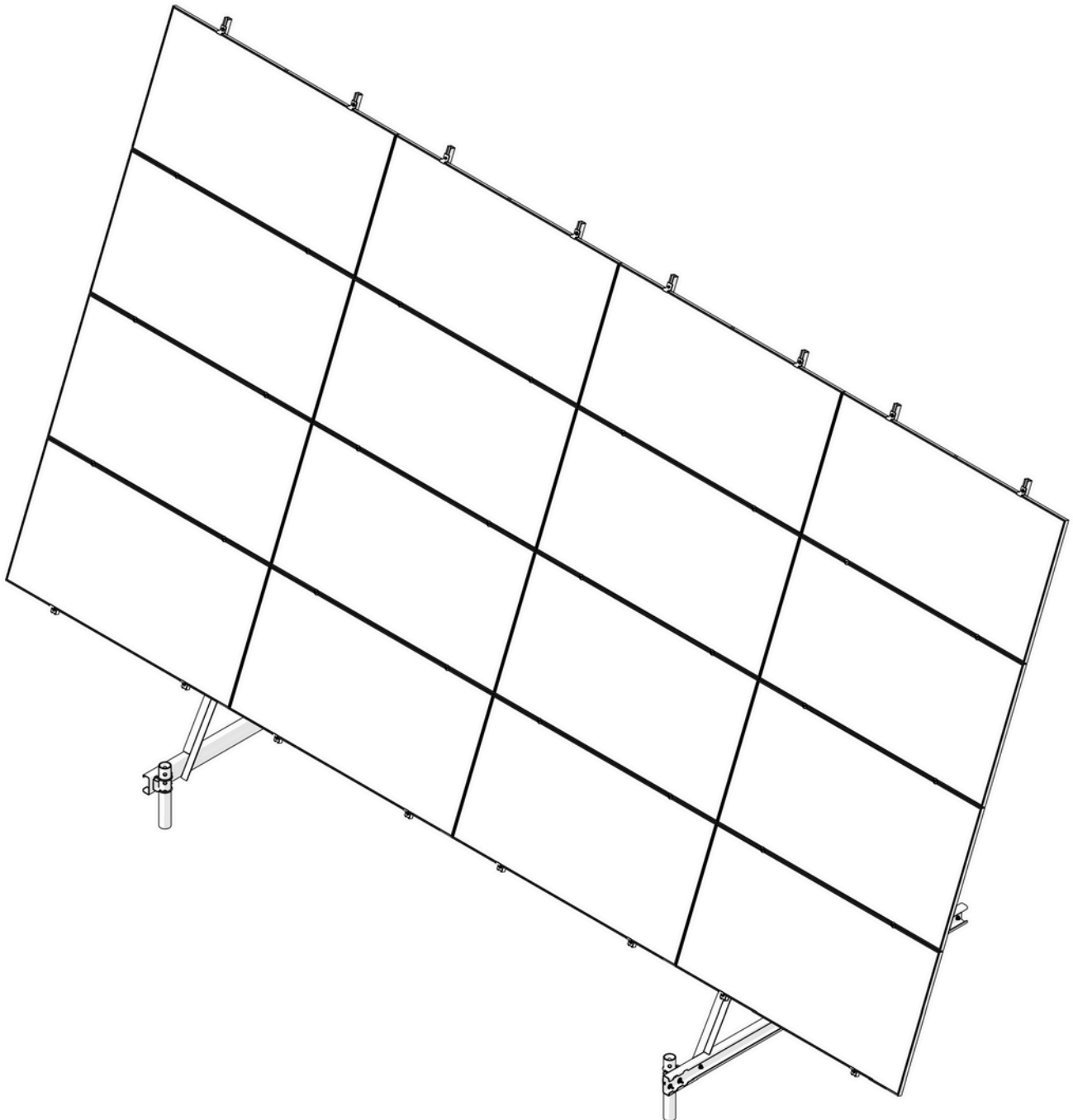
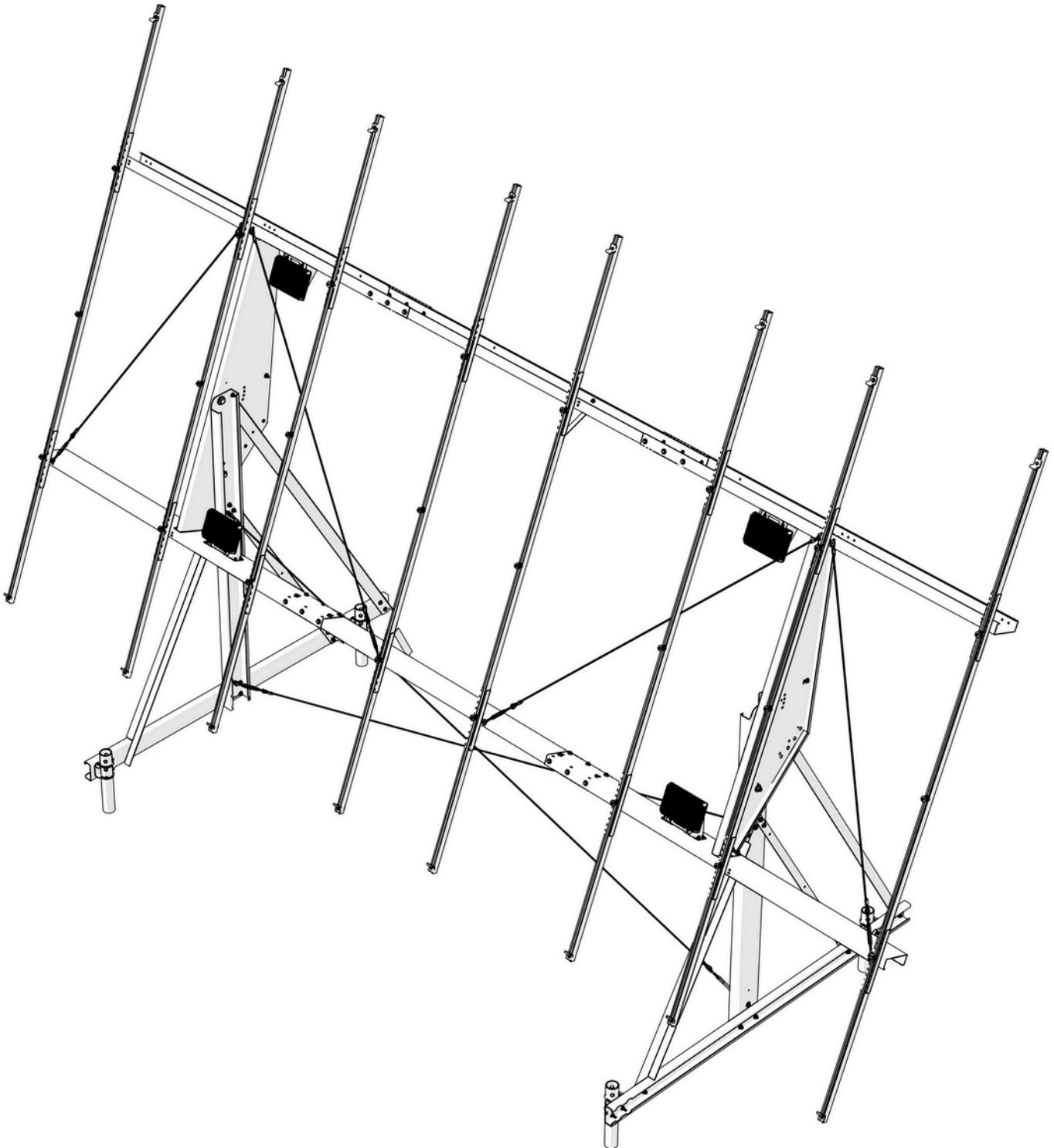


ASSEMBLY INSTRUCTIONS

SunRanger®XL ST-16L & FT

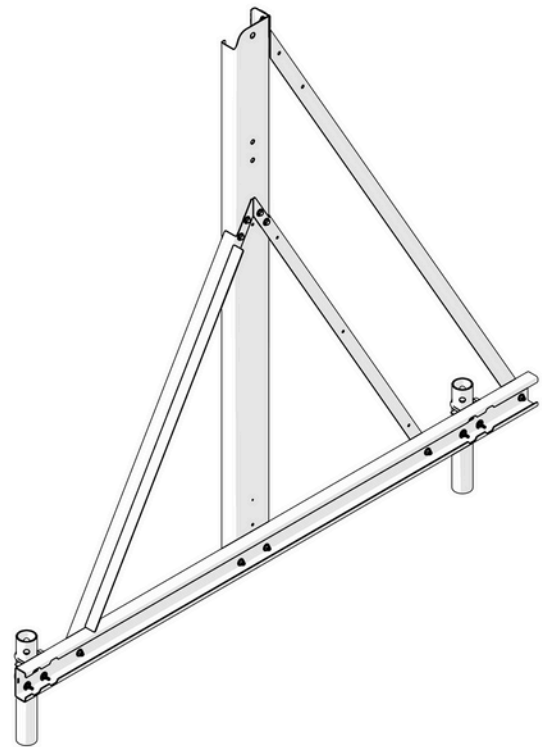
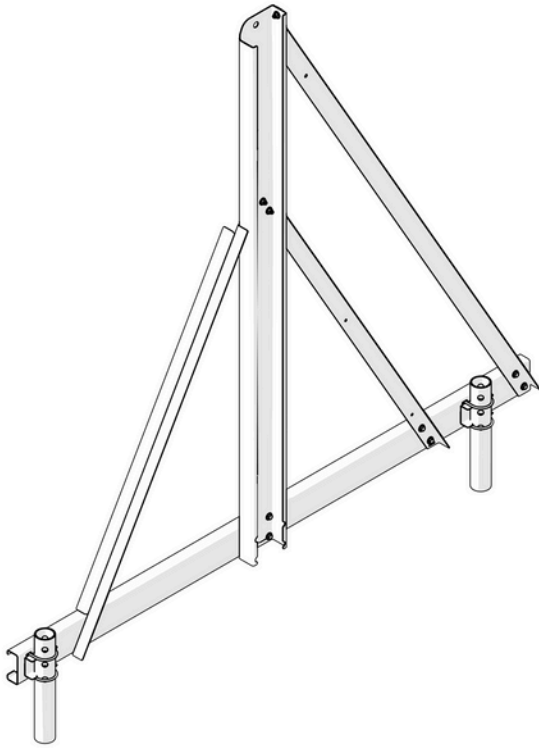


WITHOUT SOLAR PANELS Assembled View

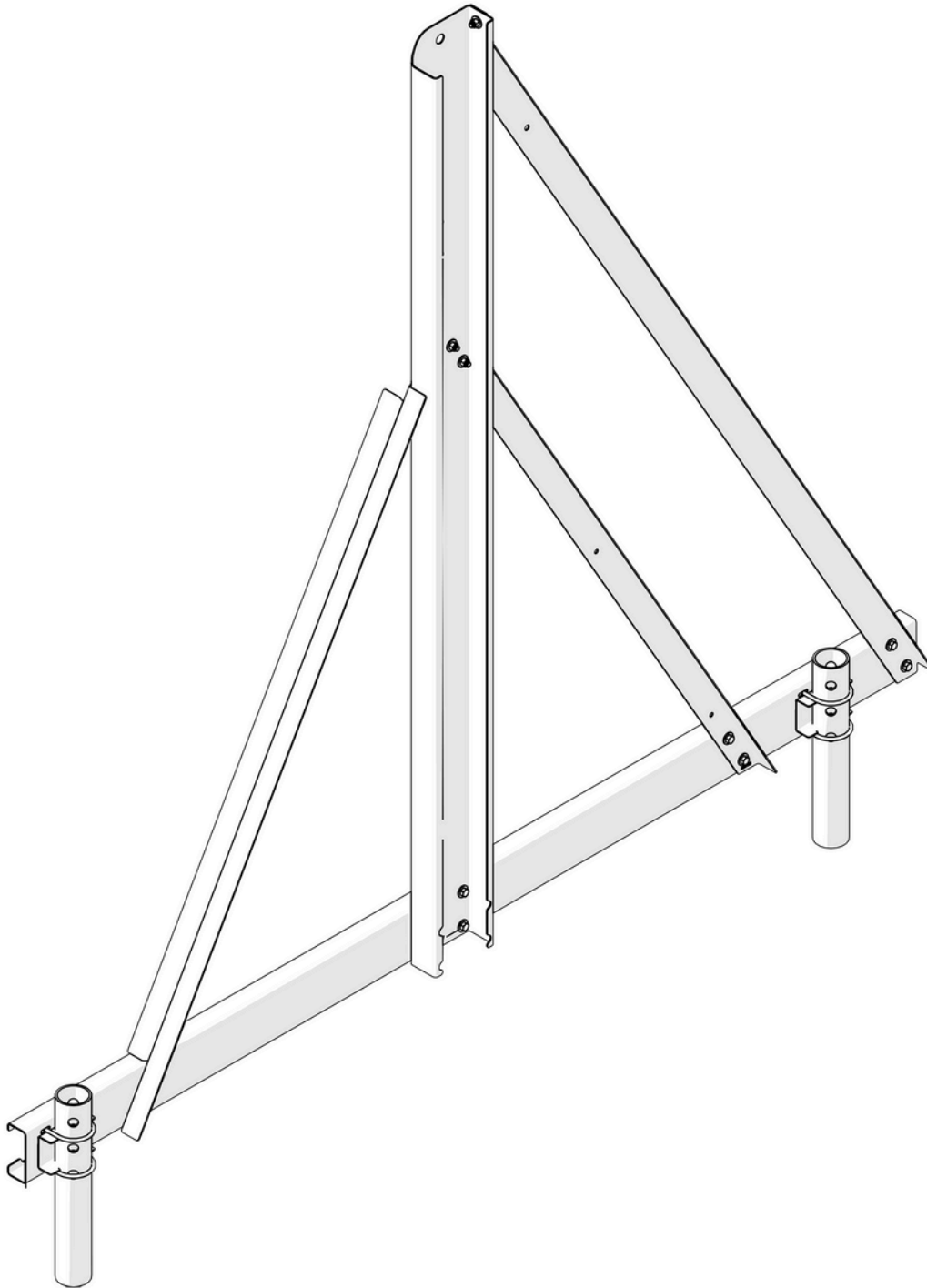


LEGS

East & West Assembled View

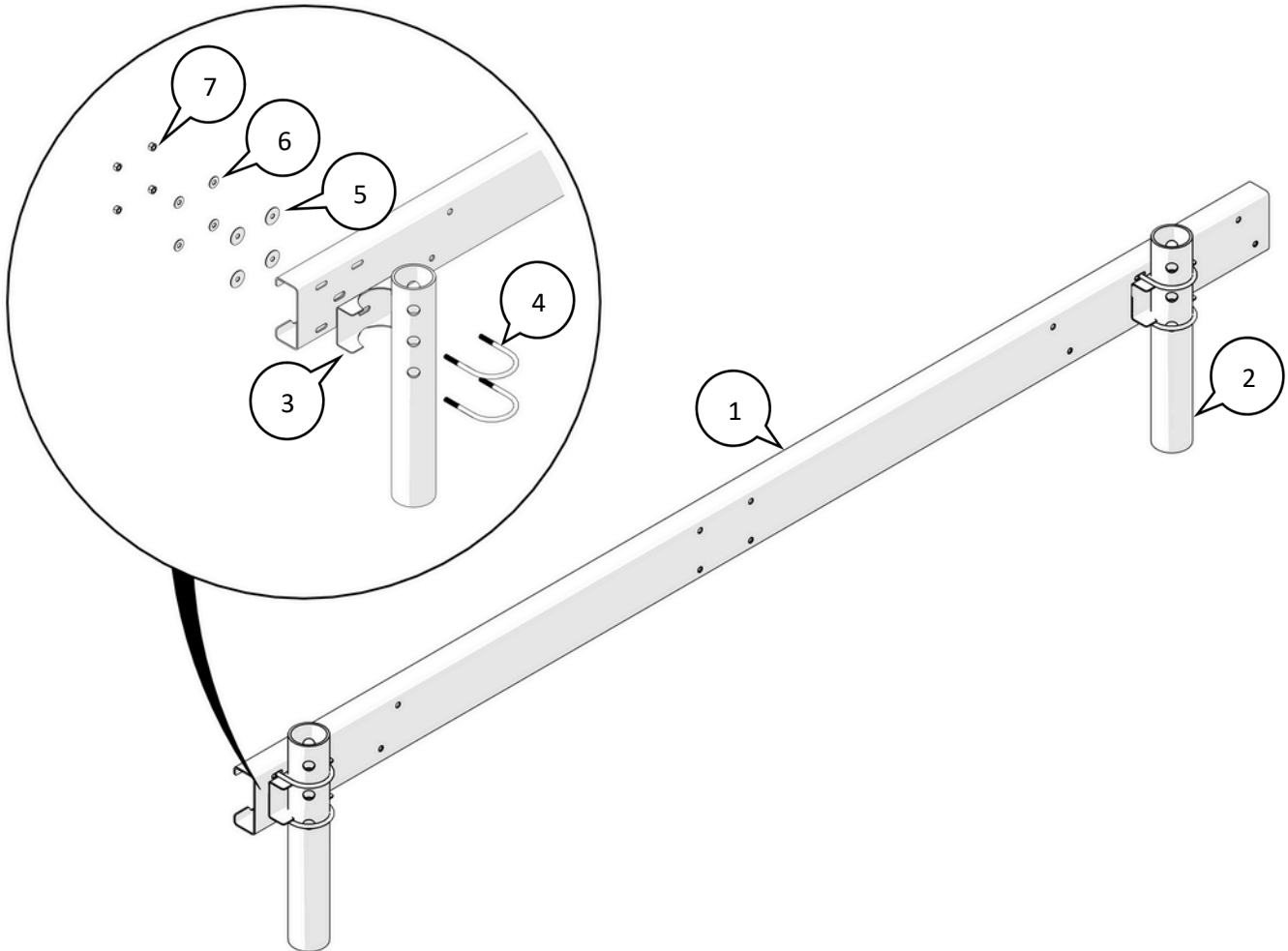


WEST LEG Assembled View



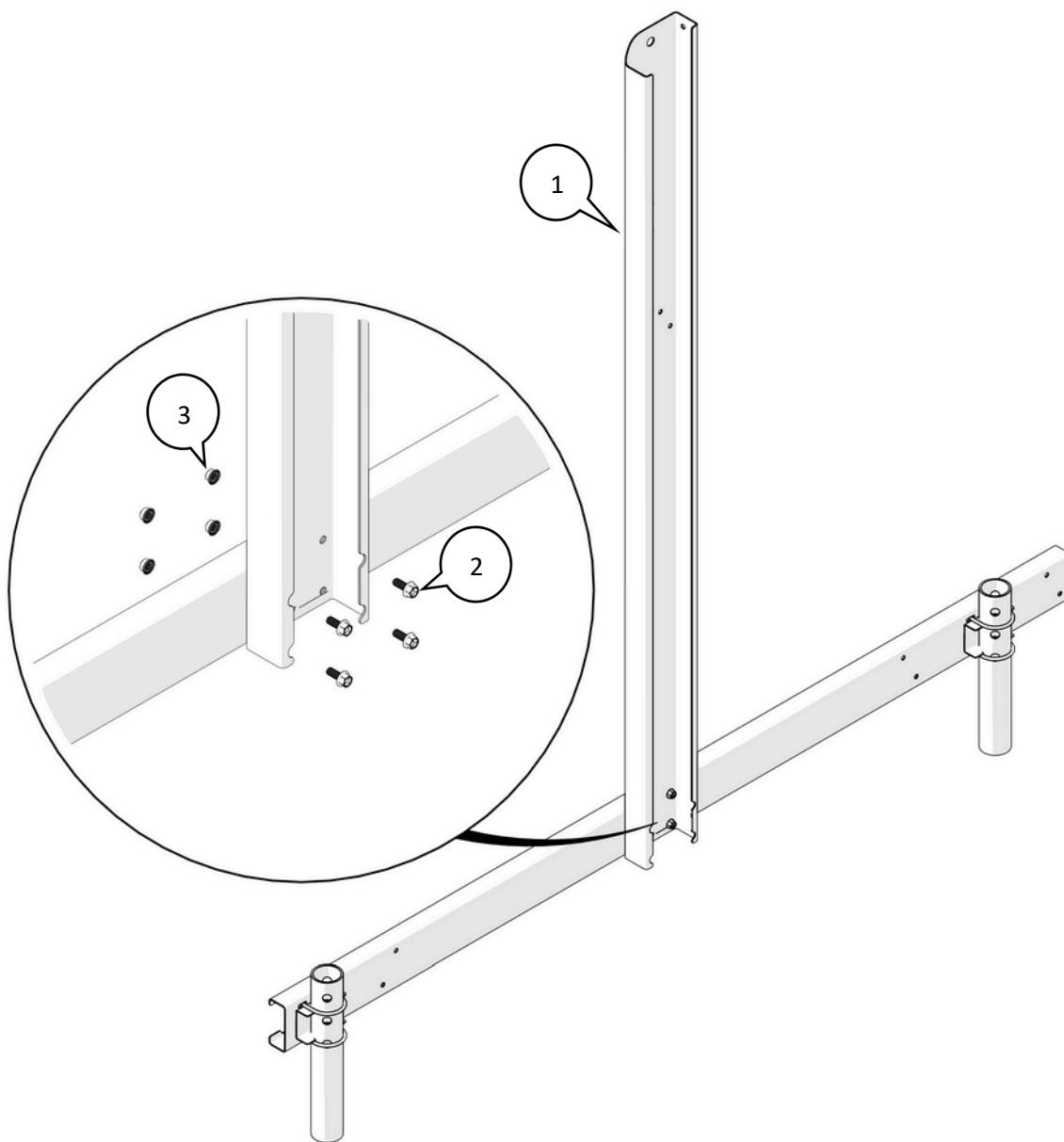
WEST LEG

Base Beam Assembly View



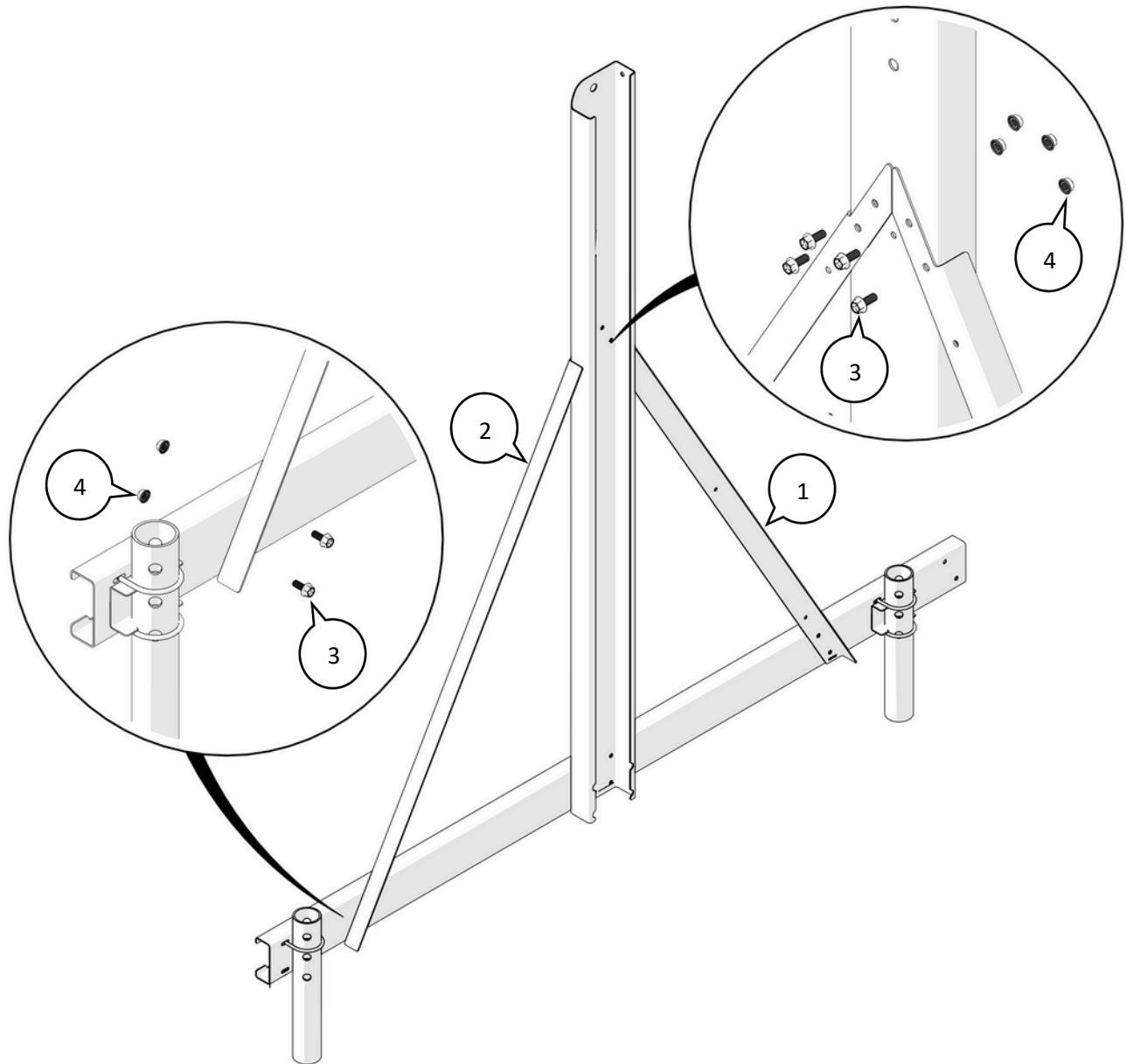
ITEM NO.	DESCRIPTION	QTY
1	BASE BEAM - WEST	1
2	HELICAL SCREW PILE	2
3	PILE ADAPTER	2
4	U-BOLT	4
5	3/8" FENDER WASHER	8
6	3/8" WASHER	8
7	3/8" NUT	8

WEST LEG Leg Assembly View



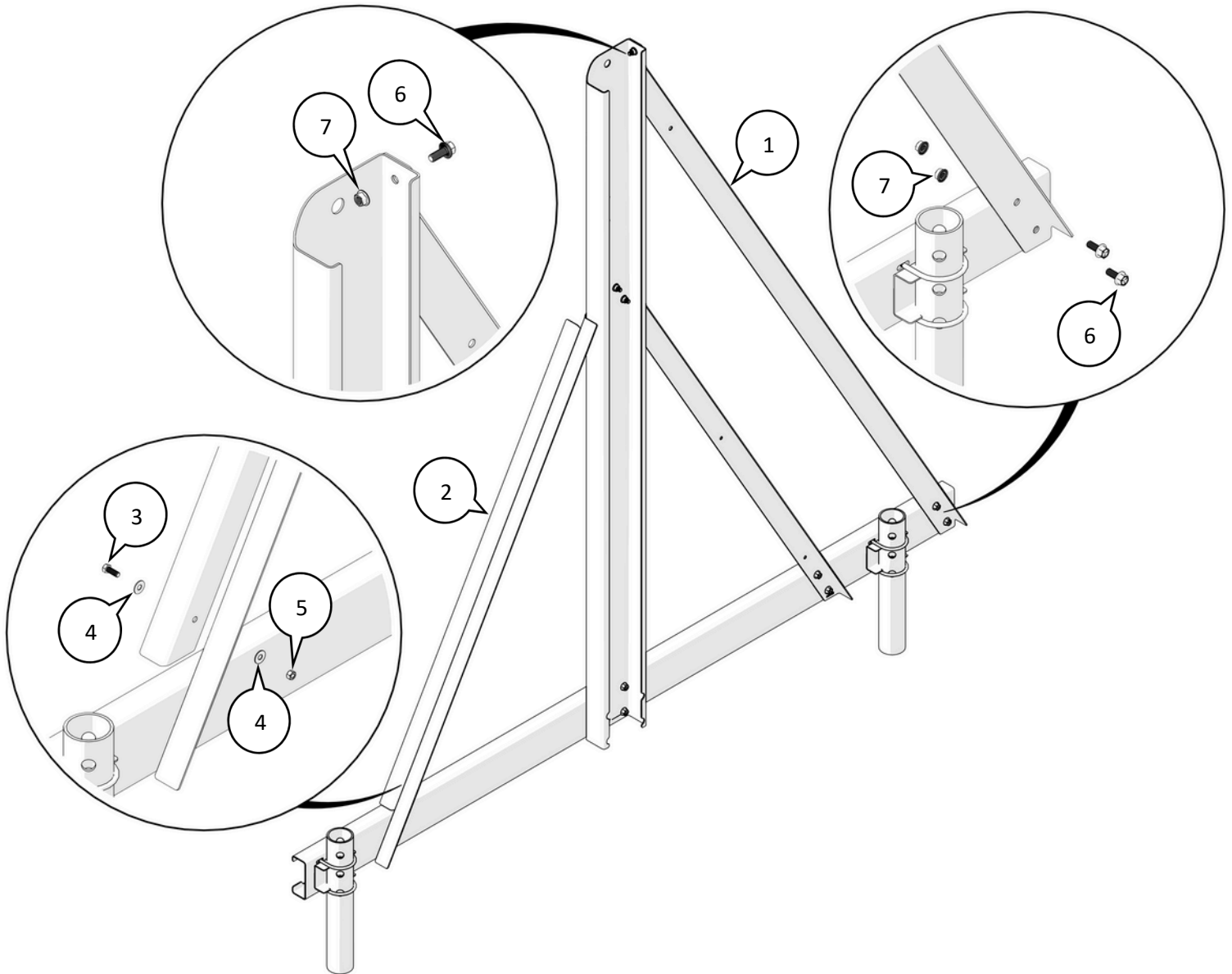
ITEM NO.	DESCRIPTION	QTY
1	LEG - WEST	1
2	1/2" x 1 1/4" SERRATED FLANGE BOLT	4
3	1/2" SERRATED FLANGE NUT	4

WEST LEG Braces Assembly View



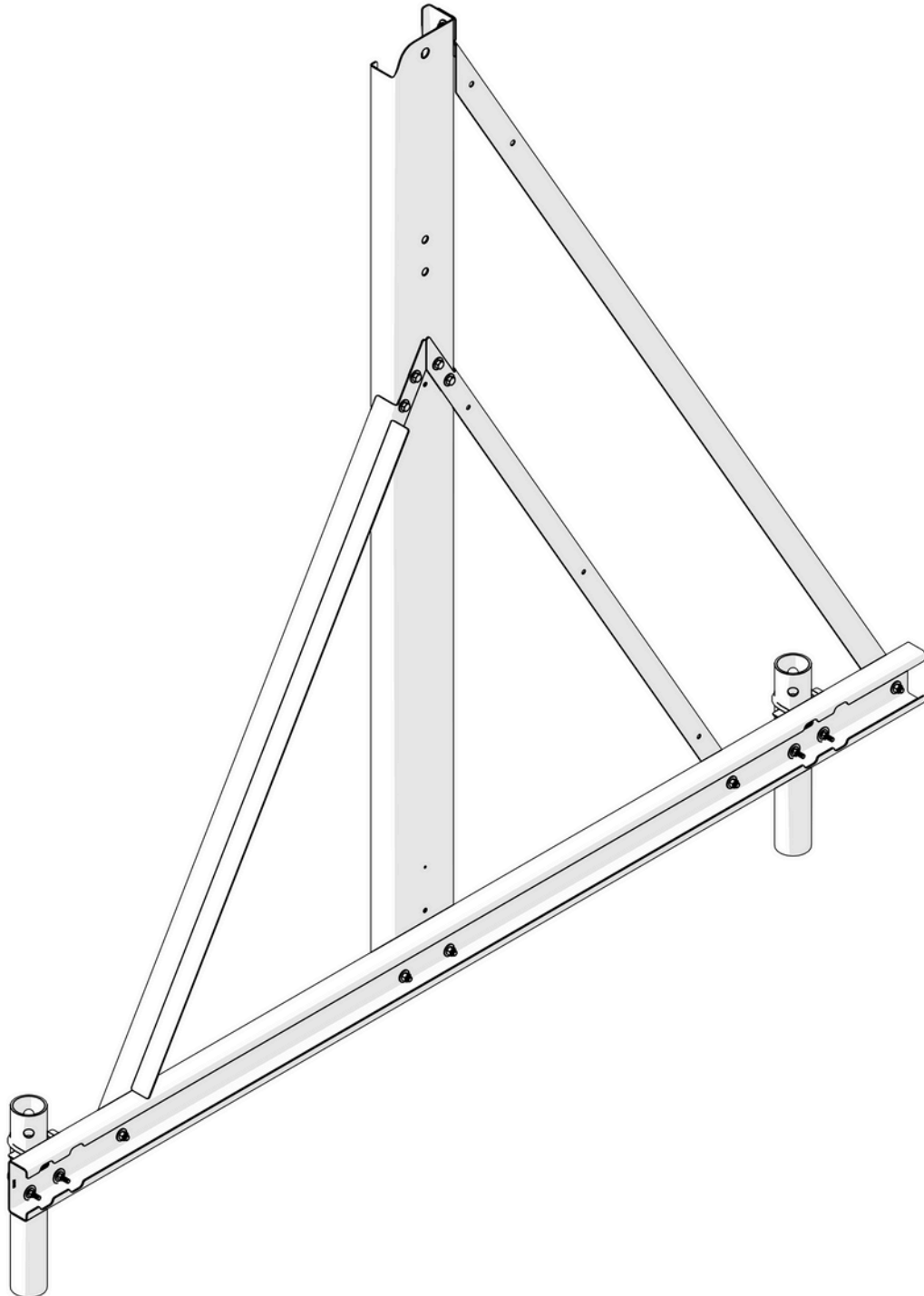
ITEM NO.	DESCRIPTION	QTY
1	BRACE – NE/SW 1/2" x 1 1/4"	1
2	SERRATED FLANGE BOLT 1/2"	1
3	SERRATED FLANGE NUT	8
4		8

WEST LEG High Wind Assembly View



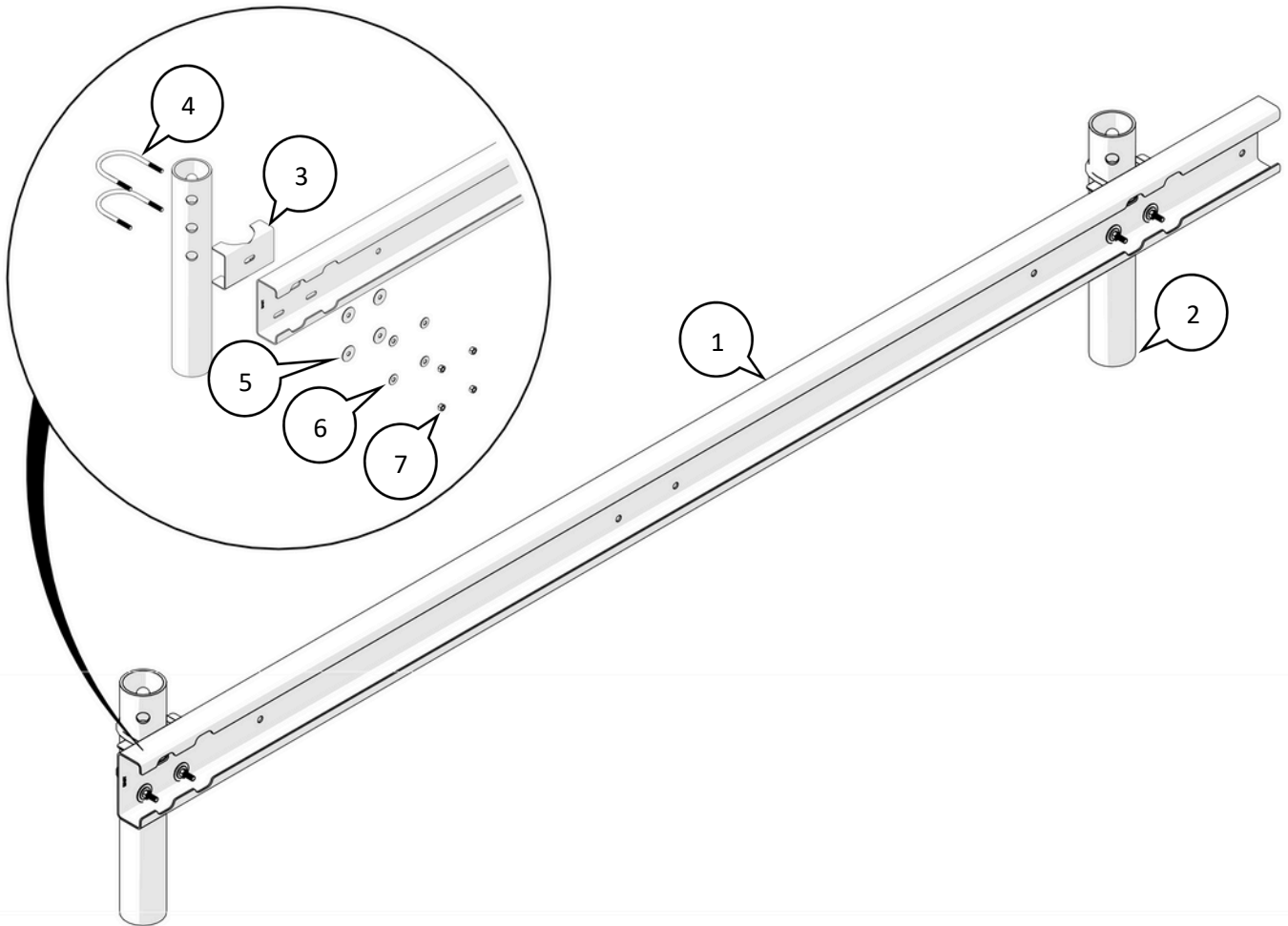
ITEM NO.	DESCRIPTION	QTY
1	HIGH WIND BRACE – WEST (OPTIONAL)	1
2	REINFORCEMENT BRACE (OPTIONAL)	1
3	3/8" x 1" BOLT	3
4	3/8" WASHER	6
5	3/8" NUT	3
6	1/2" x 1 1/4" SERRATED FLANGE BOLT	3
7	1/2" SERRATED FLANGE NUT	3

EAST LEG Assembled View



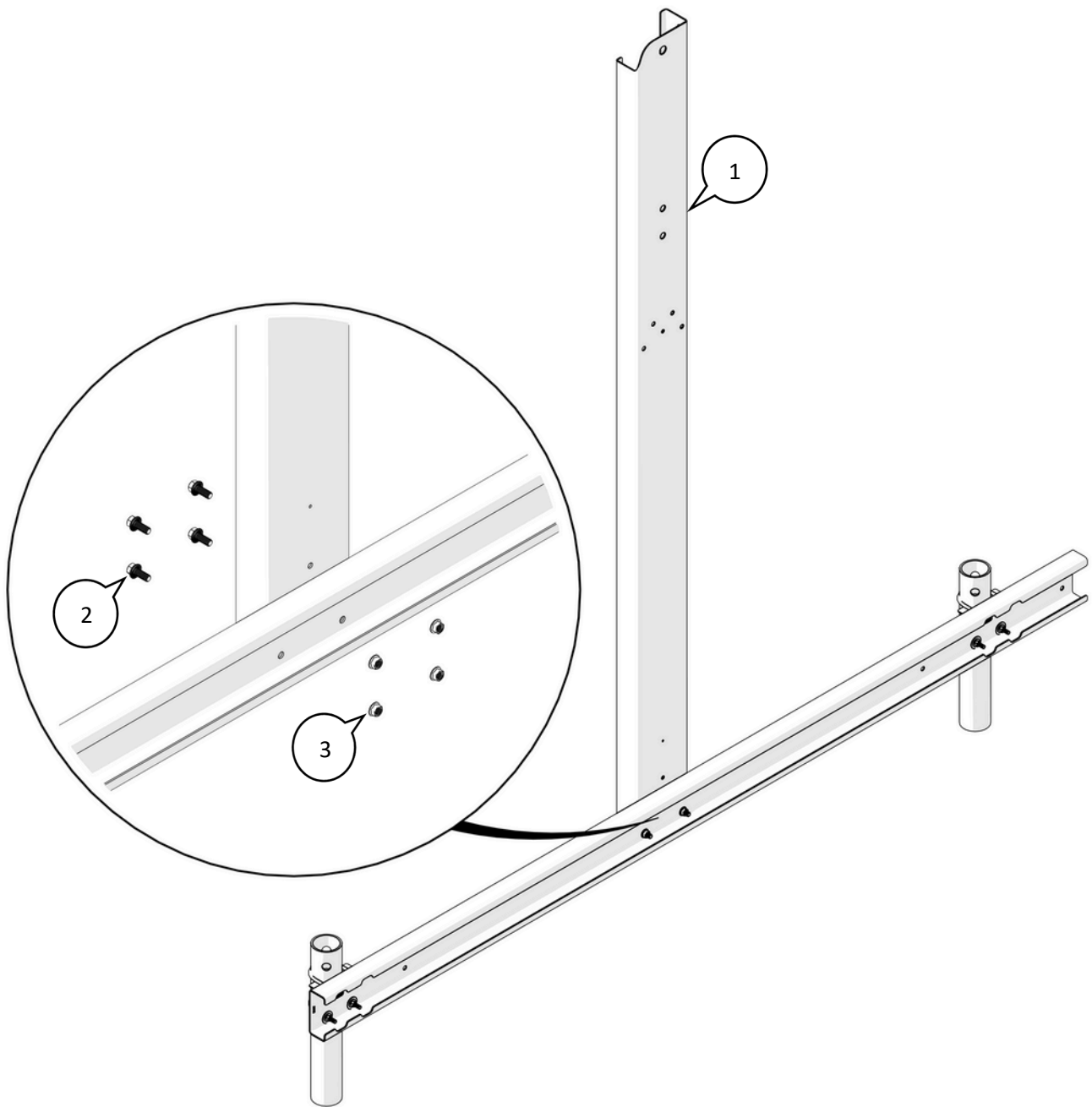
EAST LEG

Base Beam Assembly View



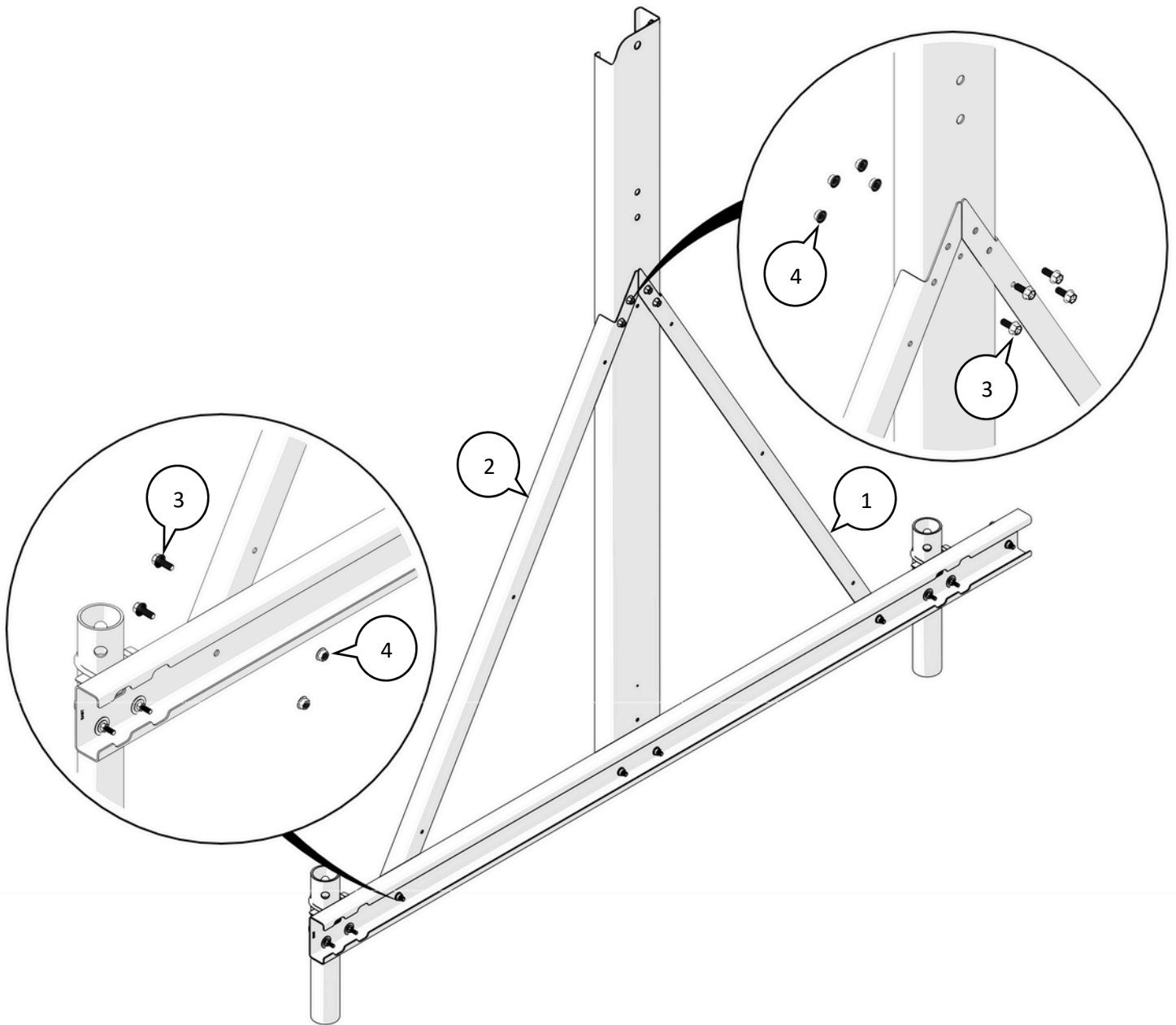
ITEM NO.	DESCRIPTION	QTY
1	BASE BEAM - EAST	1
2	HELICAL SCREW PILE	2
3	PILE ADAPTER	2
4	U-BOLT	4
5	3/8" FENDER WASHER	8
6	3/8" WASHER	8
7	3/8" NUT	8

EAST LEG
Leg Assembly View



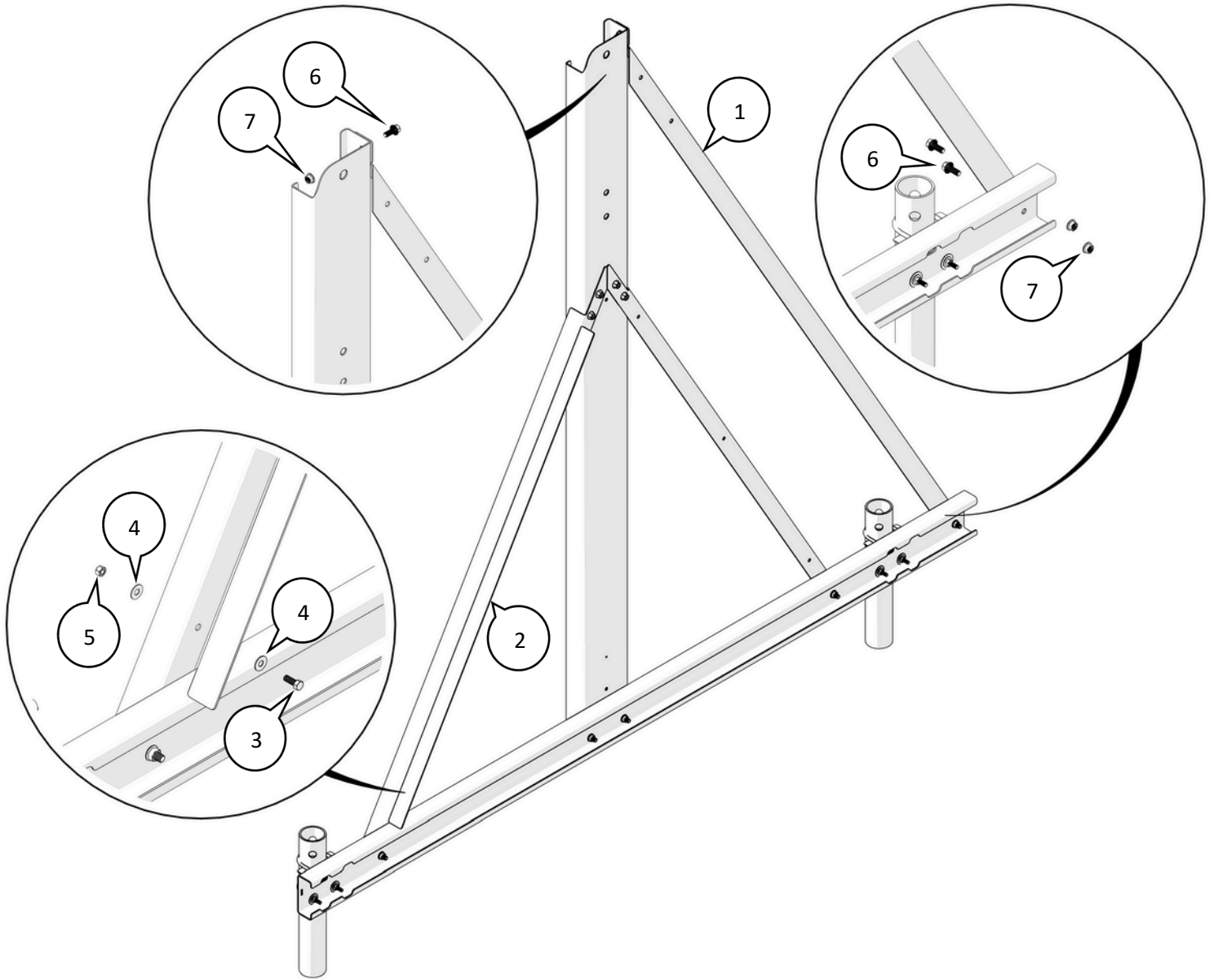
ITEM NO.	DESCRIPTION	QTY
1	LEG - EAST	1
2	1/2" x 1 1/4" SERRATED FLANGE BOLT	4
3	1/2" SERRATED FLANGE NUT	4

EAST LEG Braces Assembly View



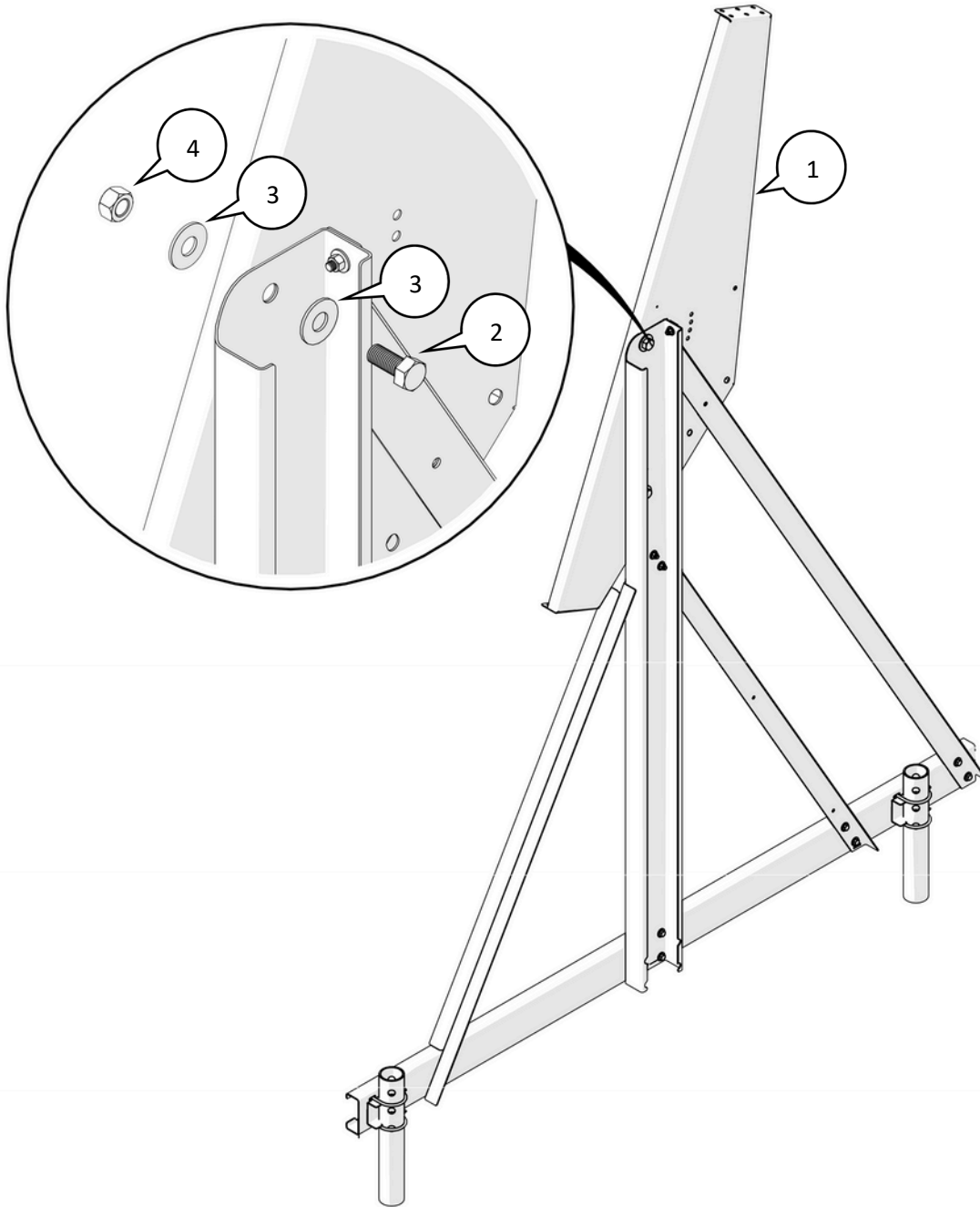
ITEM NO.	DESCRIPTION	QTY
1	BRACE – NW/SE 1/2" x 1 1/4"	1
2	SERRATED FLANGE BOLT 1/2"	1
3	SERRATED FLANGE NUT	8
4		8

EAST LEG High Wind Assembly View



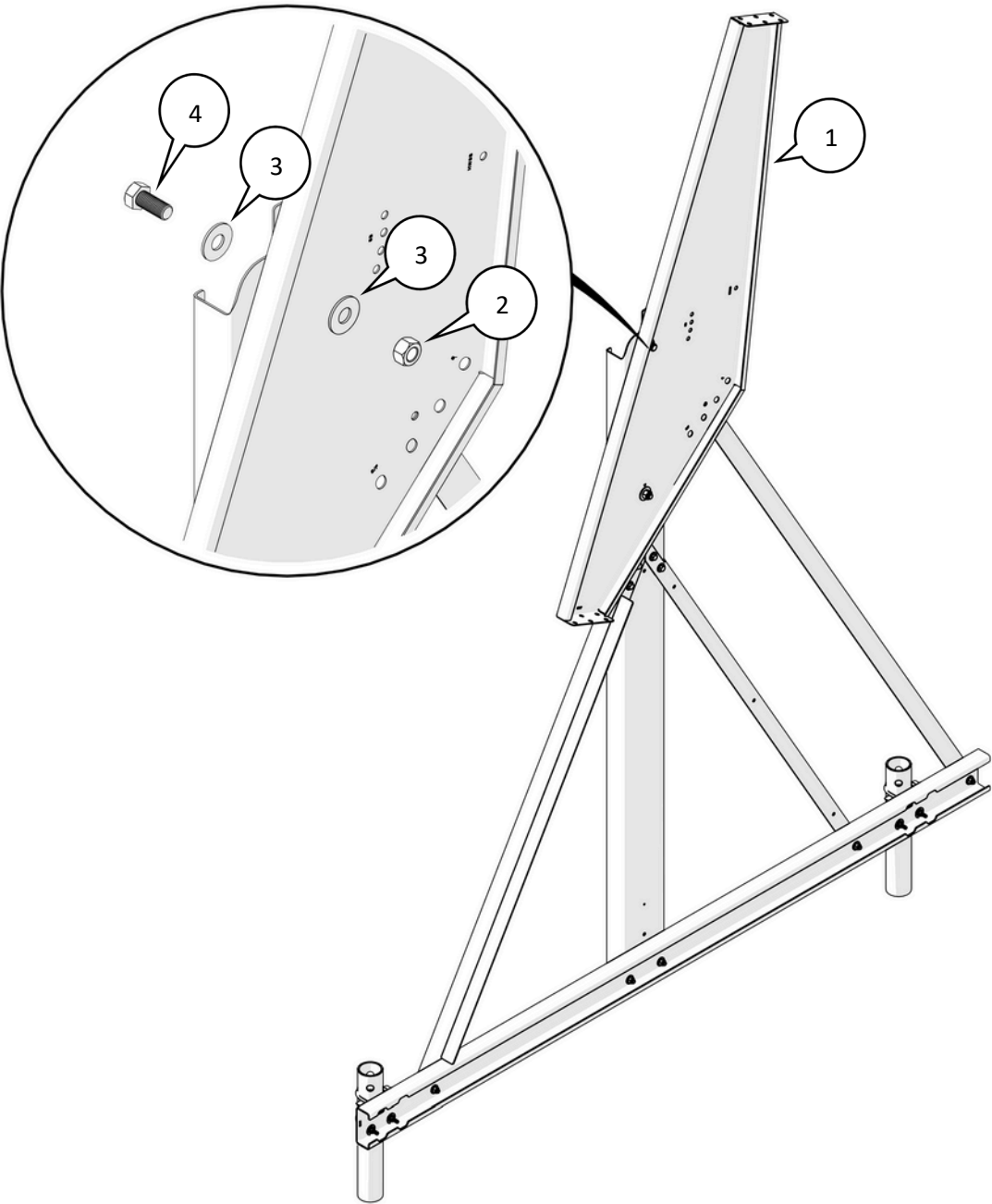
ITEM NO.	DESCRIPTION	QTY
1	HIGH WIND BRACE – EAST (OPTIONAL)	1
2	REINFORCEMENT BRACE (OPTIONAL)	1
3	3/8" x 1" BOLT	3
4	3/8" WASHER	6
5	3/8" NUT	3
6	1/2" x 1 1/4" SERRATED FLANGE BOLT	3
7	1/2" SERRATED FLANGE NUT	3

WEST PIVOT PLATE Assembly View



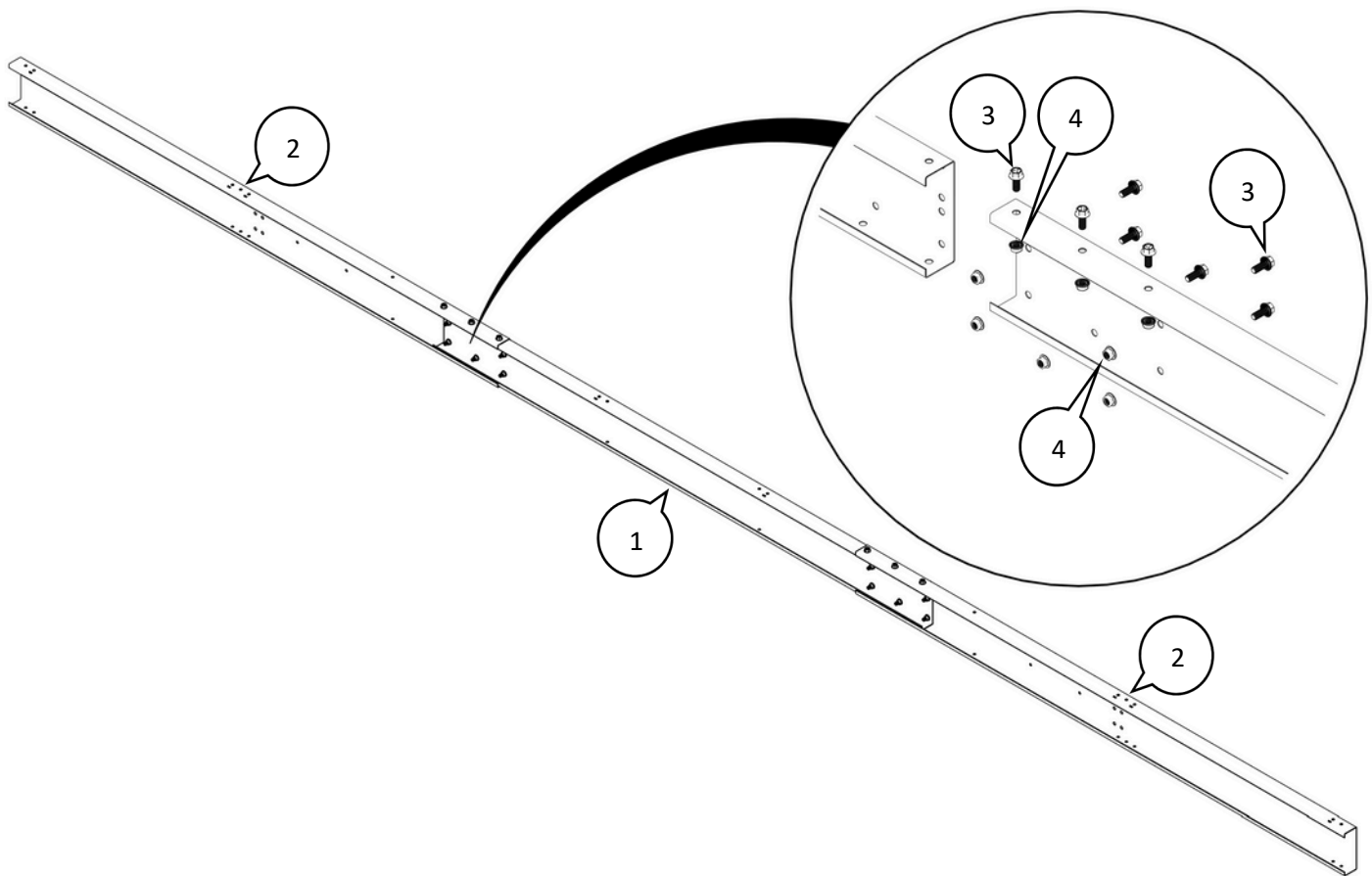
ITEM NO.	DESCRIPTION	QTY
1	PIVOT PLATE – WEST	1
2	1" x 2 1/4" BOLT	1
3	1" WASHER	2
4	1" NUT	1

EAST PIVOT PLATE
Assembly View



ITEM NO.	DESCRIPTION	QTY
1	PIVOT PLATE – EAST	1
2	1" x 2 ¼" BOLT	1
3	1" WASHER	2
4	1" NUT	1

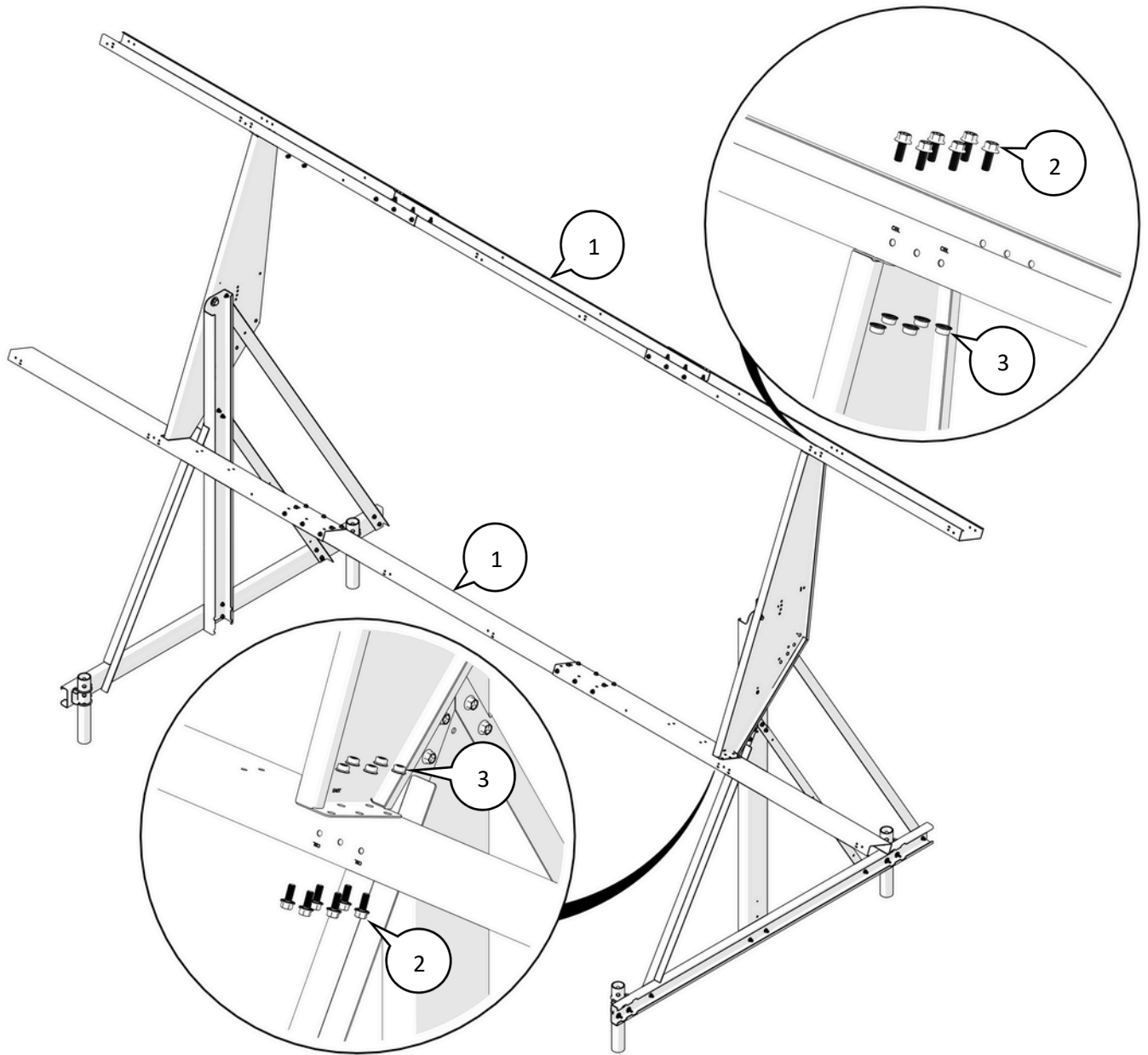
MAIN BEAM Pre-Assembly View



**2 of Main Beam Assemblies Required*

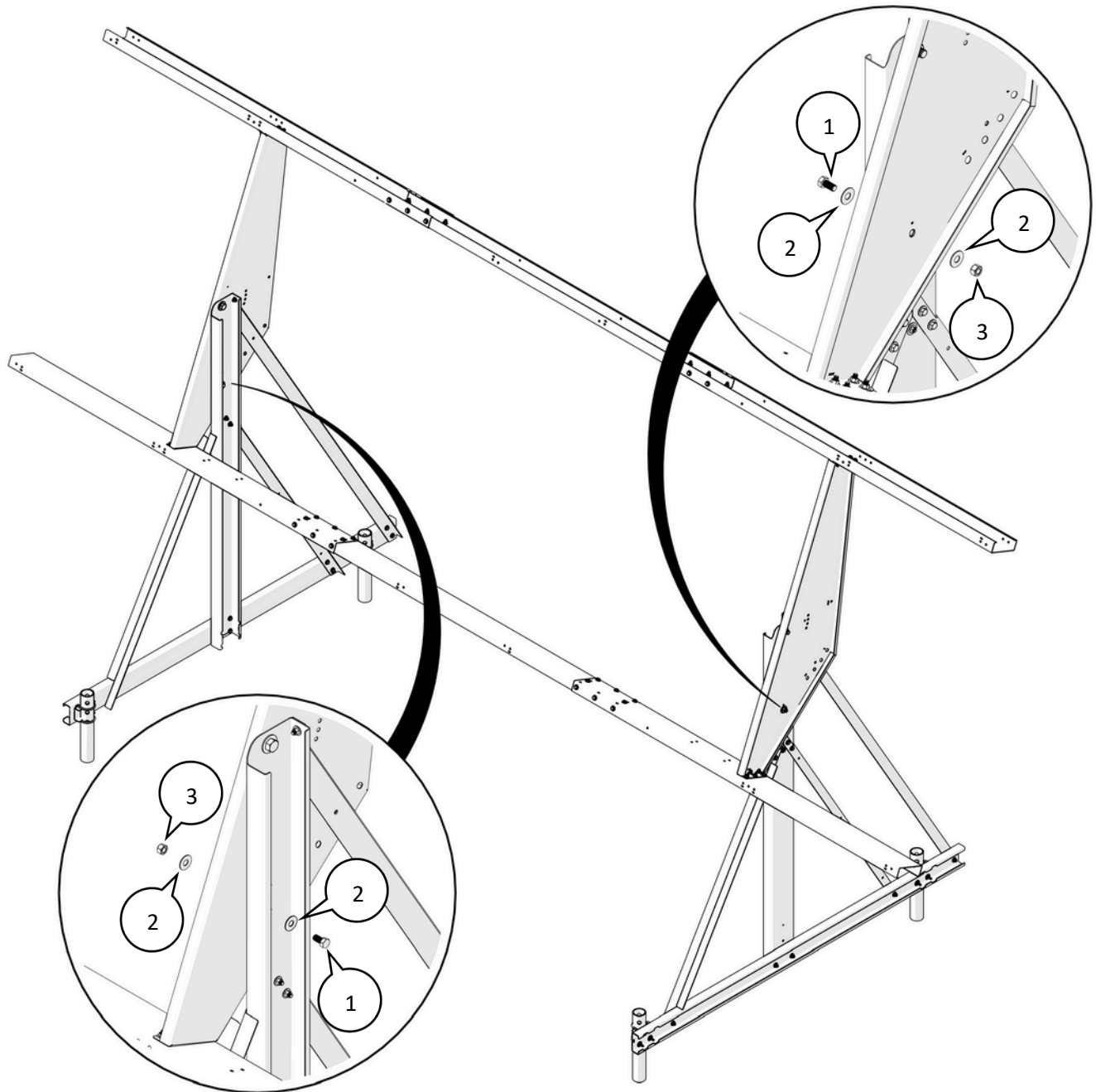
ITEM NO.	DESCRIPTION	QTY
1	MAIN BEAM 3PC - INNER	1
2	MAIN BEAM 3PC - OUTER	2
3	1/2" x 1 1/4" SERRATED FLANGE BOLT	16
4	1/2" SERRATED FLANGE NUT	16

MAIN BEAM Assembly View



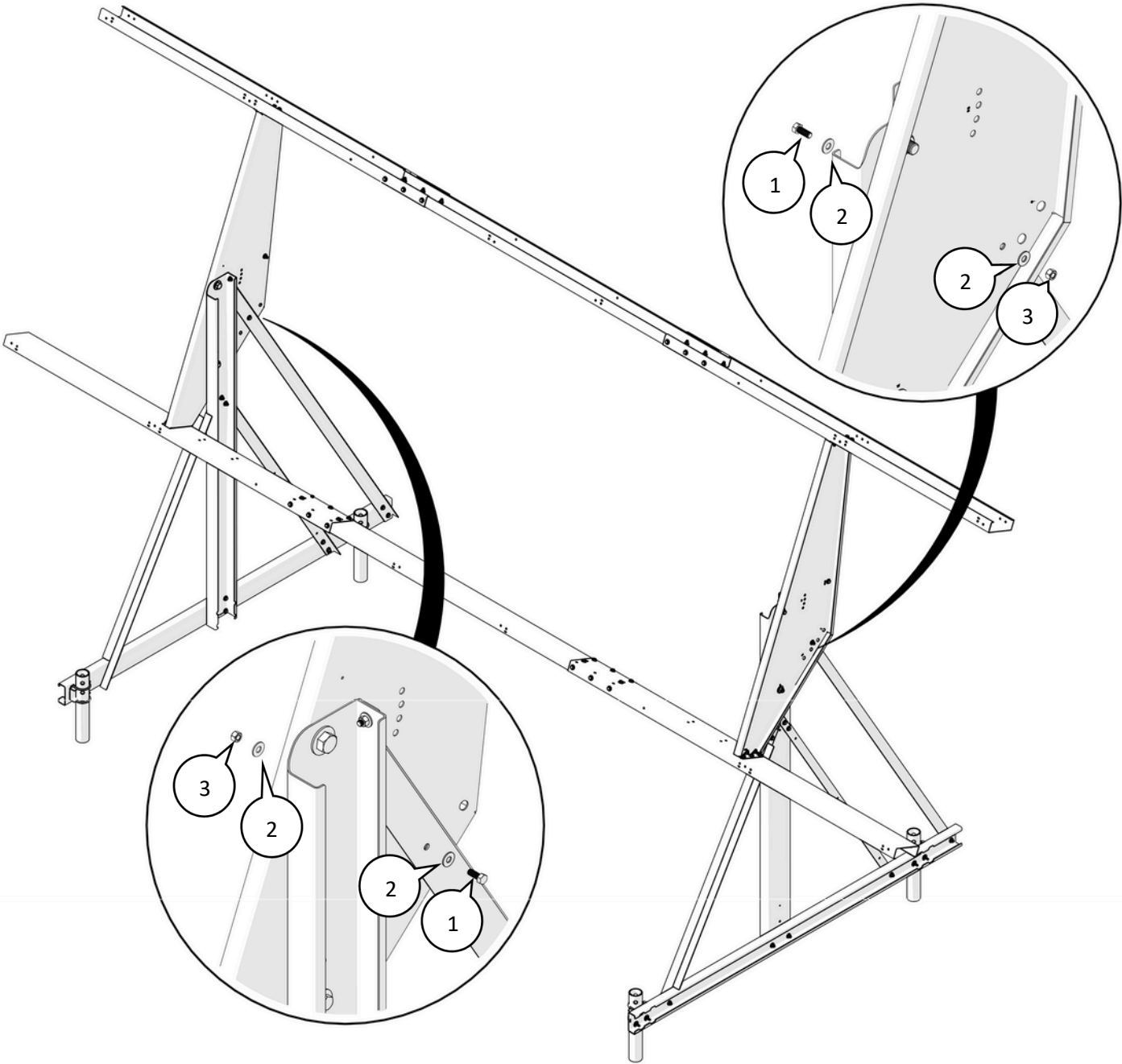
ITEM NO.	DESCRIPTION	QTY
1	MAIN BEAM 3PC ASSEMBLY	2
2	1/2" x 1 1/4" SERRATED FLANGE BOLT	24
3	1/2" SERRATED FLANGE NUT	24

PIVOTPLATE Seasonal TiltPrimary Bolt



ITEM NO.	DESCRIPTION	QTY
1	3/4" x 1 1/2" BOLT	2
2	3/4" WASHER	4
3	3/4" NUT	2

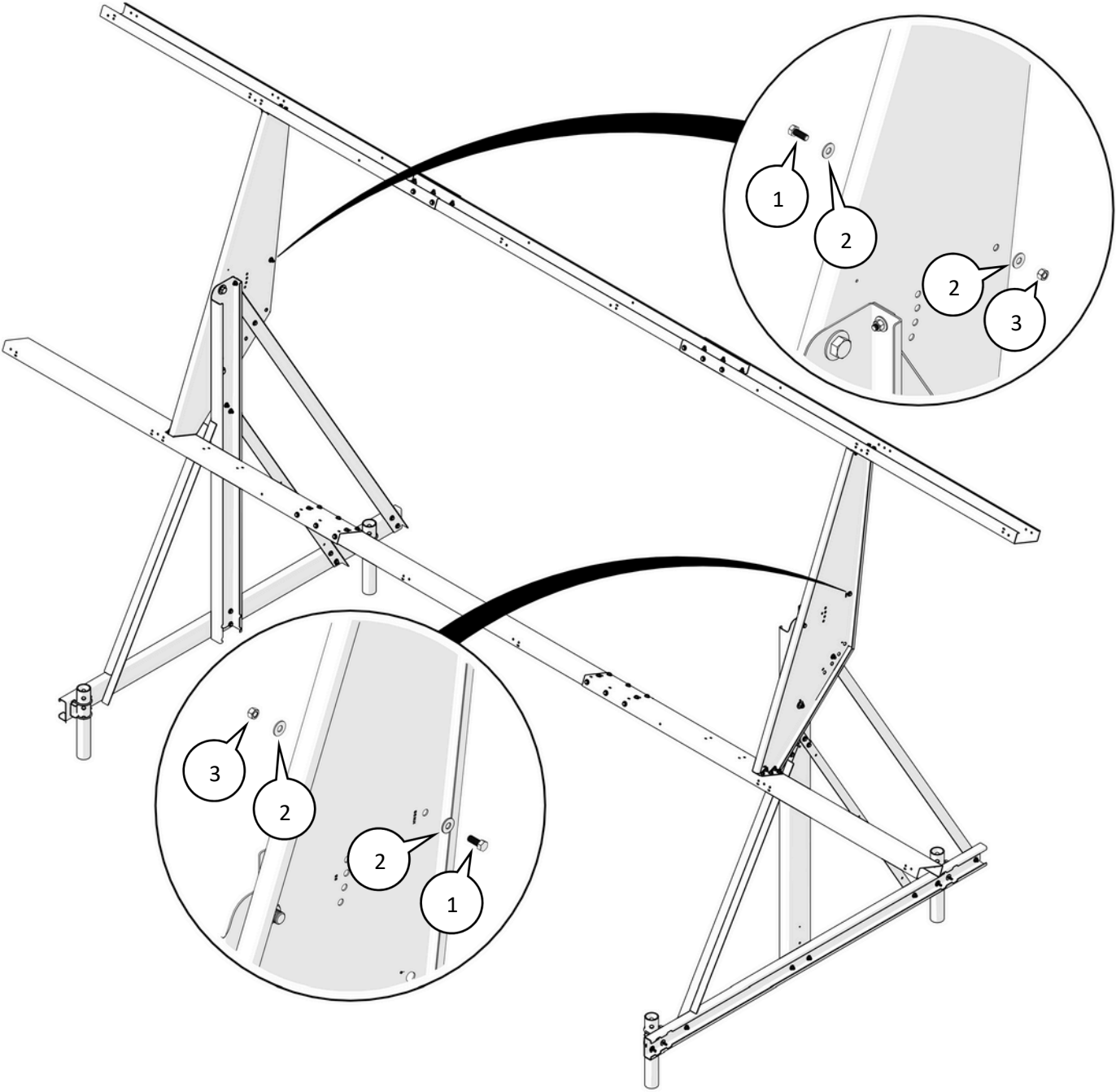
PIVOTPLATE
Seasonal TiltSecondary Bolt



ITEM NO.	DESCRIPTION	QTY
1	1/2" x 1 1/4" BOLT	2
2	1/2" WASHER	4
3	1/2" NUT	2

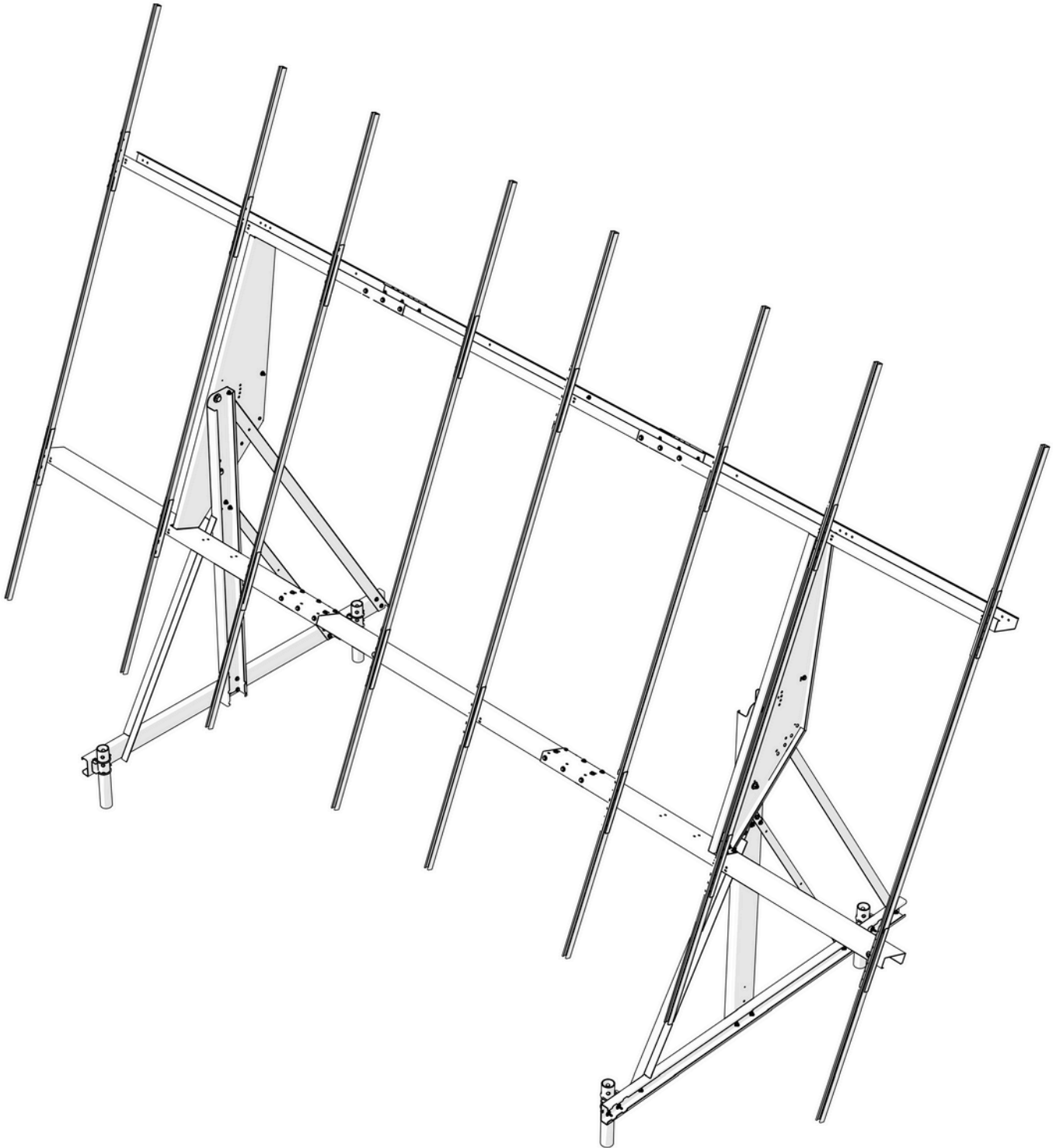
PIVOTPLATE

High WindSafety Bolt



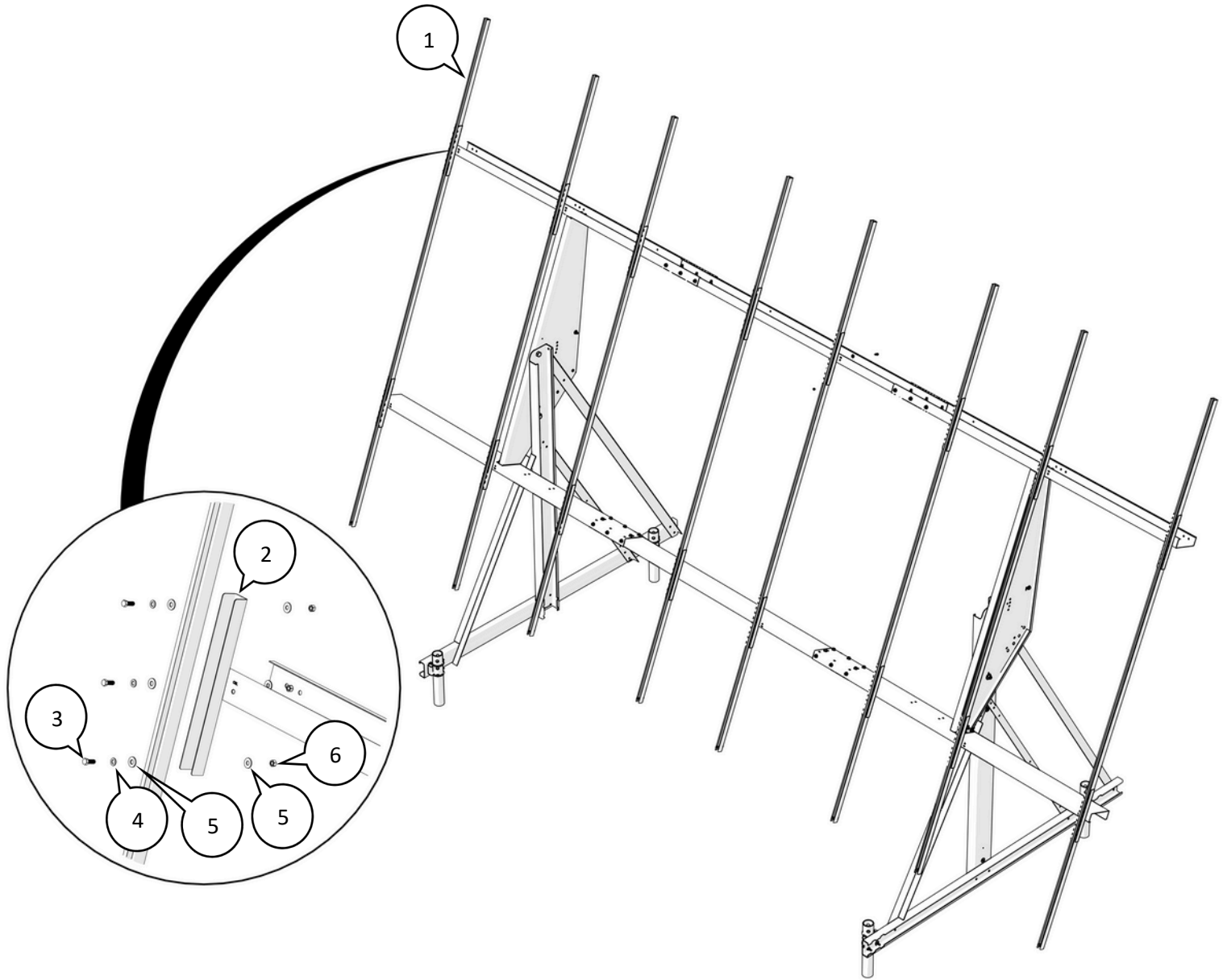
ITEM NO.	DESCRIPTION	QTY
1	1/2" x 1 1/4" BOLT	2
2	1/2" WASHER	4
3	1/2" NUT	2

PURLINS Assembled View



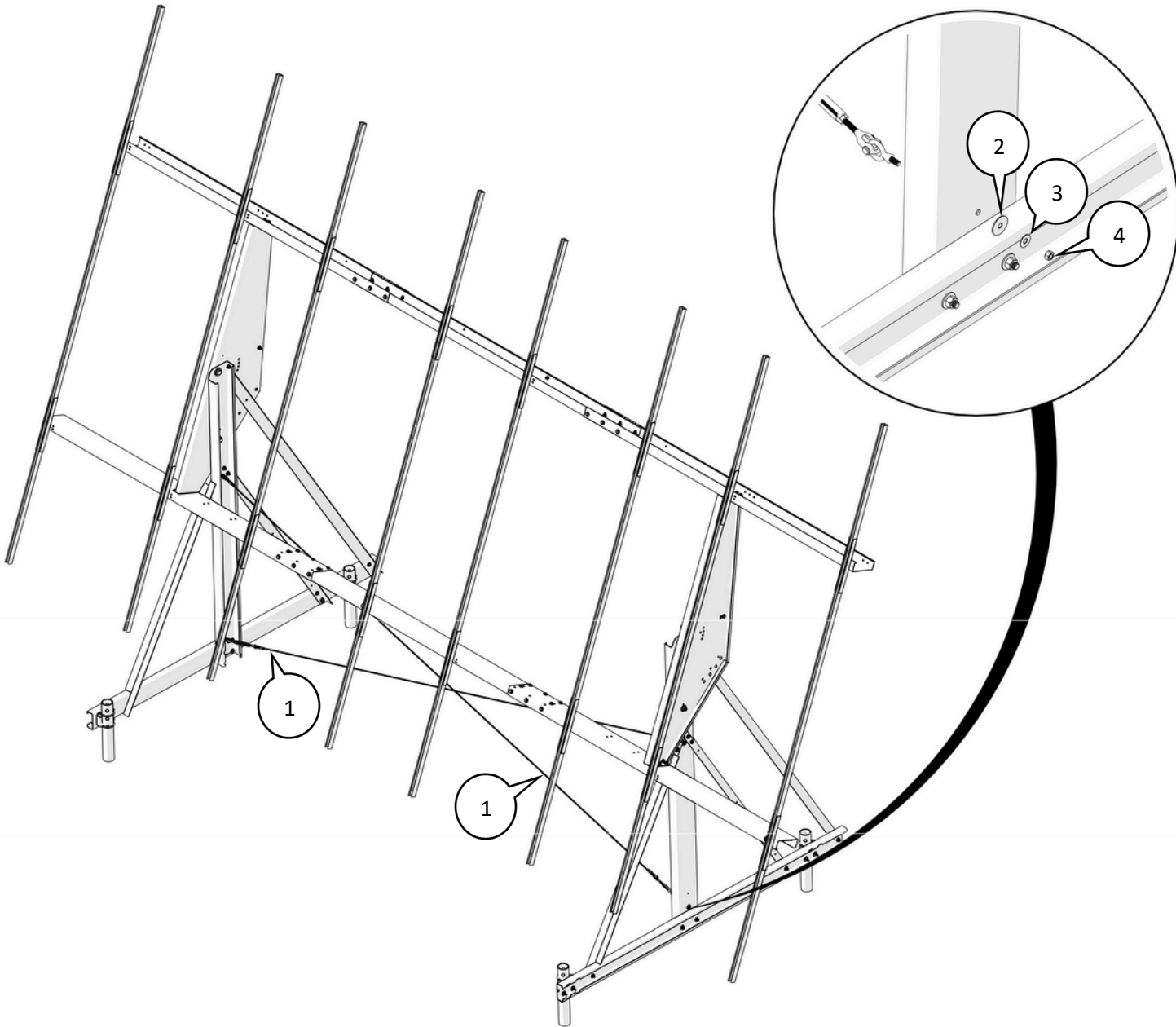
**purlins must project past the top and bottom main beams at equal length*

PURLINS Assembly View



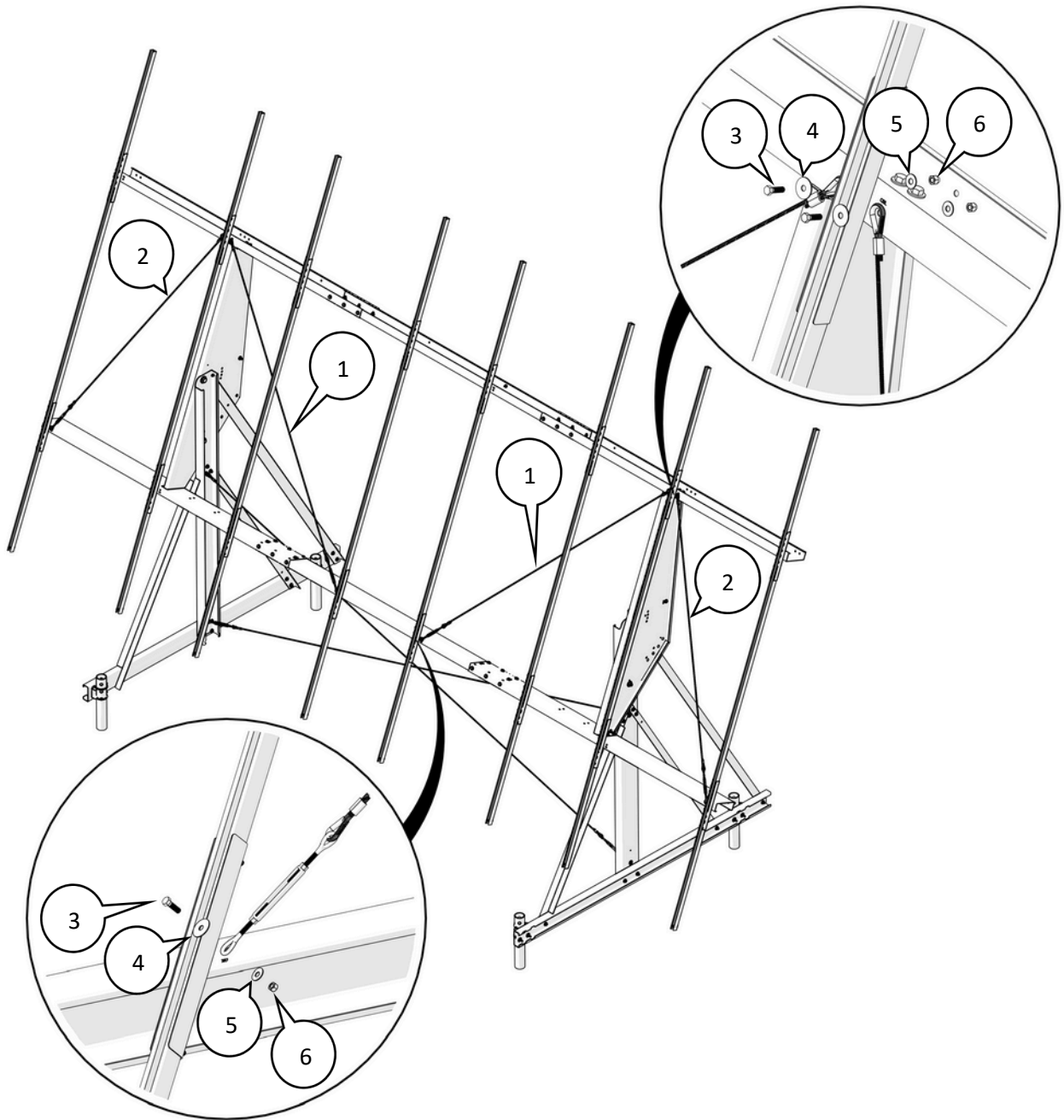
ITEM NO.	DESCRIPTION	QTY
1	TROUGH 3/8" x 1 1/4" BOLT 3/8"	8
2	WASHER Gr8 (YELLOW COLOR) 3/8"	16
3	WASHER 3/8" NUT	48
4		48
5		96
6		48

LOWER CROSS CABLES
Assembly View



ITEM NO.	DESCRIPTION	QTY
1	LOWER CABLE ASSEMBLY w/ TURNBUCKLE & EYE BOLTS	2
2	3/8" FENDER WASHER	4
3	3/8" WASHER	4
4	3/8" NYLOCK NUT	4

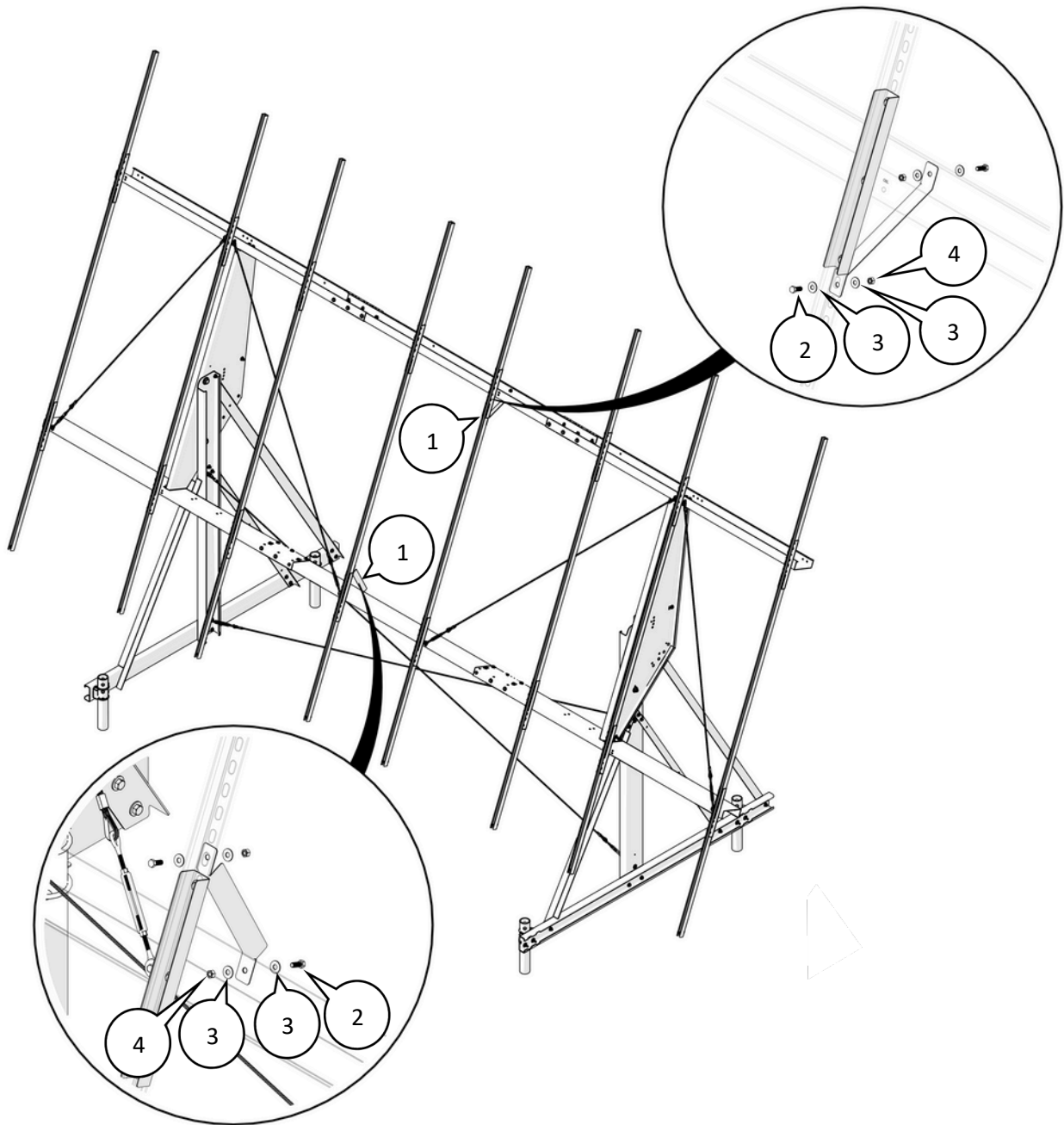
UPPER TRUSS CABLES Assembly View



ITEM NO.	DESCRIPTION	QTY
1	UPPER CABLE ASSEMBLY (LONG) w/ TURNBUCKLE	2
2	UPPER CABLE ASSEMBLY (SHORT) w/ TURNBUCKLE	2
3	3/8" x 1 1/4" BOLT	8
4	3/8" FENDER WASHER	8
5	3/8" WASHER	8
6	3/8" NUT	8

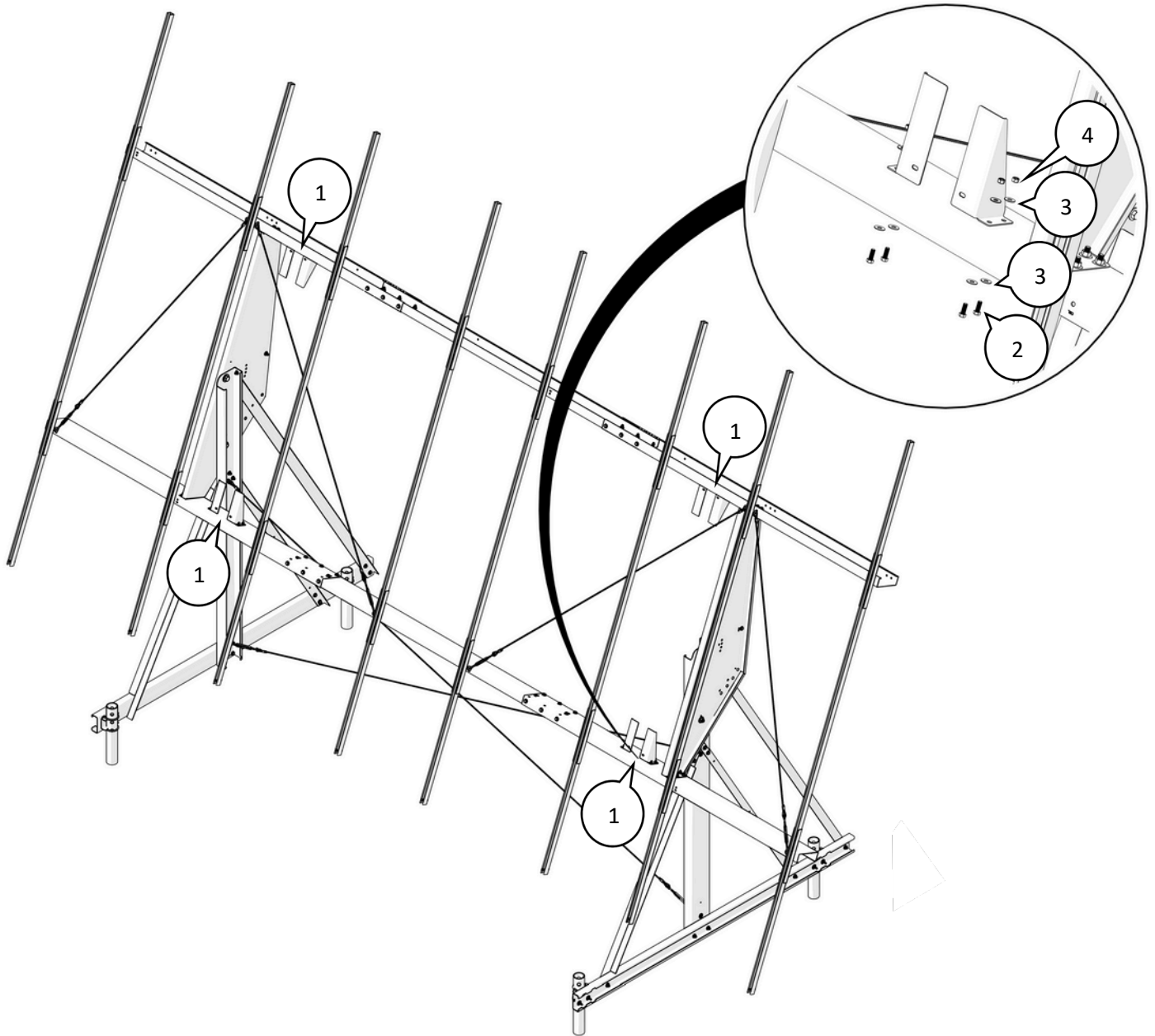
BEAM FLANGE BRACE

Assembly View



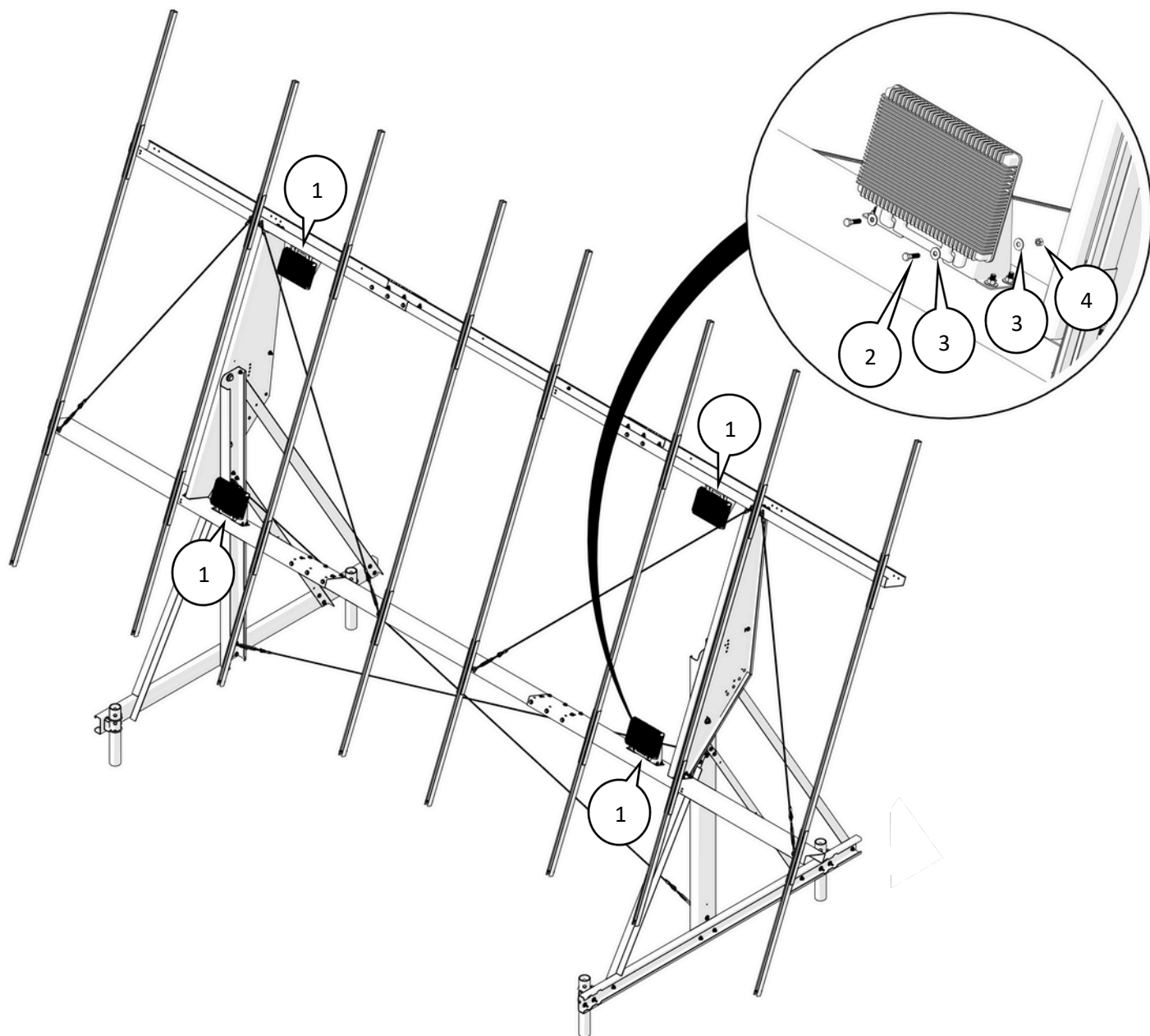
ITEM NO.	DESCRIPTION	QTY
1	BEAM FLANGE BRACE	2
2	3/8" x 1" BOLT	4
3	3/8" WASHER	8
4	3/8" NUT	4

INVERTERBRACKET Assembly View



ITEM NO.	DESCRIPTION	QTY
1	INVERTER BRACKET (PAIR)	4
2	3/8" x 1" BOLT	16
3	3/8" WASHER	32
4	3/8" NUT	16

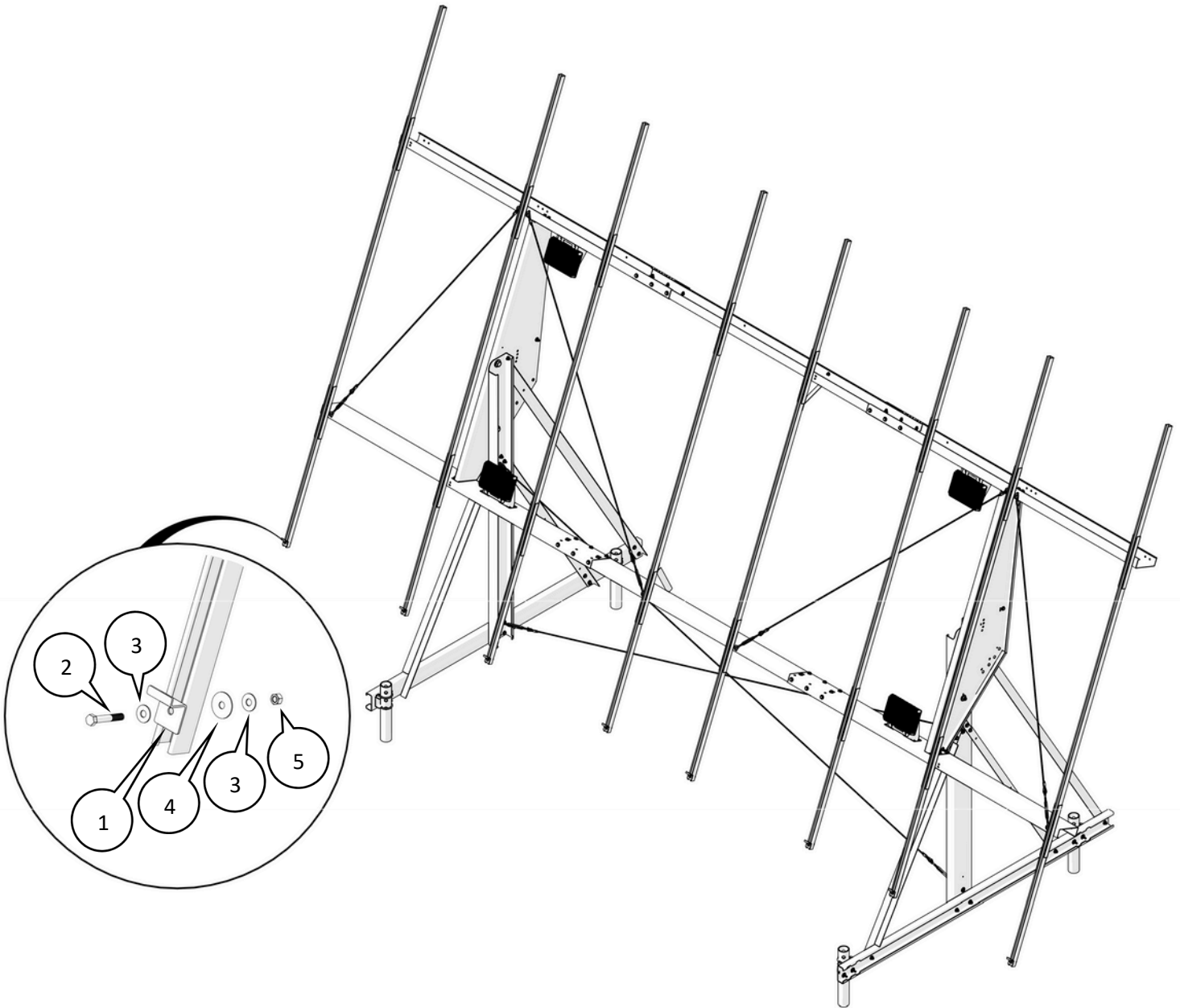
INVERTER Assembly View



ITEM NO.	DESCRIPTION	QTY
1	INVERTER	4
2	5/16" x 1" BOLT	8
3	5/16" WASHER	16
4	5/16" NUT	8

SOLAR PANELS

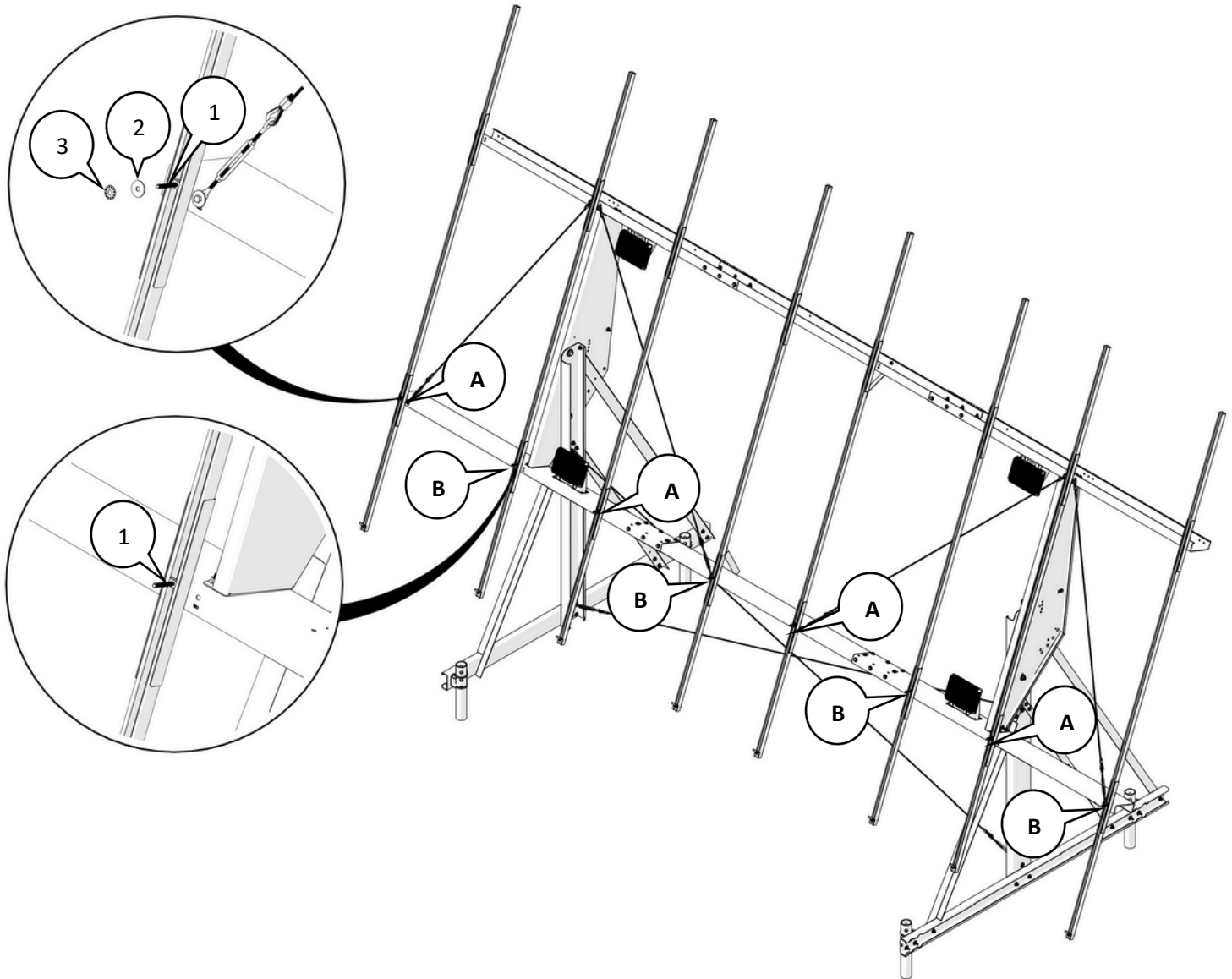
Bottom Z-Clip Assembly View



Note: z-clip hardware to be installed in second slot from bottom

ITEM NO.	DESCRIPTION	QTY
1	Z-CLIP	8
2	3/8" x 2 1/2" BOLT	8
3	3/8" WASHER	16
4	3/8" FENDER WASHER	8
5	3/8" NUT	8

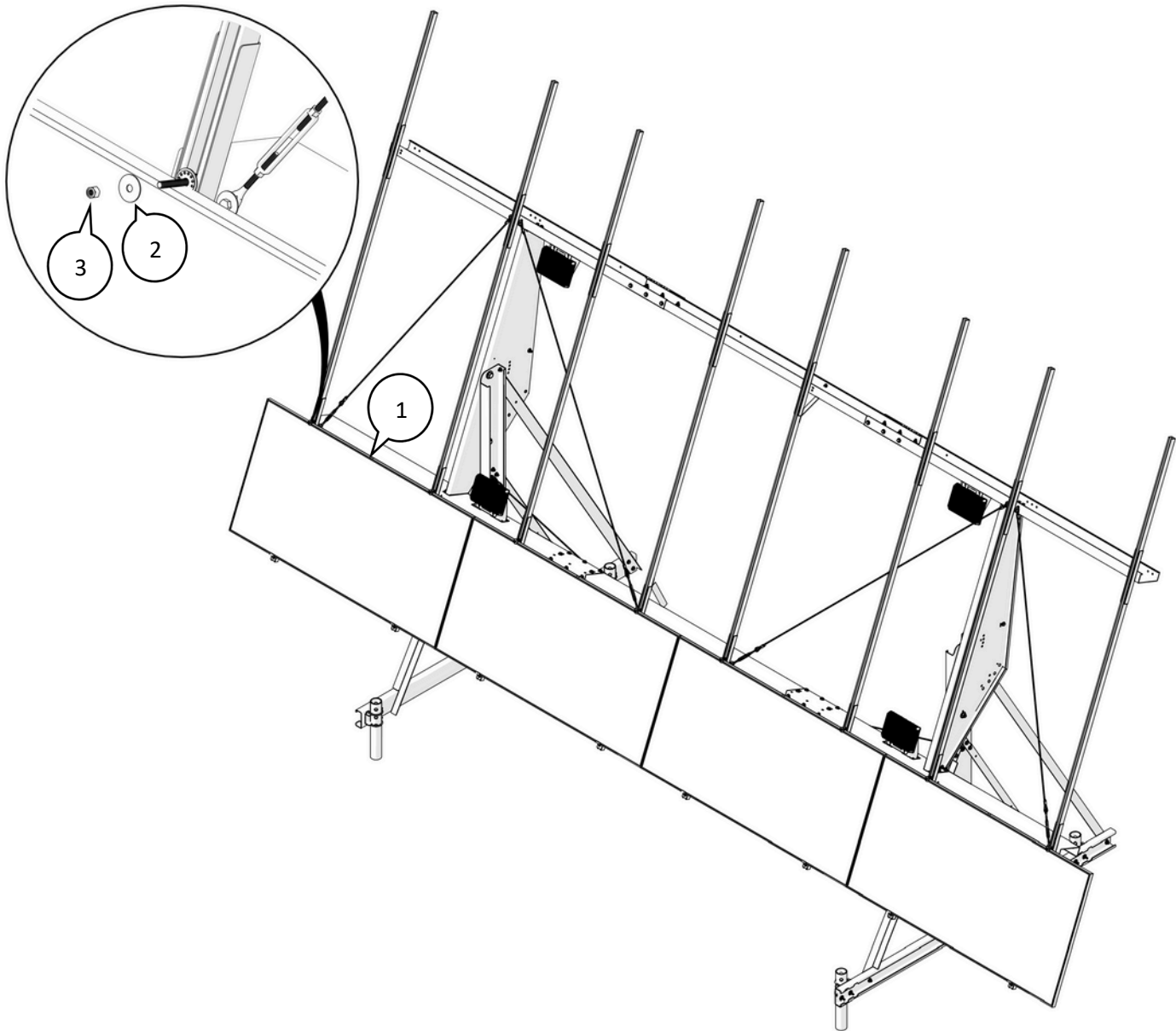
SOLARPANELS Assembly View



Note: fender washer & bonding washer installed on odd numbered purlins only

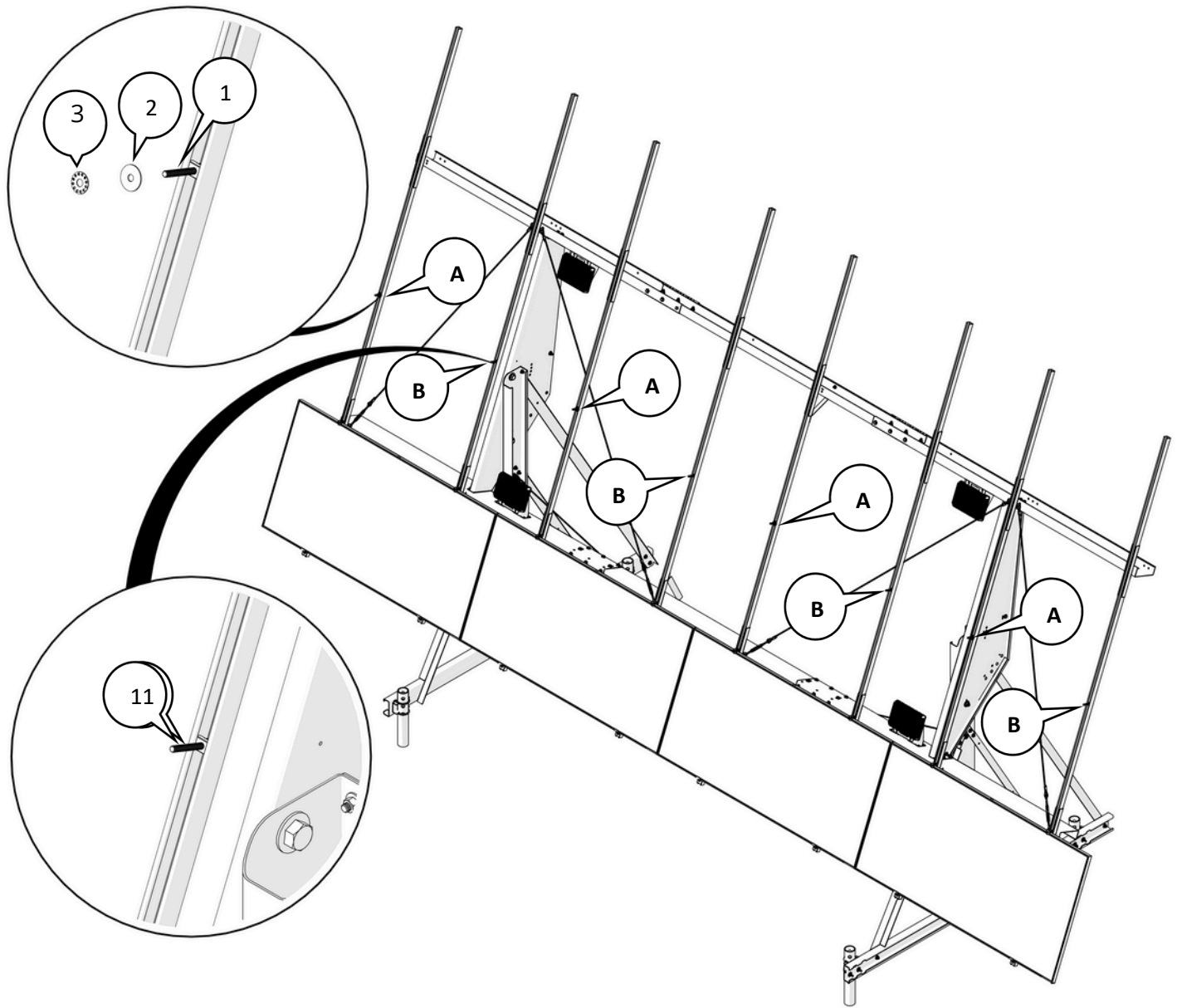
ITEM NO.	DESCRIPTION	QTY
1	3/8" SPRING STUD	8
2	3/8" FENDER WASHER	4
3	3/8" BONDING WASHER	4

SOLAR PANELS Assembly View



ITEM NO.	DESCRIPTION	QTY
1	PANEL 3/8" FENDER	4
2	WASHER 3/8" NYLOCK	8
3	NUT	8

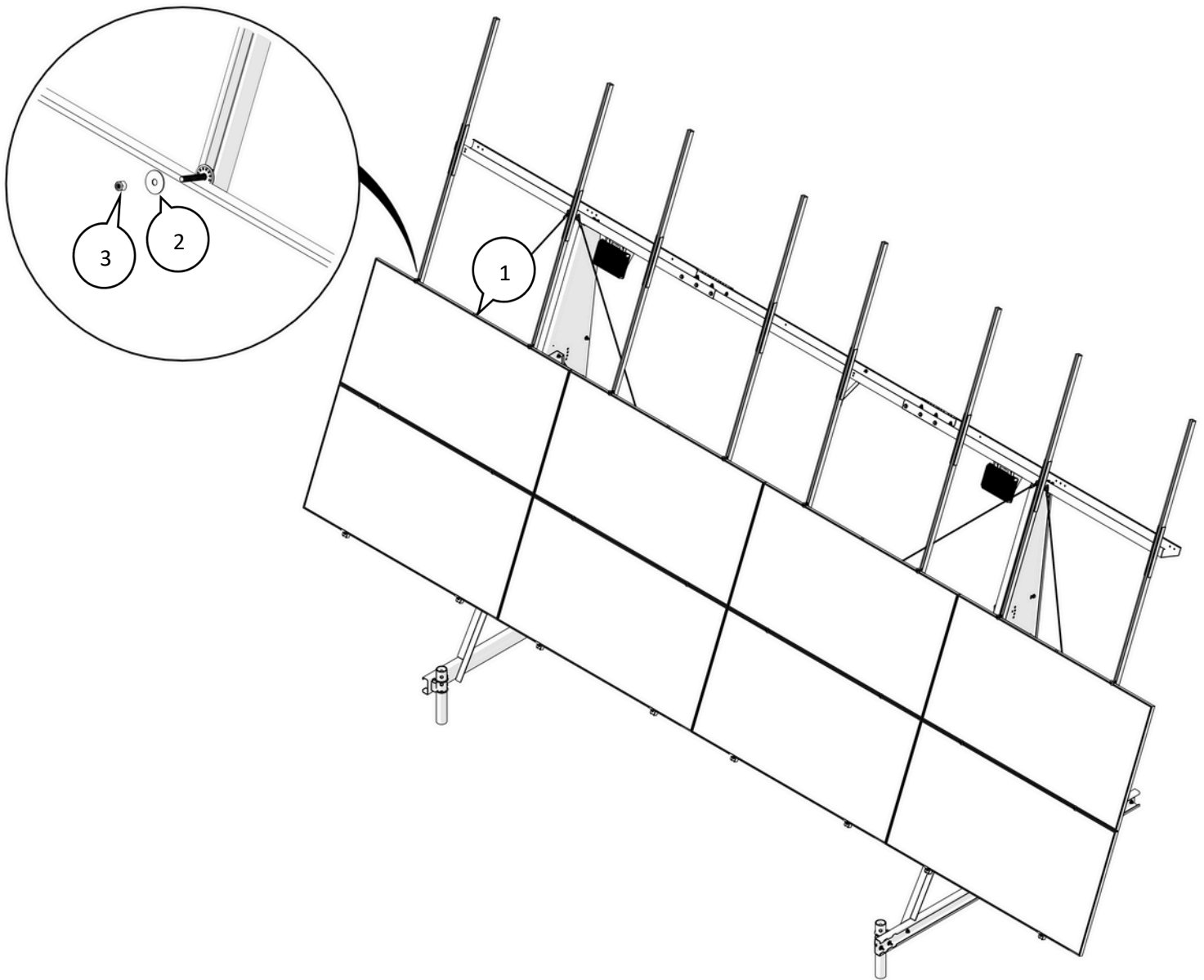
SOLAR PANELS Assembly View



Note: fender washer & bonding washer installed on odd numbered purlins only

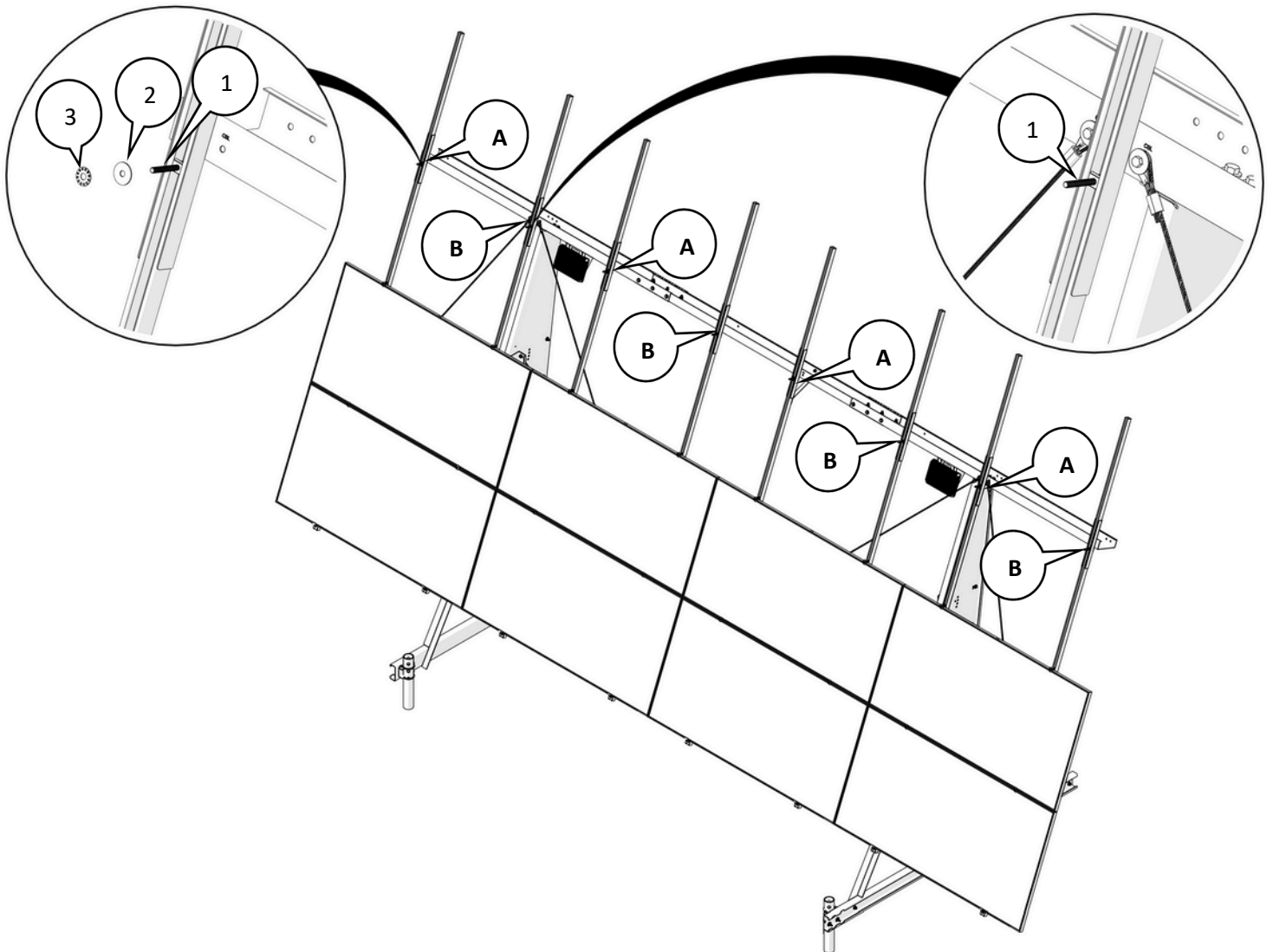
ITEM NO.	DESCRIPTION	QTY
1	3/8" SPRING STUD	8
2	3/8" FENDER WASHER	4
3	3/8" BONDING WASHER	4

SOLAR PANELS Assembly View



ITEM NO.	DESCRIPTION	QTY
1	PANEL 3/8" FENDER	4
2	WASHER 3/8" NYLOCK	8
3	NUT	8

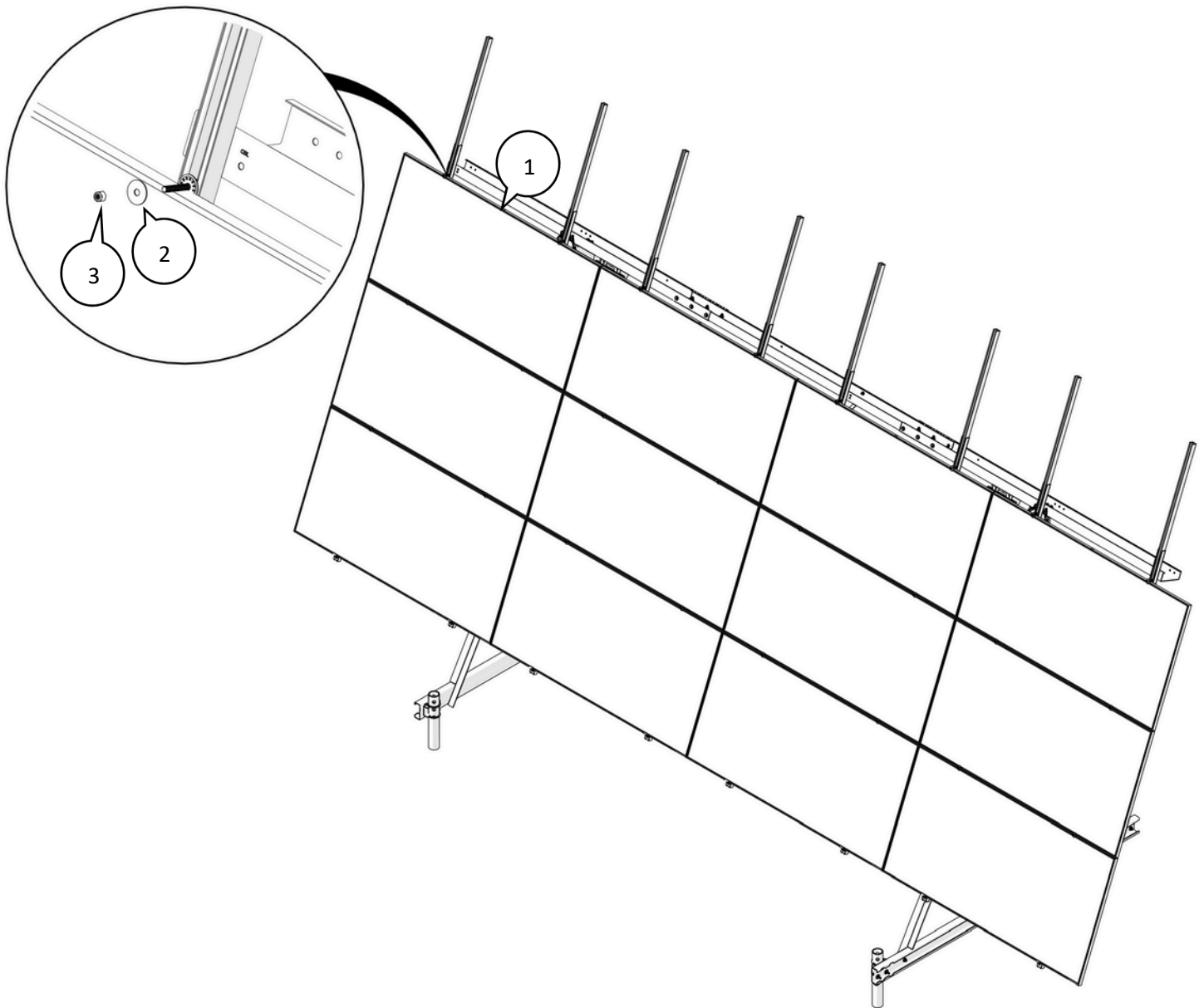
SOLAR PANELS Assembly View



Note: fenderwasher & bonding washer installed on odd numbered purlins only

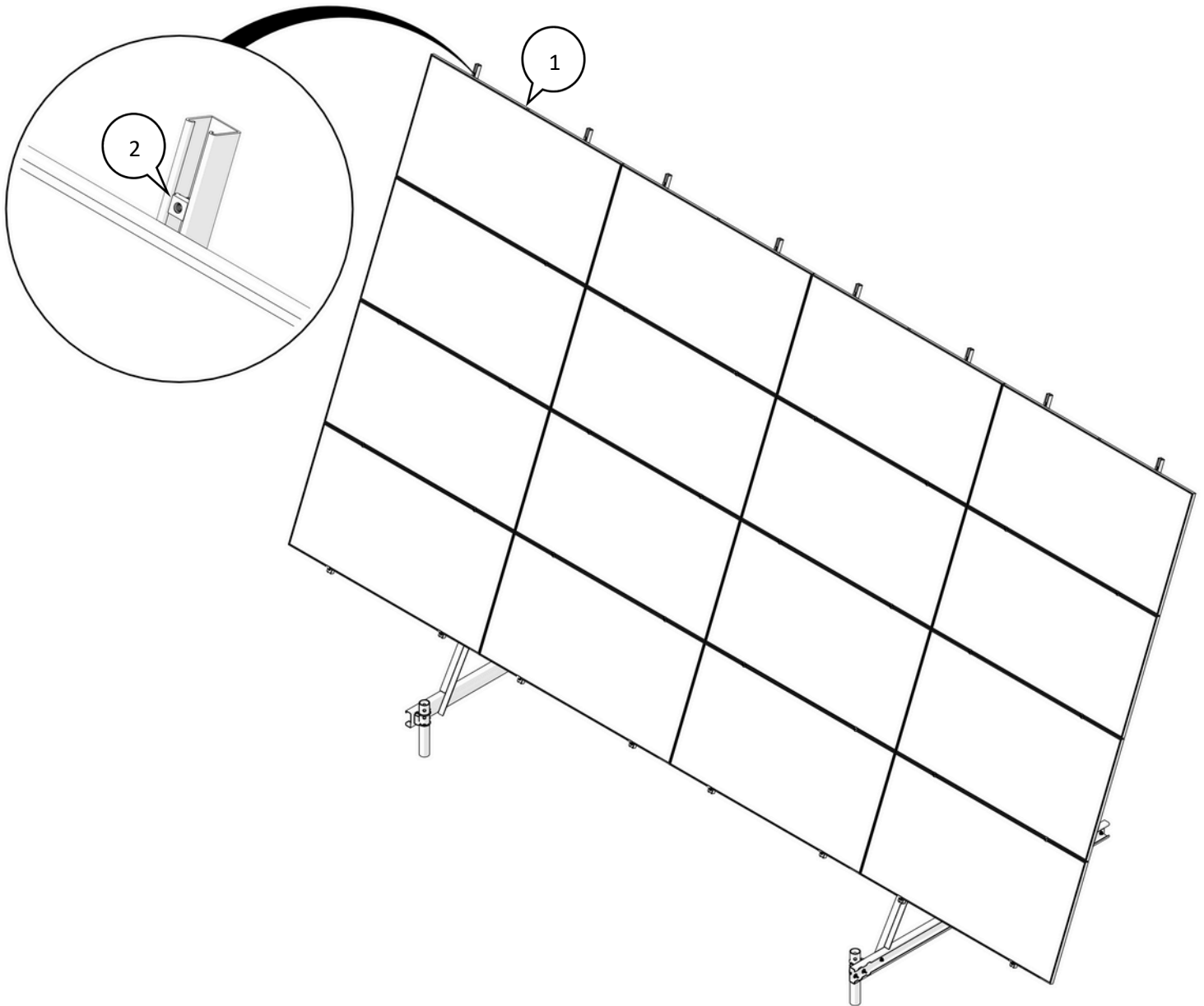
ITEM NO.	DESCRIPTION	QTY
1	3/8" SPRING STUD	8
2	3/8" FENDER WASHER	4
3	3/8" BONDING WASHER	4

SOLAR PANELS Assembly View



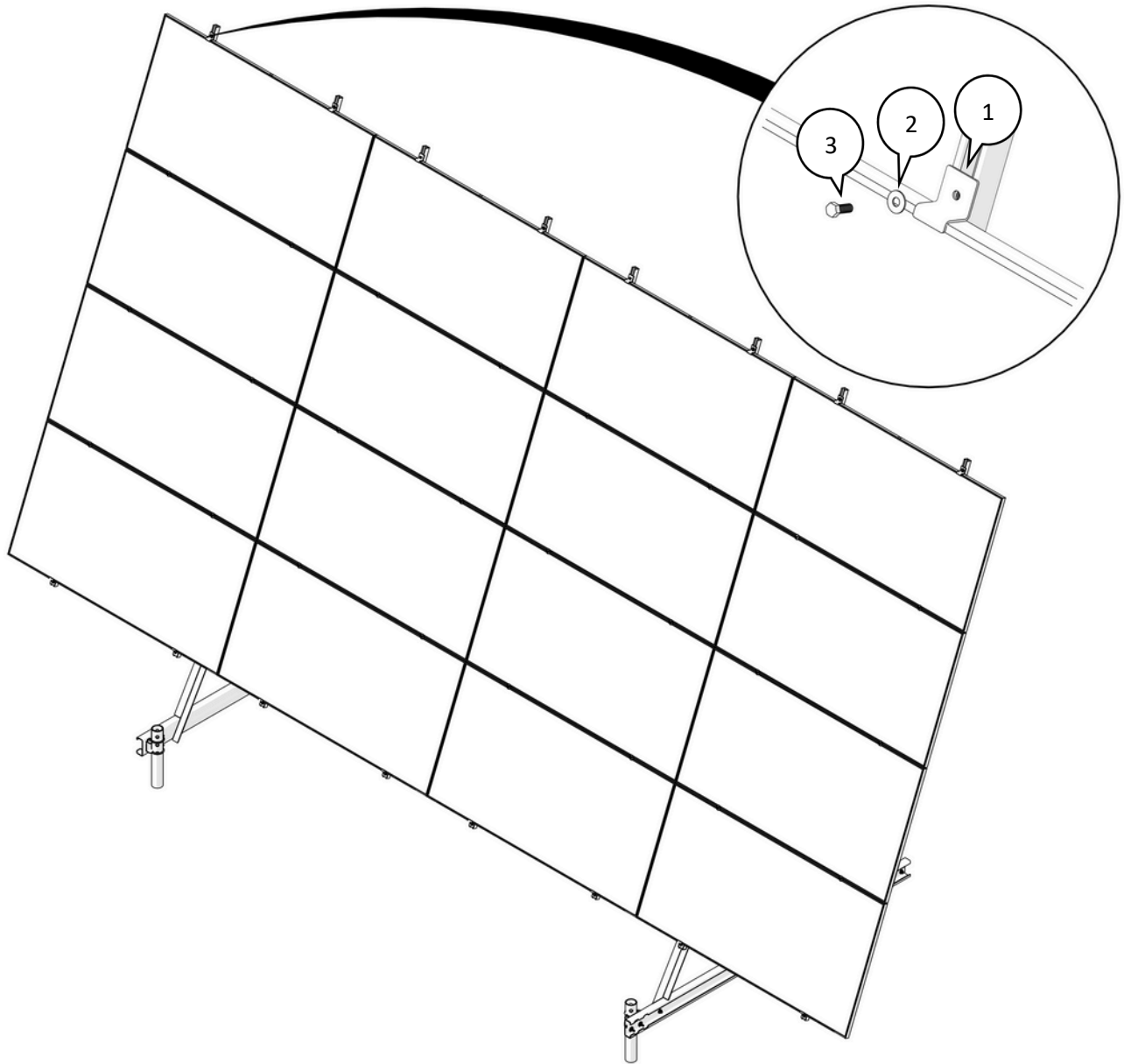
ITEM NO.	DESCRIPTION	QTY
1	PANEL 3/8" FENDER	4
2	WASHER 3/8" NYLOCK	8
3	NUT	8

SOLAR PANELS Assembly View



ITEM NO.	DESCRIPTION	QTY
1	SOLAR PANEL	4
2	3/8" SPRING NUT	8

SOLAR PANELS Assembly View



ITEM NO.	DESCRIPTION	QTY
1	Z-CLIP	8
2	3/8" x 1" BOLT	8
3	3/8" WASHER	8

FINAL ASSEMBLY
SunRanger® XL ST-16L

