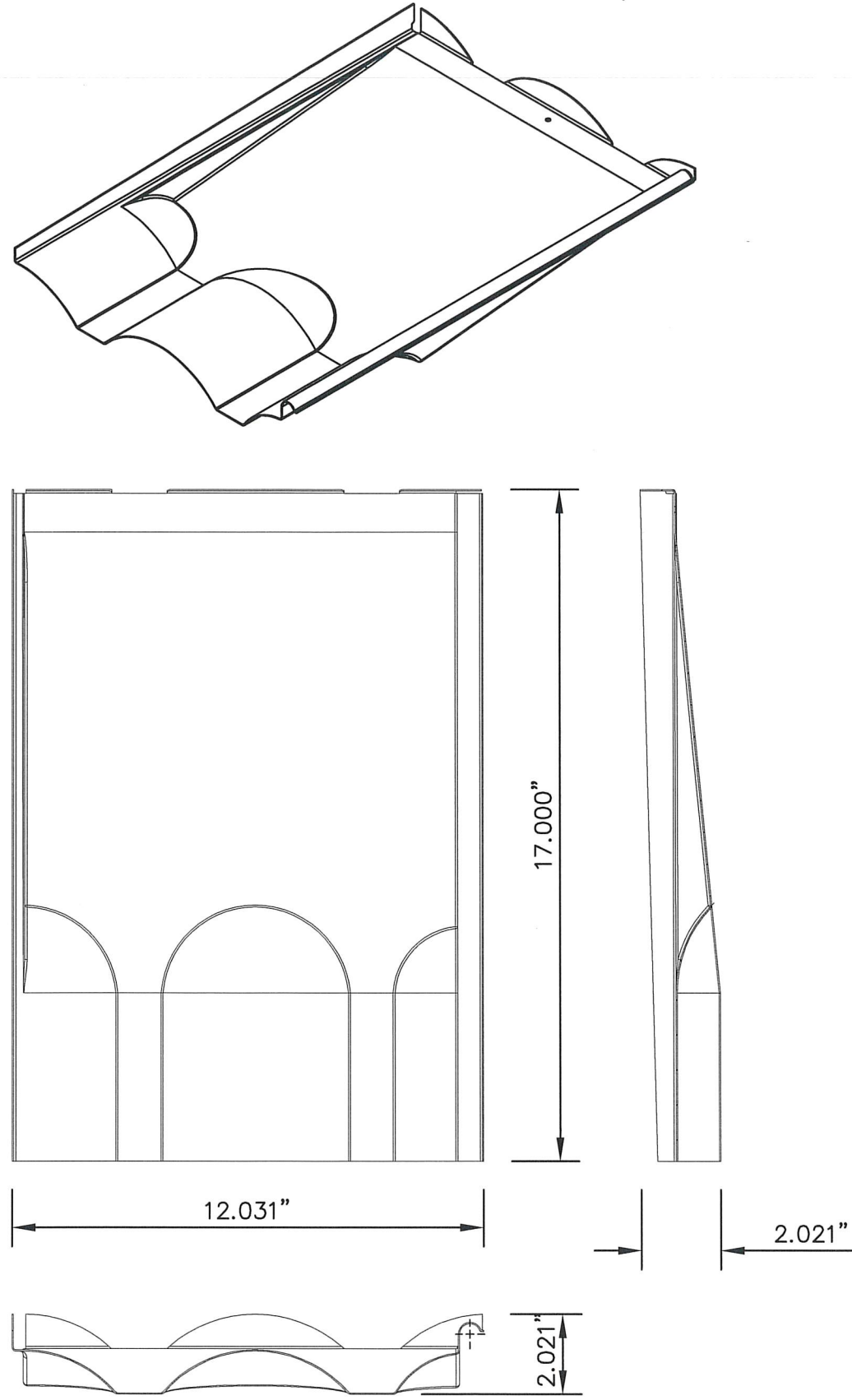


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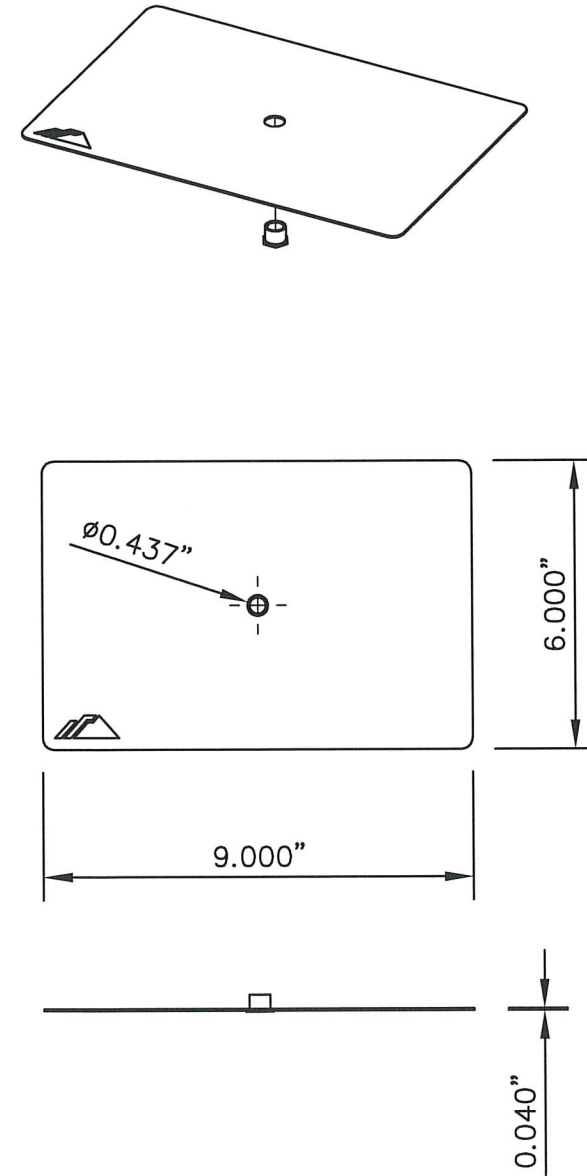
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DWG: AIRE-KO
SHEET: 7/11

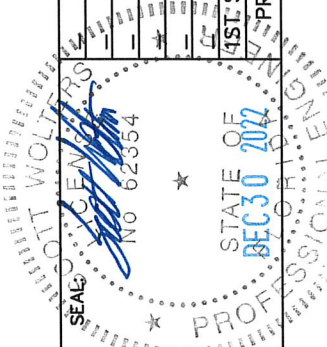
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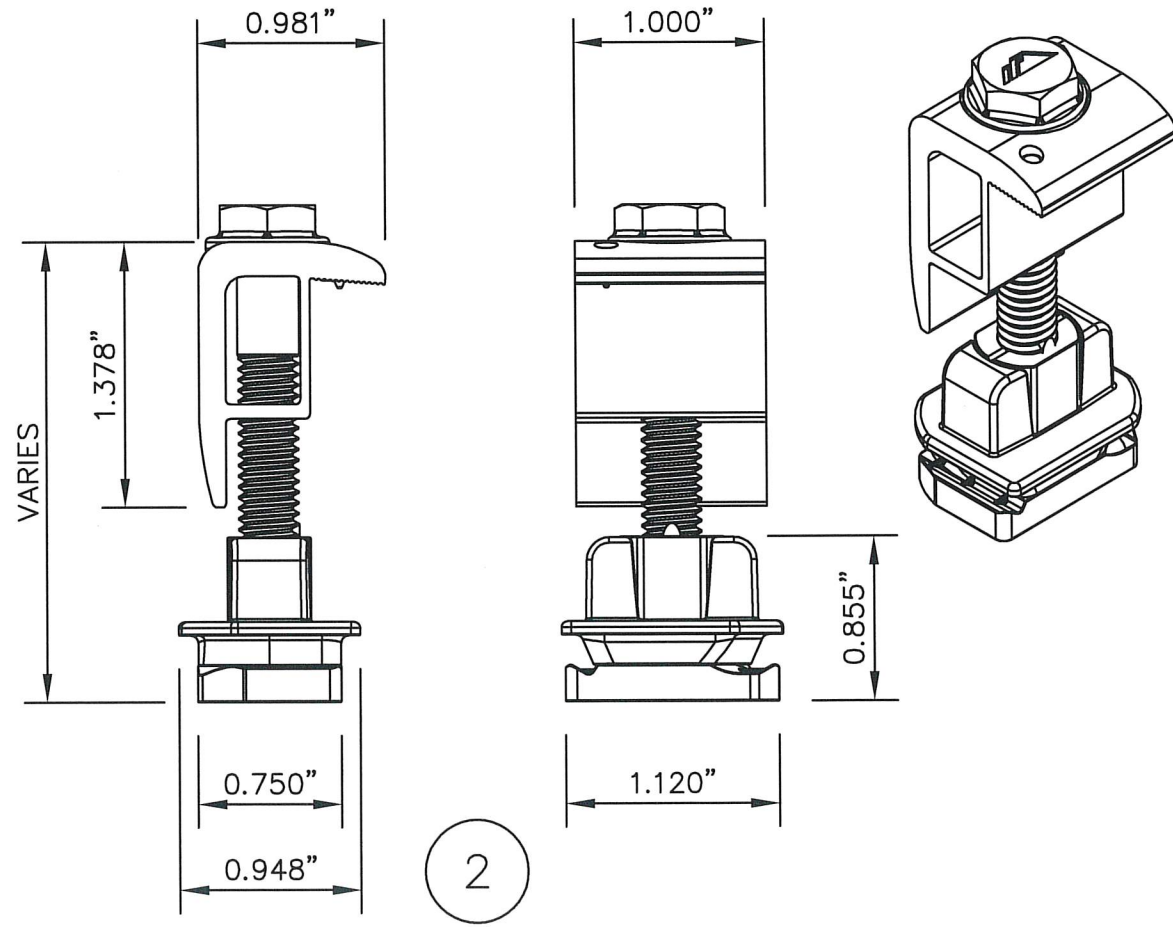
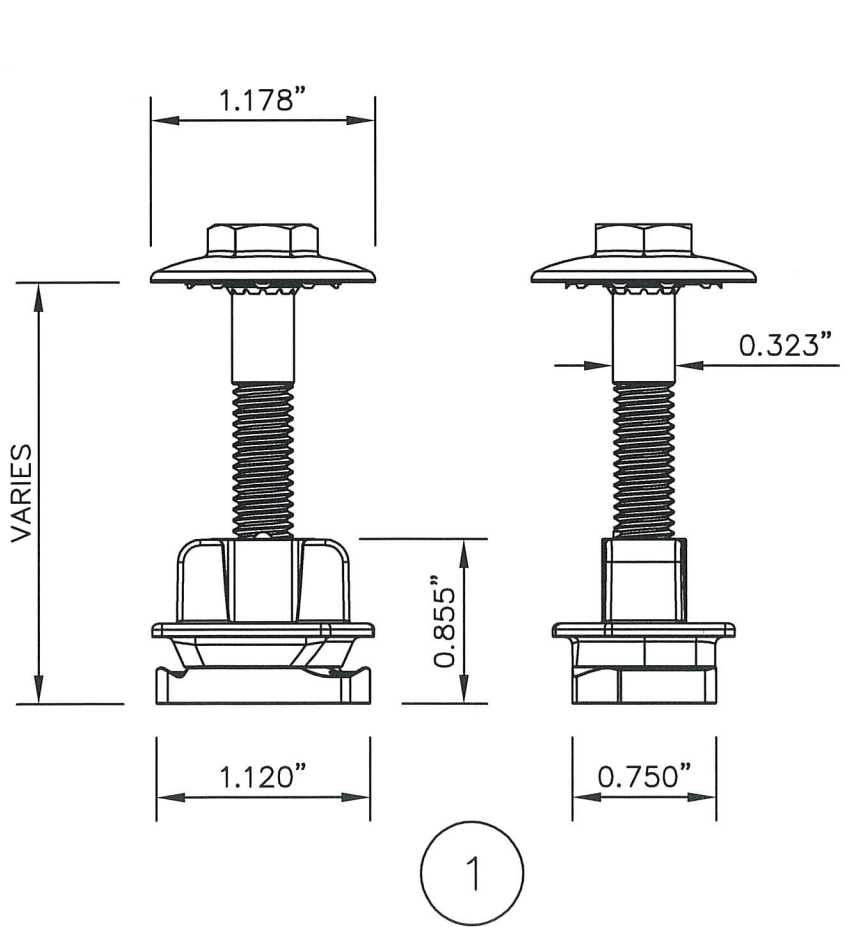
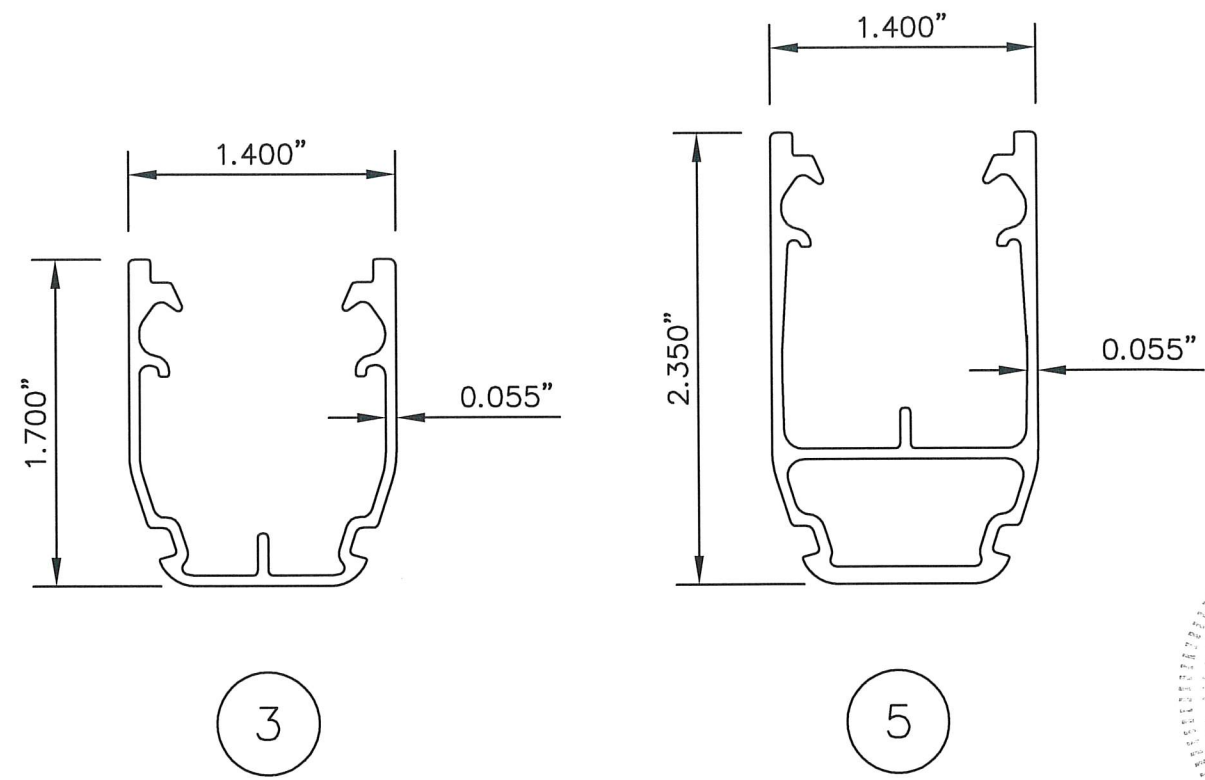
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45% SUBMITTAL
PRINTS ISSUED FOR

IRONRIDGE AIRE PHOTOVOLTAIC PANEL RACKING SYSTEM WITH IRONRIDGE KNOCKOUT TILE AND L-FOOT ROOF ATTACHMENTS

BILL OF MATERIALS- Aire System		
#	DESCRIPTION	MATERIALS/NOTES
1	AIRE LOCK MID-CLAMP ASSEMBLY	6000 SERIES AL & 300 SERIES SS
2	AIRE LOCK END-CLAMP ASSEMBLY	6000 SERIES AL & 300 SERIES SS
2A	AIRE LOCK STEALTH END-CLAMP ASSEMBLY	6000 SERIES AL & 300 SERIES SS
3	A1 RAIL	6000 SERIES AL
4	A1 TIE (SPLICE)	6000 SERIES AL & 300 SERIES SS
5	A2 RAIL	6000 SERIES AL
6	A2 TIE (SPLICE)	6000 SERIES AL & 300 SERIES SS
7	AIRE RAIL DOCK ASSEMBLY WITH 3/8" X 1 3/4" HWH CAP SCREW	6000 SERIES AL & 300 SERIES SS
8	A1 END CAP (OPTIONAL)	POLYMERIC
9	A2 END CAP (OPTIONAL)	POLYMERIC
10	CONTOUR CLAMP ASSEMBLY (OPTIONAL)	6000 SERIES AL & 300 SERIES SS
11	CONTOUR TRIM (OPTIONAL)	6000 SERIES AL

FOR 6000 SERIES EXTRUSIONS $F_{UT}=38$ ksi min, $F_Y=34$ ksi min.
FOR 300 SERIES STAINLESS STEEL $F_Y=65$ ksi min



TST-SUBMITTAL
 PRINTS ISSUED FOR
 REV.#
 DATE
 12/30/22

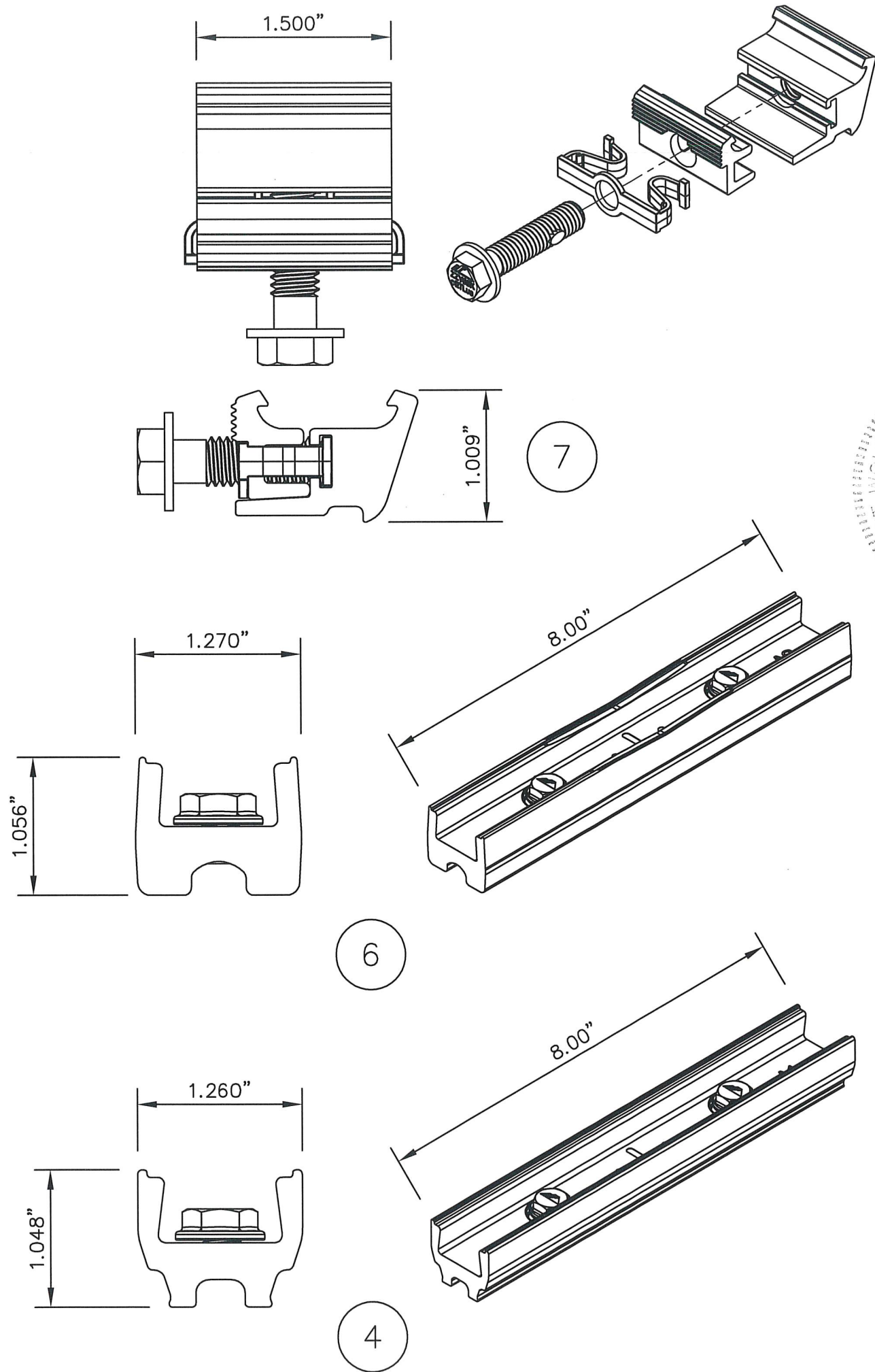
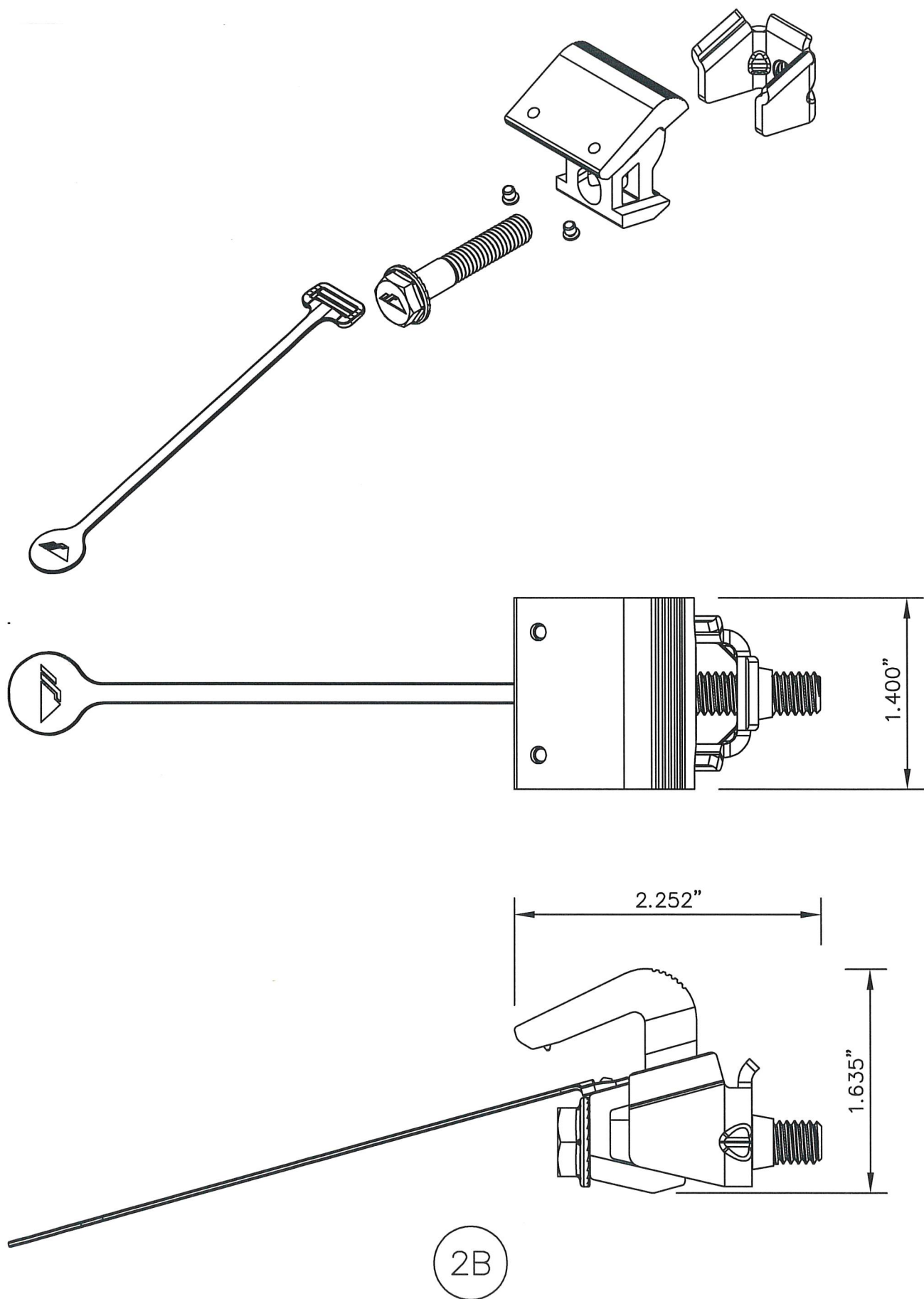
SCOTT WOLTERS
 FL PE# 62354
 WOLTERS ENGINEERING
 (COA# 27194)
 15211 97TH ROAD N
 WEST PALM BEACH, FL 33412
 (561) 225-1982

DEC 30 2022
 PROFESSIONAL SEAL

IRONRIDGE
 28357 INDUSTRIAL BLVD.
 HAYWARD, CA 94545
 PHONE: (800) 227-9523
 info@ironridge.com

DWG: AIRE-KO
 SHEET: 9/11

**IRONRIDGE AIRE PHOTOVOLTAIC PANEL RACKING SYSTEM
WITH IRONRIDGE KNOCKOUT TILE AND L-FOOT ROOF ATTACHMENTS**



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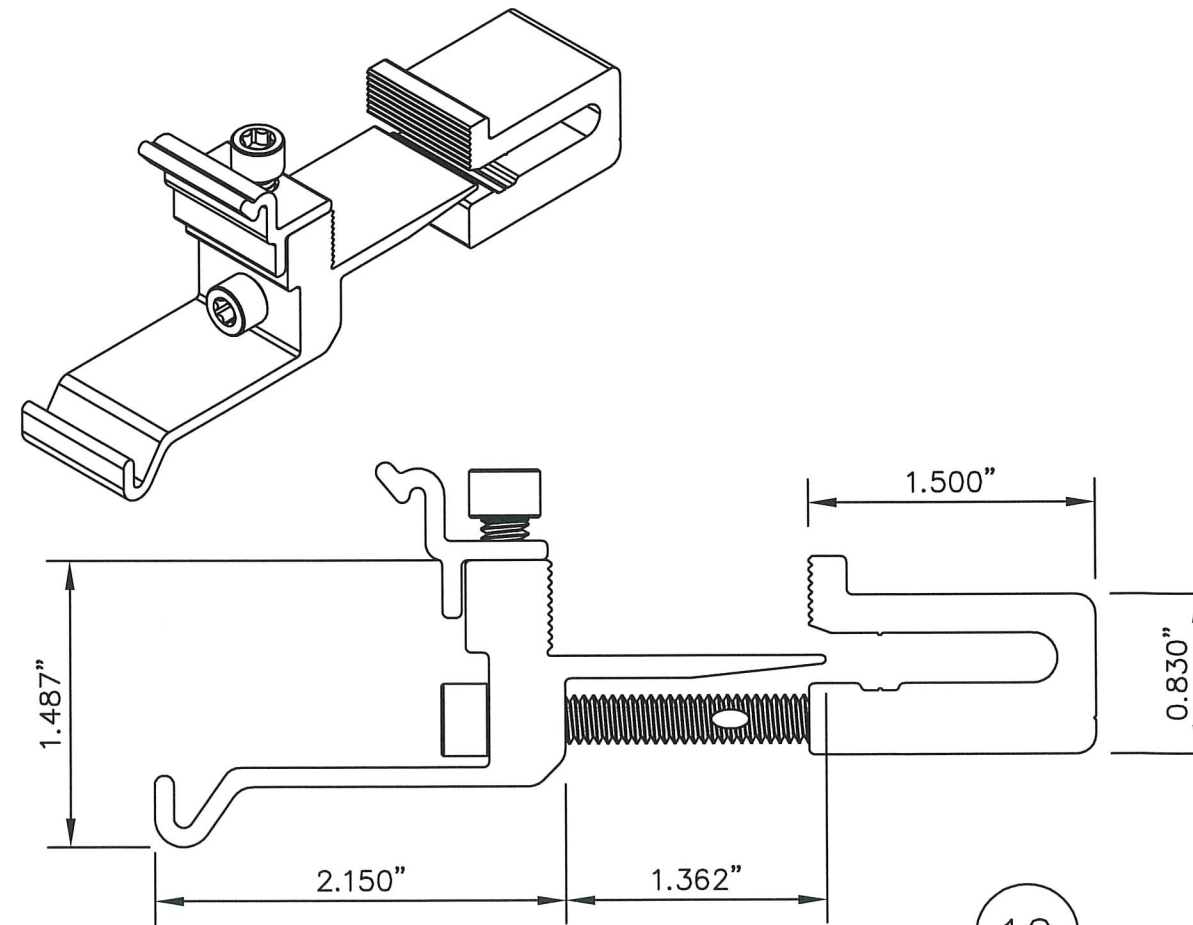
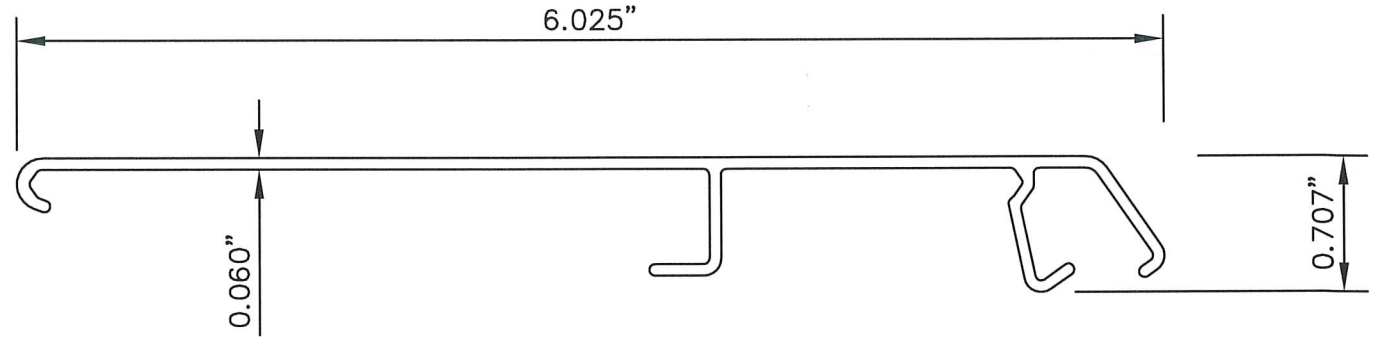
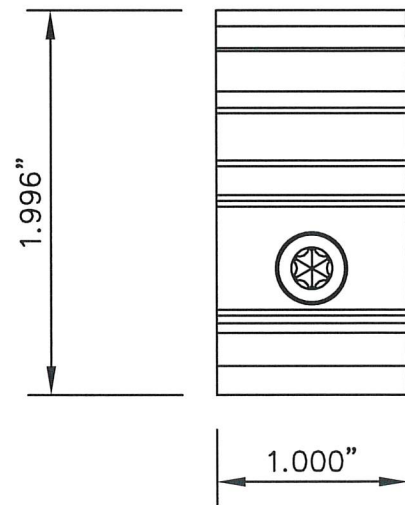
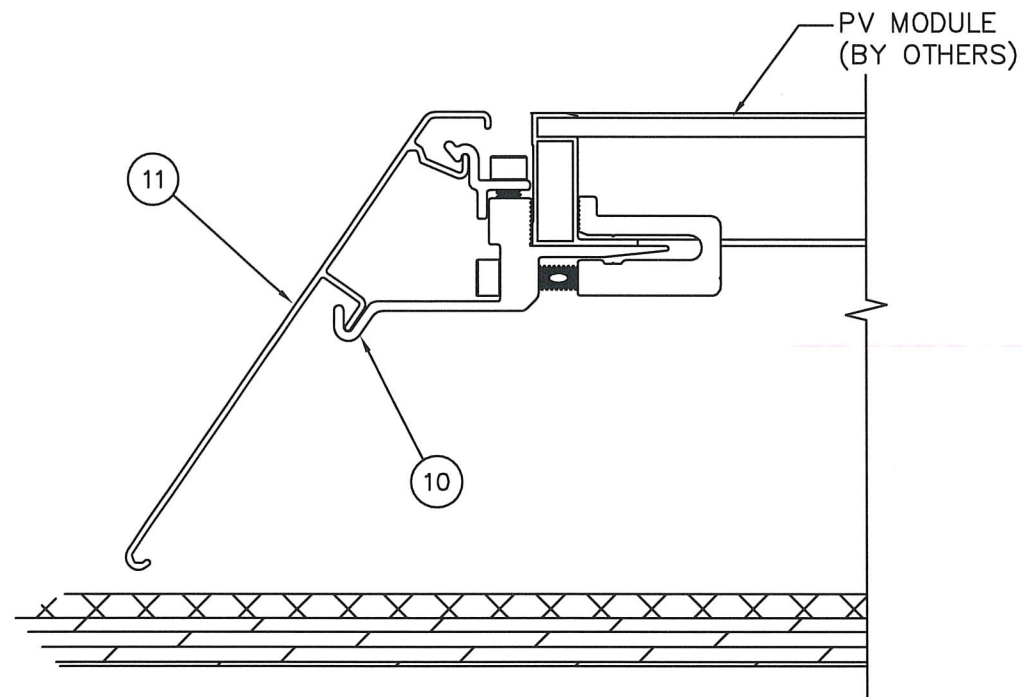
SEAL: [Signature]
 NO. 62354
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER
 DEC 30 2022

IRONRIDGE
 28357 INDUSTRIAL BLVD.
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 PHONE: (800) 227-9523
 info@ironridge.com

DWG: AIRE-KO
 SHEET: 10/11

**IRONRIDGE AIRE PHOTOVOLTAIC PANEL RACKING SYSTEM
WITH IRONRIDGE KNOCKOUT TILE AND L-FOOT ROOF ATTACHMENTS**

OPTIONAL CONTOUR TRIM:



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DWG: **AIRE-KO**
SHEET: **11/11**

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SEAL: [Signature]
NO. 62354
STATE OF FLORIDA
REGISTERED PROFESSIONAL ENGINEER
DEC 30 2012

REV.#	ISSUED FOR	DATE
1	PRINTS	12/30/22
2	SUBMITTAL	