

NO.	DRAWN:	CHECKED:	REVIEWED:	APPROVED:	REVISIONS:
0	BushBr 9/27/2014				New Drawing
1	BushBr 3/5/2015				Adjusted Notes & Threaded Rods
2	BushBr 11/5/2015				Change Foundation Size, Dead Load Max, Update 2015
3	BushBr 11/17/2015				Change Foundation Size
4					
5					
6					
7					
8					

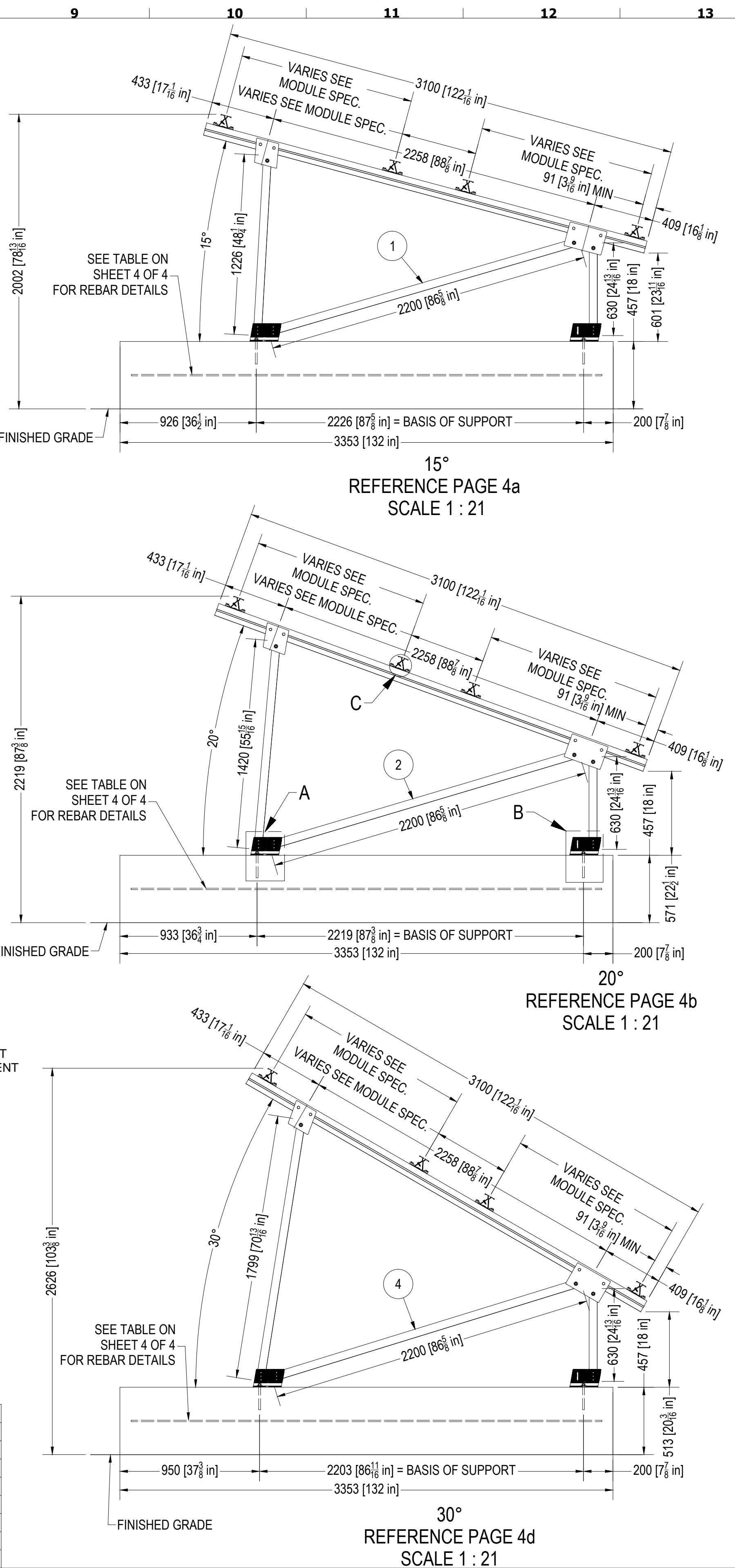
PARTS LIST		
ITEM	PART NUMBER	DESCRIPTION
1	146002-215	Standard, PvMax3, 60 Cell, 15°, Triangle
2	146002-220	Standard, PvMax3, 60 Cell, 20°, Triangle
3	146002-225	Standard, PvMax3, 60 Cell, 25°, Triangle
4	146002-230	Standard, PvMax3, 60 Cell, 30°, Triangle
5	146002-235	Standard, PvMax3, 60 Cell, 35°, Triangle
6	124303-001	Rail, S1.5, Custom
7	129303-000	Splice, S1.5, Kit



Standard PvMax, 60 Cell, 15° - 35°
Racking Structure
Dimensions and Specifications
ISSUED BY: SCHLETTER INC.
PROPRIETARY AND CONFIDENTIAL

Project Site:
Schletter Inc
1001 Commerce Center Dr
Shelby, NC 28150

Drawing Number:
v.01
JOB NUMBER: v
SHEET: 1 of 4
SCALE:
SEE DRAWING VIEWS



DESIGN CRITERIA:
FOR STRUCTURAL DESIGN INFORMATION AND APPLICABLE BUILDING CODES,
REFERENCE ACCOMPANYING LETTER OF ACCEPTANCE AND CALCULATIONS.

LOADS:
MODULE DEAD LOAD = MAX 3.0 PSF, MIN 1.75 PSF
SNOW LOAD = SEE TABLE FOR SPECIFIC SNOW LOAD (Is = 1.00, Ct= 1.20, Ce = 0.90, Cs = SEE TABLE)

WIND DESIGN:
DESIGN BASED UPON WIND TUNNEL TEST REPORT # RC 1127/0611_1e
BASIC WIND SPEED = SEE TABLE FOR SPECIFIC WIND SPEED
EXPOSURE: C
RISK CATEGORY = II (ASCE 7-10)
Iw = 1.0 (ASCE 7-05)

SEISMIC LOADS:
SEISMIC DESIGN CATEGORY: E
SOIL SITE CLASS = D
Sds = 1.67 SD1 = 1.0
Ie = 1.0 SS = 2.5
S1 = 1.0 R = 1.25

INSTALLATION TOLERANCES:
ARRAY TILT ANGULAR TOLERANCE ±1.0°
LATERAL SUPPORT PLACEMENT IS ±2.5°
SUPPORT HEIGHT VARIATION TOLERANCE IS ±0.5°
TOTAL LATERAL DEVIATION OF SUPPORTS WITHIN AN ARRAY IS ±2.5°

GENERAL:
1. THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE.
THEY DO NOT INDICATE THE METHOD OR SEQUENCE OF CONSTRUCTION. THE
CONTRACTOR SHALL BE RESPONSIBLE FOR AND PROVIDE ALL MEASURES NECESSARY TO
PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE,
BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION
EQUIPMENT, ETC. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE
CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES FOR PROCEDURE OF
CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERE TO
(NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE INSPECTION OF THESE
ITEMS). THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND
IMPLEMENTATION OF ALL SCAFFOLDING, BRACING AND SHORING.
2. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH
STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDA.

ALUMINUM:
1. ALL ALUMINUM SHALL CONFORM WITH THE LATEST ALUMINUM DESIGN HANDBOOK.
2. ALL ALUMINUM SECTIONS SHALL BE:
a. SEMI-HOLLOW AND HOLLOW SHALL BE 6105-T5, 6005A-T6, OR 6005-T5
b. SOLIDS SHALL BE 6063-T6

STEEL:
1. ALL BOLTS AND WASHERS SHALL BE 304 STAINLESS STEEL CLASS 2 (A2-70).
2. ALL NUTS SHALL BE 316 STAINLESS STEEL CLASS 2 (A4-70).

TORQUE:
TORX BOLT FOR RAPID 2+ MODULE CLAMPS IS 14 N-M (10.5 FT-LBS)
M6 AND 1/4" BOLT TORQUE IS 6 N-M (4.5 FT-LBS)
M8 AND 5/16" BOLT TORQUE IS 14 N-M (10.5 FT-LBS)
M10 AND 3/8" BOLT TORQUE IS 30 N-M (23 FT-LBS)
M12 AND 1/2" BOLT TORQUE IS 50 N-M (37 FT-LBS)
M16 AND 5/8" BOLT TORQUE IS 121 N-M (89 FT-LBS)
M20 AND 3/4" BOLT TORQUE IS 244 N-M (180 FT-LBS)

MODULE SIZE:
RACKING SYSTEM DESIGNED FOR MODULE SIZE: MINIMUM = 1550 X 970
VERTICAL MODULE GAP: 23 mm MAXIMUM = 1700 X 1050
HORIZONTAL MODULE GAP: 5 mm

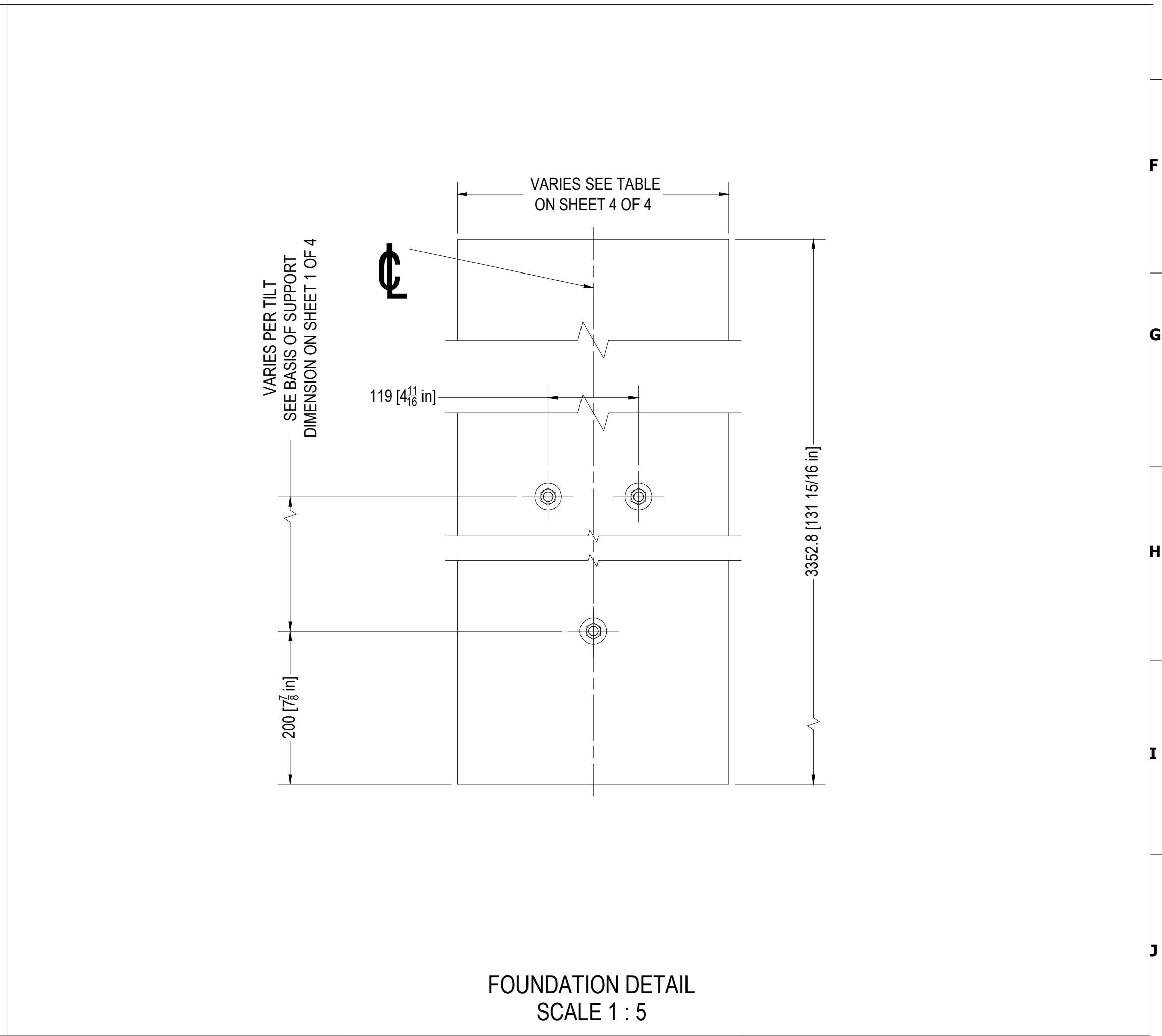
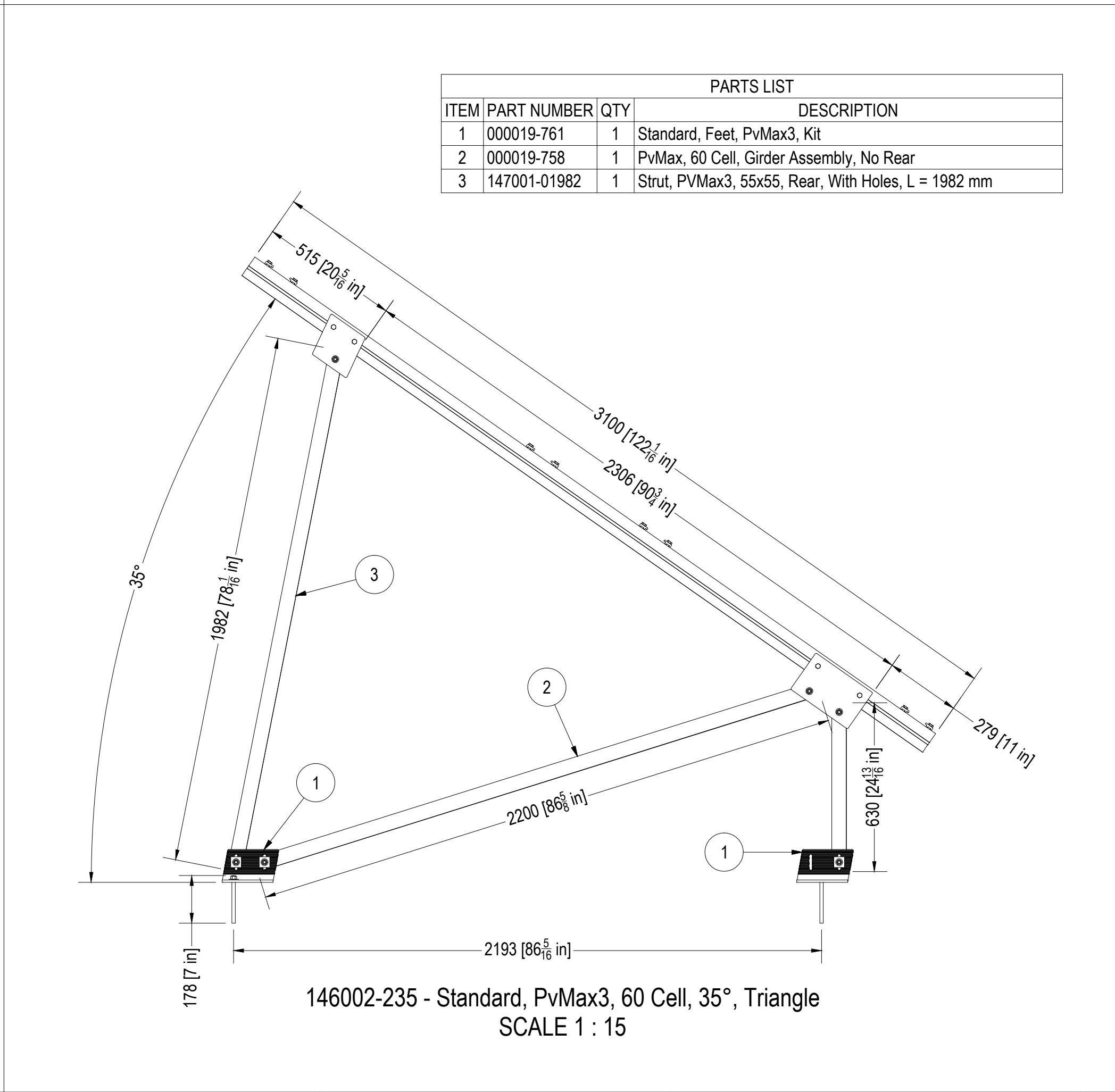
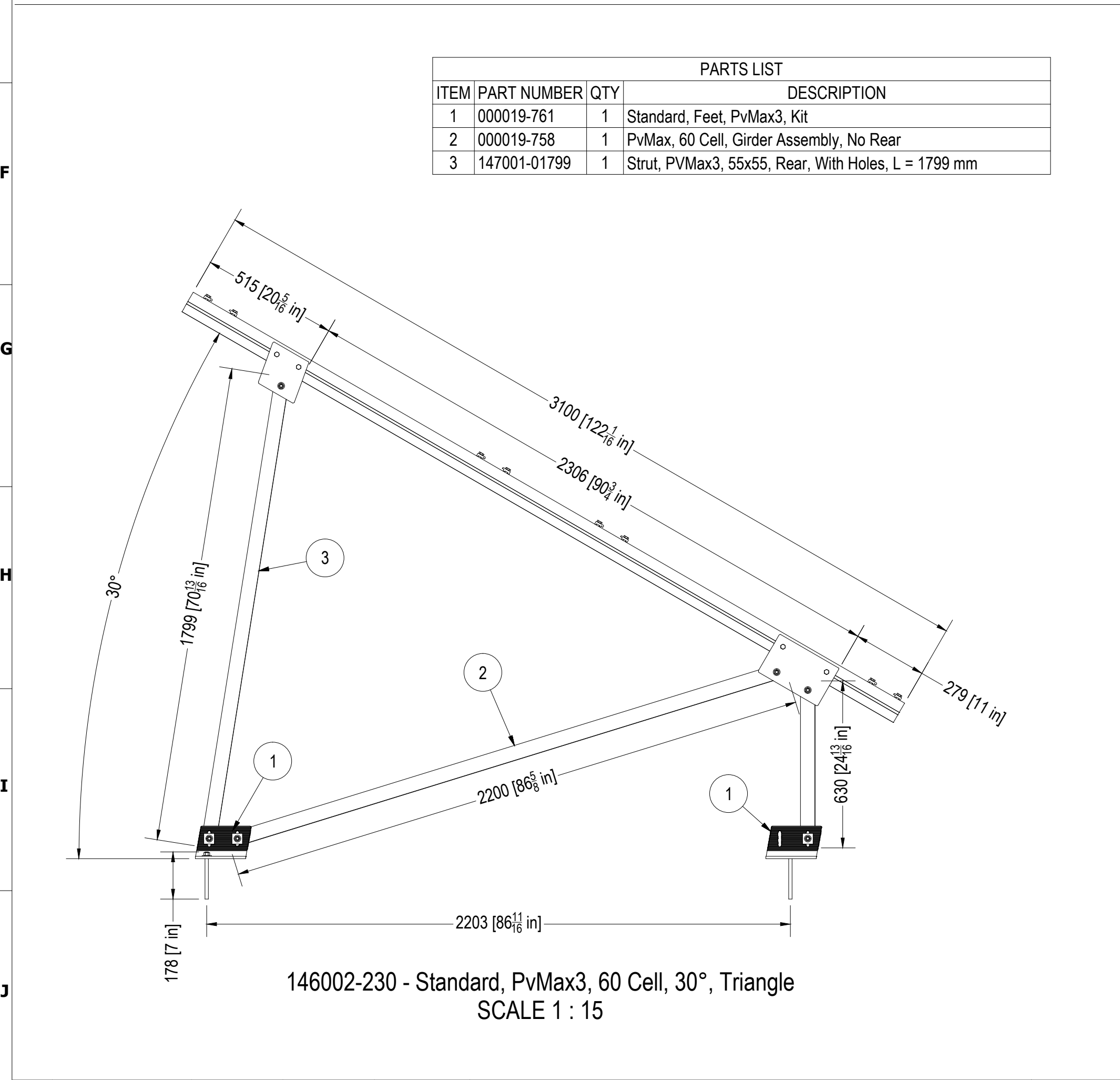
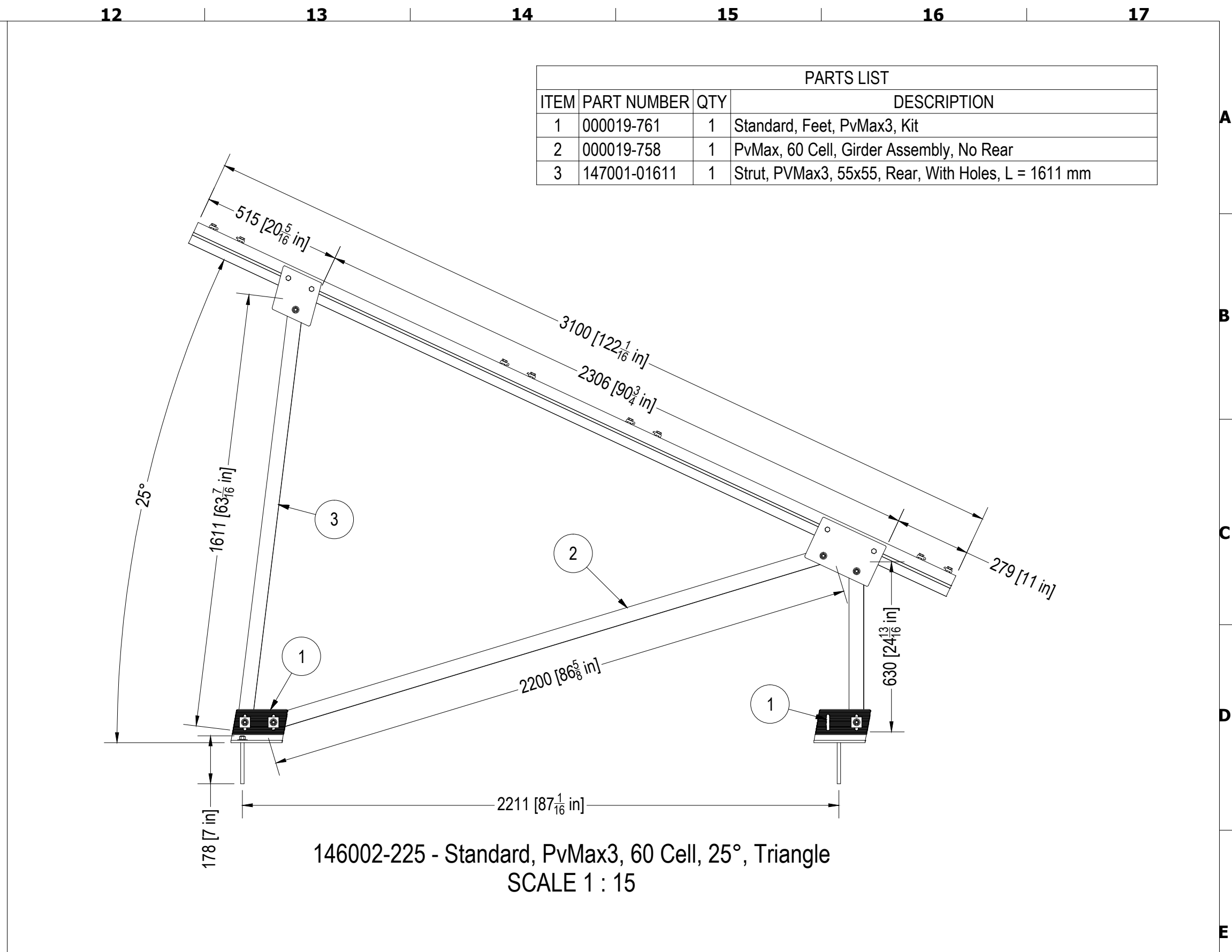
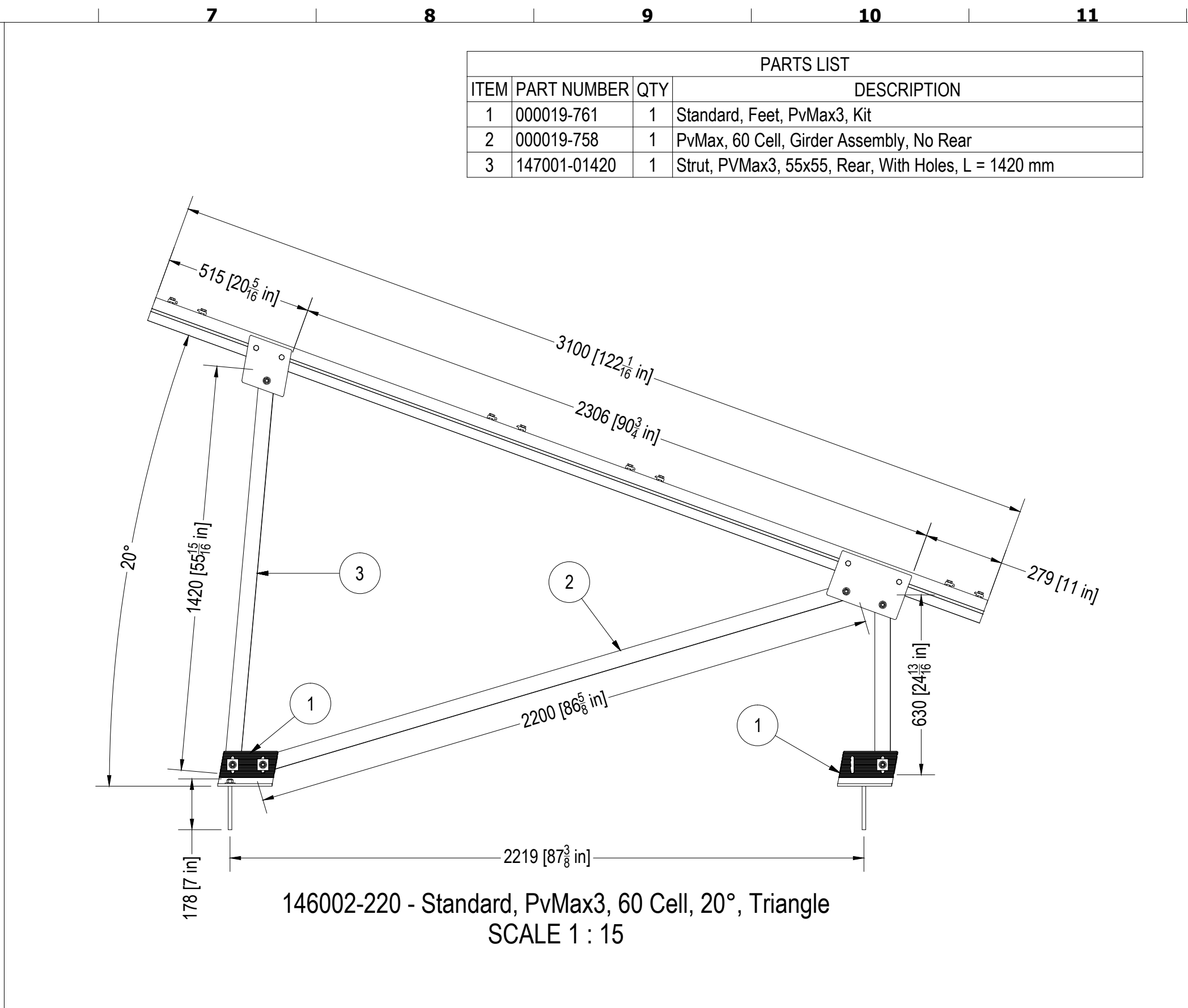
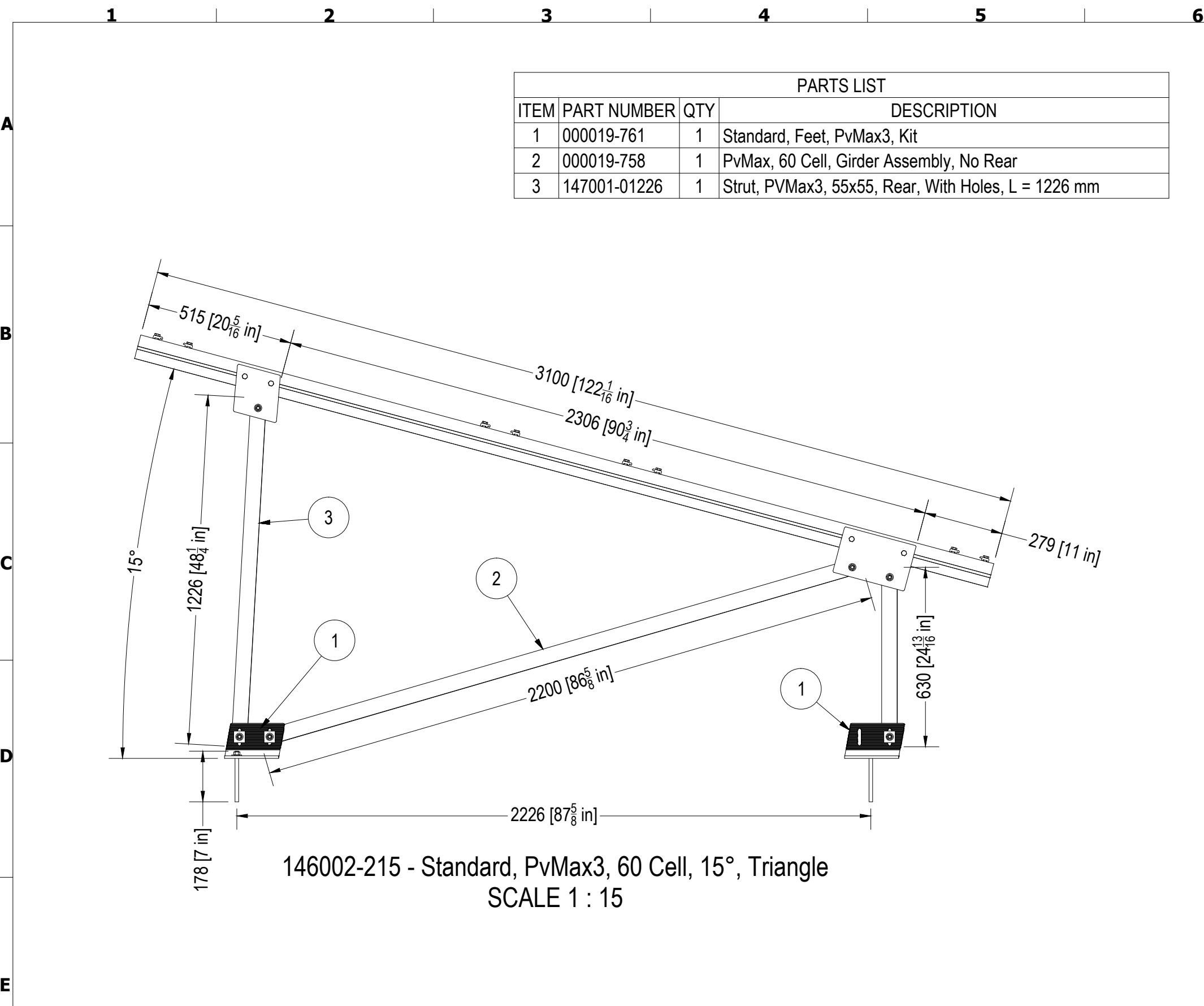
NOTE:
1. MODULES MUST BE CENTERED ON ARRAY
2. ARRAY LENGTH NOT TO EXCEED 150 FT
3. RECOMMENDED SPEED FOR INSTALLATION OF SELF-DRILLING 1/4" DIAMETER
SCREWS IS 1200-1800 RPMs.

FOUNDATIONS:
1. NO SOILS REPORT PROVIDED. FOUNDATION DESIGN IS BASED ON MINIMUM IBC SOIL BEARING
VALUE = 1500 PSF PER IBC TABLE 1804.2 (2003, 2006), & 1806.2 (2009, 2012, 2015). BALLAST BLOCKS
SHALL BE BUILT ON UNDISTURBED SOIL OR COMPACTED FILL MATERIAL NOT LESS THAN 12" IN DEPTH.
2. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR ANY GEOTECHNICAL ASPECTS OF
THIS PROJECT. IT IS RECOMMENDED THAT THE OWNER RETAIN A REGISTERED
GEOTECHNICAL ENGINEER TO CONDUCT A GEOTECHNICAL INVESTIGATION AND PREPARE A
REPORT WITH RECOMMENDATIONS FOR FOUNDATION AND EARTHWORK PROCEDURES.

CONCRETE:
1. ALL CONCRETE WORK SHALL CONFORM WITH THE REQUIREMENTS OF ACI 301 AND ACI 318.
CEMENT PER ASTM C150, TYPE II. AGGREGATE PER ASTM C33. CONCRETE SHALL BE READY
MIXED IN ACCORDANCE WITH ASTM C94 AND SHALL BE DESIGNED FOR A MINIMUM 28 DAY
COMPRESSIVE STRENGTH AS FOLLOWS:
FOUNDATIONS.....3,000 PSI*
*DESIGNED FOR 2,500 PSI
2. FIBER REINFORCEMENT USED IN CONCRETE SHALL BE BASF MASTERFIBER MAC 100 OR
EQUIVALENT. THE AMOUNT TO BE MIXED IN CONCRETE IS 3LB/CU. YD

REINFORCING:
1. REINFORCING STEEL SHALL CONFORM TO ASTM A615 (Fy=60ksi) DEFORMED BARS. NO TACK
WELDING OF REINFORCING BARS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE WITH
THE STRUCTURAL ENGINEER. LATEST ACI CODE AND DETAILING MANUAL APPLY.
2. ACCURATELY PLACE OR SUPPORT ALL REINFORCING TO HAVE A CLEAR CONCRETE
COVERAGE OF 3"

POST-INSTALLED ANCHORS:
1. ADHESIVE BOLTS OR DOWELS SHALL BE A THREADED ROD OR REINFORCING STEEL INSTALLED
WITH THE FOLLOWING APPROVED PRODUCT SATISFYING CRACKED CONCRETE
REQUIREMENTS IN ACCORDANCE WITH ACI 318, APPENDIX D.
SIMPSON "AT-XP" IAPMO UES ER - 263
2. THE CONTRACTOR MAY NOT USE SUBSTITUTES FOR ADHESIVE ANCHORS
WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.
3. FOR MINIMUM EMBEDMENT LENGTH SEE DETAILS. INSTALL ALL BOLTS AS OUTLINED IN
MANUFACTURER'S SPECIFICATIONS, UTILIZING PROPER SIZE AND TYPE OF DRILL,
CLEANING HOLE, PLACING OF ADHESIVE, INSERTING AND TIGHTENING BOLT.
4. PERIODIC INSPECTION OF POST-INSTALLED ANCHORS IS REQUIRED



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4					
5					
6					
7					
8					

Client:
Schletter Inc
2201 North Forbes Boulevard
Tucson, AZ 85745



Standard PvMax, 60 Cell, 15° - 35°
Racking Structure
Details and Parts List
ISSUED BY: SCHLETTER INC.
PROPRIETARY AND CONFIDENTIAL

Project Site:
Schletter Inc
1001 Commerce Center Dr
Shelby, NC 28150

Drawing Number:
v.01
JOB NUMBER: v SCALE:
SHEET: 2 of 4 SEE DRAWING VIEWS

Slope Factor By Tilt	
Tilt	Cs
15°	1.00
20°	0.91
25°	0.82
30°	0.73
35°	0.64

ASCE 7-05													
TILT	MAX WIND	GROUND SNOW	ROOF SNOW	MAX SPAN	FRONT CONNECTION			REAR CONNECTION			BALLAST WIDTH	# OF REBAR	
					TENSION	COMPRESSION	SHEAR	TENSION	COMPRESSION	SHEAR			
15°	85 MPH	0 PSF	0.00 PSF	14.00 FT	1.36 KIP	3.37 KIP	0.00 KIP	4.86 KIP	3.51 KIP	1.78 KIP	27 IN	(2) #5	
		10 PSF	7.56 PSF	14.00 FT	1.36 KIP	3.82 KIP	0.01 KIP	4.86 KIP	3.97 KIP	1.78 KIP	27 IN	(2) #5	
		20 PSF	15.12 PSF	12.00 FT	1.16 KIP	4.13 KIP	0.01 KIP	4.15 KIP	4.29 KIP	1.52 KIP	23 IN	(1) #5	
		30 PSF	22.68 PSF	10.50 FT	1.01 KIP	4.68 KIP	0.01 KIP	3.62 KIP	4.86 KIP	1.33 KIP	21 IN	(1) #5	
		40 PSF	30.24 PSF	9.50 FT	0.91 KIP	5.19 KIP	0.01 KIP	3.27 KIP	5.38 KIP	1.20 KIP	19 IN	(1) #5	
		50 PSF	37.80 PSF	8.00 FT	0.76 KIP	5.17 KIP	0.01 KIP	2.73 KIP	5.34 KIP	1.00 KIP	16 IN	(1) #5	
	90 MPH	60 PSF	45.36 PSF	7.25 FT	0.68 KIP	5.40 KIP	0.01 KIP	2.46 KIP	5.56 KIP	0.91 KIP	14 IN	(1) #5	
		0 PSF	0.00 PSF	13.00 FT	1.44 KIP	3.45 KIP	0.00 KIP	5.08 KIP	3.59 KIP	1.85 KIP	29 IN	(2) #5	
		10 PSF	7.56 PSF	13.00 FT	1.44 KIP	3.86 KIP	0.01 KIP	5.08 KIP	4.02 KIP	1.85 KIP	29 IN	(2) #5	
		20 PSF	15.12 PSF	11.75 FT	1.30 KIP	4.19 KIP	0.01 KIP	4.58 KIP	4.35 KIP	1.67 KIP	26 IN	(2) #5	
		30 PSF	22.68 PSF	10.25 FT	1.13 KIP	4.69 KIP	0.01 KIP	3.98 KIP	4.87 KIP	1.45 KIP	23 IN	(1) #5	
		40 PSF	30.24 PSF	9.25 FT	1.01 KIP	5.17 KIP	0.01 KIP	3.58 KIP	5.35 KIP	1.31 KIP	20 IN	(1) #5	
15°	100 MPH	50 PSF	37.80 PSF	8.00 FT	0.87 KIP	5.26 KIP	0.01 KIP	3.08 KIP	5.44 KIP	1.12 KIP	18 IN	(1) #5	
		60 PSF	45.36 PSF	7.00 FT	0.75 KIP	5.29 KIP	0.01 KIP	2.67 KIP	5.45 KIP	0.97 KIP	15 IN	(1) #5	
		0 PSF	0.00 PSF	11.75 FT	1.66 KIP	3.74 KIP	0.00 KIP	5.71 KIP	3.88 KIP	2.07 KIP	32 IN	(2) #5	
		10 PSF	7.56 PSF	11.75 FT	1.66 KIP	4.11 KIP	0.01 KIP	5.71 KIP	4.27 KIP	2.07 KIP	32 IN	(2) #5	
		20 PSF	15.12 PSF	11.50 FT	1.62 KIP	4.40 KIP	0.01 KIP	5.59 KIP	4.57 KIP	2.02 KIP	31 IN	(2) #5	
		30 PSF	22.68 PSF	10.00 FT	1.40 KIP	4.84 KIP	0.01 KIP	4.84 KIP	5.02 KIP	1.75 KIP	27 IN	(2) #5	
	110 MPH	40 PSF	30.24 PSF	8.75 FT	1.22 KIP	5.11 KIP	0.01 KIP	4.22 KIP	5.29 KIP	1.53 KIP	24 IN	(2) #5	
		50 PSF	37.80 PSF	7.75 FT	1.07 KIP	5.30 KIP	0.01 KIP	3.71 KIP	5.47 KIP	1.34 KIP	21 IN	(1) #5	
		60 PSF	45.36 PSF	7.00 FT	0.96 KIP	5.47 KIP	0.01 KIP	3.33 KIP	5.63 KIP	1.21 KIP	19 IN	(1) #5	
		0 PSF	0.00 PSF	10.75 FT	1.87 KIP	4.05 KIP	0.00 KIP	6.35 KIP	4.20 KIP	2.29 KIP	36 IN	(3) #5	
		10 PSF	7.56 PSF	10.75 FT	1.87 KIP	4.39 KIP	0.00 KIP	6.35 KIP	4.56 KIP	2.29 KIP	36 IN	(3) #5	
		20 PSF	15.12 PSF	10.75 FT	1.87 KIP	4.73 KIP	0.01 KIP	6.35 KIP	4.91 KIP	2.29 KIP	36 IN	(3) #5	
120 MPH	110 MPH	30 PSF	22.68 PSF	9.75 FT	1.69 KIP	5.00 KIP	0.01 KIP	5.75 KIP	5.19 KIP	2.07 KIP	32 IN	(2) #5	
		40 PSF	30.24 PSF	8.50 FT	1.46 KIP	5.21 KIP	0.01 KIP	4.99 KIP	5.39 KIP	1.79 KIP	28 IN	(2) #5	
		50 PSF	37.80 PSF	7.50 FT	1.28 KIP	5.34 KIP	0.01 KIP	4.37 KIP	5.51 KIP	1.57 KIP	25 IN	(2) #5	
		60 PSF	45.36 PSF	6.75 FT	1.15 KIP	5.46 KIP	0.01 KIP	3.91 KIP	5.62 KIP	1.40 KIP	22 IN	(1) #5	
		0 PSF	0.00 PSF	9.75 FT	2.05 KIP	4.29 KIP	0.00 KIP	6.87 KIP	4.45 KIP	2.47 KIP	39 IN	(3) #5	
		10 PSF	7.56 PSF	9.75 FT	2.05 KIP	4.60 KIP	0.00 KIP	6.87 KIP	4.77 KIP	2.47 KIP	39 IN	(3) #5	
	120 MPH	20 PSF	15.12 PSF	9.75 FT	2.05 KIP	4.91 KIP	0.01 KIP	6.87 KIP	5.09 KIP	2.47 KIP	39 IN	(3) #5	
		30 PSF	22.68 PSF	9.25 FT	1.94 KIP	5.04 KIP	0.01 KIP	6.51 KIP	5.22 KIP	2.34 KIP	37 IN	(3) #5	
		40 PSF	30.24 PSF	8.00 FT	1.66 KIP	5.15 KIP	0.01 KIP	5.60 KIP	5.32 KIP	2.01 KIP	32 IN	(2) #5	
		50 PSF	37.80 PSF	7.25 FT	1.50 KIP	5.38 KIP	0.01 KIP	5.05 KIP	5.55 KIP	1.81 KIP	29 IN	(2) #5	
		60 PSF	45.36 PSF	6.50 FT	1.33 KIP	5.46 KIP	0.01 KIP	4.49 KIP	5.61 KIP	1.60 KIP	25 IN	(2) #5	
		0 PSF	0.00 PSF	9.00 FT	2.24 KIP	4.58 KIP	0.00 KIP	7.46 KIP	4.74 KIP	2.67 KIP	42 IN	(3) #5	
130 MPH	130 MPH	10 PSF	7.56 PSF	9.00 FT	2.24 KIP	4.86 KIP	0.00 KIP	7.46 KIP	5.04 KIP	2.67 KIP	42 IN	(3) #5	
		20 PSF	15.12 PSF	8.50 FT	2.11 KIP	4.85 KIP	0.00 KIP	7.03 KIP	5.03 KIP	2.51 KIP	40 IN	(3) #5	
		30 PSF	22.68 PSF	8.25 FT	2.04 KIP	4.97 KIP	0.01 KIP	6.81 KIP	5.14 KIP	2.43 KIP	38 IN	(3) #5	
		40 PSF	30.24 PSF	7.75 FT	1.91 KIP	5.25 KIP	0.01 KIP	6.38 KIP	5.42 KIP	2.28 KIP	36 IN	(3) #5	
		50 PSF	37.80 PSF	6.75 FT	1.65 KIP	5.23 KIP	0.01 KIP	5.51 KIP	5.38 KIP	1.96 KIP	31 IN	(2) #5	
		60 PSF	45.36 PSF	6.25 FT	1.52 KIP	5.45 KIP	0.01 KIP	5.08 KIP	5.59 KIP	1.80 KIP	29 IN	(2) #5	
	140 MPH	0 PSF	0.00 PSF	13.50 FT	1.38 KIP	3.38 KIP	0.00 KIP	4.91 KIP	3.51 KIP	1.80 KIP	27 IN	(2) #5	
		10 PSF	7.56 PSF	13.50 FT	1.38 KIP	3.81 KIP	0.01 KIP	4.91 KIP	3.96 KIP	1.80 KIP	27 IN	(2) #5	
		20 PSF	15.12 PSF	12.00 FT	1.22 KIP	4.19 KIP	0.01 KIP	4.36 KIP	4.35 KIP	1.59 KIP	24 IN	(2) #5	
		30 PSF	22.68 PSF	10.50 FT	1.07 KIP	4.73 KIP	0.01 KIP	3.80 KIP	4.91 KIP	1.39 KIP	21 IN	(1) #5	
		40 PSF	30.24 PSF	9.25 FT	0.93 KIP	5.10 KIP	0.01 KIP	3.33 KIP	5.28 KIP	1.22 KIP	18 IN	(1) #5	
		50 PSF	37.80 PSF	8.00 FT	0.80 KIP	5.20 KIP	0.01 KIP	2.86 KIP	5.38 KIP	1.05 KIP	16 IN	(1) #5	
150 MPH	60 PSF	45.36 PSF	7.25 FT	0.72 KIP	5.43 KIP	0.01 KIP	2.58 KIP	5.60 KIP	0.95 KIP	14 IN	(1) #5		
	0 PSF	0.00 PSF	13.00 FT	1.48 KIP	3.51 KIP	0.00 KIP	5.19 KIP	3.65 KIP	1.89 KIP	28 IN	(2) #5		
	10 PSF	7.56 PSF	13.00 FT	1.48 KIP	3.92 KIP	0.01 KIP	5.19 KIP	4.08 KIP	1.89 KIP	28 IN	(2) #5		
	20 PSF	15.12 PSF	11.75 FT	1.33 KIP	4.21 KIP	0.01 KIP	4.68 KIP	4.38 KIP	1.71 KIP	25 IN	(2) #5		
	30 PSF	22.68 PSF	10.25 FT	1.15 KIP	4.71 KIP	0.01 KIP	4.07 KIP	4.89 KIP	1.48 KIP	22 IN	(1) #5		
	40 PSF	30.24 PSF	9.25 FT	1.04 KIP	5.19 KIP	0.01 KIP	3.66 KIP	5.38 KIP	1.34 KIP	20 IN	(1) #5		

Slope Factor By Tilt	
Tilt	C _s
15°	1.00
20°	0.91
25°	0.82
30°	0.73
35°	0.64

ASCE 7-05												
TILT	MAX WIND	GROUND SNOW	ROOF SNOW	MAX SPAN	FRONT CONNECTION			REAR CONNECTION			BALLAST WIDTH	# OF REBAR
					TENSION	COMPRESSION	SHEAR	TENSION	COMPRESSION	SHEAR		
85 MPH		0 PSF	0.00 PSF	13.50 FT	0.94 KIP	3.03 KIP	0.00 KIP	5.04 KIP	3.65 KIP	2.33 KIP	28 IN	(2) #5
		10 PSF	6.87 PSF	13.50 FT	0.94 KIP	3.41 KIP	0.01 KIP	5.04 KIP	4.04 KIP	2.33 KIP	28 IN	(2) #5
		20 PSF	13.75 PSF	12.00 FT	0.83 KIP	3.74 KIP	0.01 KIP	4.47 KIP	4.08 KIP	2.07 KIP	25 IN	(2) #5
		30 PSF	20.62 PSF	10.50 FT	0.72 KIP	4.22 KIP	0.01 KIP	3.90 KIP	4.53 KIP	1.80 KIP	21 IN	(1) #5
		40 PSF	27.49 PSF	9.50 FT	0.65 KIP	4.67 KIP	0.01 KIP	3.52 KIP	4.96 KIP	1.63 KIP	19 IN	(1) #5
		50 PSF	34.36 PSF	8.75 FT	0.60 KIP	5.08 KIP	0.01 KIP	3.23 KIP	5.35 KIP	1.49 KIP	18 IN	(1) #5
90 MPH		60 PSF	41.42 PSF	8.00 FT	0.54 KIP	5.35 KIP	0.01 KIP	2.94 KIP	5.60 KIP	1.36 KIP	16 IN	(1) #5
		0 PSF	0.00 PSF	12.75 FT	1.02 KIP	3.15 KIP	0.00 KIP	5.36 KIP	3.80 KIP	2.47 KIP	29 IN	(2) #5
		10 PSF	6.87 PSF	12.75 FT	1.02 KIP	3.51 KIP	0.01 KIP	5.36 KIP	4.17 KIP	2.47 KIP	29 IN	(2) #5
		20 PSF	13.75 PSF	12.00 FT	0.96 KIP	3.88 KIP	0.01 KIP	5.04 KIP	4.27 KIP	2.32 KIP	28 IN	(2) #5
		30 PSF	20.62 PSF	10.50 FT	0.83 KIP	4.34 KIP	0.01 KIP	4.40 KIP	4.67 KIP	2.02 KIP	24 IN	(2) #5
		40 PSF	27.49 PSF	9.50 FT	0.75 KIP	4.77 KIP	0.01 KIP	3.97 KIP	5.09 KIP	1.83 KIP	22 IN	(1) #5
100 MPH		50 PSF	34.36 PSF	8.50 FT	0.67 KIP	5.03 KIP	0.01 KIP	3.54 KIP	5.31 KIP	1.63 KIP	20 IN	(1) #5
		60 PSF	41.42 PSF	7.75 FT	0.60 KIP	5.27 KIP	0.01 KIP	3.21 KIP	5.52 KIP	1.47 KIP	18 IN	(1) #5
		0 PSF	0.00 PSF	11.50 FT	1.18 KIP	3.40 KIP	0.00 KIP	6.01 KIP	4.12 KIP	2.75 KIP	33 IN	(2) #5
		10 PSF	6.87 PSF	11.50 FT	1.18 KIP	3.72 KIP	0.01 KIP	6.01 KIP	4.45 KIP	2.75 KIP	33 IN	(2) #5
		20 PSF	13.75 PSF	11.50 FT	1.18 KIP	4.05 KIP	0.01 KIP	6.01 KIP	4.79 KIP	2.75 KIP	33 IN	(2) #5
		30 PSF	20.62 PSF	10.25 FT	1.05 KIP	4.48 KIP	0.01 KIP	5.34 KIP	4.87 KIP	2.44 KIP	29 IN	(2) #5
110 MPH		40 PSF	27.49 PSF	9.25 FT	0.94 KIP	4.87 KIP	0.01 KIP	4.81 KIP	5.23 KIP	2.20 KIP	26 IN	(2) #5
		50 PSF	34.36 PSF	8.50 FT	0.86 KIP	5.23 KIP	0.01 KIP	4.40 KIP	5.56 KIP	2.01 KIP	24 IN	(2) #5
		60 PSF	41.42 PSF	7.50 FT	0.76 KIP	5.27 KIP	0.01 KIP	3.86 KIP	5.55 KIP	1.76 KIP	21 IN	(1) #5
		0 PSF	0.00 PSF	10.50 FT	1.34 KIP	3.67 KIP	0.00 KIP	6.67 KIP	4.46 KIP	3.03 KIP	36 IN	(3) #5
		10 PSF	6.87 PSF	10.50 FT	1.34 KIP	3.96 KIP	0.01 KIP	6.67 KIP	4.76 KIP	3.03 KIP	36 IN	(3) #5
		20 PSF	13.75 PSF	10.50 FT	1.34 KIP	4.25 KIP	0.01 KIP	6.67 KIP	5.06 KIP	3.03 KIP	36 IN	(3) #5
120 MPH		30 PSF	20.62 PSF	9.75 FT	1.24 KIP	4.52 KIP	0.01 KIP	6.18 KIP	4.97 KIP	2.81 KIP	34 IN	(2) #5
		40 PSF	27.49 PSF	9.00 FT	1.14 KIP	4.98 KIP	0.01 KIP	5.69 KIP	5.38 KIP	2.59 KIP	31 IN	(2) #5
		50 PSF	34.36 PSF	8.00 FT	1.01 KIP	5.13 KIP	0.01 KIP	5.03 KIP	5.48 KIP	2.28 KIP	28 IN	(2) #5
		60 PSF	41.42 PSF	7.25 FT	0.91 KIP	5.29 KIP	0.01 KIP	4.54 KIP	5.60 KIP	2.06 KIP	25 IN	(2) #5
		0 PSF	0.00 PSF	9.50 FT	1.48 KIP	3.87 KIP	0.00 KIP	7.20 KIP	4.71 KIP	3.26 KIP	39 IN	(3) #5
		10 PSF	6.87 PSF	9.50 FT	1.48 KIP	4.14 KIP	0.00 KIP	7.20 KIP	4.99 KIP	3.26 KIP	39 IN	(3) #5
130 MPH		20 PSF	13.75 PSF	9.50 FT	1.48 KIP	4.40 KIP	0.01 KIP	7.20 KIP	5.26 KIP	3.26 KIP	39 IN	(3) #5
		30 PSF	20.62 PSF	9.00 FT	1.40 KIP	4.43 KIP	0.01 KIP	6.81 KIP	5.23 KIP	3.08 KIP	37 IN	(3) #5
		40 PSF	27.49 PSF	8.50 FT	1.31 KIP	4.95 KIP	0.01 KIP	6.41 KIP	5.38 KIP	2.90 KIP	35 IN	(2) #5
		50 PSF	34.36 PSF	7.75 FT	1.19 KIP	5.19 KIP	0.01 KIP	5.82 KIP	5.58 KIP	2.63 KIP	32 IN	(2) #5
		60 PSF	41.42 PSF	7.00 FT	1.07 KIP	5.30 KIP	0.01 KIP	5.23 KIP	5.64 KIP	2.36 KIP	29 IN	(2) #5
		0 PSF	0.00 PSF	8.25 FT	1.52 KIP	3.88 KIP	0.00 KIP	7.32 KIP	4.72 KIP	3.30 KIP	40 IN	(3) #5
140 MPH		10 PSF	6.87 PSF	8.25 FT	1.52 KIP	4.11 KIP	0.00 KIP	7.32 KIP	4.95 KIP	3.30 KIP	40 IN	(3) #5
		20 PSF	13.75 PSF	8.25 FT	1.52 KIP	4.34 KIP	0.01 KIP	7.32 KIP	5.19 KIP	3.30 KIP	40 IN	(3) #5
		30 PSF	20.62 PSF	8.25 FT	1.52 KIP	4.57 KIP	0.01 KIP	7.32 KIP	5.42 KIP	3.30 KIP	40 IN	(3) #5
		40 PSF	27.49 PSF	8.00 FT	1.47 KIP	4.90 KIP	0.01 KIP	7.09 KIP	5.48 KIP	3.20 KIP	39 IN	(3) #5
		50 PSF	34.36 PSF	7.25 FT	1.33 KIP	5.08 KIP	0.01 KIP	6.39 KIP	5.48 KIP	2.88 KIP	35 IN	(2) #5
		60 PSF	41.42 PSF	6.75 FT	1.23 KIP	5.32 KIP	0.01 KIP	5.93 KIP	5.68 KIP	2.66 KIP	33 IN	(2) #5

Slope Factor By Tilt	
Tilt	C _s
15°	1.00
20°	0.91
25°	0.82
30°	0.73
35°	0.64

ASCE 7-05													
TILT	MAX WIND	GROUND SNOW	ROOF SNOW	MAX SPAN	FRONT CONNECTION			REAR CONNECTION			BALLAST WIDTH	# OF REBAR	
					TENSION	COMPRESSION	SHEAR	TENSION	COMPRESSION	SHEAR			
25°	85 MPH	0 PSF	0.00 PSF	13.25 FT	0.49 KIP	2.70 KIP	0.00 KIP	5.32 KIP	3.86 KIP	2.90 KIP	28 IN	(2) #5	
		10 PSF	6.19 PSF	13.25 FT	0.49 KIP	3.02 KIP	0.01 KIP	5.32 KIP	4.18 KIP	2.90 KIP	28 IN	(2) #5	
		20 PSF	12.37 PSF	12.25 FT	0.45 KIP	3.41 KIP	0.01 KIP	4.91 KIP	4.16 KIP	2.68 KIP	26 IN	(2) #5	
		30 PSF	18.56 PSF	10.75 FT	0.39 KIP	3.83 KIP	0.02 KIP	4.29 KIP	4.29 KIP	2.34 KIP	23 IN	(1) #5	
		40 PSF	24.74 PSF	9.75 FT	0.35 KIP	4.24 KIP	0.02 KIP	3.88 KIP	4.64 KIP	2.12 KIP	21 IN	(1) #5	
		50 PSF	30.39 PSF	9.00 FT	0.32 KIP	4.61 KIP	0.02 KIP	3.57 KIP	4.97 KIP	1.95 KIP	19 IN	(1) #5	
	90 MPH	60 PSF	37.11 PSF	8.25 FT	0.29 KIP	4.87 KIP	0.02 KIP	3.26 KIP	5.17 KIP	1.78 KIP	18 IN	(1) #5	
		0 PSF	0.00 PSF	12.50 FT	0.54 KIP	2.79 KIP	0.00 KIP	5.64 KIP	4.02 KIP	3.07 KIP	30 IN	(2) #5	
		10 PSF	6.19 PSF	12.50 FT	0.54 KIP	3.10 KIP	0.01 KIP	5.64 KIP	4.32 KIP	3.07 KIP	30 IN	(2) #5	
		20 PSF	12.37 PSF	12.00 FT	0.52 KIP	3.46 KIP	0.01 KIP	5.41 KIP	4.44 KIP	2.94 KIP	29 IN	(2) #5	
		30 PSF	18.56 PSF	10.75 FT	0.46 KIP	3.94 KIP	0.02 KIP	4.84 KIP	4.45 KIP	2.63 KIP	26 IN	(2) #5	
		40 PSF	24.74 PSF	9.50 FT	0.41 KIP	4.22 KIP	0.02 KIP	4.26 KIP	4.66 KIP	2.32 KIP	23 IN	(1) #5	
25°	100 MPH	50 PSF	30.39 PSF	8.75 FT	0.37 KIP	4.57 KIP	0.02 KIP	3.91 KIP	4.95 KIP	2.13 KIP	21 IN	(1) #5	
		60 PSF	37.11 PSF	8.25 FT	0.35 KIP	4.95 KIP	0.02 KIP	3.68 KIP	5.29 KIP	2.00 KIP	20 IN	(1) #5	
		0 PSF	0.00 PSF	11.25 FT	0.65 KIP	3.00 KIP	0.00 KIP	6.31 KIP	4.35 KIP	3.41 KIP	34 IN	(2) #5	
		10 PSF	6.19 PSF	11.25 FT	0.65 KIP	3.27 KIP	0.01 KIP	6.31 KIP	4.63 KIP	3.41 KIP	34 IN	(2) #5	
		20 PSF	12.37 PSF	11.25 FT	0.65 KIP	3.55 KIP	0.01 KIP	6.31 KIP	4.90 KIP	3.41 KIP	34 IN	(2) #5	
		30 PSF	18.56 PSF	10.25 FT	0.59 KIP	3.97 KIP	0.01 KIP	5.73 KIP	4.71 KIP	3.10 KIP	31 IN	(2) #5	
	110 MPH	40 PSF	24.74 PSF	9.25 FT	0.53 KIP	4.31 KIP	0.02 KIP	5.16 KIP	4.83 KIP	2.78 KIP	28 IN	(2) #5	
		50 PSF	30.39 PSF	8.75 FT	0.50 KIP	4.76 KIP	0.02 KIP	4.87 KIP	5.24 KIP	2.63 KIP	26 IN	(2) #5	
		60 PSF	37.11 PSF	8.00 FT	0.45 KIP	4.97 KIP	0.02 KIP	4.43 KIP	5.39 KIP	2.39 KIP	24 IN	(2) #5	
		0 PSF	0.00 PSF	10.25 FT	0.76 KIP	3.22 KIP	0.00 KIP	6.98 KIP	4.70 KIP	3.75 KIP	37 IN	(3) #5	
		10 PSF	6.19 PSF	10.25 FT	0.76 KIP	3.47 KIP	0.01 KIP	6.98 KIP	4.95 KIP	3.75 KIP	37 IN	(3) #5	
		20 PSF	12.37 PSF	10.25 FT	0.76 KIP	3.72 KIP	0.01 KIP	6.98 KIP	5.20 KIP	3.75 KIP	37 IN	(3) #5	
120 MPH	110 MPH	30 PSF	18.56 PSF	10.00 FT	0.74 KIP	4.11 KIP	0.01 KIP	6.80 KIP	5.32 KIP	3.66 KIP	36 IN	(3) #5	
		40 PSF	24.74 PSF	9.25 FT	0.68 KIP	4.53 KIP	0.02 KIP	6.28 KIP	5.17 KIP	3.37 KIP	33 IN	(2) #5	
		50 PSF	30.39 PSF	8.50 FT	0.62 KIP	4.82 KIP	0.02 KIP	5.75 KIP	5.39 KIP	3.09 KIP	31 IN	(2) #5	
		60 PSF	37.11 PSF	8.00 FT	0.58 KIP	5.16 KIP	0.02 KIP	5.40 KIP	5.67 KIP	2.90 KIP	29 IN	(2) #5	
		0 PSF	0.00 PSF	9.00 FT	0.82 KIP	3.29 KIP	0.00 KIP	7.29 KIP	4.83 KIP	3.91 KIP	39 IN	(3) #5	
		10 PSF	6.19 PSF	9.00 FT	0.82 KIP	3.51 KIP	0.00 KIP	7.29 KIP	5.05 KIP	3.91 KIP	39 IN	(3) #5	
	120 MPH	20 PSF	12.37 PSF	9.00 FT	0.82 KIP	3.73 KIP	0.01 KIP	7.29 KIP	5.26 KIP	3.91 KIP	39 IN	(3) #5	
		30 PSF	18.56 PSF	9.00 FT	0.82 KIP	3.95 KIP	0.01 KIP	7.29 KIP	5.48 KIP	3.91 KIP	39 IN	(3) #5	
		40 PSF	24.74 PSF	8.75 FT	0.79 KIP	4.51 KIP	0.01 KIP	7.08 KIP	5.53 KIP	3.79 KIP	38 IN	(3) #5	
		50 PSF	30.39 PSF	8.25 FT	0.75 KIP	4.89 KIP	0.01 KIP	6.66 KIP	5.55 KIP	3.57 KIP	35 IN	(2) #5	
		60 PSF	37.11 PSF	7.50 FT	0.68 KIP	5.03 KIP	0.01 KIP	6.03 KIP	5.59 KIP	3.22 KIP	32 IN	(2) #5	
		0 PSF	0.00 PSF	7.75 FT	0.85 KIP	3.26 KIP	0.00 KIP	7.35 KIP	4.79 KIP	3.92 KIP	39 IN	(3) #5	
130 MPH	10 PSF	6.19 PSF	7.75 FT	0.85 KIP	3.45 KIP	0.00 KIP	7.35 KIP	4.98 KIP	3.92 KIP	39 IN	(3) #5		
	20 PSF	12.37 PSF	7.75 FT	0.85 KIP	3.64 KIP	0.01 KIP	7.35 KIP	5.16 KIP	3.92 KIP	39 IN	(3) #5		
	30 PSF	18.56 PSF	7.75 FT	0.85 KIP	3.83 KIP	0.01 KIP	7.35 KIP	5.35 KIP	3.92 KIP	39 IN	(3) #5		
	40 PSF	24.74 PSF	7.75 FT	0.85 KIP	4.21 KIP	0.01 KIP	7.35 KIP	5.54 KIP	3.92 KIP	39 IN	(3) #5		
	50 PSF	30.39 PSF	7.75 FT	0.85 KIP	4.81 KIP	0.01 KIP	7.35 KIP	5.72 KIP	3.92 KIP	39 IN	(3) #5		
	60 PSF	37.11 PSF	7.25 FT	0.79 KIP	5.06 KIP	0.01 KIP	6.85 KIP	5.70 KIP	3.65 KIP	37 IN	(3) #5		

Slope Factor By Tilt	
Tilt	C _s
15°	1.00
20°	0.91
25°	0.82
30°	0.73
35°	0.64

ASCE 7-05													
TILT	MAX WIND	GROUND SNOW	ROOF SNOW	MAX SPAN	FRONT CONNECTION			REAR CONNECTION			BALLAST WIDTH	# OF REBAR	
					TENSION	COMPRESSION	SHEAR	TENSION	COMPRESSION	SHEAR			
85 MPH		0 PSF	0.00 PSF	13.00 FT	0.12 KIP	2.44 KIP	0.01 KIP	5.67 KIP	4.11 KIP	3.58 KIP	29 IN	(2) #5	
		10 PSF	5.50 PSF	13.00 FT	0.12 KIP	2.71 KIP	0.01 KIP	5.67 KIP	4.37 KIP	3.58 KIP	29 IN	(2) #5	
		20 PSF	11.00 PSF	12.50 FT	0.12 KIP	3.09 KIP	0.02 KIP	5.45 KIP	4.45 KIP	3.44 KIP	28 IN	(2) #5	
		30 PSF	16.49 PSF	11.00 FT	0.10 KIP	3.46 KIP	0.02 KIP	4.78 KIP	4.13 KIP	3.02 KIP	25 IN	(2) #5	
		40 PSF	21.99 PSF	10.00 FT	0.09 KIP	3.82 KIP	0.02 KIP	4.33 KIP	4.32 KIP	2.74 KIP	23 IN	(1) #5	
		50 PSF	27.49 PSF	9.25 FT	0.08 KIP	4.15 KIP	0.02 KIP	4.00 KIP	4.57 KIP	2.52 KIP	21 IN	(1) #5	
90 MPH		60 PSF	32.99 PSF	8.50 FT	0.07 KIP	4.39 KIP	0.02 KIP	3.66 KIP	4.73 KIP	2.31 KIP	19 IN	(1) #5	
		0 PSF	0.00 PSF	12.25 FT	0.16 KIP	2.52 KIP	0.00 KIP	6.01 KIP	4.28 KIP	3.78 KIP	31 IN	(2) #5	
		10 PSF	5.50 PSF	12.25 FT	0.16 KIP	2.77 KIP	0.01 KIP	6.01 KIP	4.53 KIP	3.78 KIP	31 IN	(2) #5	
		20 PSF	11.00 PSF	12.00 FT	0.15 KIP	3.08 KIP	0.02 KIP	5.88 KIP	4.67 KIP	3.70 KIP	30 IN	(2) #5	
		30 PSF	16.49 PSF	10.75 FT	0.14 KIP	3.48 KIP	0.02 KIP	5.26 KIP	4.39 KIP	3.31 KIP	27 IN	(2) #5	
		40 PSF	21.99 PSF	9.75 FT	0.12 KIP	3.81 KIP	0.02 KIP	4.76 KIP	4.37 KIP	2.99 KIP	25 IN	(2) #5	
100 MPH		50 PSF	27.49 PSF	9.00 FT	0.11 KIP	4.12 KIP	0.02 KIP	4.38 KIP	4.60 KIP	2.75 KIP	23 IN	(1) #5	
		60 PSF	32.99 PSF	8.50 FT	0.10 KIP	4.46 KIP	0.02 KIP	4.12 KIP	4.87 KIP	2.59 KIP	21 IN	(1) #5	
		0 PSF	0.00 PSF	11.00 FT	0.22 KIP	2.69 KIP	0.00 KIP	6.69 KIP	4.64 KIP	4.19 KIP	35 IN	(2) #5	
		10 PSF	5.50 PSF	11.00 FT	0.22 KIP	2.92 KIP	0.01 KIP	6.69 KIP	4.86 KIP	4.19 KIP	35 IN	(2) #5	
		20 PSF	11.00 PSF	11.00 FT	0.22 KIP	3.15 KIP	0.01 KIP	6.69 KIP	5.08 KIP	4.19 KIP	35 IN	(2) #5	
		30 PSF	16.49 PSF	10.50 FT	0.21 KIP	3.60 KIP	0.02 KIP	6.38 KIP	5.05 KIP	3.99 KIP	33 IN	(2) #5	
30°		40 PSF	21.99 PSF	9.50 FT	0.19 KIP	3.90 KIP	0.02 KIP	5.76 KIP	4.75 KIP	3.60 KIP	30 IN	(2) #5	
		50 PSF	27.49 PSF	9.00 FT	0.18 KIP	4.29 KIP	0.02 KIP	5.44 KIP	4.92 KIP	3.40 KIP	28 IN	(2) #5	
		60 PSF	32.99 PSF	8.25 FT	0.16 KIP	4.49 KIP	0.02 KIP	4.97 KIP	5.01 KIP	3.11 KIP	26 IN	(2) #5	
		0 PSF	0.00 PSF	9.50 FT	0.27 KIP	2.73 KIP	0.00 KIP	7.00 KIP	4.75 KIP	4.36 KIP	36 IN	(3) #5	
		10 PSF	5.50 PSF	9.50 FT	0.27 KIP	2.93 KIP	0.01 KIP	7.00 KIP	4.94 KIP	4.36 KIP	36 IN	(3) #5	
		20 PSF	11.00 PSF	9.50 FT	0.27 KIP	3.13 KIP	0.01 KIP	7.00 KIP	5.13 KIP	4.36 KIP	36 IN	(3) #5	
110 MPH		30 PSF	16.49 PSF	9.50 FT	0.27 KIP	3.47 KIP	0.01 KIP	7.00 KIP	5.32 KIP	4.36 KIP	36 IN	(3) #5	
		40 PSF	21.99 PSF	9.25 FT	0.26 KIP	3.99 KIP	0.02 KIP	6.81 KIP	5.36 KIP	4.24 KIP	35 IN	(2) #5	
		50 PSF	27.49 PSF	8.75 FT	0.24 KIP	4.36 KIP	0.02 KIP	6.43 KIP	5.23 KIP	4.00 KIP	33 IN	(2) #5	
		60 PSF	32.99 PSF	8.00 FT	0.22 KIP	4.52 KIP	0.02 KIP	5.85 KIP	5.17 KIP	3.64 KIP	30 IN	(2) #5	
		0 PSF	0.00 PSF	8.00 FT	0.30 KIP	2.67 KIP	0.00 KIP	7.00 KIP	4.67 KIP	4.34 KIP	36 IN	(3) #5	
		10 PSF	5.50 PSF	8.00 FT	0.30 KIP	2.84 KIP	0.00 KIP	7.00 KIP	4.83 KIP	4.34 KIP	36 IN	(3) #5	
120 MPH		20 PSF	11.00 PSF	8.00 FT	0.30 KIP	3.00 KIP	0.01 KIP	7.00 KIP	4.99 KIP	4.34 KIP	36 IN	(3) #5	
		30 PSF	16.49 PSF	8.00 FT	0.30 KIP	3.17 KIP	0.01 KIP	7.00 KIP	5.14 KIP	4.34 KIP	36 IN	(3) #5	
		40 PSF	21.99 PSF	8.00 FT	0.30 KIP	3.64 KIP	0.01 KIP	7.00 KIP	5.30 KIP	4.34 KIP	36 IN	(3) #5	
		50 PSF	27.49 PSF	8.00 FT	0.30 KIP	4.18 KIP	0.01 KIP	7.00 KIP	5.48 KIP	4.34 KIP	36 IN	(3) #5	
		60 PSF	32.99 PSF	8.00 FT	0.30 KIP	4.71 KIP	0.02 KIP	7.00 KIP	5.62 KIP	4.34 KIP	36 IN	(3) #5	
		0 PSF	0.00 PSF	6.75 FT	0.32 KIP	2.59 KIP	0.00 KIP	6.88 KIP	4.53 KIP	4.25 KIP	36 IN	(3) #5	
130 MPH		10 PSF	5.50 PSF	6.75 FT	0.32 KIP	2.73 KIP	0.00 KIP	6.88 KIP	4.66 KIP	4.25 KIP	36 IN	(3) #5	
		20 PSF	11.00 PSF	6.75 FT	0.32 KIP	2.87 KIP	0.00 KIP	6.88 KIP	4.79 KIP	4.25 KIP	36 IN	(3) #5	
		30 PSF	16.49 PSF	6.75 FT	0.32 KIP	3.01 KIP	0.01 KIP	6.88 KIP	4.92 KIP	4.25 KIP	36 IN	(3) #5	
		40 PSF	21.99 PSF	6.75 FT	0.32 KIP	3.24 KIP	0.01 KIP	6.88 KIP	5.05 KIP	4.25 KIP	36 IN	(3) #5	
		50 PSF	27.49 PSF	6.75 FT	0.32 KIP	3.69 KIP	0.01 KIP	6.88 KIP	5.19 KIP	4.25 KIP	36 IN	(3) #5	
		60 PSF	32.99 PSF	6.75 FT	0.32 KIP	4.14 KIP	0.01 KIP	6.88 KIP	5.32 KIP	4.25 KIP	36 IN	(3) #5	

Slope Factor By Tilt	
Tilt	C _s
15°	1.00
20°	0.91
25°	0.82
30°	0.73
35°	0.64

ASCE 7-05													
TILT	MAX WIND	GROUND SNOW	ROOF SNOW	MAX SPAN	FRONT CONNECTION			REAR CONNECTION			BALLAST WIDTH	# OF REBAR	
					TENSION	COMPRESSION	SHEAR	TENSION	COMPRESSION	SHEAR			
85 MPH		0 PSF	0.00 PSF	12.75 FT	0.11 KIP	2.10 KIP	0.01 KIP	6.03 KIP	4.36 KIP	4.27 KIP	30 IN	(2) #5	
		10 PSF	4.81 PSF	12.75 FT	0.11 KIP	2.32 KIP	0.01 KIP	6.03 KIP	4.56 KIP	4.27 KIP	30 IN	(2) #5	
		20 PSF	9.62 PSF	12.25 FT	0.11 KIP	2.63 KIP	0.02 KIP	5.79 KIP	4.58 KIP	4.10 KIP	29 IN	(2) #5	
		30 PSF	14.43 PSF	11.50 FT	0.10 KIP	3.11 KIP	0.02 KIP	5.42 KIP	4.47 KIP	3.84 KIP	27 IN	(2) #5	
		40 PSF	19.24 PSF	10.50 FT	0.10 KIP	3.44 KIP	0.02 KIP	4.94 KIP	4.24 KIP	3.50 KIP	25 IN	(2) #5	
		50 PSF	24.05 PSF	9.50 FT	0.09 KIP	3.65 KIP	0.02 KIP	4.46 KIP	4.19 KIP	3.16 KIP	23 IN	(1) #5	
90 MPH		60 PSF	28.87 PSF	9.00 FT	0.08 KIP	3.96 KIP	0.02 KIP	4.21 KIP	4.41 KIP	2.98 KIP	21 IN	(1) #5	
		0 PSF	0.00 PSF	12.00 FT	0.11 KIP	2.15 KIP	0.01 KIP	6.38 KIP	4.54 KIP	4.50 KIP	32 IN	(2) #5	
		10 PSF	4.81 PSF	12.00 FT	0.11 KIP	2.36 KIP	0.01 KIP	6.38 KIP	4.73 KIP	4.50 KIP	32 IN	(2) #5	
		20 PSF	9.62 PSF	11.75 FT	0.11 KIP	2.61 KIP	0.02 KIP	6.24 KIP	4.82 KIP	4.41 KIP	31 IN	(2) #5	
		30 PSF	14.43 PSF	11.25 FT	0.10 KIP	3.13 KIP	0.02 KIP	5.97 KIP	4.79 KIP	4.21 KIP	30 IN	(2) #5	
		40 PSF	19.24 PSF	10.25 FT	0.09 KIP	3.43 KIP	0.02 KIP	5.43 KIP	4.52 KIP	3.83 KIP	27 IN	(2) #5	
100 MPH		50 PSF	24.05 PSF	9.50 FT	0.09 KIP	3.72 KIP	0.02 KIP	5.02 KIP	4.36 KIP	3.54 KIP	25 IN	(2) #5	
		60 PSF	28.87 PSF	9.00 FT	0.08 KIP	4.03 KIP	0.02 KIP	4.74 KIP	4.58 KIP	3.35 KIP	24 IN	(2) #5	
		0 PSF	0.00 PSF	10.00 FT	0.09 KIP	2.13 KIP	0.00 KIP	6.57 KIP	4.57 KIP	4.62 KIP	33 IN	(2) #5	
		10 PSF	4.81 PSF	10.00 FT	0.09 KIP	2.30 KIP	0.01 KIP	6.57 KIP	4.73 KIP	4.62 KIP	33 IN	(2) #5	
		20 PSF	9.62 PSF	10.00 FT	0.09 KIP	2.48 KIP	0.01 KIP	6.57 KIP	4.89 KIP	4.62 KIP	33 IN	(2) #5	
		30 PSF	14.43 PSF	10.00 FT	0.09 KIP	2.95 KIP	0.02 KIP	6.57 KIP	5.04 KIP	4.62 KIP	33 IN	(2) #5	
110 MPH		40 PSF	19.24 PSF	10.00 FT	0.09 KIP	3.51 KIP	0.02 KIP	6.57 KIP	5.20 KIP	4.62 KIP	33 IN	(2) #5	
		50 PSF	24.05 PSF	9.25 FT	0.09 KIP	3.77 KIP	0.02 KIP	6.06 KIP	4.95 KIP	4.26 KIP	31 IN	(2) #5	
		60 PSF	28.87 PSF	8.75 FT	0.08 KIP	4.06 KIP	0.02 KIP	5.72 KIP	4.81 KIP	4.02 KIP	29 IN	(2) #5	
		0 PSF	0.00 PSF	8.25 FT	0.08 KIP	2.05 KIP	0.00 KIP	6.54 KIP	4.47 KIP	4.58 KIP	33 IN	(2) #5	
		10 PSF	4.81 PSF	8.25 FT	0.08 KIP	2.20 KIP	0.00 KIP	6.54 KIP	4.59 KIP	4.58 KIP	33 IN	(2) #5	
		20 PSF	9.62 PSF	8.25 FT	0.08 KIP	2.34 KIP	0.01 KIP	6.54 KIP	4.72 KIP	4.58 KIP	33 IN	(2) #5	
120 MPH		30 PSF	14.43 PSF	8.25 FT	0.08 KIP	2.59 KIP	0.01 KIP	6.54 KIP	4.85 KIP	4.58 KIP	33 IN	(2) #5	
		40 PSF	19.24 PSF	8.25 FT	0.08 KIP	3.05 KIP	0.01 KIP	6.54 KIP	4.98 KIP	4.58 KIP	33 IN	(2) #5	
		50 PSF	24.05 PSF	8.25 FT	0.08 KIP	3.52 KIP	0.02 KIP	6.54 KIP	5.11 KIP	4.58 KIP	33 IN	(2) #5	
		60 PSF	28.87 PSF	8.25 FT	0.08 KIP	3.98 KIP	0.02 KIP	6.54 KIP	5.24 KIP	4.58 KIP	33 IN	(2) #5	
		0 PSF	0.00 PSF	7.00 FT	0.07 KIP	2.02 KIP	0.00 KIP	6.57 KIP	4.41 KIP	4.57 KIP	33 IN	(2) #5	
		10 PSF	4.81 PSF	7.00 FT	0.07 KIP	2.14 KIP	0.00 KIP	6.57 KIP	4.52 KIP	4.57 KIP	33 IN	(2) #5	
130 MPH		20 PSF	9.62 PSF	7.00 FT	0.07 KIP	2.27 KIP	0.01 KIP	6.57 KIP	4.63 KIP	4.57 KIP	33 IN	(2) #5	
		30 PSF	14.43 PSF	7.00 FT	0.07 KIP	2.39 KIP	0.01 KIP	6.57 KIP	4.74 KIP	4.57 KIP	33 IN	(2) #5	
		40 PSF	19.24 PSF	7.00 FT	0.07 KIP	2.73 KIP	0.01 KIP	6.57 KIP	4.85 KIP	4.57 KIP	33 IN	(2) #5	
		50 PSF	24.05 PSF	7.00 FT	0.07 KIP	3.13 KIP	0.01 KIP	6.57 KIP	4.96 KIP	4.57 KIP	33 IN	(2) #5	
		60 PSF	28.87 PSF	7.00 FT	0.07 KIP	3.52 KIP	0.01 KIP	6.57 KIP	5.06 KIP	4.57 KIP	33 IN	(2) #5	
		0 PSF	0.00 PSF	6.00 FT	0.06 KIP	1.99 KIP	0.00 KIP	6.54 KIP	4.34 KIP	4.53 KIP	33 IN	(2) #5	
140 MPH		10 PSF	4.81 PSF	6.00 FT	0.06 KIP	2.09 KIP	0.00 KIP	6.54 KIP	4.43 KIP	4.53 KIP	33 IN	(2) #5	
		20 PSF	9.62 PSF	6.00 FT	0.06 KIP	2.20 KIP	0.00 KIP	6.54 KIP	4.53 KIP	4.53 KIP	33 IN	(2) #5	
		30 PSF	14.43 PSF	6.00 FT	0.06 KIP	2.30 KIP	0.01 KIP	6.54 KIP	4.62 KIP	4.53 KIP	33 IN	(2) #5	
		40 PSF	19.24 PSF	6.00 FT	0.06 KIP	2.47 KIP	0.01 KIP	6.54 KIP	4.71 KIP	4.53 KIP	33 IN	(2) #5	
		50 PSF	24.05 PSF	6.00 FT	0.06 KIP	2.81 KIP	0.01 KIP	6.54 KIP	4.80 KIP	4.53 KIP	33 IN	(2) #5	
		60 PSF	28.87 PSF	6.00 FT	0.06 KIP	3.15 KIP	0.01 KIP	6.54 KIP	4.89 KIP	4.53 KIP	33 IN	(2) #5	