

LEGEND

- Trina Module Purlins
(Use No Color NS Beam, Connector Rail and Braces)
- 2 Span Purlin (No Color)
QTY 2970 ; Length 13'- 4 $\frac{3}{8}$ "
 - 3 Span Purlin (Notched) (Dark Blue)
QTY 390 ; Length 20'- 4 $\frac{5}{8}$ "
 - 4 Span Purlin (Notched) (Purple)
QTY 845 ; Length 27'- 0 $\frac{3}{4}$ "
 - 4 Span Purlin (Notched) (3 Post) (Red)
QTY 550 ; Length 27'- 0 $\frac{3}{4}$ "
 - 5 Span Purlin (Notched) (Dark Green)
QTY 1460 ; Length 33'- 8 $\frac{15}{16}$ "
- Risen Module Purlins
(Use Red NS Beam, Connector Rail and Braces)
- 2 Span Purlin (Pink)
QTY 675 ; Length 13'- 3 $\frac{3}{4}$ "
 - 3 Span Purlin (Notched) (Orange)
QTY 450 ; Length 20'- 3 $\frac{5}{8}$ "
 - 4 Span Purlin (Notched) (3 Post) (Brown)
QTY 230 ; Length 26'- 11 $\frac{1}{2}$ "
 - 5 Span Purlin (Notched) (Light Blue)
QTY 115 ; Length 33'- 7 $\frac{3}{8}$ "

AERIAL VIEW



GAMECHANGE SOLAR
REPOWERING THE PLANET

152 West 57th St, Fl 44, New York, NY 10019
Tel: 212-388-5160
www.gamechangesolar.com

Site Key Plan:

Engineer's Seal:

Rev:	By:	Date:	Description:
1	HD	03-09-2021	Original Layout
2	GF	03-23-2021	Updated Assembly
3	SVP	05-14-2021	IFP

Array Information		
	PV Modules	Racking
Manufacturer	1. Trina Solar 2. Risen	Gamechange Solar
Model	1. TSM-DEG15MC 20(II) 2. RSM144-6-380BMDG	30-Deg MaxSpan I-Beam
Dimensions	1. 79.69" x 39.45" x 1.18" 2. 79.37" x 39.29" x 0.98"	
Weight	1. 57.3 lbs 2. 57.3 lbs	
Quantity	1. 15992 2. 3356	Posts: 1772
Ground Clearance	36"	
15992 modules at 395 W 3356 modules at 380 W 7.592 MW		

Customer:	Verogy	
Project:	East Windsor	Project #: ----
Location:	341 East Rd, East Windsor, CT 06016	

28'-7 $\frac{3}{8}$ " Front Row to Row Spacing

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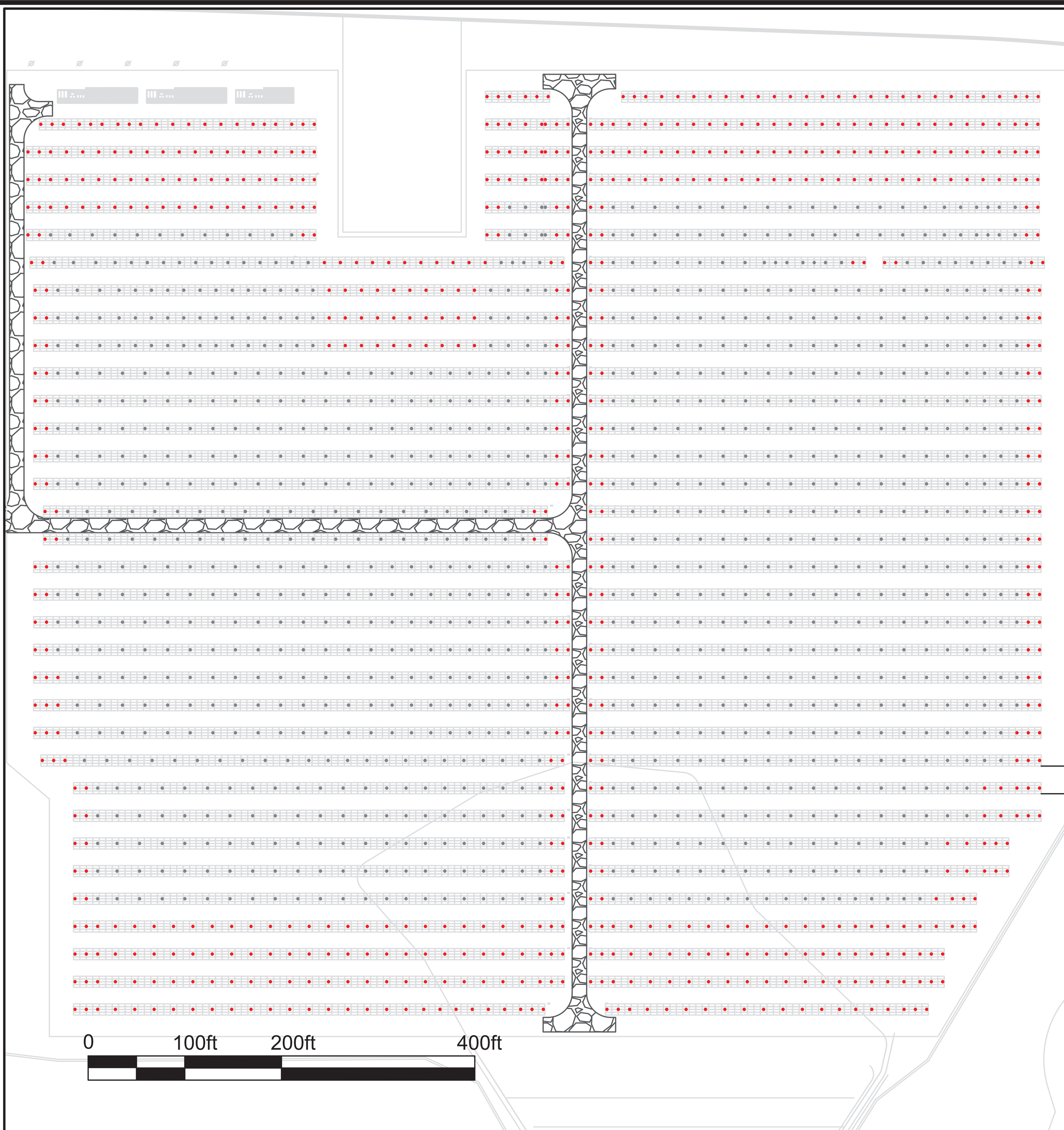
Design Information					
Risk Category	I	Area of Array	24.06 acres	Seismic Site Class	D
Wind Exposure Category	C	No. of rows	74	S _g /S ₁	0.177 g / 0.064 g
Design Wind Load	115 mph per ASCE7-10	Distance to Saltwater	>25 miles	Project Design Life	25 years
Design Snow Load	35 psf	Dead Load	3.7 psf	Applicable Building Code	2018 Connecticut State Building Code

Sheet #:

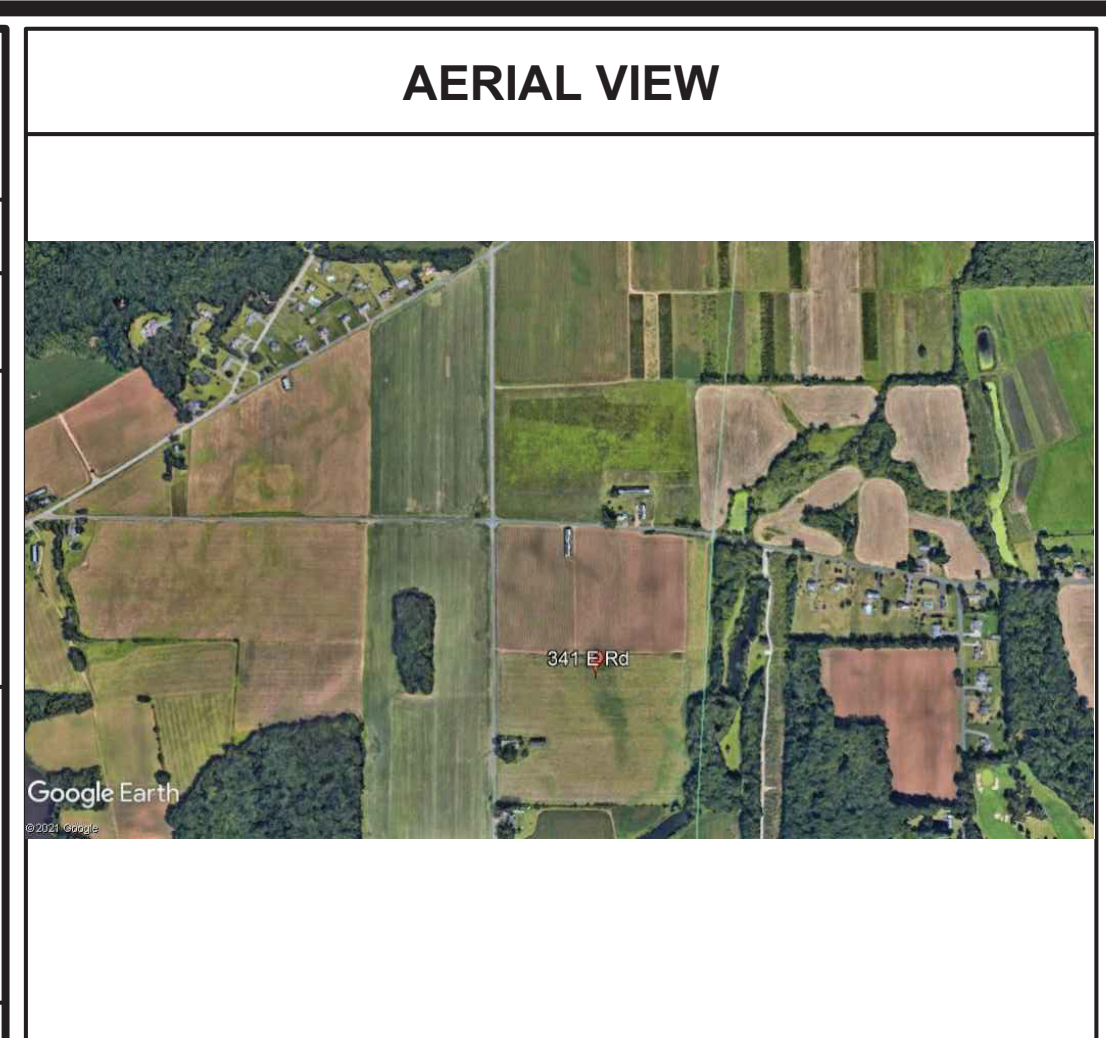
Site Plan

S100

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Posts				
TYPE	Size	Color	Quantity	Minimum Embedment
I	W6x7	No Color	1066	7'-0"
I	W6x9	Red	706	7'-0"



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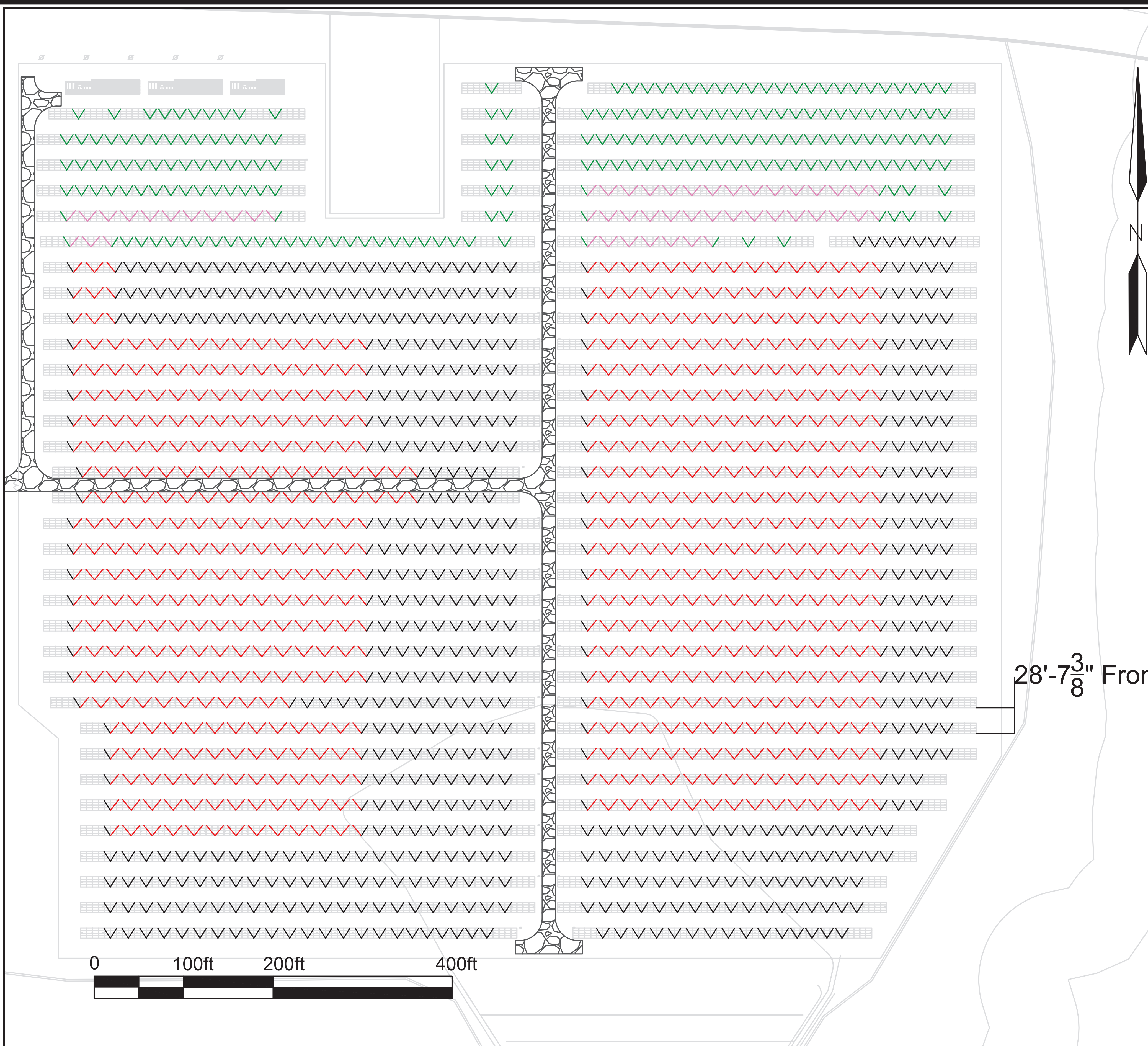
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Sheet #:

Post Plan

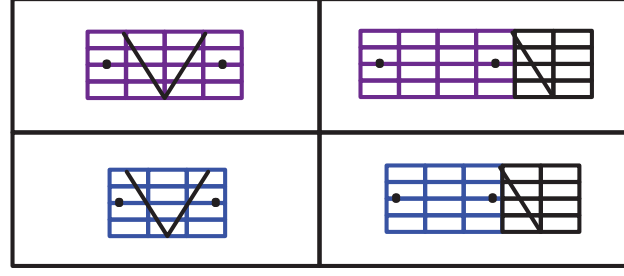
S200

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**Trina Module Purlins
Purlin Angle Key**

Note:
-The following Purlin Angles (GC874), Connector Rail (GC903TWT) will be used in these locations.
-All other locations do not require Purlin Angles (GC874), Connector Rail (GC903TWT)
GC874A No Color
Count: 1098



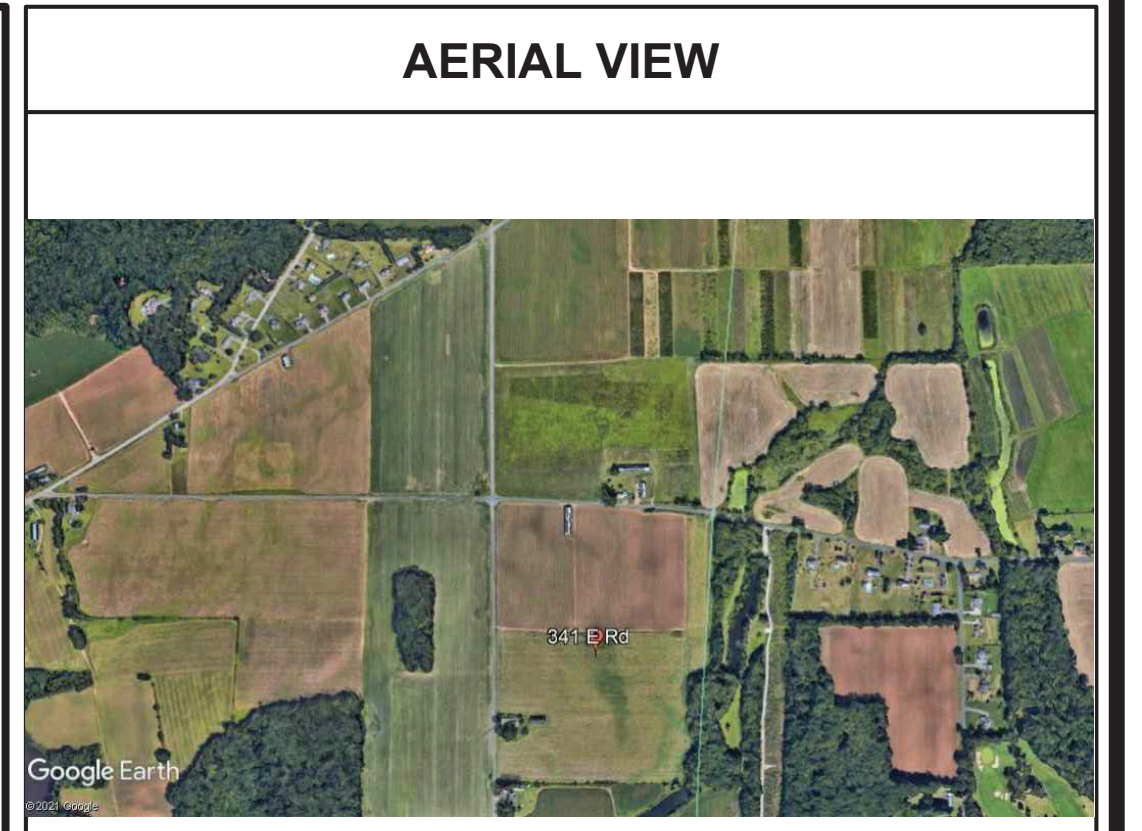
GC874B Red
Count: 1168

**Risen Module Purlins
Purlin Angle Key**

Note:
-The following Purlin Angles (GC874), Connector Rail (GC903TWT) will be used in these locations.
-All other locations do not require Purlin Angles (GC874), Connector Rail (GC903TWT)
GC874A Dark Green
Count: 404



GC874B Pink
Count: 92



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Customer: **Verogy**

Project: **East Windsor** Project #: ----

Location: **341 East Rd, East Windsor, CT 06016**

Sheet #:

GC874 Plan

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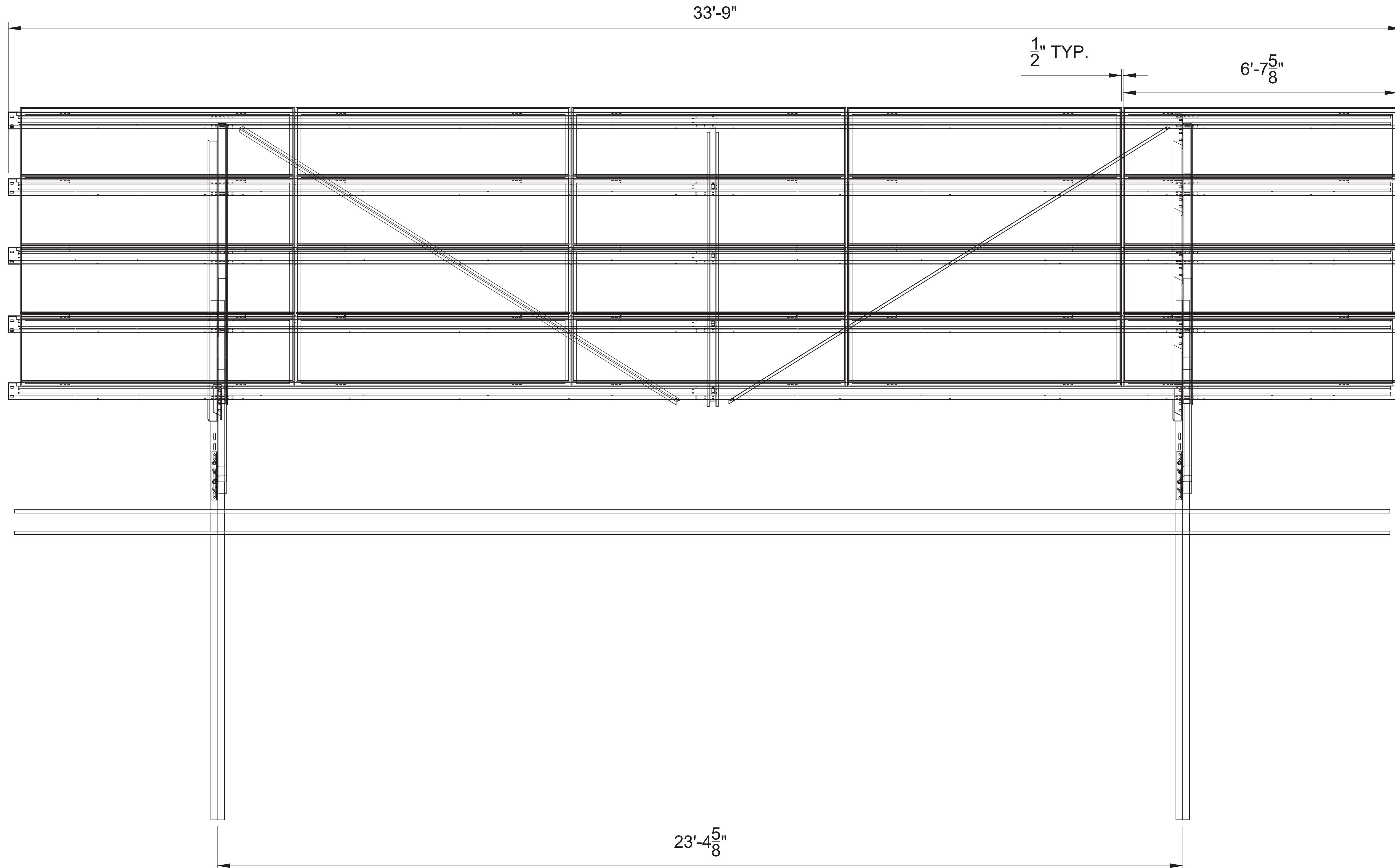
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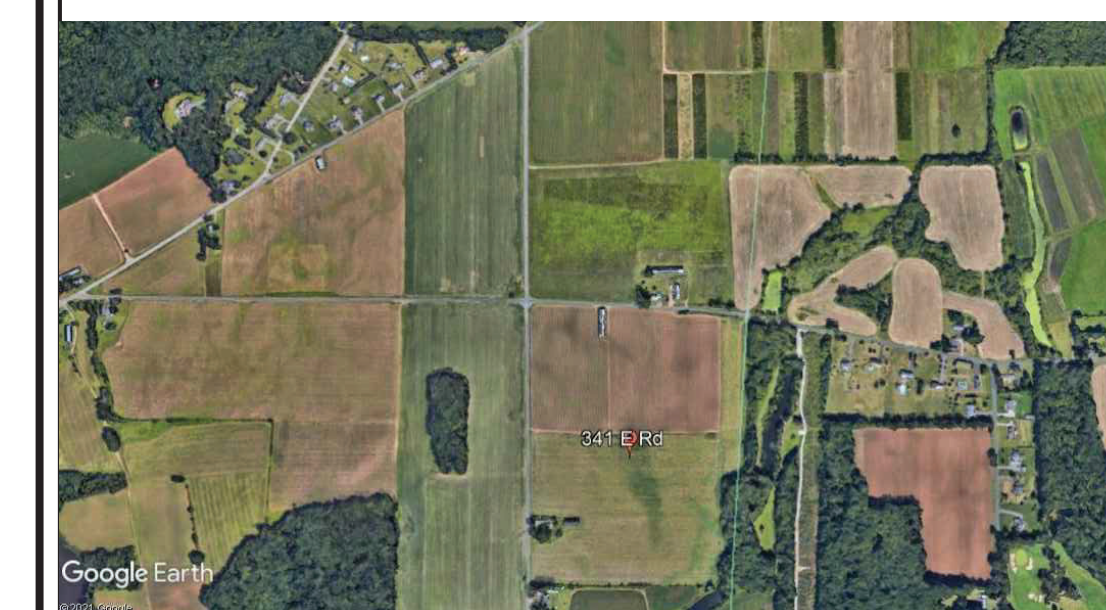
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Trina Module
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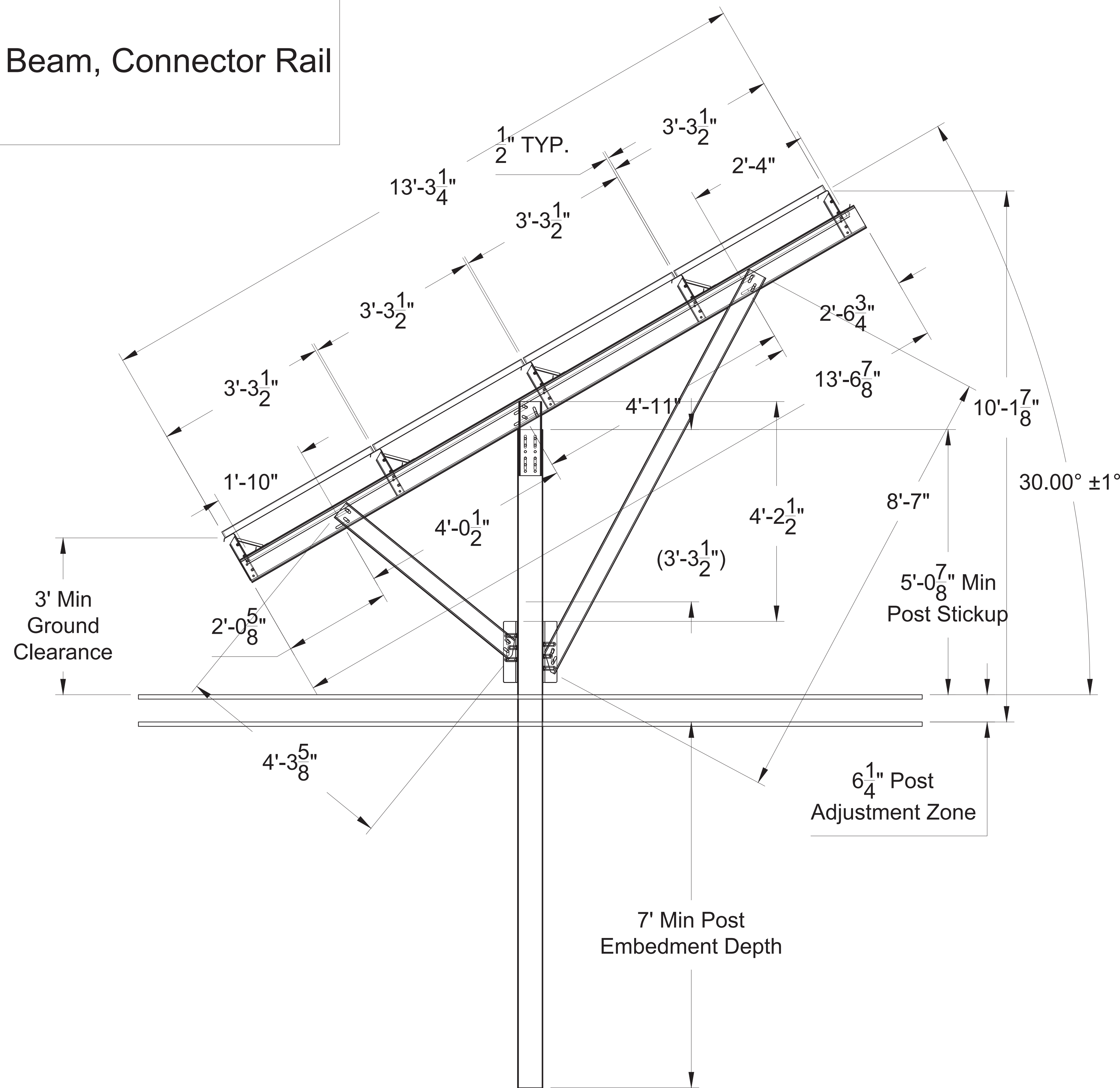
Sheet #:

Trina Assembly South View

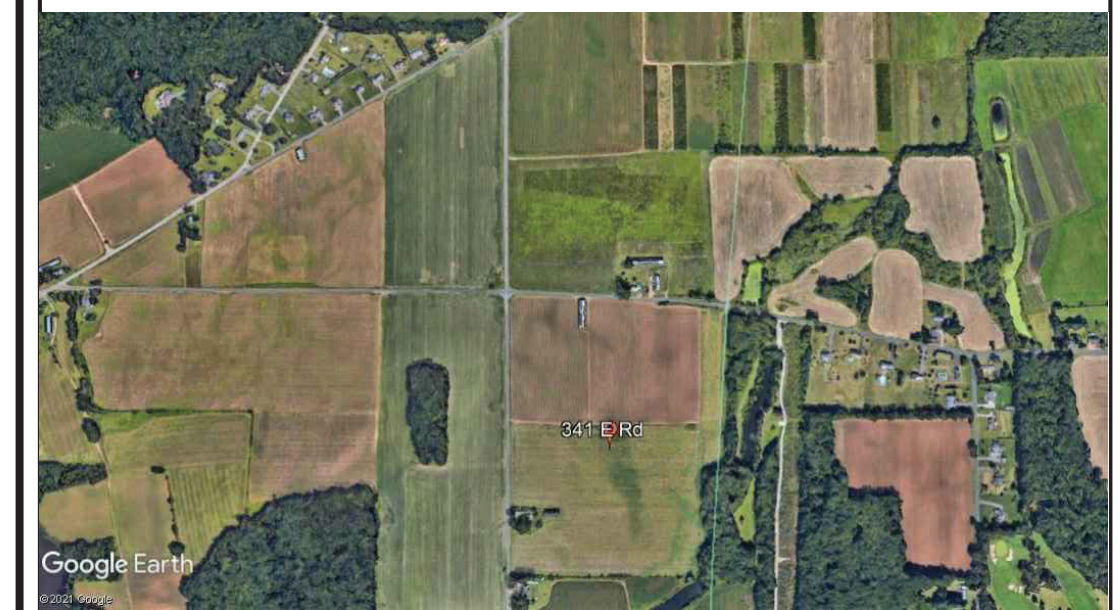
S400

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Trina Module
(Use No Color NS Beam, Connector Rail
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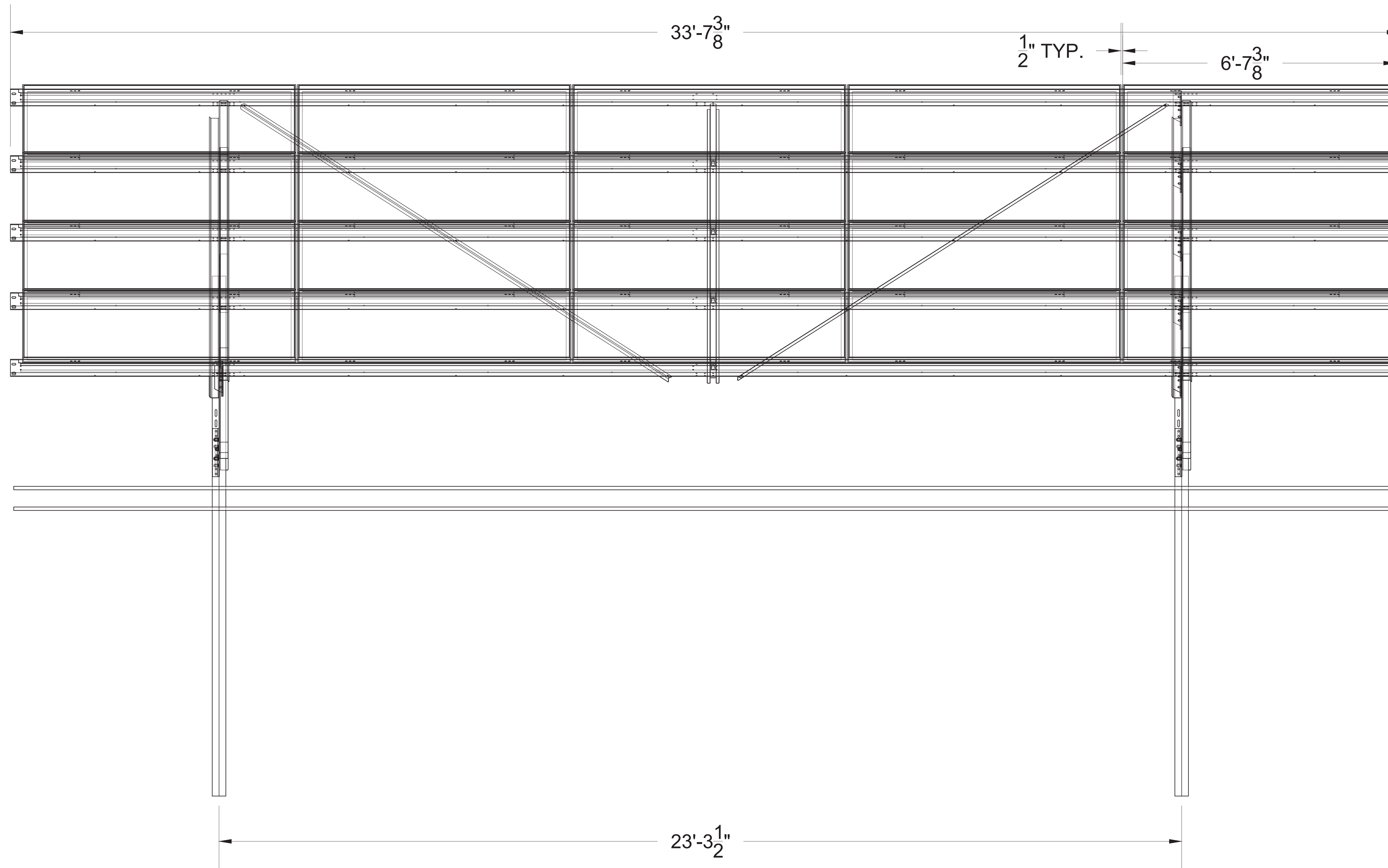
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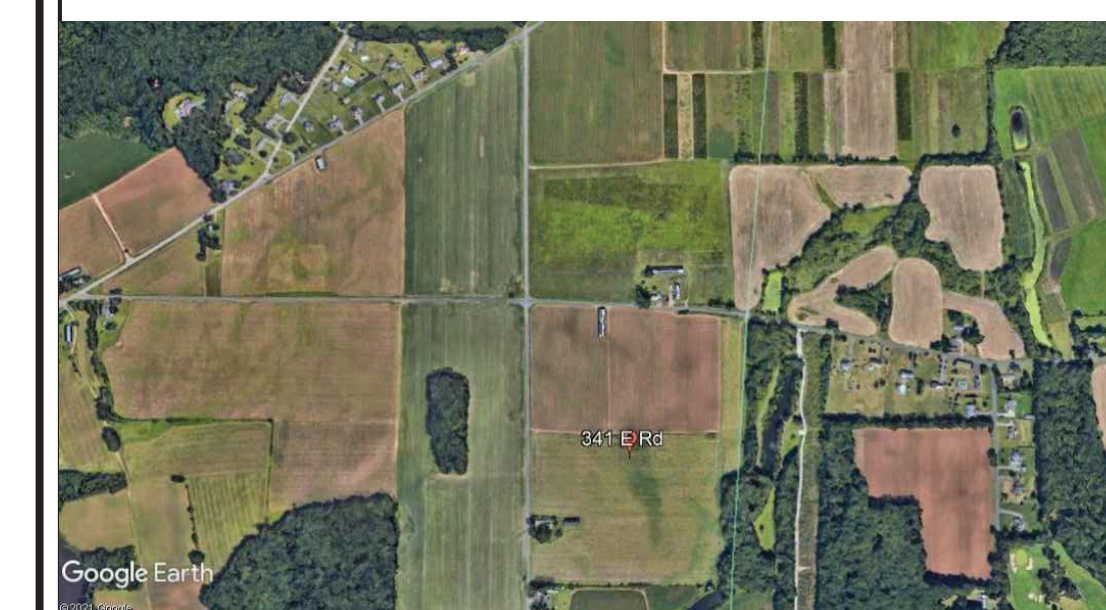
**Trina
Assembly
East View**

Sheet #:
S401
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Risen Module
(Use Red NS Beam, Connector Rail)



AERIAL VIEW



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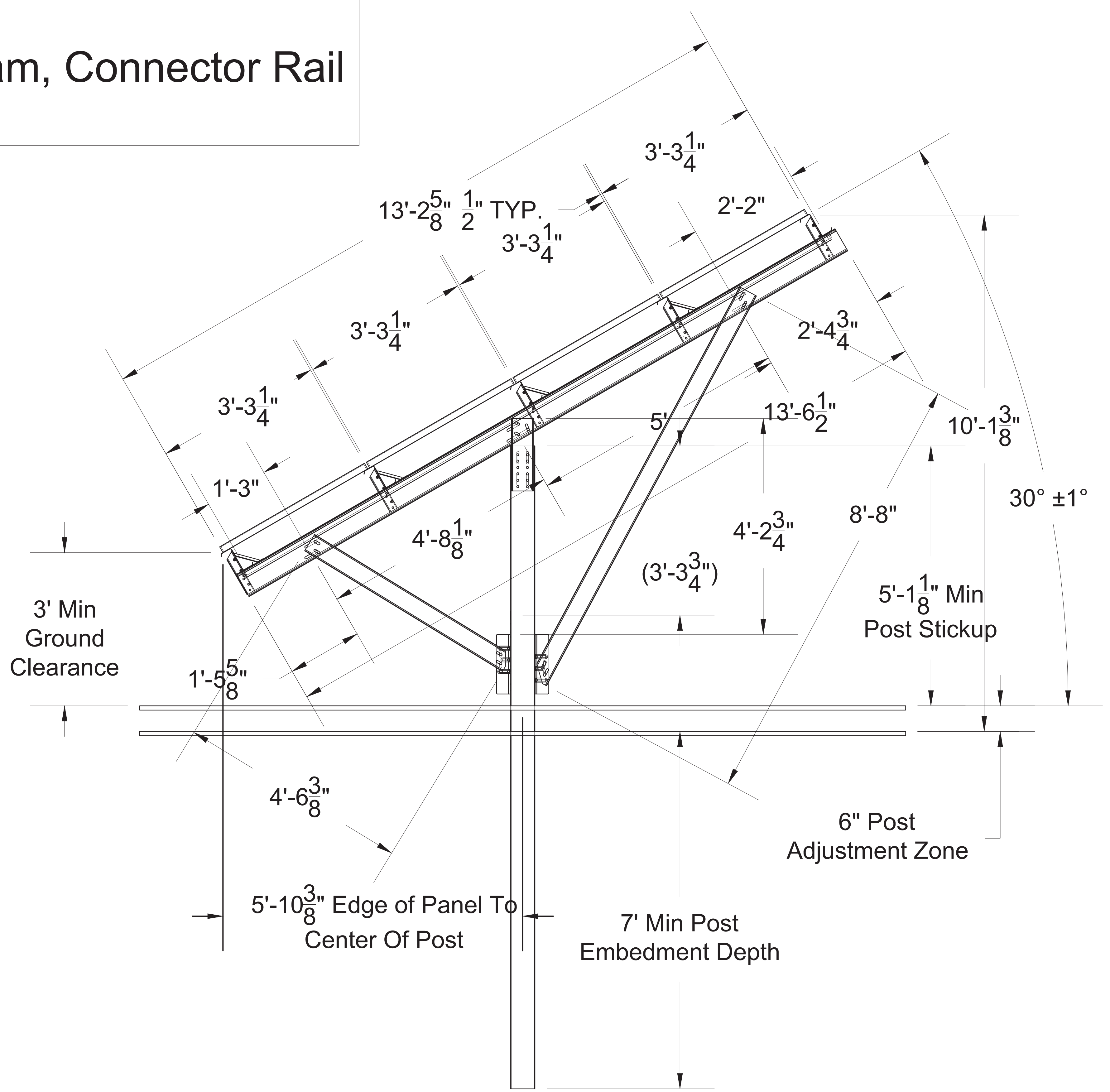
Sheet #:

Risen Assembly South View

S402

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Risen Module (Use Red NS Beam, Connector Rail and Braces)



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**Trina Assembly
East View**

S403

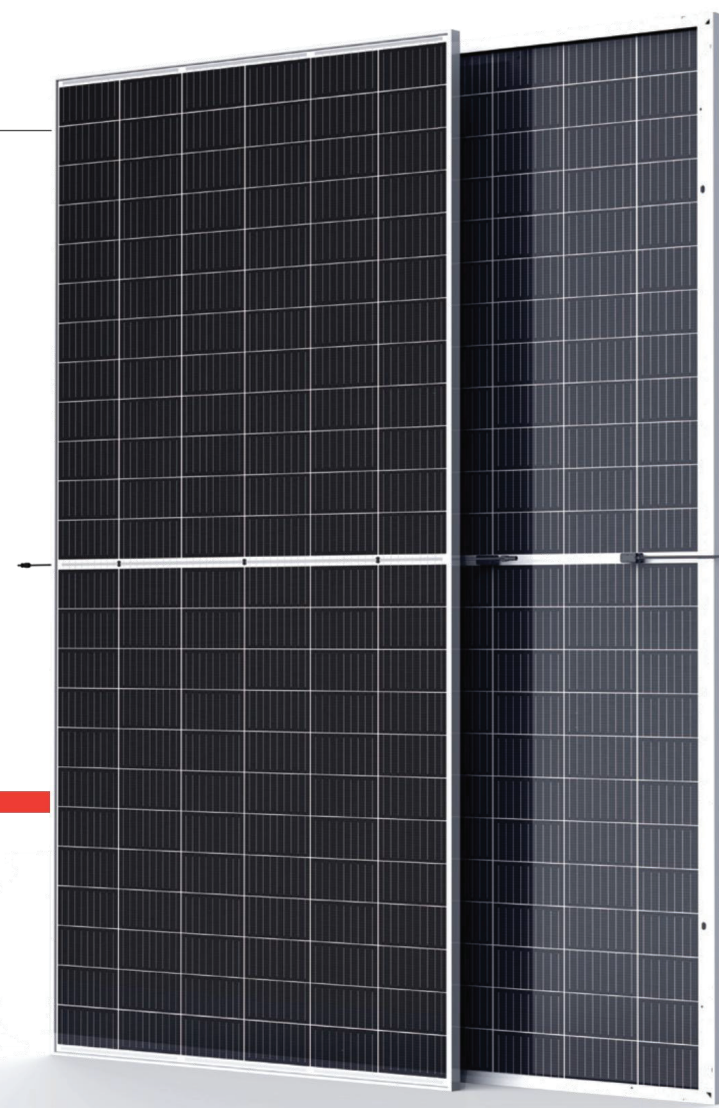
07 of 16

Equipment by Others

Mono Multi Solutions

THE
DUOMAX^{twin}

BIFACIAL DUAL GLASS 144 CELL MULTI BUSBAR MODULE



144-Cell
MONOCRYSTALLINE MODULE

390-410W
POWER OUTPUT RANGE

20.2%
MAXIMUM EFFICIENCY

0~+5W
POSITIVE POWER TOLERANCE

PRODUCTS: TSM-DEG15MC20(II)
POWER RANGE: 390-410W



High power output

- Up to 410W front power and 20.2% module efficiency with half-cut and MBB (Multi Busbar) technology enabling higher BOS savings
- Lower resistance of half-cut cells ensures higher power



Certified to perform in highly challenging environments

- High PID resistance through cell process and module material control
- Resistant to salt, acid, sand, and ammonia
- Proven to be reliable in high temperature and humidity areas
- Certified to the best fire class A
- Minimizes micro-crack and snail trails
- Certified to 5400 Pa positive load and 2400 Pa negative load



High energy generation, low LCOE

- Up to 25% additional power gain from back side, depending on the albedo
- Excellent 3rd party validated IAM and low light performance with cell process and module material optimization
- Low temp coefficient (-0.35%) and NMOT increases energy production
- Better anti-shading performance and lower operating temperature
- Higher power from same installation footprint as standard modules



Easy to install, wide application

- Frame design enables compatibility with standard installation methods
- Deployable for ground mounted utility, carports, and agricultural projects
- Safe and easy to transport, handle, and install like normal framed modules

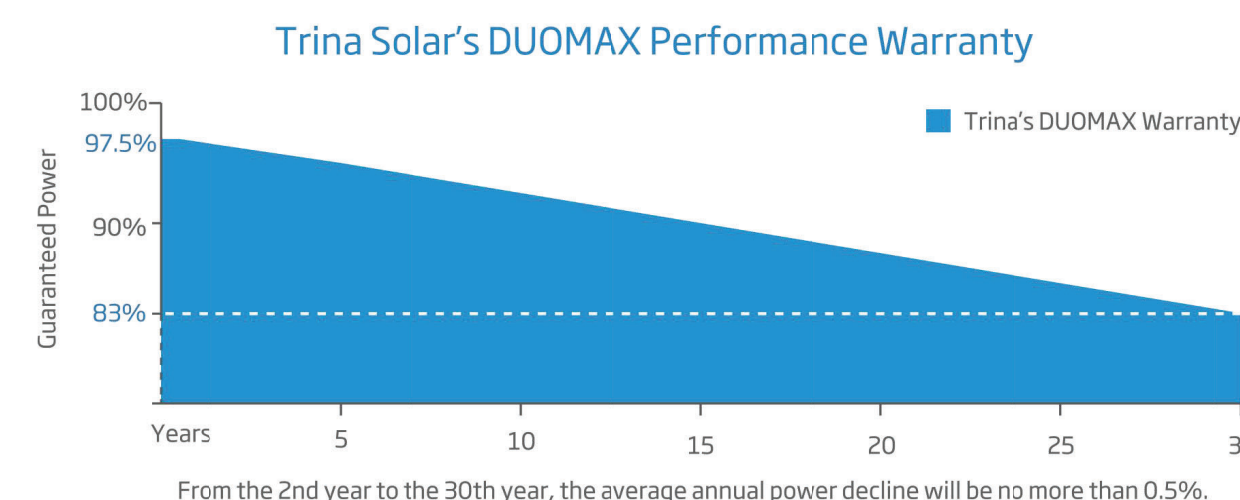
Founded in 1997, Trina Solar is the world's leading total solution provider for solar energy. With local presence around the globe, Trina Solar is able to provide exceptional service to each customer in each market and deliver our innovative, reliable products with the backing of Trina as a strong, bankable brand. Trina Solar now distributes its PV products to over 100 countries all over the world. We are committed to building strategic, mutually beneficial collaborations with installers, developers, distributors and other partners in driving smart energy together.

Comprehensive Products and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO 14064: Greenhouse Gases Emissions Verification
OHSAS 18001: Occupation Health and Safety Management System



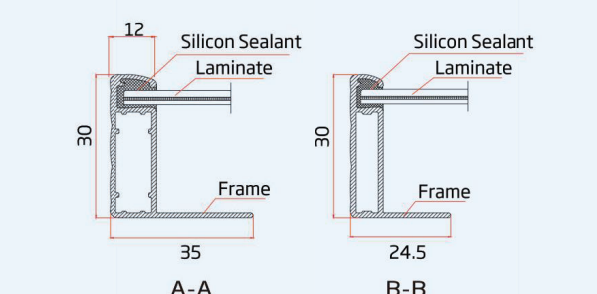
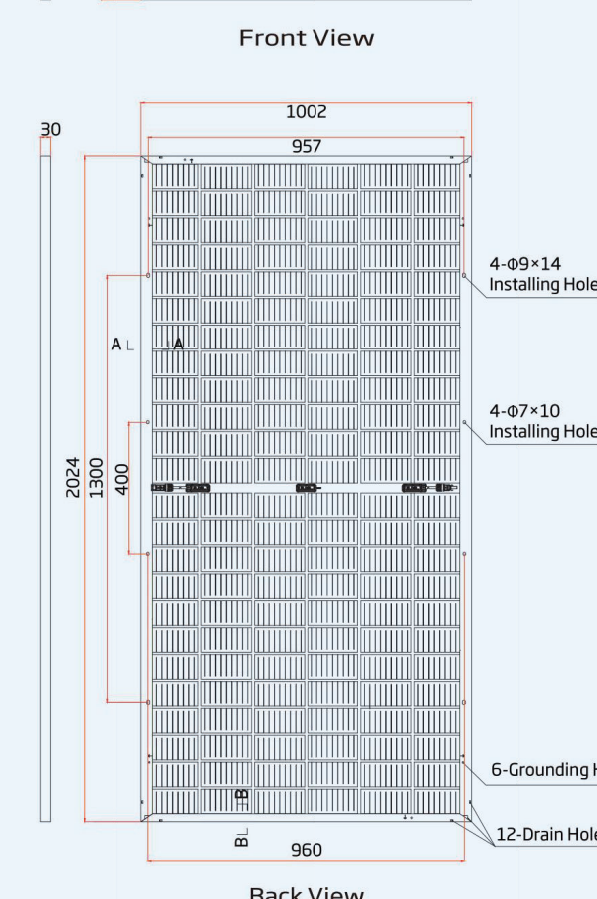
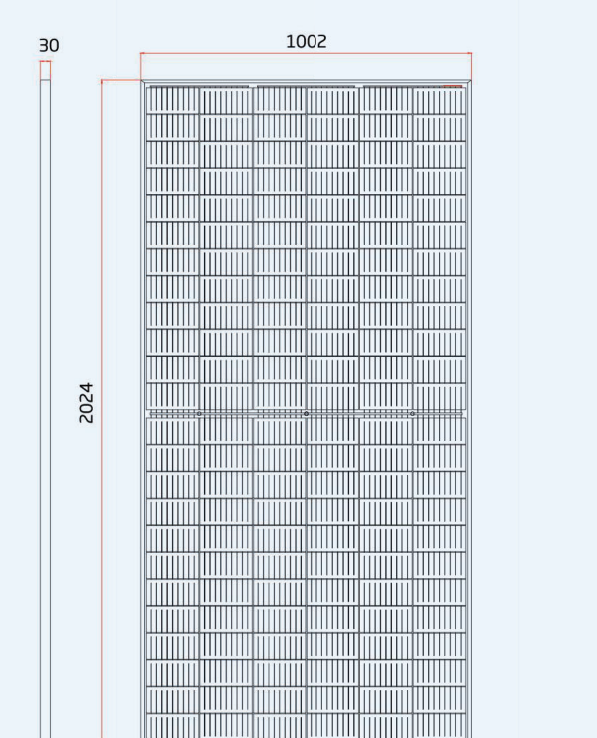
Trinasolar



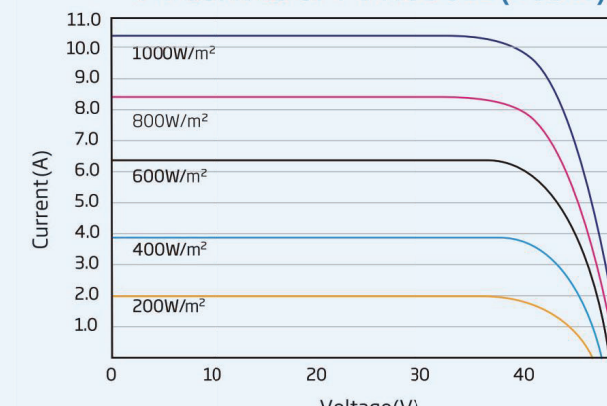
DUOMAX^{twin}

BIFACIAL DUAL GLASS 144 HALF-CELL MBB MODULE

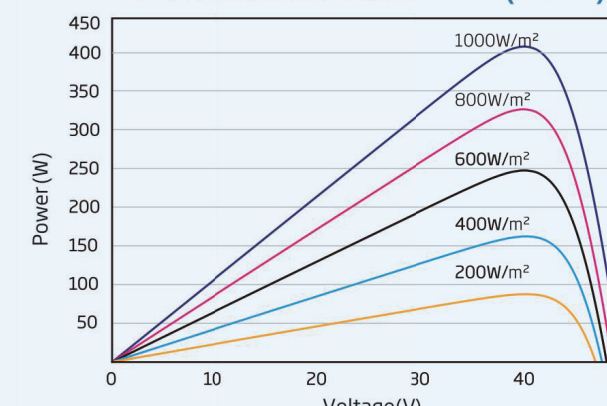
DIMENSIONS OF PV MODULE (mm)



I-V CURVES OF PV MODULE (405 W)



P-V CURVES OF PV MODULE (405W)



ELECTRICAL DATA (STC)

Peak Power Watts-P _{MAX} (Wp)*	390	395	400	405	410
Power Output Tolerance-P _{MAX} (W)	0 ~ +5				
Maximum Power Voltage-V _{MPP} (V)	40.2	40.5	40.8	41.1	41.4
Maximum Power Current-I _{MPP} (A)	9.71	9.76	9.81	9.86	9.91
Open Circuit Voltage-V _{OC} (V)	48.5	48.7	48.9	49.1	49.3
Short Circuit Current-I _{SC} (A)	10.25	10.29	10.33	10.37	10.41
Module Efficiency η _m (%)	19.2	19.5	19.7	20.0	20.2

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5.
*Measuring tolerance: ±3%.

ELECTRICAL DATA (NMOT)

Maximum Power-P _{MAX} (Wp)	295	299	302	306	310
Maximum Power Voltage-V _{MPP} (V)	37.7	38.0	38.3	38.6	38.9
Maximum Power Current-I _{MPP} (A)	7.82	7.86	7.90	7.93	7.97
Open Circuit Voltage-V _{OC} (V)	45.7	45.9	46.1	46.3	46.5
Short Circuit Current-I _{SC} (A)	8.26	8.29	8.33	8.36	8.39

NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.

Electrical characteristics with different rear side power gains (referenced specifically to 405 Wp front)**

Maximum Power-P _{MAX} (Wp)	425	446	466	486	506
Maximum Power Voltage-V _{MPP} (V)	41.1	41.1	41.1	41.1	41.1
Maximum Power Current-I _{MPP} (A)	10.35	10.85	11.34	11.83	12.33
Open Circuit Voltage-V _{OC} (V)	49.2	49.3	49.4	49.5	49.6
Short Circuit Current-I _{SC} (A)	10.89	11.41	11.93	12.44	12.96
P _{max} Gain	5%	10%	15%	20%	25%

Power Bifaciality: 70±5%

MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	144 cells (6 × 24)
Module Dimensions	2024 × 1002 × 30 mm (79.69 × 39.45 × 1.18 inches)
Weight	26.0 kg (57.3 lb)
Front Glass	2.0 mm (0.08 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	POE/EVA
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	30mm (1.18 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0 mm ² (0.006 inches ²) Portrait: 280/280 mm (11.02/11.02 inches) Landscape: 1900/1900 mm (74.80/74.80 inches)
Connector	Trina TS4

TEMPERATURE RATINGS

NMOT (Nominal Module Operating Temperature)	41°C (±3°C)
Temperature Coefficient of P _{MAX}	-0.35%/°C
Temperature Coefficient of V _{OC}	-0.25%/°C
Temperature Coefficient of I _{SC}	0.04%/°C

MAXIMUM RATINGS

Operational Temperature	-40 ~ +85°C
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)
Max Series Fuse Rating	20A

(Do not connect Fuse in Combiner Box with two or more strings in parallel connection)

WARRANTY

- 12 year Product Workmanship Warranty
- 30 year Power Warranty

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

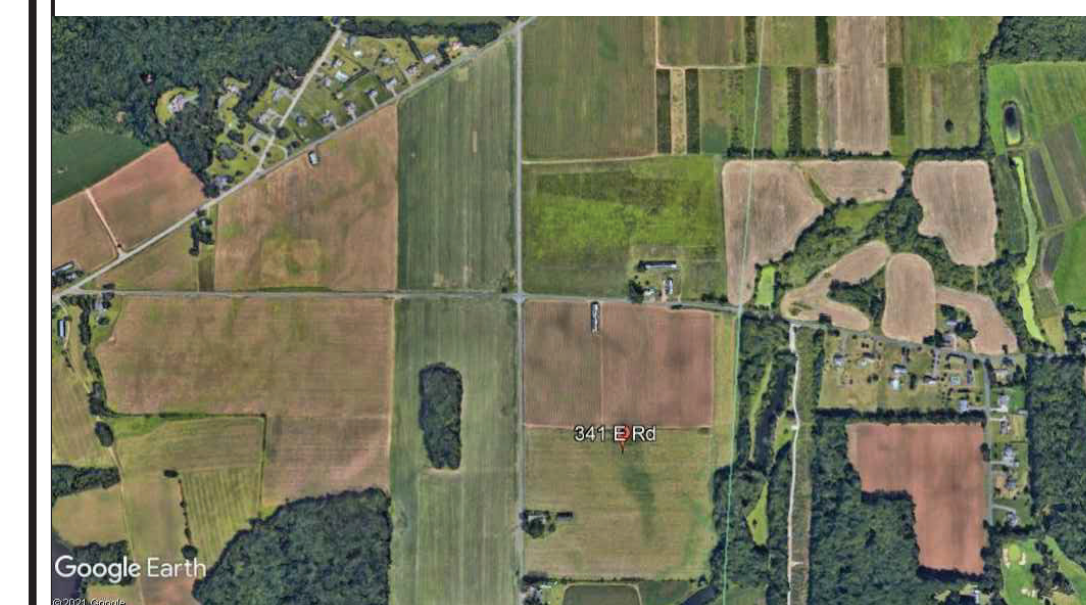
- Modules per box: 35 pieces
- Modules per 40' container: 665 pieces

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

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Version number: TSM_DEG15MC20_EN_2020_RED www.trinasolar.com

Trinasolar

AERIAL VIEW

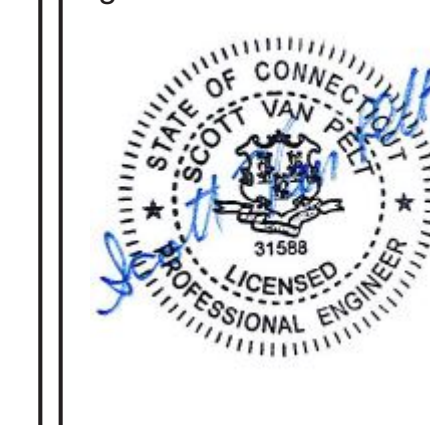


GAMECHANGE SOLAR
REPOWERING THE PLANET

152 West 57th St, Fl 44, New York, NY 10019
Tel: 212-388-5160
www.gamechangesolar.com

Site Key Plan:

Engineer's Seal:



Rev:	By:	Date:	Description:
1	HD	03-09-2021	Original Layout
2	GF	03-23-2021	Updated Assembly
3	SVP	05-14-2021	IFP

Array Information

	PV Modules	Racking
Manufacturer	1. Trina Solar 2. Risen	Gamechange Solar
Model	1. TSM-DEG15MC20(II) 2. RSM144-6-380BMDG	30-Deg MaxSpan I-Beam
Dimensions	1. 79.69" x 39.45" x 1.18" 2. 79.37" x 39.29" x 0.98"	
Weight	1. 57.3 lbs 2. 57.3 lbs	
Quantity	1. 15992 2. 3356	Posts: 1772
Ground Clearance	36"	
15992 modules at 395 W 3356 modules at 380 W 7.592 MW		

Customer:

Verogy

Project: **East Windsor**

Project #: ----

Location:

341 East Rd, East Windsor, CT 06016

GENERAL NOTES

- The layout shown herein is based on site layout geometry provided to GameChange Solar by the customer.
- Any changes to the site that may affect the solar PV arrays depicted herein shall be notified to GameChange Solar.
- The layouts and details shown herein are a custom design for this project and are specific to the PV module(s) shown in the Array Information table.
- GameChange Solar cannot be responsible for errors during installation caused by changes that impact the layout as shown
- Install foundations at specified distances along slope line, Not by plane view. See Detail Sheets for additional info

Design Information

Risk Category	I	Area of Array	24.06 acres	Seismic Site Class	D
Wind Exposure Category	C	No. of rows	74	S ₂ /S ₁	0.177 g / 0.064 g
Design Wind Load	115 mph per ASCE7-10	Distance to Saltwater	>25 miles	Project Design Life	25 years
Design Snow Load	35 psf	Dead Load	3.7 psf	Applicable Building Code	2018 Connecticut State Building Code

Sheet #:

Module Spec Sheet

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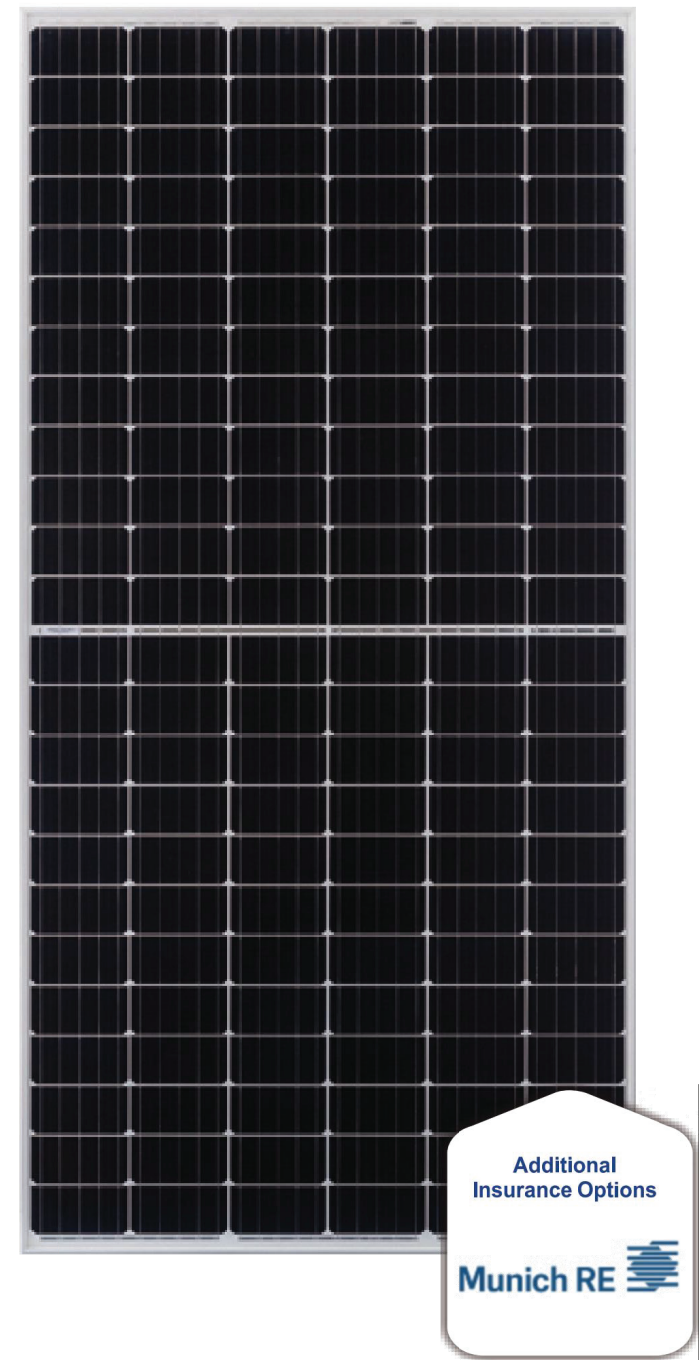
**HIGH PERFORMANCE
BIFACIAL PERC MONOCRYSTALLINE MODULE**
RSM144-6-370BMDG-390BMDG
144 CELL MONOCRYSTALLINE MODULE
370-390Wp POWER OUTPUT RANGE
1500VDC MAXIMUM SYSTEM VOLTAGE
19.5% MAXIMUM EFFICIENCY



About Risen Energy
Risen Energy is a leading, global tier 1 manufacturer of high-performance solar photovoltaic products and provider of total business solutions for residential, commercial and utility-scale power generation. The company, founded in 1986, and publicly listed in 2010, compels value generation for its chosen global customers. Techno-commercial innovation, underpinned by consummate quality and support, encircle Risen Energy's total Solar PV business solutions which are among the most powerful and cost-effective in the industry. With local market presence and strong financial bankability status, we are committed, and able, to building strategic, mutually beneficial collaborations with our partners, as together we capitalise on the rising value of green energy.

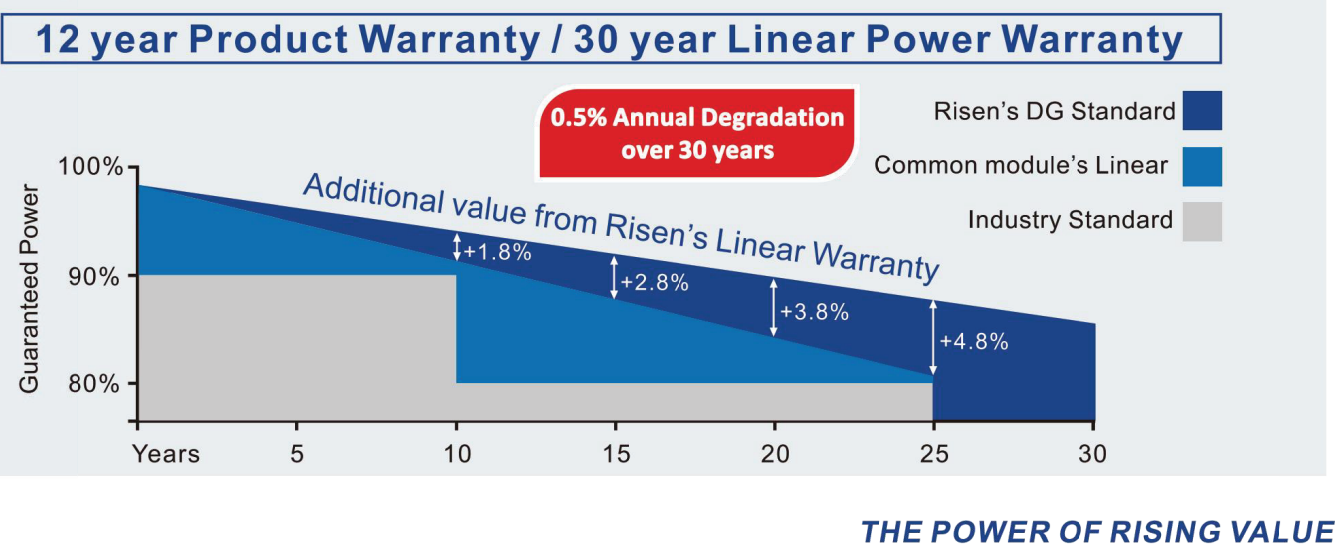
KEY SALIENT FEATURES

- Global, Tier 1 bankable brand, with independently certified state-of-the-art automated manufacturing**
- Bifacial technology enables additional energy harvesting from rear side (up to 25%)**
- Industry leading lowest thermal co-efficient of power**
- Industry leading 12 years product warranty**
- Excellent low irradiance performance**
- Excellent PID resistance**
- Positive tight power tolerance**
- Dual stage 100% EL Inspection warranting defect-free product**
- Module Imp binning radically reduces string mismatch losses**
- Warranted reliability and stringent quality assurances well beyond certified requirements**
- Certified to withstand severe environmental conditions**
 - ◆ Anti-reflective & anti-soiling surface minimise power loss from dirt and dust
 - ◆ Severe salt mist, ammonia & blown sand resistance, for seaside, farm and desert environments
 - ◆ Excellent mechanical load 2400Pa & snow load 5400Pa resistance



RISEN ENERGY CO., LTD.
Tashan Industry Zone, Meilin,
Ninghai 315609, Ningbo | PRC
Tel: +86-574-59953239
Fax: +86-574-59953599
E-mail: info@risenenergy.com
Website: www.risenenergy.com

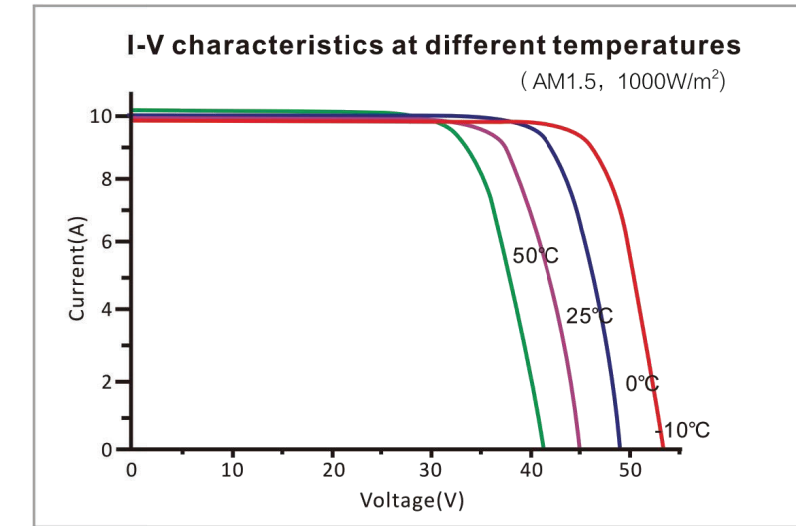
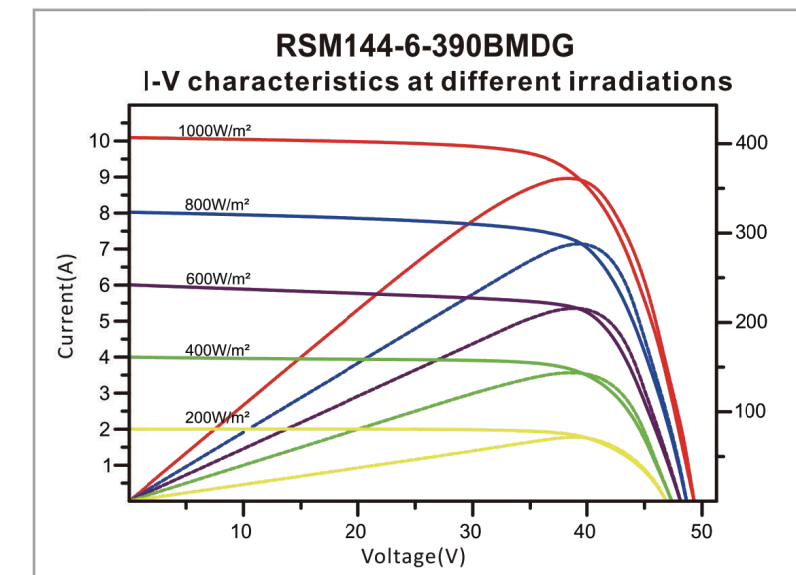
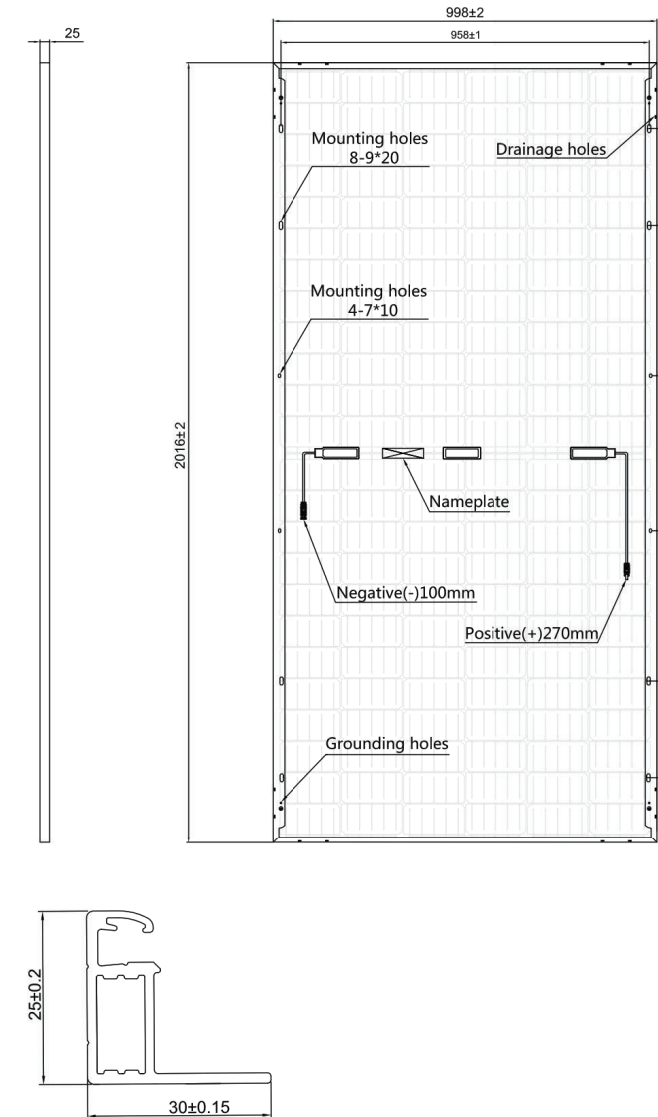
LINEAR PERFORMANCE WARRANTY



Equipment by Others



Dimensions of PV Module Unit: mm



ELECTRICAL DATA (STC)

Model Number	RSM144-6-370BMDG	RSM144-6-375BMDG	RSM144-6-380BMDG	RSM144-6-385BMDG	RSM144-6-390BMDG
Rated Power in Watts-Pmax(Wp)	370	375	380	385	390
Open Circuit Voltage-Voc(V)	47.60	47.75	48.00	48.15	48.30
Short Circuit Current-Isc(A)	9.90	10.00	10.10	10.20	10.30
Maximum Power Voltage-Vmpp(V)	39.80	39.90	40.05	40.15	40.25
Maximum Power Current-Impp(A)	9.30	9.40	9.50	9.60	9.70
Module Efficiency (%)	18.5	18.8	19.0	19.3	19.5
Encapsulated Cell Efficiency (%)	20.8	21.1	21.4	21.6	21.9

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.
Power production tolerance: 0~+3%

REAR SIDE POWER GAIN BIFACIAL FACTOR: 75%±5

Model Number	RSM144-6-370BMDG	RSM144-6-375BMDG	RSM144-6-380BMDG	RSM144-6-385BMDG	RSM144-6-390BMDG
10% Power Output(Wp)	407	413	418	424	429
15% Power Output(Wp)	426	431	437	443	449
20% Power Output(Wp)	444	450	456	462	468
25% Power Output(Wp)	463	469	475	481	488

ELECTRICAL DATA (NMOT)

Model Number	RSM144-6-370BMDG	RSM144-6-375BMDG	RSM144-6-380BMDG	RSM144-6-385BMDG	RSM144-6-390BMDG
Maximum Power-Pmax (Wp)	276.7	280.3	284.4	288.1	291.8
Open Circuit Voltage-Voc (V)	43.8	43.9	44.2	44.3	44.4
Short Circuit Current-Isc (A)	8.12	8.20	8.28	8.36	8.45
Maximum Power Voltage-Vmpp (V)	36.5	36.6	36.7	36.8	36.9
Maximum Power Current-Impp (A)	7.59	7.67	7.75	7.83	7.92

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar cells	Monocrystalline, 6" half cell
Cell configuration	144 cells (6×12+6×12)
Module dimensions	2016×998×25mm
Weight	26kg
Superstrate	2.0 mm, ARC Glass
Substrate	2.0 mm, Glazed Glass
Frame	Anodized Aluminium Alloy type 6063T5, Silver Color
J-Box	Potted, IP68, 1500VDC, 3 Schottky bypass diodes
Cables	4.0mm² (12AWG), positive 270mm length, negative 100mm length
Connector	Risen Twinsel PV-SY02, IP68

TEMPERATURE & MAXIMUM RATINGS

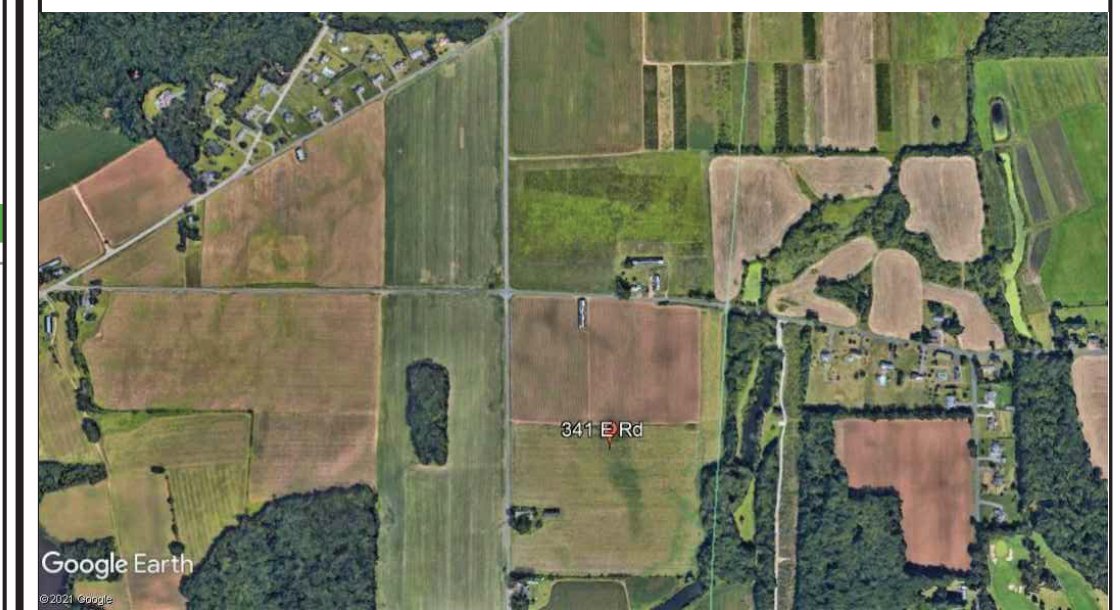
Nominal Module Operating Temperature (NMOT)	45°C±2°C
Temperature Coefficient of Voc	-0.29%/°C
Temperature Coefficient of Isc	0.06%/°C
Temperature Coefficient of Pmax	-0.37%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Max Series Fuse Rating	20A
Limiting Reverse Current	20A

PACKAGING CONFIGURATION

	40ft	20ft
Number of modules per container	880	400
Number of modules per pallet	40	40
Number of pallets per container	22	10
Packaging box dimensions (LxWxH) in mm	2110×1130×1140	2110×1130×1140
Box gross weight[kg]	1100	1100

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.
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AERIAL VIEW



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Tel: 212-388-5160
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Site Key Plan:

Engineer's Seal:



Rev:	By:	Date:	Description:
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2	GF	03-23-2021	Updated Assembly
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Array Information

	PV Modules	Racking
Manufacturer	1. Trina Solar 2. Risen	Gamechange Solar
Model	1. TSM-DEG15MC 20(I) 2. RSM144-6-380BMDG	30-Deg MaxSpan I-Beam
Dimensions	1. 79.69" x 39.45" x 1.18" 2. 79.37" x 39.29" x 0.98"	
Weight	1. 57.3 lbs 2. 57.3 lbs	
Quantity	1. 15992 2. 3356	Posts: 1772
Ground Clearance	36"	
15992 modules at 395 W 3356 modules at 380 W 7.592 MW		

Customer:	Verogy	
Project:	East Windsor	Project #: ----
Location:	341 East Rd, East Windsor, CT 06016	

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Design Information

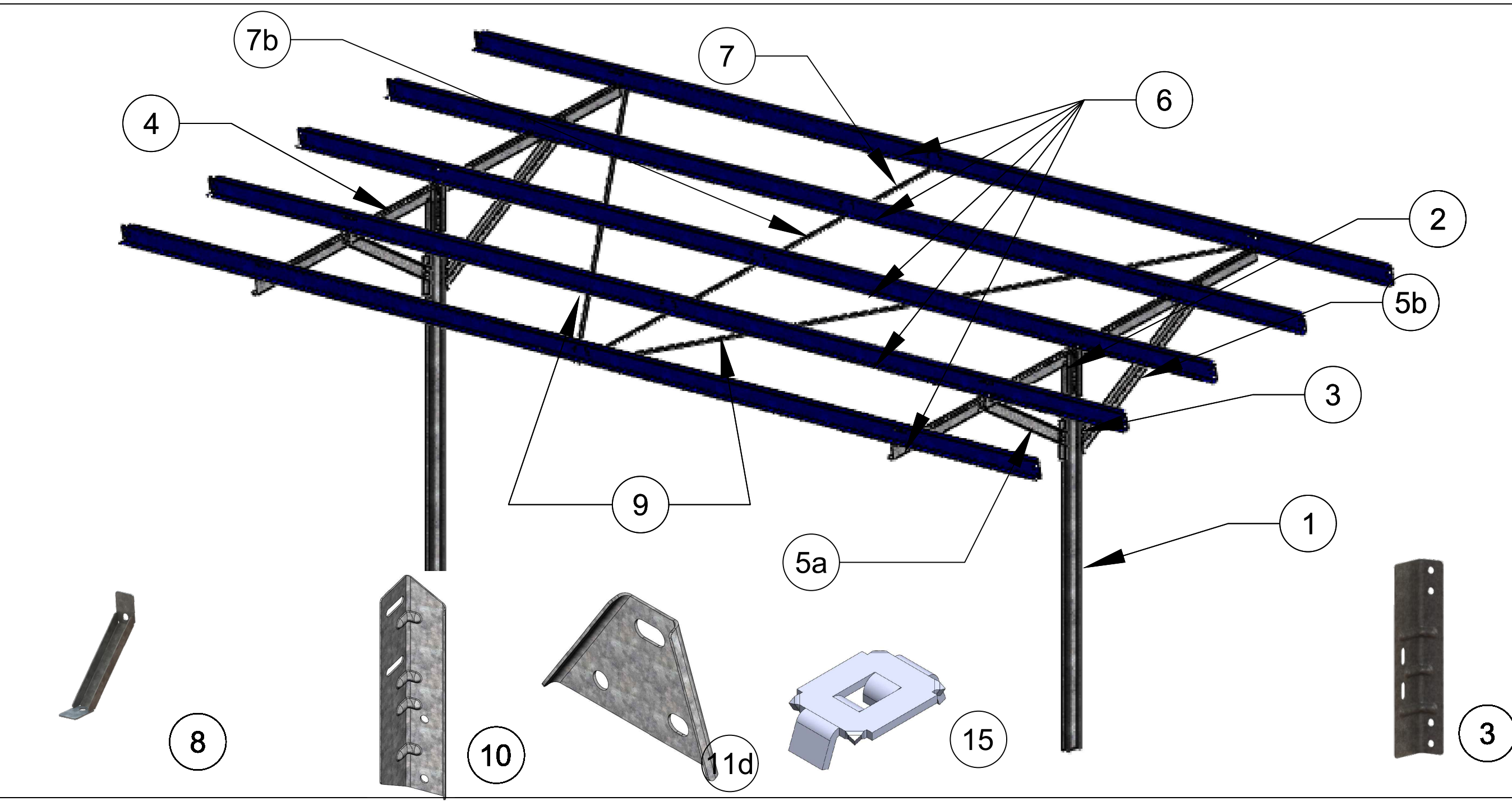
Risk Category	I	Area of Array	24.06 acres	Seismic Site Class	D
Wind Exposure Category	C	No. of rows	74	S ₀ /S ₁	0.177 g / 0.064 g
Design Wind Load	115 mph per ASCE7-10	Distance to Saltwater	>25 miles	Project Design Life	25 years
Design Snow Load	35 psf	Dead Load	3.7 psf	Applicable Building Code	2018 Connecticut State Building Code

Sheet #:

Module Spec Sheet

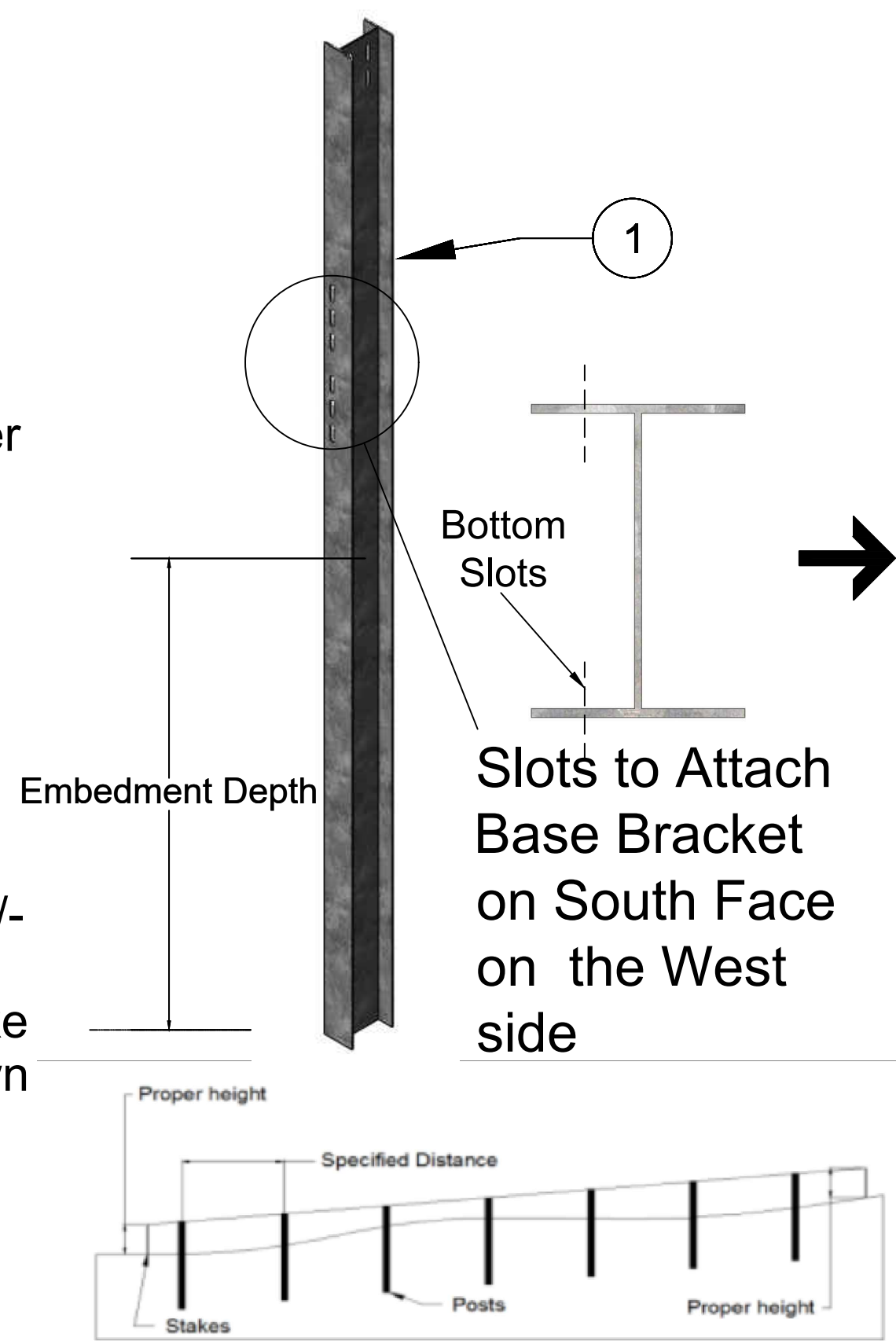
S411

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Proper installation shall result in top of post to top of post distances matching that on layout. In order to achieve this, two factors must be considered and properly compensated for. Sloping Ground (ground slopes over 3%) will result in distance between posts growing as compared to the required distance. Thus, the measurement shall be taken along the slope of the table and place rooster tails (pile driving flags) at proper distance along that slope, NOT AT PLAN VIEW LOCATIONS.

- 1) Install first Post (I-Beam) to the proper embedment depth, with the openings facing East-West, and bottom attachment slots to the South on the west side, and plumb to within +/- 1 degree. Make sure the tops of the next Posts are installed at specified distances from the top of the previous (East-West +/- 1- 1/2", North-South +/-1/2")
The racking system allows for +/-2" but this will make more adjustment of purlins necessary and slow down installation.

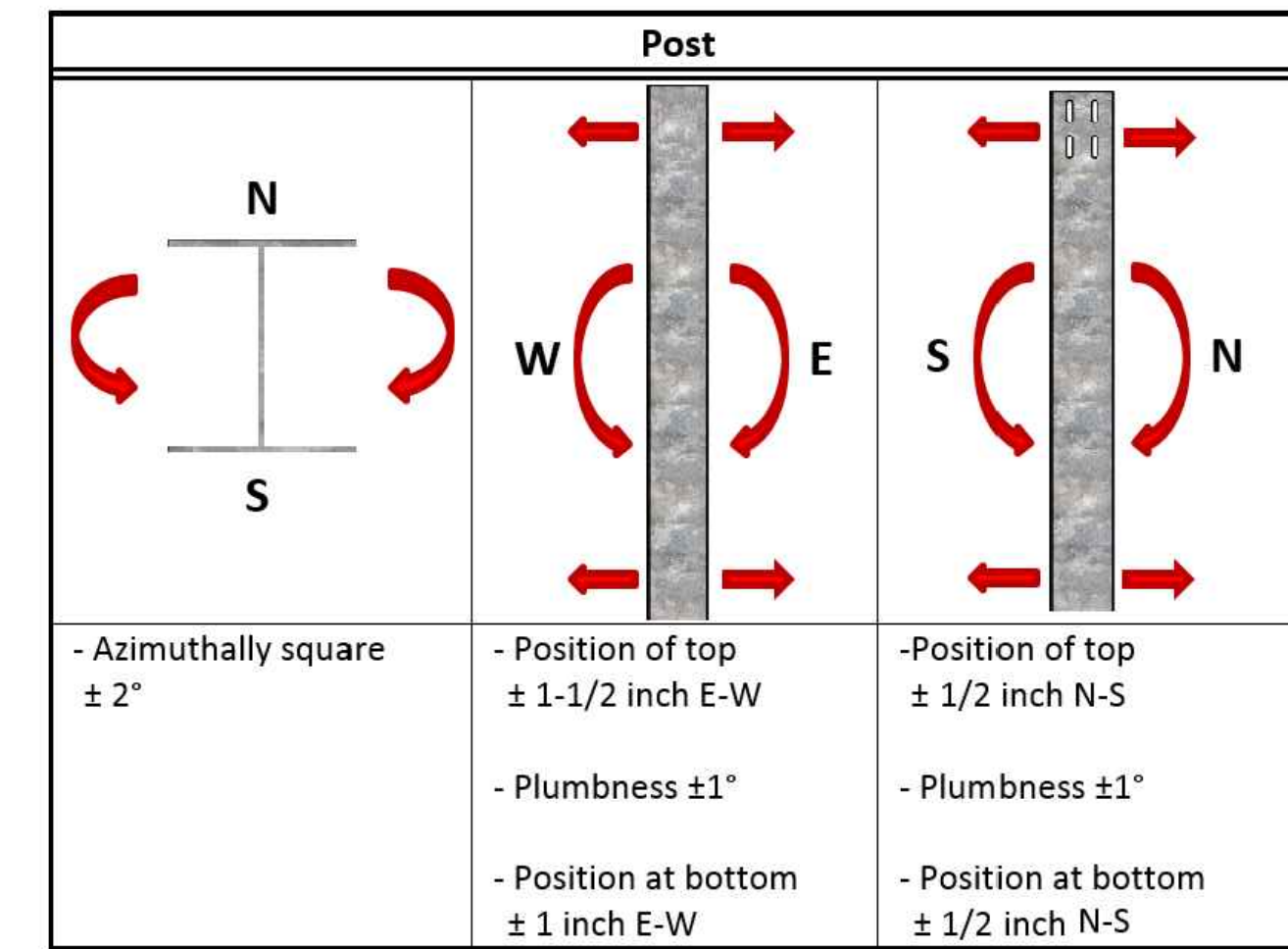


⚠ Do not use vibratory pile drivers

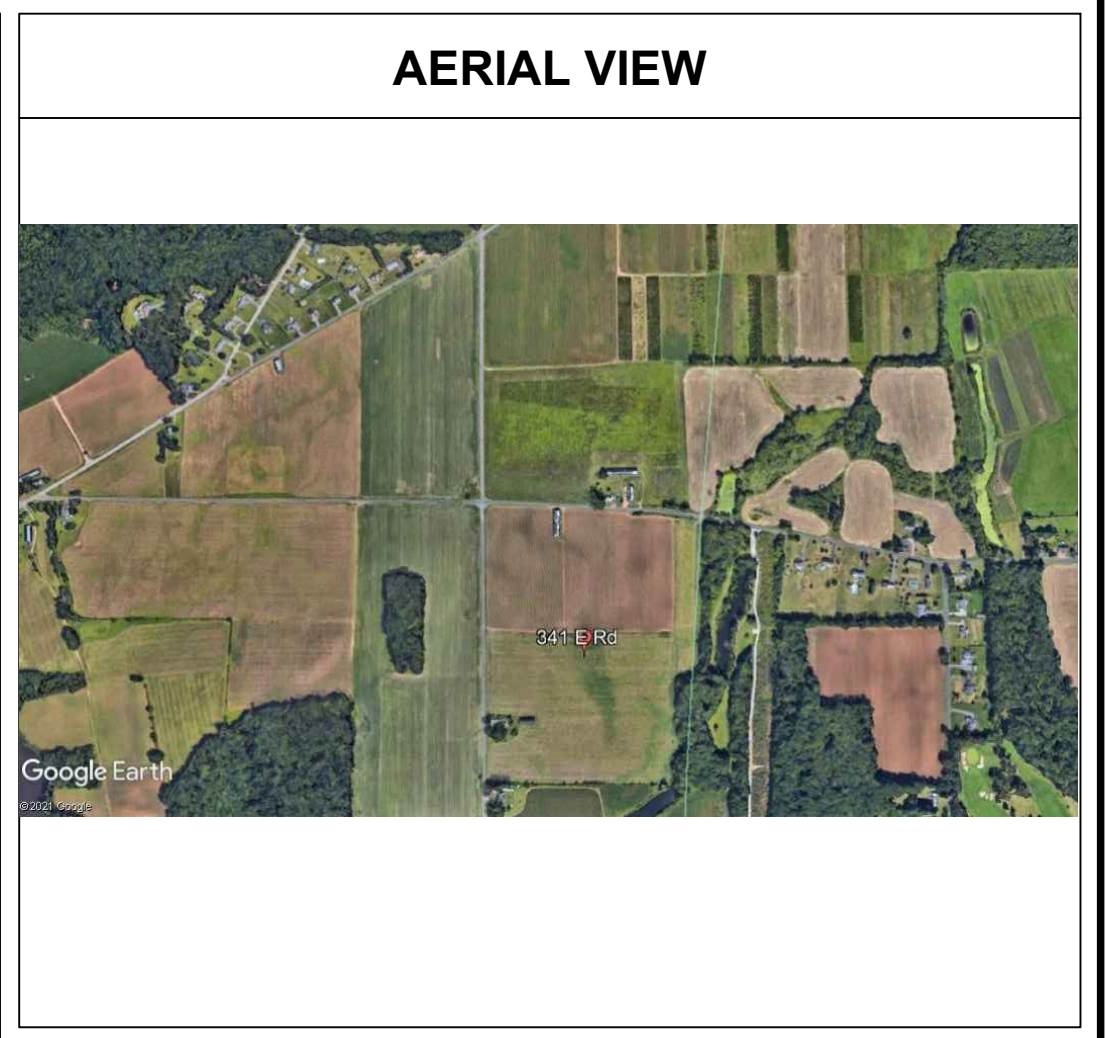
- Make sure tops of Posts are leveled to be at a consistent height or slope depending on the topography of the land.
- Note that embedment depth will vary to handle rolling ground variations. Gamechange provides piles with additional length enabling an adjustment range typically of 4" to 6". Be careful to always meet minimum embedment depth and ground clearance requirement.
- Make sure Posts are squared to within +/- 2 degrees to the azimuth of the array
- Make sure Posts are plumb +/- 1 deg so long as:

- Not more than +/- 1 1/2 inches on east to west direction at top of post (from the proper post location marked on ground).
- Not more than +/- 1/2 inch north to south direction at top of post (from the proper post location marked on ground)

- Make sure defined distance between foundations is measured from center of post to center of next post along the ground (not from plan view). Otherwise foundation locations will creep if there is rolling terrain since plan view does not factor in dimensions differences caused by terrain. This could make purlin attachment more difficult.



PARTS LIST			
Item No.	Description	Part No.	Material
1	Post (I- Beam)	GC461-W6	Galvanized Steel HDG
2a	Post Bracket	GC261B-F	Galvanized Steel G90
2b	Post Extender	GC261B-F-35	Galvanized Steel G90
3	Base Bracket	GC468R	Galvanized Steel G90
4	NS Beam	GC462LS	Galvanized Steel G90
5a	South Brace	GC464-S	Galvanized Steel G90
5b	North Brace	GC464-N	Galvanized Steel G90
6	EW Purlin	GC63/GC63N	Galvanized Steel G90
7	Connector Rail	GC903TWT-C	Galvanized Steel G90
8	Purlin Support	GC879	Galvanized Steel G90
9	Purlin Angle	GC874	Galvanized Steel G90
10	Purlin Brace	GC127	Galvanized Steel G90
11a	1/2-13 Serrated Flange Bolts / Hex Bolts		Magnicoat
11b	1/2" Washer		HDG
11c	1/2-13 Serrated Flange Nuts		Magnicoat
11d	Beam Plate Washer	GC128T	Galvanized Steel G90
12a	3/8-16 Serrated Flange Bolts / Hex Bolts		Magnicoat
12b	3/8" - 16 Super Flange Hex Nut		HDG
12c	3/8-16 Serrated Flange Nuts		Magnicoat
12d	3/8 -16 1" Superflange Hex Bolts		Magnicoat
13a	1/4-20 Serrated Hex Bolts		Magnicoat
13b	1/4" Washer	Not Used	Magnicoat
13c	1/4-20 Serrated Flange Nuts		Magnicoat
13d	1/4-20 2-1/2" Hex bolt		Magnicoat
13e	1/4-20 Button Head Cap Bolt		Magnicoat
13f	LockClamp T-Bolt	GC1307A	
14	Rubber O Ring		
15	Mid Clip Assembly	GC1307AM	Stainless Steel



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Site Key Plan: _____ Engineer's Seal: _____

Rev:	By:	Date:	Description:
1	HD	03-09-2021	Original Layout
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Array Information		
	PV Modules	Racking
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Weight	1. 57.3 lbs 2. 57.3 lbs	
Quantity	1. 15992 2. 3356	Posts: 1772
Ground Clearance	36"	
15992 modules at 395 W 3356 modules at 380 W 7.592 MW		

GC Max-Span System

- Use only GameChange parts. Use of other parts to complete the installation as substitutes may void the warranty.
- Make sure the site ground can support the loading resulting from the GC MaxSpan Plus Ground System and provided PV modules.
- Comply with all relevant local, state and national safety laws and standards for both for mechanical and electrical aspects of the solar PV array installation.
- When encountering undocumented or unexpected obstacles requiring a work around, work arounds should be brought to the attention of GameChange personnel prior to being attempted. If approved by GameChange, work arounds shall be noted on project as-built drawings. Work arounds should be completed in a manner that ensures that the remainder of the array is not affected.
- GC MaxSpan Plus Ground System is to be installed in a clear area free of shading with a suggested 10 ft border surrounding array.
- Reference Install Manual for installation. Not following install manual may result in voiding warranty.
- Install the array facing due south (+/- 1 degree) unless otherwise noted on the layout drawings in this drawing set or on project electrical drawings.

- Tool Required**
- String Line
 - 30 ft Tape Measure
 - Inclinometer or level with digital degree read out
 - Impact Drill with interchangeable drivers
 - Wrenches and driver sockets, both standard and deep, in the following sizes:
 - o 7/16 inch (for 1/4-inch hex bolts and nuts),
 - o 9/16 inch (for 3/8-inch hex bolts and nuts),
 - o 3/4 inch (for 1/2-inch hex bolts and nuts)
 - Torque Wrench. Torque bolts to appropriate torque range:
 - 1/4" hardware (stainless) = 6 - 7 ft-lbs (72 - 84 in-lbs)
 - 1/4" hardware (magni) = 9 - 10 ft-lbs (108 - 120 in-lbs)
 - 3/8" hardware = 29 - 31 ft-lbs
 - 1/2" hardware = 95 - 100 ft-lbs
 - 1/2"-13 8" Bolts / 9" Rods = 110-115 ft-lbs
 - 3M Scotchrap Tape 50: All-Weather Corrosion Protection Tape, black, 4" wide
 - Rags, Nylon Roller, Utility Knife, Garbage Bags

- Preventative Maintenance**
- It is best practice to unbundle loads and install parts within several weeks of delivery so air is able to flow around parts and thus prevent white rust formation. In order to maintain the longest life possible for the protective zinc coating under the warranty, it is important to monitor for any severe white rust developments prior to installation and if this condition appears to take proper maintenance steps to remediate it. See the Installation Manual for more information.
 - After installation, owner must annually monitor for any surface rust that may occur over time. Identify any rust areas, wire brush area to remove rust, and coat with 80% zinc rich paint, or equivalent field life paint. This step is not required if rust is limited to edges which were cut during fabrication.
 - If panel mounting clips are used to install modules, clips must be checked annually and after storms with severe winds to make sure their installation and torque settings remain correct.
 - Annual inspection must be done for mechanical movement due to any reason including thermal expansion and contraction. Any mechanical movement must be rectified.
 - Torque settings must be checked for all hardware.
 - All Clips must be checked to make sure there is no gap between side of Clip and module.
 - See Installation Manual for additional details on preventative maintenance.
 - Proper preventative maintenance must be conducted or warranty may be voided.

Customer: **Verogy**

Project: **East Windsor** Project #: ----

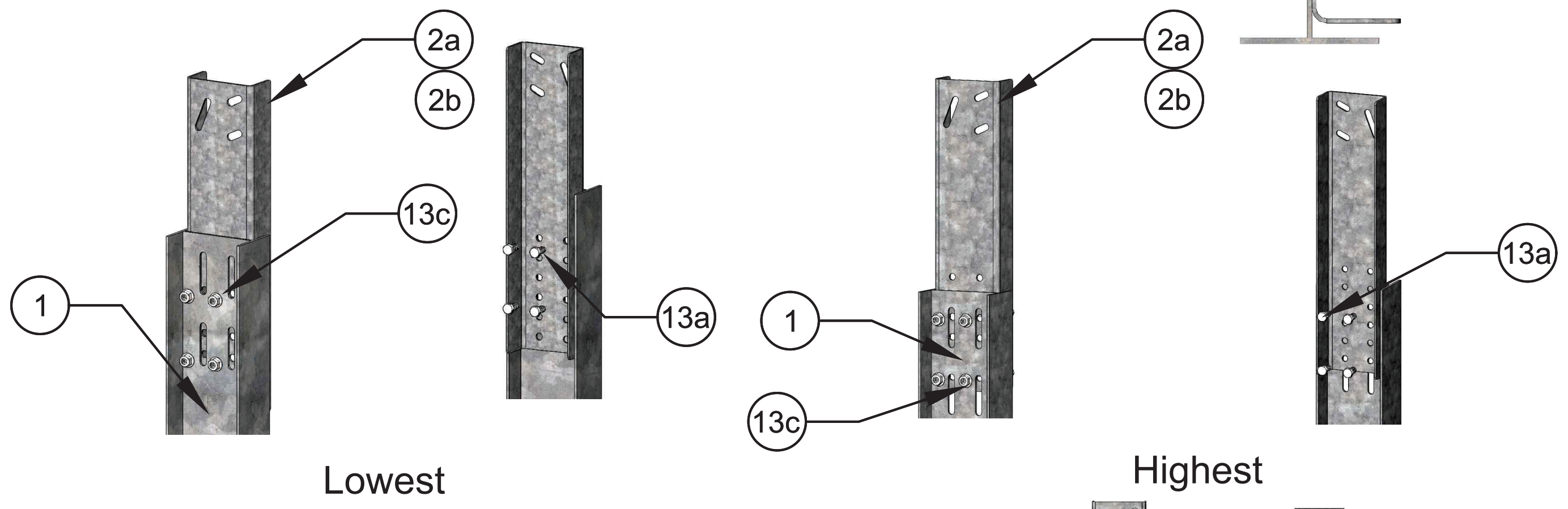
Location: **341 East Rd, East Windsor, CT 06016**

GC Max-Span™ I-Beam Ground System 4 Up Poly

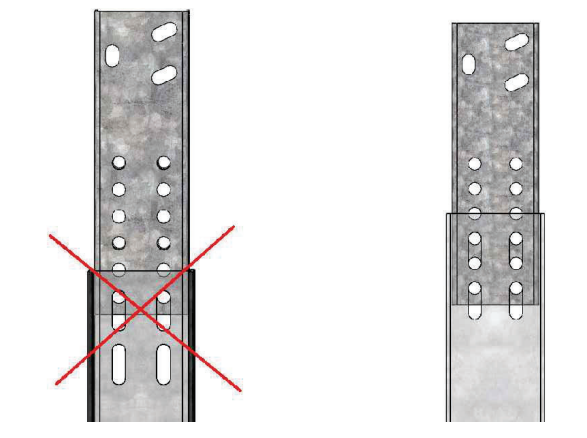
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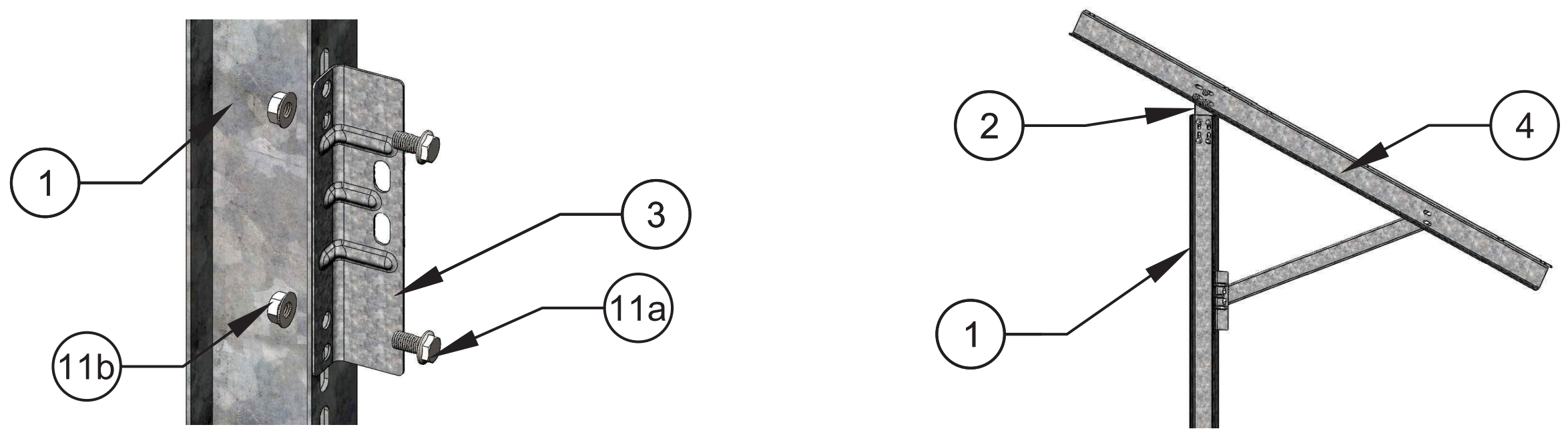
2) Place Post Bracket on top of Post such that the open side of the Post Bracket faces East. Attach Post Bracket to Post using four 1/2-inch bolts inside Post Bracket and serrated flange nuts on Post side. Leave hand tight to allow for adjustment in later steps.



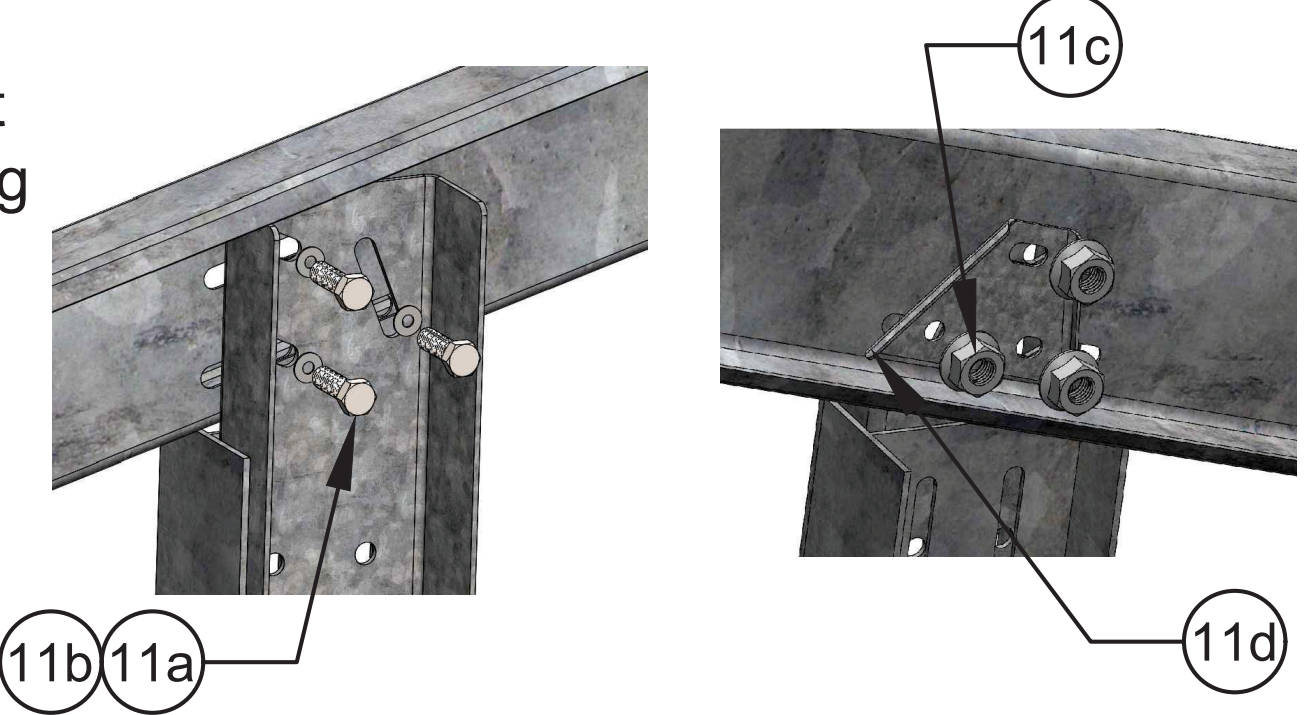
3) The highest point the Post Bracket may be installed is the top end of the top slot to the third hole from the bottom. Post Bracket MAY NOT be extended such that the top end of the top slot attaches to the bottom hole.



4) Attach Brace Bracket to Post at specified distance as per assembly drawing in Permit/Layout drawing set below the Post Bracket, using two bolts outside bracket and flange nuts and Post Bracket washer inside post.

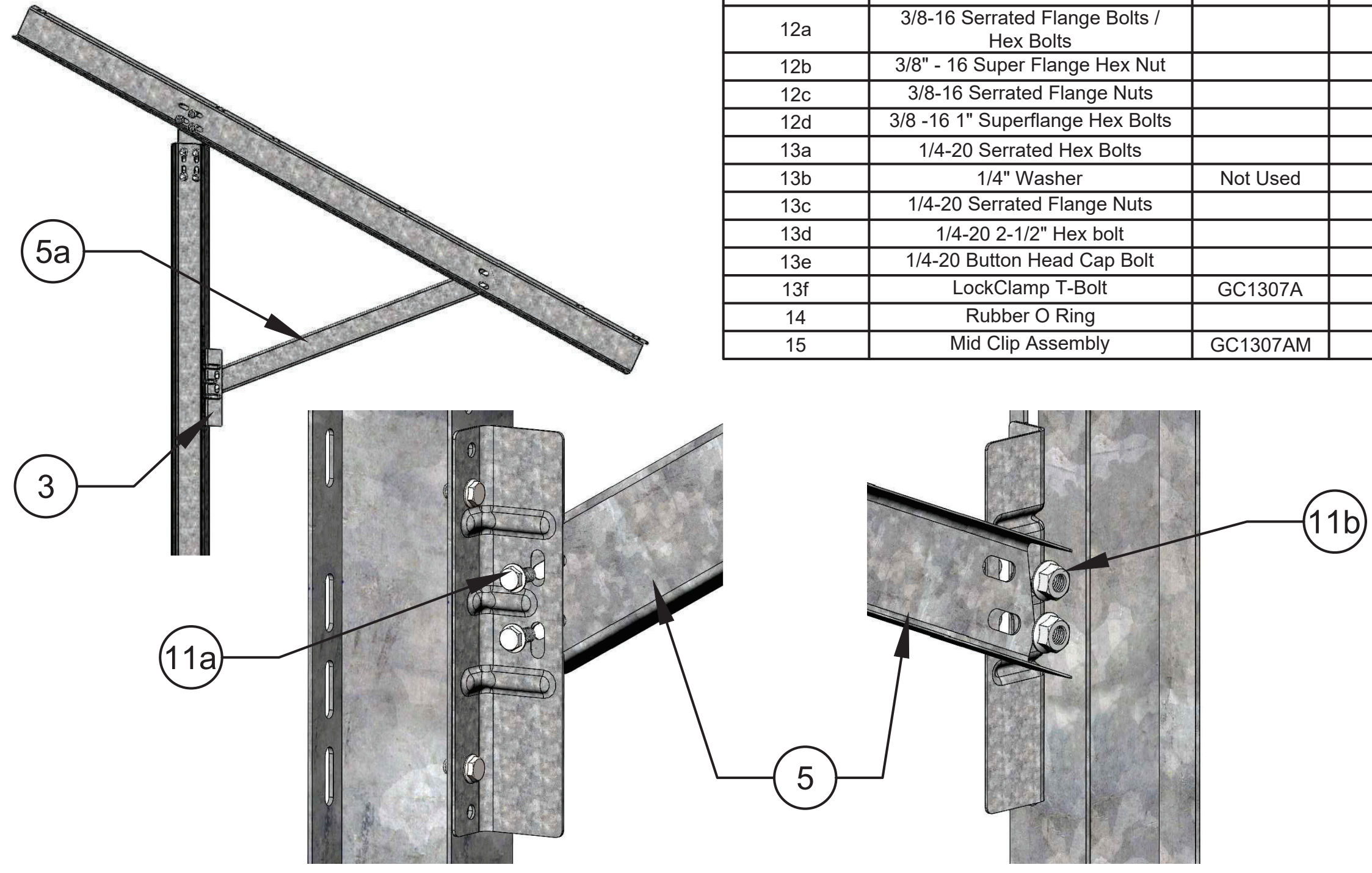


5) Place NS Beams on top of Post Bracket such that top flange is pointing east. Align 1/2-inch mounting slots with 1/2-inch slots on top of Post Bracket.

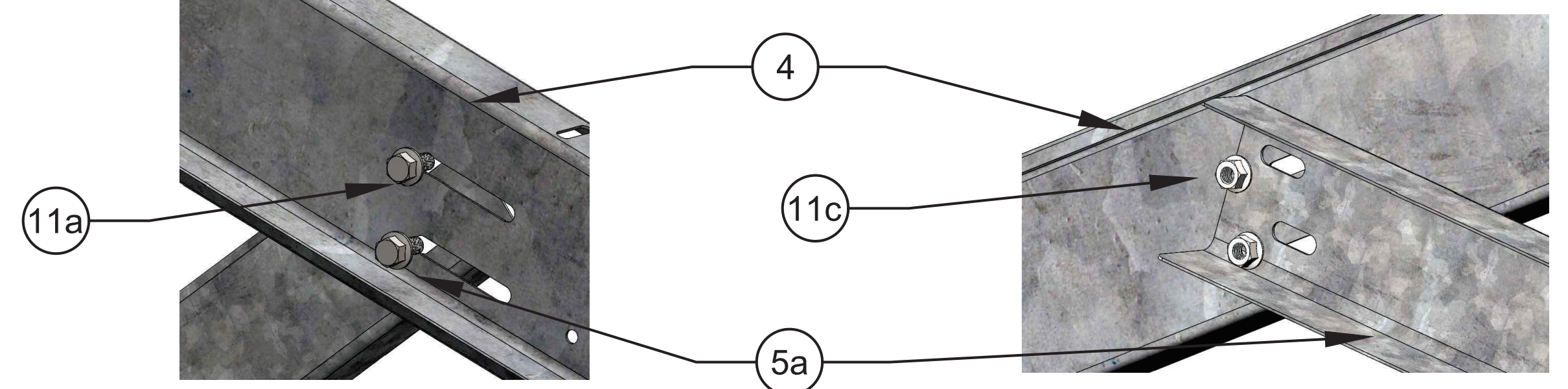


6) Attach NS Beam to Post Bracket using three 1/2-inch bolts and washers inside Post Bracket and Beam Plate Washer and serrated flange nuts on NS Beam side. Leave hand tight to allow for adjustment in later steps. Drive from bolt side.

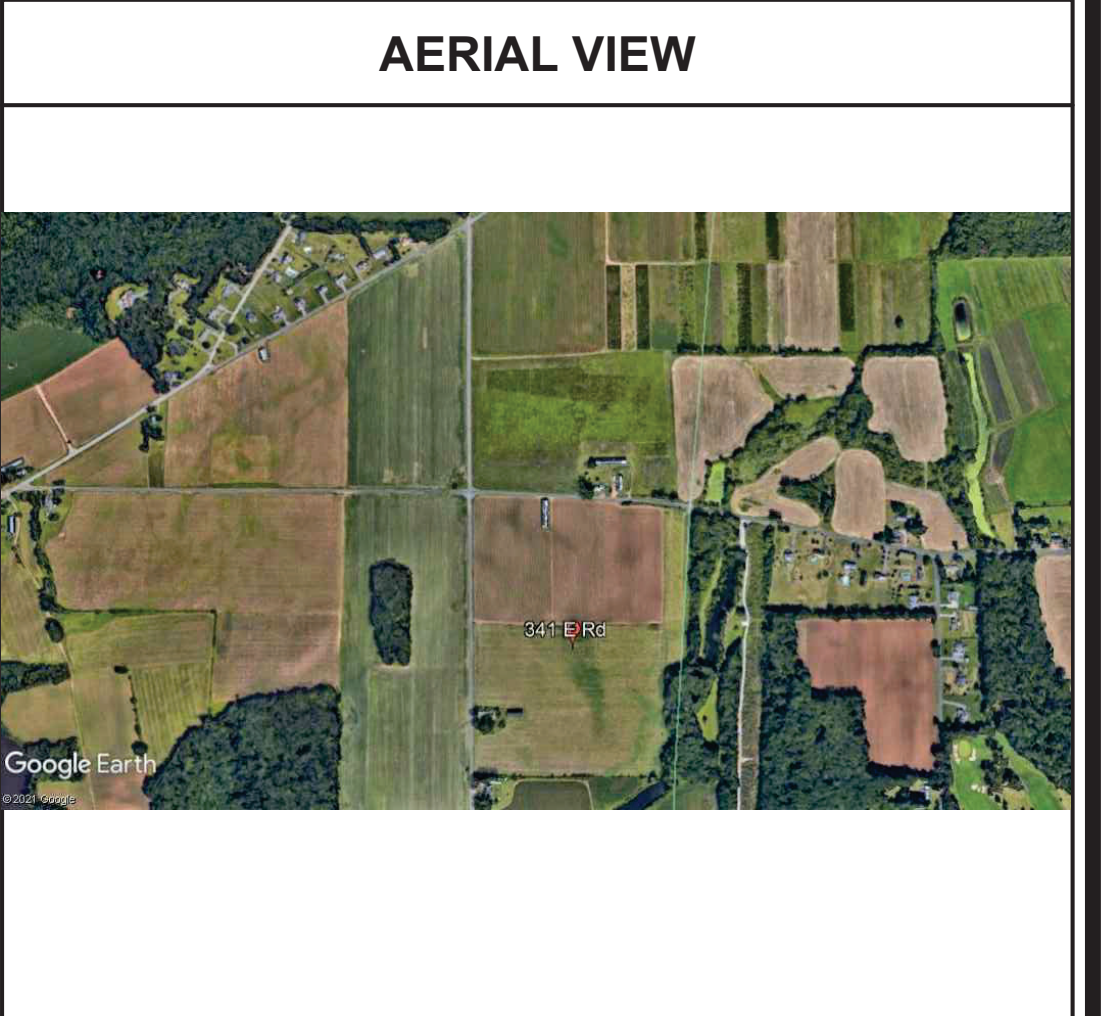
7) Align 1/2-inch width slots on South Brace to 1/2-inch width slots on Base Bracket, attach using two 1/2-inch bolts and Post Bracket Washer on Bracket side and serrated flange nuts on South Brace side. Leave hand tight to allow for adjustment in later steps. It is critical that the Post Bracket Washer sits flush on base bracket and it does not ride up on the chamfer on the rib.



8) Align 1/2-inch slots on Brace to 1/2-inch slots on NS Beam. Make sure to review assembly print for specific job and attach to hole that results in tilt as required for installation. Attach Brace to NS Beam using two 1/2-inch bolts / washers and Beam Plate Washer on NS Beam side and serrated flange nuts on Brace side. Leave hand tight to allow for adjustment in later steps.



PARTS LIST			
Item No.	Description	Part No.	Material
1	Post (I- Beam)	GC461-W6	Galvanized Steel HDG
2a	Post Bracket	GC261B-F	Galvanized Steel G90
2b	Post Extender	GC261B-F-35	Galvanized Steel G90
3	Base Bracket	GC468R	Galvanized Steel G90
4	NS Beam	GC462LS	Galvanized Steel G90
5a	South Brace	GC464-S	Galvanized Steel G90
5b	North Brace	GC464-N	Galvanized Steel G90
6	EW Purlin	GC63/GC63N	Galvanized Steel G90
7	Connector Rail	GC903TWT-C	Galvanized Steel G90
8	Purlin Support	GC879	Galvanized Steel G90
9	Purlin Angle	GC874	Galvanized Steel G90
10	Purlin Brace	GC127	Galvanized Steel G90
11a	1/2-13 Serrated Flange Bolts / Hex Bolts		Magnicoat
11b	1/2" Washer		HDG
11c	1/2-13 Serrated Flange Nuts		Magnicoat
11d	Beam Plate Washer	GC128T	Galvanized Steel G90
12a	3/8-16 Serrated Flange Bolts / Hex Bolts		Magnicoat
12b	3/8" - 16 Super Flange Hex Nut		HDG
12c	3/8-16 Serrated Flange Nuts		Magnicoat
12d	3/8 -16 1" Superflange Hex Bolts		Magnicoat
13a	1/4-20 Serrated Hex Bolts		Magnicoat
13b	1/4" Washer	Not Used	Magnicoat
13c	1/4-20 Serrated Flange Nuts		Magnicoat
13d	1/4-20 2-1/2" Hex bolt		Magnicoat
13e	1/4-20 Button Head Cap Bolt		Magnicoat
13f	LockClamp T-Bolt	GC1307A	
14	Rubber O Ring		
15	Mid Clip Assembly	GC1307AM	Stainless Steel



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REPOWERING THE PLANET

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Tel: 212-388-5160
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Site Key Plan: _____ Engineer's Seal: _____

Rev:	By:	Date:	Description:
1	HD	03-09-2021	Original Layout
2	GF	03-23-2021	Updated Assembly
3	SVP	05-14-2021	IFP

Array Information		
	PV Modules	Racking
Manufacturer	1. Trina Solar 2. Risen	Gamechange Solar
Model	1. TSM-DEG15MC 20(I) 2. RSM144-6-380BMDG	30-Deg MaxSpan I-Beam
Dimensions	1. 79.69" x 39.45" x 1.18" 2. 79.37" x 39.29" x 0.98"	
Weight	1. 57.3 lbs 2. 57.3 lbs	
Quantity	1. 15992 2. 3356	Posts: 1772
Ground Clearance	36"	
15992 modules at 395 W 3356 modules at 380 W 7.592 MW		

Customer: **Verogy**

Project: **East Windsor** Project #: ----

Location: **341 East Rd, East Windsor, CT 06016**

GC Max-Span™ I-Beam Ground System 4 Up Poly

Sheet #: **S501**

11 of 16

GC Max-Span System

- Use only GameChange parts. Use of other parts to complete the installation as substitutes may void the warranty.
- Make sure the site ground can support the loading resulting from the GC MaxSpan Plus Ground System and provided PV modules.
- Comply with all relevant local, state and national safety laws and standards for both for mechanical and electrical aspects of the solar PV array installation.
- When encountering undocumented or unexpected obstacles requiring a work around, work arounds should be brought to the attention of GameChange personnel prior to being attempted. If approved by GameChange, work arounds shall be noted on project as-built drawings. Work arounds should be completed in a manner that ensures that the remainder of the array is not affected.
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- Reference Install Manual for installation. Not following install manual may result in voiding warranty.
- Install the array facing due south (+/- 1 degree) unless otherwise noted on the layout drawings in this drawing set or on project electrical drawings.

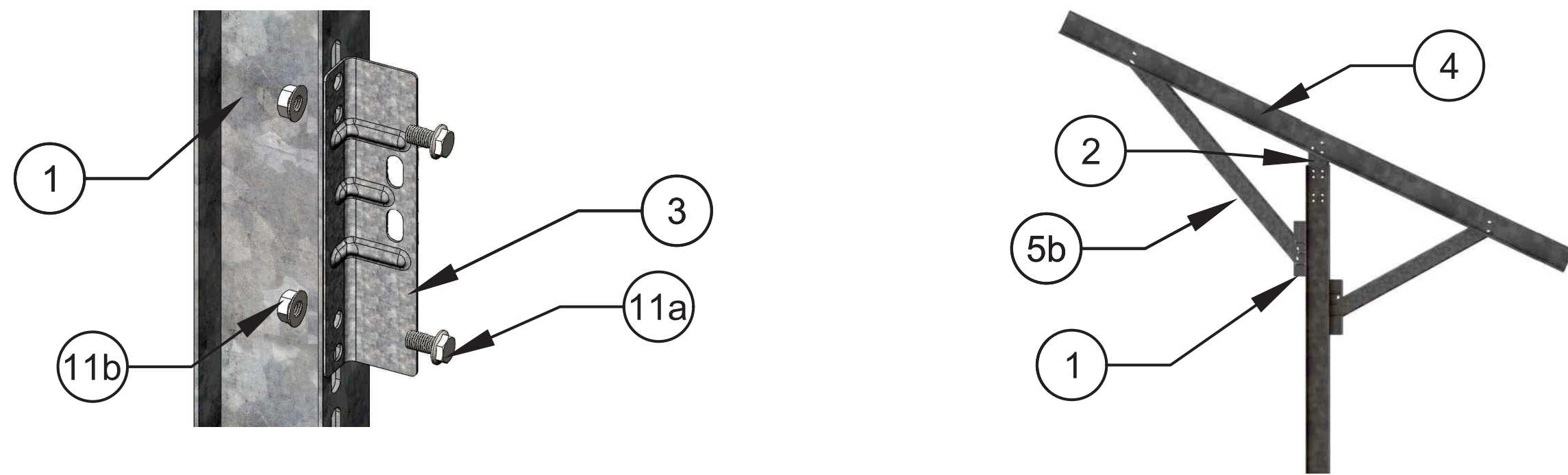
Tool Required

- String Line
- 30 ft Tape Measure
- Inclinometer or level with digital degree read out
- Impact Drill with interchangeable drivers
- Wrenches and driver sockets, both standard and deep, in the following sizes:
 - 7/16 inch (for 1/4-inch hex bolts and nuts),
 - 9/16 inch (for 3/8-inch hex bolts and nuts),
 - 3/4 inch (for 1/2-inch hex bolts and nuts)
- Torque Wrench. Torque bolts to appropriate torque range:
 - 1/4" hardware (stainless) = 6 - 7 ft-lbs (72 - 84 in-lbs)
 - 1/4" hardware (magni) = 9 - 10 ft-lbs (108 - 120 in-lbs)
 - 3/8" hardware = 29 - 31 ft-lbs
 - 1/2" hardware = 95 - 100 ft-lbs
 - 1/2"-13 8" Bolts / 9" Rods = 110-115 ft-lbs
- 3M Scotchrap Tape 50: All-Weather Corrosion Protection Tape, black, 4" wide
- Rags, Nylon Roller, Utility Knife, Garbage Bags

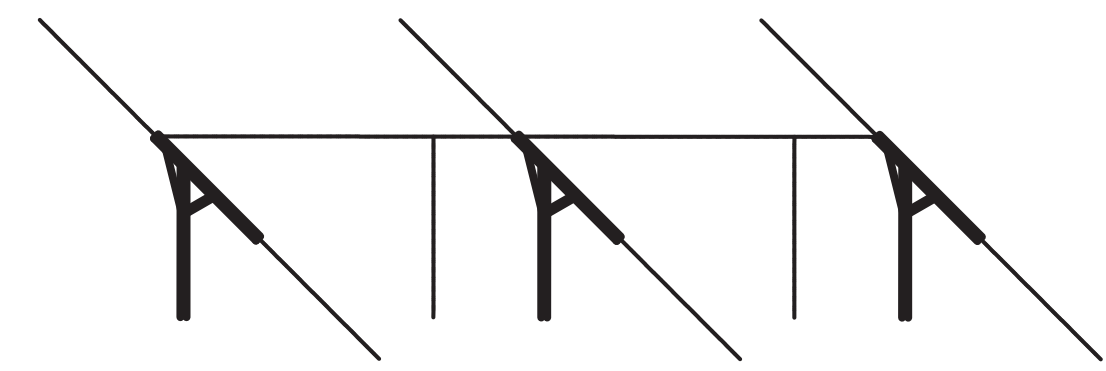
Preventative Maintenance

- It is best practice to unbundle loads and install parts within several weeks of delivery so air is able to flow around parts and thus prevent white rust formation. In order to maintain the longest life possible for the protective zinc coating under the warranty, it is important to monitor for any severe white rust developments prior to installation and if this condition appears to take proper maintenance steps to remediate it. See the Installation Manual for more information.
- After Installation, owner must annually monitor for any surface rust that may occur over time. Identify any rust areas, wire brush area to remove rust, and coat with 80% zinc rich paint, or equivalent field life paint. This step is not required if rust is limited to edges which were cut during fabrication.
- If panel mounting clips are used to install modules, clips must be checked annually and after storms with severe winds to make sure their installation and torque settings remain correct.
- Annual inspection must be done for mechanical movement due to any reason including thermal expansion and contraction. Any mechanical movement must be rectified.
- Torque settings must be checked for all hardware.
- All Clips must be checked to make sure there is no gap between side of Clip and module.
- See Installation Manual for additional details on preventative maintenance.
- Proper preventative maintenance must be conducted or warranty may be voided.

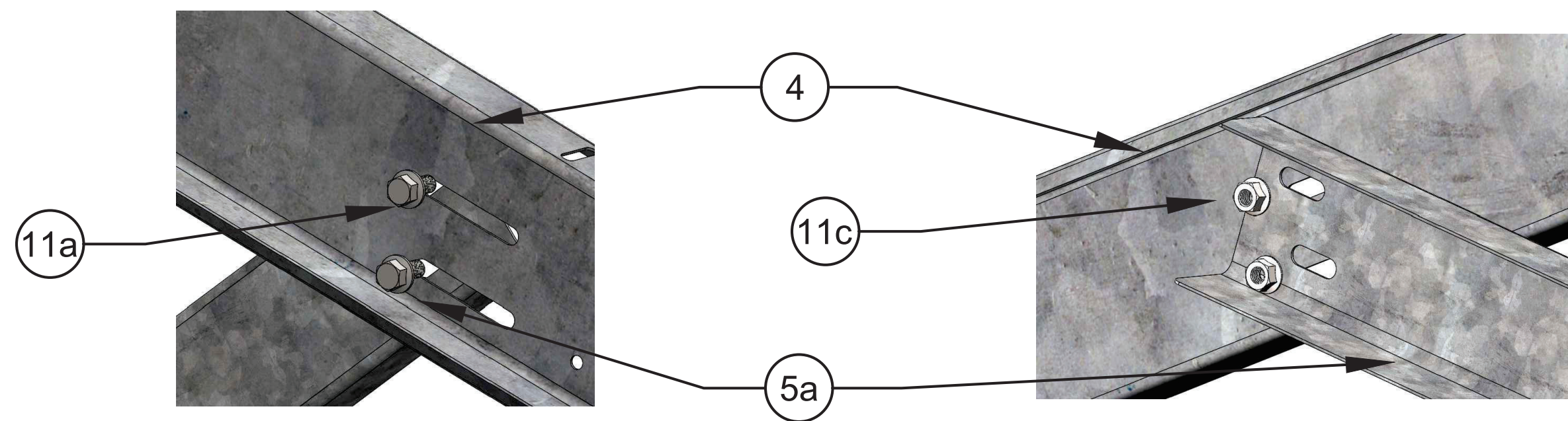
9) Attach 2nd Brace Bracket to Post at specified distance as per assembly drawing in Permit/Layout drawing set below the Post Bracket, using two bolts outside bracket and flange nuts inside post.



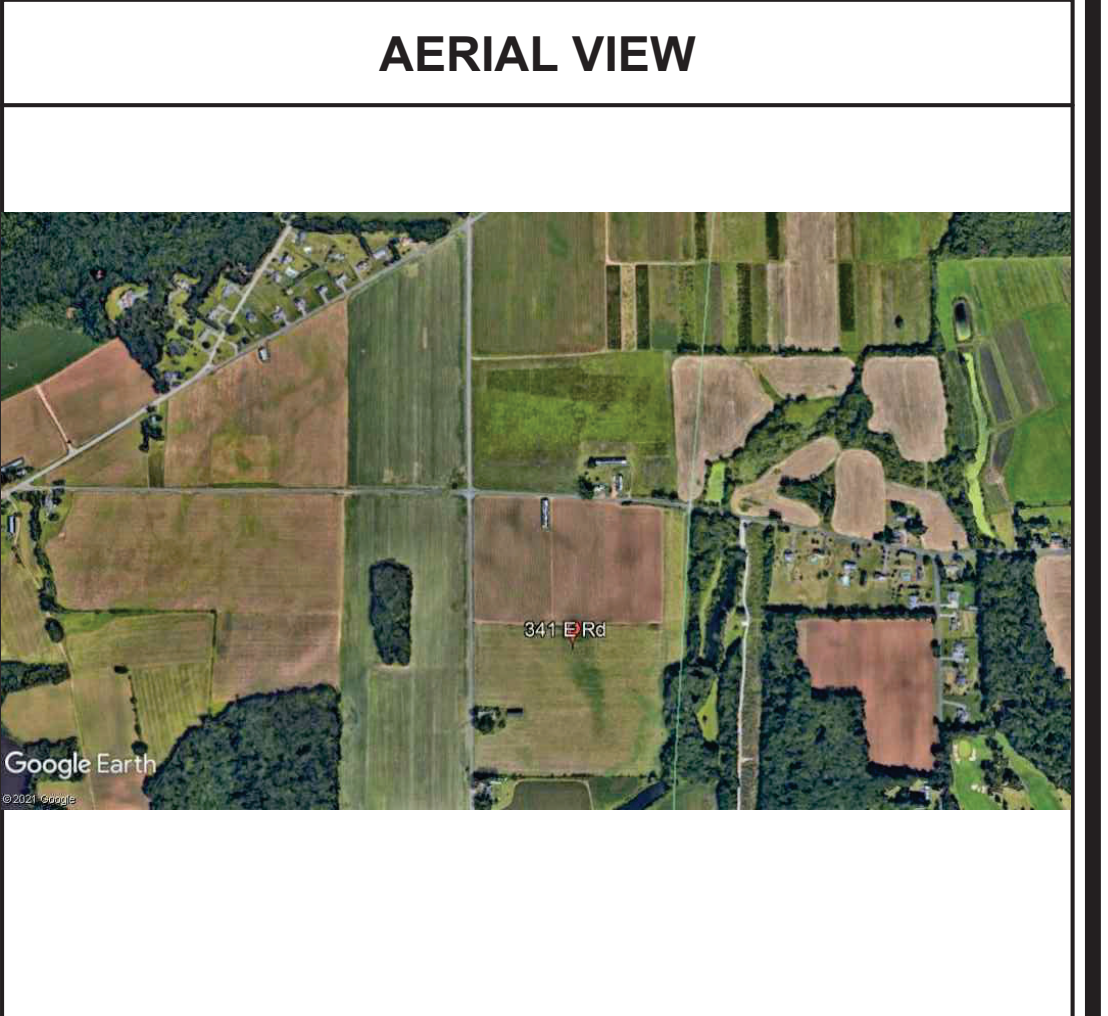
11) Repeat for NS Beams and Braces on adjacent Posts. With NS Beams, make sure all NS Beams are at the same tilt. The North ends of the NS Beams shall be correctly oriented in the North-South direction, aligned properly in the East-West direction, and are to be at a consistent level height or slope. Once this is complete, torque all previous joints to specifications.



10) Align 1/2-inch slots on North Brace to 1/2-inch slots on NS Beam. Make sure to review assembly print for specific job and attach to hole that results in tilt as required for installation. Attach North Brace to NS Beam using two 1/2-inch bolts on NS Beam side and serrated flange nuts on Brace side. Leave hand tight to allow for adjustment in later steps.



PARTS LIST			
Item No.	Description	Part No.	Material
1	Post (I- Beam)	GC461-W6	Galvanized Steel HDG
2a	Post Bracket	GC261B-F	Galvanized Steel G90
2b	Post Extender	GC261B-F-35	Galvanized Steel G90
3	Base Bracket	GC468R	Galvanized Steel G90
4	NS Beam	GC462LS	Galvanized Steel G90
5a	South Brace	GC464-S	Galvanized Steel G90
5b	North Brace	GC464-N	Galvanized Steel G90
6	EW Purlin	GC63/GC63N	Galvanized Steel G90
7	Connector Rail	GC903TWT-C	Galvanized Steel G90
8	Purlin Support	GC879	Galvanized Steel G90
9	Purlin Angle	GC874	Galvanized Steel G90
10	Purlin Brace	GC127	Galvanized Steel G90
11a	1/2-13 Serrated Flange Bolts / Hex Bolts		Magnicoat
11b	1/2" Washer		HDG
11c	1/2-13 Serrated Flange Nuts		Magnicoat
11d	Beam Plate Washer	GC128T	Galvanized Steel G90
12a	3/8-16 Serrated Flange Bolts / Hex Bolts		Magnicoat
12b	3/8" - 16 Super Flange Hex Nut		HDG
12c	3/8-16 Serrated Flange Nuts		Magnicoat
12d	3/8 -16 1" Superflange Hex Bolts		Magnicoat
13a	1/4-20 Serrated Hex Bolts		Magnicoat
13b	1/4" Washer	Not Used	Magnicoat
13c	1/4-20 Serrated Flange Nuts		Magnicoat
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13f	LockClamp T-Bolt	GC1307A	
14	Rubber O Ring		
15	Mid Clip Assembly	GC1307AM	Stainless Steel



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Weight	1. 57.3 lbs 2. 57.3 lbs	
Quantity	1. 15992 2. 3356	Posts: 1772
Ground Clearance	36"	
15992 modules at 395 W 3356 modules at 380 W 7.592 MW		

Customer: **Verogy**

Project: **East Windsor** Project #: ----

Location: **341 East Rd, East Windsor, CT 06016**

GC Max-Span™
I-Beam Ground
System
4 Up Poly

Sheet #:
S502

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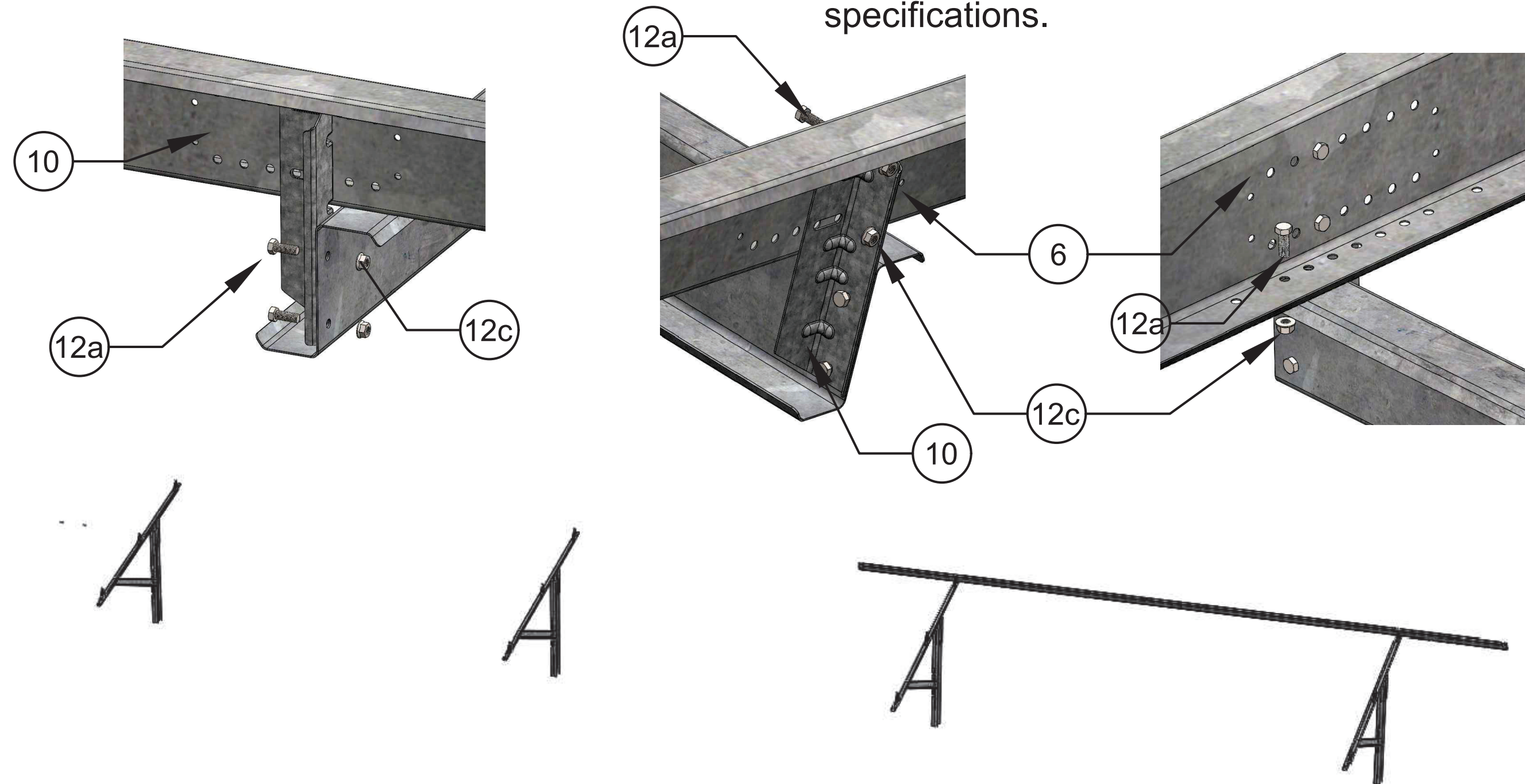
- GC Max-Span System**
- Use only GameChange parts. Use of other parts to complete the installation as substitutes may void the warranty.
 - Make sure the site ground can support the loading resulting from the GC MaxSpan Plus Ground System and provided PV modules.
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 - Reference Install Manual for installation. Not following install manual may result in voiding warranty.
 - Install the array facing due south (+/- 1 degree) unless otherwise noted on the layout drawings in this drawing set or on project electrical drawings.

- Tool Required**
- String Line
 - 30 ft Tape Measure
 - Inclinometer or level with digital degree read out
 - Impact Drill with interchangeable drivers
 - Wrenches and driver sockets, both standard and deep, in the following sizes:
 - 7/16 inch (for 1/4-inch hex bolts and nuts),
 - 9/16 inch (for 3/8-inch hex bolts and nuts),
 - 3/4 inch (for 1/2-inch hex bolts and nuts)
 - Torque Wrench. Torque bolts to appropriate torque range:
 - 1/4" hardware (stainless) = 6 - 7 ft-lbs (72 - 84 in-lbs)
 - 1/4" hardware (magni) = 9 - 10 ft-lbs (108 - 120 in-lbs)
 - 3/8" hardware = 29 - 31 ft-lbs
 - 1/2" hardware = 95 - 100 ft-lbs
 - 1/2"-13 8" Bolts / 9" Rods = 110-115 ft-lbs
 - 3M Scotchrap Tape 50: All-Weather Corrosion Protection Tape, black, 4" wide
 - Rags, Nylon Roller, Utility Knife, Garbage Bags

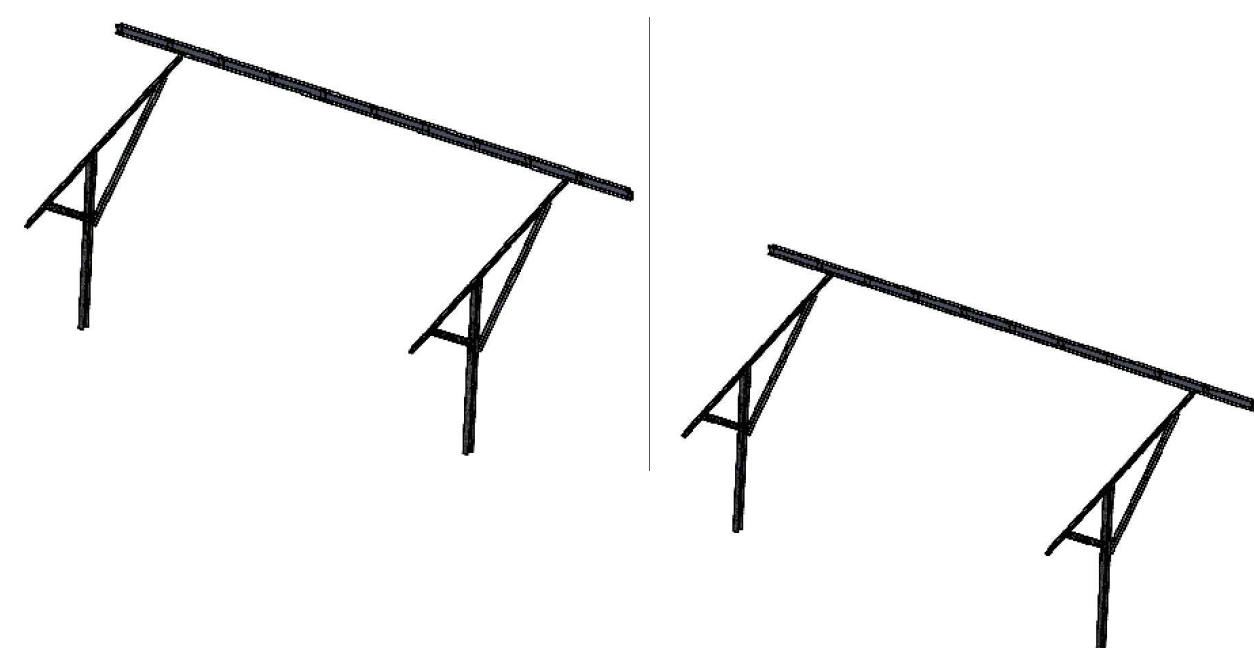
- Preventative Maintenance**
- It is best practice to unbundle loads and install parts within several weeks of delivery so air is able to flow around parts and thus prevent white rust formation. In order to maintain the longest life possible for the protective zinc coating under the warranty, it is important to monitor for any severe white rust developments prior to installation and if this condition appears to take proper maintenance steps to remediate it. See the Installation Manual for more information.
 - After Installation, owner must annually monitor for any surface rust that may occur over time. Identify any rust areas, wire brush area to remove rust, and coat with 80% zinc rich paint, or equivalent field life paint. This step is not required if rust is limited to edges which were cut during fabrication.
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 - Torque settings must be checked for all hardware.
 - All Clips must be checked to make sure there is no gap between side of Clip and module.
 - See Installation Manual for additional details on preventative maintenance.
 - Proper preventative maintenance must be conducted or warranty may be voided.

12) Attach Purlin Bracket to Southernmost end of NS Beams using 3/8-inch bolts on Purlin Bracket side and serrated flange nuts on NS Beam side. Tighten hardware to specification. Repeat for all Purlin Bracket locations on NS Beam.

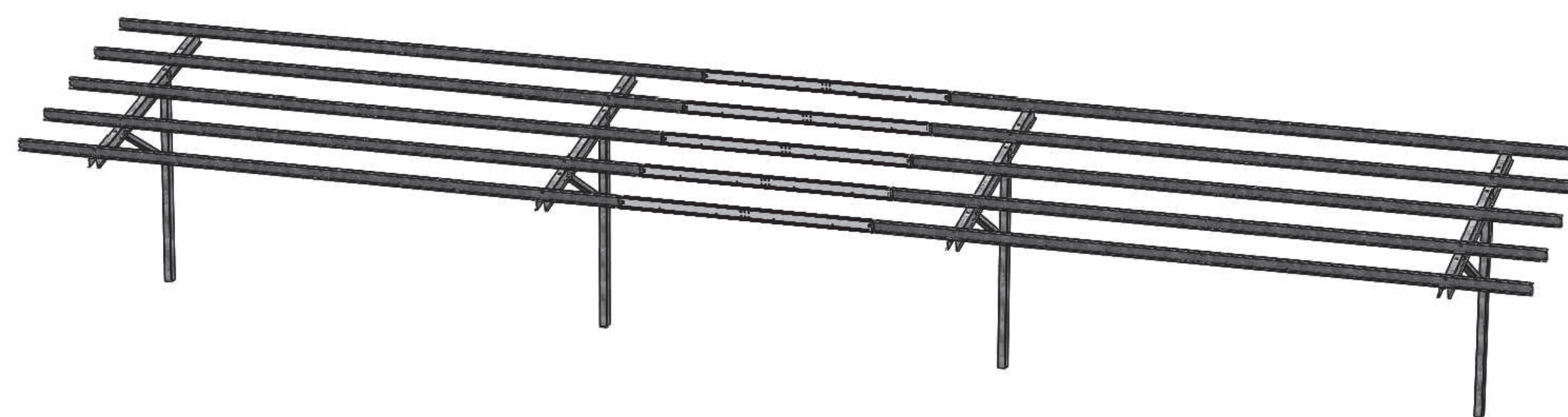
13) Attach EW Purlin to Purlin Bracket using two 3/8-inch bolts on EW Purlin side and serrated flange nuts on Purlin Bracket side. Leave finger tight. Attach one 3/8-inch bolts on EW Purlin to the NS Beam and capture with serrated flange nut. Torque hardware to specifications.



14) Then, noting the length of the connecting EW Purlin, attach the second EW Purlin to the third and fourth NS Beams. For completing EW Purlin installation on tables, install the first (bottom) EW Purlin up the NS Beam. Bolts may need to be tightened to hold the table square. Then install the second, third, and fourth EW Purlins.



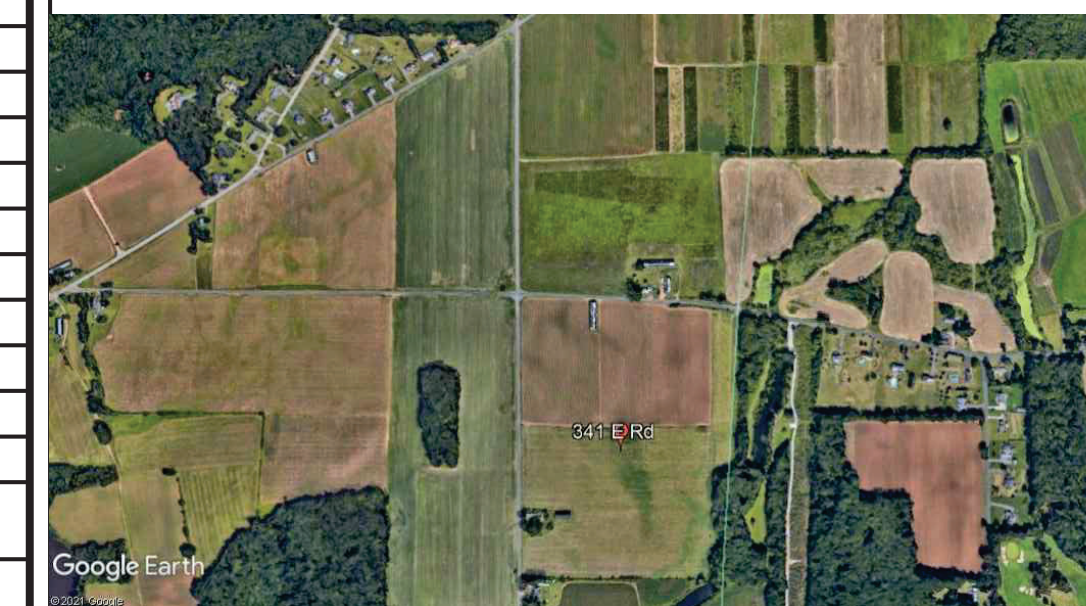
15) EW Purlin ends shall be connected together using 3/8" Superflange bolts (serrated head or not), washers and serrated flange nuts. Straight End Purlins shall be installed on top of Notched End Purlins. Torque to specifications. When floating Purlins connect to table Purlins, there will be a nominal drop of 1/8 to 1/4 inch from one EW Purlin to the next, which will result in a small corresponding drop from one panel to the next. This is normal, and is not a shading or functional issue.



PARTS LIST

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11b	1/2" Washer		HDG
11c	1/2-13 Serrated Flange Nuts		Magnicoat
11d	Beam Plate Washer	GC128T	Galvanized Steel G90
12a	3/8-16 Serrated Flange Bolts / Hex Bolts		Magnicoat
12b	3/8" - 16 Super Flange Hex Nut		HDG
12c	3/8-16 Serrated Flange Nuts		Magnicoat
12d	3/8 -16 1" Superflange Hex Bolts		Magnicoat
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13b	1/4" Washer	Not Used	Magnicoat
13c	1/4-20 Serrated Flange Nuts		Magnicoat
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14	Rubber O Ring		
15	Mid Clip Assembly	GC1307AM	Stainless Steel

AERIAL VIEW



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Site Key Plan:

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Array Information

	PV Modules	Racking
Manufacturer	1. Trina Solar 2. Risen	Gamechange Solar
Model	1. TSM-DEG15MC.20(II) 2. RSM144-6-380BMDG	30-Deg MaxSpan I-Beam
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Quantity	1. 15992 2. 3356	Posts: 1772
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15992 modules at 395 W 3356 modules at 380 W 7.592 MW		

Customer: Verogy		
Project: East Windsor	Project #: ----	
Location: 341 East Rd, East Windsor, CT 06016		

GC Max-Span™ I-Beam Ground System 4 Up Poly

S503

Sheet #:
13 of 16

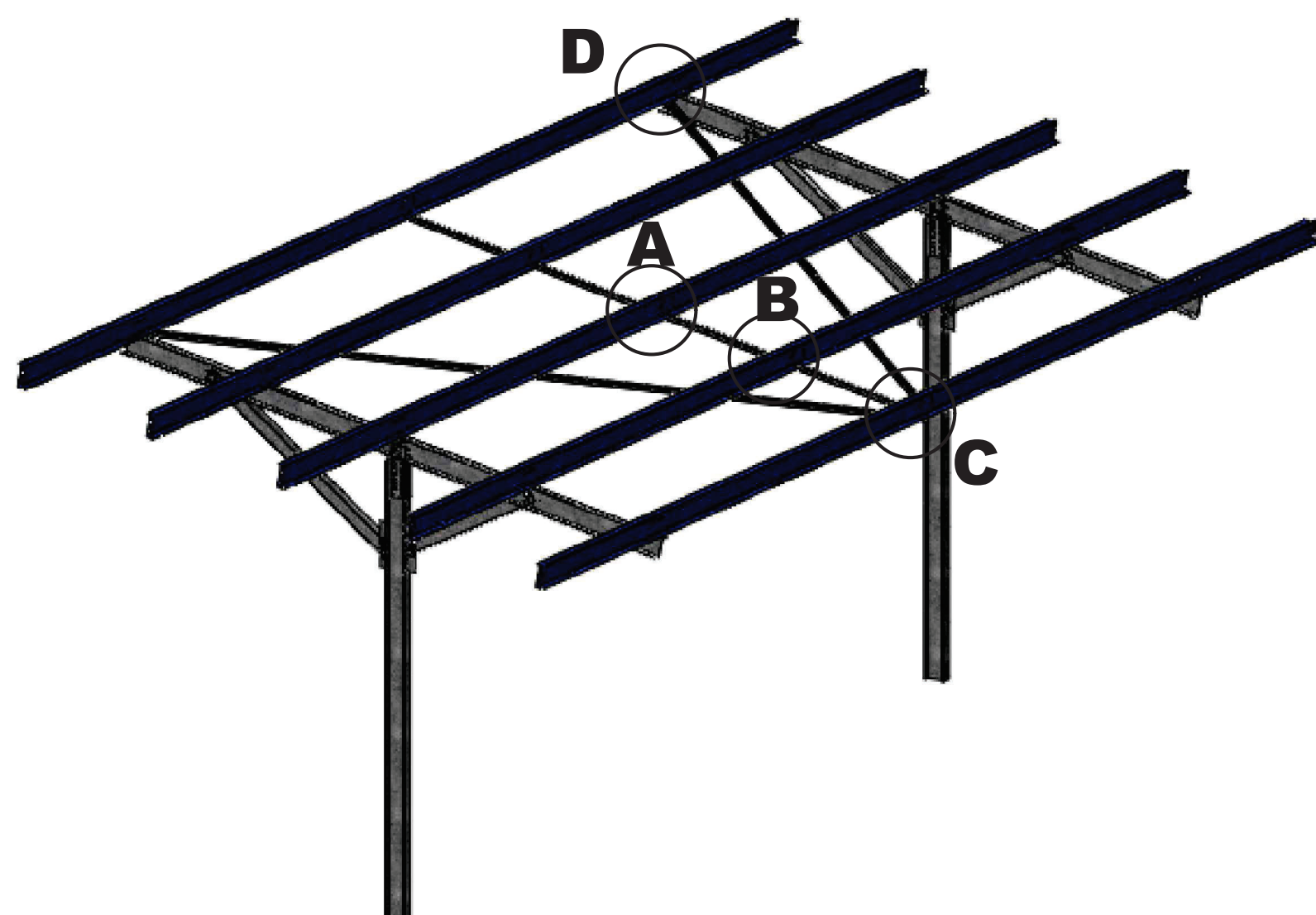
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- Tool Required**
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 - 3M Scotchrap Tape 50: All-Weather Corrosion Protection Tape, black, 4" wide
 - Rags, Nylon Roller, Utility Knife, Garbage Bags

- Preventative Maintenance**
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 - Torque settings must be checked for all hardware.
 - All Clips must be checked to make sure there is no gap between side of Clip and module.
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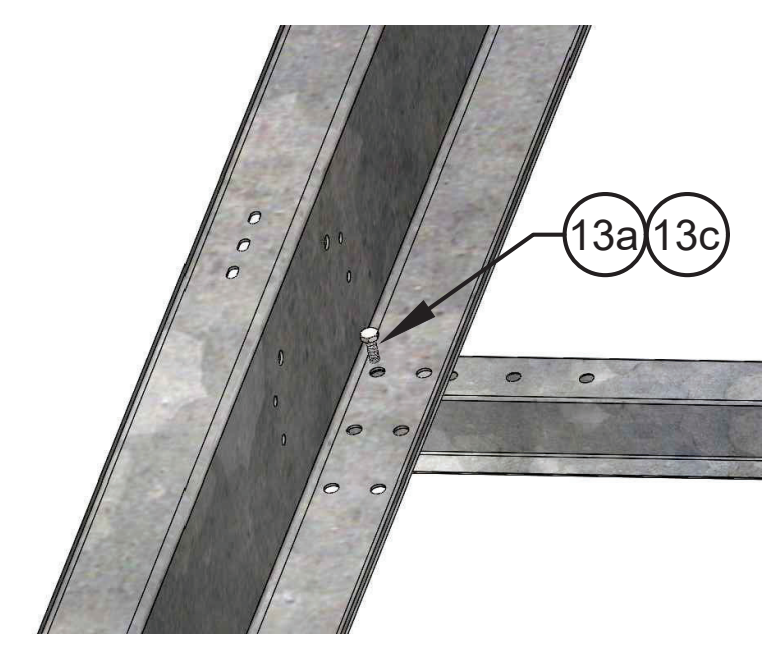
16) Attach Connector Rails, Purlin Supports, and Purlin Angles as required. Use 3/8" bolts and serrated flange nuts to attach. Make sure all hardware is tightened to proper torque settings. This is a general guideline only, please refer to install manual which must be followed for proper installation or warranty may be voided.

Panel Strips and Connector Rails are only required with spans with Purlin Angles.
See Purlin Angle Key on Sheet 3



Connector Rail to EW Purlin

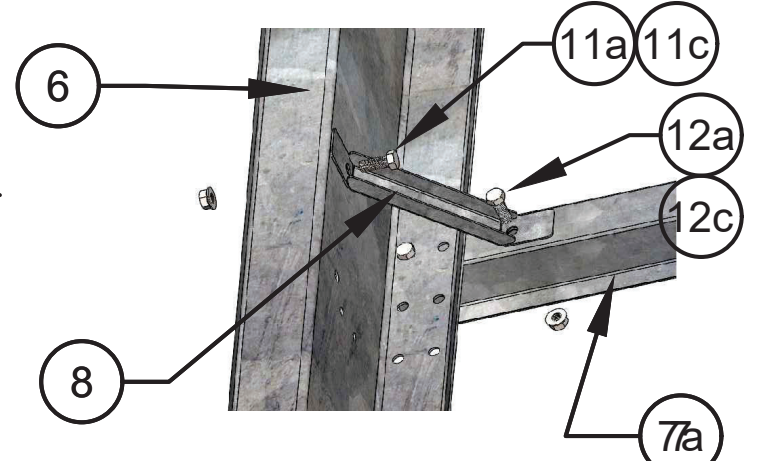
Install Connector Rail at mid-span of Purlin. Use 3/8 serrated flange bolts / hex bolts on top of EW Purlin. Capture bolt with 3/8 serrated flange nut.



View: B

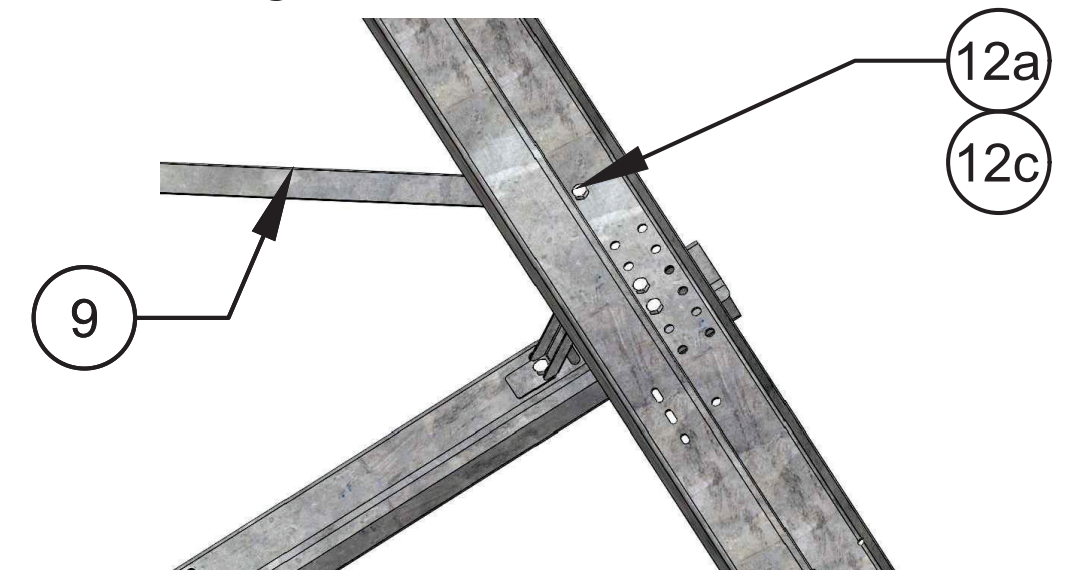
Purlin Support to Connector Rail/EW Purlin

Purlin Supports must be taut, this is very important. Purlin Supports must be torqued last. Connector Rail are only required with spans with Purlin Angles. See Purlin Angle Key on Layout Drawings.



View: C

Purlin Angle to EW Purlin



View: D

PARTS LIST

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 - 1/2"-13 8" Bolts / 9" Rods = 110-115 ft-lbs
 - 3M Scotchrap Tape 50: All-Weather Corrosion Protection Tape, black, 4" wide
 - Rags, Nylon Roller, Utility Knife, Garbage Bags

- Preventative Maintenance**
- It is best practice to unbundle loads and install parts within several weeks of delivery so air is able to flow around parts and thus prevent white rust formation. In order to maintain the longest life possible for the protective zinc coating under the warranty, it is important to monitor for any severe white rust developments prior to installation and if this condition appears to take proper maintenance steps to remediate it. See the Installation Manual for more information.
 - After Installation, owner must annually monitor for any surface rust that may occur over time. Identify any rust areas, wire brush area to remove rust, and coat with 80% zinc rich paint, or equivalent field life paint. This step is not required if rust is limited to edges which were cut during fabrication.
 - If panel mounting clips are used to install modules, clips must be checked annually and after storms with severe winds to make sure their installation and torque settings remain correct.
 - Annual inspection must be done for mechanical movement due to any reason including thermal expansion and contraction. Any mechanical movement must be rectified.
 - Torque settings must be checked for all hardware.
 - All Clips must be checked to make sure there is no gap between side of Clip and module.
 - See Installation Manual for additional details on preventative maintenance.
 - Proper preventative maintenance must be conducted or warranty may be voided.

Customer: **Verogy**

Project: **East Windsor** Project #: ----

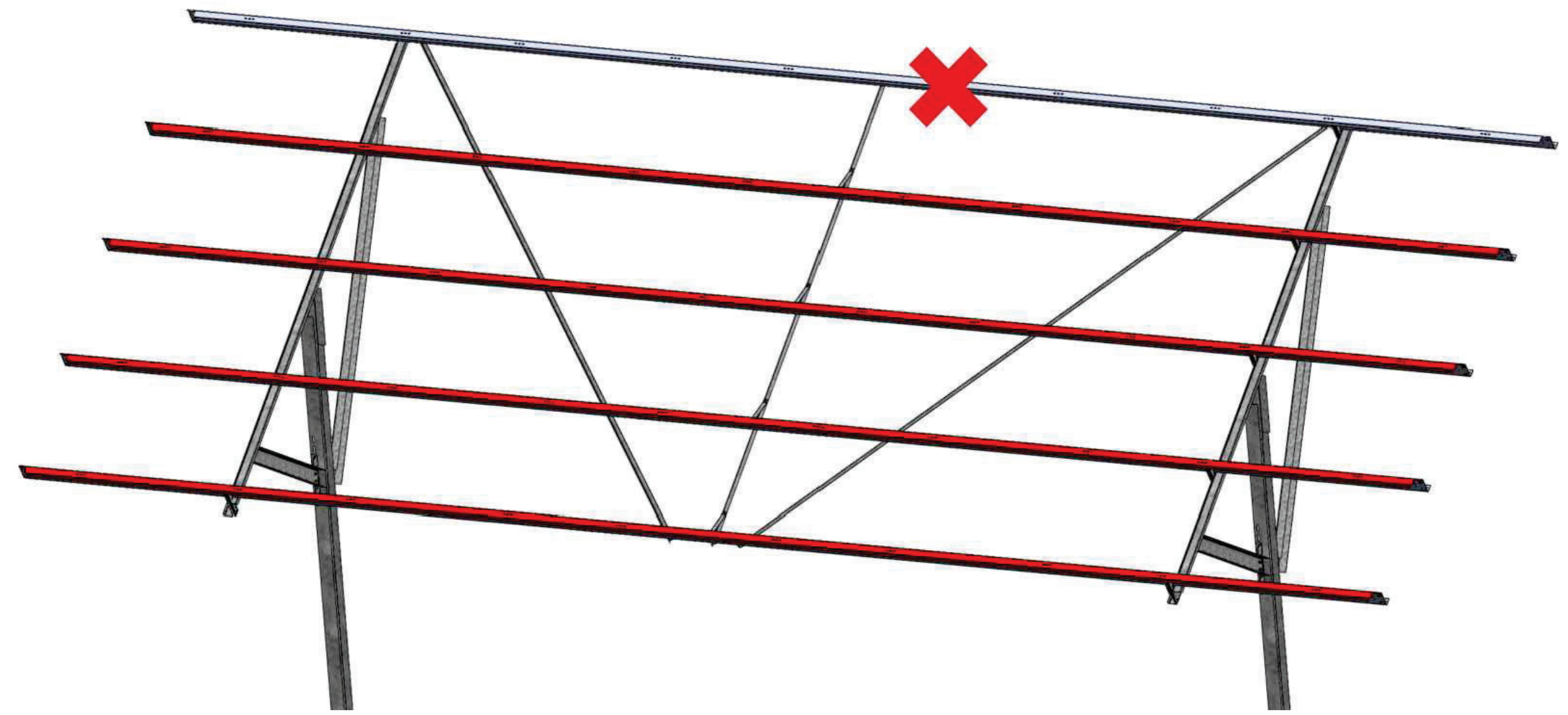
Location: **341 East Rd, East Windsor, CT 06016**

GC Max-Span™ I-Beam Ground System 4 Up Poly

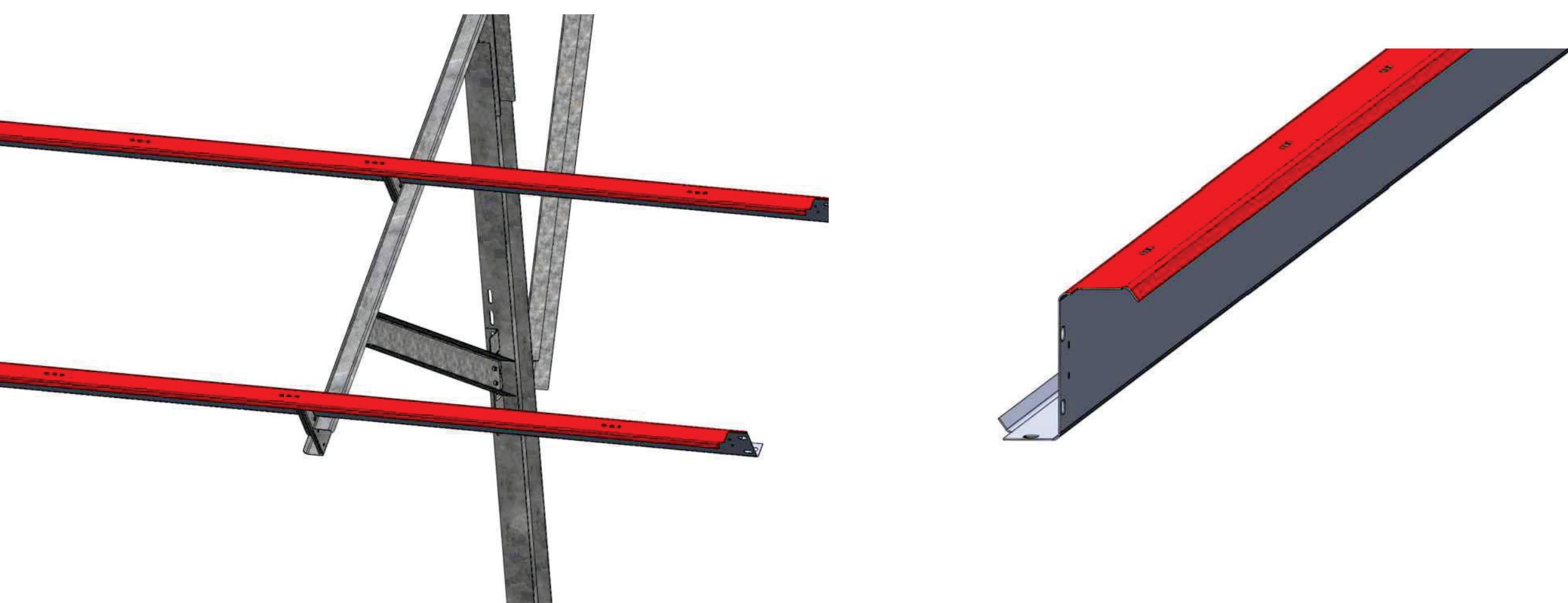
Sheet #: **S504**

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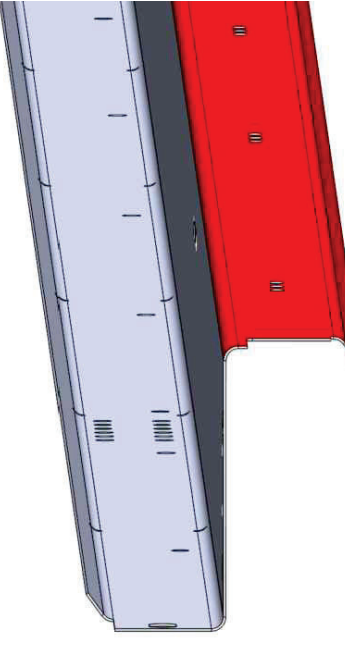
17) After racking and bracing are installed, and before panels are put on, a vinyl PVC layer will be applied to the purlins. Only the bottom 4 purlins will be treated as shown in the below figure.



18) The tape needs to be applied to the top flange of the purlin. This includes the top flat surface and the return to the south. The "Surfaces to be coated" are shown in red on the images below



Run a rag over the surfaces to be coated to remove visible oil, grease, dirt or other contaminants. Ensure the surfaces to be coated are dry prior to installing tape. Do not apply tape when raining. Apply corrosion tape to surfaces to be coated: Apply tape to top flange surfaces which includes the top flat surface and the return to the south (shown in right image below).



Care shall be taken to align tape with purlin top flange. If tape overruns panel flange to the south, cut off excess material. If tape overruns panel flange to the north, wrap tape around purlin top flange and connect excess tape to north face of purlin web. Use a nylon roller to remove any air bubbles trapped below tape.

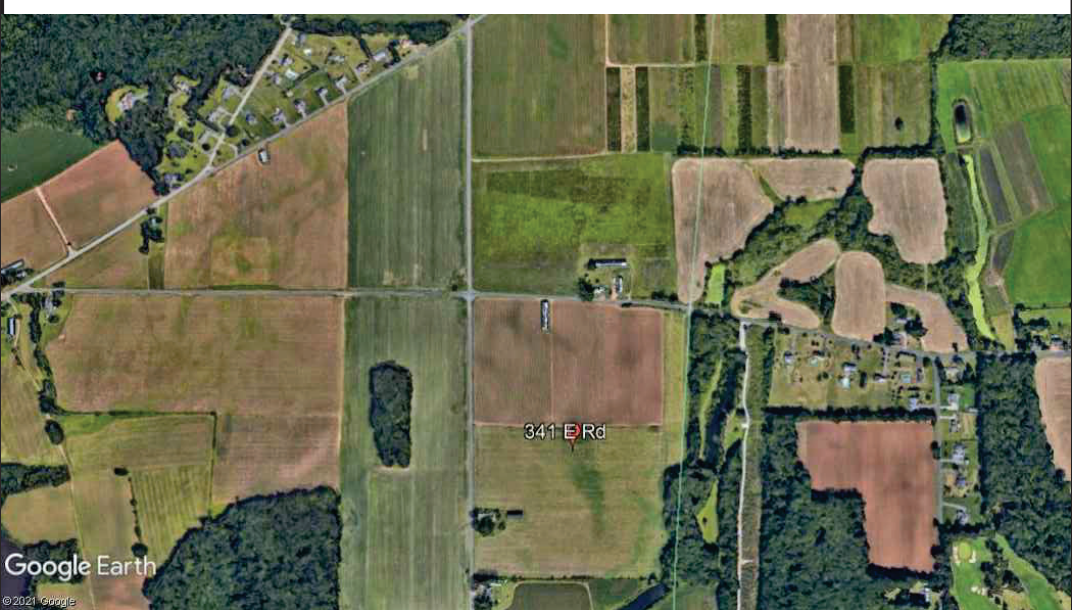
In locations where tape overruns bolt holes in the top flange of the purlin cut a slit in the tape with a utility knife to allow bolts to pass through the tape and purlin.

Care shall be taken to not tear the tape when installing solar panels. Install panels using a 2 man lift and do not slid panels along purlins.

PARTS LIST

Item No.	Description	Part No.	Material
1	Post (I- Beam)	GC461-W6	Galvanized Steel HDG
2a	Post Bracket	GC261B-F	Galvanized Steel G90
2b	Post Extender	GC261B-F-35	Galvanized Steel G90
3	Base Bracket	GC468R	Galvanized Steel G90
4	NS Beam	GC462LS	Galvanized Steel G90
5a	South Brace	GC464-S	Galvanized Steel G90
5b	North Brace	GC464-N	Galvanized Steel G90
6	EW Purlin	GC63/GC63N	Galvanized Steel G90
7	Connector Rail	GC903TWT-C	Galvanized Steel G90
8	Purlin Support	GC879	Galvanized Steel G90
9	Purlin Angle	GC874	Galvanized Steel G90
10	Purlin Brace	GC127	Galvanized Steel G90
11a	1/2-13 Serrated Flange Bolts / Hex Bolts		Magnicoat
11b	1/2" Washer		HDG
11c	1/2-13 Serrated Flange Nuts		Magnicoat
11d	Beam Plate Washer	GC128T	Galvanized Steel G90
12a	3/8-16 Serrated Flange Bolts / Hex Bolts		Magnicoat
12b	3/8" - 16 Super Flange Hex Nut		HDG
12c	3/8-16 Serrated Flange Nuts		Magnicoat
12d	3/8 -16 1" Superflange Hex Bolts		Magnicoat
13a	1/4-20 Serrated Hex Bolts		Magnicoat
13b	1/4" Washer	Not Used	Magnicoat
13c	1/4-20 Serrated Flange Nuts		Magnicoat
13d	1/4-20 2-1/2" Hex bolt		Magnicoat
13e	1/4-20 Button Head Cap Bolt		Magnicoat
13f	LockClamp T-Bolt	GC1307A	
14	Rubber O Ring		
15	Mid Clip Assembly	GC1307AM	Stainless Steel

AERIAL VIEW



GAMECHANGE SOLAR
REPOWERING THE PLANET

152 West 57th St, Fl 44, New York, NY 10019
Tel: 212-388-5160
www.gamechangesolar.com

Site Key Plan: _____

Engineer's Seal:

Rev:	By:	Date:	Description:
1	HD	03-09-2021	Original Layout
2	GF	03-23-2021	Updated Assembly
3	SVP	05-14-2021	IFP

Array Information

	PV Modules	Racking
Manufacturer	1. Trina Solar 2. Risen	Gamechange Solar
Model	1. TSM-DEG15MC.20(I) 2. RSM144-6-380BMDG	30-Deg MaxSpan I-Beam
Dimensions	1. 79.69" x 39.45" x 1.18" 2. 79.37" x 39.29" x 0.98"	
Weight	1. 57.3 lbs 2. 57.3 lbs	
Quantity	1. 15992 2. 3356	Posts: 1772
Ground Clearance	36"	

15992 modules at 395 W
3356 modules at 380 W
7.592 MW

- GC Max-Span System**
- Use only GameChange parts. Use of other parts to complete the installation as substitutes may void the warranty.
 - Make sure the site ground can support the loading resulting from the GC MaxSpan Plus Ground System and provided PV modules.
 - Comply with all relevant local, state and national safety laws and standards for both for mechanical and electrical aspects of the solar PV array installation.
 - When encountering undocumented or unexpected obstacles requiring a work around, work arounds should be brought to the attention of GameChange personnel prior to being attempted. If approved by GameChange, work arounds shall be noted on project as-built drawings. Work arounds should be completed in a manner that ensures that the remainder of the array is not affected.
 - GC MaxSpan Plus Ground System is to be installed in a clear area free of shading with a suggested 10 ft border surrounding array.
 - Reference Install Manual for installation. Not following install manual may result in voiding warranty.
 - Install the array facing due south (+/- 1 degree) unless otherwise noted on the layout drawings in this drawing set or on project electrical drawings.

- Tool Required**
- String Line
 - 30 ft Tape Measure
 - Inclinometer or level with digital degree read out
 - Impact Drill with interchangeable drivers
 - Wrenches and driver sockets, both standard and deep, in the following sizes:
 - 7/16 inch (for 1/4-inch hex bolts and nuts),
 - 9/16 inch (for 3/8-inch hex bolts and nuts),
 - 3/4 inch (for 1/2-inch hex bolts and nuts)
 - Torque Wrench. Torque bolts to appropriate torque range:
 - 1/4" hardware (stainless) = 6 - 7 ft-lbs (72 - 84 in-lbs)
 - 1/4" hardware (magn) = 9 - 10 ft-lbs (108 - 120 in-lbs)
 - 3/8" hardware = 29 - 31 ft-lbs
 - 1/2" hardware = 95 - 100 ft-lbs
 - 1/2"-13 8" Bolts / 9" Rods = 110-115 ft-lbs
 - 3M Scotchrap Tape 50: All-Weather Corrosion Protection Tape, black, 4" wide
 - Rags, Nylon Roller, Utility Knife, Garbage Bags

- Preventative Maintenance**
- It is best practice to unbundle loads and install parts within several weeks of delivery so air is able to flow around parts and thus prevent white rust formation. In order to maintain the longest life possible for the protective zinc coating under the warranty, it is important to monitor for any severe white rust developments prior to installation and if this condition appears to take proper maintenance steps to remediate it. See the Installation Manual for more information.
 - After installation, owner must annually monitor for any surface rust that may occur over time. Identify any rust areas, wire brush area to remove rust, and coat with 80% zinc rich paint, or equivalent field life paint. This step is not required if rust is limited to edges which were cut during fabrication.
 - If panel mounting clips are used to install modules, clips must be checked annually and after storms with severe winds to make sure their installation and torque settings remain correct.
 - Annual inspection must be done for mechanical movement due to any reason including thermal expansion and contraction. Any mechanical movement must be rectified.
 - Torque settings must be checked for all hardware.
 - All Clips must be checked to make sure there is no gap between side of Clip and module.
 - See Installation Manual for additional details on preventative maintenance.
 - Proper preventative maintenance must be conducted or warranty may be voided.

Customer: **Verogy**

Project: **East Windsor** Project #: **----**

Location: **341 East Rd, East Windsor, CT 06016**

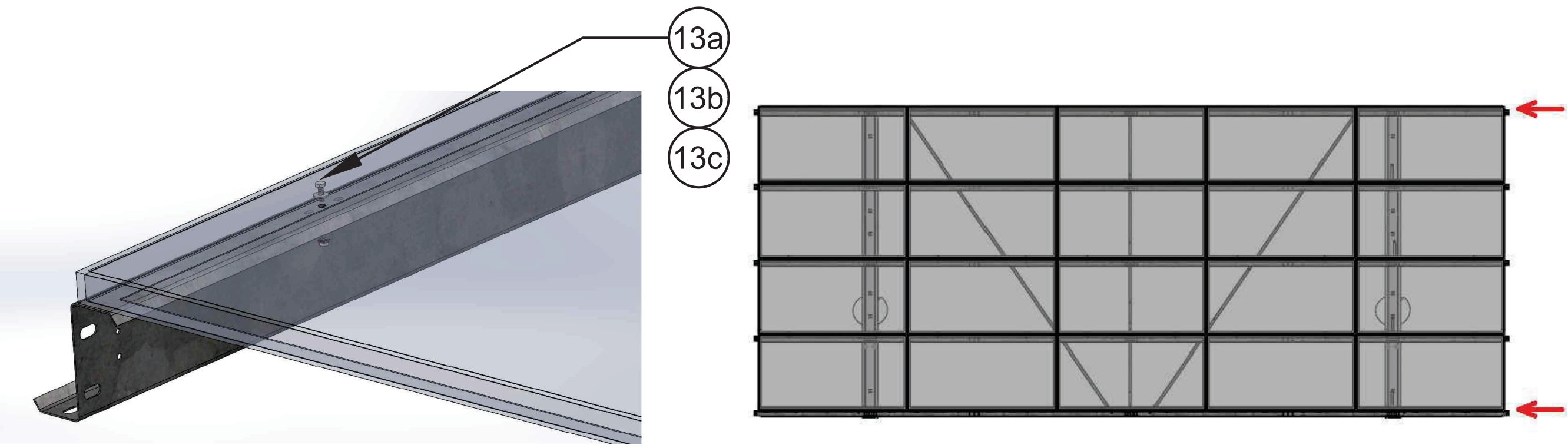
GC Max-Span™ I-Beam Ground System 4 Up Poly

Sheet #: **S505**

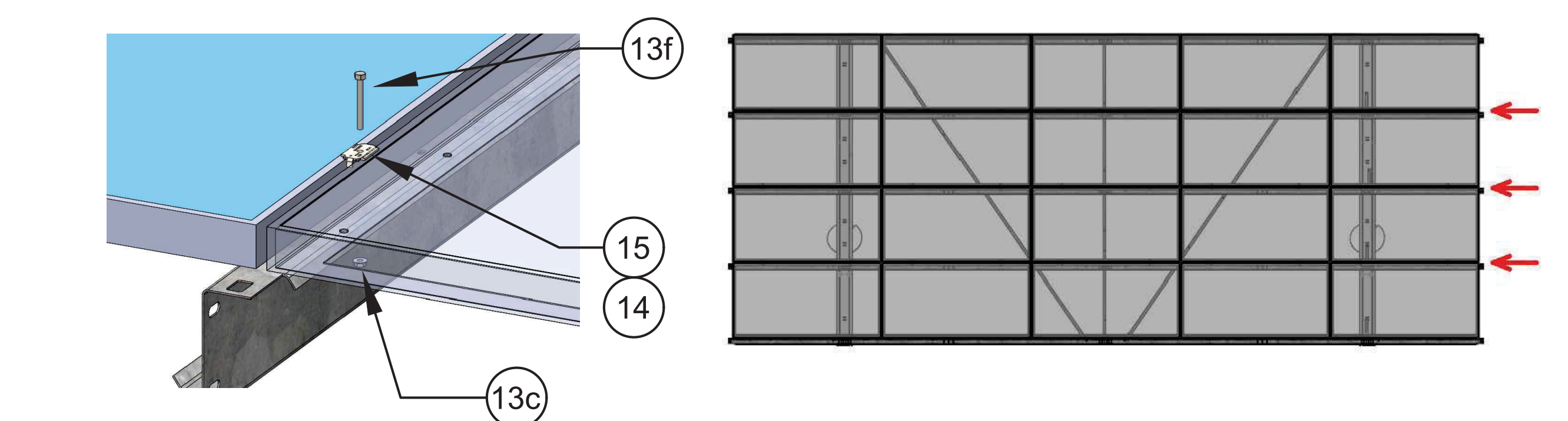
15 of 16

19) For bottom mount attachment of panels GameChange typically provides slotted panel mounting holes to enable panel adjustment in case purlins are not perfectly aligned due to rolling or otherwise uneven ground situations. It is the customer's responsibility to make sure to follow panel spacing guidelines if any are given by panel vendor in their specification sheet or elsewhere, otherwise panel warranty could be voided. In all cases make sure panel spacing is the greater of 1/8 inch or the minimum called out by the panel vendor. This will allow for thermal expansion of panels. GameChange systems typically enable 1/2 inch panel spacing if aligned properly. Spacing between panels can be set by placing a temporary spacer such as bolt shaft or plywood of same thickness as required for panel spacing between panels while they are being installed. This spacer should be removed after panel installation is complete.

20) Attach southern edge of southernmost panel directly to the top flange of the EW Purlin. Insert 1/4-20-3/4 hex bolt through washer and mounting hole in the back of the panel, then through the EW purlin. Attached with a flange nut on bottom end of purlin. Tighten bolt to specification.



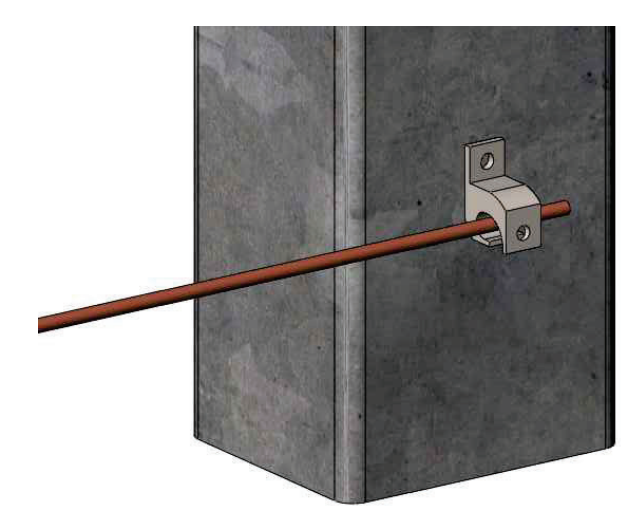
21) Place panel north of previous mounted panel. Attach Mid Clip to edge of mounted panel. Insert 1/4-20-2 1/2 hex bolt through the Mid Clip, then through the EW Purlin. Attached with a flange nut on bottom end of EW Purlin. Tighten bolt from topside to specification. Repeat for all mid panels. Repeat Step 12 for northern panel.



22) Continue to move across the EW Purlin, following steps 12 and 13 for each column of panels.

Check the install manual for the module you are installing to make sure that the panel mounting hardware and installation methodology recommended by GameChange mentioned below is acceptable. Otherwise you may risk voiding the warranty for your modules. It is also recommended to check that the panels are listed per UL 1703.

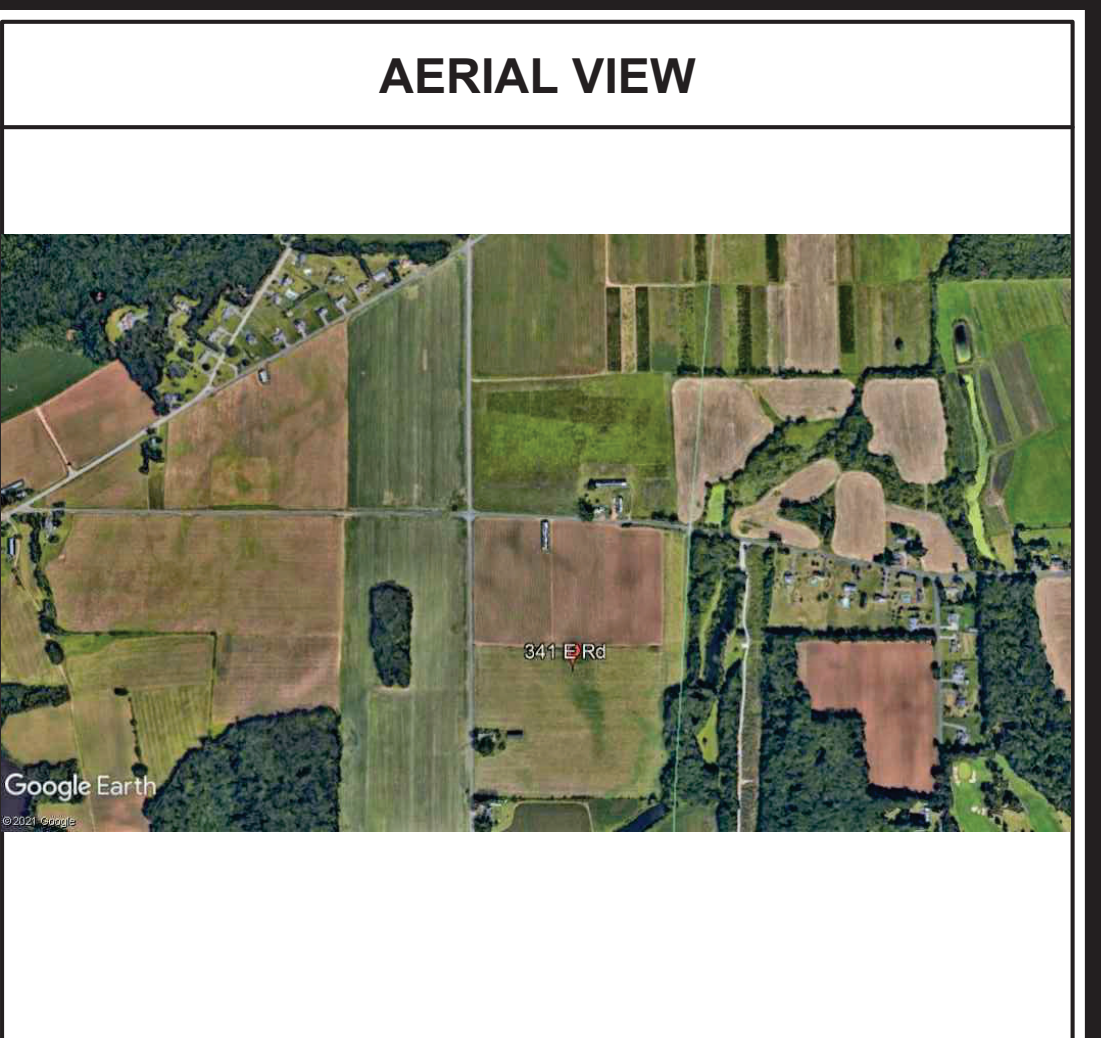
23) The modules, EW Purlins and NS Beams are all bonded together, left to right, so that each row form one single structure. To achieve grounding of the system, GameChange recommends installing Cooper, Burndy, or Eaton UL approved grounding lug(s) with 1/4-inch bolts as in accordance with NEC Article 690 to the Post below the last EW Purlin which has panels attached to it which are to be bonded, using 8 gauge copper wire or larger.



The Purlin to Purlin bonded connection is rated for up to 30 amps. Therefore, conductors with expected currents greater than 30 amps may not be installed on the racking system without installing additional grounding measures.

The entire system needs to be grounded from a single point to an appropriate grounding source as per local jurisdiction requirements.

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Customer: **Verogy**

Project: **East Windsor** Project #: **----**

Location: **341 East Rd, East Windsor, CT 06016**

GC Max-Span™
I-Beam Ground
System
4 Up Poly

Sheet #:
S506

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