

## Material List

2 12' Metal Sheeting  
1 2"x4"x14' Treated Lumber  
2 2"x4"x12' Treated Lumber  
1 2"x4"x10' Treated Lumber  
4 2"x4"x8' Treated Lumber  
2 2"x8"x8' Treated Lumber  
2 lb 3"-4" Exterior Screws  
1 lb 1.25" Exterior Screws  
3 Cubic Yards of Soil  
Circular Saw  
Drill  
Kreg Jig  
Square  
Heavy duty cutting shears  
Protective gloves

## Information About Your Raised Bed

Raised beds are a great way to grow edible and ornamental plants. The height can make working in the bed easier, while also creating a visually distinctive border for the edible garden. Raised beds allow space to grow in high quality soil, whereas growing conditions might be difficult near a home or space where top soil was disturbed or mixed with clay subsoil during construction or landscaping. Growing in raised beds also helps to avert the possible danger of soil contaminants like lead or other heavy metals.

The 2' height of the double-high raised bed with an attached seating ledge can be helpful for those with mobility constraints or difficulty hinging up and down. These beds can also withstand placement on impervious surfaces, such as asphalt and concrete, when a more suitable site is unavailable. The 2' soil depth is usually sufficient to successfully grow most annual vegetable and ornamental plants. Lastly, the design of the double-high can save significantly on costs of lumber while containing the bed's contents just as well and is not susceptible to rot.

## Deciding Where to Put Your Raised Bed

Remember that if you want to grow vegetables your raised bed will need at least 8-10 hours of full sunlight a day during the growing seasons. Fewer hours may still allow for growth, but likely with smaller yields. When choosing a location it is also helpful to find a level space. If there is a slope, fill any wet or boggy areas and any divots to level the ground and help with drainage.

Once you have an idea of the general location of your bed, consider how you might want it placed. Although a bed can be placed up against something like a fence or wall, having at least 2-4' on all sides will allow you to easily reach everything in the bed and provide enough space to navigate large items such as wheelbarrows around the space. Some gardeners also recommend orienting the long side of the bed on the east-west axis so that you may plant tall plants without shading over shorter ones.

It is always helpful to draw up a sketch of your garden design while deciding the placement of your bed!

***\*\*Note: The material list and instructions that follow describe how to build a 4'x8' bed. At the end of the instructions you will find a material list and lumber cut list for a 4'x12' bed. The general building instructions will be the same for both sizes of bed.***



### Assembling Your Raised Bed (4' x 8')

Note: It is usually much easier to assemble the bed at its final location than to try and move the bed once assembled. However, the metal double-high bed can be relocated with the help of a few people before it is filled with soil.

#### Step 1 – Cut Frames of Ends and Sides to Size

From the two 2"x4"x12' boards cut two 51" pieces and two 19.5" pieces out of each 12' board for a total of four 51" pieces and four 19.5" pieces.

From the four 2"x4"x8' boards cut each of the boards down to 93".

From the one 2"x4"x10' board cut six 19.5" pieces. You should now have ten 19.5" pieces total.

#### Step 2 – Drill Pocket Holes Into Vertical Supports for Frames

Using a Kreg Jig, drill two pocket holes on both 4" ends on the same face of each 19.5" piece.

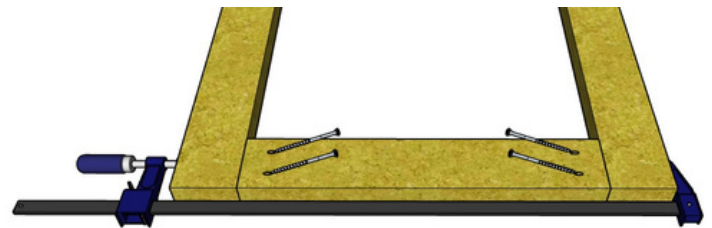


#### Step 3 – Assemble Frames of Ends and Sides

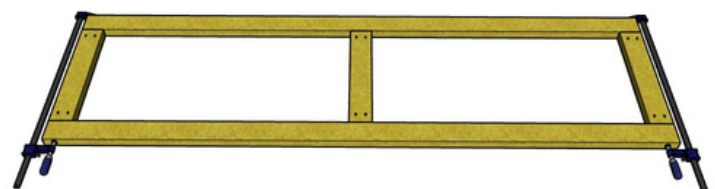
On the ground or a large table, lay out your two end frames using the 51" pieces as the horizontal top and bottom and 19.5" pieces as the vertical boards that connect the 51" pieces at their ends.



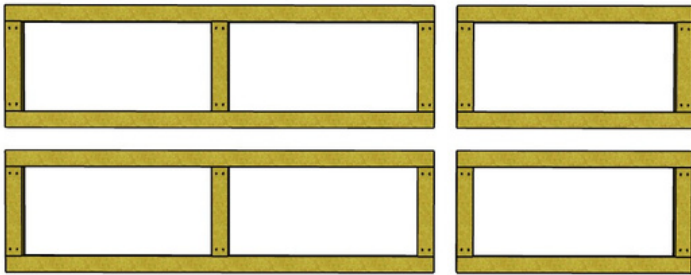
Clamp the top and bottom of the frames together so that the frames do not adjust while drilling into them. Attach the 19.5" vertical pieces to the 51" horizontal pieces using the pocket holes you drilled in Step 2 with 3"-4" exterior screws. Repeat for the second end frame.



On the ground or a large table, lay out your two side frames using the 93" pieces as the horizontal top and bottom and the 19.5" pieces as the vertical boards that connect the 93" pieces at their ends. Place another 19.5" piece roughly in the center of the 93" frames. You should use the last six 19.5" pieces—three per side frame.



Clamp the top and bottom of the side frames together so that they do not adjust while drilling into them. For the sides, it is helpful to use two bar clamps. Attach the three 19.5" vertical pieces to the ends and center of the 93" horizontal pieces using the pocket holes you drilled in Step 2 and 3"-4" exterior screws. Repeat for the second side frame. All four sides are now assembled and ready for metal!

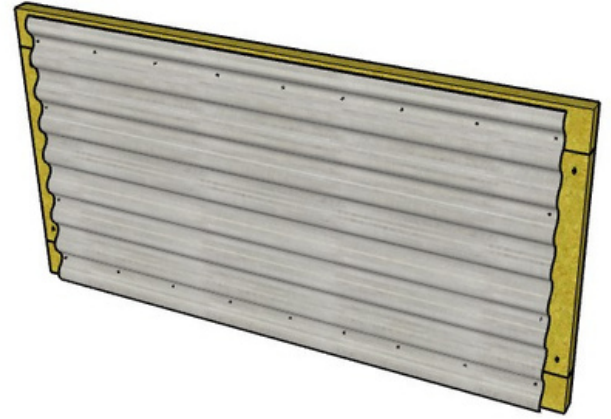


### Step 4 – Cut and Attach Metal Sheeting to Frames of Ends and Sides

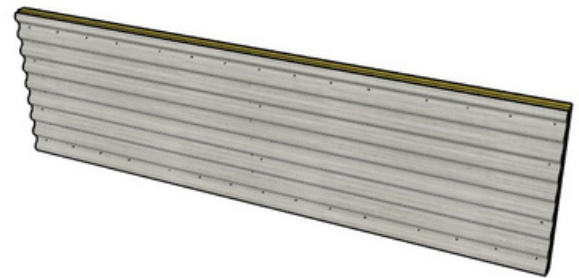
Out of each 12' metal sheeting, cut one 92" piece and one 46.5" piece so that you have two 92" pieces and two 46.5" pieces total. Be sure to use heavy duty cutting shears for metal and protective gloves. The metal will be sharp at the cut edges.

Lay the shorter (46.5") metal pieces over the 51" frame on the face of the frame with the pocket holes. The metal should be placed so that it is curled up on the top and bottom and centered over the frame with roughly 2.5" on either side.

Attach the metal to the wood frame using exterior grade 1.25" screws, starting at the corners, then adding a screw roughly every 10". To get the screw through the metal, it is helpful to punch a hole through the metal siding using the tip of the screw and a hammer before screwing it in.

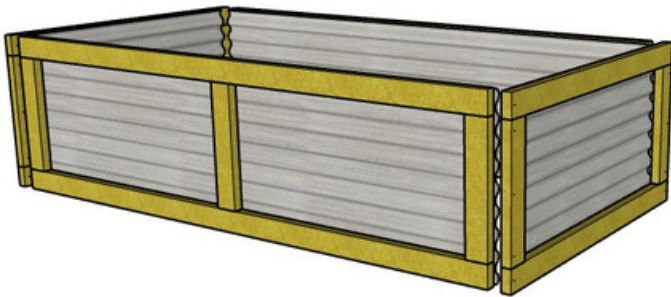


Repeat this process for the other short end and the two long sides. The metal on the long sides will go almost flush to the ends of the frame. When attaching the metal to the side frames, be sure to attach screws to the extra support that is in the middle of the frame.

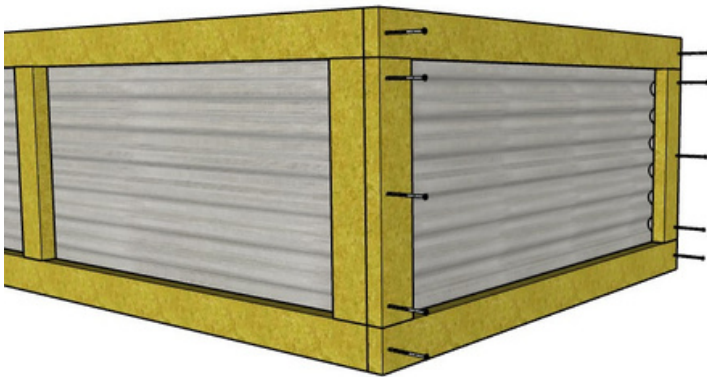


### Step 5 – Assemble the Bed

To assemble the bed, set up the ends and the side frames so that the full metal sheet is on the inside of the bed. Make sure the end frames (51" ends) are on the outside of the longer frames.



Screw the frames together using 3"-4" exterior screws. At each corner of the bed, put one screw in each horizontal piece, and three screws in each vertical piece for five total screws in each corner of the bed.



### Step 6 – Fill the Bed with Soil

**Note: It is much easier to fill the bed before adding the seating ledge as it is laid out in these instructions vs. adding the seating ledge before filling it with soil.**

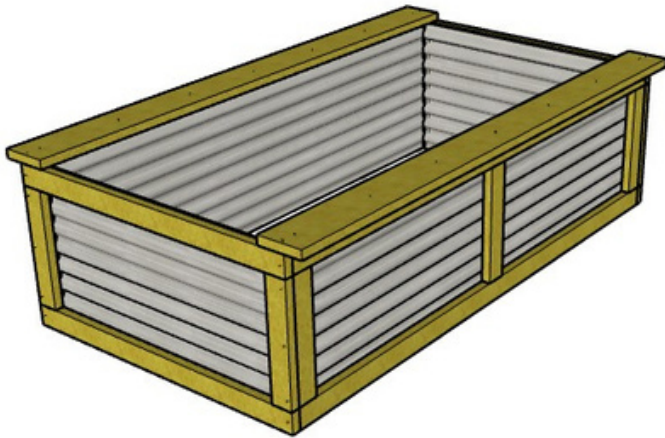
Once the raised bed is assembled and placed in its permanent location, line the bottom of the bed with some sort of compostable material to smother grass and weeds. We recommend cardboard, several layers of newspaper, or even burlap bags. We do not recommend weed mat or plastic as these materials can restrict water flow and root growth.

Now fill the bed with soil, mounding the soil above the bed height, as the soil will settle over time. You will need approximately 2.5 cubic yards of soil to fill one 4' x 8' metal double high raised bed. We recommend the Garden Mix from St. Louis Composting to fill your bed and compost each year thereafter to top off the soil and maintain its fertility. Alternatively, to save on the cost and labor of moving soil, we recommend the Hugelkultur method, whereby about a foot of organic material such as logs, plant debris, or leaves, is placed at the bottom of the bed before adding soil.

# Metal Double-High Building Instructions

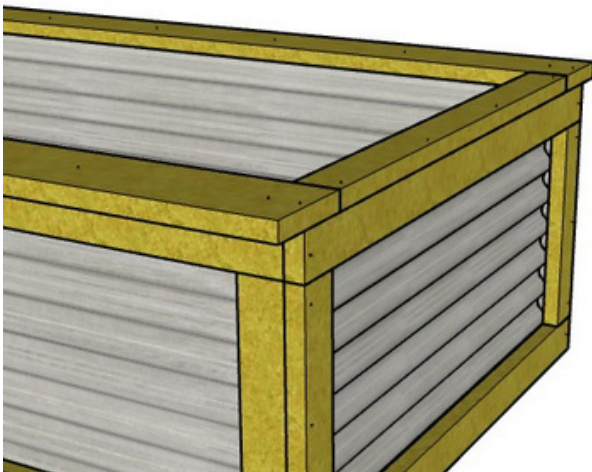
## Step 7 - Attach the Seating Ledge to the Sides

Attach the two 2"x8"x8's to the tops of the long sides of the beds, centered over the wooden frame. Put a screw roughly every foot through the bench into the bed frame.



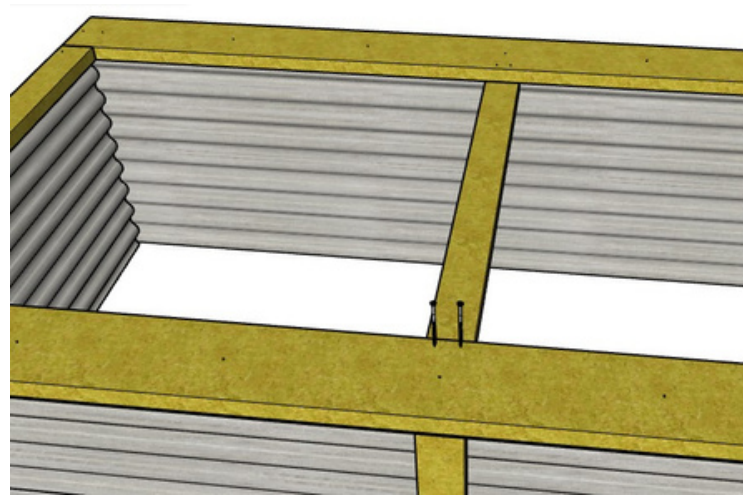
## Step 8 - Cut and Attach Seating Ledge to the Ends

Next measure and scribe the space between the two benches at both ends and cut the 2"x4"x14" to these lengths and install them on the ends of the bed making the long end flush with the ends of the benches you just installed.

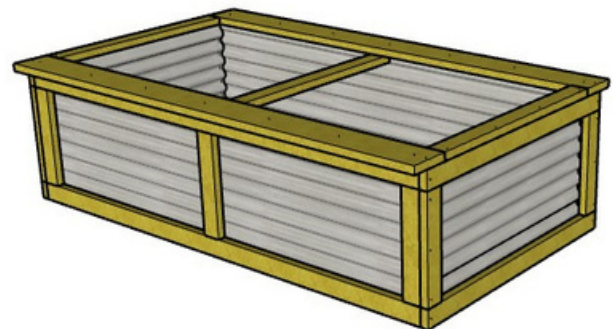


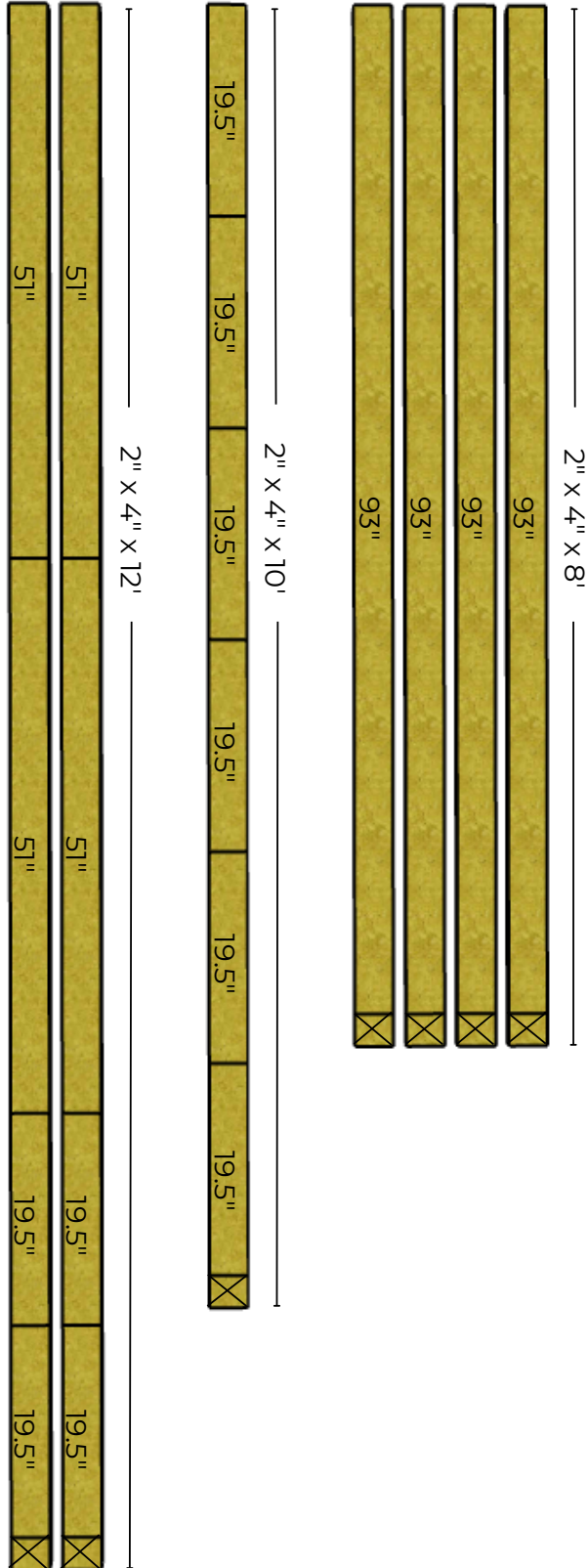
## Step 9 - Adding the Cross Brace

With the remaining section of 2"x4"x14' cut a piece to fit in the center of the bed, under the seating ledge and between the metal walls. Then attach it by putting two screws per side through the top of the bench into the 2"x4". This will help keep the bed from bowing out in the center from soil pressure.



**Your Bed is Now Complete!**





### Material List

- 2 12' Metal Sheeting
  - 1 8' Metal Sheeting
  - 2 2"x4"x10' Treated Lumber
  - 6 2"x4"x12' Treated Lumber
  - 1 2"x4"x14' Treated Lumber
  - 2 2"x8"x12' Treated Lumber
  - 2 lb 3"-4" Exterior Screws
  - 1 lb 1.25" Exterior Screws
  - 3 Cubic Yards of Soil
- Circular Saw  
Drill  
Kreg Jig  
Square  
Heavy duty cutting shears  
Protective Gloves

### Adapted Instructions

For a 4'x12' bed use the materials and cut list on this page. Reference the above instructions for a 4'x8' bed with these following adaptations:

- In **Step 3**, use the 141" pieces rather than the 93" pieces to make your sides, and add an extra 19.5" support piece, as imaged below:



- In **Step 4**, cut the two 12' metal sheets down to 141" and the one 8' metal sheet down to two pieces of 45" each. These will be your sides and ends of the 4'x12' bed.

**Your Bed is Now Complete!**

