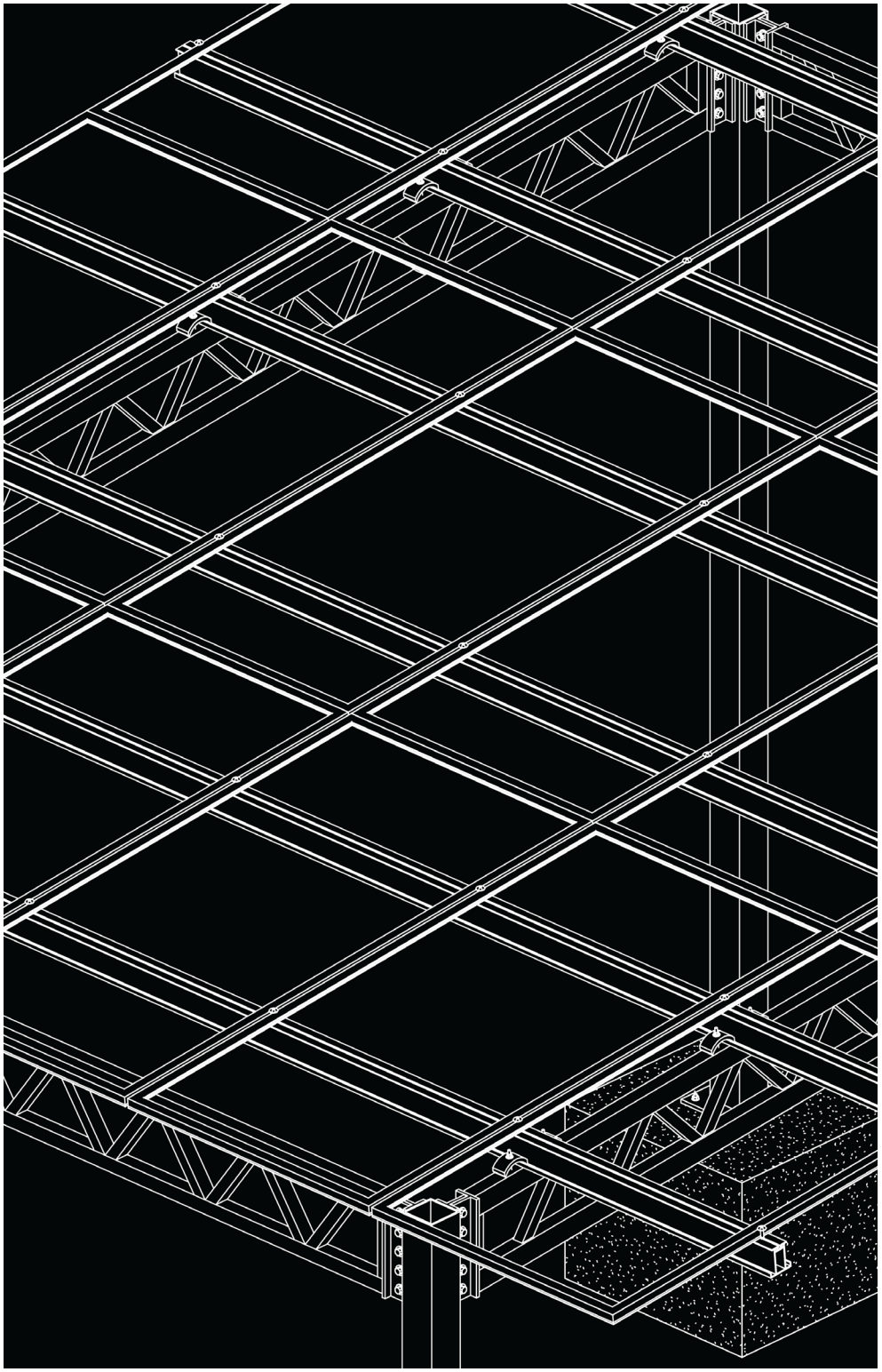
BROOKLYN SOLAR CANOPY CO.

THE POST-TRUSS CANOPY INSTALLATION MANUAL



MATERIALS + TOOLS

PROVIDED BY BSCC

COMPONENTS

TYPE NUMBER	COMPONENT NAME	COUNT	MATERIAL	NOTES
B-1 / A-1	Columns + Base Plate	(Per Project)	Aluminum	
B-2	End Truss	(Per Project)	Aluminum	
B-3	Middle Truss	(Per Project)	Aluminum	
C-1	BSCC Custom Rail	(Per Project)	Aluminum	
C-2	Rail Splice Bar	(Per Project)	Aluminum	

BOLTS + SCREWS

Y-1	Fully Threaded Bolt (5/8" Dia.)		Stainless Steel	
Z-1	Clamp + Fully Threaded Carriage Bolt (3/8" Dia.)		Stainless Steel + Aluminum	
Z-2	Tek Screws	8 per splice bar	Stainless Steel	

ASSESORIES

Q-1	Rail End Caps	1 per rail	Plastic	

NOT PROVIDED BY BSCC

BOLTS + SCREWS

X-1	HILTI HIT-Z Anchor Bolt (5/8" Dia.)	4 per base plate	Stainless Steel	
Z-3	IronRidge UFO Bolt	2 per row of panels	Stainless Steel	

ASSESORIES

Q-2	IronRidge UFO Bolt Stopper Sleeve	2 per rail	Plastic	
Q-3	IronRidge Grounding Lug	1	Tin	
	HILTI Epoxy	4	Epoxy	

Wrench

Wrench

Ratchet

Drill

Impact Drill

Hammer Drill

Deep Cut
Portable Ban Saw

Level

x2 Ladders

Measuring Tape

Non-Shrink Grout

Metal Drill Bit

Hammer
Drill Bit

Driver

Driver

Driver

ALL REQUIRED TOOLS & MATERIALS ARE NOT PROVIDED
BY BROOKLYN SOLAR CANOPY CO.

THANK YOU

ABOUT US

The Post-Truss Solar Canopy redefines the residential solar experience in three dimensions, unleashing new and creative options for the contemporary homeowner. Create sheltered space for backyard amenities, or vehicle parking and charging. Elevate over physical barriers and common shade factors to make solar possible in challenging locations. Whatever your need the canopy delivers bold possibilities with ease, elegance and versatility.

The A-Frame Solar Canopy originated in Brooklyn, NY in 2015, the result of a one year collaboration between Brooklyn SolarWorks, a leading local installation company, and Situ Studio, an award-winning design and architecture practice. The canopy concept arose out of a practical local necessity – overcoming space constraints on crowded urban rooftops – but quickly evolved into an adaptable solution for diverse ground applications. After hundreds of NYC installations, multiple prestigious design honors, and a flood of interest from solar installers and their clients across North America, the Brooklyn Solar Canopy Co. was formed in 2018.

Today, this Made in USA innovation is available to homeowners everywhere through a growing national network of certified solar professionals.

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1

PRODUCT INFORMATION

1.1 PRODUCT INFORMATION

Brooklyn Solar Canopy Company's (BSCC) Post-Truss canopy design is adaptable to flat roof types, carport or pergola applications. All BSCC canopies are custom fabricated in the United States using 6061 grade aluminum and have been certified by a structural engineer to meet the wind, snow and seismic loads in North America.

Remember that it is the responsibility of the installer to assess and have structurally certified the underlying building structure and foundations upon which the canopy is being built.

Please read the installation manual fully before installing and follow all design parameters and guidelines.

CERTIFICATIONS

CSA GROUP
US CSA Product Certified, ADD NUMBER

UL Certified
UL Product Certified

PZSE Structural Engineering
Engineering and stamped by PZSE structural engineers.

Made in United States of America
Designed in Brooklyn, New York and manufactured in Providence, Rhode Island.

1.2 PRODUCT REQUIREMENTS

TABLE 1 – FASTENER TORQUE VALUES		
FASTENER LOCATION	SECTION + PAGE NUMBER	TORQUE (LBS/IN^2)
Base Plate Attachment (3/8" Dia Anchor Bolt)	Base Attachment 4.1, pg 17	240
Base Plate Attachment (5/8" Dia Anchor Bolt)	Base Attachment 4.1, pg 17	1,200
Truss (Plate) Assembly	Assembly 5.1, pg 19	1,200
Truss Placement (to Column)	Construction 6.2, pg 24	1,200
Rail Installation	Construction 6.3, pg 25	240
Panel Installation	Construction 6.4, pg 26	80
Ground Lug to Rail	Electrical 7.2, pg 29	80

TABLE 2 – CSA APPROVED PANELS		
PANEL MAKE	MODEL	WATTAGE (W)
Axitec	AXIpremium XXL HC 530-555	530-555
Canadian Solar	HiDM5 (All-Black) 390-405	390-405
Jinko Solar	Tiger Mono-facial All Black	370-390
Panasonic	EVERVOLT BLACK SERIES 400-410	400-410
Q-Cell	Q.PEAK DUO BLK ML G10+ SERIES	385-410
Q-Cell	Q.PEAK DUO L G6.2 405-425	405-425
Q-Cell	Q.PEAK DUO XL G10.3 / BFG 470-485	470-485
REC Group	Alpha Pure Black REC405AA	405
REC Group	Alpha Pure Black REC410AA	410
SunPower	M Series 420-440W Residential AC Module	420-440

Assembly + Maintenance Requirements:

a.) All metal to metal components and fasterners shall be tightend to a torque value of shown in 'TABLE 1.'
b.) Any loose components or fasteners shall be re-tightened in accordance with the torque values in 'TABLE 1.'
c.) Any components showing signs of damage that compromise safety shall be replace immediately.
d.) See 'Components, 3.0' for Bonding Device requirements.

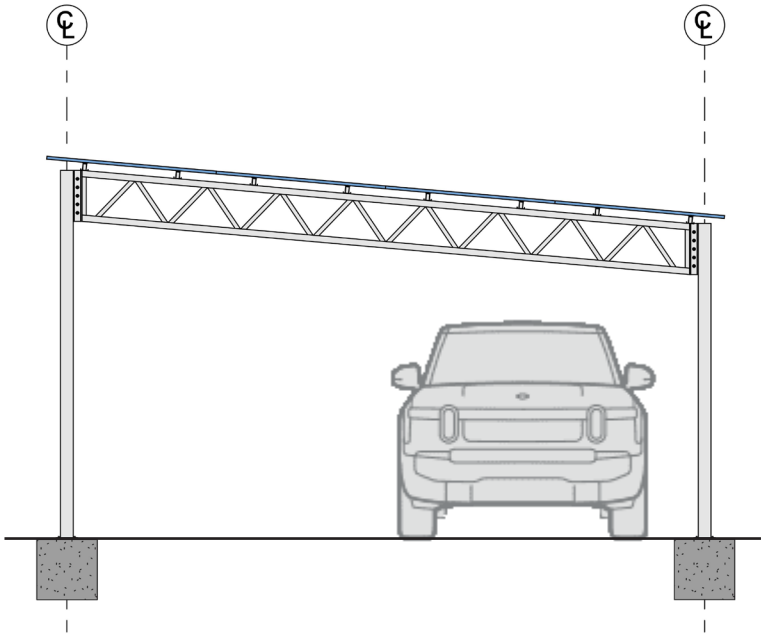
The BSCC Post-Truss Canopy is 'Not Fire Rated'

Place theprovided 'Not Fired Rated' sticker on the solar canopy once installation is completed.

2

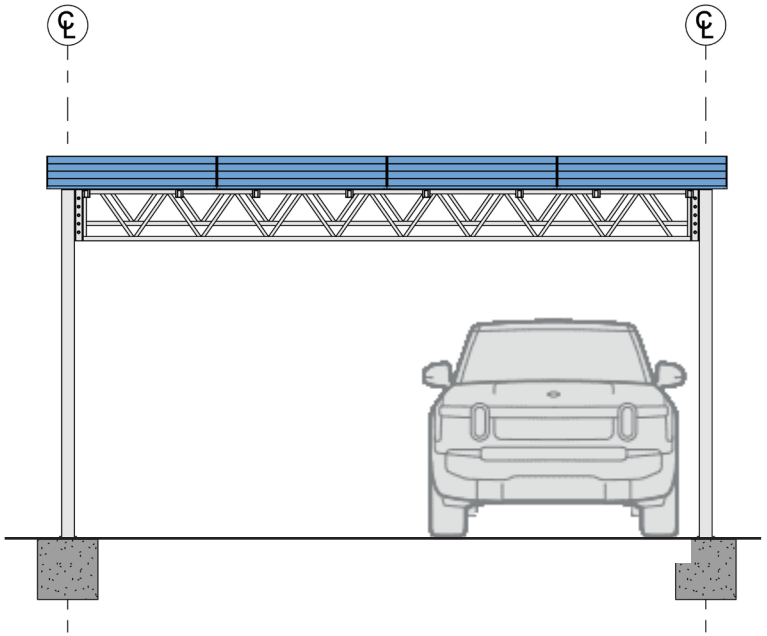
DESIGN PARAMETERS

2.1 TRUSS CONFIGURATIONS



CONFIGURATION 1 - LATERAL

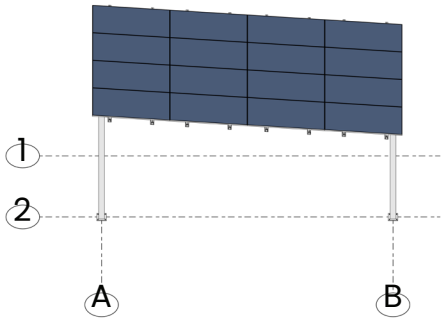
5 Degree Tilt



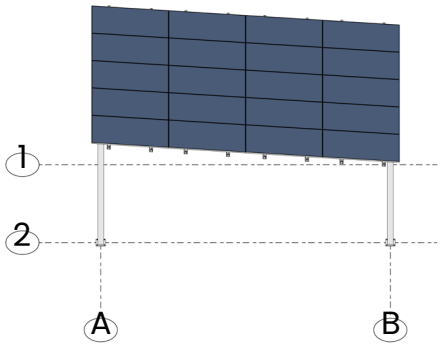
CONFIGURATION 2 - FRONT

5 Degree Tilt

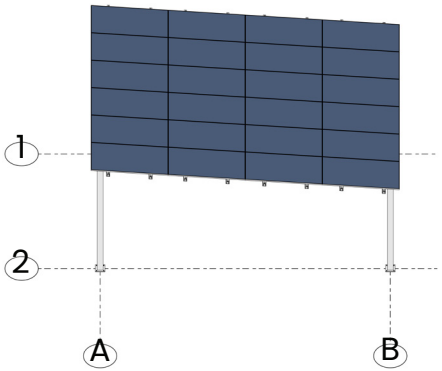
2.2 PANEL CONFIGURATIONS



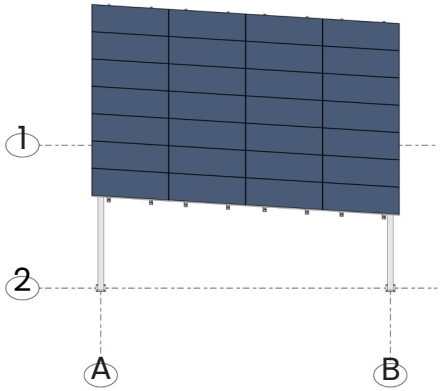
4 PANEL LANDSCAPE



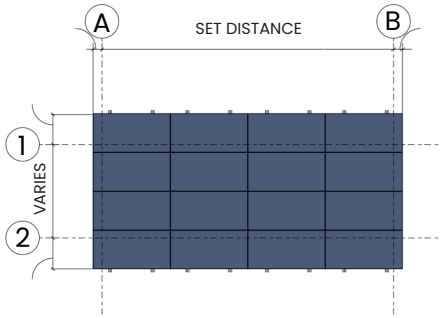
5 PANEL LANDSCAPE

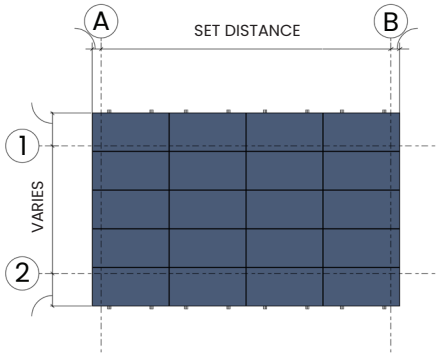


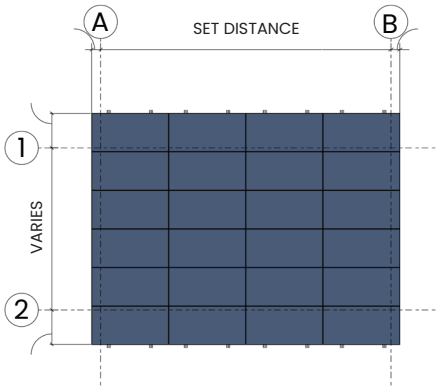
6 PANEL LANDSCAPE

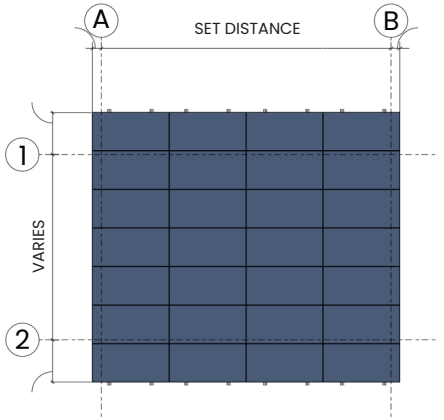


7 PANEL LANDSCAPE



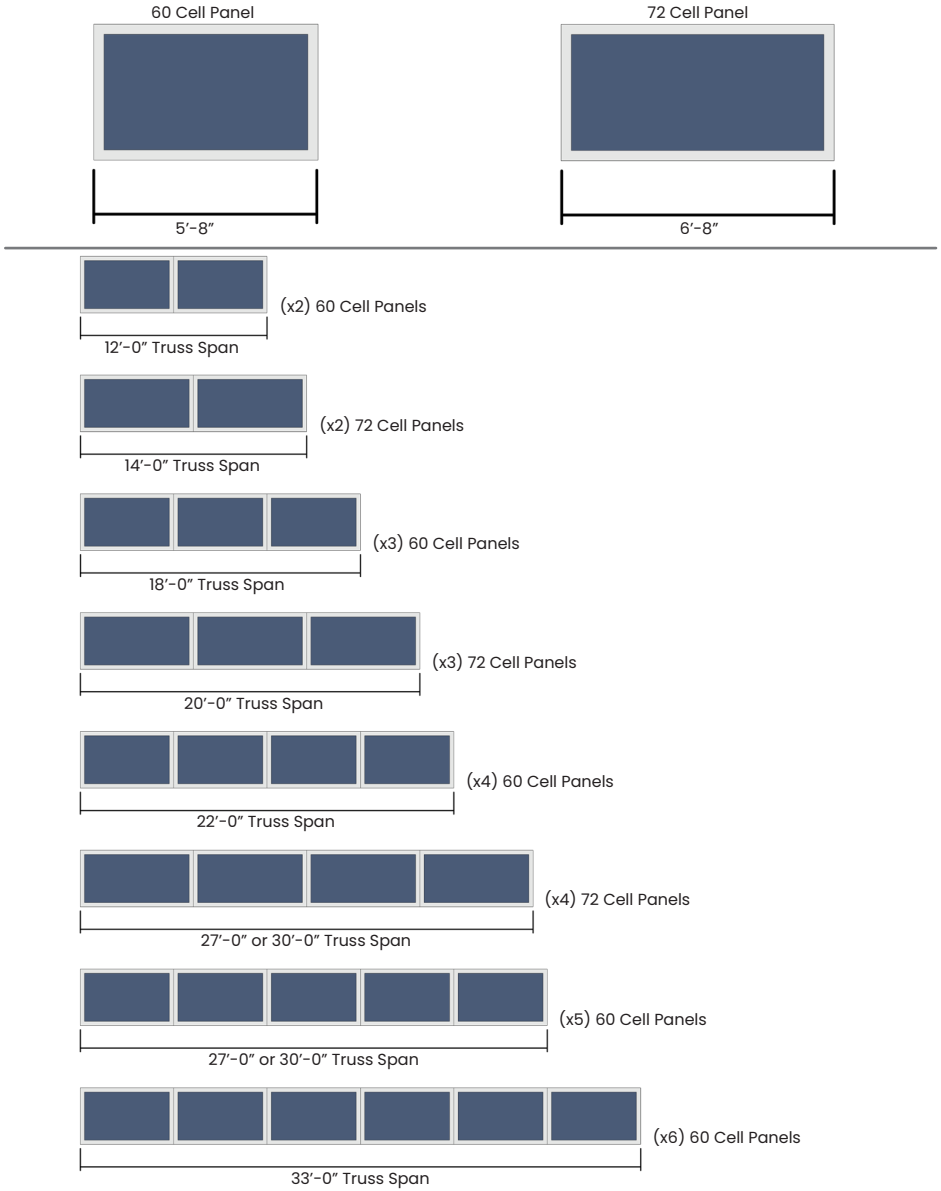






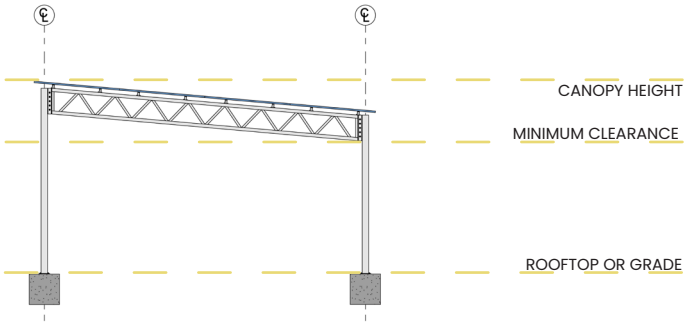
2.3 CANOPY DESIGNS

TRUSS WIDTH (PANEL SUGGESTIONS)

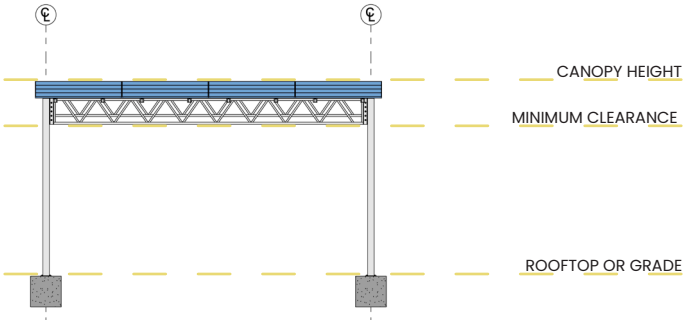


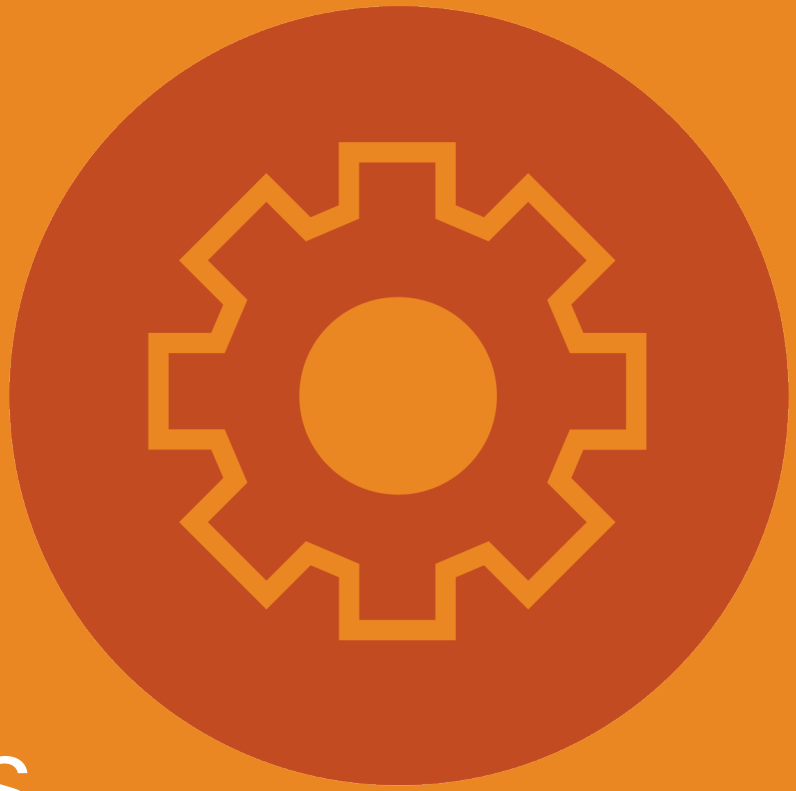
SECTION DIAGRAMS

LATERAL



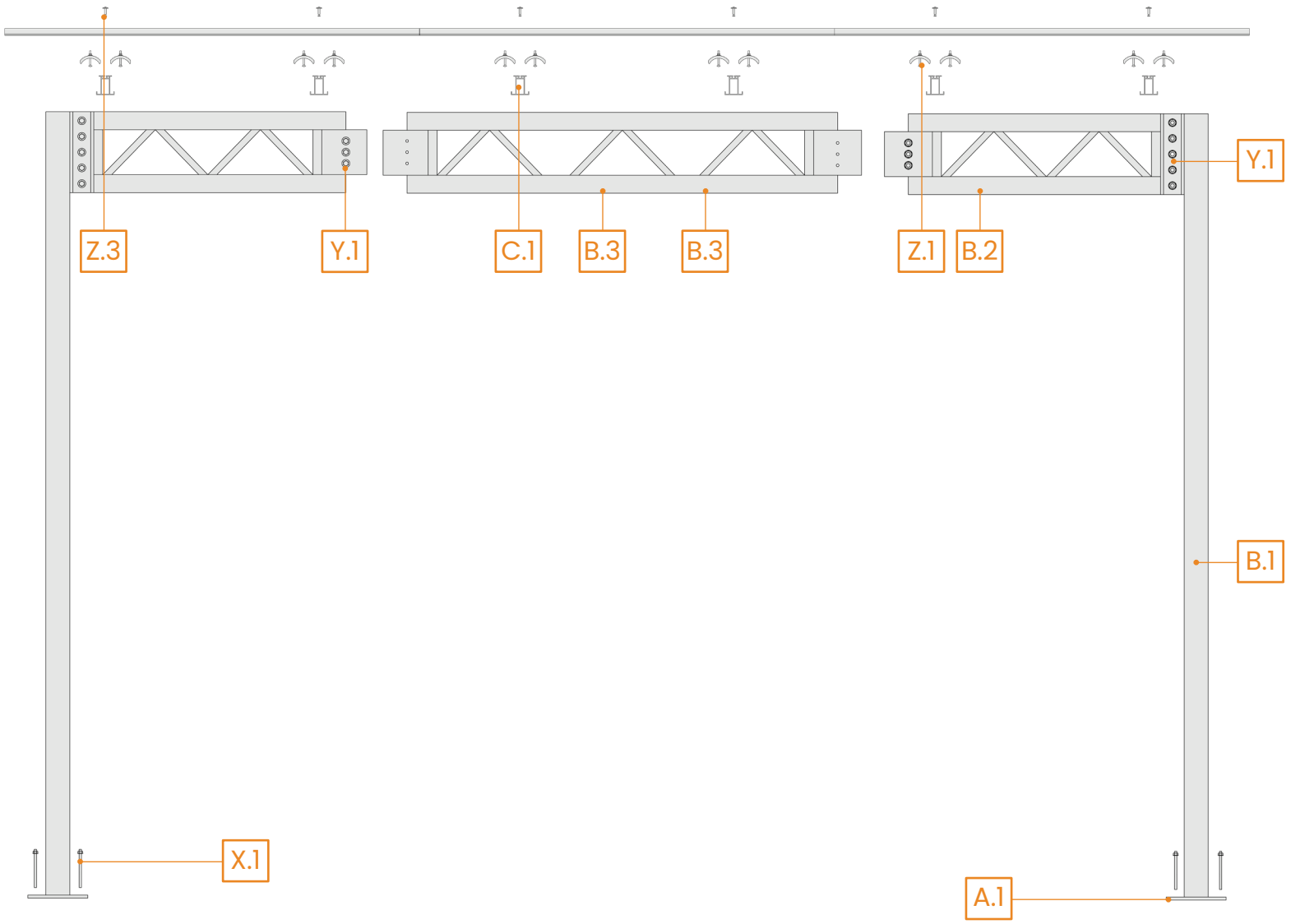
FRONT





3 COMPONENTS

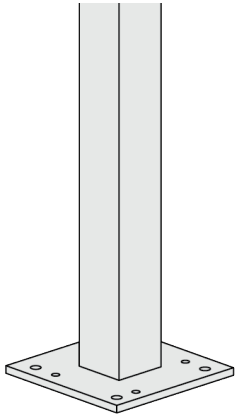
3.1 COMPONENTS EXPLODED VIEW



- A.1 BASE PLATE (WELDED)
- B.1 COLUMN
- B.2 TRUSS
- B.3 MIDDLE TRUSS
- C.1 BSCC CUSTOM RAIL
- C.2 RAIL SPLICE BAR *(NOT PICTURED)*

- X.1 HILTI-HITZ ANCHOR BOLT
- Y.1 FULLY THREADED BOLT
- Z.1 CLAMP & FULLY THREADED CARRIAGE BOLT
- Z.2 TEK SCREW *(NOT PICTURED)*
- Z.3 IRONRIDGE UFO BOLT

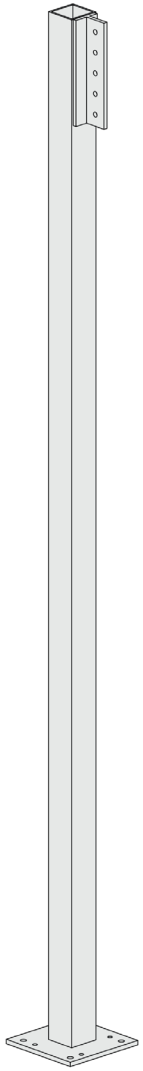
3.2 BASE ATTACHMENT COMPONENTS



A.1 BASE PLATE (WELDED)
AT GRADE

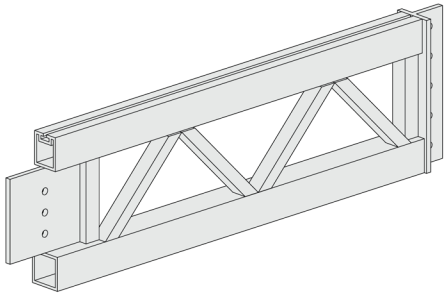
X.1 HILTI HIT-Z ANCHOR BOLT
5/8" DIA.
(OR THREADED ROD)

3.3 STRUCTURAL COMPONENTS

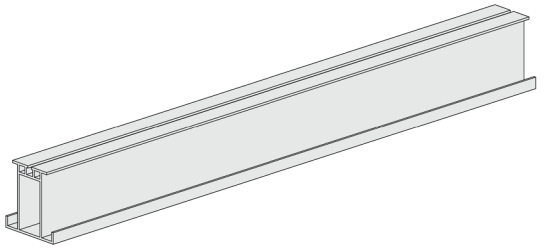


B.1 COLUMN
ALUMINUM, 6061, GALVANIZED

Trusses vary in depth and bolt hole no.

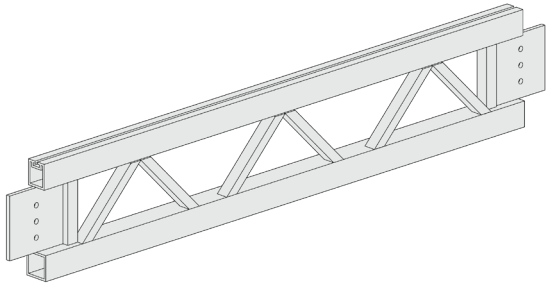


B.2 TRUSS
ALUMINUM, 6061, GALVANIZED

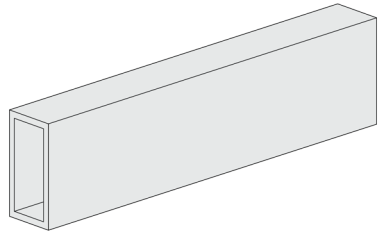


C.1 BSCC CUSTOM RAIL
ALUMINUM, 6061, GALVANIZED

Trusses vary in depth and bolt hole no.

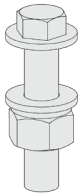


B.3 MIDDLE TRUSS
ALUMINUM, 6061, GALVANIZED



C.2 RAIL SPLICE BAR
ALUMINUM, 6061, GALVANIZED

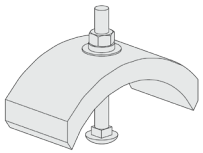
3.4 FASTENERS & ADDITIONAL COMPONENTS



Y.1 FULLY THREADED BOLT
5/8" DIA. X 3" L., STAINLESS STEEL

Z.3 IRON RIDGE UFO BOLT
UL 2703
NOT INCLUDED

Q.1 RAIL END CAPS



Z.1 CLAMP & FULLY THREADED CARRIAGE BOLT
ALUMINUM, 6061, GALVANIZED & 5/16" DIA., STAINLESS STEEL

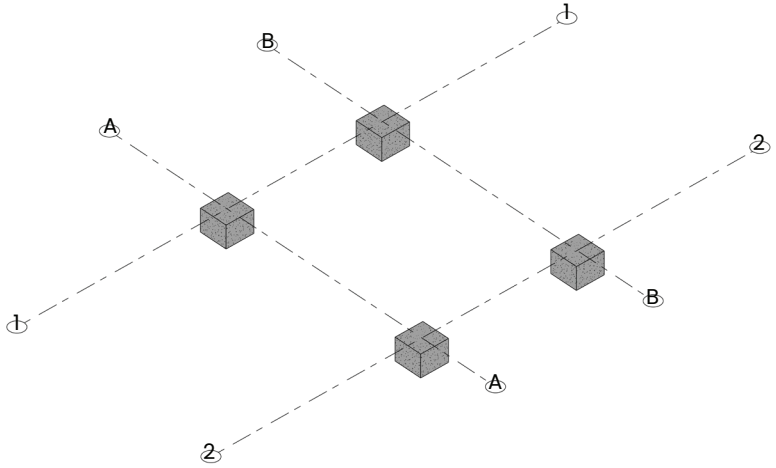
Q.2 IRONRIDGE UFO BOLT STOPPER SLEEVE
NOT INCLUDED

Z.2 TEK SCREWS
Drill Point

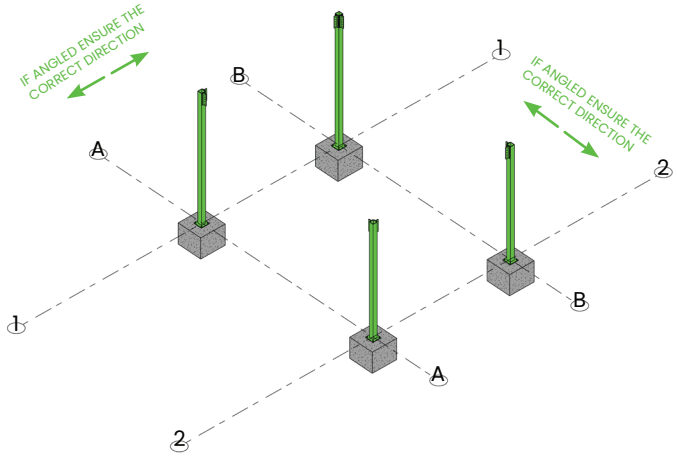
Q.3 IRONRIDGE GROUNDING LUG (GD-LUG-003)
NOT INCLUDED

4 BASE ATTACHMENTS

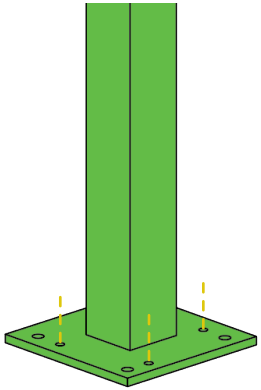
4.1 GRADE - FOOTINGS



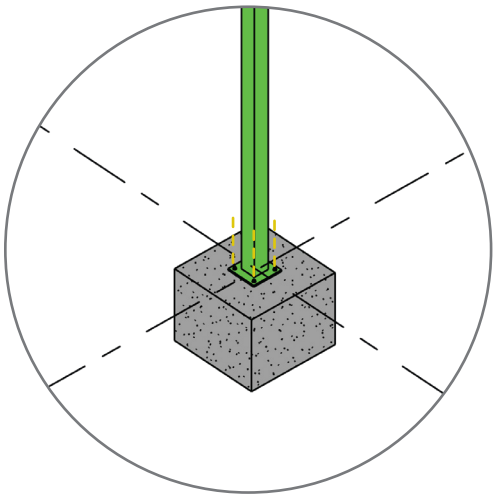
1.) Mark foundations, dig and pour concrete ensuring footings are level. Let concrete cure.

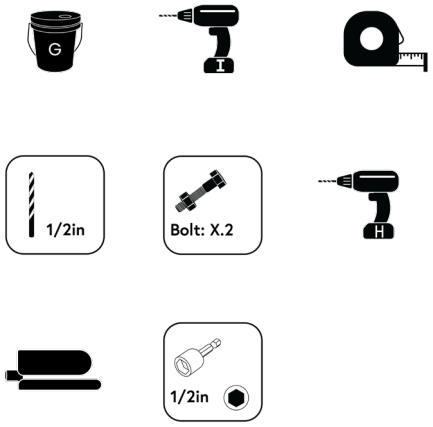


2.) Place columns/base plates, ensure columns are in the correct location. Drill and clean anchor bolt holes. Drill anchor bolts and apply epoxy.



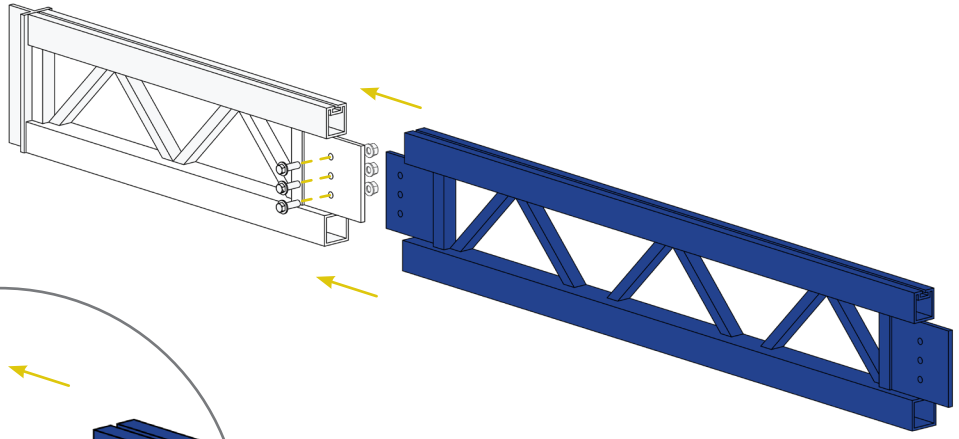
3.) If required use 1/2" diamater threaded leveling holes with 1/2" anchor bolts to level on foundation. Cover gap, all around with non-shrink grout

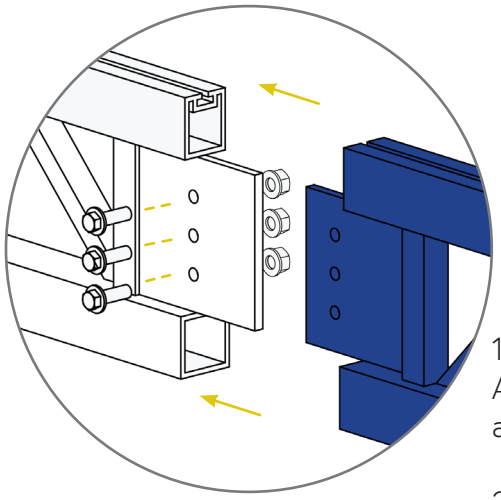




5 ASSEMBLY

5.1 TRUSS ASSEMBLY



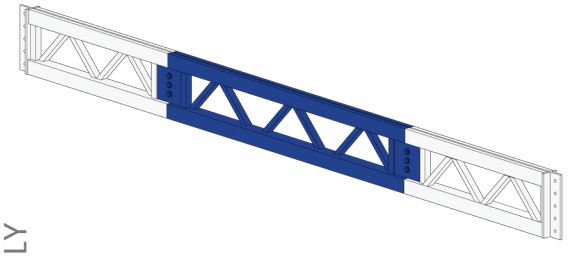


1.) Move all truss pieces so they are standing as shown. Align the truss plates and secure with 5/8" DIA. Bolts using an impact driver.

2.) Repeat the process for the other trusses

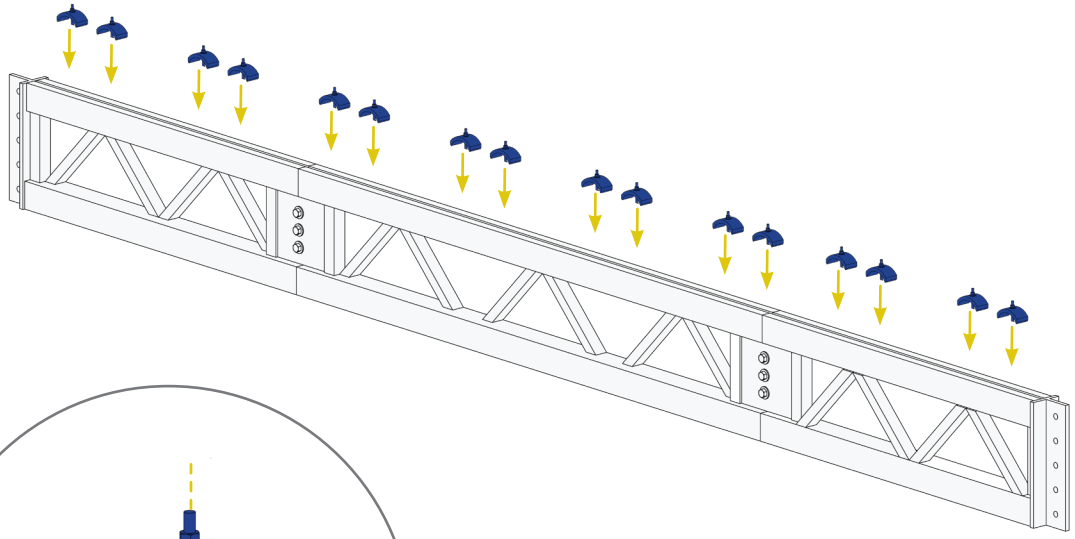
Note: If the canopy is angeled ensure that the trusses are placed in the correct location.

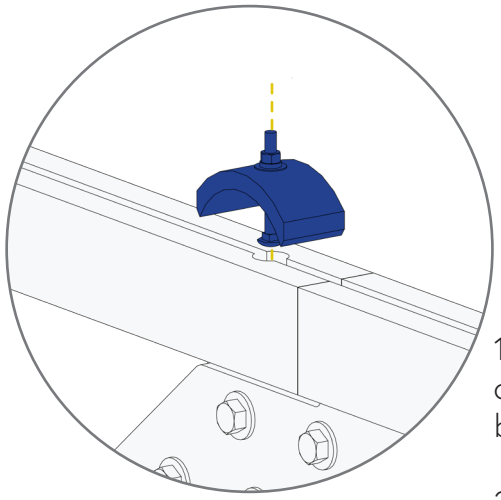
TRUSS ASSEMBLY

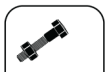


NOTE: NOT ALL TRUSSES REQUIRE ASSEMBLY

5.1 TRUSS ASSEMBLY





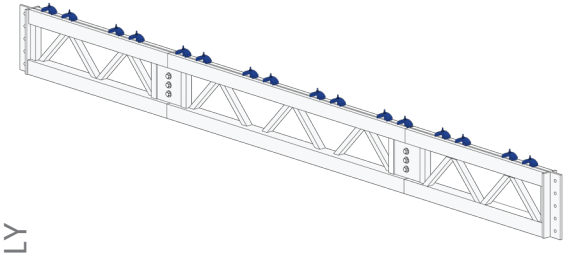


1.) Add the clamps to the assembled trusses by placing the carriage bolt through the circle openings on the top member of the truss.

2.) Slide the clamps across the truss so that there are two clamps per rail, this will vary depending on the canopy size purchased.

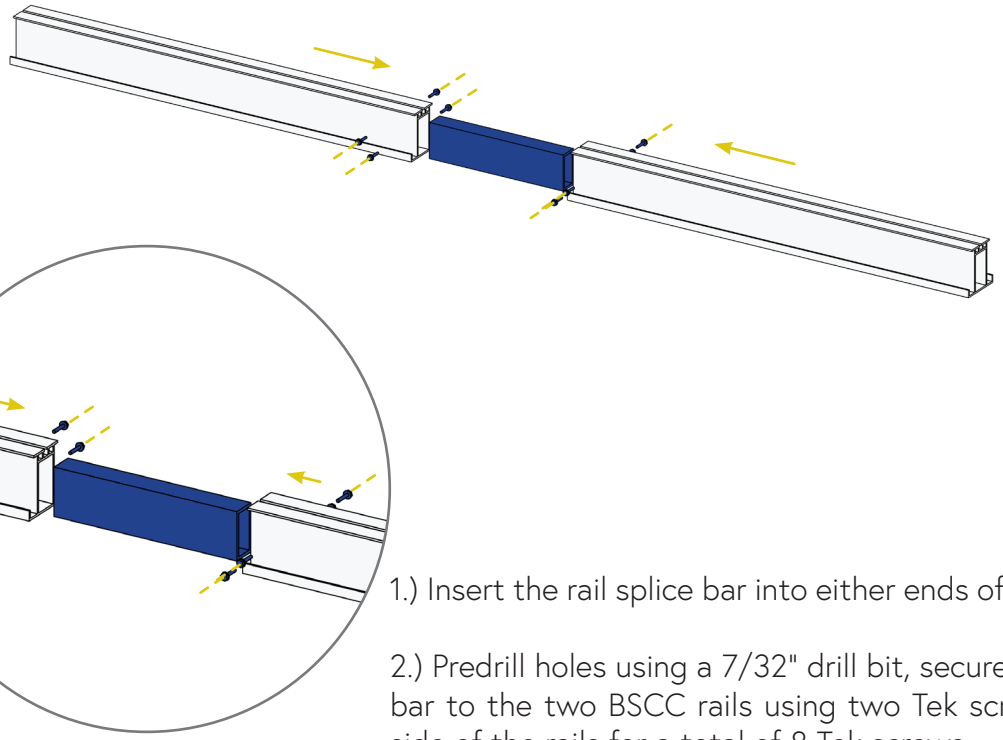
3.) DO NOT secure, this will allow flexibility for the BSCC rails to slide between the clamps.

TRUSS ASSEMBLY

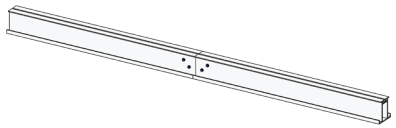


NOTE: NOT ALL TRUSSES REQUIRE ASSEMBLY

5.2 RAIL SPLICE ASSEMBLY



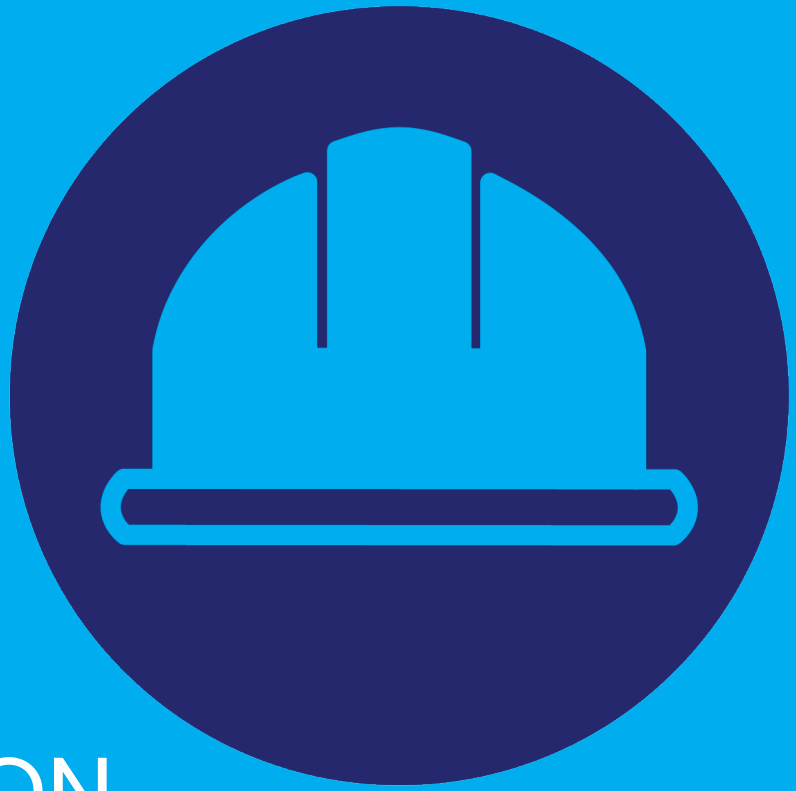
RAIL ASSEMBLY



1.) Insert the rail splice bar into either ends of the BSCC rail.

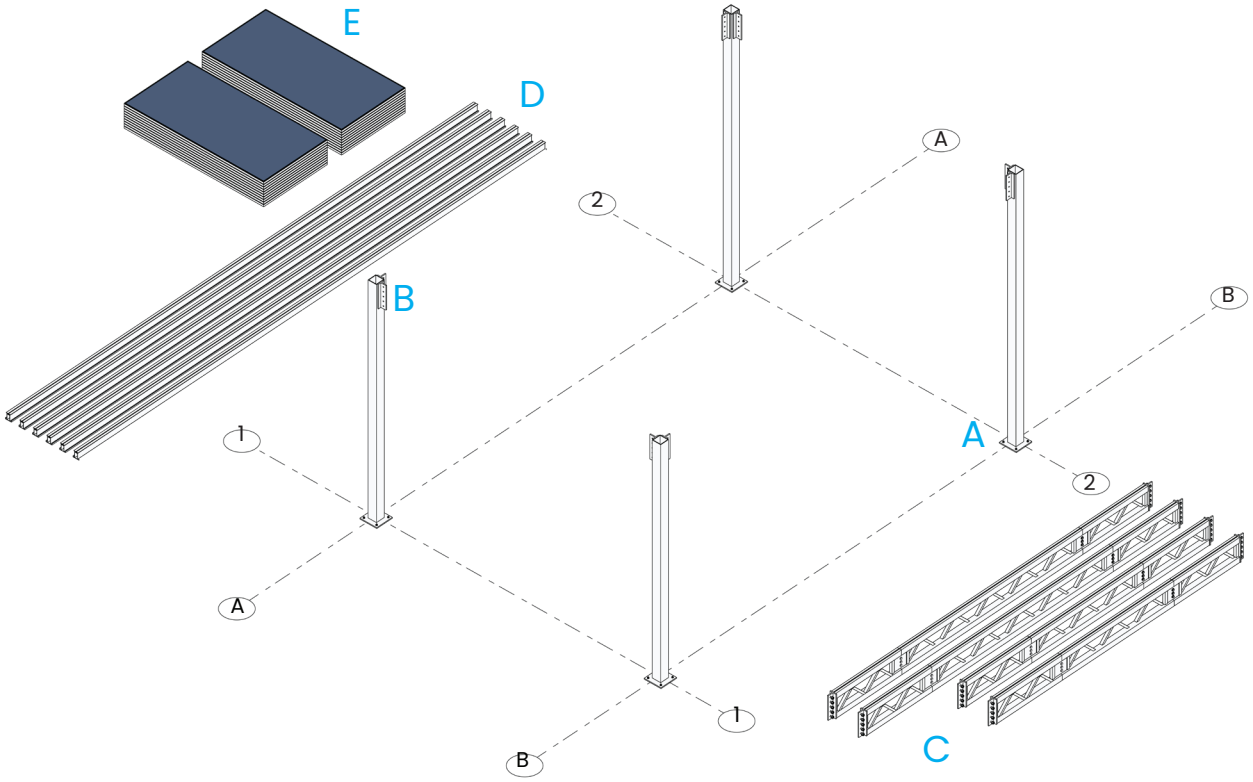
2.) Predrill holes using a 7/32" drill bit, secure the rail splice bar to the two BSCC rails using two Tek screws on either side of the rails for a total of 8 Tek screws.

3.) Do this for all rails and set aside.



6 CONSTRUCTION

6.1 CONSTRUCTION SITE LAYOUT



A Base Plate (Welded)

B Column

C Assembled Truss

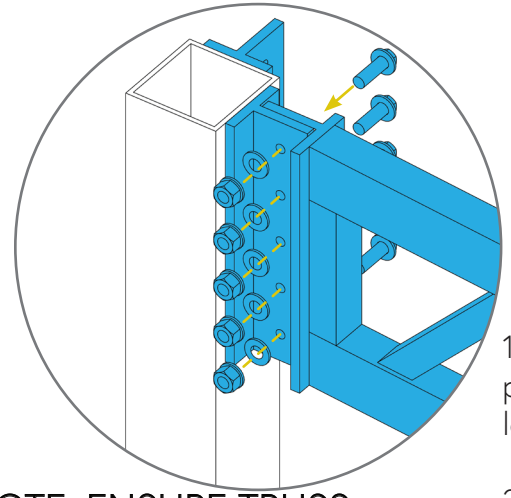
D BSCC Rail

E PV Modules (not provided)

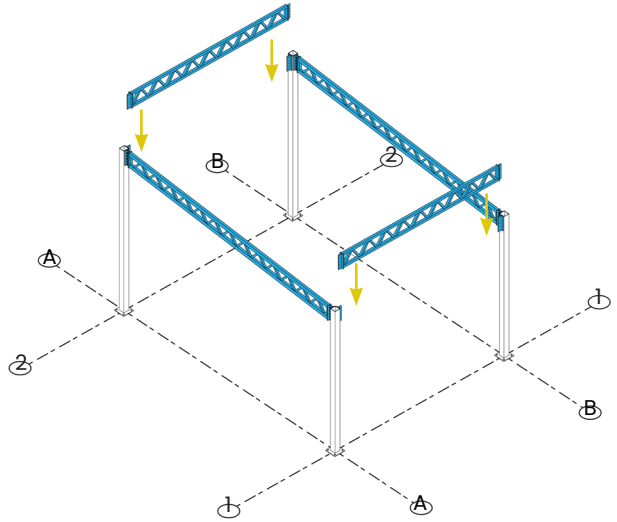
Once all parts have been assembled arrange components prior to construction that resembles the canopy plan and the desired angle of the canopy. This step ensures that the appropriate column legs and trusses are located in the correct place and orientation to achieve the proper module angle of either 0 or 5 degrees depending on the system purchased.

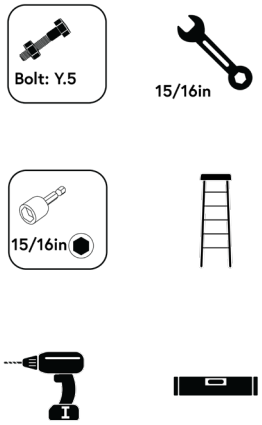
6.2 TRUSS PLACEMENT & SECURE

COLUMN LEG - TRUSS ATTACHMENT



NOTE: ENSURE TRUSS CHANNEL IS ON TOP

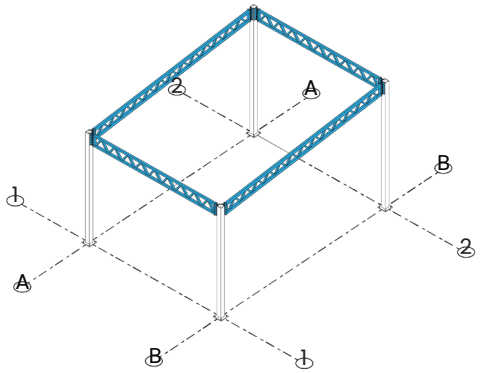




1.) After the columns have been secured, lift the truss into place. The plates on the columns and truss will align to allow bolting.

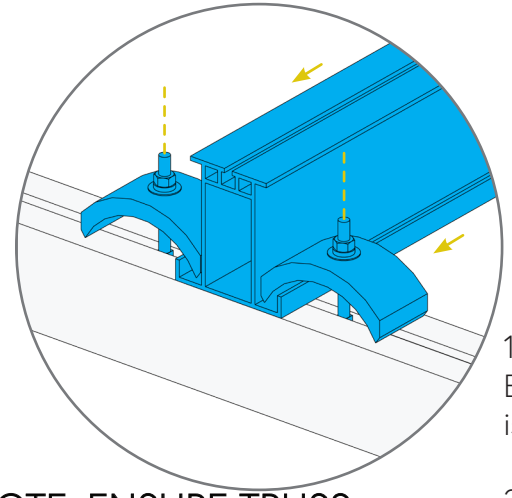
2.) Using the 5/8 DIA. bolts and an impact driver and wrench to secure bolts with a washer, lock washer, nut.

Note: If necessary use a level to ensure the truss is level at 0 or 5 degrees depending on the system purchased.

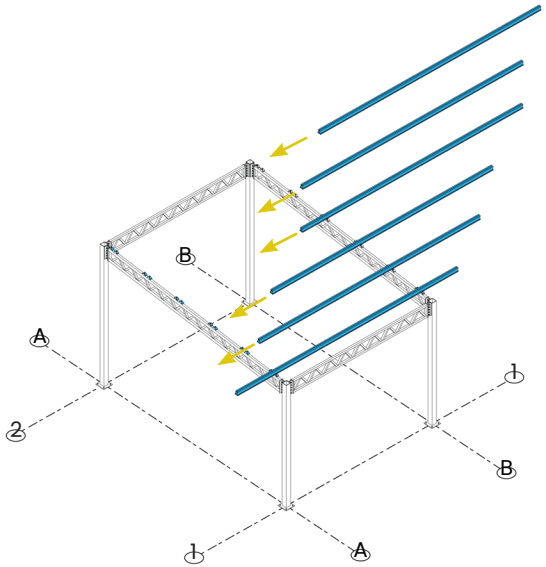


6.3 RAIL INSTALLATION

RAIL – TRUSS ATTACHMENT



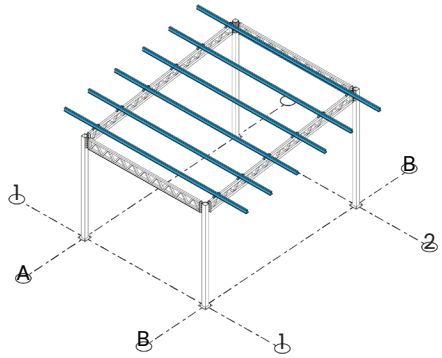
NOTE: ENSURE TRUSS CHANNEL IS ON TOP



1.) Once the trusses have been securely fastened, slide the BSCC Rails across the top of the truss ensuring that there is a clamp on each side of the rail at every truss location.

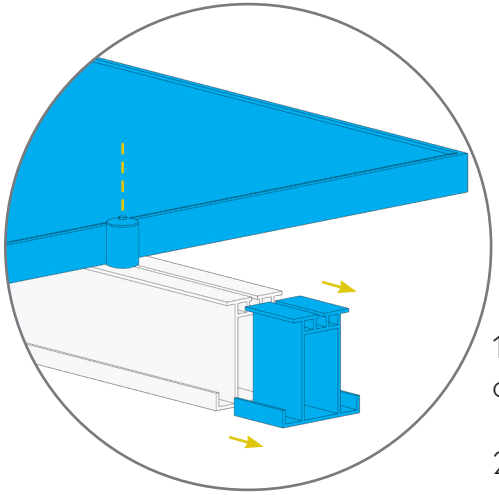
2.) Align the end of the rails at one side of the canopy, leaving roughly 2"-3" of space from the end of the rail to solar panel frame. This allows for cuts to only occur at the opposite ends of the rails. See next page.

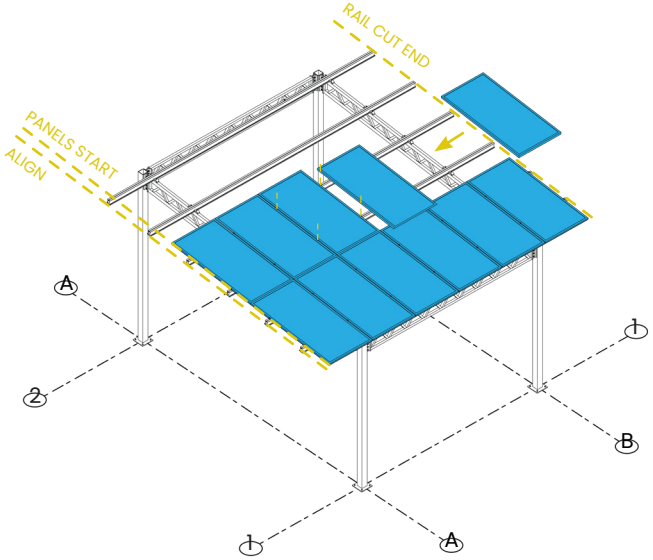
3.) After all rails are in place secure the carriage bolt of each clamp using an impact driver and wrench.

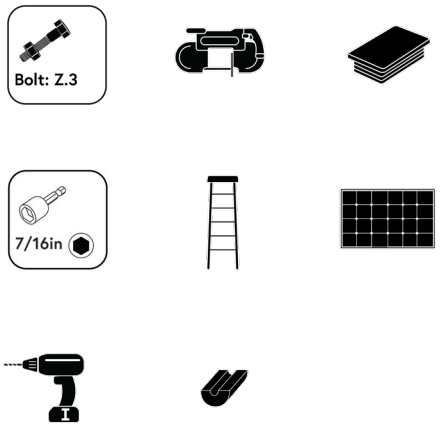


6.5 PANEL INSTALLATION

PANELS – RAIL ATTACHMENT





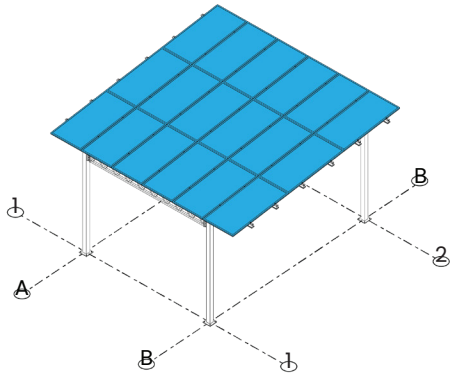


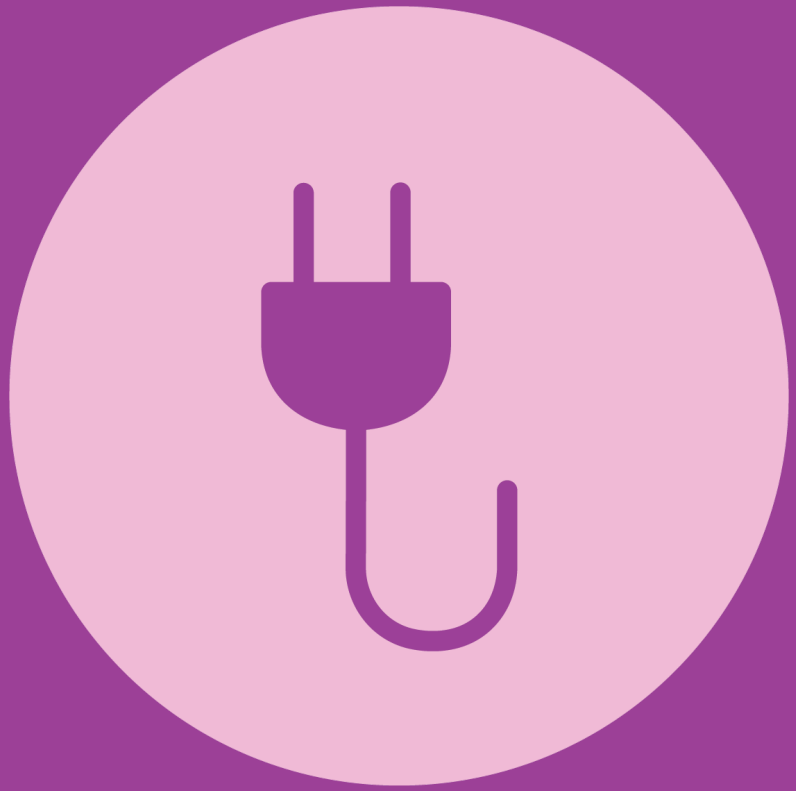
1.) Place solar panels on secured rails, leaving roughly 2"-3" of space from the end of the rail to solar panel frame.

2.) Start with one row of panels and complete a row before starting the next. Secure the panels by sliding the end of the UFO bolt into the top of the BSCC Rail and allowing the top of the UFO bolt to rest on top of the solar panel frame. Secure the UFO bolts with an impact driver.

3.) If there's excess BSCC Rail at one end of the canopy. Measure 2"-3" of the rail from the end of the solar panel frame. Use the deep cut portable ban saw to cut the rails.

4.) Place End Caps on exterior rails and Iron Ridge UFO Stoppers on exterior UFO bolts.



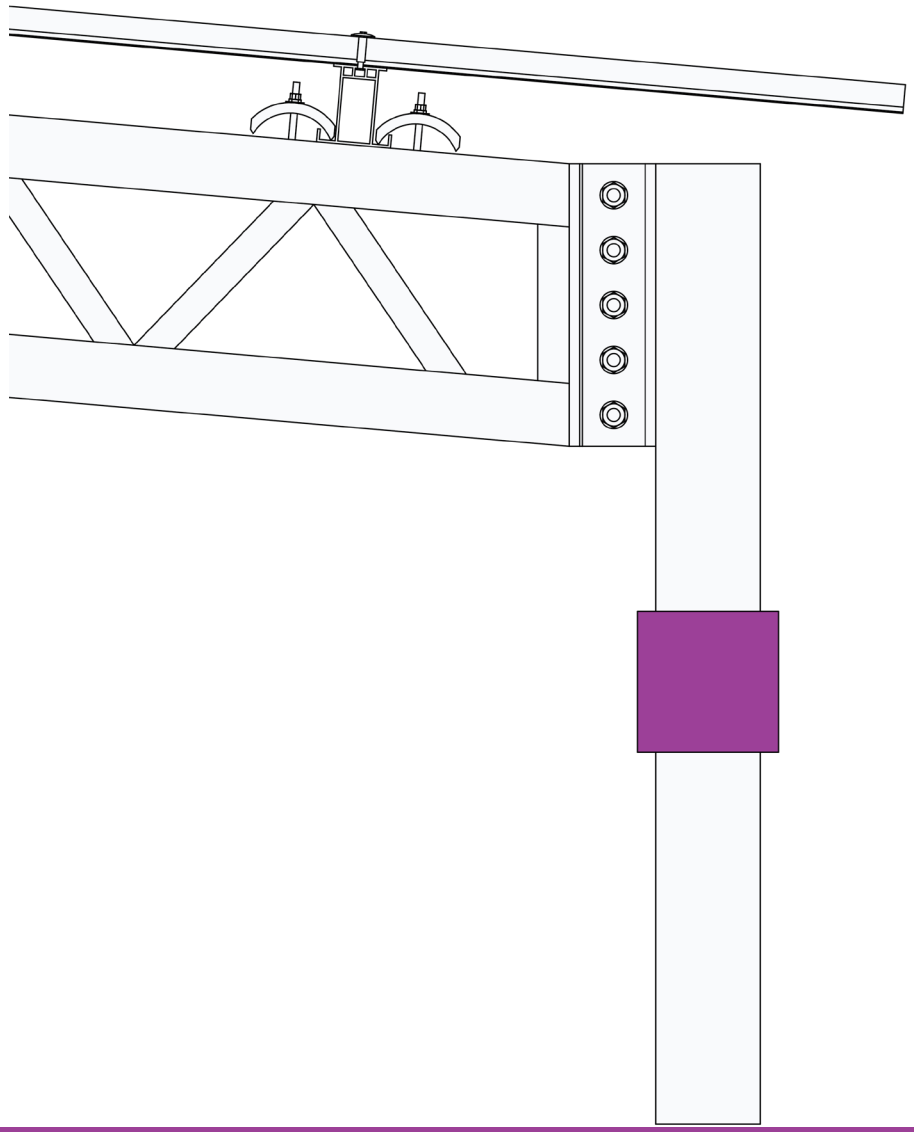


7 ELECTRICAL

7.1 MOUNTING

1.) Junction boxes can be mounted to any part of the canopy, this drawing illustrates a convenient place to mount a junction box.

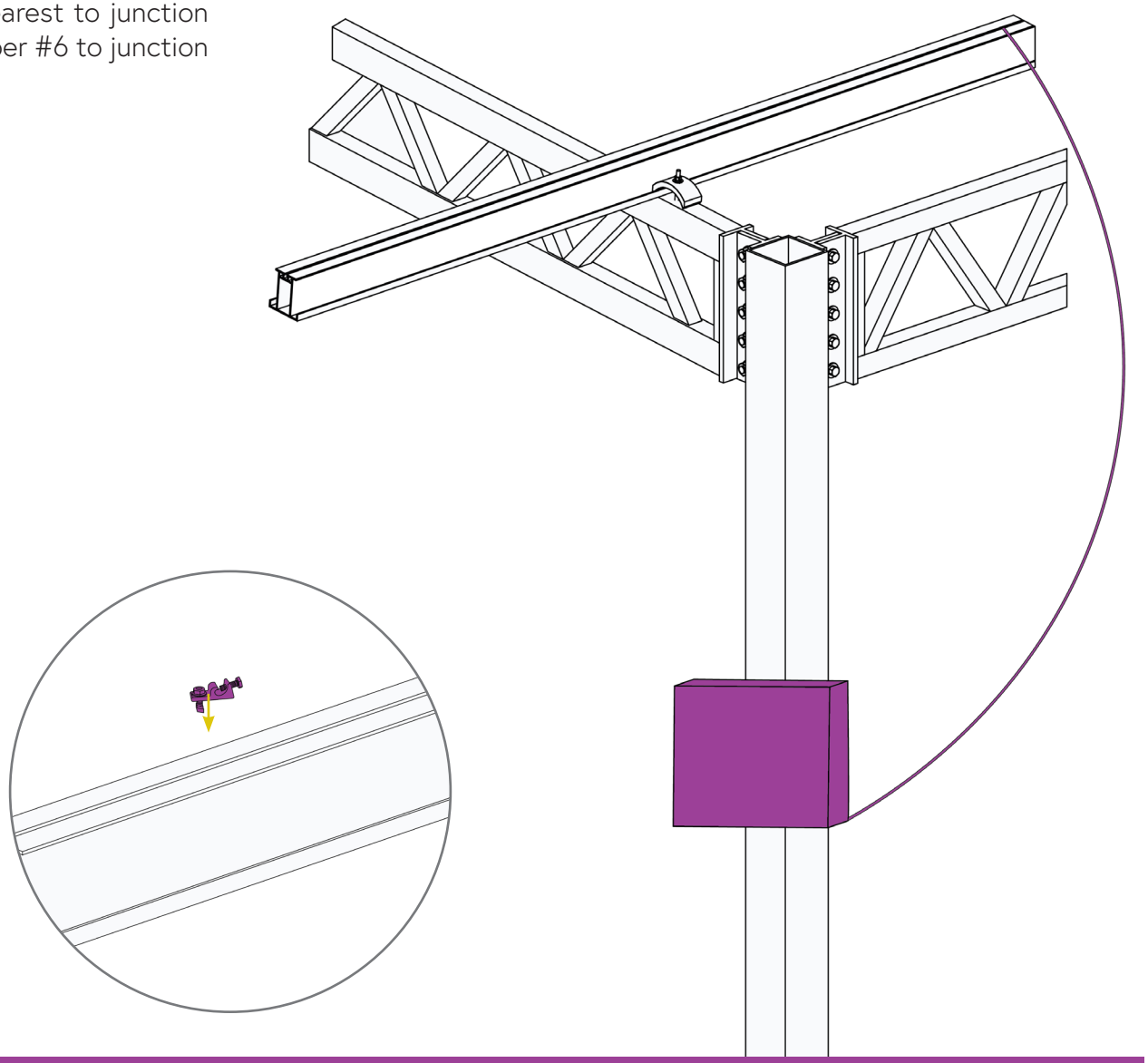
2.) Conduit can be run flush with the outer member of the column.



7.2 GROUNDING

1.) The BSCC Post-Truss Canopy is UL certified to have one grounding connection from the rail to the junction box.

2.) Place IronRidge ground lug (GD-LUG-003) in rail nearest to junction box, fasten down using 7/16" wrench and run bare copper #6 to junction box.



8 WARRANTY

8.1 WARRANTY

To the extent that BSCC reasonably concludes (in accordance with the timeline and process set forth in Section 1.7) that any Products have been delivered to Customer with a bona-fide, material defect or non-conformity, then BSCC will repair or replace such Products, at its own expense.

BSCC additionally warrants that the Products shall be free from Structural Defects (as defined below) for a period of thirty (30) years from the date of delivery (the "Warranty Period").

For purposes of this Agreement, "Structural Defects" means a collapse, material cracking or clear failure of a structural component that is not caused by:

(i) user error, negligence or misconduct by Customer, its end user customer or any other party which shall include but not be limited to any usage that does not conform to the requirements of the Documentation and/or any that is caused by the Customer's breach of any of its obligations hereunder,

(ii) unsafe conditions or negligence of any materials or components supporting or otherwise touching the Products, (i.e., such as an end user's roof or panels),

(iii) environmental conditions or load strain or usage of the Products in excess of the maximum amounts stated in the Documentation and/or (iv) standard "force majeure" events that are outside of BSCC's control (war, earthquake, hurricane…etc.)

BSCC's liability for defective Products is limited to replacement, repair or refund, at BSCC's option and shall be conditioned upon Customer's and its end user's (if applicable) complete cooperation with any reasonable investigation by BSCC of the circumstances surrounding the problem and its efforts to schedule replacement. In all cases, if a Product is deemed to be defective, any disposal of the defective Products will be Customer's sole responsibility. For clarity, BSCC shall have no liability to Customer for Structural Defects or other Product defects caused by Customer's or its end user's (or any other party that is not BSCC) negligence, storage, handling or use.

Designed in Brooklyn, New York

Brooklyn Solar Canopy Company

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Brooklyn, NY 11215

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Manufactured in Providence, Rhode Island