



Free Garden Bridge Plans



Step 1 - Obtain Materials & Tools (All boards should be green treated or brown treated or cedar)

- (5) six-foot treated 1x8 boards
- (1) ten-foot treated 1x8 board
- (3) eight-foot treated 2x8's
- (1) six-foot treated 2x8
- (8) eight-foot treated 2x4's
- (16) 3.5 inch long 3/8 inch diameter lag bolts with nuts and lock washers
- (18) 3.5 inch long 3/8 inch diameter lag screws with washers
- (100) 2 inch galvanized deck screws or 6D galvanized box nails
- (75) 3 inch galvanized deck screws.

Tools: 3/8 inch drill, 3/8" & 5/32" drill bit, circular saw or power arm saw, ratchet and 9/16" socket, tape measure, carpenter's square, cordless screwdriver, hammer

Step 2 - Cut Pieces

1. Cut the six-foot 1x8 boards exactly in half so that each board is about 36 inches.
2. Cut the (1) ten-foot 1x8 board into (3) 36-inch pieces of the same length as of step 1.
3. Cut the six-foot 2x8 into (2) 36-inch pieces that are exactly the same length as the boards of steps 1&2.
4. From four of the 2x4's cut (4) 32 1/2 " pieces and (8) 31" pieces. You can do this efficiently by cutting two 31" pieces and one 32 1/2" piece out of each eight-foot 2x4.
5. Out of the remaining 2x4's cut (4) 44" pieces and (4) 40 1/2" pieces.

The (3) 8-foot 2x8's won't be cut unless there is slight variation in lengths.
You should now have:

- (13) 36" 1x8 boards
- (2) 36" 2x8 boards
- (3) 8-foot 2x8 boards
- (8) 31" 2x4 boards
- (4) 32 1/2" 2x4 boards
- (4) 44" boards
- (4) 40 1/2" boards

Step 3 - Build Bridge Frame

Attach the (2) 36-inch 2x8 pieces to the ends of the (3) 8-foot 2x8 pieces as shown in figure 1. Secure each 2x8 with two 2" deck screws on each end to make attaching the lag screws easier. Drill (18) 5/32" pilot holes and then use 3 lag screws and washers at each location as shown in figure 1 for a total of 18 lag screws and washers. You will need a 9/16 ratchet wrench to screw in the lag bolts. *Don't attach decking yet - it is much easier to do this as the very last step so you have access when attaching the guard rails.*



Figure 1

If you look close you will see that each 2x8 was secured with 2 deck screws at the top and bottom before drilling 3/16" pilot holes and inserting the 3/8" lag bolts and washers.

Step 4 - Cut Corners of 31" Pieces

Cut the corners off the (8) 31" pieces as shown in Figure 2 below.



Figure 2

Cut the corners off the 31" pieces as shown above. You can print out Figure 2a, cut it out, and use it as a marking guide.

Step 5 - Construct the Guard Rails

Lay out the pieces as shown in Figure 3 below. It is helpful to use the side of the bridge as a stop as shown in Figure 4. Fasten the 44" pieces to the 40 1/2" pieces first as shown below. Then attach the remaining pieces. Check for square in the 90-degree angles! Fasten with (3) 3" deck screws in each

location. To easily construct the other side guard rail, use the first guard rail as a template. When done with both sides, check to see that they are identical as shown in figure 5 below.

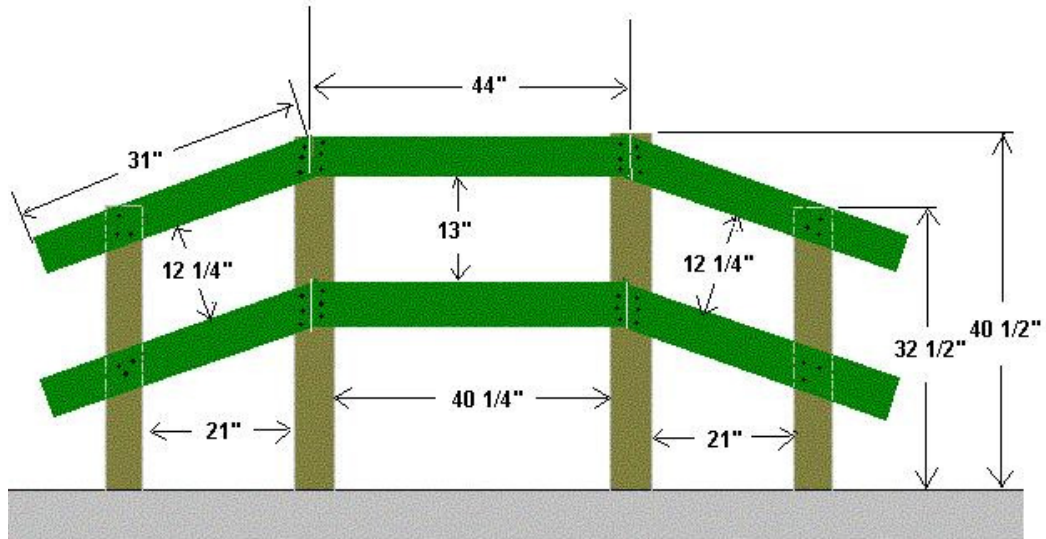


Figure 3
The two middle posts are 40 1/4 inches apart.



Figure 4
I used the frame as a stop for the bottoms of the guard rail.



Figure 5
The two guard rail assemblies should match when placed back to back.

Step 6 - Drill Holes for Carriage Bolts

Temporarily attach the sides with 2" deck screws to hold railings to frame as shown in Figures 6 & 7 below. Then drill 3/8" holes where you will attach the 3/8" carriage bolts (8 per side) with washer and nuts. When drilling holes, take care to avoid hitting lag bolts near ends - these will dull your bit in a hurry! Take the sides off by backing out the deck screws. **You will attach the railing at the site where the bridge will be. The completed bridge is too heavy and bulky to safely lift!**

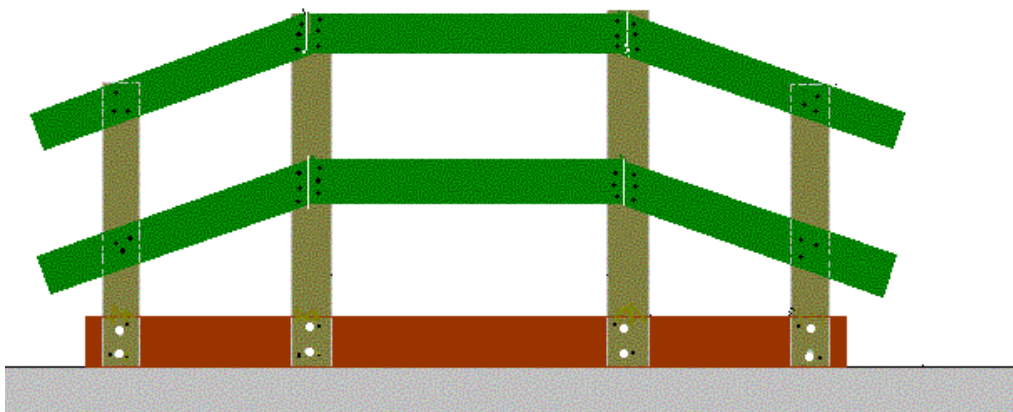


Figure 6



Figure 7

Step 7 - Position Bridge and Attach Sides

Take the bridge frame to the location it will be finally installed. **Make sure bridge is set on a solid foundation. Also, to avoid injury, two people should carry the bridge frame to its final location!** Pound in carriage bolts with a hammer. Then place washer and nut on each bolt and tighten. See Figure 8.



Figure 8

Step 8 - Attach Deck Boards

Place all decking and space properly. The decking should be spaced about $\frac{3}{8}$ inch apart. Secure decking with 2" inch screws if you have a cordless driver with #8 galvanized deck nails if you do not have a driver. Secure each board with 6 screws or nails with 2 nails or screw into each 2x8. If desired you can use 3 nails or screws in each location. **Do not use a corded AC power tool over the water!** See Figure 9.



Figure 9

Note that you will probably wish to place fill dirt and/or plugs of sod or grass up to the ends of the bridge to make the bridge level with the surrounding area.