

BoardWalk RAMP: Installation and Assembly Instructions



The BoardWalk RAMP Platform and Handrail System will accommodate curbs 3" - 12" high.

Adhering to ADA guidelines of 1:12 rise ratio:

- The system shown in the above photo has 5 1' wide RAMP Sections to accommodate a curb about 5" high.
- Curb heights 6" - 12" require additional RAMP sections and longer Handrail Pipes for the RAMP.

All parts are packed on 1 skid, weighing about 525 lbs.

Labor: BoardWalk RAMP and Platform can be assembled by 2 people. We suggest using 3-4 people to move the platform into position adjacent to the curb, if lifting equipment is not available.

Tools: Tools are NOT provided, but are required to assemble RAMP and Platform.

- Level or Cell phone level application
- 5/16" Hex Key
- 3/16" Hex Key
- 9/16" & 7/16" Socket/Ratchet tools
- #3 Phillips Bit on a power drill driver

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BoardWalk RAMP and Platform: Examples of Configurations



BoardWalk RAMP - Uni-Directional Platform 1 - No Handrails - Left Turning from curb.



BoardWalk RAMP only.



BoardWalk RAMP - Bi-Directional Platform 2 - Handrails - Left Turning from curb.



BoardWalk RAMP - Bi-Directional Platform 2 - Handrails - Right Turning from curb.

BoardWalk RAMP and Platform

RAMP HEIGHT SPECIFICATIONS

To achieve the correct ramp slope of a 1:12 ratio:

The number of modular ramp sections determines the slope of BoardWalk Ramp. The number of sections differs when using BoardWalk Ramp or BoardWalk Ramp and Platform. *The number of sections required is not the same for each.*

To determine the correct number of ramp sections for either BoardWalk Ramp or Ramp and Platform:

Which orientation of ramp do you require?



Perpendicular to Curb



Parallel to Curb

What is the height of the curb at the ramp installation site?

With those questions answered, use the chart below to determine the number of sections required per ramp orientation.

Example:

If you need a ramp perpendicular to the curb, and the curb height at installation is 6", you need a Boardwalk Ramp of 8 modular sections.

Example:

If you need a ramp parallel to the curb, and the curb height is 6", you need a BoardWalk Ramp of 5 modular sections and a BoardWalk Platform



To maintain a 12:1 ratio, how many ramps sections are needed?

Curb Height (In.)	Ramp Sections Needed if Ramp is...	
	Perpendicular to Curb	Parallel to Curb
1	3	N/A
2	4	3
3	5	3
4	6	3
5	7	4
6	8	5
7	9	6
8	10**	7
9	11**	8
10	12**	9
11	13**	10**
12	14**	11**
13	15**	12**

** Midway supports required for Ramps longer than 9 sections.

BoardWalk RAMP

TEMPORARY PEDESTRIAN MODULAR RAMP

Assembly Instructions



1. To assemble 1 Modular Section: Attach 2 each Edge Castings (one left, one right) to 2 each boards.

Each Modular Section consists of:

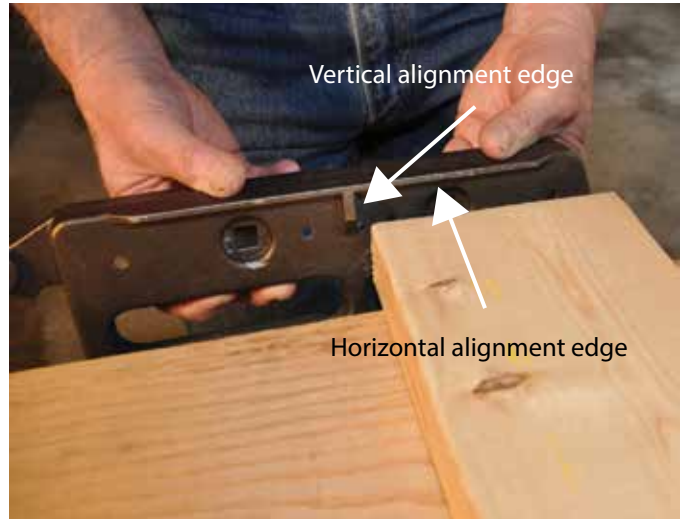
- 2 each Edge Castings (left/right).
- 2 painted boards
- 8 each deck screws, #10 x 3 1/8", 4 per side.

Lumber: Use premium 2" x 6" spf lumber. Paint boards before assembly. Paint should include a slip-resistant additive.

Tools: Drill/driver with T-25 Torx bit to attach castings to lumber. A T-25 Torx bit is included in the hardware kit.



2. Boards must be cut with straight ends, and to a consistent 48" length.



3. Lay the boards, painted side down, on the surface of a work table. Boards should hang over the edge of the table by 1". To begin assembly, start with either left or right casting. (Left casting is shown above.) Like the board, hold the casting upside down also. Position the casting against the vertical and horizontal board alignment edges in the casting, as shown above.



4. Drive 2 deck screws through the countersunk holes and into the end of each board.

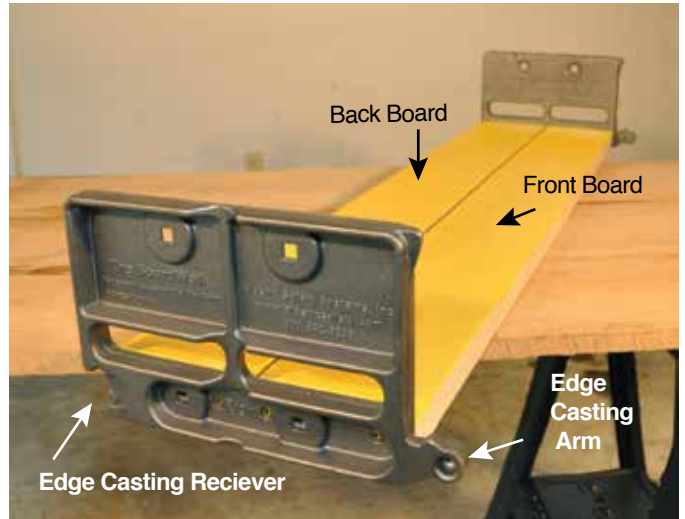
BoardWalk RAMP

TEMPORARY PEDESTRIAN MODULAR RAMP

Assembly Instructions



5. To add second board to a casting: repeat Steps 3-4.



7. Shown: assembled Modular Section. Edge Casting Arm protrudes past front board.



6. Repeat Steps 3-4 for all Modular Sections.

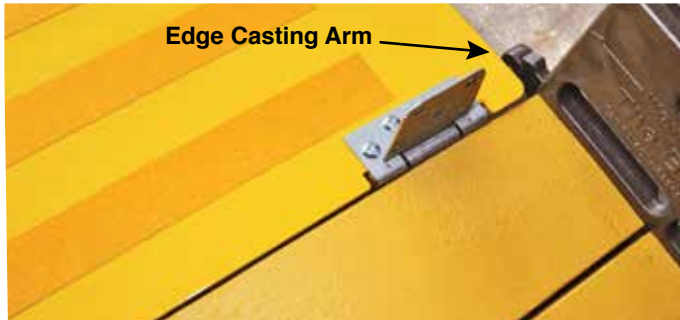


8. Attach hinges to Approach Plates. Align short side of galvanized T-Hinge to top surface of Approach Plate. Attach all T-Hinges to Approach Plates with 1/4"- 20 x 3/4" UNC Pan Head bolt. (T-Hinges, bolts, nuts, washers included in Approach Plate hardware kit.)

BoardWalk RAMP

TEMPORARY PEDESTRIAN MODULAR RAMP

Assembly Instructions



9. The design of BoardWalk RAMP includes 2 each Approach Plates, which are attached to both ends of the RAMP.

Tools: Drill/driver with T-27 Torx bit, to attach T-Hinges to Modular Sections. A T-27 Torx bit is included in the hardware kit.

To attach Approach Plates, first select 2 each Modular Sections.

Align 1 each Approach Plate to the FRONT board of 1 each Modular Section, where Edge Casting Arms protrude. See Item 7, previous page. Press hinge knuckle up against the face of the front board, as shown above.



10. Attach the 3 T-Hinges to the front board of 1 each Modular Section. Use #12 x 1" Pan Head wood screws, 5 screws per hinge. (Screws included in hardware kit.)

This is now the Top Approach Plate/Modular Section Assembly.



11. Then attach 1 each Approach Plate to another Modular Section. This time, attach plate to the back board of the section, away from Edge Casting Arms. Follow steps above.

This is now the Bottom Approach Plate/Modular Section Assembly.



Modular sections connect for Ramp length needed.



12. To assemble BoardWalk RAMP: No tools are required to attach sections to create a RAMP. However, RAMP assembly is usually a two person task.

Follow all temporary traffic control plans for sidewalk construction to better protect workers and pedestrians.

Spot the Top Approach Plate/Modular Section Assembly at the designated installation site, on the sidewalk, at the curb. Spot the Bottom Approach Plate/Modular Section Assembly in the street, about where the RAMP ends. Spot remaining sections in between.

Attach Modular Sections in sequence, from the curb to the street. Lift each section, and insert Edge Casting Arms into Edge Casting Receivers, on both left and right sides.

Attach Bottom Approach Plate/Modular Section Assembly last, to complete the assembly. Measure the slope of the RAMP. Do not exceed maximum 8° slope.

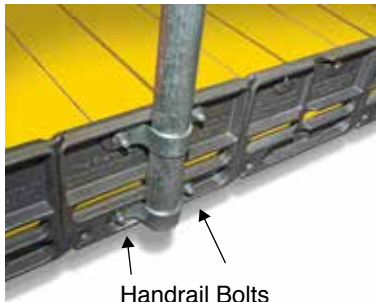


BoardWalk RAMP

WITH HANDRAILS

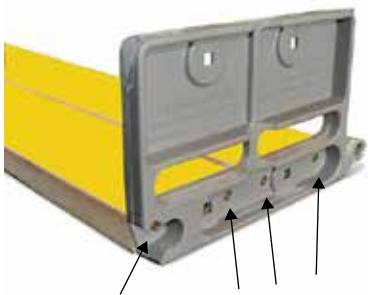
To add Handrails to BoardWalk RAMP:

Prior to RAMP Section assembly:



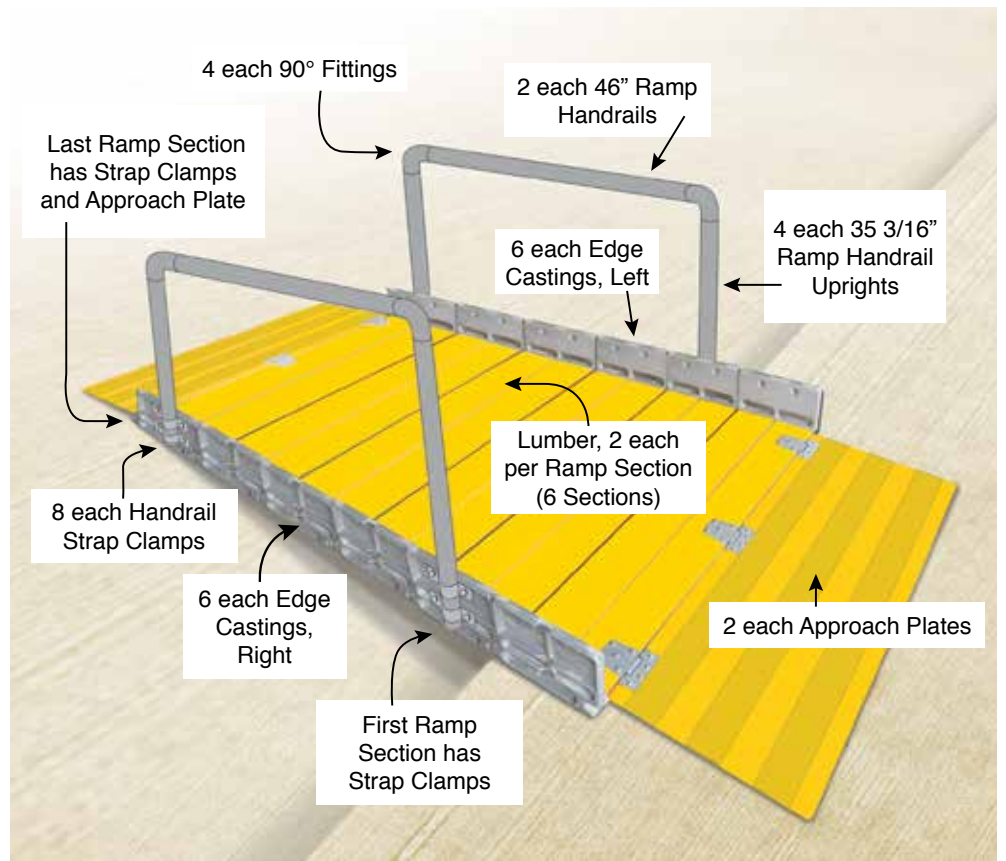
Handrail Bolts

1. Place handrail bolts on inside of Edge Castings (bottom 2 holes only) where the uprights will be attached.



Use #10 x 3 1/8" Deck Screw here

Use #12 x 5 5/8" Deck Screw here



4 each 90° Fittings

2 each 46" Ramp Handrails

Last Ramp Section has Strap Clamps and Approach Plate

6 each Edge Castings, Left

4 each 35 3/16" Ramp Handrail Uprights

Lumber, 2 each per Ramp Section (6 Sections)

8 each Handrail Strap Clamps

6 each Edge Castings, Right

2 each Approach Plates

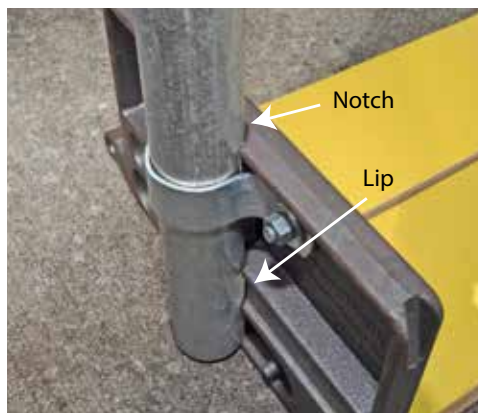
First Ramp Section has Strap Clamps

2. Attach wood boards to castings: Use 3 each #12 x 5 5/8" deck screws to attach strap clamps. First, drill pilot holes in counter-sunk holes, as shown above. Use 1 each #10 x 3 1/8" deck screw in the remaining hole, also shown above.

3. Assemble Boardwalk RAMP sections. See pages 4-6.

4. Attach handrail uprights after RAMP is assembled. Insert handrail uprights to selected RAMP section edge castings. Upright should rest on bottom lip of casting, and nest in the notch at the top of the casting.

5. Secure handrail uprights to castings with strap clamps.

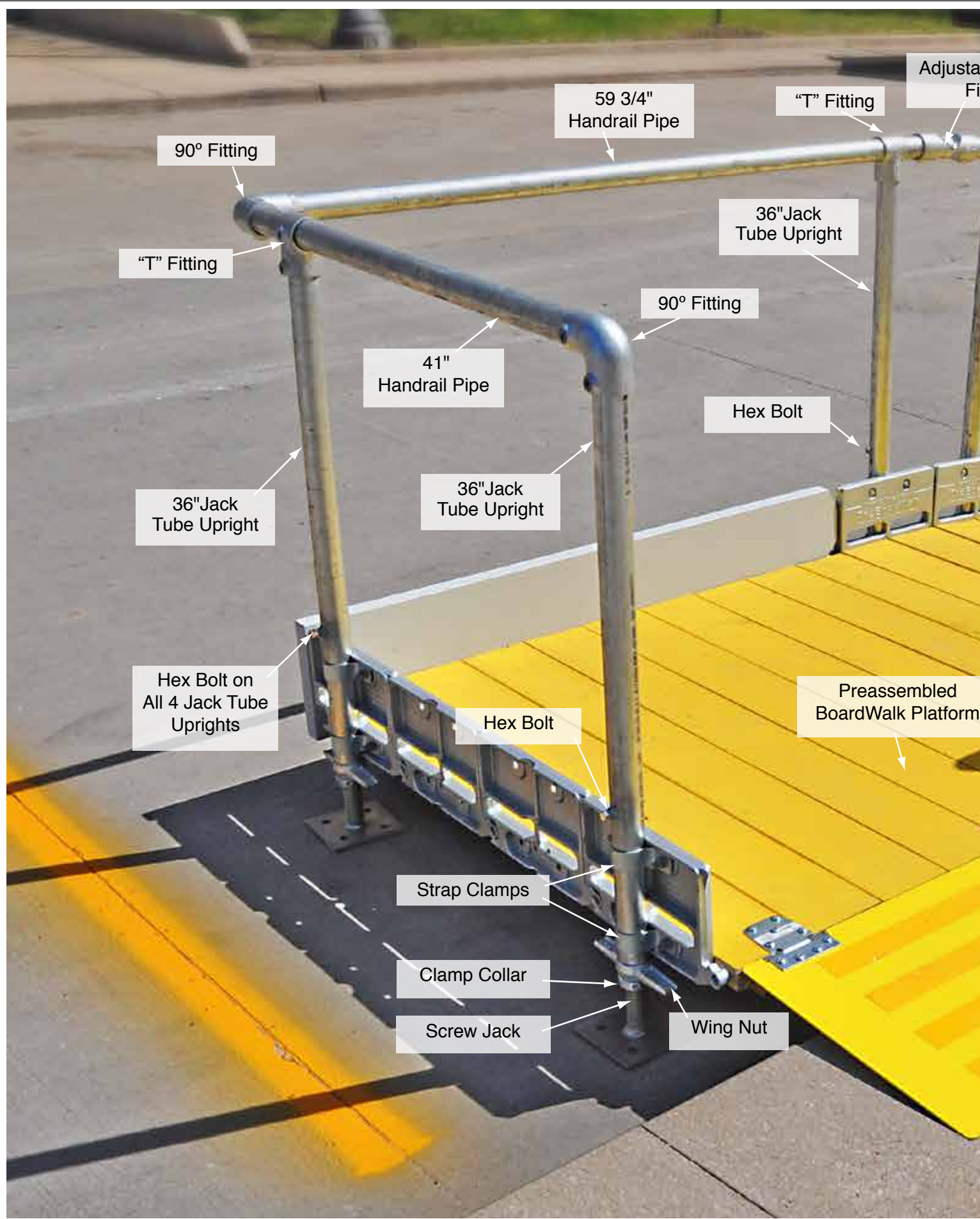


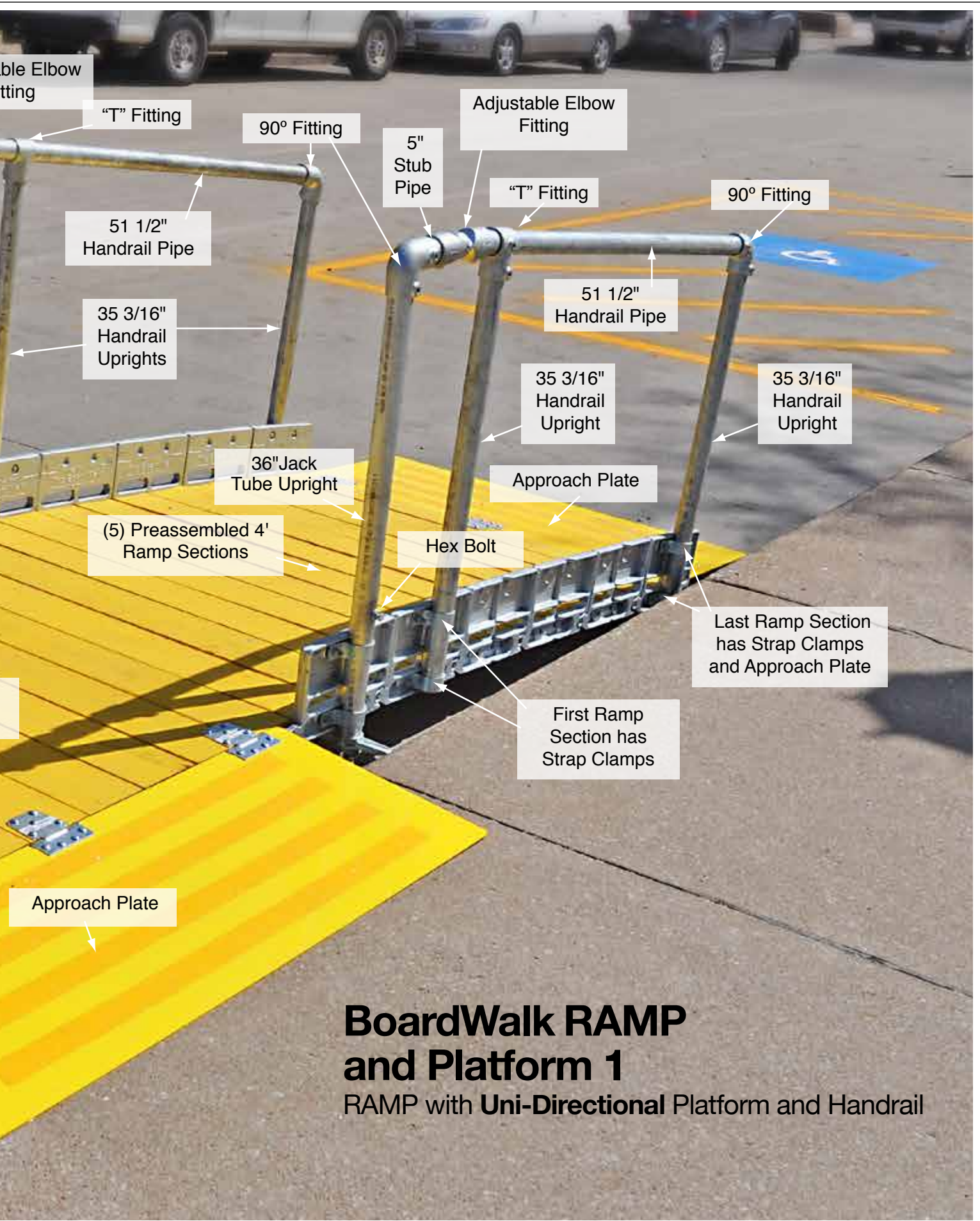
Notch

Lip



6. Attach handrails to handrail uprights with 90 degree fittings. Tighten set screws. Make sure all set screws are either facing away or down toward the RAMP.





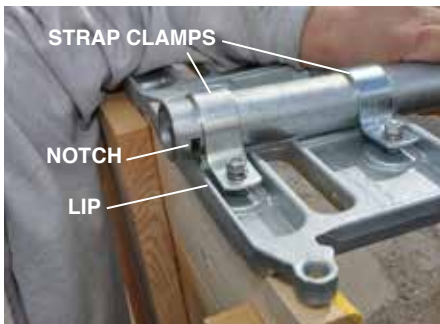
BoardWalk RAMP and Platform 1

RAMP with **Uni-Directional** Platform and Handrail

BoardWalk RAMP and Platform 1

RAMP with Uni-Directional Platform and Handrail

Installation and Assembly Instructions



1. Loosen the strap clamps on the 4 corner BoardWalk Edge Castings of the Platform. Attach the Jack Tube Handrail Uprights (36" with Hex Nut) making sure to engage the notch in the tube with the bottom lip of the Edge Casting. Tighten the strap clamps to secure the Jack Tubes.



Shown above: Notch engaged in lip.



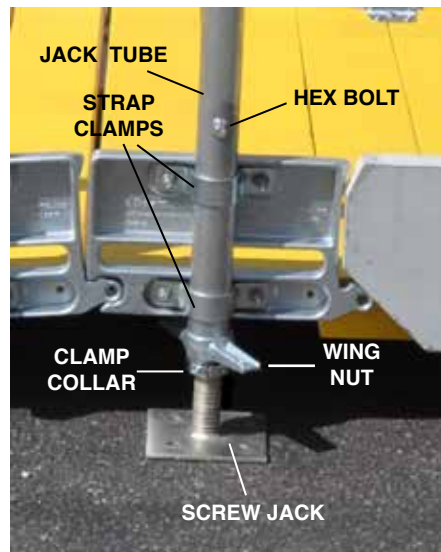
2. Insert the Screw Jacks into the Jack Tube Handrail Uprights. Place the Hex Bolts through the Hex Nuts on the Jack Tube Handrail Uprights and snug these Hex Bolts before moving the Platform.

Do NOT overtighten Hex Bolts.
Do NOT slide Platform on Screw Jacks.



3. Place Platform next to curb with the Approach Plate side parallel to curb. The Platform should rest 6"-10" away from curb. Exact distance may vary, depending on the crowning of the road, and drainage systems immediately adjacent to the curb.

4. Loosen all 4 Hex Bolts on Jack Tube Handrail Uprights. These Jack Tubes are also the Uprights for the Handrail.



5. Make sure the Hex Bolts are loose. Raise Platform by adjusting the Screw Jack Wing Nuts on each corner.

For ease of RAMP assembly, raise the Platform so that its walking surface is approximately 8" from the ground.



6. Attach the 3 Approach Plate Hinges to the Platform using the 1/4"-20 x 3 1/2" Phillips Pan-head Screws in pre-drilled holes. Fender Washers and Nylon Lock Nuts go on the bottom. If hinges are not attached to Approach Plate, see step 7 on page 5 and attach hinges to the Approach Plate.



7. Attach the first RAMP Section. The first and last RAMP Sections must have Strap Clamps attached for the RAMP Handrail Uprights.

8. Attach the middle RAMP Sections.



9. Attach the last RAMP Section. An Approach Plate is already attached to this section. This section must have Strap Clamps attached for the Handrail Uprights.

BoardWalk RAMP and Platform 1

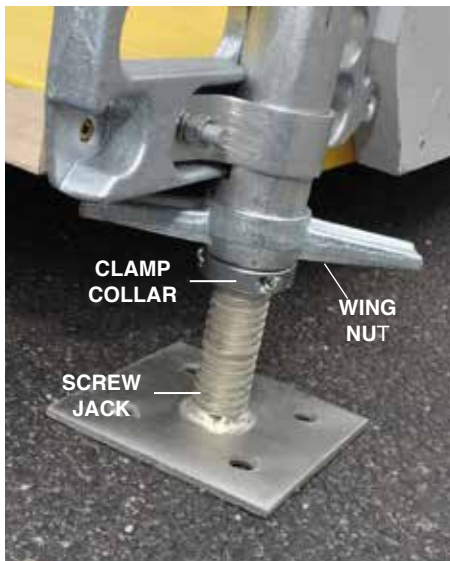
RAMP with **Uni-Directional** Platform and Handrail

Installation and Assembly Instruction

10. Lower the Platform so its walkway surface is level or slightly above the curb height. Ensure that the leading edge of the Approach Plate is flush with the sidewalk.



11. Level the Platform by adjusting the Screw Jack Wing Nuts as needed.



12. Attach a Clamp Collar to each Screw Jack. Position them at the bottom of the Screw Jack Wing Nuts so the Wing Nuts cannot spin lower. Tighten Clamp Collars.

13. Snug the 4 Hex Bolts on the Jack Tube Handrail Uprights. Do NOT overtighten.

See step 5 for location of Hex Bolts.



14. To attach the RAMP Handrail Uprights, first loosen the Strap Clamps. Then, insert RAMP Handrail Uprights until they bottom-out on the lip of the Edge Castings of the first and last RAMP Sections. Tighten the Strap Clamps.



15. Attach 5" Stub Pipe into 90° fitting on Approach Plate side of Platform. Insert pipe 1 1/2" into each fitting. For all fittings, position the fitting so that the set screws face away or down toward the Platform and RAMP. Tighten all set screws. See centerfold for placement of all pipe couplings on Platform and RAMP.



16. Attach Adjustable Elbow Fittings to other end of 5" Stub Pipe. Again, make sure all set screws on fittings are either facing away or down toward the Platform and RAMP. Tighten all set screws.

17. Attach 90° fitting to end of 51 1/2" Handrail Pipe.



18. Slide "T" fitting on 51 1/2" Handrail Pipe.

19. Insert 51 1/2" Handrail Pipe into exposed end of Adjustable Elbow. Rotate Handrail down to engage the "T" & 90° fitting onto Uprights.

20. Repeat on opposite side, attaching the Adjustable Elbow to the 59 3/4" Handrail Pipe.

21. Tighten all Pipe fitting Set Screws.

Caution: When moving the BoardWalk Platform, applying excessive force to the Handrail Uprights can loosen the casting screws. If this occurs, re-tighten the screws.

Do not slide Platform on Jacks.

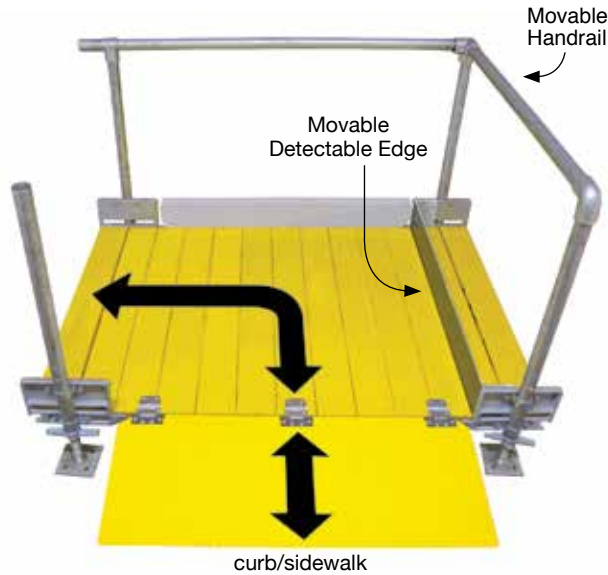


BoardWalk RAMP and Platform 2

RAMP with **Bi-Directional** Platform and Handrail

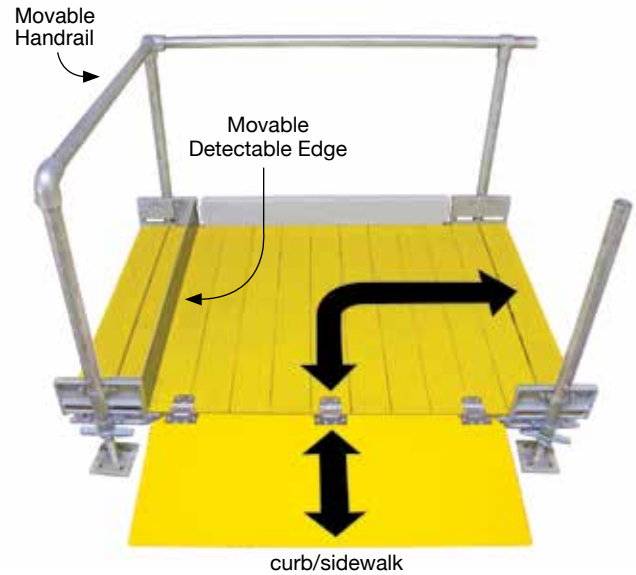
Installation and Assembly Instructions

From left to right in two quick changes!



Left Turning Platform:

For a temporary pedestrian pathway that turns left from the curb, the Movable Detectable Edge is attached to the edge support castings on the right. Pedestrians are safely guided to turn left.



Right Turning Platform:

To guide pedestrians to make a right turn, simply attach the Movable Detectable Edge to the left side. Do the same with the horizontal handrail, and it's done!



BoardWalk Platform 2, Bi-Directional, in foreground, with BoardWalk RAMP attached.

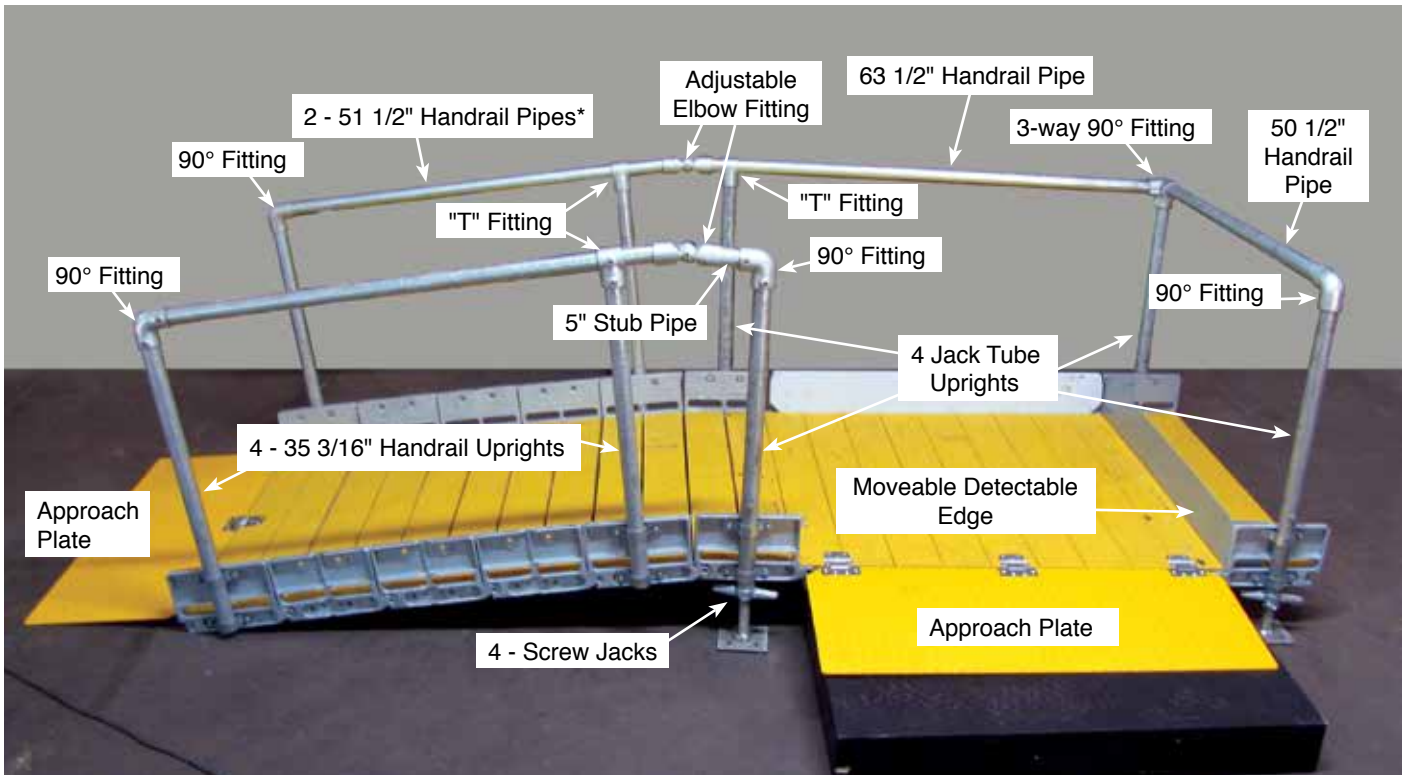
At 48" Wide x 60" Long, BoardWalk Platform is wheelchair friendly!

BoardWalk RAMP and Platform 2

RAMP with **Bi-Directional** Platform 2 and Handrail

Installation and Assembly Instructions

Instructions below show how to assemble a left-turning, Bi-Directional Platform 2. See page 12 for right-turning instructions.



Shown: BoardWalk RAMP with **Bi-Directional** Platform 2, turning left onto 5' RAMP.

*Length of Handrail Pipes will vary with the number of RAMP sections.

Follow the instructions on page 4 of this guide. Steps 1 thru 5 shows how to install the Screw Jacks, Jack Tubes and Strap Clamps. Make sure all set screws on fittings are either facing away or down toward the Platform and RAMP.



Shown: Boardwalk Platform 2, **Bi-Directional** with Moveable Detectable Edge and Fittings.



1. Install Screw Jacks and Jack Tube Uprights. See page 10, Steps 1-5 for instructions.



2. Install Movable Detectable Edge. Remove the outside Strap Clamp bolts on both sides of platform. Align Movable Detectable Edge with outside bolt holes. Reinstall bolts through Movable Detectable Edge. Tighten.



3. Install 51 1/2" Handrail on Jake Tube Uprights above Movable Detectable Edge. Attach 90° Elbow Fitting, as shown. Attach 3-way, 90° Fitting, as shown. Attach Handrail to both Fittings.

4. Place "T" Fitting onto Jack Tube Upright. Slide 63 1/2" Handrail through "T" Fitting and into the 3-way, 90° Fitting. Attach Handrail to both Fittings.



Shown: 63 1/2" Handrail inserted into 3-Way 90° Fitting.

5. Attach 90° Elbow Fitting to remaining Jack Tube Upright. Insert 5" Handrail Pipe into Fitting. Tighten all Handrails and Set Screws. You are now ready to attach RAMP to Platform 2. Follow instructions on pages 10-11, Steps 7-21.

BoardWalk RAMP and Platforms 1 and 2 with Handrails

Parts List

Modular Sections to build BoardWalk RAMP (Pages 4-5):

Quantities per section.

- (1) Edge Casting - Left
- (1) Edge Casting - Right
- (8) wood screws #10 x 3 1/8"
- (2) 2" x 6" x 48" BoardWalk Lumber Painted Yellow with a slip-resistant additive

Approach Plates (Pages 5-6):

- (2) Yellow Approach Plates
- (6) zinc-plated hinges
- (1) hardware bag to attach hinges to Approach Plates
- (1) hardware bag to attach hinges to Platform
- (1) T-27 Torx Bit (for #12 wood screws connecting RAMP Approach Plate hinges to the bottom of the RAMP)
- (1) T-25 Torx Bit (for #10 x 3 1/8" wood screws connecting RAMP Edge Castings to BoardWalk Lumber)

Hardware Bag, to attach hinges to Approach Plates:

- (24) 1/4"-20 x 3/4"UNC Pan Head Bolts
- (24) 1/4"-20 Nylon Lock Nuts
- (24) 1/4" Fender Washers

Hardware Bag, to attach hinges to RAMP:

- (15) #12 x 1" Pan-Head Wood Screws

Hardware Bag, to attach hinges to Platform:

- (15) 1/4"-20 x 3 1/2" Phillips Pan-Head Screws
- (15) 1/4"-20 Nylon Lock Nuts
- (15) 1/4" Fender Washers

BoardWalk Uni-Directional Platform 1, Right or Left Turning (Pages 8-11):

- (1) BoardWalk Platform 1
- (4) 36" Jack Tube Handrail Uprights
- (4) 3/8"-16 x 1" Hex Bolts for Jack Tube Handrail Uprights
- (4) Screw Jacks with Wing Nuts
- (4) Clamp Collars
- (8) Strap Clamps
- (16) Galvanized Carriage Bolts 3/8"-16 x 1 1/4"
- (16) Galvanized Hex Nut 3/8"-16
- (16) Galvanized Split Lock Washers 3/8"

BoardWalk Bi-Directional Platform 2 (Pages 12-14):

- (1) BoardWalk Platform 2
- (1) Moveable Detectable Edge
- (4) 36" Jack Tube Handrail Uprights
- (4) 3/8"-16 x 1" Hex Bolts for Jack Tube Handrail Uprights
- (4) Screw Jacks with Wing Nuts
- (4) Clamp Collars
- (8) Strap Clamps
- (16) Galvanized Carriage Bolts 3/8"-16 x 1 1/4"
- (16) Galvanized Hex Nut 3/8"-16
- (16) Galvanized Split Lock Washers 3/8"

BoardWalk RAMP with Handrails (Page 7):

- See Modular Section in the left column
- See Approach Plates in the left column

Handrail Components:

- (4) 35 3/16" Ramp Handrail Uprights
- (2) 46" Ramp Handrails
- (4) 90° Elbow Fittings
- (8) Handrail Strap Clamps
- (1) Handrail hardware kit

Handrail Components for RAMP and Uni-Directional Platform 1 (Pages 8-11):

- (8) Strap Clamps for RAMP first and last sections
- (16) Galvanized Carriage Bolts 3/8"-16 x 1 1/4"
- (16) Galvanized Hex Nuts 3/8"-16
- (16) Galvanized Split Lock Washers 3/8"
- (4) 35 3/16" RAMP Handrail Uprights
- (2) 51 1/2" RAMP Handrail Pipes (for 5' RAMP)*
- (1) 59 3/4" Platform Handrail Pipe
- (1) 41" Platform Handrail Pipe
- (1) 5" Stub Handrail Pipe
- (5) 90° Elbow Fitting
- (4) T-Fittings
- (2) Adjustable Elbow Fittings

*Length of RAMP Handrail Pipes will vary with the number of RAMP sections.

Handrail Components for RAMP and Bi-Directional Platform 2 (Pages 12-14):

- (8) Strap Clamps for RAMP first and last sections
- (16) Galvanized Carriage Bolts 3/8"-16 x 1 1/4"
- (16) Galvanized Hex Nuts 3/8"-16
- (16) Galvanized Split Lock Washers 3/8"
- (4) 35 3/16" RAMP Handrail Uprights
- (2) 51 1/2" RAMP Handrail Pipes (for 5' RAMP)*
- (1) 63 1/2" Platform Handrail Pipe
- (1) 50 1/2" Platform Handrail Pipe
- (1) 5" Stub Handrail Pipe
- (4) 90° Elbow Fitting
- (1) 3-way 90° Fittings
- (3) T-Fitting
- (2) Adjustable Elbow Fittings

*Length of RAMP Handrail Pipes will vary with the number of RAMP sections.

Custom Training Improves Safety.



START Group and PSS, innovators in their respective fields, have united to provide custom training - training designed specifically to improve the safety of your employees.

Beginning with a training audit or needs assessment, we create practical training programs that support and enhance your safety and training requirements.



Results of our custom training will exceed your expectations. Our trainers, experts in their life's work, will teach your employees how to perform their jobs more safely and efficiently.

To discuss your training needs further, contact Glenda Bleau, PSS Roadway Safety Consultant, at 216-409-6842 or Glenda. Bleau@PSS-Innovations.com.

