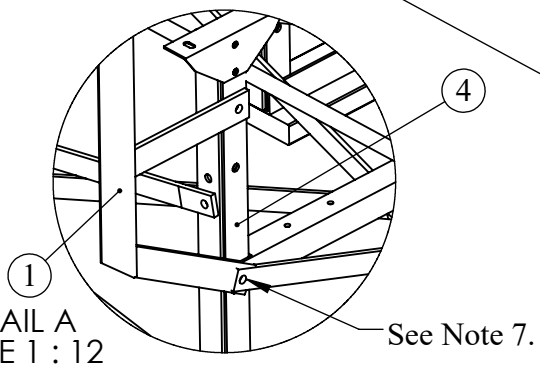
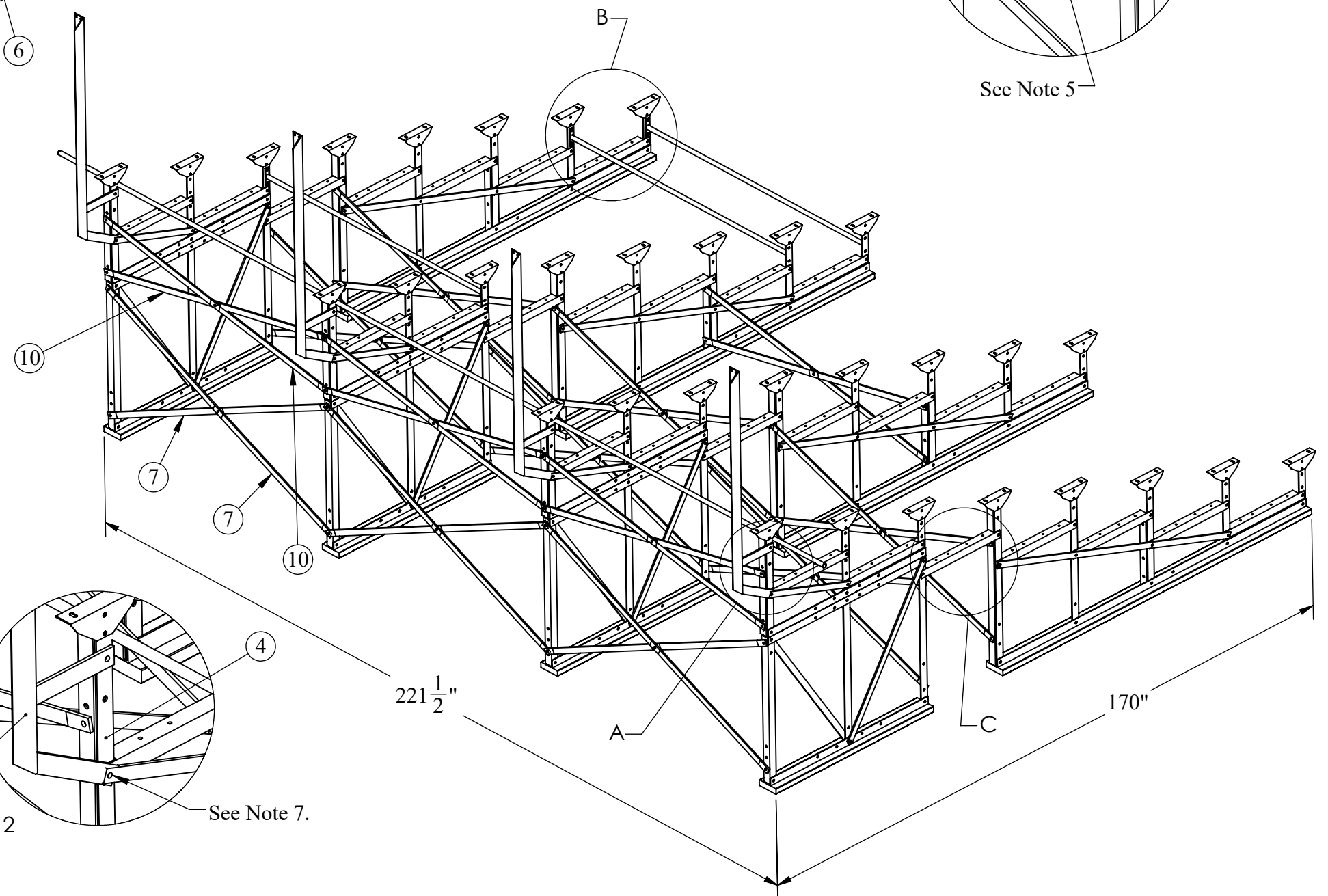
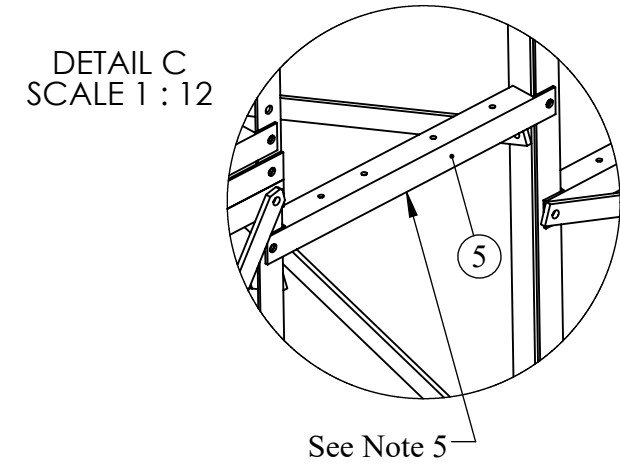
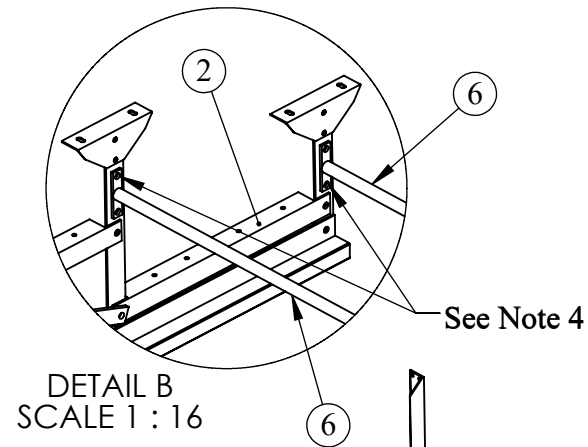


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	IBL-SA2	BACK RAIL UPRIGHT VERTICAL ASSY	4
2	BLA5V4-SA1	5 ROW ALUMINUM SEAT FRAME V4	4
3	BLA8-SA2	3 ROW RISER FRAME 40" RISE	4
4	BLA8-SA1	3 Row Alum Frame for 8 Row Bleacher	4
5	IBLA-312	FOOT ANGLE CONNECTOR 25"	4
6	IBLA-SA2	1ST ROW GALV BRACE ASSY	3
7	IBLA-8100	81" ALUM X BRACE	6
8	IBLA-7875	6TH ROW X BRACE 78.75	6
9	IBLA-7800	78" ALUM X BRACE	6
10	IBLA-7488	ALUMINUM X BRACE 74.88 IN	8
11	CONCLAMP-34	3/4" CONDUIT CLAMP	4
12	IBL10-355	2" x 6" 98" SYP TREAT MUD SILL	4
13	IBL8-355	2"x 6" x 50" TREATED PINE MUD SILL	4
14	21IBL-345	1 1/16" ODx 21'-0" GALV TUBE	1
15	ICAP1-11	SMALL 1" PLASTIC CAP	2
16	IA-12S	ALUM CLIP (12" & RISER CLIP)	1



NOTES:

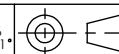
The Mudsills have pilot holes drilled in one side. Line up the pilot holes with the holes in the base rails of the frames and attach with 3/8" x 1 1/2" lag screws and lock washers. (4 bolts per 5 row seating frame. 2 bolts per 3 row riser frame.)

- 1) All X braces are bolted together in the middle with 1/2" x 1 1/2" hex bolts, lock washers and nuts.
- 2) When beginning to assemble frames layout the area for the bleacher and begin assembling on the left end.
- 3) X braces are bolted to frames with 1/2" x 1 3/4" hex bolts, lock washers and nuts where X braces overlap. They are bolted to the frames with 1/2" x 1 1/4" hex bolts where they are single braces.
- 4) All tube braces are bolted between uprights with 1/2" x 1 1/4" hex bolts, lock washers and nuts.
- 5) Attach a connector to the 5th row upright of each 5 row frame with a 1/2" x 1 1/4" hex bolt, lock washer and nut.
- 6) Attach a 3 row riser frame to each of the connector angles with 1/2" x 1 1/4" hex bolts, lock washers and nuts. Attach the 3 row seating frames on top of those with two 1/2" x 1 1/4" hex bolts, lock washers and nuts each frame.
- 7) You will have to remove the bolt from the 8th row upright where the footboard angle is attached to install the Rear Railing Upright.

Pull the footboard angle and diagonal brace away from the frame so you can slide the Rear Railing Upright between them and the 5th row upright. Replace the bolt. Use a 1/2" x 1 1/2" hex bolt, lock washer and nut to attach the top mounting bar of the Rear Railing Upright to the 8th row upright.

GENERAL NOTES

DIMENSIONS ARE IN INCHES
TOLERANCES: LINEAR: ± 1/16"
ANGULAR: ± 1°



SHEET SIZE
B

SCALE
1:30

REV



Kay Park Rec.

CONFIDENTIAL DRAWING.
INFORMATION IS NOT TO BE COPIED OR
DISCLOSED TO OTHERS WITHOUT
CONSENT OF KAY INDUSTRIES.
SPECIFICATIONS SUBJECT TO CHANGE
WITHOUT NOTICE.

DRAWN BY
APPROVED
LAST SAVED

JNB

johnb

4/13/2016

4/10/2017

DESC:
MATL:
PART NO:

8 ROW 21' BLEACHER W/ 48" AISLE

BLA8A21V4F448AHR

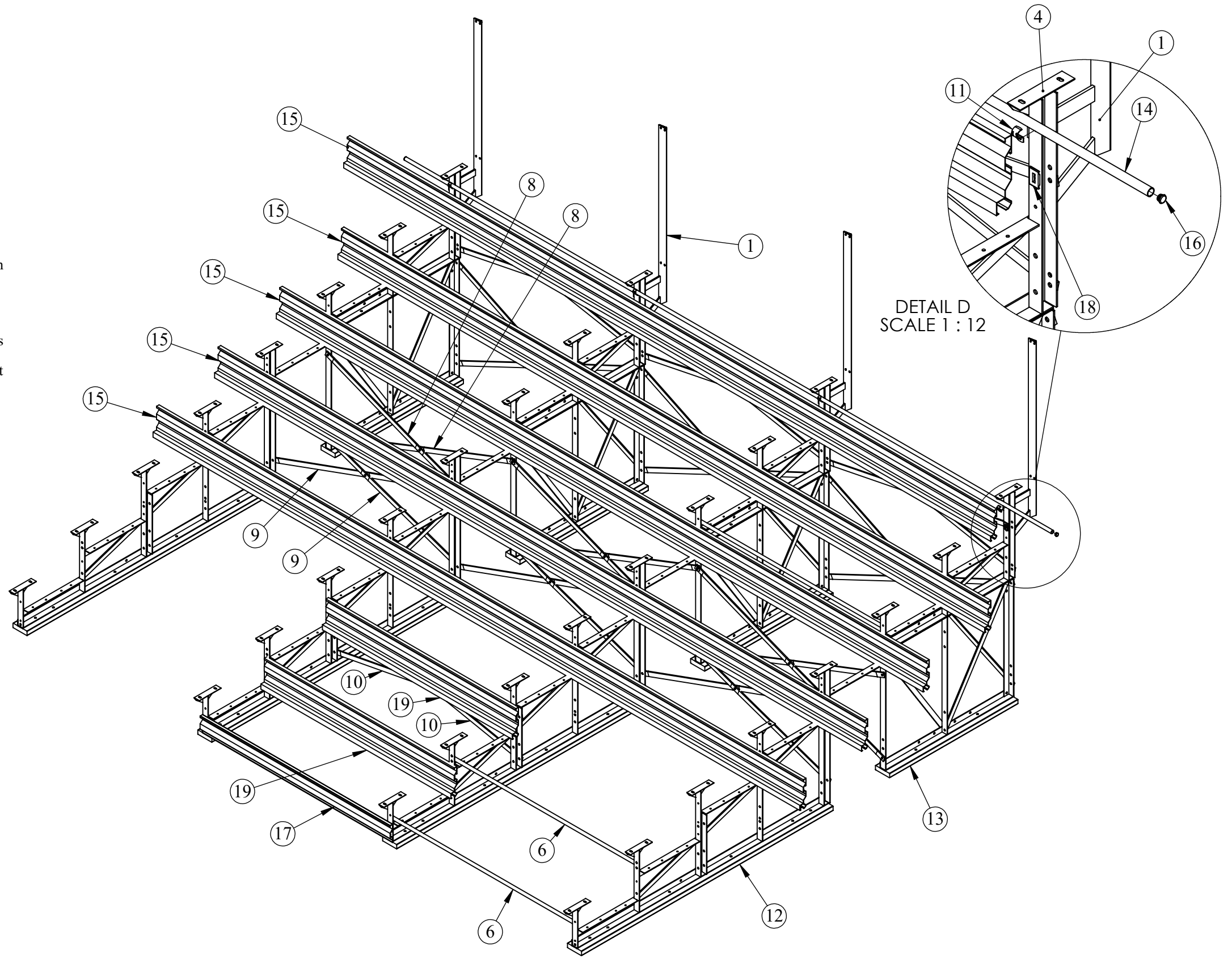
Installation of the Plank

Install the 1 1/16" OD galvanized on the 8th row uprights. Attach the connector clamps to the uprights with a 1/4" x 1" flange hex bolt and 1/4" flange nut. The guardrail tube goes ABOVE the mounting holes to close the space between planks to less than 4". Tighten the clamp bolts on each upright.

NOTE:

There are three different kinds of planks. Be sure to have these separated out and identified before you begin assembly.

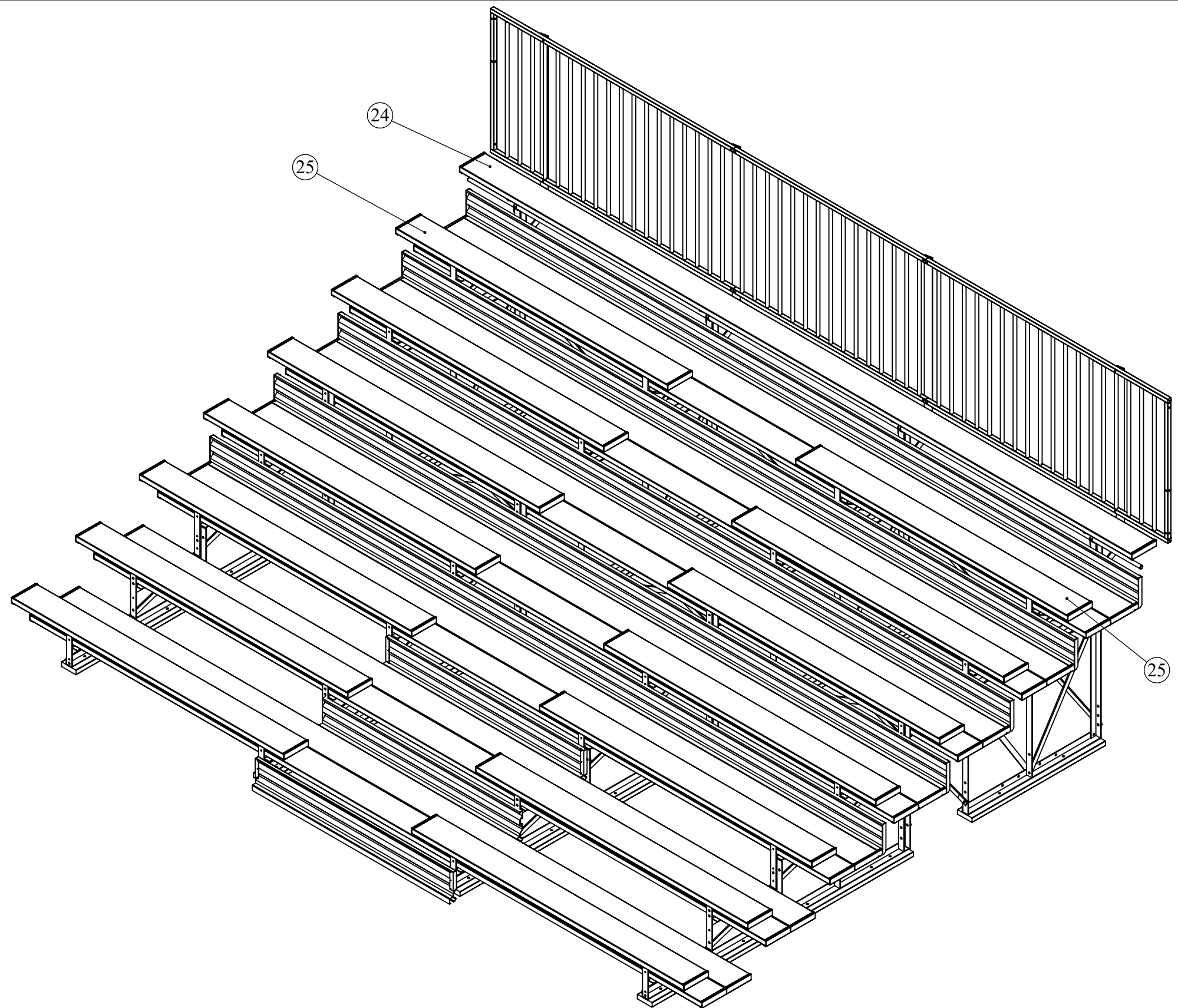
- a. Anodized 2" x 10" seat plank (it has a dull finish that does not leave a mark when rubbed).
 - b. Mill finish 2" x 10" foot plank (it has a shinier finish that leaves a black mark when rubbed with your finger or thumb)
 - c. Mill finish riser plank with a corrugated shape.
3. Install the riser planks first. Beginning at the 8th row upright and going down, install one of the short hold down clips on each upright in the first hole up from the footboard mounting angle. Use a 5/16" carriage bolt and flange head nut for each one. See Figure 4. Turn the clips sideways and finger tighten the nuts just enough so the clips stay sideways. There should be one clip on every upright from the 1st row up to the top row.
 4. Beginning at the 8th row, place a riser plank on top of the foot mounting angles up against the uprights. Loosen the nuts on the clips so you can turn them into the slot on the back of the riser. The ends of the aluminum should stick out past the left end 5 row frame approximately 18" past the bolt holes, make equal Spaces between the left and right side of the bleacher.
 5. You may have to move the frames forward or backward a little bit to get the planks to line up properly. NOTE: At this point you should check to see if any of the seating frames need to be shimmed up in order to be level. You will know this if the frame does not come up to meet the bottom of the riser. Shim material has not been supplied but slivers of treated wood or similar material placed under the frames below the uprights works well. Shims should be under the uprights and not under the base angle in the spaces between uprights. Once this has been done you can continue placing the risers on the rest of the way down to the 1st row.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	IBL-SA2	BACK RAIL UPRIGHT VERTICAL ASSY	4
2	BLA5V4-SA1	5 ROW ALUMINUM SEAT FRAME V4	4
3	BLA8-SA2	3 ROW RISER FRAME 40" RISE	4
4	BLA8-SA1	3 Row Alum Frame for 8 Row Bleacher	4
5	IBLA-312	FOOT ANGLE CONNECTOR 25"	4
6	IBLA-SA2	1ST ROW GALV BRACE ASSY	3
7	IBLA-8100	81" ALUM X BRACE	6
8	IBLA-7875	6TH ROW X BRACE 78.75	6
9	IBLA-7800	78" ALUM X BRACE	6
10	IBLA-7488	ALUMINUM X BRACE 74.88 IN	8
11	CONCLAMP-34	3/4" CONDUIT CLAMP	4
12	IBL10-355	2" x 6" 98" SYP TREAT MUD SILL	4
13	IBL8-355	2"x 6" x 50" TREATED PINE MUD SILL	4
14	21IBL-345	1 1/16" ODx 21'-0" GALV TUBE	1
15	21IBLR-7	Plank Riser 252" (21')	5
16	ICAP1-11	SMALL 1" PLASTIC CAP	2
17	6IBLR-7S	74" 7 5/8" RISER PLANK 1ST ROW	1
18	IA-12S	ALUM CLIP (12" & RISER CLIP)	1
19	6IBLR-7	74" 2"x 10" 9 3/4" RISER PLANK	2

GENERAL NOTES	DIMENSIONS ARE IN INCHES TOLERANCES: LINEAR: ± 1/16" ANGULAR: ± 1°		SHEET SIZE B	SCALE 1:30	REV		Kay Park Rec.					
	CONFIDENTIAL DRAWING. INFORMATION IS NOT TO BE COPIED OR DISCLOSED TO OTHERS WITHOUT CONSENT OF KAY INDUSTRIES. SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.							DRAWN BY	JNB	4/13/2016	DESC:	8 ROW 21' BLEACHER W/ 48" AISLE
								APPROVED			MATL:	
								LAST SAVED	johnb	4/10/2017	PART NO:	BLA8A21V4F448AHR

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	IBL-SA2	BACK RAIL UPRIGHT VERTICAL ASSY	4
2	BLA5V4-SA1	5 ROW ALUMINUM SEAT FRAME V4	4
3	BLA8-SA2	3 ROW RISER FRAME 40" RISE	4
4	BLA8-SA1	3 Row Alum Frame for 8 Row Bleacher	4
5	IBLA-312	FOOT ANGLE CONNECTOR 25"	4
6	IBLA-SA2	1ST ROW GALV BRACE ASSY	3
7	IBLA-8100	81" ALUM X BRACE	6
8	IBLA-7875	6TH ROW X BRACE 78.75	6
9	IBLA-7800	78" ALUM X BRACE	6
10	IBLA-7488	ALUMINUM X BRACE 74.88 IN	8
11	IBL-BMA	BACK MIDDLE GUARD RAIL ASSY	1
12	CONCLAMP-34	3/4" CONDUIT CLAMP	4
13	IBL-BEA	BACK END V4 ASSY 91" 18 TUBE	2
14	IBL10-355	2" x 6" 98" SYP TREAT MUD SILL	4
15	IBL8-355	2"x 6" x 50" TREATED PINE MUD SILL	4
16	IBLR-10R	Al Riser End Caps 9 3/4" Right	5
17	IBLF-10R	ALUM END CAP 10 5/16" Right	5
18	IBLF-10L	Alum. End Caps 10 5/16" Left	5
19	IBLR-10L	Al Riser End Caps 9 3/4" Left	5
20	IA-12S	ALUM CLIP (12" & RISER CLIP)	1
21	21IBL-345	1 1/16" ODx 21'-0" GALV TUBE	1
22	21IBL-7	FOOT PLANK NO END CAPS 21'	5
23	21IBL-7	2"x 10" FOOT PLANK 252" MILL FINISH	9
24	21IA-7	SEAT PLANK ANODIZED (21')	1
25	8.5IA-7	102" 2"x 10" ANODIZED SEAT PLANK	14
26	21IBLR-7	Plank Riser 252" (21')	5
27	617IBLR-7	74" 2"x 10" 9 3/4" RISER PLANK	1
28	ICAP1-11	SMALL 1" PLASTIC CAP	2
29	IBLRHC-10	HC CUT OUT RISER END CAP	2
30	IBLRHC-10S	SHORT END CAP ALUM RISER	2
31	6IBLR-7	74" 2"x 10" 9 3/4" RISER PLANK	2



NOTE: All seat planks are anodized. They have a matte finish and will not leave a mark when you rub them.

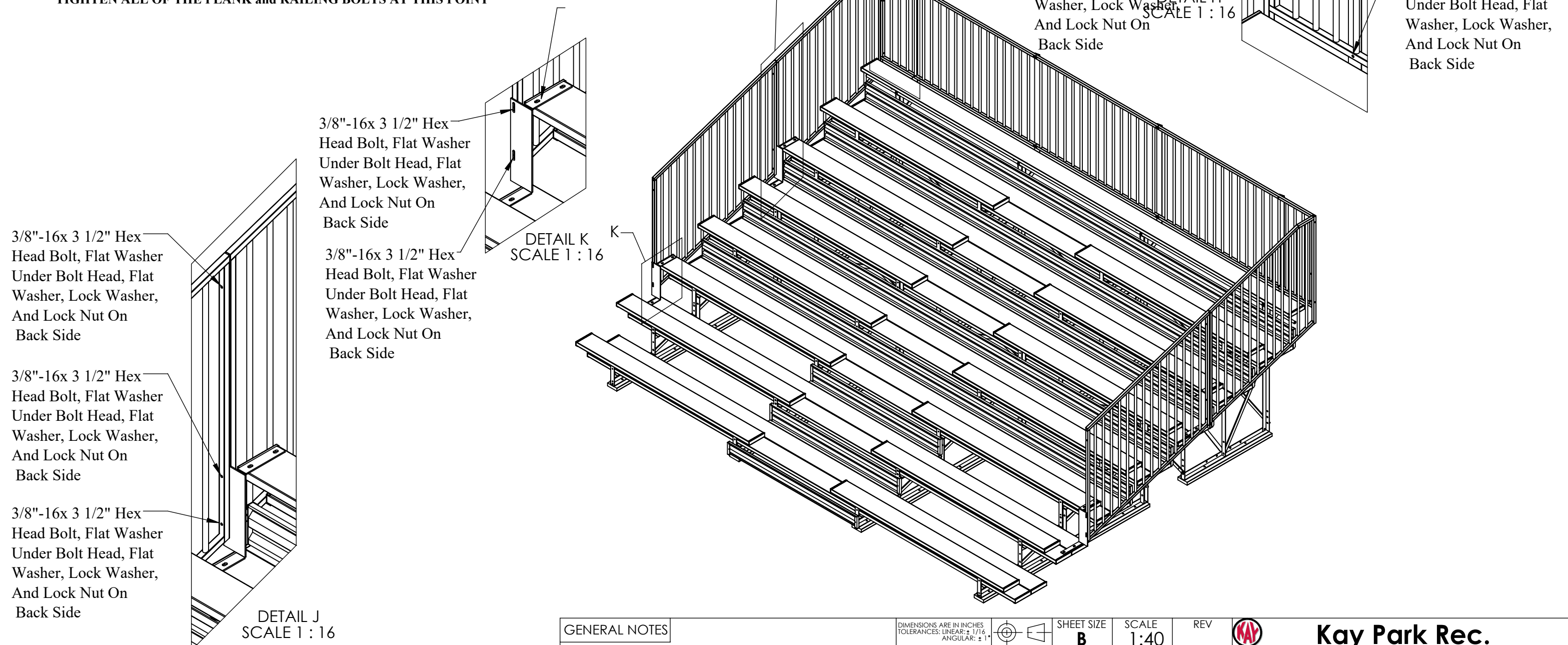
1. Attach two plank mounting clips to each seat bracket using a 5/16" x 1 1/4" carriage bolt and 5/16" flange nut. Turn them sideways to the frame.
2. Place the seat planks over the mounting clips, then turn the clips so they overlap both the inner and outer flanges of the seat plank.
3. Line up the outer end of the planks with the outer end of the foot and riser plank.
4. Tighten the clip nuts as you go.
5. Attach the end caps on the seat planks as shown in Figure 6.

GENERAL NOTES	DIMENSIONS ARE IN INCHES TOLERANCES: LINEAR: ± 1/16" ANGULAR: ± 1°		SHEET SIZE B	SCALE 1:30	REV		Kay Park Rec.
	CONFIDENTIAL DRAWING. INFORMATION IS NOT TO BE COPIED OR DISCLOSED TO OTHERS WITHOUT CONSENT OF KAY INDUSTRIES. SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.		DRAWN BY JNB	4/13/2016	DESC:	8 ROW 21' BLEACHER W/ 48" AISLE	
			APPROVED		MATL:		
			LAST SAVED	johnb 4/10/2017	PART NO: BLA8A21V4F448AHR		

Installation of the Railing

1. Place the side-rear railing (13 bars) on the last three rows (6th and 8th rows). Connect it to the end-back rail at the corner where they meet. Place a bolt through the top end, bottom end and the Z Bracket. Repeat this for the other end of the bleacher.
2. Now with bolts in place on the seat end of the side rail bracket and bolts through the railing into the bracket, drill two 1/2" holes through the foot planks using the slots in the lower end of the side rail bracket for guides. Now attach the lower end of the side rail bracket to the foot planks with two 1/2" x 1-1/4" hex bolts, flat washers on each side, lock washers and nuts.
3. Place a side-front railing (14 bars) between the 3rd and 6th rows. Attach it to the side rear railing with three 3/8" x 3-1/2" hex bolts, flat washers and nylock nuts. Repeat this for the other end of the bleacher. Attach the front of the railing to the front side rail bracket with two 3/8" x 2-1/4" hex bolts, flat washers and nylock nuts. Drill the 1/2" holes in the foot planks and seat planks using the slots of the side rail mount for a guide. Insert the 1/2" x 1 1/4" hex bolts with a flat washer through the mounts and plank, then place a flat washer, lock washer and nut on the under side in each place.

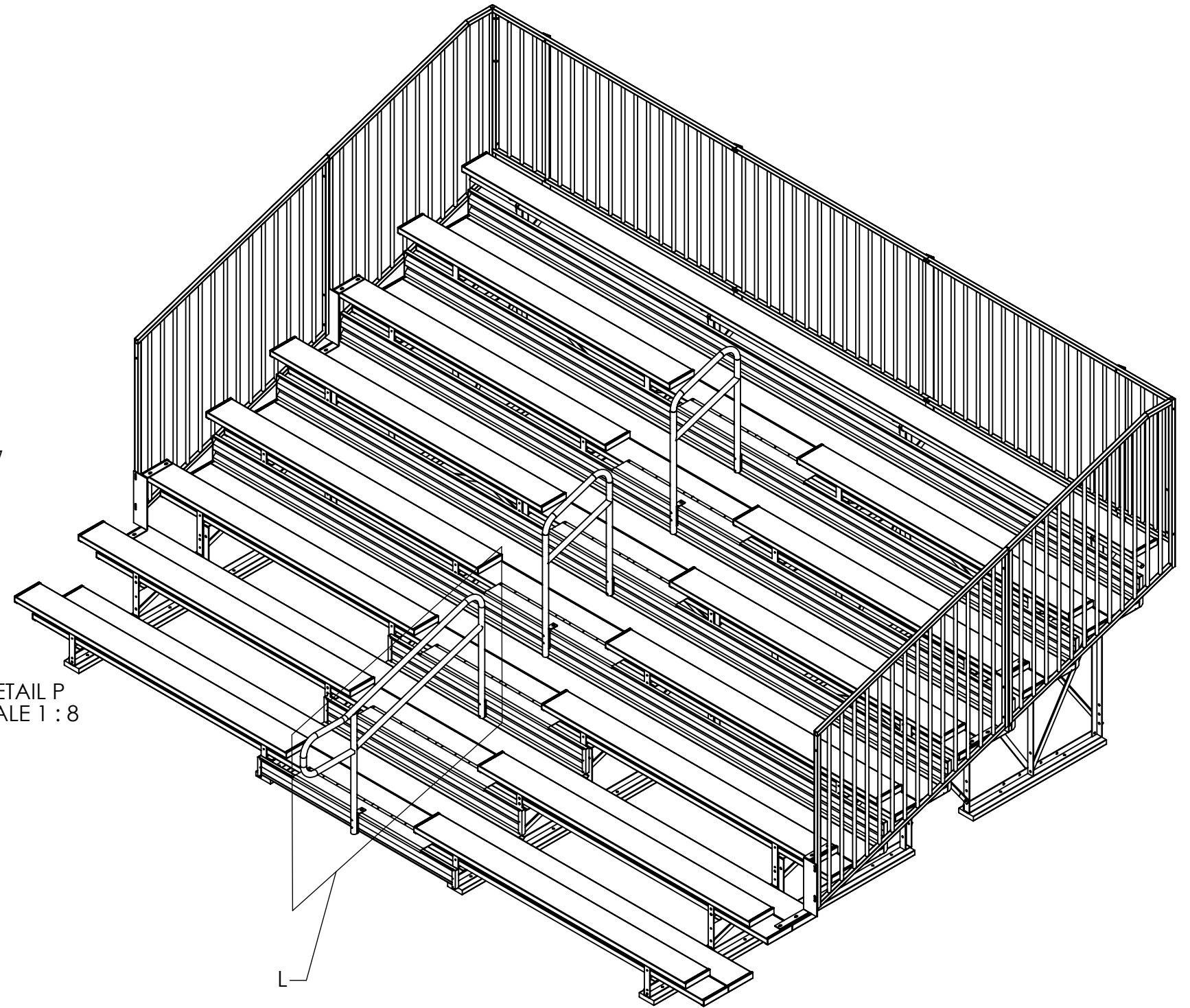
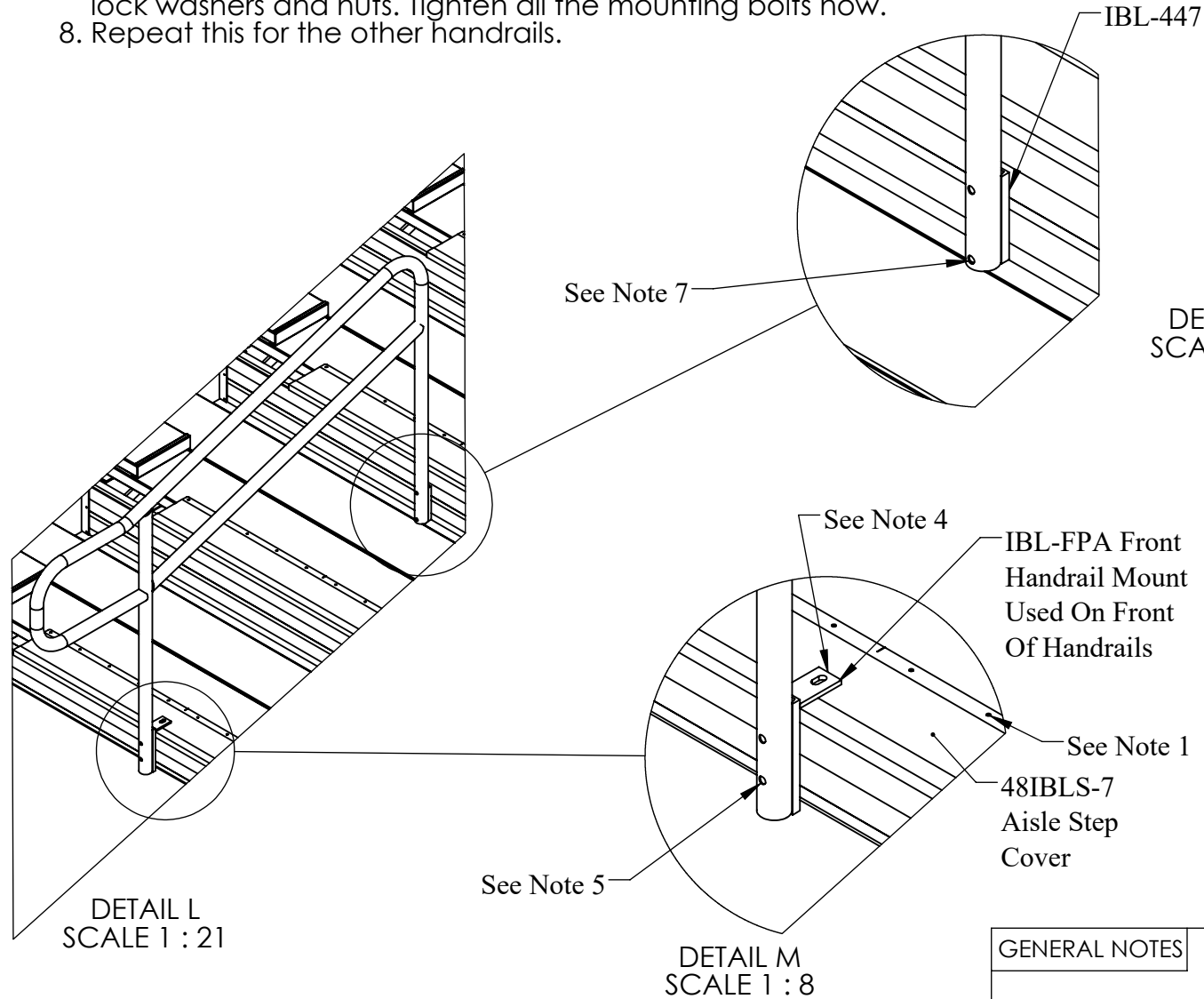
TIGHTEN ALL OF THE PLANK and RAILING BOLTS AT THIS POINT



GENERAL NOTES	DIMENSIONS ARE IN INCHES TOLERANCES: LINEAR: ± 1/16 ANGULAR: ± 1°		SHEET SIZE B	SCALE 1:40	REV		Kay Park Rec.
	CONFIDENTIAL DRAWING. INFORMATION IS NOT TO BE COPIED OR DISCLOSED TO OTHERS WITHOUT CONSENT OF KAY INDUSTRIES. SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.	DRAWN BY	JNB	4/13/2016	DESC:	8 ROW 21' BLEACHER W/ 48" AISLE	
		APPROVED			MATL:		
		LAST SAVED	johnb	4/10/2017	PART NO: BLA8A21V4F448AHR		

See Figures 8 and 9 also.

1. Take a step cover and hook it under the top front edge of the riser in the aisle space. Tilt it back until it is flat on the footboard. Using the holes in the step cover for a guide, drill 5/32" holes through the footboard. Insert and tighten the rivets.
2. Install all the step covers in this manner.
3. Measure to the middle and mark the middle of the 1st, 3rd, 4th, 5th, 6th and 7th steps.
4. Place the Front handrail mount over the mark and drill a 7/16" mounting hole through the top hole. Attach it using a 3/8" x 1 1/4" grade 5 hex bolt and underneath use a flat washer, lock washer and lock nut.
5. Place the handrail in the groove of the channel and drill a 7/16" hole through the riser. Attach the handrail with a 3/8" x 2 3/4" hex bolt and on the back side a flat washer, lock washer and nut. Leave this loose for now.
7. Place the Rear Handrail mount behind the rear upright of the handrail and drill two mounting holes through the handrail, mount and riser. Attach the rear with two 3/8" x 2 3/4" Grade 5 hex bolts and on the back side flat washers, lock washers and nuts. Tighten all the mounting bolts now.
8. Repeat this for the other handrails.



GENERAL NOTES	DIMENSIONS ARE IN INCHES TOLERANCES: LINEAR: ± 1/16" ANGULAR: ± 1°		SHEET SIZE B	SCALE 1:35	REV		Kay Park Rec.
	CONFIDENTIAL DRAWING. INFORMATION IS NOT TO BE COPIED OR DISCLOSED TO OTHERS WITHOUT CONSENT OF KAY INDUSTRIES. SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.	DRAWN BY	JNB	4/13/2016	DESC:	8 ROW 21' BLEACHER W/ 48" AISLE	
		APPROVED			MATL:		
		LAST SAVED	johnb	4/10/2017	PART NO: BLA8A21V4F448AHR		
PATH TO PART OR ASSM - BLA8A21V4F448AHR		S:\CADDRWGS\Solidworks\Bleachers\BLA\BLA Assemblies\Bleacher\Bleacher\BLA8A21V4F4		4/10/2017 2:59:47 PM		SHEET 6 OF 6	