PLANTER BENCH

SOUTHERN PINE COUNCIL

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Planter Bench

Outdoor accents to your deck or patio can be both comfortable and useful. A planter bench can function much like a sofa or end table indoors. And for building a sturdy, long-lasting piece of outdoor furniture, pressure-treated Southern Pine lumber is the perfect choice.

This plan will guide you through the construction process, step by step. When your project is complete, add your choice of plants and ornaments, have a seat, and enjoy your new addition to better outdoor living.

MATERIALS LIST

To build this planter bench, you will need the following quantities of pressure-treated Southern Pine lumber:

NUMBER OF PIECES	MATERIAL	LENGTH	SERVICE CONDITION
1	2x12	12’	Ground Contact
1	2x4	12’	Ground Contact
1	2x4	8’	Above Ground
3	2x4	10’	Above Ground
3	2x4	12’	Above Ground
1	1x6	6’	Above Ground

OTHER MATERIALS NEEDED

- 6d, 8d, 10d hot-dip galvanized or stainless steel nails (See Fastener Advisory)
- Construction adhesive for pressure-treated lumber.
- 2 heavy-duty plastic garbage bags, 20- or 30-gallon size, for planter liner.
- Water-repellent sealer

TOOLS REQUIRED

- Circular or crosscut saw
- Hammer
- Square
- Carpenter’s rule or tape

ADVISORY:
Fastener & Connector Performance for Treated Wood

Metal products in contact with pressure-treated wood must be corrosion resistant. Examples include flashing, termite shields, fasteners (e.g. nails, screws, and bolts), and all connecting hardware (e.g. joist hangers, straps, hinges, post anchors, and truss plates).

The International Residential Code, Section R319.3 states, “Fasteners for pressure-preservative treated wood shall be of hot-dipped galvanized steel, stainless steel, silicon bronze or copper. **Exception:** One-half inch (12.7mm) diameter or greater steel bolts.”

Traditionally, the treated wood industry has recommended hot-dip galvanized or stainless steel fasteners and connectors for wood products treated with Chromated Copper Arsenate (CCA). Hot-dip galvanized or stainless steel fasteners and connectors continue to be recommended for use with alternative wood preservatives (e.g. Alkaline Copper Quat – ACQ – and Copper Azole), but additional clarification is needed to ensure adequate corrosion protection.

Type 304 or 316 stainless steel is recommended for maximum corrosion resistance in more severe exterior applications, such as swimming pools and salt-water exposure. Furthermore, stainless steel fasteners are generally required below grade for permanent wood foundations.

Hot-dip galvanized fasteners and connectors are generally acceptable for above grade applications. Hot-dip galvanized *fasteners* should meet *ASTM A153* (with 2 ounces of zinc coating per square foot minimum for marine use) and hot-dip galvanized *connectors* should meet *ASTM A653*, Class G185 sheet with 1.85 ounces of zinc coating per square foot minimum. Fasteners and connectors used together should be of the same type (e.g. hot-dip nails with hot-dip joist hangers).

Do not use standard carbon-steel or aluminum products in direct contact with pressure-treated wood. Spacer materials or other physical barriers are recommended to prevent direct contact. In addition, electroplated galvanized metal products generally have a thinner layer of protection compared to hot-dip galvanized and are typically not accepted by the building codes for use in exterior applications.

Fasteners and connectors coated with proprietary anti-corrosion technologies (other than stainless steel or hot-dip galvanized) are also available for use with treated wood. Consult individual hardware manufacturers for specifics regarding the performance of their products with treated wood.

CONSTRUCTION STEPS

Cutting

1. From the 12' 2x12, cut:
   2 pieces 4'-4" long • 3 pieces 12¼" long
2. From the 12' 2x4, cut:
   4 pieces 14¼" long • 2 Pieces 12¾" long • 3 pieces 16¾" long
3. From the 8' 2x4, cut:
   5 pieces 18¼" long
4. From one 10' 2x4, cut:
   1 piece 4'-10" long • 2 pieces 21¼" long
5. From the other 10' 2x4s, cut:
   4 pieces 4'-7" long
6. From one 12' 2x4, cut:
   1 piece 4'-8½" long • 4 pieces 21¼" long
7. From the second 12' 2x4, cut:
   1 piece 3'-3½" long • 4 pieces 21¼" long
8. From the third 12' 2x4, cut:
   1 piece 4'-7" long • 4 pieces 21¼" long
9. From the 6' 1x6, cut:
   3 pieces 19¾" long

Assembly

1. Using 10d nails and construction adhesive, assemble bench frame with 2x12 pieces. Join one 12¼" piece flush with each end of the 4'-4" members. Attach 12¼" center support; refer to plan. Check to be sure frame is square.
2. Assemble bench seating deck. Attach four 2x4 cross members 1'-6¼" long to 2x12 frame using 8d nails and construction adhesive. Note from the plan how the two end cross members overhang 1½"; the other two cross members are evenly spaced between them.
3. Evenly space the five 2x4 decking members, each 4'-7" long, and attach to cross members using construction adhesive and 10d nails. Ends of the decking should be flush with the two end cross members. Refer to plan.
4. Using 8d nails and construction adhesive, attach the two 2x4 edge members, 1'-6¼" and 4'-10" long, to the perimeter of the seating deck.
5. Build the planter box frame using 8d nails and construction adhesive. Cut small weep hole openings in the two 2x4s 12¾" long as shown in the plan. Join these to the 16¾" 2x4 center support.
6. Attach four corner posts, 14¼" long, to 2x4 runners 16¾" long, as shown in the plan. Check to be sure frame is square.
7. Complete planter frame assembly by nailing three 1x6s, 19¾" long, to the runners and center support using 6d nails.
8. Note the stagger of 21¼" 2x4 edge members around the exterior of the planter. Start 1/4" above the bottom of the frame and attach four 2x4s using 8d nails and construction adhesive. Refer to plan.
9. Attach three more layers of 2x4 edge members around the planter frame, interlocking pieces at corner posts.
10. Join planter box and bench assemblies with their common 2x4 edge members, 4'-8½" and 3'-3½". Attach them to planter box first using 8d nails and construction adhesive. Move completed planter box into place and join edge members to 2x4 cross supports of bench.
11. Fabricate a liner for the planter box by double-bagging the two heavy-duty garbage bags. Roll down the top edges of both to form a collar of several thicknesses. From the leftover 1x6 material, cut 4 tacking blocks, each about 3½" long. Loosly fit the liner inside the planter, with the top collar about 1" below the rim. Nail the tacking blocks through the liner into the corner posts using 6d nails. Puncture liner bottom in line with the spaces between the 1x6 bottom members to permit the passage of moisture.
12. Apply a water-repellent sealer to all exposed wood surfaces now that construction is complete. Properly dispose of treated lumber scraps.

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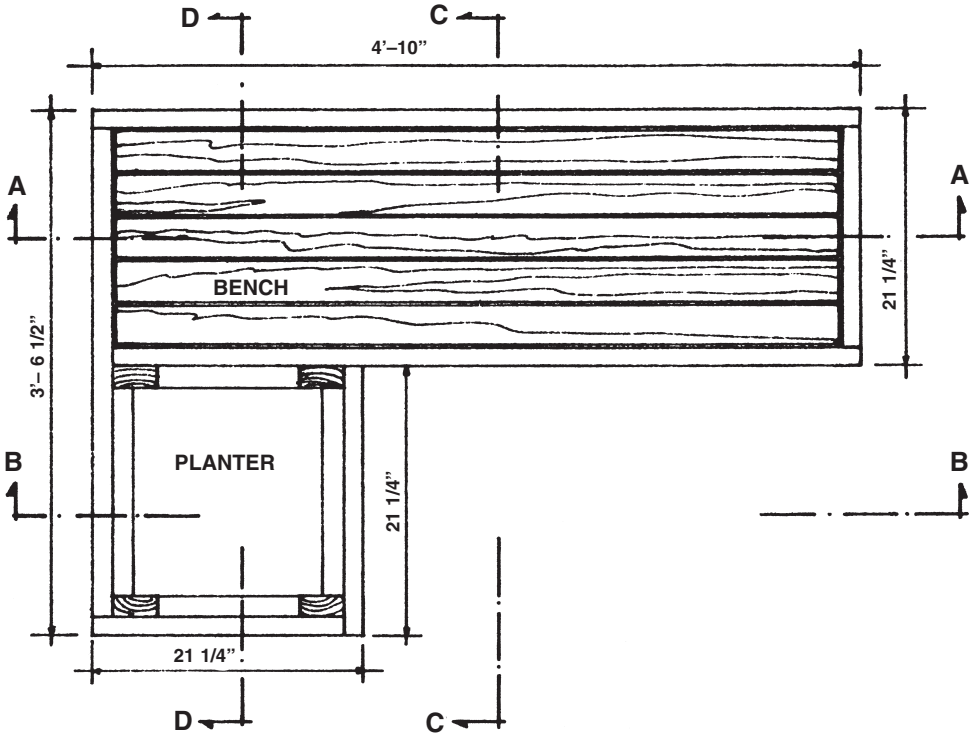
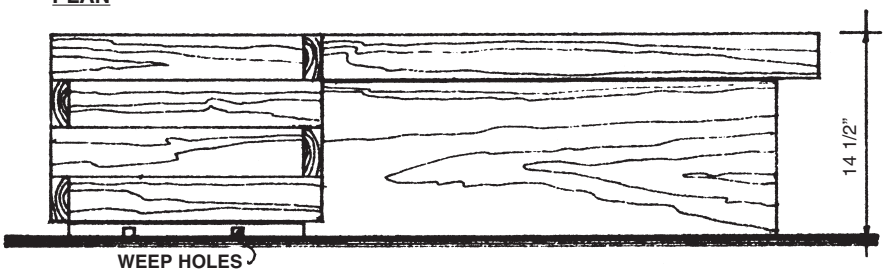
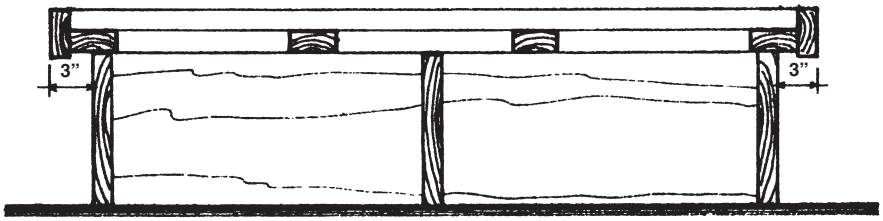


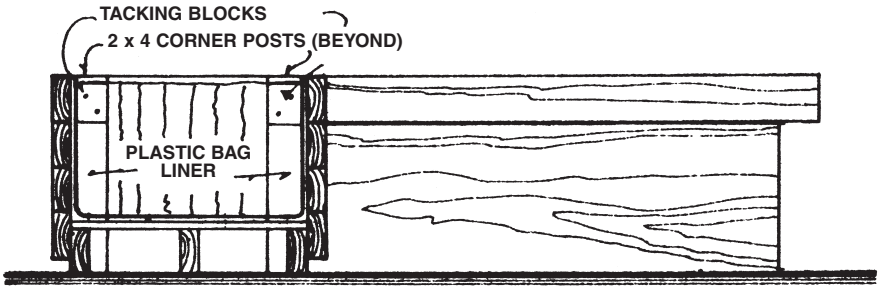
PLAN



ELEVATION



SECTION A-A



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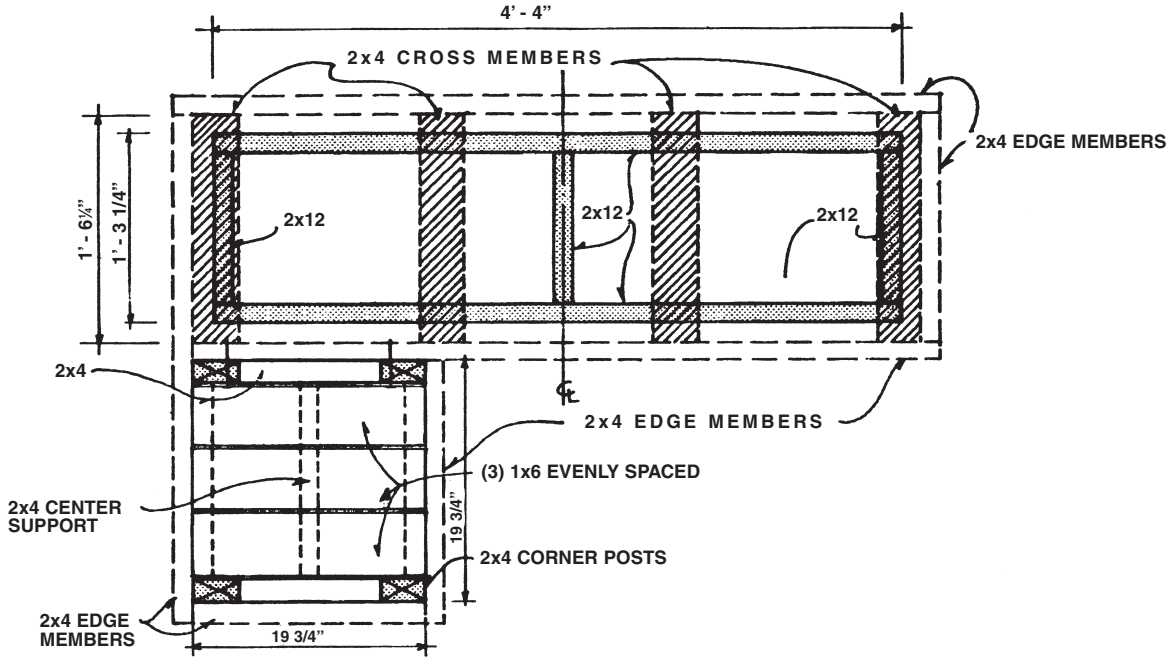
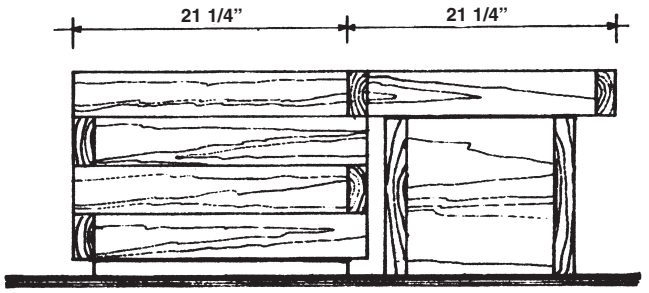


BASIC STRUCTURE



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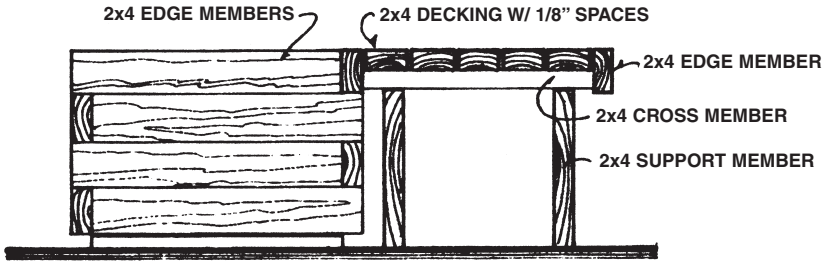

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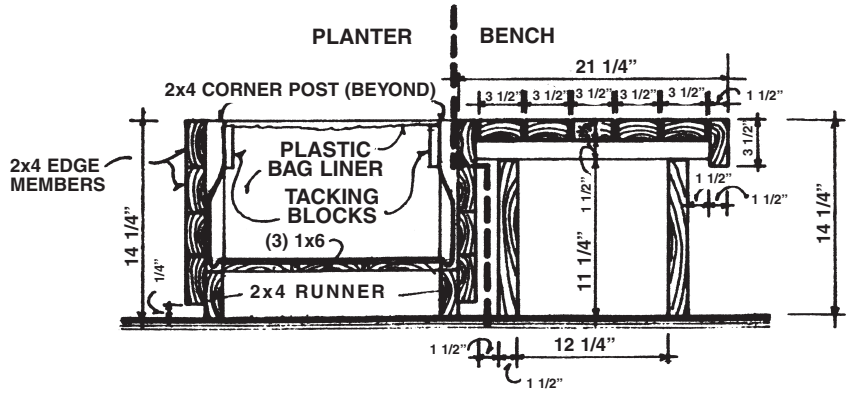

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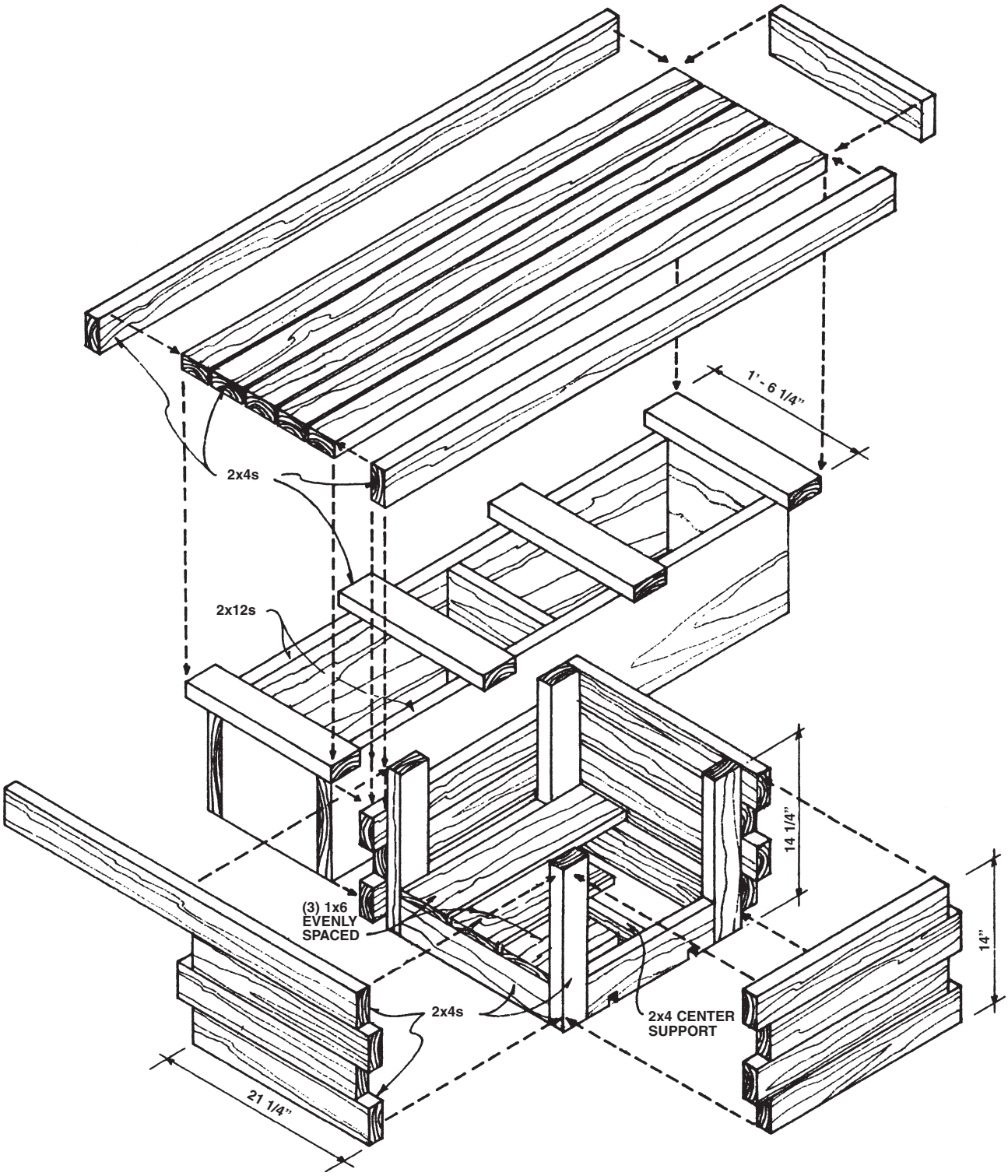
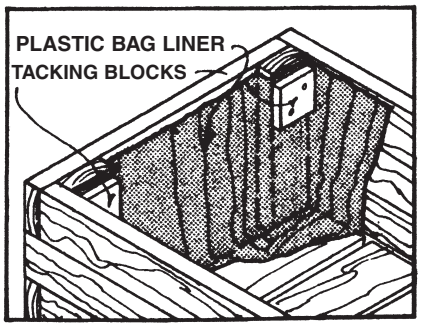


AXONOMETRIC



CORNER DETAIL: TACKING BLOCKS