



AMERICAN ALUMINUM SEATING, INC.  
[www.bleacherseating.com](http://www.bleacherseating.com)

PO. Box 1468  
Marshalltown, IA 50208



FOR INSTALLATION QUESTIONS

(641) 753-3764  
[sales@bleacherseating.com](mailto:sales@bleacherseating.com)

American Aluminum Seating, Inc. thanks you for your purchase of this seating unit. Our spectator seating products are designed to be durable and service-free for many years to come. This unit may even be extended with additional rows or more length to cover future needs. Please contact your sales representative if you have questions regarding such options.

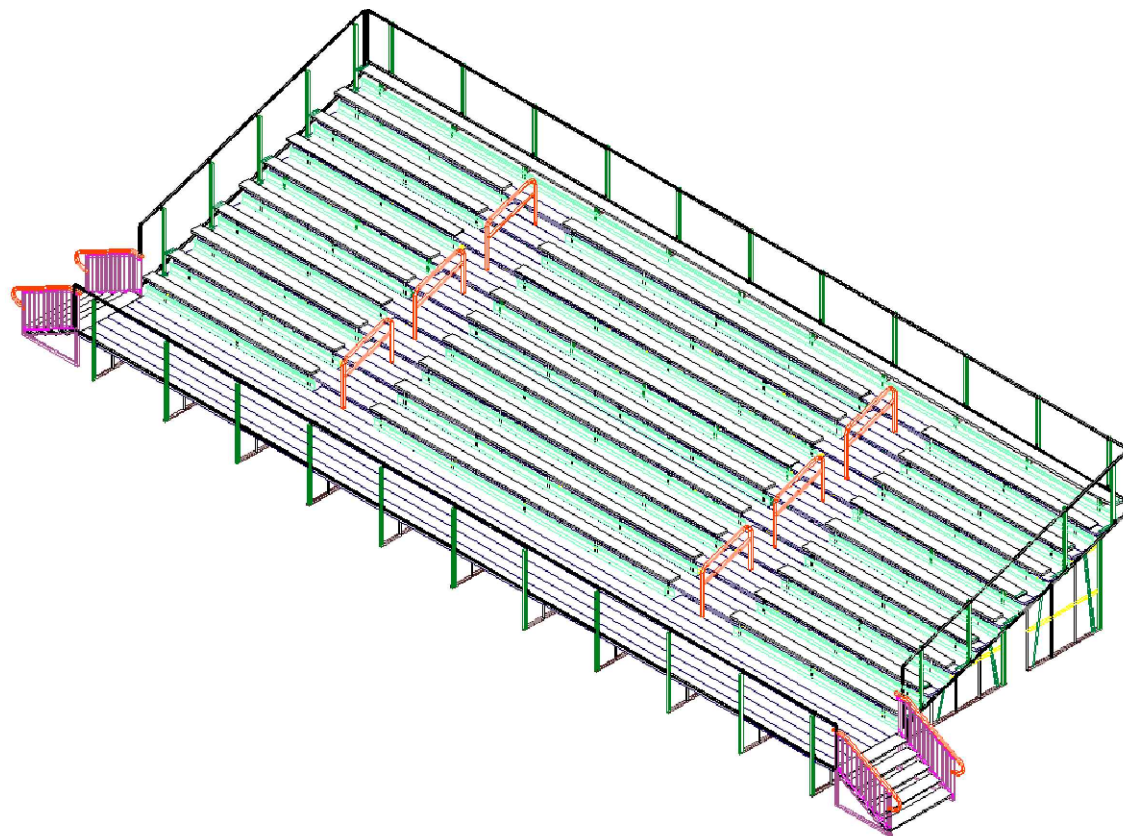
Careful reading and following of these directions will help you get the job done faster and provide tips on subtle things that make the end product look great.

Due to the nature of our products and potential custom designs, these installation instructions may not exactly match your product. You may have alternative **rise** and **runs**, egress options, or assemblies covered in these instructions not applicable to your unit. You may also have components specific to your product that may be detailed on additional pages.

If you have any questions, please contact AASI or your sales representative.

# INSTALLATION INSTRUCTIONS

## BLEACHERS



\* This bleacher may not accurately represent your unit & is for illustrative purposes only. \*

PLEASE READ & FULLY UNDERSTAND THESE INSTRUCTIONS BEFORE INSTALLATION

### ATTENTION INSTALLER/CUSTOMER

DO NOT ALLOW MILL PLANKS TO GET WET!!!



Moisture trapped between mill products can cause discoloration and permanent staining due to a chemical reaction. If plank requires to be stored, separate planks so that moisture cannot be trapped between them. (See notices attached to plank bundles for more information.)

# TYPES OF BLEACHERS

## Determining What Product You're Installing

As you work your way through these instructions, you will note some areas may not exactly match your specific unit. American Aluminum Seating, Inc. is proud to offer a full range of spectator seating products and custom designs including some of the types of installations shown below. All of our products follow the same general concepts.

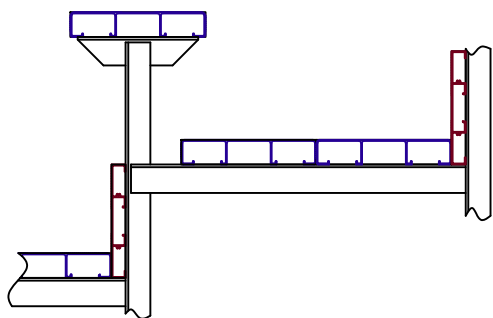
Having a general idea of the different types of units encountered can help you determine if a certain component in these instructions are applicable or if you are encountering a special scenario. In most cases, components will install in a general manner as shown, though the dimensions of components may be different.

**Example:** A typical side rail support is 56 ¼" but some rise and runs may require that to be a different dimension. In both cases, the rail support installs in a similar manner.

Due to immense variation in custom situations, including backrests, platforms, ice arenas, pressbox platforms & more, you may have additional pages beyond this packet. You should review all pages prior to installation to have a good idea of what is involved in the scope of your project.

### 1.1 - Semi-Closed Deck vs Closed Deck

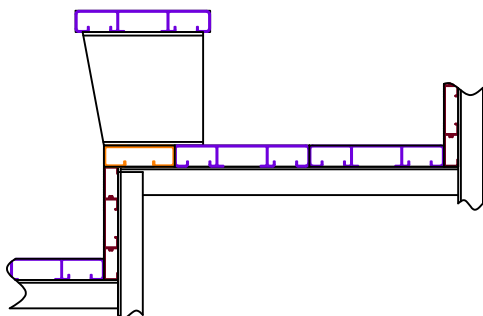
#### Semi-Closed Deck - RR 8 X 24



Semi-Closed Deck bleachers are the most common type encountered. They can be identified by the seat support being a part of the frame and sticking up above the footboards.

There is also a gap between the rear of the riser and the next row footboards. That gap gets covered at the aisles, but elsewhere is open to allow the seat support legs to protrude through.

#### Closed Deck - RR 8 X 24

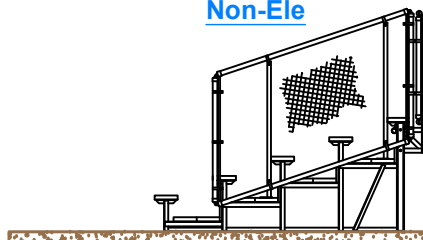


Closed Deck bleachers are similar in their overall installation; however, you'll note the footboards fully cover over the top of the riser and there are no gaps where debris can fall below the bleacher.

Because the seat support leg does not extend up through footboards, the seat is attached to a bolted on channel after all of the footboard and riser planks have been laid on the bleacher.

### 1.2 - Non-Elevated vs Low Rise vs Elevated Units

#### Non-Ele



Non-Ele bleachers have the 1st row spectators directly at ground level.

Depending upon your local code compliances and the product purchased, you may see non-ele bleachers with or without guardrail systems.

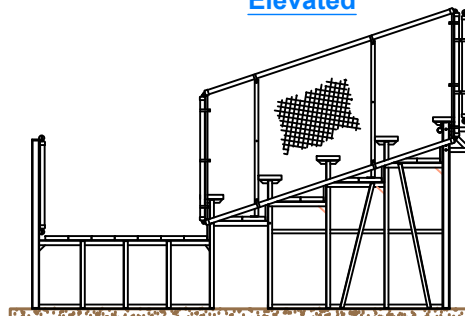
#### Low Rise



Low Rise bleachers are a type of non-elevated bleacher, but are unique in that their shorter height allows them, in many jurisdictions, to not require features like risers, aisles, double footboards, or rail systems.

They are typically more maneuverable and may also be found with casters for Tip & Roll kits.

#### Elevated



Elevated bleachers raise the first row of spectators a specified distance above ground level to improve sightlines. An elevated walking surface is built to increase the height of every seat.

Elevated bleachers may require steps or ramps to be installed to access and egress from the elevated walkway.

Elevated bleachers will always need some sort of guardrail around the unit due to the height.

# BILL OF MATERIALS Unpacking & Inventory

Your unit was shipped from our plant with all parts required for assembly. Please review the provided Bill of Materials (BOM), unpack, separate, and count all pieces.

You may have more than needed, but in the event of a shortage, please contact your salesmen. In some situations, certain items may be on back order with the bulk of your order shipped to expedite your project.

**It is important to thoroughly inventory your unit upon deliver, especially if it is not to be installed right away.**

**IMPORTANT! Mill finish products must not be allowed to get wet before installation or they may stain where they touch each other!**

Once installed on your bleacher, mill finish products will no longer be at risk of staining, as air will be able to get on all sides and avoid the chemical reaction that causes staining.

**What if my plank arrived damaged or stained?**

American Aluminum Seating, Inc. (AASI) verifies that mill finish products are loaded on the truck at our plant without staining. We also require all shipments to be tarped if there is a risk of moisture or precipitation.

AASI is not responsible for mill finish products that get stained during delivery. If plank arrives wet, you must note this on the trucker's bill of lading, take pictures of the plank before it has been unloaded, and inform your sales rep during delivery.

## 2.1 - Assembly Bill of Material Page

### SO # and Project Location:

These identifiers are primarily how AASI organizes our projects. If you require assistance, please have this information available in the event we need to pull the file.

### Part Number & Description

Each part of your bleacher is listed on the BOM. Some parts may have their part numbers denoted on them and others may not. Use the description provided in addition to the details in this packet to identify the parts provided.

Some parts may be noted by paint, the type of structural component and length, or the hardware bag. Parts labeled 0 are typically custom parts.

### Total Quantity of Item

This is the total number of parts associated with the line item. Some parts may be consolidated into a sum total at the bottom of the BOM.

Following each section as shown will allow for an easier install.

		AMERICAN ALUMINUM SEATING, INC.	
		PO BOX 1468 MARSHALLTOWN, IA 50158	
		PH: (641)753-3764 FAX: (641)753-5366	
		BILL OF MATERIALS	
Product:		10 row 35"ele bleacher, frm 30, patplk, DFIBD & 1x8 riser all, riser rail, (1) 4" aisle enclosed, nosing, & handrail, 64" wvy, 4" cll, (1) 64" stepset, straight ramp, (2) 2x hdcp, no sills, w/anchors	
SO#:		7432	Prepared By: LDE
Ship to:		Logan, IA	
1 UNIT	PART #	DESCRIPTION	
UNDERSTRUCTURE			
8	106406	64" CLR STD WNY ELE 30" Alum Frame	
8	0	Front Bolt On Guardrail Support (STD 30" Ele) - 69 7/8"	
8	160485	2 16/16" x 1 1/2" Rail Supt End Cap	
8	300980	#12 x 3/4" Hex Head Tek Screw (2)	
16	300550	3/8 x 1" Hex Head Bolt (2)	
16	300910	3/8 Serrated Flange Nut (2)	
16	161580	STD Foot Board Connector (RR 8x24) - 25 3/4"	
32	300550	3/8 x 1" Hex Head Bolt (2)	
32	300910	3/8 Serrated Flange Nut (2)	
8	106431	6 - 10 Row Alum Frame ELE 30"	
8	106450	11 - 14 Row Alum Frame ELE 30"	
32	301076	1/2 x 3 3/4" Wej-it Concrete Anchor (2)	
10	180244	#4/3/2-6 X-Brace - 74 11/16" (Dk Green)	
4	180246	#6-6 X Brace - 77 37/64" (Pink)	
6	180247	#7-6 X Brace - 80 25/64" (Black)	
4	180248	#9-6 X Brace - 83 57/64" (White)	
6	180249	#5-6 X Brace - 87 23/64" (MED Blue)	
4	180250	#10-6 X Brace - 92 35/64" (Gold)	
6	180251	#11-6 X Brace - 97 49/64" (Brown)	
4	180252	#12-6 X Brace - 103 1/8" (Orange)	
12	180253	#13D-6 X Brace - 82 23/32" (Almond)	
8	180254	#14D-6 X Brace - 84 35/64" (Yellow)	
5	180261	#H0R2-6 Brace - 74" (Red)	
4	180172	#4/3/2-4 X Brace - 61" (DK Green/Yellow)	
4	180174	#6-4 X Brace - 55 7/32" (Pink/Yellow)	
4	180176	#8-4 X Brace - 63 27/32" (White/Yellow)	
4	180178	#10-4 X Brace - 75" (Gold/Yellow)	
4	180180	#12-4 X Brace - 87 11/16" (Orange/Yellow)	
8	180182	#14D-4 X Brace - 64 13/16" (Yellow/Black/Yellow)	
2	180189	#H0R2-4 Brace - 60" (Red/Yellow)	
244	300550	3/8 x 1" Hex Head Bolt (2)	
244	300910	3/8 Serrated Flange Nut (2)	
5	181377	Mid-Span Angle (7) 2x10 Pat - 68 13/16"	
70	301500	Universal Alum Bolt Clip	
70	300675	5/16 x 1 1/4" Carriage Bolt (2)	
70	300900	5/16 Serrated Flange Nut (2)	
PLANK			
1	400511	2x10-1 3/4" Pat Plank Anodized - 21'	
8	400511	2x10-1 3/4" Pat Plank Anodized - 18'	

BP10\_39aew64cds\_4ach\_n2rs\_ps.xls

Page 1

Printed on 7/14/2021

## ATTENTION INSTALLER/CUSTOMER

CHECK YOUR SHIPMENT FOR ACCURACY

You can use the provided packing sheets to quickly see a consolidated list of all items that were sent with your order. Your shipment will have two signatures on each line item showing that the item was packed and a second signature verifying that the first employee's counts were correct.



# HARDWARE Parts To Recognize

## Required Tools

- Power Drill & Rotary Hammer Drill
  - $\frac{1}{8}$ ,  $\frac{3}{16}$ ,  $\frac{3}{8}$ ,  $\frac{7}{16}$ ,  $\frac{9}{16}$  Sockets (Right Angle Drills Helpful)
- Assorted Bits
  - $\frac{3}{8}$ ",  $\frac{1}{2}$ " Concrete Bits
  - $\frac{3}{8}$ ",  $\frac{7}{16}$ ",  $\frac{1}{2}$ " Bits Approved for Aluminum
- $\frac{5}{16}$  &  $\frac{3}{8}$  Hex Nut Driver
- Hand Ratchet
  - $\frac{1}{2}$ ,  $\frac{9}{16}$ ,  $\frac{3}{4}$  Deep Wall Sockets
- Tape Measure
- 2 Saw Horses
- Rubber Mallet (with block of wood)
- String (for guiding plank alignment)
- Level
- Carpenter's Square
- Assorted Grips or C-Clamps
- Circular Saw w/ aluminum approved carbide blade
- Small prybar
- Felt tip marker
- 120v power supply w/ extension cords
- Pliers
- Bolt Cutters

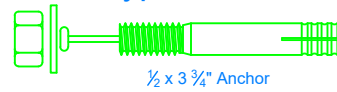
## NOTE

All bleachers tend to use the components and tools shown. In some cases, variations may be required in special circumstances. The Bill of Material will generally list hardware items with their associated assembly parts to help guide you.

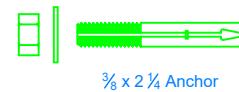
Anchors: Frames & other components that rest on concrete are often anchored at key points. Not every hole available on base angles will use an anchor. Refer to attached 'Frame Layout' page for anchorage points on your specific unit.

## 3.1 - Typical Attachment Hardware

NOTE: Parts not shown actual size. May not be to scale.



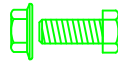
$\frac{1}{2}$  x 3  $\frac{3}{4}$ " Anchor



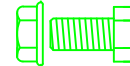
$\frac{3}{8}$  x 2  $\frac{1}{4}$ " Anchor



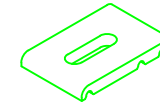
$\frac{5}{16}$ " x 1  $\frac{1}{2}$ " Lag Screw  
(Units with ground sills)



$\frac{3}{8}$ " x 1" Hex Head Bolt  
(Shown with  $\frac{3}{8}$  nut)



$\frac{1}{2}$ " x 1" Hex Head Bolt  
(Shown with  $\frac{1}{2}$  nut)



Universal Aluminum Bolt Clip



$\frac{5}{16}$ " x 1  $\frac{1}{4}$ " Carriage Bolt  
(Shown with  $\frac{5}{16}$  nut)



$\frac{3}{8}$ " x 1  $\frac{1}{2}$ " Hex Head Bolt



$\frac{1}{4}$ " - 20 x 1" Hex Head Thread  
Rolling Screw  
(For units with handrail brackets)



$\frac{5}{16}$ " x  $\frac{3}{4}$ " Hex Head Bolts  
(For units with casters)



$\frac{5}{16}$ " x 1  $\frac{1}{2}$ " Carriage Bolt

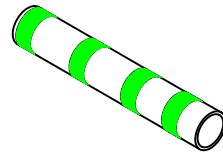


#10 x  $\frac{3}{4}$ " Tek Screw



$\frac{5}{16}$ " x 2  $\frac{1}{2}$ " Carriage Bolt

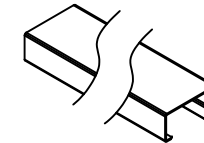
## 3.2 - Typical Assembly Parts



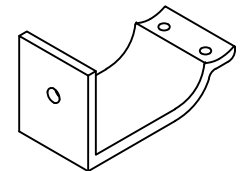
Guardrail Sleeve - 10" Long



Handrail Sleeve - 4" Long



Plank Sleeve - 18" Long



Handrail Bracket



Rail Clamp



Rail Ends



Panel Clamps



Plastic Pipe Cap

# CROSSBRACE SCHEMATIC

## Understanding Understructures

Your cross brace (aka X-Brace) plan is likely to be significantly different than the one below. These instructions provide generic overviews and details of concepts you may find on your unit, but some features may not be present. This particular schematic shows a ramp and set of steps. While frames for ramps may be shown on your frame layout, you'll also be provided a separate ramp instruction sheet as they are an assembly of their own.

### 4.1 - X-Brace Schematic Page

#### Planview:

Looking from the top down, the planview shows you different lengths of overhangs and major dimensions of importance. Some units may break risers and planks onto separate pages.

#### Plank Overhangs:

This is the distance the plank extends beyond each frame. Plank is allowed to overhang up to 18".

#### Sideview:

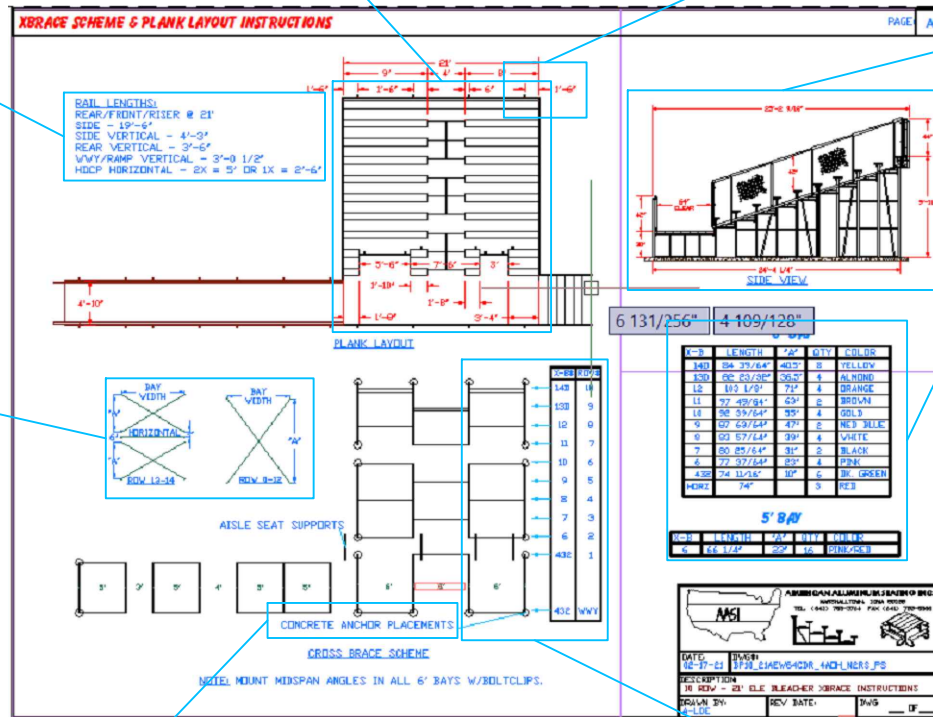
Denotes different dimensions of importance as looking at the unit directly from the side. The example shown is an elevated unit with a walkway. Your unit may be different than shown.

#### Rail Lengths:

Bleachers with guardrail systems will have multiple lengths of rail provided. This (in addition to the BOM) will help you know where different lengths are to be installed.

#### Cross Brace Detail:

Each row of cross brace may have different lengths of angles to form the X. Note the "A" dimension and how that corresponds to the Cross Brace List. Some rows require two levels of crossbrace. Those rows are shown with a 'D'.



#### Cross Brace List:

Between frames, bleachers have a cross brace that forms an X. Reference this with the X-B# & Row # next to the frame layout to locate the correct cross brace on your job site via the color.

Each X-Brace angle will have one end colored with spray paint to label it.

#### Anchor Points:

Not all holes in base angles require anchorage.

Only anchor the bleachers at the points where a circle is shown for your unit using the closest hole available.

#### Frame Layout:

Each bleacher consists of frames to support the plank running across the bleacher. Between each frame are staggered sets of cross brace. Frames run perpendicular to the direction of the plank and are noted in the vertical bold lines as looking from above your bleacher.

The cross brace is noted via the horizontal lines. Note each row is referenced by a #.

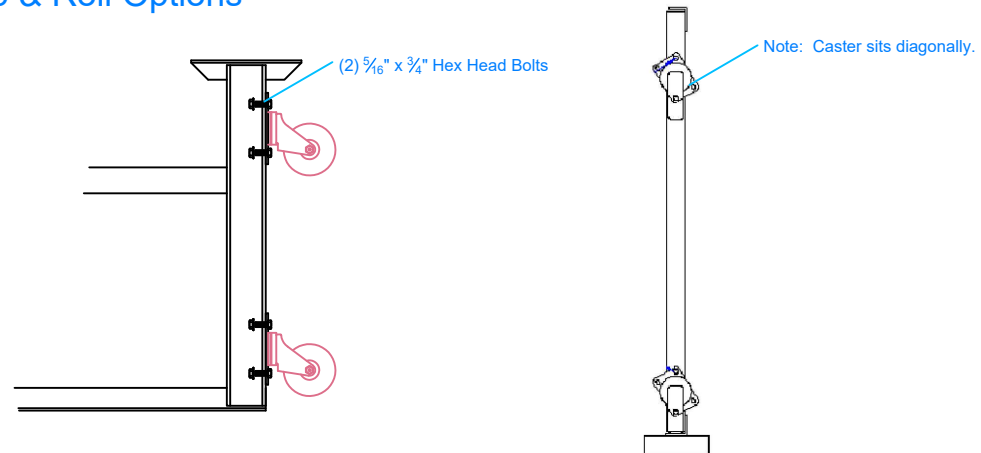
## TIP & ROLL OPTION (If Applicable)

### Note:

If your bleacher is a non-ele unit, it may be a Tip & Roll. If not, disregard this section. To install casters:

- 1.) Place casters so that the caster plates are diagonal with their holes lining up with the holes in the rear channel of the frame.
- 2.) Use (2)  $\frac{5}{16}$ " x  $\frac{3}{4}$ " Hex Head Bolts per caster and tighten securely.

### 5A.1 - Tip & Roll Options



### IMPORTANT!

Some bleachers may have both cross brace holes and caster holes on the rear leg. The X-Brace holes are typically the (2) holes located between the casters.

## RUBBER PADS (If Applicable)

### Note:

If your bleacher does not use rubber pads, it will use anchors or ground sills. If so, disregard and continue to Page 5B. To install rubber pads:

- 1.) Place a  $\frac{3}{8}$ " Washer on the inset area of the rubber pad.
- 2.) Insert a  $\frac{5}{16}$ " x  $1\frac{1}{4}$ " Carriage Bolt through the rubber pad & up through the bleacher base angle so that the pad will be between the floor and the base angle.
- 3.) Secure the pad to the frame with a  $\frac{5}{16}$ " x  $1\frac{1}{4}$ " Serrated flange nut.

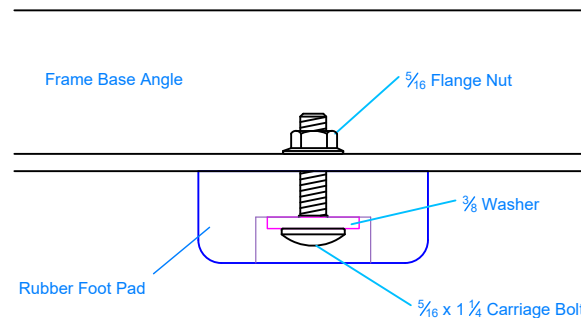
**WARNING:** Do not over tighten the hardware. It may crack the rubber if you do!



### WARNING!

Do not over tighten hardware to avoid fracturing the rubber pad. Over tightening may result in the rubber cracking!

### 5A.2 - Rubber Pads



## GROUND SILLS (If Required)

If your bleacher requires wood or plastic ground sills, you will want to attach them to frames first. Sills will be approximately the same length as the frame. For Tip & Roll units, they may extend past the rear of the base angle. To install sills:

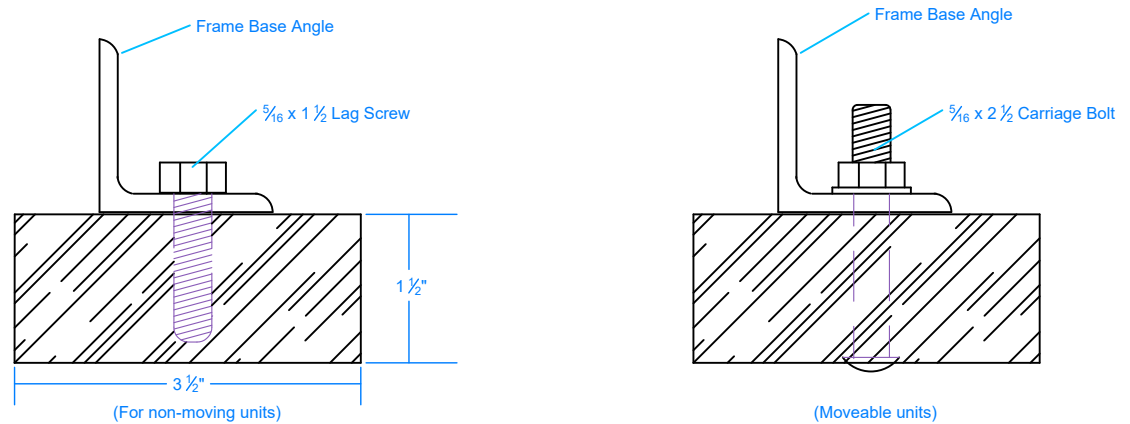
- 1.) Align frame centered on each sill.
- 2a.) Lag screws tighten directly without pre-drilling.
- 2b.) Carriage bolts require marking and pre-drilling.
  - $\frac{3}{8}$ "  $\varnothing$  hole for carriage bolts.

Hex head side should always face up resulting in a smooth surface between sill and ground.

- 3.) Repeat process for all frames requiring sills.

### 5B.1 - Ground Sills Installation

2x4 Treated Wood Sill Shown



Some units with sills are intended to be permanent structures and some units are intended to be moved.

Lag screws are not intended for units that will be moved around! Moveable units must use carriage bolts & nuts as shown.

## ANCHORAGE DETAIL (Typical Concrete Attachment)

### Important:

Detail of anchorage is for future reference!

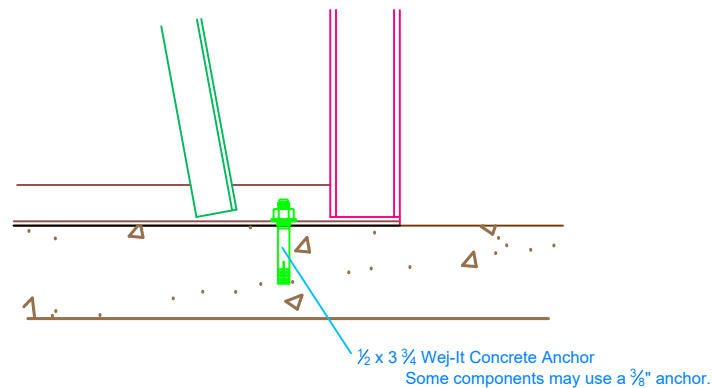
You will want to layout your frames and assemble the understructure prior to anchoring! If your frames use both anchors and ground sills, install sills first.

When you are ready to anchor, return to this page if necessary. To install anchors:

- 1.) Pre-drill  $\frac{9}{16}$ " holes at locations requiring anchors per the Cross Brace & Frame Layout page provided.
- 3.) Anchor at specified points. Major frames typically use  $\frac{1}{2}$ " diameter anchors and smaller components, such as rail supports to the ground may use  $\frac{3}{8}$ " components.

\* Refer to the BOM to determine which anchors are used.

### 5B.2 - Anchorage Detail



**IMPORTANT! DO NOT ANCHOR YET!**

Do not anchor frames to ground until you are satisfied with the frame layout and cross brace assembly in the next step to ensure the bleacher is square and located correctly on the site.

# FRAME ASSEMBLY (Refer to XBrace Layout)

- 1.) Layout frames on ground oriented in the direction they need to be once lifted up.
- 2.) Bolt together similarly colored cross brace in pairs at center hole using  $\frac{3}{8}$ " x 1" Hex Head Bolts. Flat sides of angle should be facing up to avoid snow and ice accumulation per Figure 6.1.

NOTE: Some rows have a horizontal brace that does not form an X and does not have a center hole. See Detail 6.2

- 3.) Attach cross braces to frame in a similar manner as shown in Figure 6.3 using your provided XBrace Layout as explained on Page 4 of this packet.

NOTE: In some cases cross, X-Brace will not be able to be staggered and overlap the bay next to it. Use  $\frac{3}{8}$ " x  $1\frac{1}{2}$ " Hex Head Bolts in those areas.

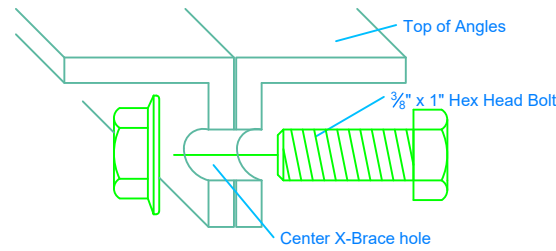
- 4.) Install Footboard Connectors between separate sets of frames that make up rows. Footboard connectors install with (2)  $\frac{3}{8}$ " x 1" Hex Head Bolts. See Figure 6.4 for how Footboard Connectors may fit into your design.

- 5.) Align and square up entire understructure. Anchor per Page 4 - Anchorage Instructions.

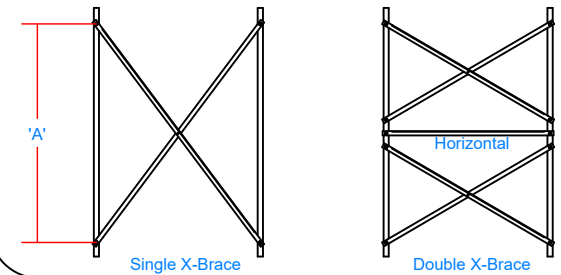
## THINGS TO REMEMBER!

- Overlapped cross brace uses  $\frac{3}{8}$ " x  $1\frac{1}{2}$ " Hex Head Bolts
- Higher rows use wider 'A' dimension splits and some may use double cross brace as shown in Figure 6.2
- It may be helpful to wait until frames are aligned and square to tighten cross brace hardware completely.
- Your Frame Layout will dictate which cross brace you use and the distance between frames.
- DO NOT ANCHOR FRAMES PER 5B.2 UNTIL UNDERSTRUCTURE IS COMPLETE & SQUARE

## 6.1 - Cross Brace Center Hole



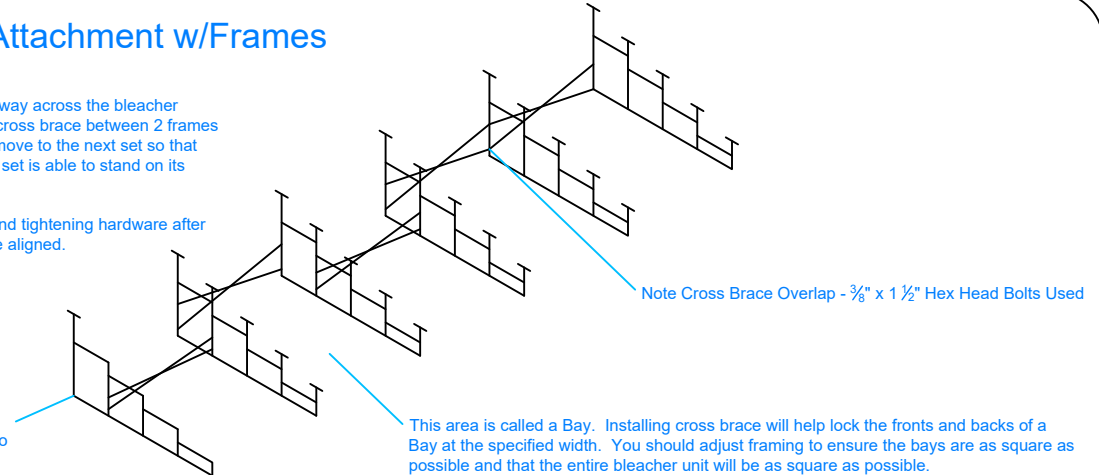
## 6.2 - Cross Brace Detail



## 6.3 - X-Brace Attachment w/Frames

Work your way across the bleacher attaching cross brace between 2 frames and then move to the next set so that each prior set is able to stand on its own.

Recommend tightening hardware after frames are aligned.

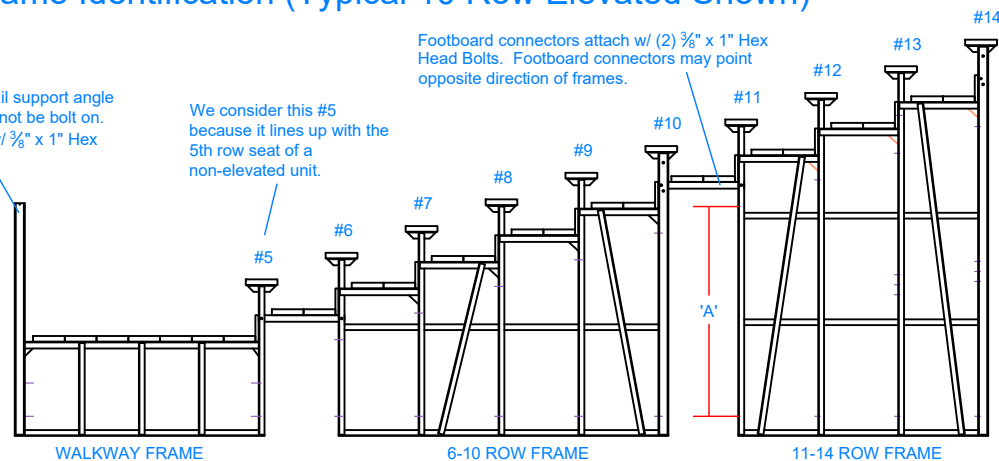


## 6.4 - Frame Identification (Typical 10 Row Elevated Shown)

This guardrail support angle may or may not be bolt on. It attached w/  $\frac{3}{8}$ " x 1" Hex Head Bolts.

We consider this #5 because it lines up with the 5th row seat of a non-elevated unit.

Footboard connectors attach w/ (2)  $\frac{3}{8}$ " x 1" Hex Head Bolts. Footboard connectors may point opposite direction of frames.





# GENERAL PLANK LAYOUT

## Read Completely Before Install

Bleachers have three types of planks.

- Risers - Located at the rear of each row.
- Footboards - The walking surface of each row.
- Seats - The sitting surface of each row.

These planks come in three finishes.

- Mill Planks - Shiny Finish (\*See warnings about staining.)
- Anodized Planks - Dull Finish
- Powder Coated - Colored

Separate your planks into separate files.  
**Note warnings about mill products staining when wet!**

### General Plank Install Concepts

- Your risers and planks will be laid out according to Figure 7.1 with endcaps on the ends of the unit. The wider edge of an endcap is on the bottom of the plank unless your unit uses L-Caps. Install endcaps with #10 x 3/4" Tek Screws.

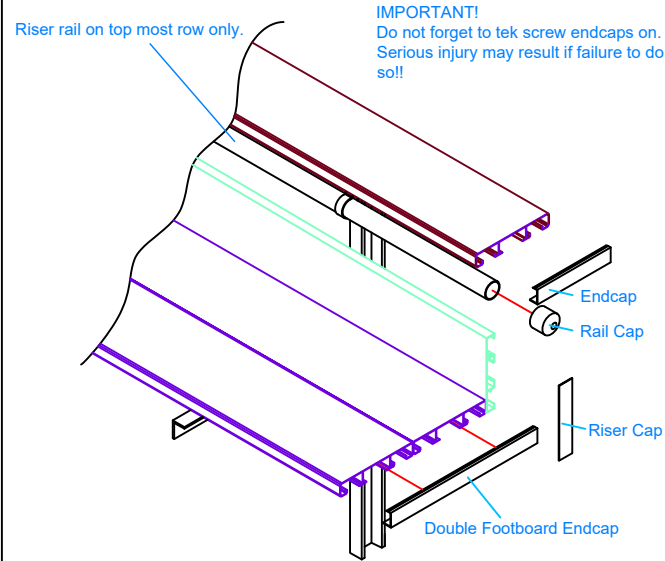
**NOTE:** It may be easier to install endcaps prior to setting on bleacher. A rubber mallet with block of wood can help tap the endcap into place.

- Refer to Planview with plank dimensions that references the lengths of plank that make up longer runs. These lengths will be sleeved together per Detail 7.2.
- Planks will bolt clip to the frames as shown in Figure 7.3 using a bolt clip & 5/16" x 1 1/4" Carriage Bolt.

### THINGS TO CONSIDER

- If your bleacher is an elevated unit and has handicap notches, note that the very first row of riser behind the walkway plank does not extend all the way through the bleacher per Figure 7.4.
- Stagger sleeves to insert them individually into the next plank.
- Lubricants, such as WD-40, and filing edges may aid sleeving.
- For bleachers over 30', you might want to set individual planks on the bleacher pre-sleeved before carrying up the next plank.

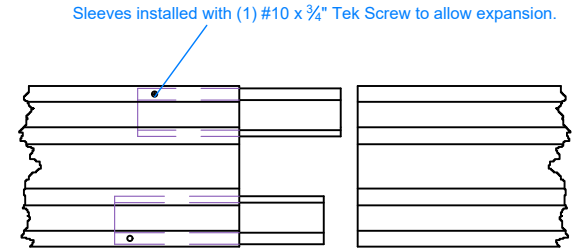
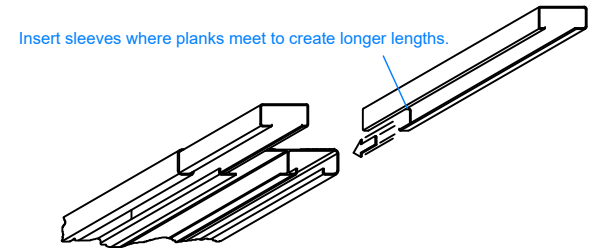
## 7.1 - Plank Layout Detail



Endcap prior to setting on bleacher.  
 All endcap hardware installed with #10 x 3/4" Tek Screws.

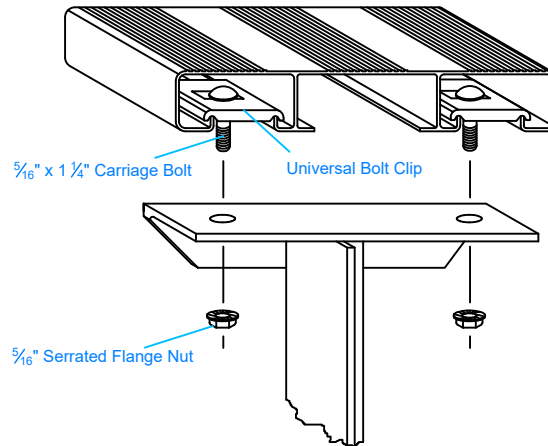
Single Endcaps - (2) Tek  
 Double Endcap - (3) Tek  
 Rail Cap - (1) Tek

## 7.2 - Sleeves Detail

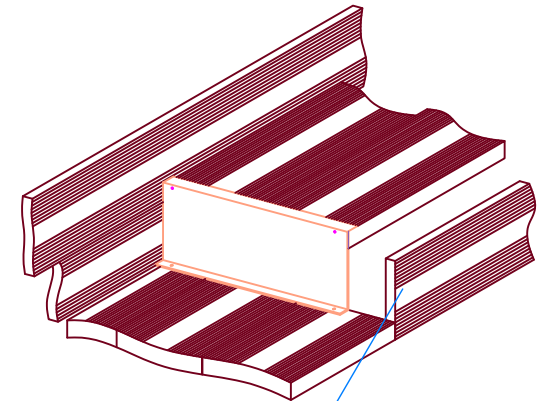


Note how the sleeves are slightly staggered to aid in inserting next plank.

## 7.3 - Bolt Clip Detail



## 7.4 - Plank At Elevated Notches



If your bleacher is elevated and has handicap notches, take note of how the riser ends at the notch. Refer to Planview for more details.

### WARNING!



Do not walk on planks that are not securely attached! Plank can flip causing severe injury! Be mindful of where you're standing!

## INSTALL RISER (1x8 For Most Bleachers)

Your riser should be installed prior to your footboard planks as it is located and squeezed between the footboards and vertical frame leg unless otherwise noted.

- 1.) Attach a lower row riser to the legs as shown in Figure 7.1 with  $\frac{5}{16}$ " x  $1\frac{1}{4}$ " Carriage Bolts, but do not tighten in case you need to adjust overhangs. Repeat for the top row.
- 2.) Ensure overhangs are correct and that proper space is available between frames for handicap notches. See Page 12 and your Planview dimensions.
- 3.) Tighten those risers to secure them in place.
- 4.) Run a string line down from top row riser to the lower riser to guide further riser installation.
- 5.) Repeat process of securing risers for all remaining rows.

NOTE: You may be able to install a row of securely fastened footboards to provide a walking surface in lieu of ladders for upper rows.

## INSTALL PLANKS (Walkways, Footboards, Seats)

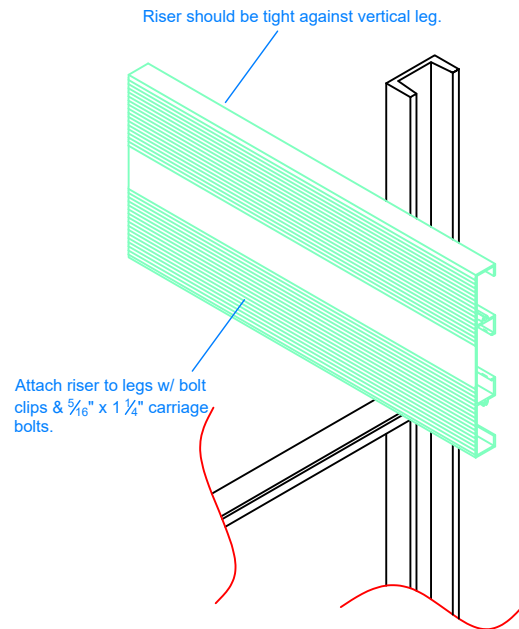
If your bleacher is elevated, it will also include a walkway.

Walking surface planks will be Mill (shiny) finish.  
Seating planks will be Anodized (dull) finish.

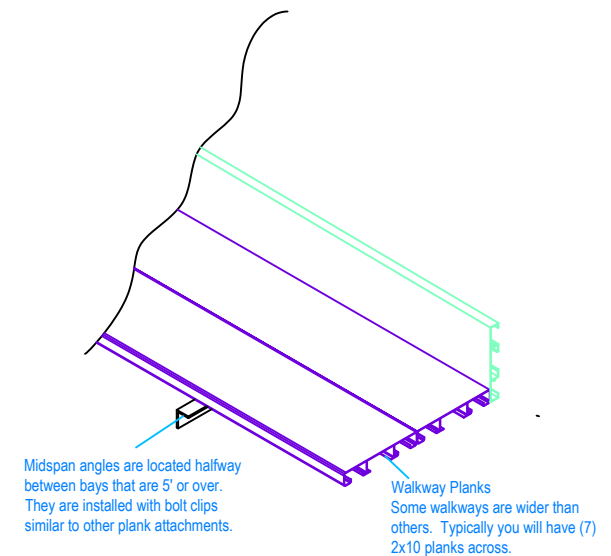
Do not place Mill plank on seats. Black residue will rub onto spectator clothing.

- 1.) Install walkway planks across bleacher. (If applicable)
- 2.) Bolt clip a Midspan angle between each walkway bay of 5' or more. (If applicable)
- 3.) Attach footboards across unit to match riser overhangs.
- 4.) Attach seats across unit.  
- Note location and width of aisles in reference to seats.
- 5.) Planks require (2) points of frame contact. Use "floating" support frames to span across unsupported planks per Figure 7.4.

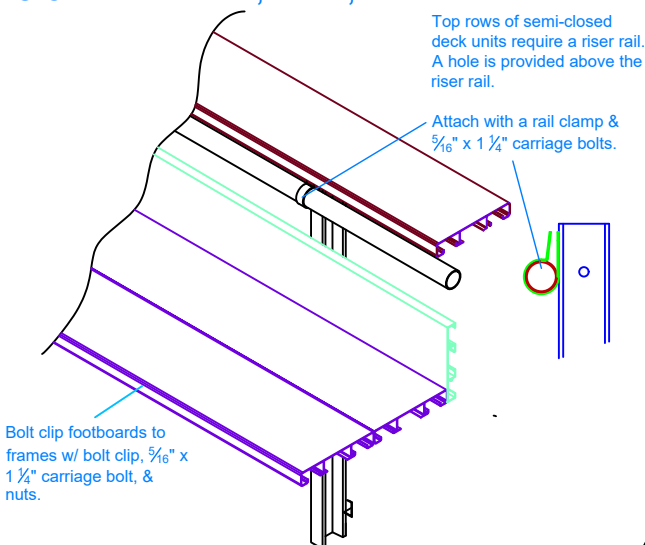
### 8.1 - Riser Detail



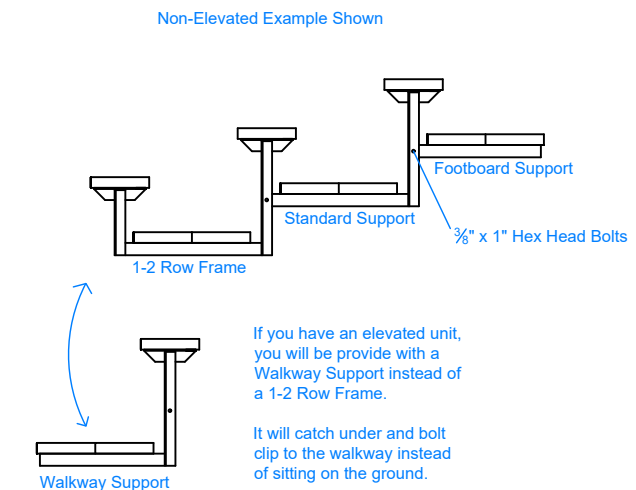
### 8.2 - Walkway Detail



### 8.3 - Footboard, Seat, and Riser Rail



### 8.4 - "Floating" Plank Supports



# STEP SETS (If Required)

To make accessing the bleacher easier during installation, you may opt to install the steps now that you have walkway plank installed.

- 1.) Position and attach top and bottom planks with bolt clips. Tighten once steps are square.
- 2.) Attach remaining steps planks.
- 3.) Position 1x8 Bent Closure plates as shown in Figure 9.2. Each closure plate will use (8) #10 x 3/4" Tek screws with (4) along the top and (4) along the bottom.

NOTE: Bottom plate only requires two from the front into the welded clip angle.

- 4.) The upper step plank will attach to the walkway using coupling (2) coupling plates bolt clipped to the walkway and the top step.
- 5.) Once step is firmly in place, anchor to concrete with 3/8" x 2 1/4" Anchors.
- 6.) Install non-slip colored nose markings to each step w/ (4) #10 x 3/4" Tek Screws. Screw into front face of nosing.

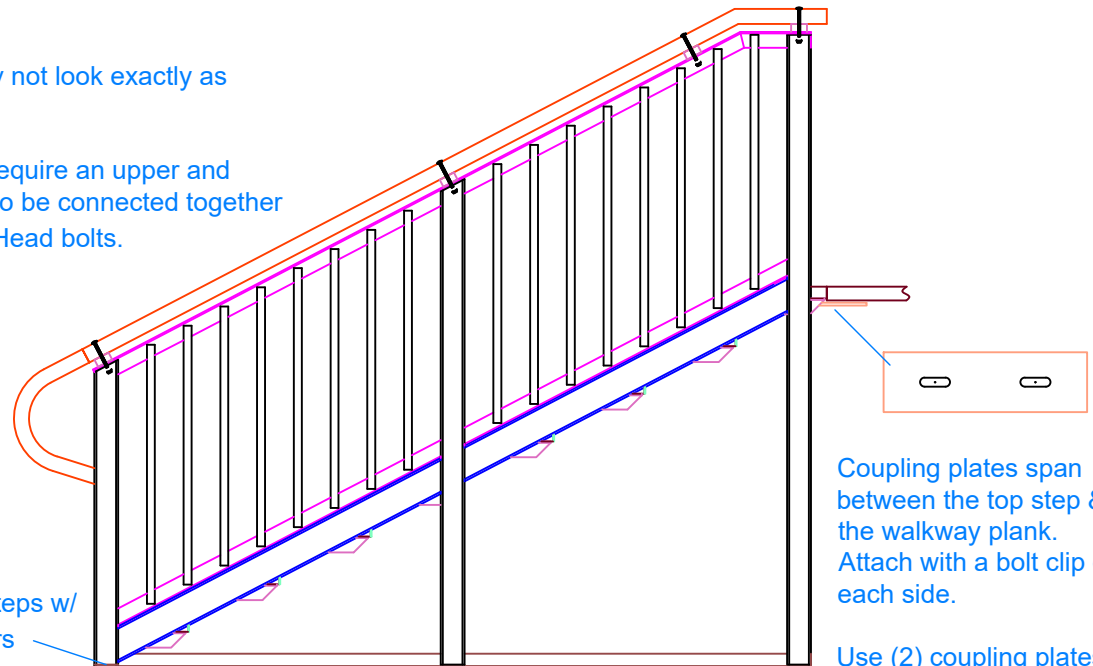
## THINGS TO CONSIDER

- Using ratchet straps can help pull the frame snug against planks as welding can naturally warp the aluminum frame slightly.
- Plates may hang down past the steps. Typical step rise is often 6", but the standard plate height is 8". There is no need to rip the plate down.
- Step planks are 2x12U Plank that are 11 1/2" wide. Do not attempt to use other widths of planks. They will not fit!

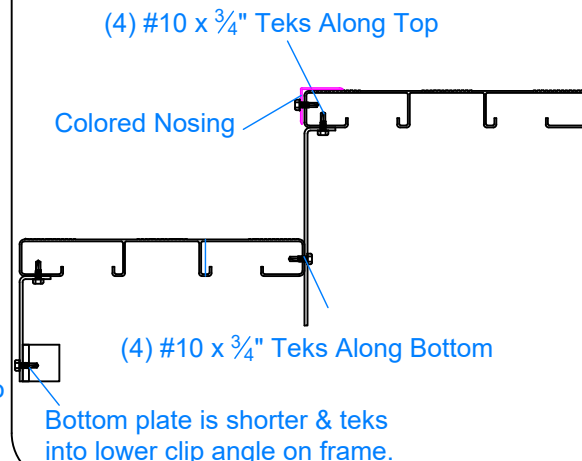
## 9.1 - Step Installation Detail

Your step set may not look exactly as shown.

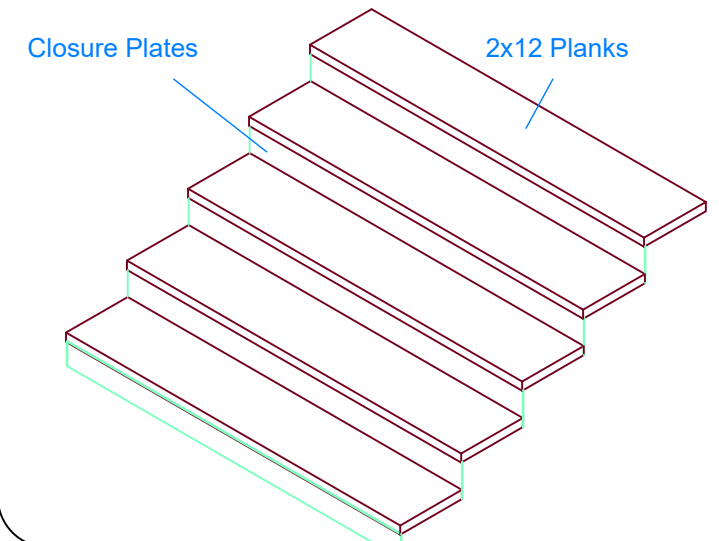
Some units may require an upper and lower step frame to be connected together with 3/8" x 1" Hex Head bolts.



## 9.2 - Closure Plate Detail



## 9.3 - Tread Detail With Plates



# AISLE INSTALLATION (Style Differs By Unit)

Your bleacher will use one of three types of aisles.

**Standard Aisle (Shown)** - The bleacher footboards create the majority of each step with a single additional plank coming forward at each step to close off any gaps.

**Intermediate Steps** - Intermediate steps often use a combination of the Standard Aisle to close off any gaps, but also uses a separate step to split the difference when the rise is too high to be a step alone.

**Inset Steps** - Instead of the intermediate step projecting forward in front of the riser, the step is cut back into the riser. Such scenarios use (2) risers per row, allowing the inset step to sit on top of the lower riser.

**NOTE:** If your bleacher uses anything other than the Standard Aisle, a separate detail sheet will be provided.

- 1.) Install all risers and footboards.
- 2.) Mount L-Brackets approximately 1" off each aisle opening as shown in Figure 10.1 with bolt clips. If your bleacher is non-elevated you will also have straight brackets.

**IMPORTANT** - Note the location of the 1 1/2" Carriage bolt in Figure 10.1 if applicable.

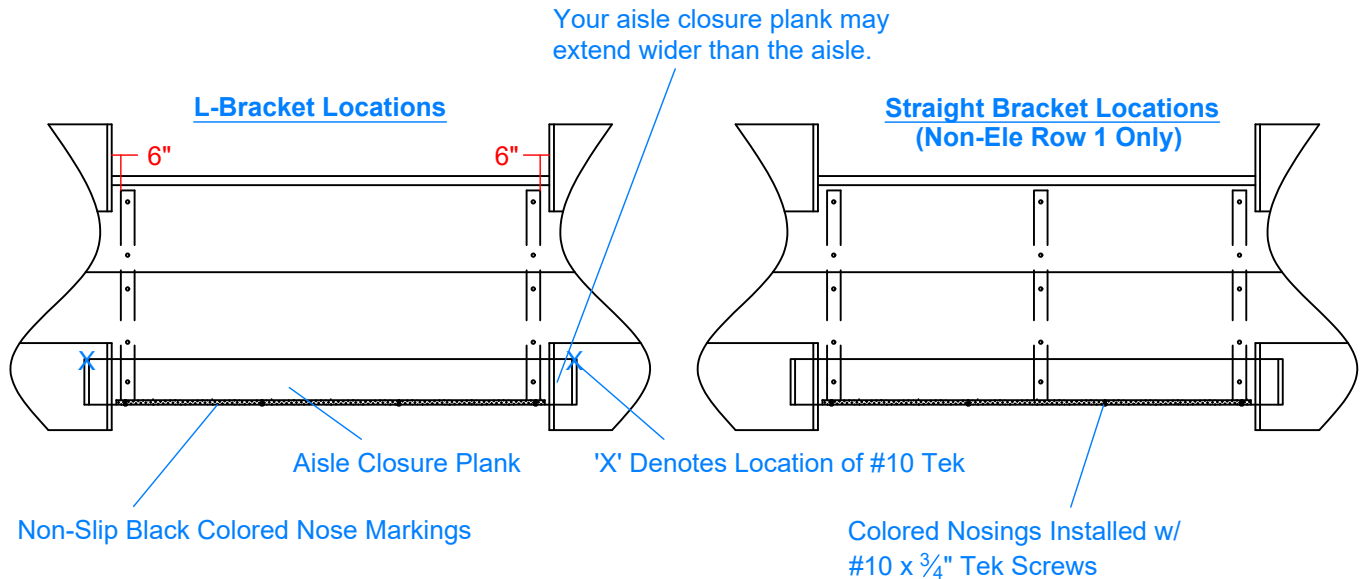
- 3.) Install endcaps on the 2x5S aisle closure plank (or plank noted on BOM) prior to bolt clipping it to bleacher.

**IMPORTANT** - Use (1) #10 x 3/4" Tek Screw and place the screw on the back side away from the riser as noted in Figure 10.1.

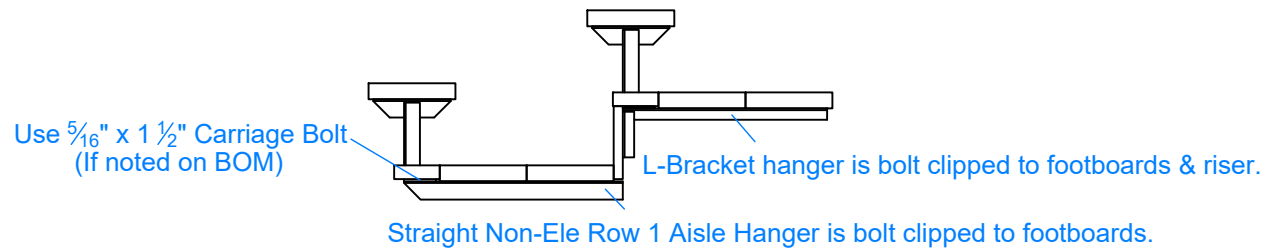
- 4.) Center the aisle closure plank in the aisle and bolt clip.

- 5.) Attach non-slip black colored nosing with #10 x 3/4" Tek Screws from the front.

## 10.1 - Typical Aisle Detail



### Side Profile With L-Brackets & Straight Bracket



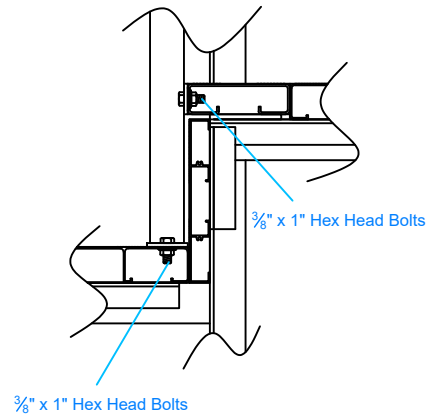
## MID-AISLE RAILS (If Required)

**NOTE:** Some projects may require base flanges and your handrails will not have plates on them. See separate instructions.

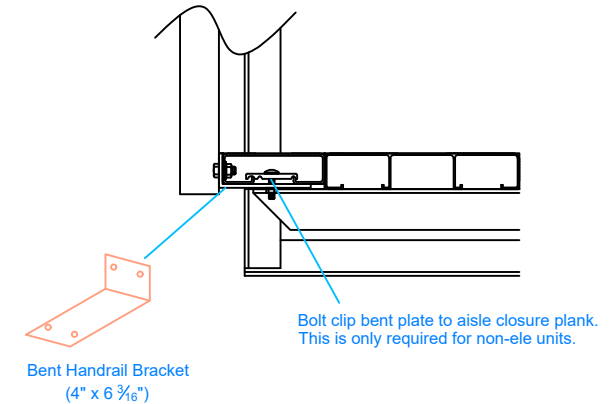
- 1.) Refer to planview to layout handrail locations. Do not attach to the bleacher until you have laid them out preliminarily.
- 2.) Place handrails centered in aisle. Mark and drill  $\frac{7}{16}$ " holes using the plates as a template. The upper plate will install over the black non-slip colored nosing.
- 3.) Attach handrails to the planks with  $\frac{3}{8}$ " x 1" Hex Head bolts. The nut will end up on the understructure side of the unit.
- 4.) If your bleacher is non-elevated, refer to Figure 11.1 and the detail of the first row. Note the location of the bent bracket.

### 11.1 - Mid-Aisle Handrail Detail

#### Typical Attachment Detail



#### Non-Ele Row 1 Detail (If Required - Non-Ele Units Only)



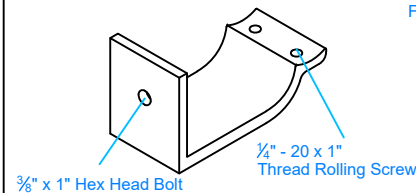
## END AISLE RAILS (If Required)

**Note:** If your bleacher does not have an end aisle, disregard this section. If it does, you will need to install the guardrail system prior to this step. Refer back to this section when necessary.

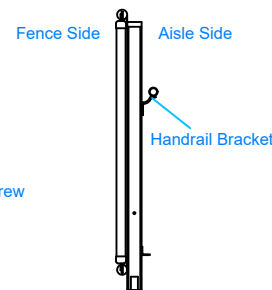
- 1.) Attach handrail brackets to side supports with (1)  $\frac{3}{8}$ " x 1" Hex Head bolt.
- 2.) Depending upon the length of your handrail, it may require sleeves. Use a 4" Schedule 40 Seam Sleeve with (2) #10 x  $\frac{3}{4}$ " Tek Screws to combine lengths of handrail as required by the BOM. All Tek's should be in alignment.
- 3.) Align handrail on brackets. Any hardware for sleeving should be rotated to point downward.
- 4.) Mark and drill  $\frac{3}{16}$ " in handrail where it attaches to the brackets & install with (2)  $\frac{1}{4}$ " - 20 x 1" Hex Head Thread Rolling Screws.

### 11.2 - End Aisle Handrail Detail

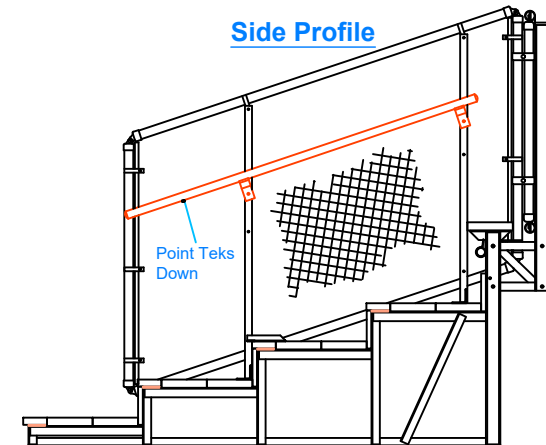
#### Bracket Detail



#### Front Profile



#### Side Profile



#### IMPORTANT!

You will need to install the complete guardrail system before installing end aisle handrails. It will be easier to install the fence before handrails and end aisle handrails require the side guardrail supports to be installed.

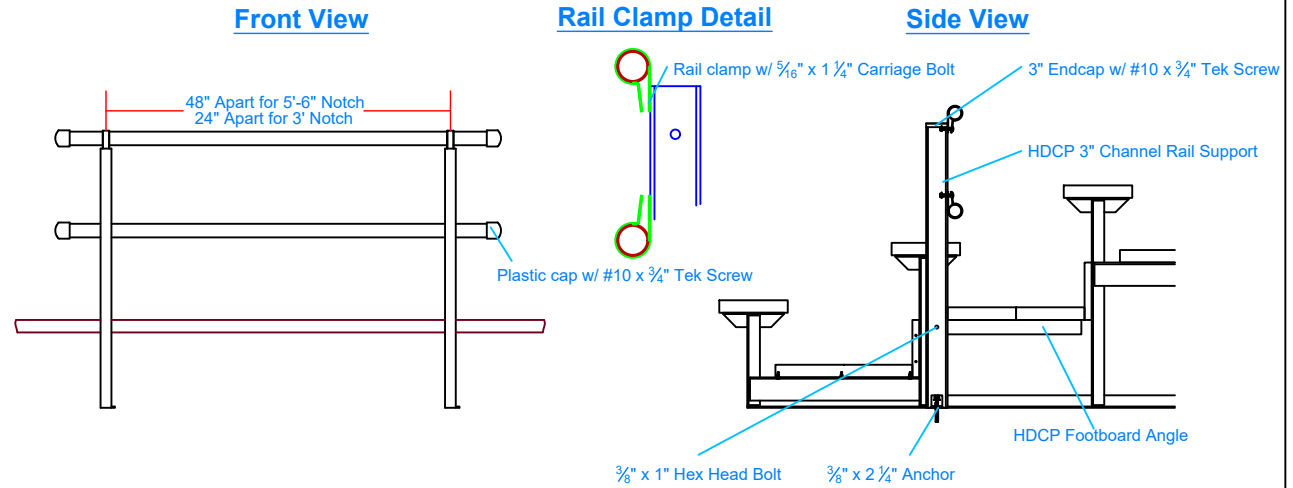
## NON-ELE HDCP NOTCH (If Applicable)

- 1.) Attach HDCP footboard angle to vertical 3" HDCP rail support w/ (1)  $\frac{3}{8}$ " x 1" Hex Head Bolts.
- 2.) Position HDCP rail support assembly into notch as shown 48" apart for 5'-6" notches or 24" apart for 3' notches.
- 3.) Bolt clip the HDCP footboard angle to 2nd row footboards per Figure 12.1.
- 4.) Use a level to ensure rail supports are level before anchoring the lower clip of the 3" channel to the ground.

NOTE: Some units use a diagonal brace instead of anchorage.

- 5.) Install rails to channels with rail clamps &  $\frac{5}{16}$ " x 1  $\frac{1}{4}$ " carriage bolts.
- 6.) Attach the plastic pipe caps and a 3" endcap as shown with #10 x  $\frac{3}{4}$ " Tek Screws.

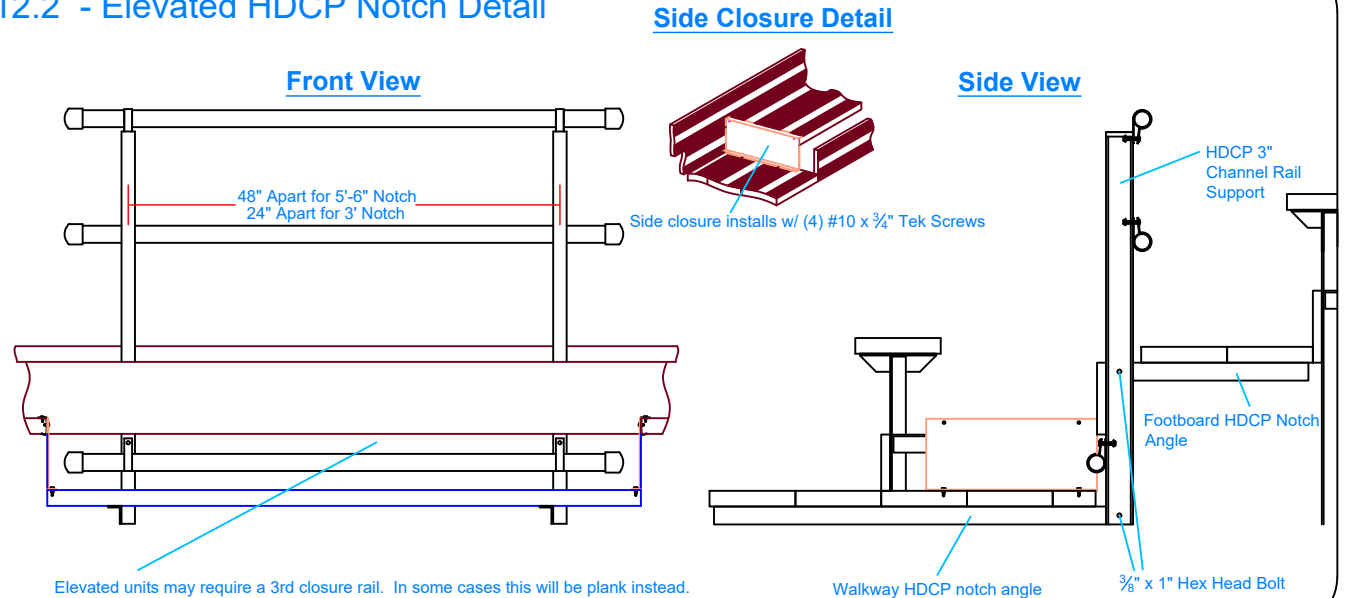
### 12.1 - Non-Elevated HDCP Notch Detail



## ELE HDCP NOTCH (If Applicable)

- 1.) Mount HDCP walkway angle to walkway planks per Diagram 12.2 with bolt clips. Distance apart will be 48" for 5'-6" notches or 24" for 3' notches.
- 2.) Attach HDCP footboard angles to HDCP 3" rail support channel w/  $\frac{3}{8}$ " x 1" Hex Head bolts and mount into notch as shown in Figure 12.2.
- 3.) Use level to ensure rail support is level.
- 4.) Mount HDCP planks. Typically these are (2) 2x10P & (1) 2x5S at the same width as the notch. Refer to your BOM or separately attached drawing for special situations.
- 5.) Tek screw side closure plate (1x8 x 19  $\frac{1}{16}$ " bent plate) to each side.
- 6.) Install HDCP rails with rail clamps and endcaps with tek screws as referenced in Detail 12.1.

### 12.2 - Elevated HDCP Notch Detail



# GUARDRAIL SUPPORTS (For Chain Link Fence Systems)

Not all bleachers require guardrail systems. Refer to the BOM and ordered unit to determine if this section is applicable.

Guardrail systems are supported by 3" channels located around your bleacher with the 1 1/2" side even with edge of bleacher.

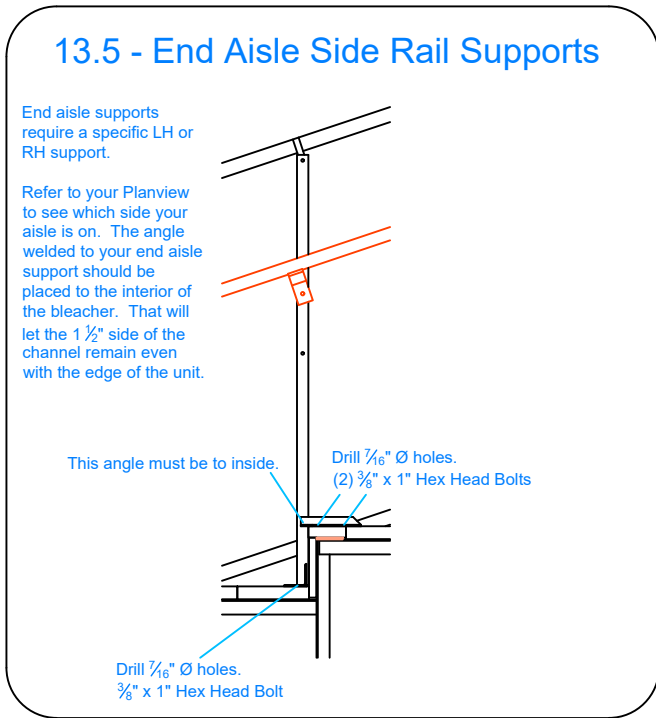
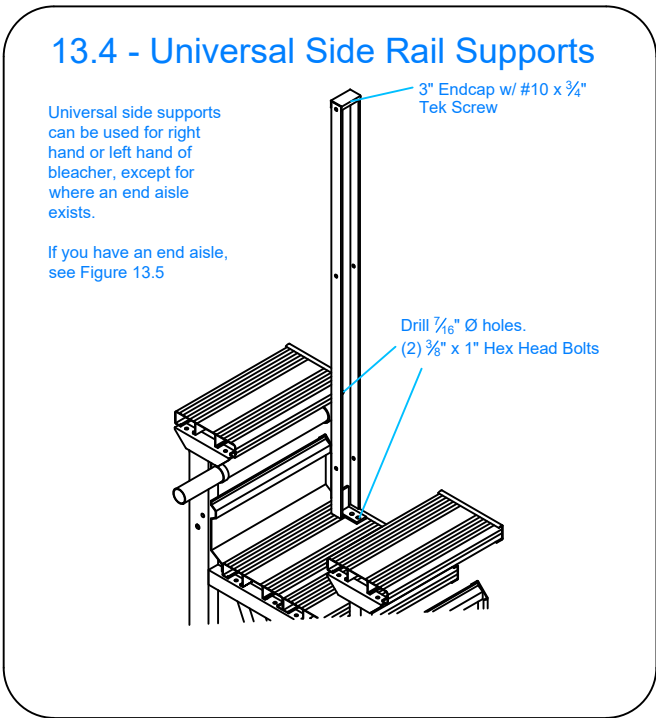
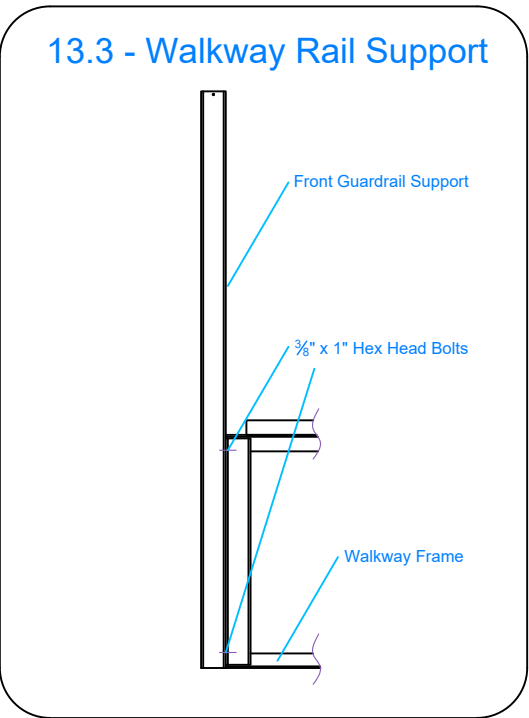
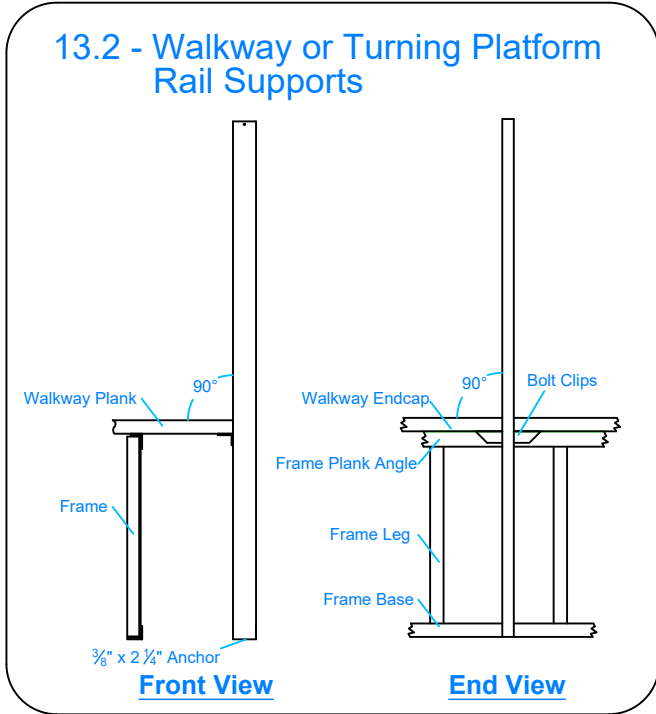
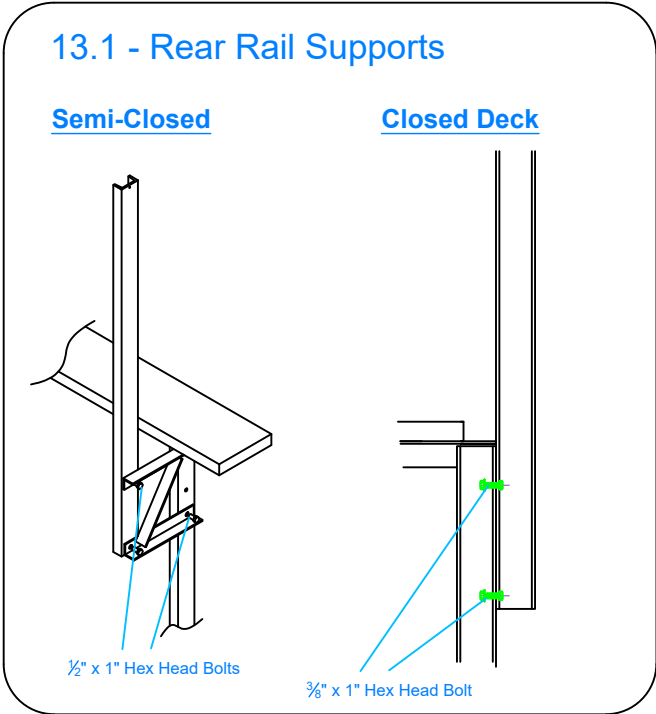
**Rear Rail Supports** - Attach rear rails per Figure 13.1

**End Walkway Supports** - See Figure 13.2

**Front Walkway Supports** - See Figure 13.3

**Side Rail Supports** - See Figure 13.4 (except end aisles)  
See Figure 13.5 for aisle supports.

Note: All supports will be capped by a 3" Endcap using (1) #10 x 3/4" Tek Screw. See Figure 13.4 for general detail.



# RAIL SUPPORT NOTCHOUTS (When Necessary)

At times, especially on closed deck bleachers and potentially on retrofits, there may be situations that the vertical uprights of a channel for a rail support interferes with the plank.

To resolve these situations, you should notch out the plank around the upright.

- 1.) Verify fitment of components by laying out above bleacher to get general idea of where supports will be located.
- 2.) Mark each side of the channel to locate cut width & mark rear of channel to denote cut depth.

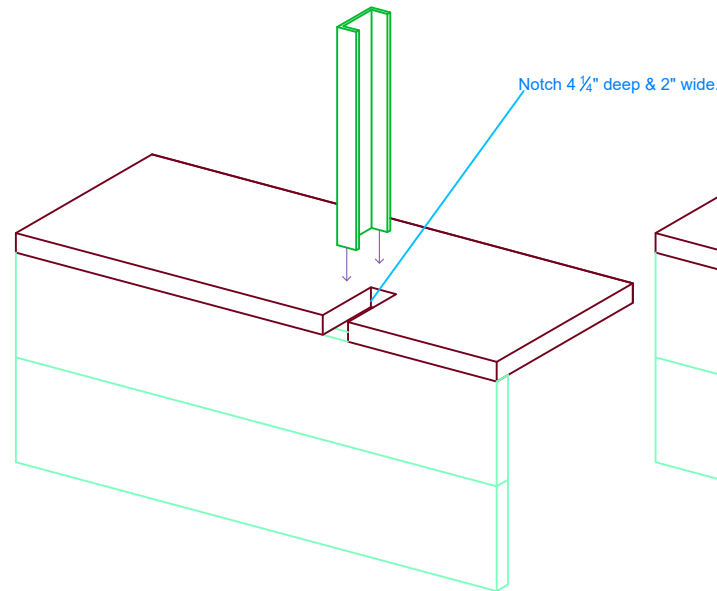
NOTE: Typically, the channel sits behind the riser. This results in the cut requiring 3" of depth for the channel plus an additional 1" of depth for the riser.

- 3.) Insert the channel into the notchout to continue with installation as required.
- 4.) To aid in closing off the gaps, L-Caps may be included. Use a 4" L-Cap to close off the front and a 2" L-Cap to close off the side. Each L-Cap will install with #10 x  $\frac{3}{4}$ " Tek Screws.

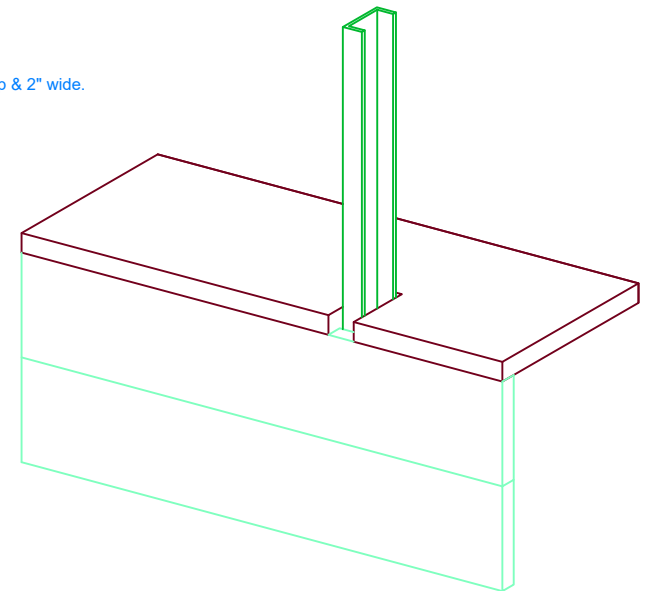
NOTE: In the event of a retrofit, such alterations may not be assumed required until on site. L-Caps may not have been provided in these situations and may be ordered later.

## 13B.1 - Closed Deck Rail Support & Alteration Notchouts

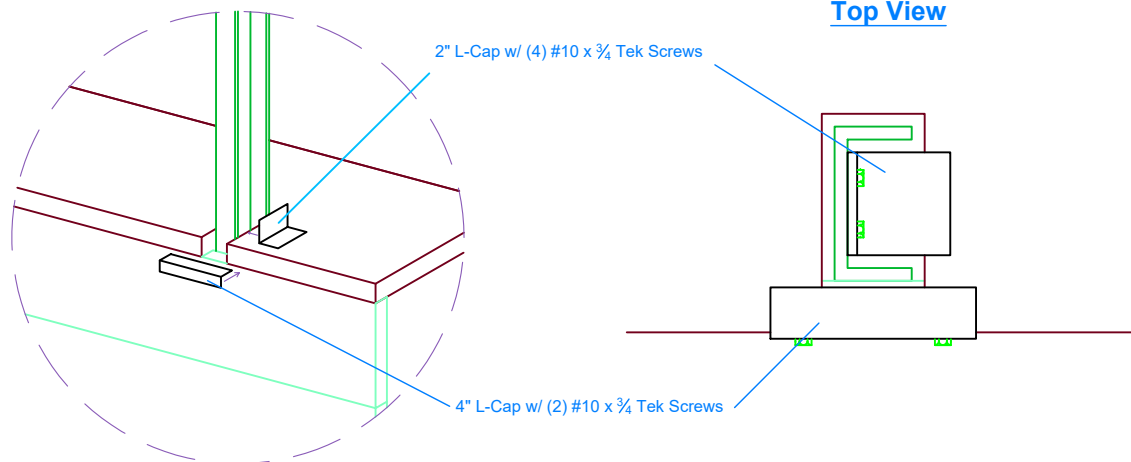
### Support Removed



### Support Inserted



## 13B.2 - Rail Support Notch Out L-Cap





# RAIL SYSTEM (If Required)

**NOTE** - If your unit has a set of steps and/or ramp, place those on the unit first.

1.) Determine lengths of rails required for different areas using the provided Rail Lengths on the separate instruction sheet. Lengths longer than 22' will require sleeving per Figure 14.1.

2.) Rails will attach to 3" rail supports using rail clamps. Determine how many rail clamps are required for each section of pipe and slide that number over the rail. If you attempt to install the clamps to the supports first, they may squeeze down and be too tight.

3.) Attach rails to the rail supports with the rail clamps using  $\frac{5}{16}$ " x  $1\frac{1}{4}$ " Carriage bolts. Note the orientation of the clamps in Figure 14.3. Upper rail clamp is up and lower clamp is down.

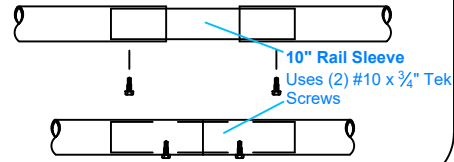
4.) Install rail ends to ends of horizontal and diagonal rails to connect vertical lengths of pipe. Refer to Detail 14.4 for Rail End details at corners.

5.) Align lengths of rails and verticals to allow corners to be panel clamped. See Figure 14.3 for corner connection details.

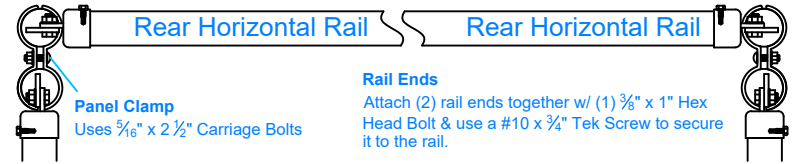
**NOTE:** Trimming rails with a circular saw may be required, but do not cut until satisfied with alignment.

6.) Tighten all hardware and attach 3" endcaps to all support posts w/ (1) #10 x  $\frac{3}{4}$ " Tek Screw.

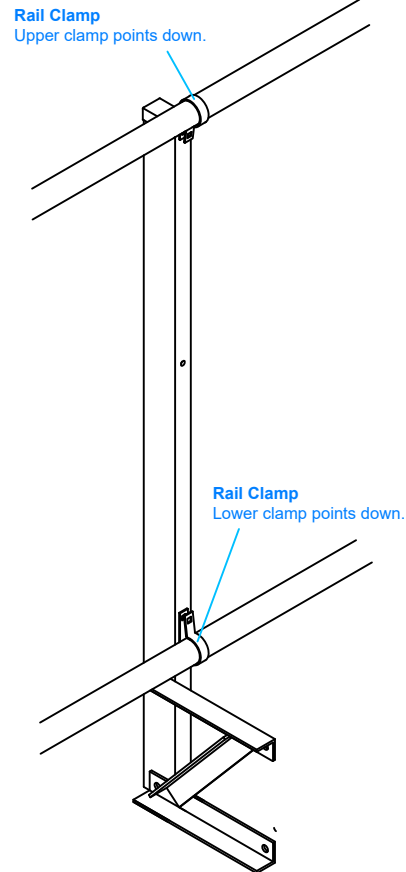
## 14.1 - Sleeve Detail



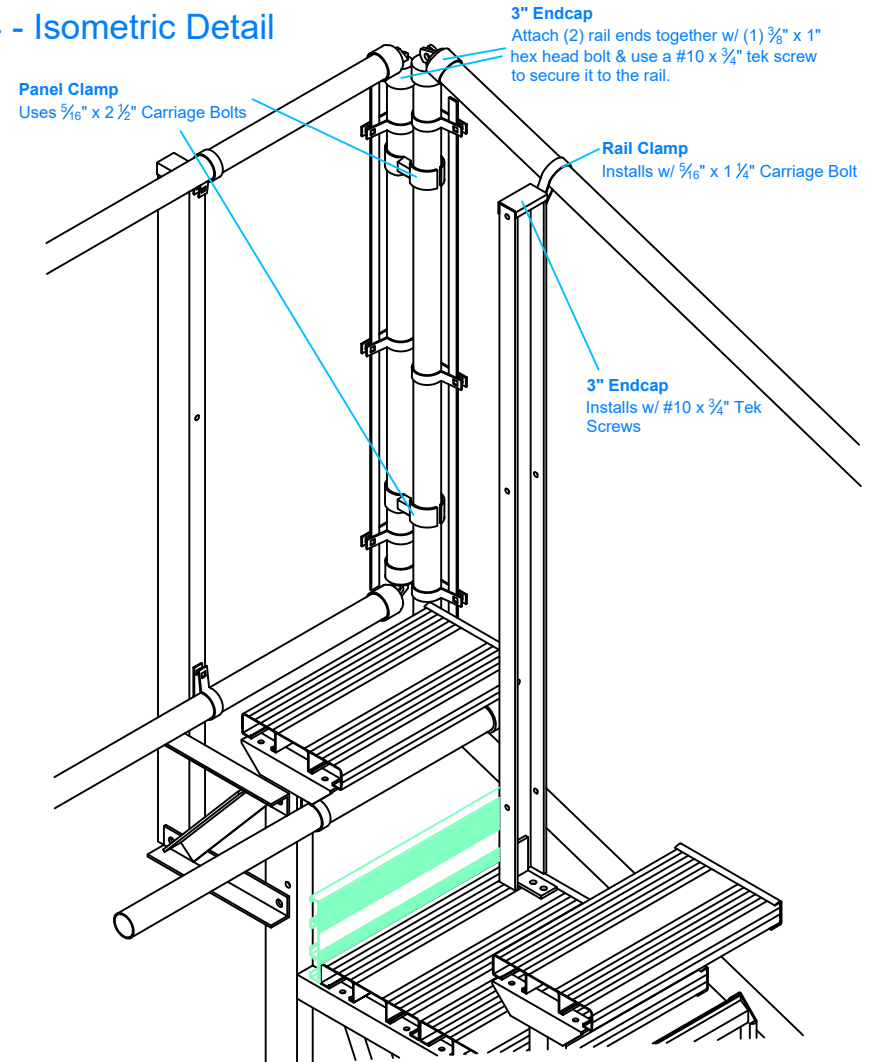
## 14.2 - Rail Corner Connections Detail



## 14.3 - Clamp Direction



## 14.4 - Isometric Detail



# CHAIN LINK FENCE (If Required)

## 15.1 - Hang Fence Fabric Between Guardrail Pipe

Check the BOM to verify what was sent for your unit.

- 36" Fence - Walkways/Ramps
- 42" Fence - Rear Fence
- 48" Fence - Sides

Note: Special situations may result in variations from typical. See BOM.

Fencing comes in 50' rolls. You may need to combine fence lengths by removing a section of wire and weave it back in bringing two sections of chain link fence fabric together.

- 1.) Hang fence loosely on top rail by installing a few 10 1/2" wire ties along the top rail.
- 2.) Slide tension bar down through one end of the fence fabric by weaving it through and then attach the tension bar to the vertical rail using rail clamps with 5/16" x 1 1/4" Carriage bolts.

**IMPORTANT!** The rounded head of the carriage bolt should be on the spectator side.

Note: 36" fence takes (2) rail clamps per tension bar. 42" & 48" fence use (3) rail clamps.

- 3.) Stretch the fence as tight as possible & install wire ties every 18" along the horizontal rails.

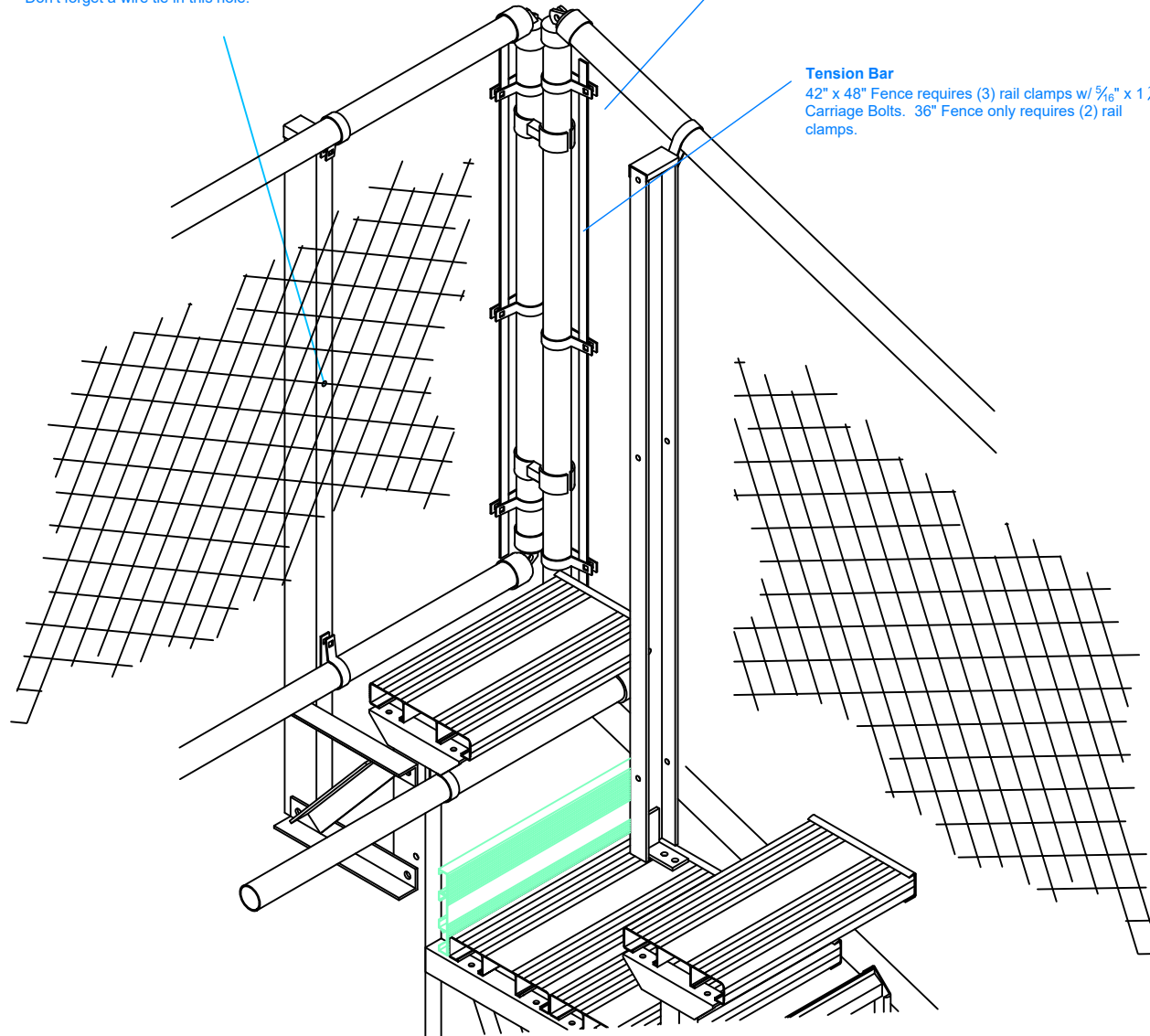
**NOTE:** Don't forget a wire tie in the center rail support hole.

- 4.) Repeat tension bar process on opposite end trimming off excess fence.

**IMPORTANT!!!**  
Don't forget a wire tie in this hole.

**Fence Biasing!**  
Side fencing will require "biasing" as fence is rectangular and side guardrails form a trapezoidal shape. Trim off excess fence to form shape required.

**Tension Bar**  
42" x 48" Fence requires (3) rail clamps w/ 5/16" x 1 1/4" Carriage Bolts. 36" Fence only requires (2) rail clamps.



Make sure to bend all wire ties away from spectator areas.

Do not forget to install the central wire tie on each rail support. This will keep the fence more rigid and is required for structural strength compliance.



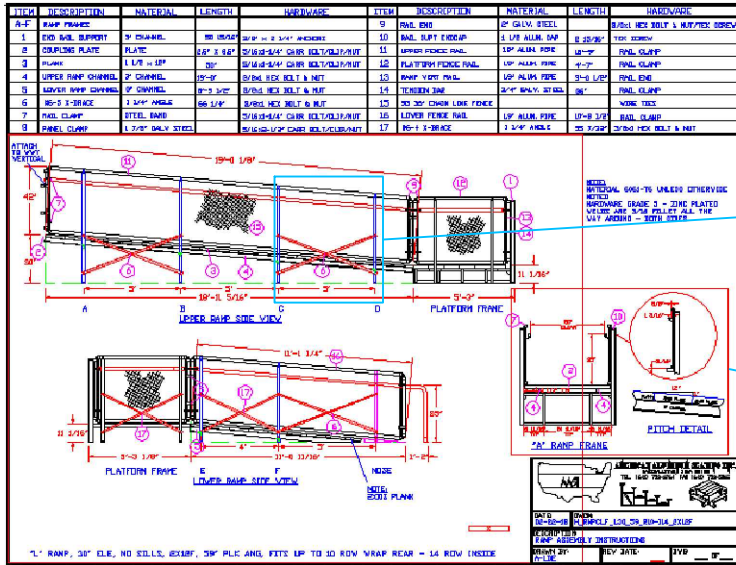
# RAMP INSTRUCTIONS

## Understanding Drawings

Not all bleachers include ramps. If your bleacher does, you will see it on the Planview and be provided with additional parts in your BOM. Ramps can come in a variety of configurations, but the general ramp instruction pages tend to be similar.

If your layout differs from a straight ramp, you may also have a top view with handrail lengths layout provided.

### 16.1 - X-Brace Schematic Page



#### Parts

Ramp instructions include a general overview of the components specific to the ramp.

#### Frames

Ramp frames are labeled with letters. Each frame is slightly shorter as the ramp descends. Some ramp frames bolt together if a 'U' ramp is used to share a central rail support. Ramp frames also X-Brace together in a similar manner as discussed on Page 6 and schematics 6.2.

#### Cross Section

Spanning across the ramp frames are 3" channels. Note them in this drawing as item (4). Your ramp plank will rest on top of those long 3" ramp channels.

## RAMP INSTRUCTIONS (If Required)

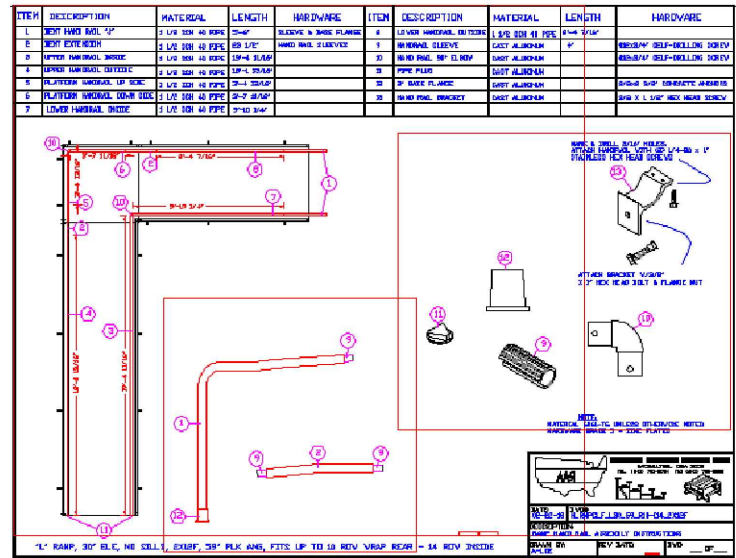
- 1.) Layout your ramp frames as described on the ramp instruction pages. Some ramps have platforms for turning or resting.

Turning platforms have a similar installation concept as the front walkway of the bleacher. Refer to Pages 4, 5, 6 as those concepts will apply here for ramp frames.

- 2.) Install the planks across the ramp channels or resting platforms using bolt clips. You may also have included 1 1/2" x 2" L-Angle to Tek Screw down the outsides of the plank.

- 3.) Install guardrail system for ramp. Guardrails on ramps are very similar to installation for bleacher guardrail. See Page 14 & 15 for guardrail and fence installation details.

- 4.) Install ramp handrail. You will have additional connections compared to those already covered in this bleacher instruction packet; however, the general attachment to handrail brackets is referenced on Page 11 similar to End Aisle handrails.



## ADDITIONAL PAGES MAY FOLLOW

### Additional Details

Your bleacher will include additional pages beyond this instruction packet.

- Frame Layout & X-Brace Scheme
- Plank Layouts (If necessitated).
- Additional Detail Pages
- Full Bill of Material

These pages may not be numbered but may be referenced in this packet.

## PRODUCT CLEANING

### Bleacher Longevity

Your bleacher system is designed to be left outside all year round and withstand almost anything nature can throw at it. You may clean your bleacher using a mild non-abrasive soap with a sponge or soft brush before rinsing with a garden hose.

## ANNUAL MAINTENANCE

### Bleacher Safety

Your hardware uses serrated flange nuts designed to dissuade backing out. However, it's recommended to check the bolts and nuts are still tight once a year.

If you find a component has been damaged due to excessive abuse, contact your sales representative immediately. Endcaps and various other components can be ordered from American Aluminum Seating, Inc. to repair your unit back to a safe condition.



AMERICAN ALUMINUM SEATING INC.  
[www.bleacherseating.com](http://www.bleacherseating.com)

PO. Box 1468  
Marshalltown, IA 50208



FOR INSTALLATION QUESTIONS

(641) 753-3764  
[sales@bleacherseating.com](mailto:sales@bleacherseating.com)