

IRONRIDGE XR FLUSH MOUNT PHOTOVOLTAIC PANEL RACKING SYSTEM WITH IRONRIDGE FLASHVUE ROOF ATTACHMENTS

GENERAL NOTES:

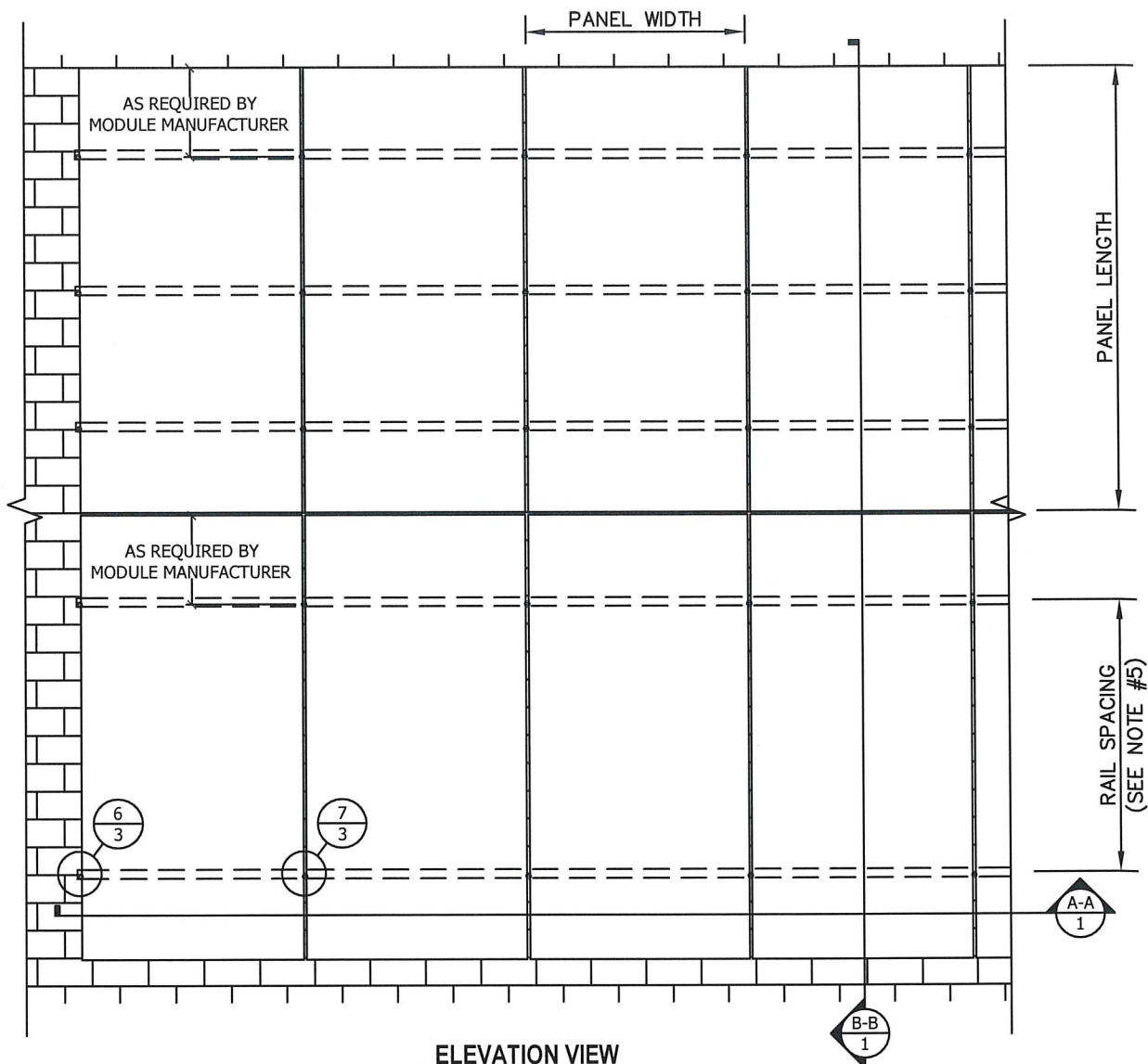
1. THIS SYSTEM MEETS ALL OF THE REQUIREMENTS OF THE 7TH EDITION (2020) FLORIDA BUILDING CODE, INCLUDING THE HVHZ PROVISIONS.
2. THIS SYSTEM HAS BEEN TESTED PER TAS 100(A) AND ASTM D7147. IT IS NOT A PART OF THE BUILDING ENVELOPE, AND IMPACT RESISTANCE IS NOT REQUIRED.
3. THIS SYSTEM SHALL BE INSTALLED PER THE IRONRIDGE XR FLUSH MOUNT INSTALLATION MANUAL.
4. THE PV PANELS ARE BY OTHERS AND ARE NOT A PART OF THIS APPROVAL.
5. RAIL SPACING TO BE AS SPECIFIED BY THE PV PANEL MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. 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.
7. FIRE RATINGS OR FIRE RESISTANCE IS NOT A PART OF THIS REVIEW.
8. ALL ANCHORS SECURING THE SYSTEM TO PRESSURE TREATED WOOD SHALL BE CAPABLE OF RESISTING CORROSION CAUSED BY THE CHEMICALS IN THE WOOD.
9. MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL BE PROTECTED PER FBC REQUIREMENTS.
10. 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:

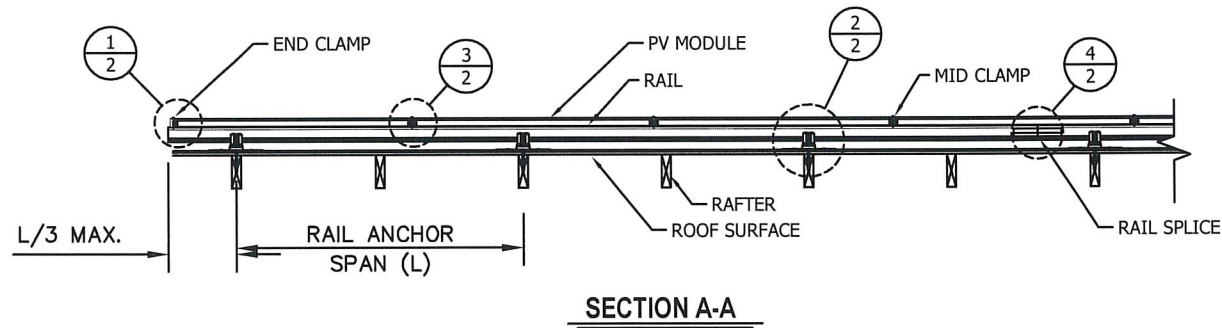
1. DESIGN WINDLOADS MUST BE CALCULATED BY A LICENSED PROFESSIONAL ENGINEER OR ARCHITECT FOR EACH PROJECT, PER ASCE 7-16 SECTION 29.4.4. DESIGN WINDLOADS MAY NOT EXCEED THE ALLOWABLE WINDLOADS SHOWN IN THE CHARTS ON THIS SHEET OR SHEET 6.
2. PANEL SYSTEM LOCATION, HEIGHT, AND SPACING MUST MEET THE REQUIREMENTS OF ASCE 7-16 SECTION 29.4.4. WINDLOADS ACT NORMAL TO THE SURFACE OF THE PV PANEL SYSTEM.
3. OTHER CONFIGURATIONS REQUIRE PROJECT SPECIFIC ANALYSIS BY A LICENSED PROFESSIONAL ENGINEER OR ARCHITECT.
4. ALLOWABLE WINDLOADS BELOW ARE BASED ON ANCHORING IN WOOD RAFTERS WITH S.G.=0.50 MIN. SEE SHEET 6 FOR ALLOWABLE LOADS BASED ON RAFTERS WITH OTHER SPECIFIC GRAVITY VALUES.

THREE RAIL SYSTEM:

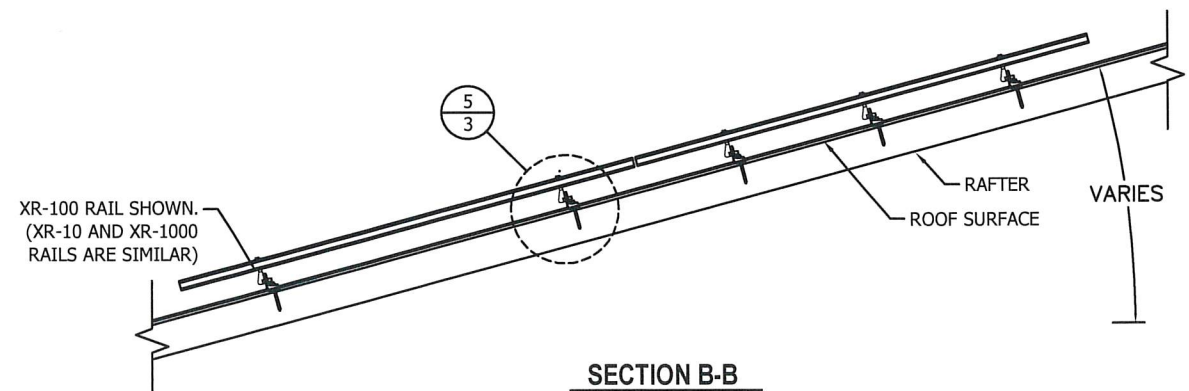
TWO RAIL SYSTEM:



ELEVATION VIEW



SECTION A-A



SECTION B-B

ALLOWABLE WINDLOADS												
TWO RAIL SYSTEM						THREE RAIL SYSTEM						
PANEL WIDTH (in)	PANEL LENGTH (in)	ANCHOR SPAN (L) (in)	XR-10 RAIL (+/- psf)	XR-100 RAIL (+/- psf)	XR-1000 RAIL (+/- psf)	PANEL WIDTH (in)	PANEL LENGTH (in)	ANCHOR SPAN (L) (in)	XR-10 RAIL (+/- psf)	XR-100 RAIL (+/- psf)	XR-1000 RAIL (+/- psf)	
45	67 1/2	16	90	90	90	45	67 1/2	16	135.0	135.0	135.0	
		24	65.4	90	90			24	98.1	135.0	135.0	
		32	56.1	90	90			32	84.2	135.0	135.0	
		36	49.9	90	90			36	74.9	135.0	135.0	
		48	37.4	85.6	90			48	56.1	128.4	135.0	
		64	28.1	61.2	72.7			64	42.2	91.8	109.1	
	80	72	23.7	54	63.3	72	35.6	81.0	95.0			
		16	75.9	75.9	75.9	45	80	16	113.9	113.9	113.9	
		24	55.2	75.9	75.9			24	82.8	113.9	113.9	
		32	47.3	75.9	75.9			32	71.0	113.9	113.9	
		36	42.1	75.9	75.9			36	63.2	113.9	113.9	
		48	31.6	72.2	75.9			48	47.4	108.3	113.9	
	64	23.7	54.2	61.4	64			35.6	81.3	92.1		
	86	72	20	45.6	53.4	72	30.0	68.4	80.1			
		16	70.6	70.6	70.6	45	86	16	105.9	105.9	105.9	
		24	51.3	70.6	70.6			24	77.0	105.9	105.9	
		32	44	70.6	70.6			32	66.0	105.9	105.9	
		36	39.1	70.6	70.6			36	58.7	105.9	105.9	
		48	29.4	67.2	70.6			48	44.1	100.8	105.9	
	64	22	50.4	57.1	64			33.0	75.6	85.7		
	92 1/2	72	18.6	42.4	49.7	72	27.9	63.6	74.6			
		16	65.7	65.7	65.7	45	92 1/2	16	98.6	98.6	98.6	
		24	47.7	65.7	65.7			24	71.6	98.6	98.6	
		32	40.9	65.7	65.7			32	61.4	98.6	98.6	
36		36.4	65.7	65.7	36			54.6	98.6	98.6		
48		27.3	62.5	65.7	48			41.0	93.8	98.6		
64	20.5	46.9	53.1	64	30.8			70.4	79.7			
LANDSCAPE LAYOUT:	45	92 1/2	16	65.7	65.7	65.7	45	92 1/2	16	98.6	98.6	98.6
			24	52.9	65.7	65.7			24	79.4	98.6	98.6
			32	40.8	65.7	65.7			32	61.2	98.6	98.6
			36	36	65.7	65.7			36	54.0	98.6	98.6
			48	24.2	55	65.7			48	36.3	82.5	98.6
			64	20.5	46.9	65.7			64	30.8	70.4	98.6
72	18.2	41.7	65.7	72	27.3	62.6	98.6					

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WOLTERS ENGINEERING
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(561) 225-1982

DATE: 12/19/22

REV.#: 1

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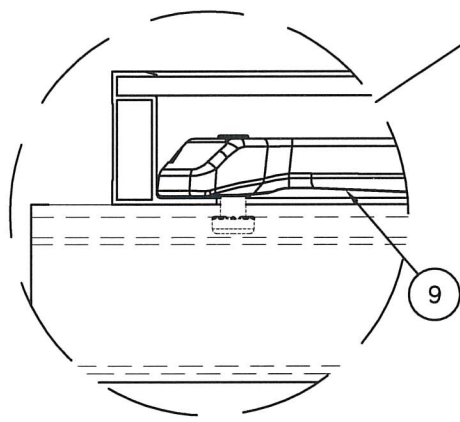
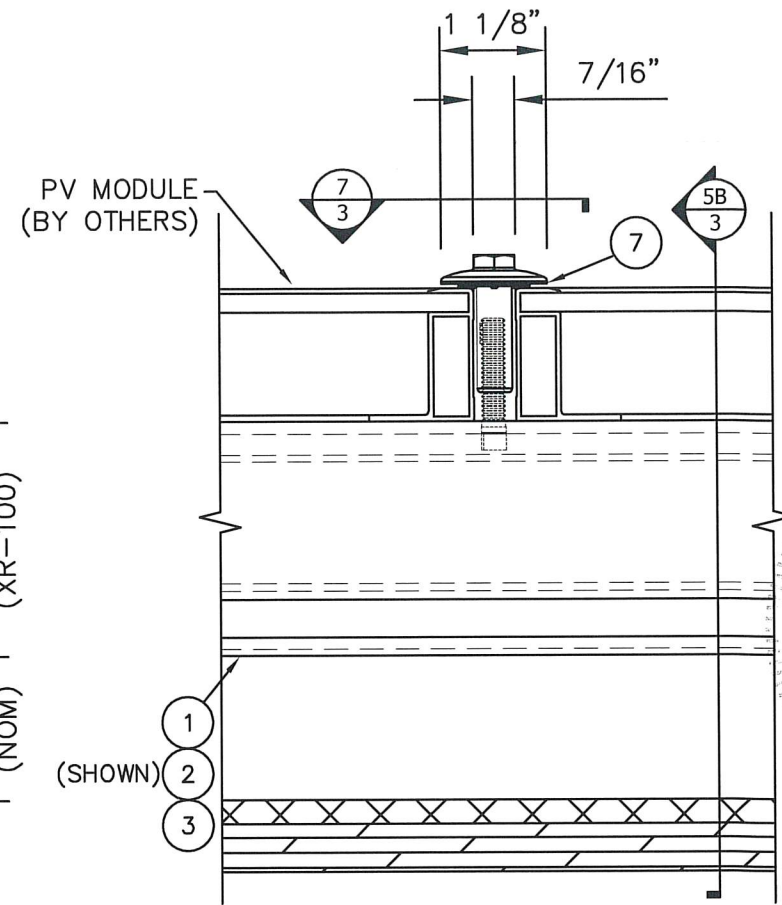
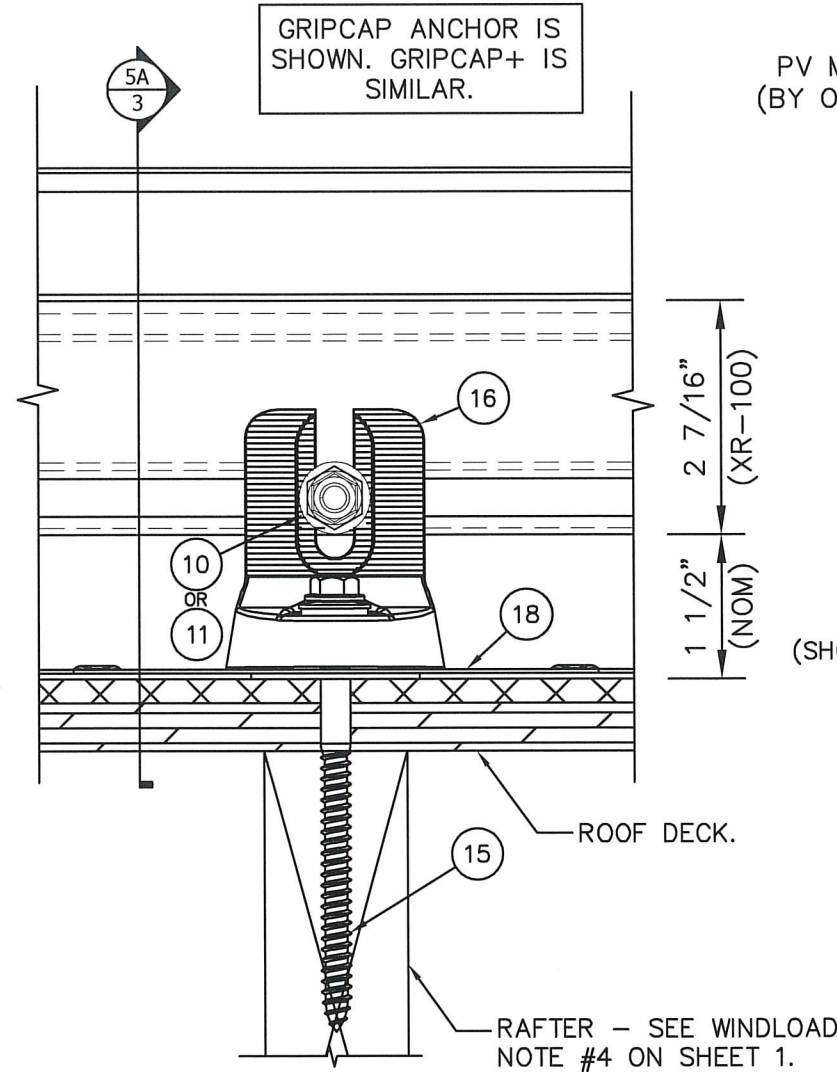
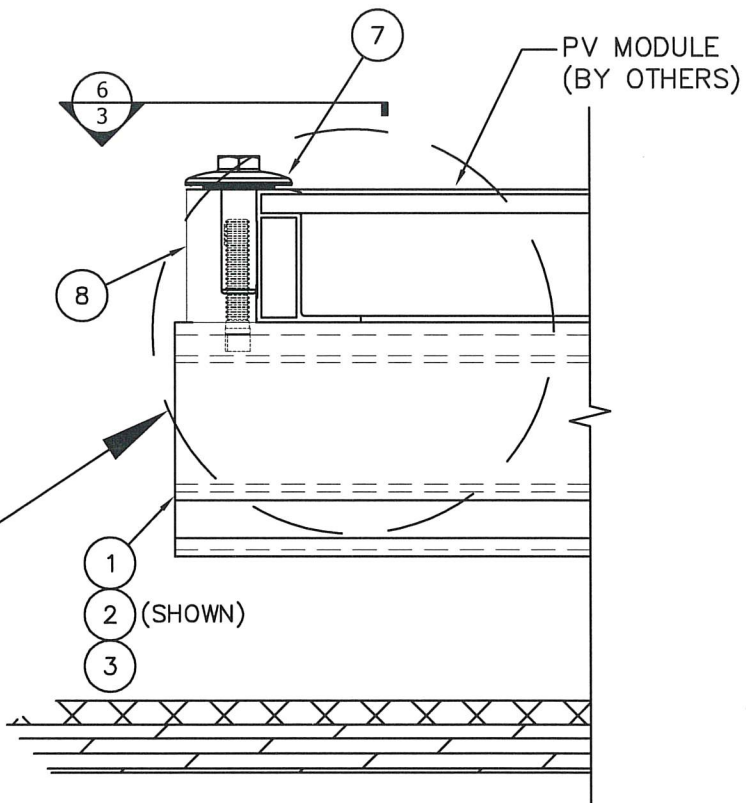
DWG: XR-FV

SHEET: 1/8

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HAYWARD, CA 94545

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**IRONRIDGE XR FLUSH MOUNT PHOTOVOLTAIC PANEL RACKING SYSTEM
WITH IRONRIDGE FLASHVUE ROOF ATTACHMENTS**

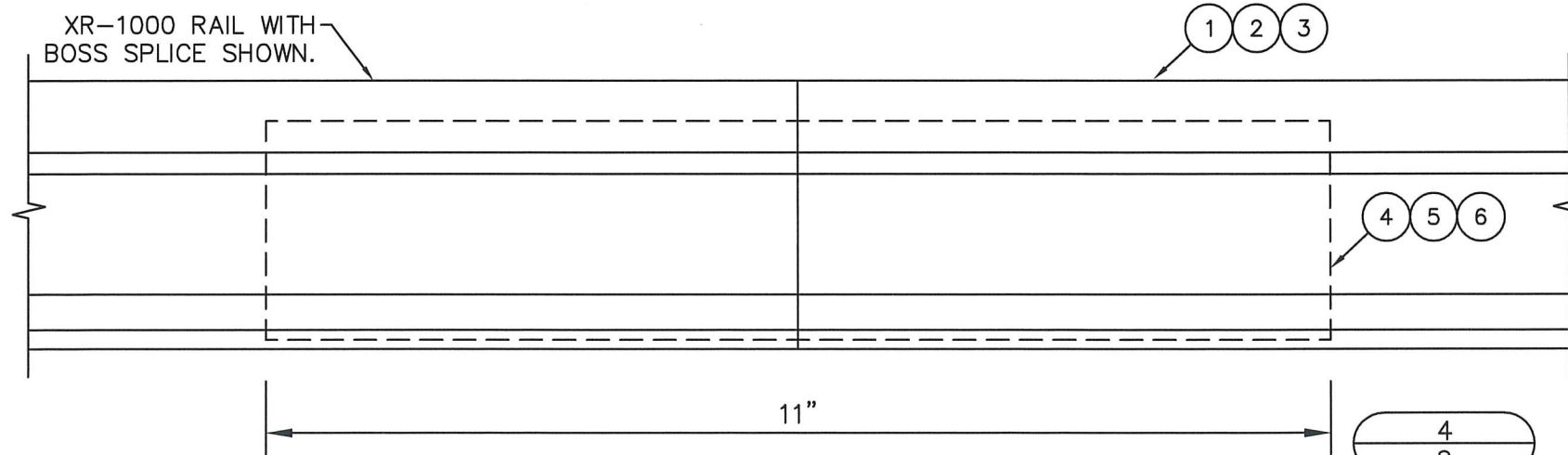


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ALTERNATE CAMO END CLAMP DETAIL

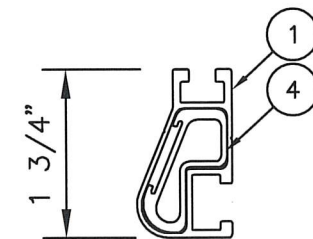
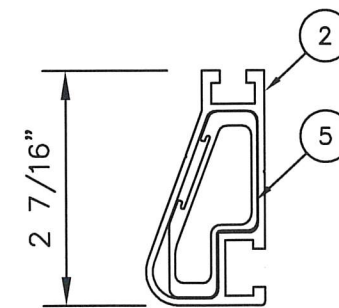
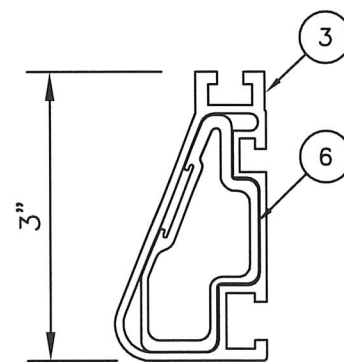
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UFO END-CLAMP WITH STOPPER SLEEVE

2
2
FLASHVUE DETAIL

3
2
IRONRIDGE UFO MID-CLAMP DETAIL



4
2
XR BOSS SPLICE DETAIL



SPLICE MAY NOT BE LOCATED IN A CANTILEVER.

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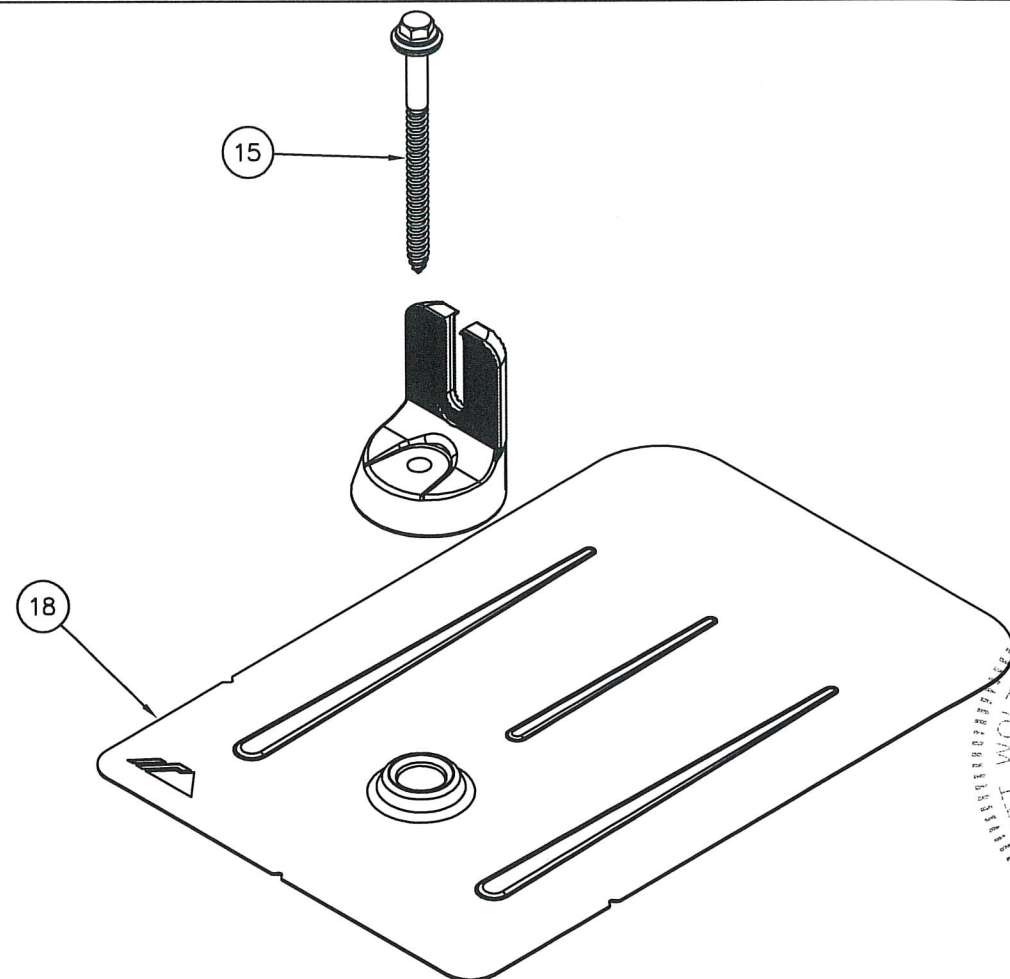
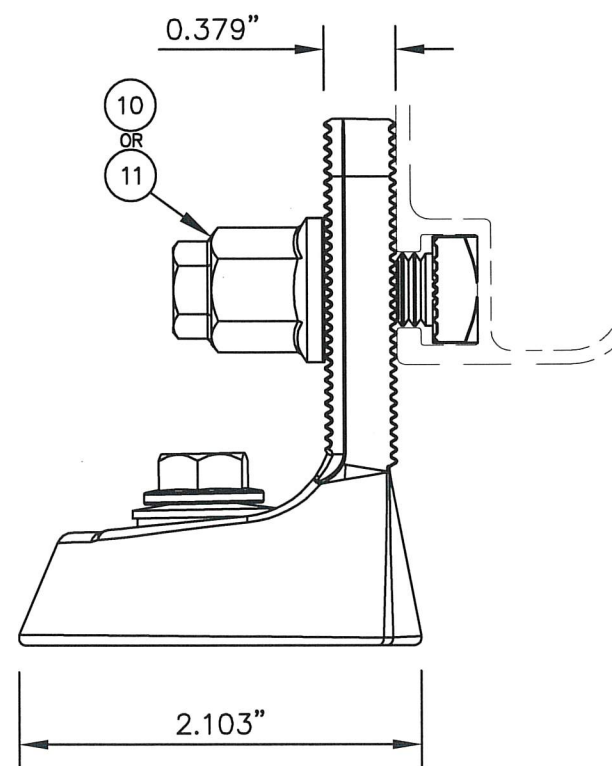
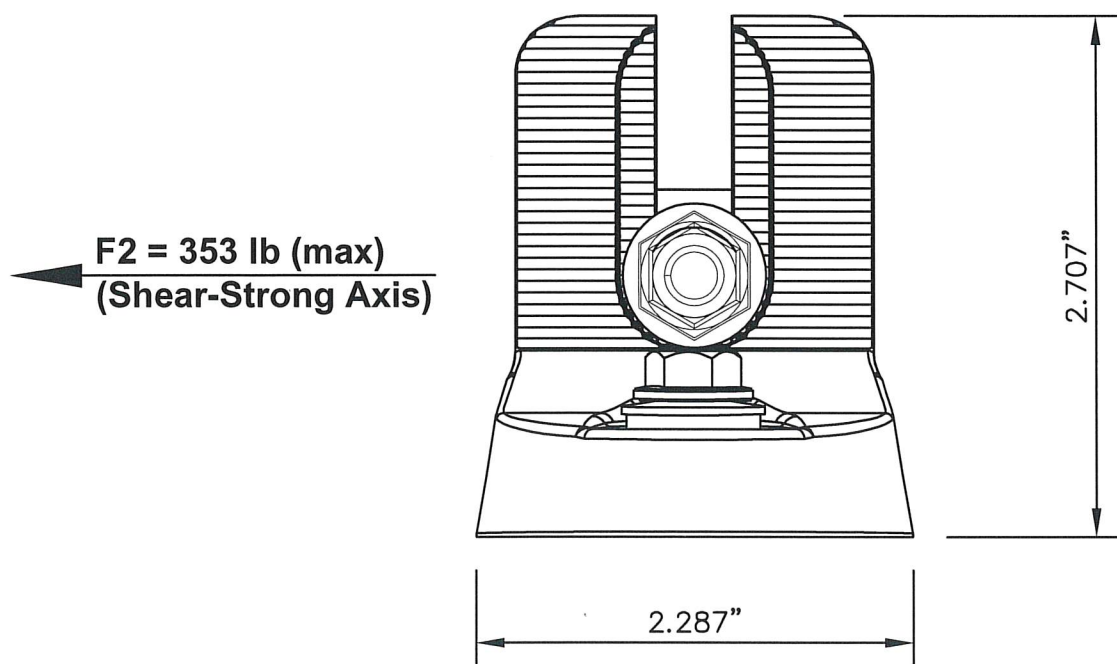
IRONRIDGE XR FLUSH MOUNT PHOTOVOLTAIC PANEL RACKING SYSTEM WITH IRONRIDGE FLASHVUE ROOF ATTACHMENTS

BILL OF MATERIALS- FlashVue		
#	DESCRIPTION	MATERIALS/NOTES
15	5/16" X 4" HWH LAG SCREW WITH EPDM WASHER	300 SERIES SS & EPDM
16	GRIPCAP, MILL OR BLACK	300 SERIES AL
17	GRIPCAP PLUS, BLACK	300 SERIES AL
18	FM FLASHING, MILL OR BLACK	6000 SERIES AL

ALLOWABLE UPLIFT FOR FLASHVUE ANCHOR WITH GRIPCAP BASED ON RAFTER SPECIFIC GRAVITY	
WOOD SPECIFIC GRAVITY	ALLOWABLE UPLIFT CAPACITY (lb)
0.42	894
0.43	926
0.46	1025
0.5	1161

SEE CHART ON SHEET 8 FOR ALLOWABLE WINDLOADS BASED ON RAFTER SPECIFIC GRAVITY.

Direct Tension/Uplift
(See Chart)



16

- ANCHOR NOTES:**
- CAPACITIES APPLY TO RAFTER SIZER OF 2x4 OR GREATER, DECK THICKNESS OF 7/16" OR GREATER, AND LAG BOLTS SECURED WITHIN THE CENTER 1/3 OF RAFTER WITH 2 1/2" MIN. END DISTANCE.
 - SHEAR VALUES ARE THE SAME FOR ALL SPECIFIC GRAVITY VALUES LISTED IN THE CHART.

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DWG: XR-FV
SHEET: 4/8

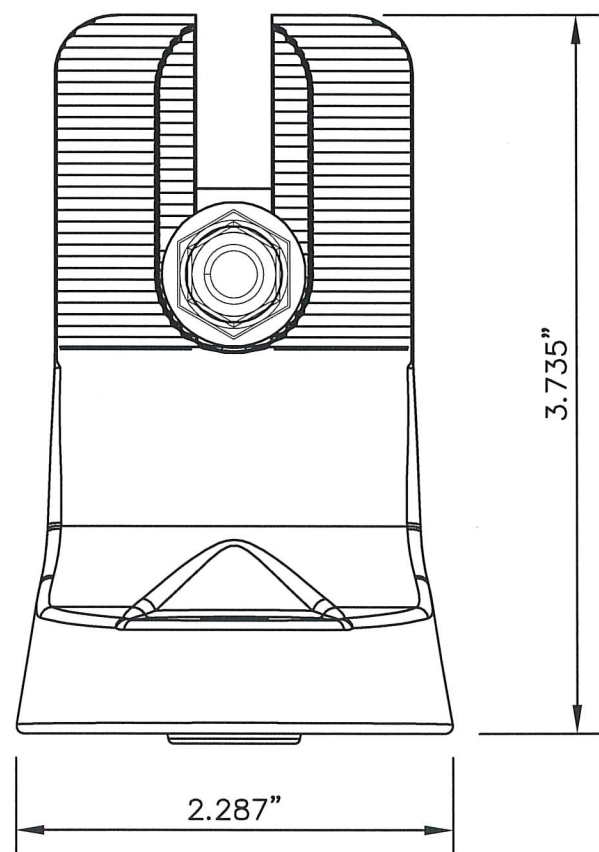
**IRONRIDGE XR FLUSH MOUNT PHOTOVOLTAIC PANEL RACKING SYSTEM
WITH IRONRIDGE FLASHVUE ROOF ATTACHMENTS**

ALLOWABLE UPLIFT FOR FLASHVUE ANCHOR WITH GRIPCAP+ BASED ON RAFTER SPECIFIC GRAVITY	
WOOD SPECIFIC GRAVITY	ALLOWABLE UPLIFT CAPACITY (lb)
0.42	894
0.43	926
0.46	1025
0.5	1161

SEE CHART ON SHEET 8 FOR ALLOWABLE WINDLOADS BASED ON RAFTER SPECIFIC GRAVITY.

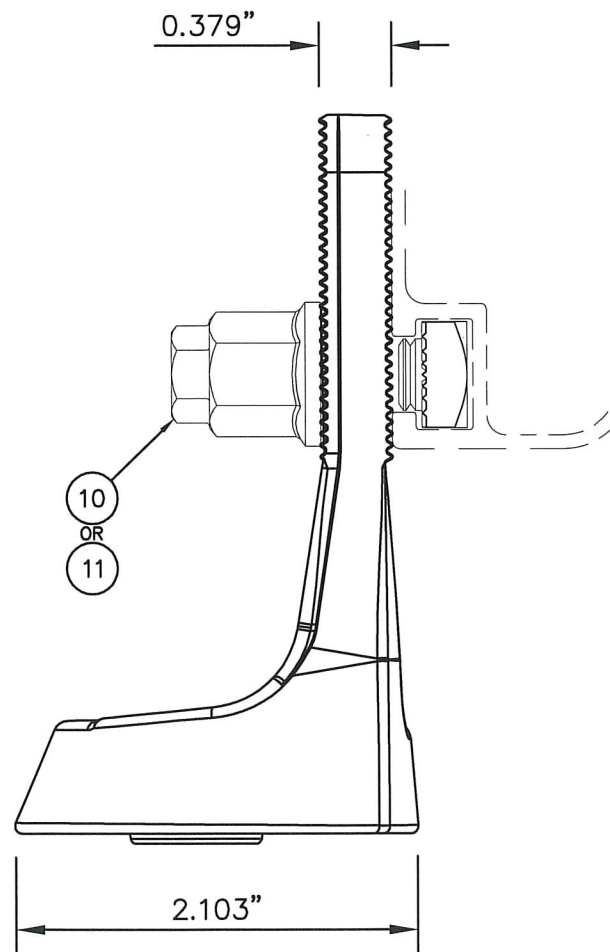
↑
Direct Tension/Uplift
(See Chart)

← **F2 = 353 lb (max)**
(Shear-Strong Axis)

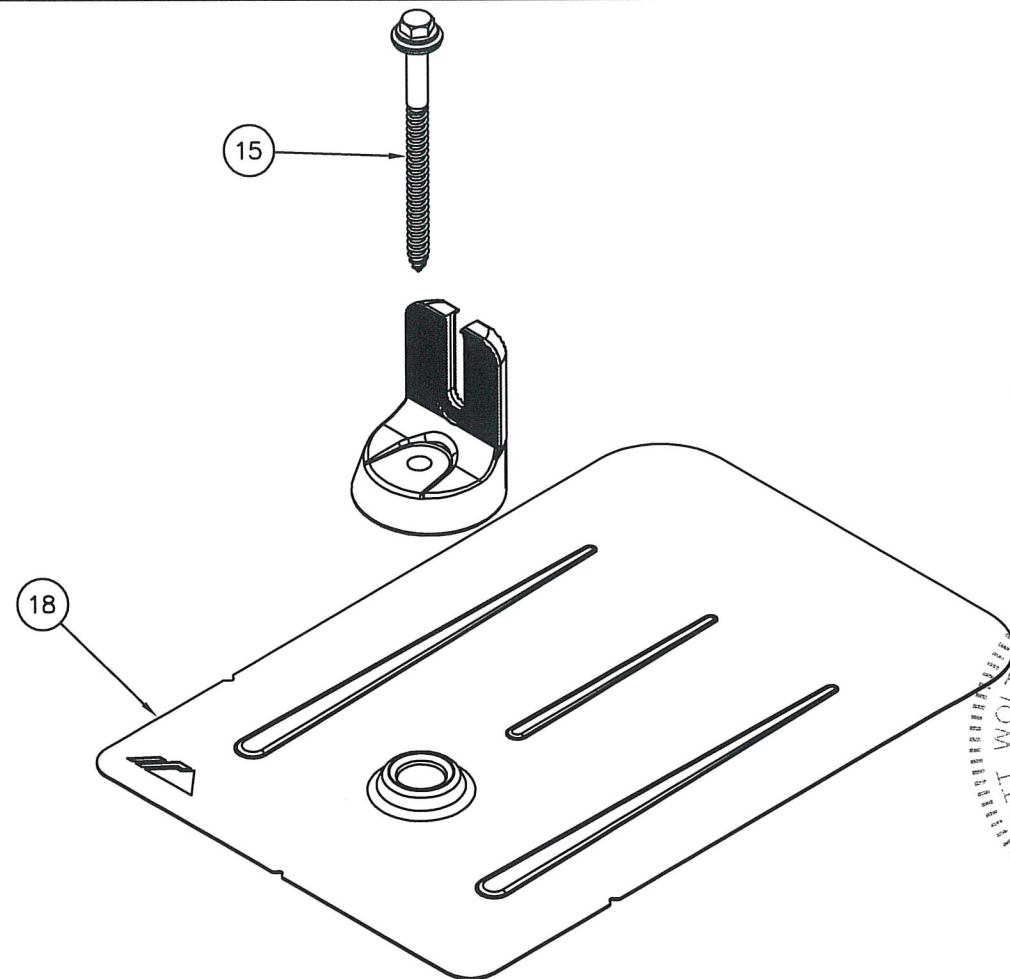


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0.379"

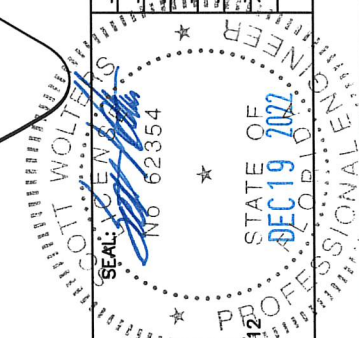


→ **F3 = 304 lb (max)**
(Shear-Weak Axis)



ANCHOR NOTES:

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- SHEAR VALUES ARE THE SAME FOR ALL SPECIFIC GRAVITY VALUES LISTED IN THE CHART.



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DWG: **XR-FV**
SHEET: **5/8**

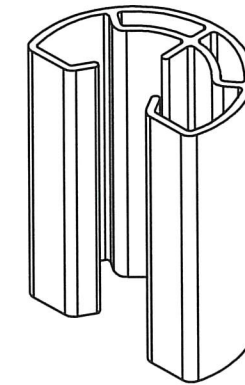
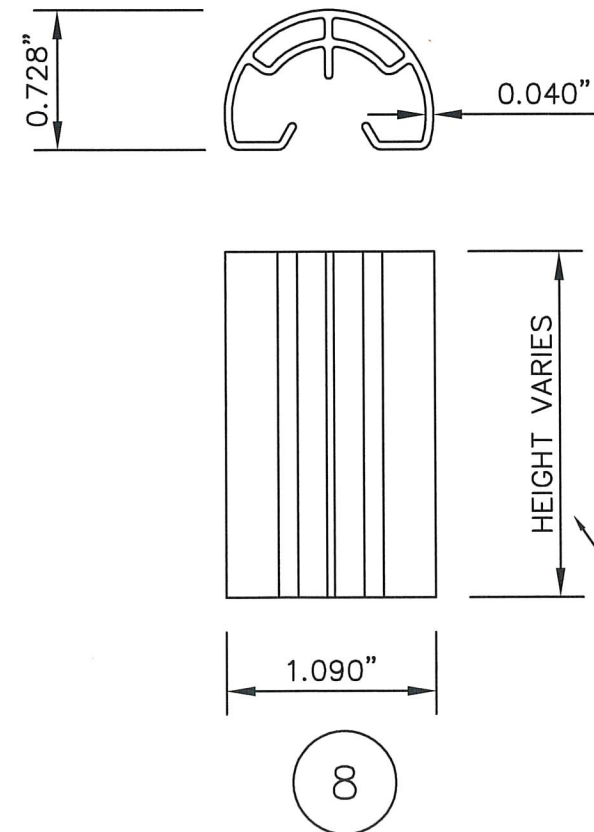
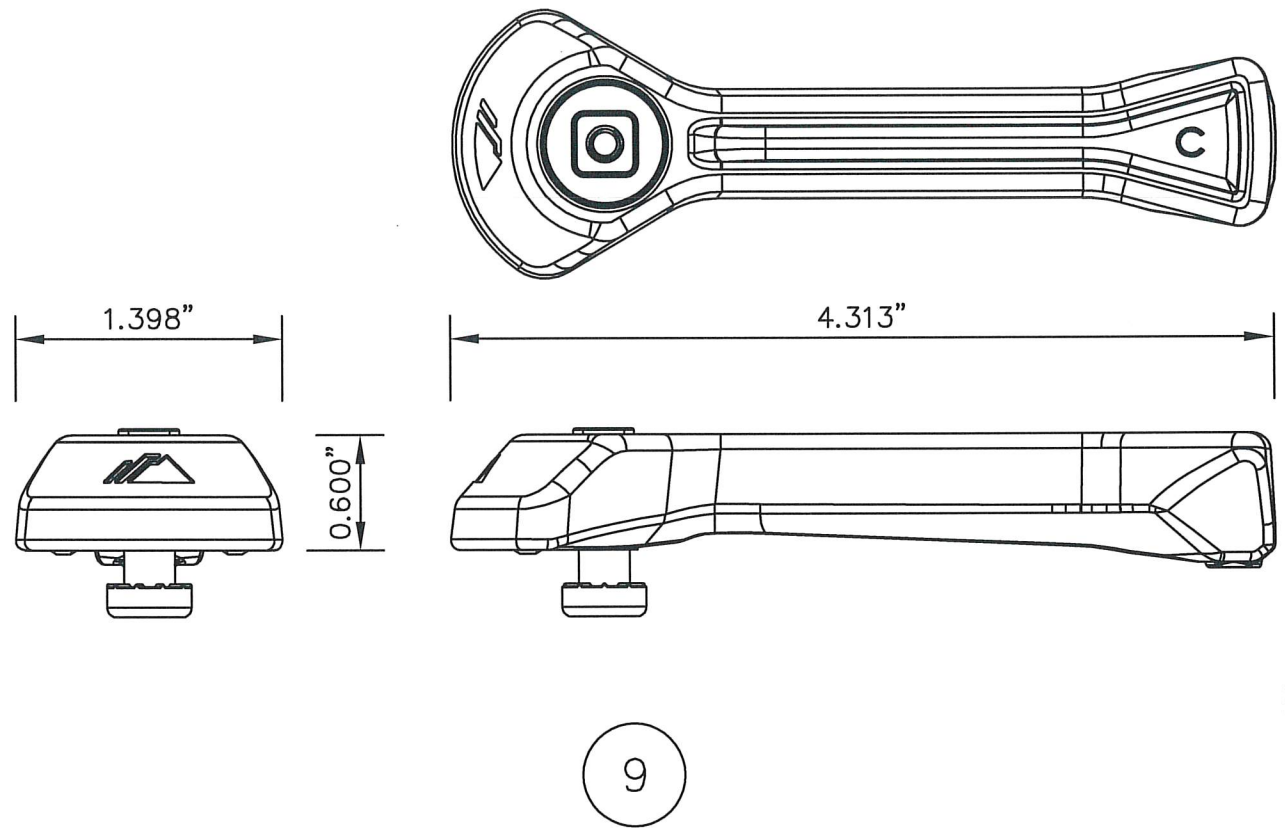
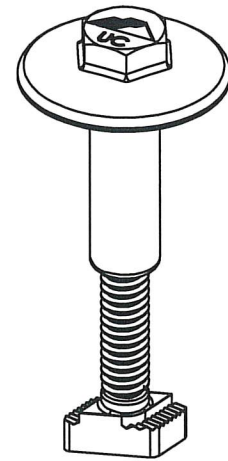
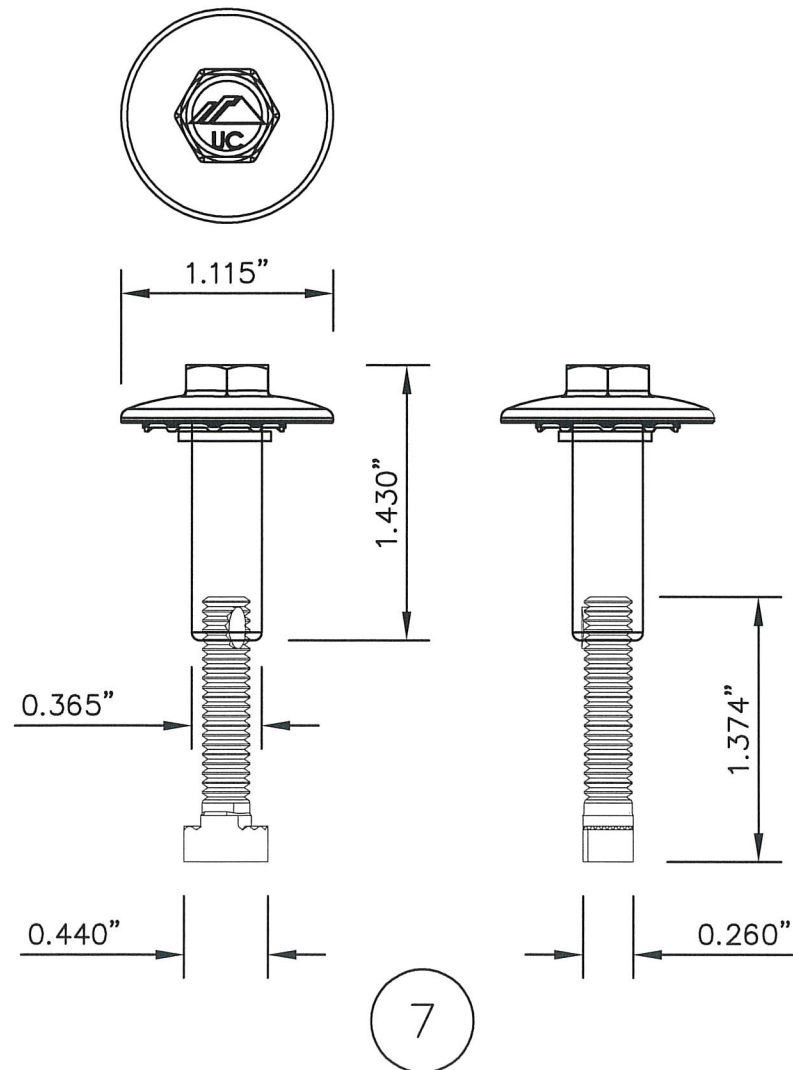
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**IRONRIDGE XR FLUSH MOUNT PHOTOVOLTAIC PANEL RACKING SYSTEM
WITH IRONRIDGE FLASHVUE ROOF ATTACHMENTS**

BILL OF MATERIALS- XR System		
#	DESCRIPTION	MATERIALS/NOTES
1	XR-10 RAIL	6000 SERIES AL
2	XR-100 RAIL	6000 SERIES AL
3	XR-1000 RAIL	6000 SERIES AL
4	XR-10 BOSS SPLICE	6000 SERIES AL & 300 SERIES SS
5	XR-100 BOSS SPLICE	6000 SERIES AL & 300 SERIES SS
6	XR-1000 BOSS SPLICE	6000 SERIES AL & 300 SERIES SS
7	UFO UNIVERSAL MODULE CLAMP	300 SERIES SS
8	STOPPER SLEEVE	6000 SERIES AL
9	CAMO HIDDEN END CAM	300 SERIES AL & 300 SERIES SS
10	3/8" X 1" SQUARE BOLT BONDING HARDWARE	300 SERIES SS
11	3/8" X 1" T-BOLT BONDING HARDWARE	300 SERIES SS
12	XR-10 RAIL END CAP (OPTIONAL)	POLYMERIC
13	XR-100 RAIL END CAP (OPTIONAL)	POLYMERIC
14	XR-1000 RAIL END CAP (OPTIONAL)	POLYMERIC

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



HEIGHT VARIES TO MATCH PV PANEL HEIGHT.

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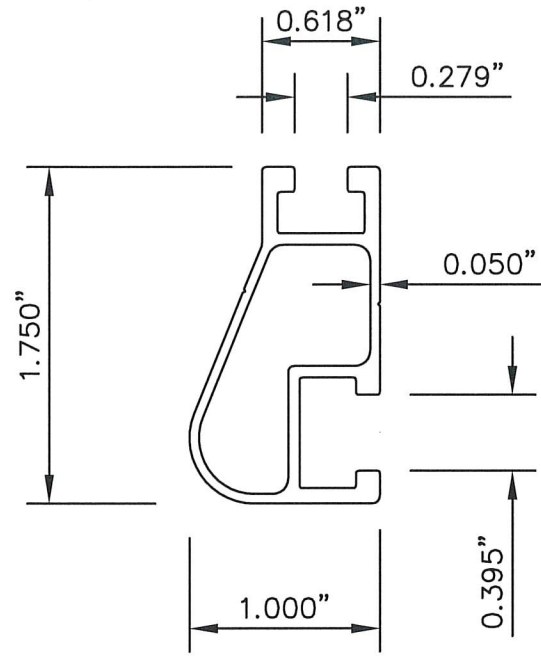
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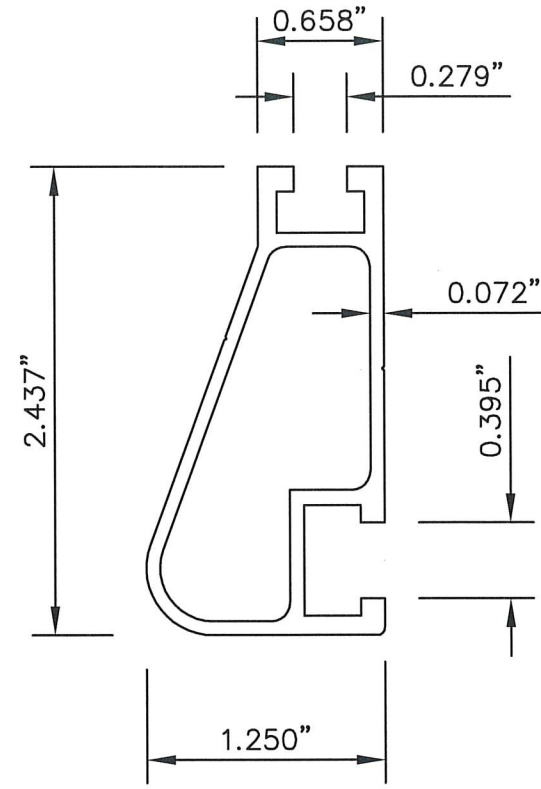
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DWG: XR-FV
 SHEET: 7/8

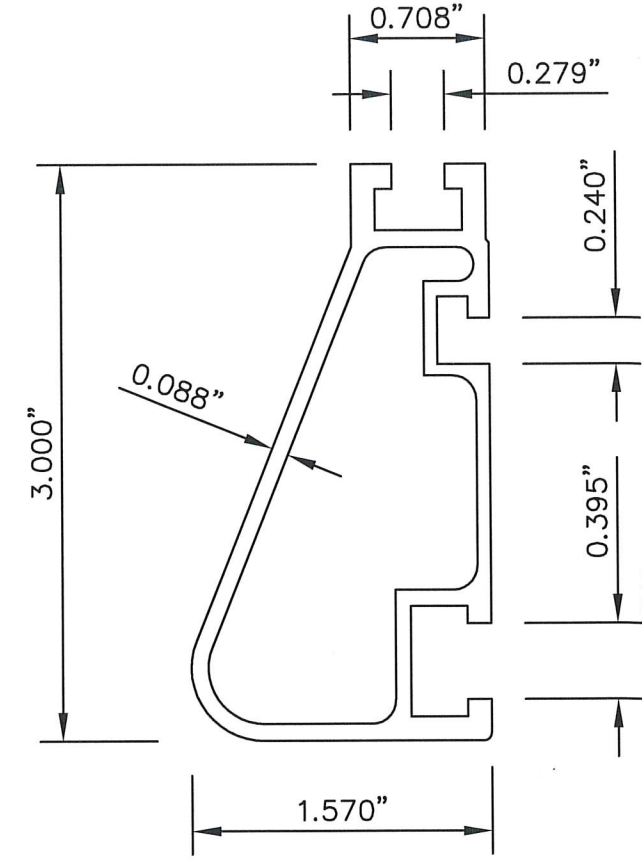
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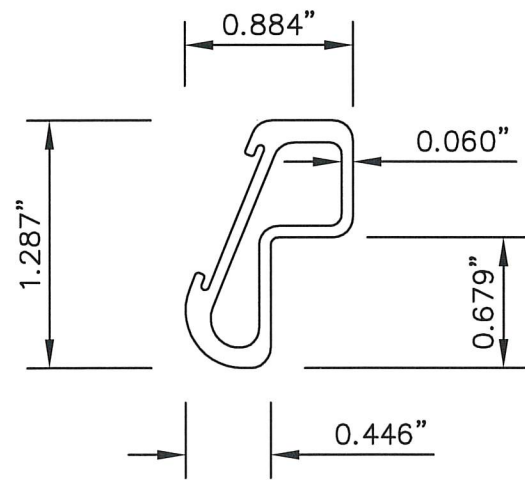
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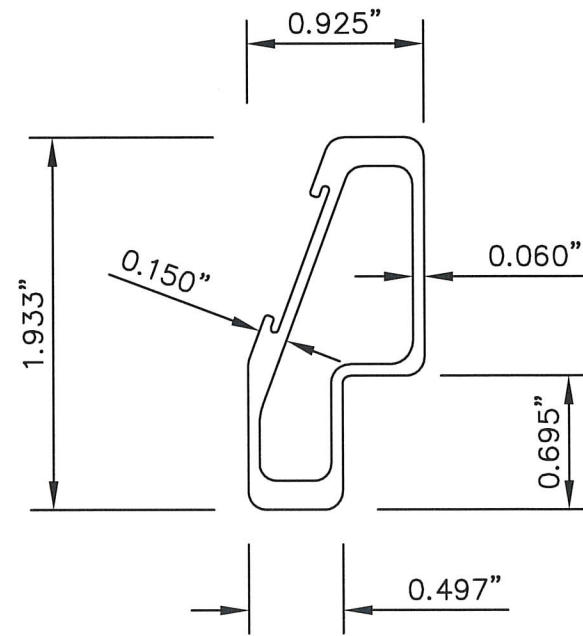
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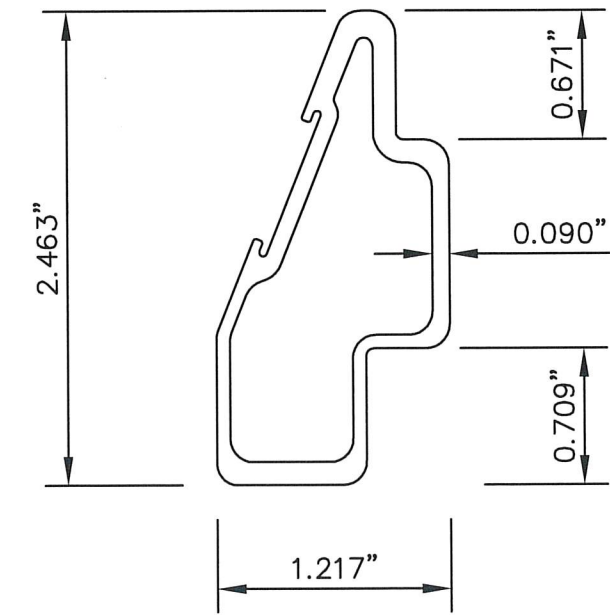
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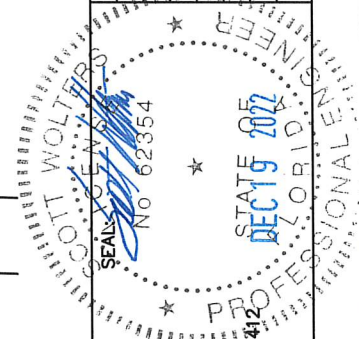
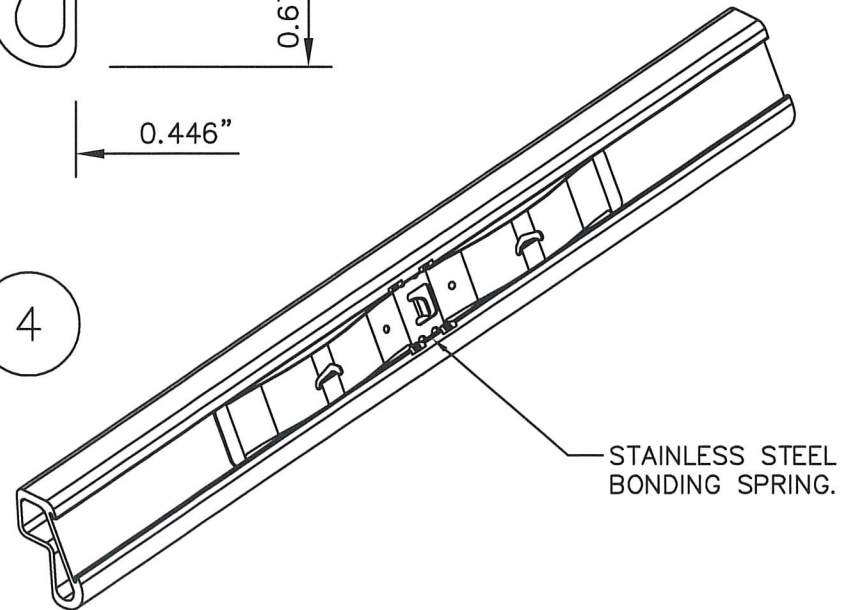
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SCOTT WOLTERS
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DWG: XR-FV
SHEET: 8/8

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