

ATTN: Blikir, Inc.

DATE: 9/28/21

RE: Blikir RCP-2 Solar Carport

This letter addresses the structural performance and code compliance of the Blikir, Inc. RCP-2 Solar Carport (henceforth "Carport" or "RCP-2"). The Carport is a proprietary carport kit consisting of galvanized steel posts, beams, and connections, supporting solar panels. Post connections to concrete footings are included, but the footings themselves are to be supplied by the purchaser, according to the requirements provided in the attachment. Solar panels are supported by IronRidge XR-100 aluminum rails and secured to the rails with IronRidge CAMO-01-M1 Hidden End Clamps. The XR-100 rails are bolted to IronRidge LFT-03 Slotted L-Foot brackets with IronRidge BHW-TB-02-A1 T-Bolts. The L-Foot Brackets are bolted to the top of the carport framing members with 3/8" diameter bolts. Loads on connections and rails are within the allowable limits set forth by the manufacturer for spans of 6'. Refer to manufacturer's tables for more information. Use of alternative rails or connections must be approved by a licensed engineer.

The Carport framing is designed and certified to the structural requirements of the reference standards listed below, for the conditions specified.

- ASCE/SEI 7-10 Minimum Design Loads for Buildings and Other Structures (ASCE 7-10)
- 2015 International Building Code (IBC-2015).

General conditions:

- Risk Category I

Snow conditions (Ref. ASCE 7-10 Figure 7-1):

- Maximum Ground Snow Load (p_s): 30 psf

Wind Speed (Ref. ASCE 7-10 Figure 26.5-1C):

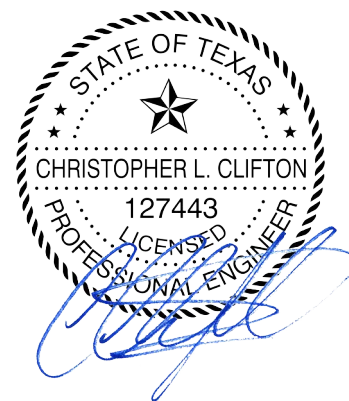
Exposure	Maximum Basic Wind Speed
B	250 mph
C	175 mph
D	140 mph

Building Conditions (Ref. ASCE 7-10 Figure 27.4-4):

Enclosure	Open
Roof type	Monoslope free roof
Roof pitch	<7.5 degrees
Wind direction	Any
Wind flow	Either clear or obstructed

Maximum Loads:

Lateral	4.3 kips
Vertical	41 psf
Maximum loads listed are unfactored and applied non-concurrently.	



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Founding Principal
Ökkem Design - Firm# 19296

NOTES

GENERAL: CENTER ALL FOOTINGS UNDER COLUMNS ABOVE. CONTRACTOR SHALL LOCATE ALL BURIED UTILITIES PRIOR TO EXCAVATION.

FOUNDATIONS: FOOTINGS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 1,500 PSF.

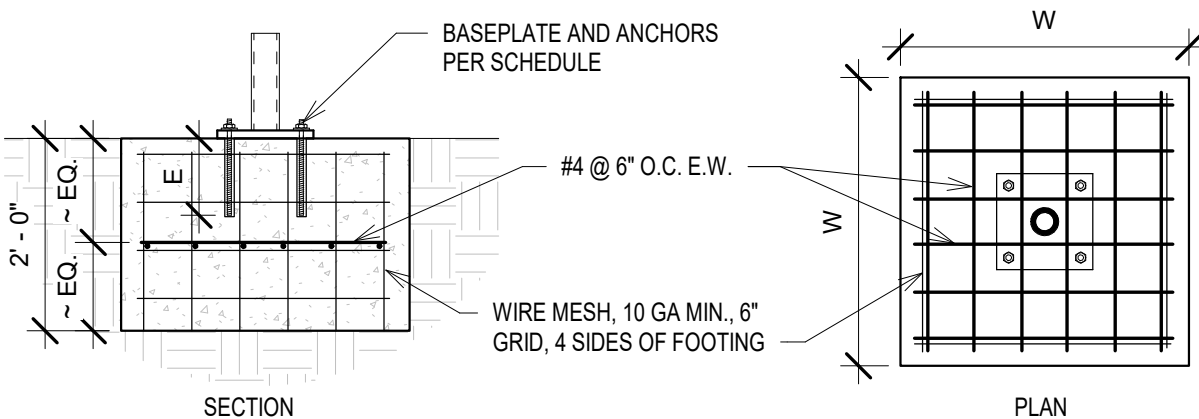
CONCRETE: CONCRETE STRENGTH SHALL BE AS FOLLOWS:

F'_c	W/C	<u>MIN CEMENT</u>	<u>MAX AGGREGATE SIZE</u>	<u>SLUMP</u>
3000 PSI	0.58	470 LBS	1"	4" (+/-) 1"

CEMENT SHALL CONFORM TO ASTM C150, TYPE 1. FLY ASH CONFORMING TO ASTM C618, TYPE F OR TYPE C, MAY BE USED TO REPLACE UP TO 20% OF THE CEMENT CONTENT. AGGREGATE SHALL CONFORM TO ASTM C33. CONCRETE SHALL BE CURED IMMEDIATELY AFTER FINISHING OPERATIONS.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, AND SHALL BE SECURELY TIED IN PLACE WITH #16 ANNEALED IRON WIRE. REQUIRED CLEAR CONCRETE COVER: 3" BOTTOM AND SIDES, 2" TOP.

ALL DETAILING AND ACCESSORIES SHALL CONFORM TO ACI DETAILING MANUAL SP-66. PROVIDE CHAIRS, SPACERS, BOLSTERS, AND ITEMS IN CONTACT WITH FORMS WITH HOT-DIP GALVANIZED LEGS OR PLASTIC LEGS. ACCURATELY POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT BY FORMWORK CONSTRUCTION OR CONCRETE PLACEMENT OPERATIONS.



FOOTING SCHEDULE

SEISMIC DESIGN CATEGORY	WIND SPEED EXP. C, RISK CAT. I	LATERAL LOAD ON CARPORT	W	BASE PLATE TYPE	ANCHOR TYPE AND SIZE	E, MIN.
A, B, C	90 MPH	1.2 K (WIND)	2' - 9"	STANDARD	HILTI 3/4" DIA. KWIK-BOLT TZ2	4 3/4"
	110 MPH	1.8 K (WIND)	3' - 2"	STANDARD	HILTI 3/4" DIA. KWIK-BOLT TZ2	4 3/4"
	130 MPH	2.5 K (WIND)	3' - 7"	STANDARD	HILTI 3/4" DIA. KWIK-BOLT TZ2	4 3/4"
	150 MPH	3.4 K (WIND)	4' - 1"	HIGH WIND	HILTI 3/4" DIA. HAS-V-36 ROD	9"
	175 MPH	4.3 K (WIND)	4' - 6"	HIGH WIND	HILTI 3/4" DIA. HAS-V-36 ROD	10"
D	175 MPH	10.7 K (SEISMIC)	5' - 3"	HIGH WIND	HILTI 3/4" DIA. HAS-E-55 ROD	12"
E	175 MPH	28.0 K (SEISMIC)	8' - 3"	HIGH SEISMIC	HILTI 1" DIA. HAS-E-55 ROD	12"

THE FOOTINGS AND ANCHORS SPECIFIED ABOVE WERE DESIGNED USING AN R VALUE OF 3.0 FOR DESIGN CATEGORIES A/B/C AND AN R VALUE OF 1.25 FOR DESIGN CATEGORIES D/E. THE SITE CLASS FOR ALL DESIGN CATEGORIES WAS ASSUMED TO BE D (STIFF SOIL).

ALL FOOTERS AND ANCHORS SPECIFIED FOR SEISMIC DESIGN CATEGORIES C, D, AND E ARE INTENDED AS A GUIDE ONLY. THEY DO NOT GUARANTEE PERFORMANCE ON ANY SPECIFIC SITE. SITE-SPECIFIC CERTIFICATIONS MAY REQUIRE ADDITIONAL ANALYSIS BY A LICENSED STRUCTURAL ENGINEER.