

BUILD YOUR OWN PLANTER

In response to the numerous requests from neighbors in West Philadelphia for outdoor space improvements, Tiny WPA created a Build Your Own (BYO) Toolkit of the most commonly requested amenities. Included in this Toolkit is the BYO Planter.

Tiny WPA, its team of Building Heroes, neighbors, and gardeners in West Philadelphia together developed this eminently customizable planter in 2020 to meet a myriad of needs. In this guide, you will find directions to fabricate the basic planter in three different heights. Also included are examples of how the simple design can be modified, making the planter a veritable Swiss Army Knife for public spaces.

Whether you need a planter, bench, storage, signage, shade, and/or a play structure, Tiny WPA's planter design can provide all of that. Frankly they are mighty pretty too and the convertibility makes us extremely happy.

4-6 HOURS

COST \$175-250



You too can customize your planter like we did above. The above planter is 20 inches tall and is half planter and half bench with a wall for shade and signage.

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WPA

WHAT DO YOU NEED?



MATERIALS

- 4 2 x 6 x 8ft common pine, douglas fir or cedar board
- 2 1 x 6 x 8ft pressure treated pine deck board
- 3 2 x 4 x 8ft pressure treated pine board
- 3 sheets 100-150 grit sandpaper or orbital discs
- 1 qt semi-gloss exterior paint w/primer (if using pine or doug fir)
- 1 box of 2 ½” exterior wood screws (minimum 52 screws)
- 1 box of 1 ⅝” exterior wood screws (minimum 16 screws)
- 1 6mil plastic liner (min 4’x8’)
- 6 ¼” wood spacers

TOOLS

- 1 table saw
- 1 chop saw (also called a miter saw)
- 1 drill with a driver bit and ⅛” drill bit
- 1 orbital sander or 150 grit sandpaper and sanding block
- 1 tape measure
- 1 framing square
- 1 speed square
- 1 nail set and hammer
- 1 drop cloth
- 1 paint brush or roller
- 1 paint tray
- 1 safety glasses
- 4 speed clamps
- 1 stapler

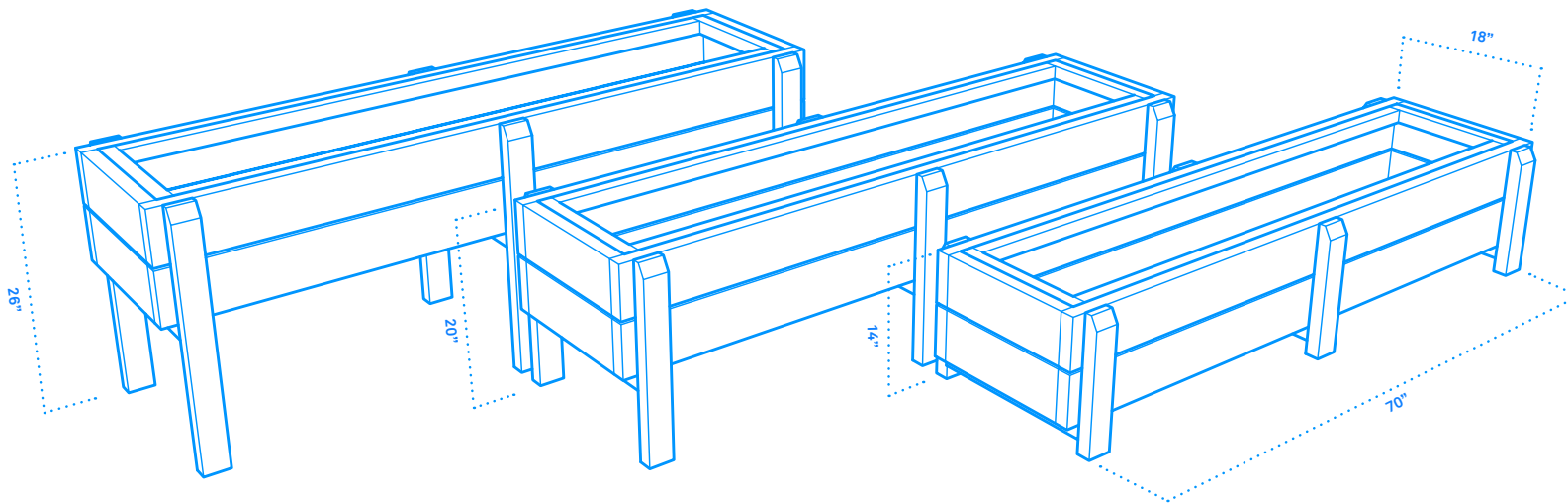
Optional:

- 1 18-gauge finish nailer (see more in the Tips! section)

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TIPS!

Here are a few tips and things you should consider before you head to the hardware store to purchase materials.

Give Yourself Extra Material Length

If you plan to get some of your wood cut at the store, we recommend adding 3" to the measurement of anything you are having the store cut. Then make all final cuts on your own.

Use a Finish Nailer

While not required, a finish nailer will help you 'set' your joints in place as you pre-drill and screw your planter together. It results in a significantly improved final product.

This is at Least a Two Person Job

Clamps are great for holding your boards where you want them, but a buddy can do the same—and faster.

Determine Your Wood

We designed the planter using pine or douglas fir and pressure treated wood. The pressure treated wood should not be painted at this time. It has a high moisture content and needs time to dry. However, the pine and douglas fir should be painted to "seal" the wood, protecting it from rain and mold. If you do not have the space or capacity to paint, use cedar instead. You can swap the pine or douglas fir and the pressure treated wood for cedar. Cedar does not require any additional sealant, but it will gray over time. Also cedar is less toxic than pressure treated wood, so it's the preferred wood if you want to grow an edible garden.

Pre-Cut Your Spacers

Cut down extra wood (or ply) into six ½" spacers. You will use these to assemble the planter rings.

Don't Trust the Factory Ends!

The ends of the boards may look straight, but they rarely are. They are crooked and often treated with a waxy coating that won't accept paint. Always cut both ends of your boards to ensure a precise final result.

Pre-Drill All of Your Screw Holes

To prevent the wood from splitting, always pre-drill holes for your screws. This creates space and a path for the screw. When pre-drilling, an extra set of hands (and clamps) will help hold everything together.

Make Yourself a Stop

Stops are great for making identical cuts on the chop saw. Simply clamp a piece of scrap wood to the table or saw at the length you need to cut, double check the measurement, and start chopping!

Use a 'Zig-Zag' Pattern with Screws

When screwing across a whole length of wood, a zig-zag pattern will exponentially add strength to anything you're building, and helps to prevent splitting. You're essentially making little triangles, and triangles are one of the strongest shapes out there!

Mind the Gap(s)

A gap of any size between any two boards that you are screwing together means that the connection is 50% weaker than if the boards are touching. If a gap exists, you will need to remove ALL of the screws and then carefully screw it back together.

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CUTLIST: RING AND DECKING

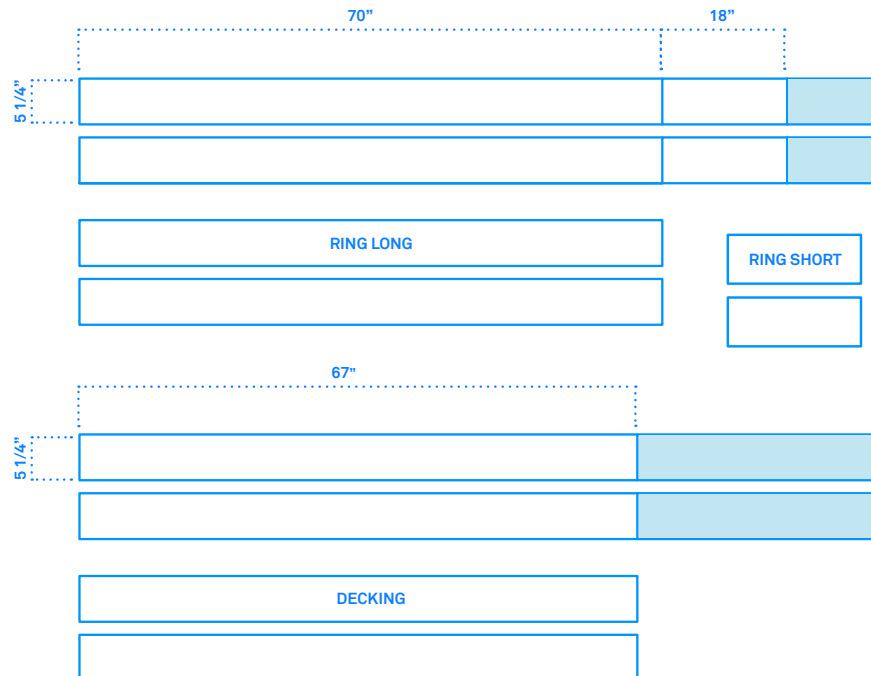
Gather four 2 x 6 x 8ft pine/fir (or cedar) boards and two 1 x 6 x 8ft pressure treated deck boards. Please note that the dimensions of most 2x6s are actually 1 ½” x 5 ½”. The planter is designed with 5 ¼” wide planter “rings,” which means you will need to cut down the 2x6s and 1x6s to get to this desired width.

First Cuts

2x6 boards come with rounded edges to prevent splinters, among other reasons. Using a table saw, trim off the rounded edges of the 2x6s and 1x6s by cutting a narrow width (approximately ⅛” or less) along the entire length of the board (this is called “milling off the radius”). Next, set your table saw fence to 5 ¼”. Place the fresh cut edge of the boards against the fence, and cut the board along the entire length. Repeat this process for all 2x6s and the two 1x6 decking boards. All boards should be 5 ¼” wide. Your 2x 6 (now 5 ¼”) x 8 boards make the “rings” for your planter.

Second Cuts

Cut a blade’s width of wood from the factory edges of the four 2 x 6 (now 5 ¼”) x 8 boards. Then, cut them to 70” in length. Cut the remaining pieces to 18” in length. Then, cut the two 1 x 6 (now 5 ¼”) x 8 pressure treated deck boards to 67” in length. These deck boards are for the bottom of the planter beds.



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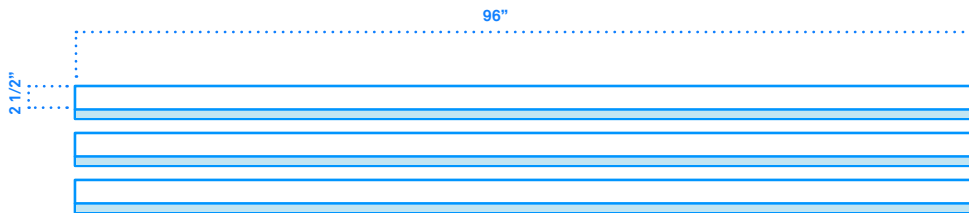


CUTLIST: LEGS, BRACING, AND LEDGER

Next up, gather the three 2 x 4 x 8 ft pressure treated pine boards. Please note that the dimensions of most 2x4s are actually 1 1/2" x 3 1/2".

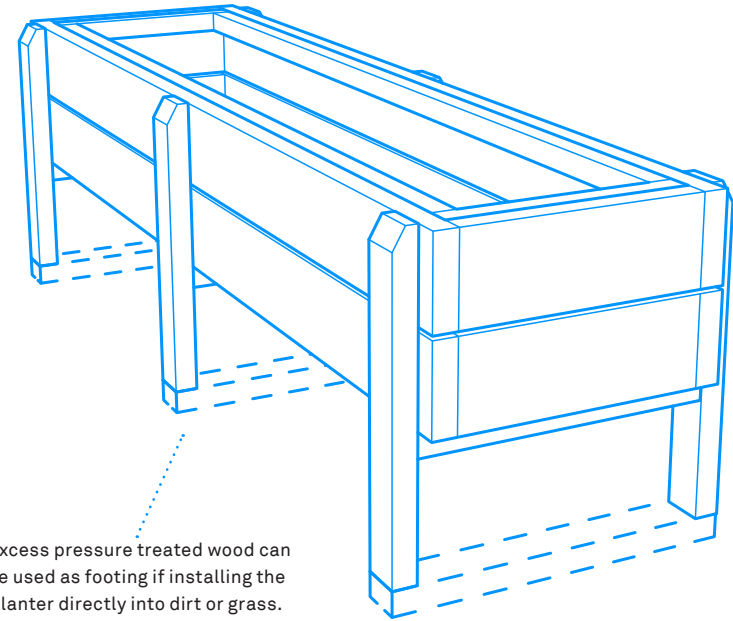
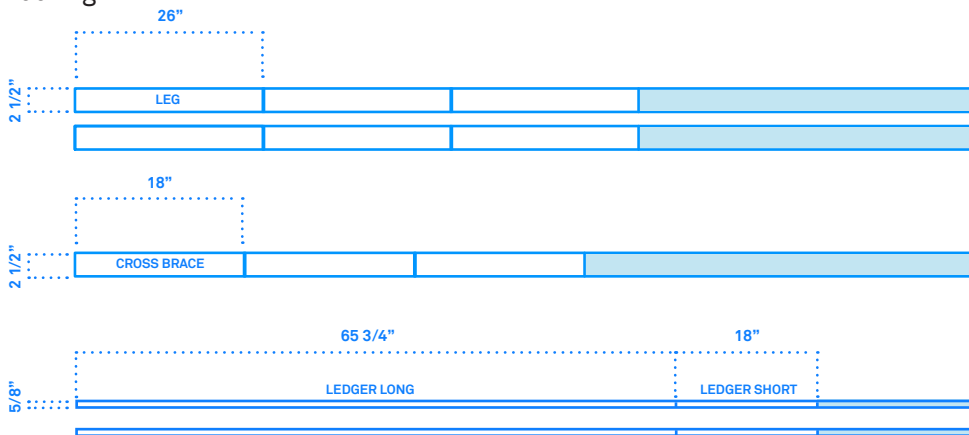
First Cuts

Using the table saw, mill off the radius (see previous page for explanation of milling) along the entire length of the board. After, set your table saw fence to 2 1/2", place the fresh cut edge of the 2x4 board against the fence, and cut the board along the entire length. Save the 5/8" wide section of the board you just cut (called an off cut - the shaded area on the boards below) for the ledger strips.



Second Cuts

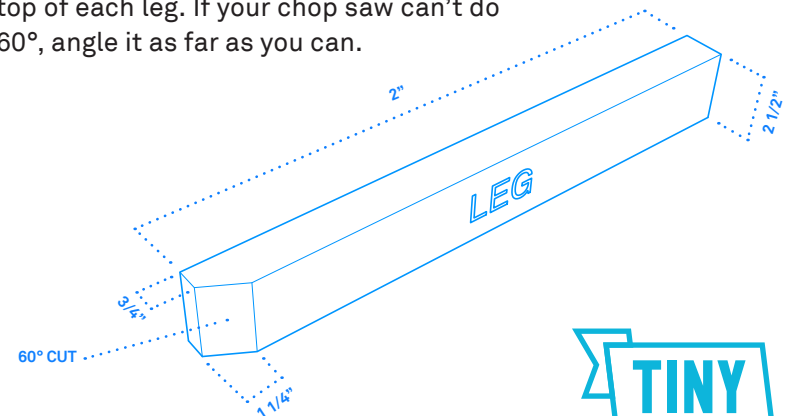
Cut a blade's width from the factory end of your boards with the chop saw. You'll want the next cuts to be as uniform as possible, so setting up a stop on the chop saw will make this part of the job much easier. Next cut the 2 1/2" boards down to size, following the measurements shown below. After, collect two of 5/8" boards (the off-cuts). Cut both to 65 3/4" in length, then cut the remaining material to 18" in length. Save all excess wood. Optional: the 2 1/2" scrap pieces can be used as footing.



(Excess pressure treated wood can be used as footing if installing the planter directly into dirt or grass. It can also be used to secure the planter down onto harder surfaces.)

Third Cuts

Make a 60° chamfer (angled cut) at the top of each leg. If your chop saw can't do 60°, angle it as far as you can.



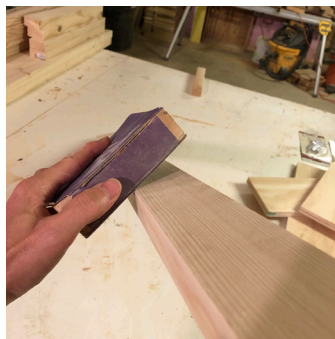
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HERE'S HOW YOU DO IT!



Sand your boards to prevent splintering and injury as you build.



Chamfer (angle) all corners with a sanding block to create comfortable edges.



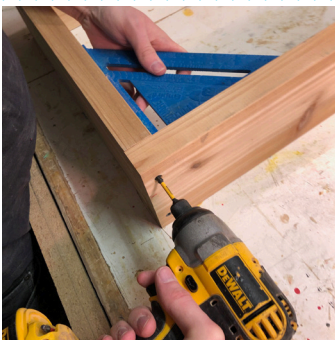
If you are using pine/ fir for the rings, paint your boards to seal the wood and prevent rotting. Do not paint pressure treated boards.



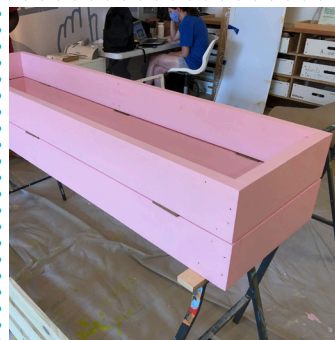
Assemble pine/ fir or cedar boards into two rings. Align and square all edges.



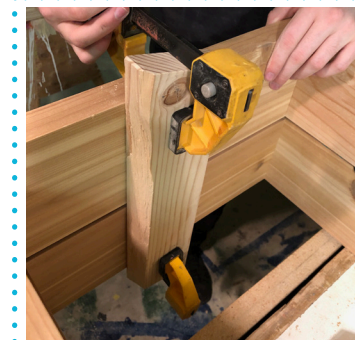
Have a friend hold the boards. Optional: use the finish nailer to set everything in place.



Attach with 2-½ in screws. Remember to pre-drill. Stay ¼" from edge, and 1" from top & bottom.



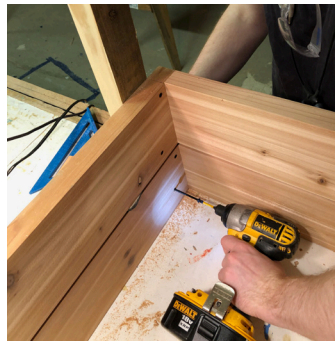
Place ¼" spacers atop first ring. Lay second ring on top of the spacers.



Clamp 2 or 3 pieces of scrap wood along inside surface to align rings.



Clamp legs to outside (top facing down) 1 ½" away from the edge and in the center.



Attach legs with 2 ½" screws from inside. Remember to pre-drill. Use 2 screws per board in a zig zag pattern.

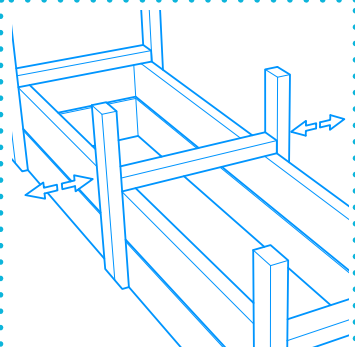
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FINAL STEPS OF ASSEMBLY



Place cross brace pieces between legs, attach with 2 ½" screws through legs. Remember to pre-drill.



You may have to spread or squeeze the planter to get the center brace in.



Flip the planter onto its feet with a buddy.



Lay the decking inside the ring, 1 ¼" from the edges. Attach with 1 ⅝" screws, 2 per plank, at each brace.



Cut and fold plastic. Suggested size and pattern of plastic on the following page.



Use a stapler to set plastic below top edge.



Install ledger strips on top of plastic and flush to top of planter.



Attach ledger strips with 1 ⅝" screws. Remember to pre-drill.



Pierce drainage holes into plastic along bottom between decking. About 6-8 holes throughout.



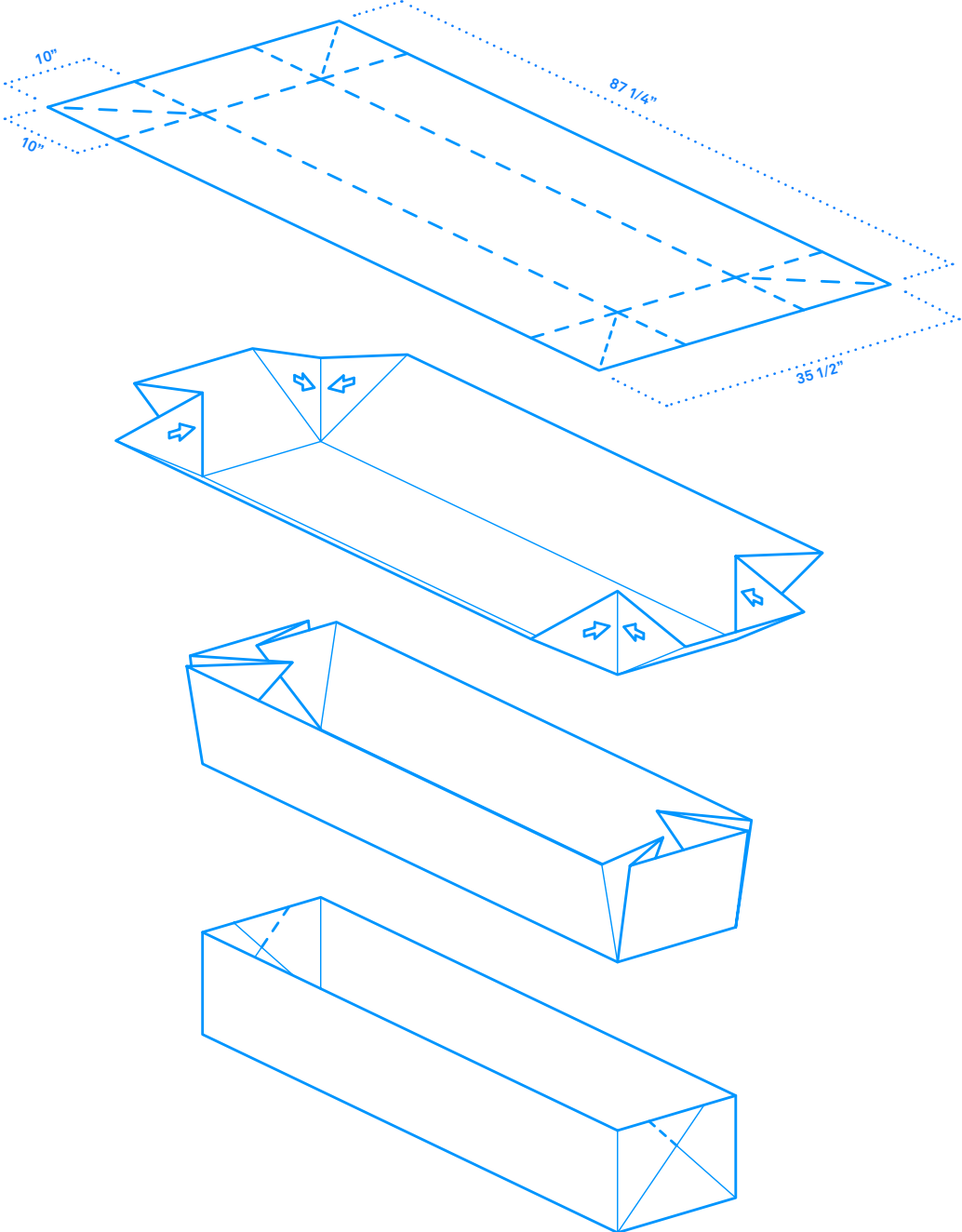
Tip! Position planter in its final position before adding the soil.

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PLASTIC LINER FOLDING PATTERN

Fold along the dashed lines.

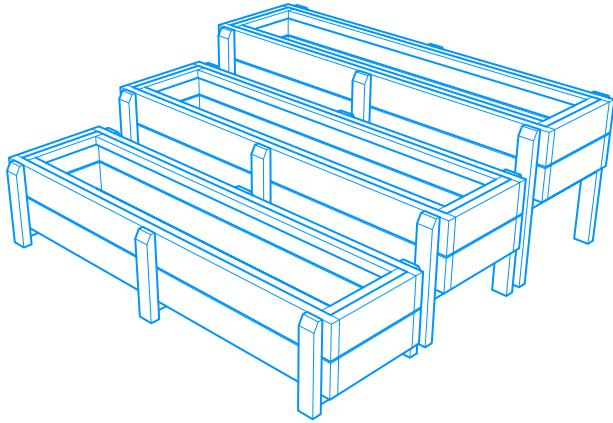


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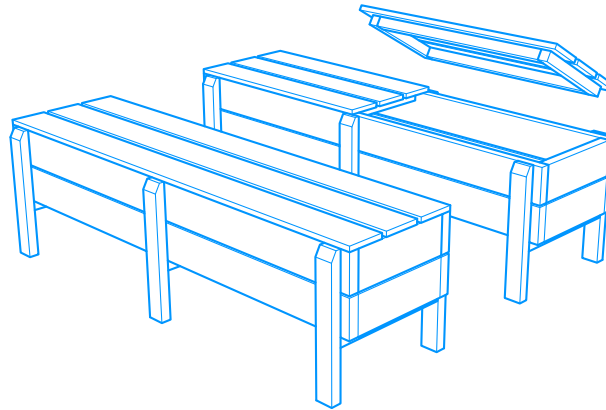
PLANTER VARIATIONS

The planter is extremely versatile and adaptable to fit your various needs.



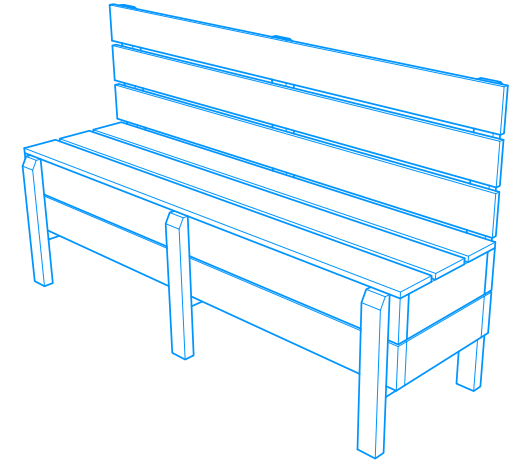
Height Options

Three height options (14", 20", 26") allow for a cascade of vegetation.



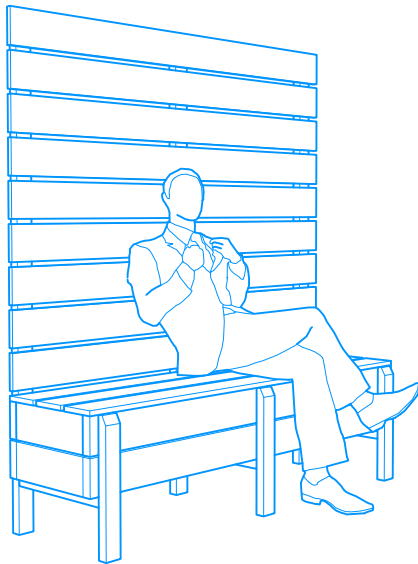
Storage

You may also need a place to keep your gardening tools and supplies!



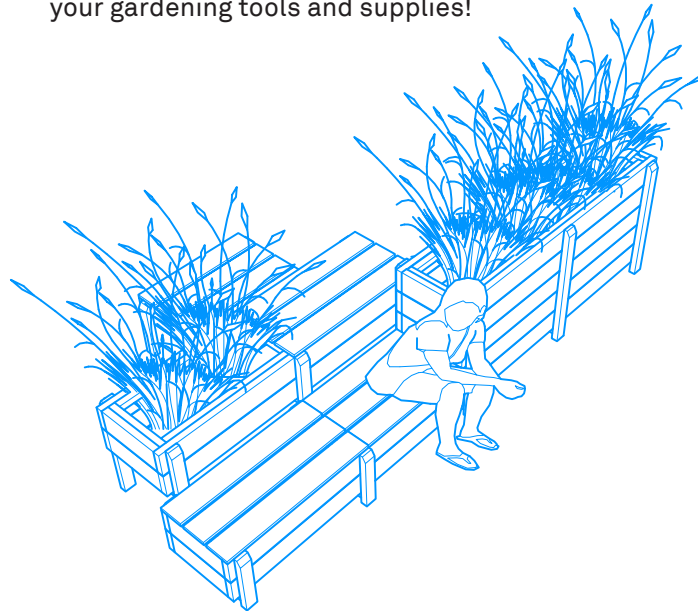
Sitting Bench

Extending the legs on one side easily creates a place to sit back and relax.



Shade Wall

A wall is often more effective in creating shade than a roof. Plus, the wall can be used for signage as well.



Play Structure

Combine several planters in multiple heights to create an arrangement that offers a combination of uses.

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MORE NOTES ON BUILDING YOUR PLANTER!

Here are a few more tips for finishing up the beautiful planter that you are making!

Focus Sanding High Touch Areas

We've said it before, but we will say it again: focus your sanding and chamfering on high touch and seating areas, especially if you're using the cedar. It's a wonderful material, but it can chip if the edges are left sharp.

All the Dimensions Matter!

While there is some flexibility in how the planter gets finished, getting the dimensions right as we've designed them is absolutely important.

Did We Mention Gaps are Bad?

A gap means there is a TINY amount of room for the joint to move. If the joint starts to move it WILL get weaker and weaker over time. Again, you will need to remove ALL of the screws and then screw it back together. And wood glue is magical, by the way.

Maintain Your Planter Properly

If you do paint, we recommend repainting every two years to keep your planter looking sharp. When you are ready to repaint, lightly sand your planter to allow new paint to adhere better. It's also important to look for any nicks, scrapes or cracks and touch-up as needed. Remember exposed wood absorbs water, causing wood to rot. Paint "seals" wood protecting from rain and mold.

What's a Footing?

If you are installing your planter on uneven dirt or grass, consider adding a footing to the planter (see page 5). You can bury the footing in the dirt to ensure your planter evenly settles. Or if you install your planter on an uneven harder surface, you can adjust the footing (turning it into a shim) to help level your planter.

Run into Problems? We Can Help!

Have questions or need help working through a fabrication problem? We are happy to help. Email Tiny WPA at info@tinywpa.org.

On Instagram Post Pictures of Your Building Process and Tag Tiny WPA!

We want to cheerlead for you and give you some visibility for your efforts! Tag us (@tinywpa) in photos and we will happily repost any photos or stories that you share.

Don't have an Instagram account?

Send photos to info@tinywpa.org, and we will post them!



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