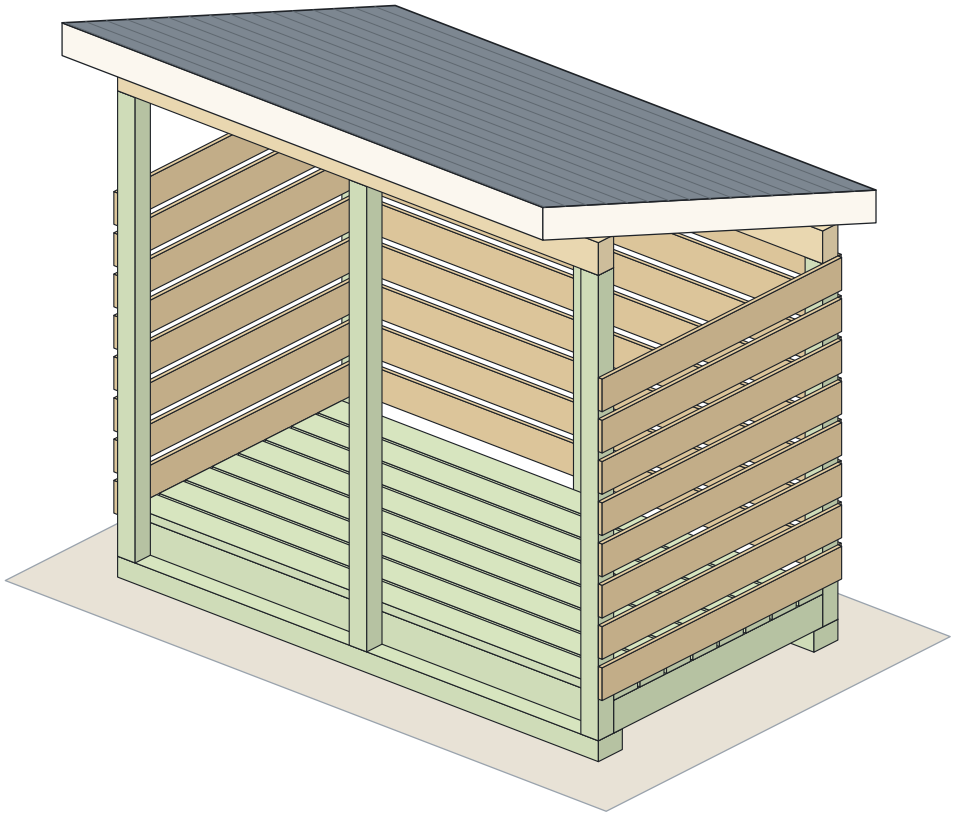
4' x 8' Firewood Shed

Step-by-step building plans with a shopping list, cut list and cutting plans



Floor	4' deep x 8' wide (32 sq ft)
Capacity	Holds one full cord stacked 4' high
Footprint	8' x 4' 7" including the posts, plus the roof overhangs
Heights	About 8' 1-15/16" to the top of the roof. 5' 11-3/16" clear under the front beam, 4' 6" under the back beam
Roof	4/12 single slope (18.4°) falling to the back, asphalt shingles, 12" front overhang
Structure	3 posts front and back, bolted to the floor frame, carrying doubled 2x6 beams and 2x6 rafters at 24"
Decking	2x6 deck boards with gaps, on a 2x6 frame, raised off the ground on skids so the wood dries
Sides	Open front. Gapped 1x6 slats on the sides and back keep rain out and let air through
Build time	One to two weekends for two people

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Before you start

How to read these plans

- All dimensions are in feet and inches. Lengths in the cut list are to the nearest 1/16".
- Every part has a mark letter (A, B, C …). The same mark appears in the cut list, on the cutting plans and on the drawings.
- "On centre" (o.c.) means measured to the middle of each board. Floor joists and rafters are laid out from the same end of the shed, so every roof sheet joint lands on a rafter.
- Lumber sizes are nominal. A 4x4 is actually 3-1/2" x 3-1/2", a 4x6 is 3-1/2" x 5-1/2", a 2x6 is 1-1/2" x 5-1/2", a 2x4 is 1-1/2" x 3-1/2" and a 1x6 is 3/4" x 5-1/2". The plans use the actual sizes.
- Measure in place before cutting anything that fits between other parts. Lumber varies, and small differences add up.

Tools

- Circular saw (a miter saw makes the repeated cuts faster)
- Speed square and framing square
- 25 ft tape measure, pencil and chalk line
- 4 ft level
- Drill/driver, a 1/2" spade or auger bit at least 6" long, and a socket wrench
- Framing hammer or nailer
- Step ladder
- Two sawhorses and a few clamps
- Shovel, rake and a hand tamper
- Utility knife, tin snips (for drip edge) and a caulk gun
- Safety glasses, hearing protection and gloves

Lumber and materials

Use pressure-treated lumber rated for ground contact for the skids and posts, and pressure-treated lumber for the floor frame, deck boards and slats. Pick the straightest boards you can for the beams and rafters, and save slightly bowed ones for short pieces. Use hot-dip galvanized or stainless fasteners anywhere they touch treated lumber or are exposed to the weather.

> **Check with your building department first.** These plans follow common light-frame construction practice for a small shed. They are not engineered for your site and are not a substitute for local code. Your building department decides what is needed for snow and wind loads, foundations, setbacks and permits, and may ask for changes. Work safely: wear eye and hearing protection, follow the instructions for every tool, and get help lifting beams, rafters and sheets. You build at your own risk.

Shopping list

Quantities come from the cutting plans on the following pages, so they already include the offcuts. Add a board or two of spare 2x4 if you are new to framing. Write in your store's prices to total the cost before you buy.

Foundation

	Qty	Item	Notes	Price
☐	2 boards	4x6 pressure-treated, ground contact, 8 ft	For mark A.	
☐	0.9 cu yd	3/4" crushed stone, for the gravel pad	About 1.2 tons, including 10% for compaction.	
☐	1 roll	Landscape fabric, to cover 10' x 6' 7"		

Floor

	Qty	Item	Notes	Price
☐	12 boards	2x6 pressure-treated, 8 ft	For marks B, C, D.	
☐	1 board	2x6 pressure-treated, 12 ft	For marks B, C.	

Walls

	Qty	Item	Notes	Price
☐	1 board	2x4 framing lumber, 10 ft	For mark H.	
☐	3 boards	4x4 pressure-treated, ground contact, 12 ft	For marks E, F.	

Roof framing

	Qty	Item	Notes	Price
☐	9 boards	2x6 framing lumber, 8 ft	For marks G, N.	

Roofing

	Qty	Item	Notes	Price
☐	2 sheets	1/2" CDX plywood (roof sheathing), 4 x 8 ft		
☐	2 bundles	Asphalt shingles, 3 bundles per square	54 sq ft of roof plus 10% waste.	
☐	1 bundle	Starter strip shingles		
☐	1 bundle	Hip and ridge cap shingles		
☐	1 roll	Synthetic roofing underlayment	Covers at least 62 sq ft.	
☐	3 pieces	Drip edge, 10 ft		
☐	1 pack	Plywood H-clips for 1/2" sheathing	4 needed.	

Siding and trim

	Qty	Item	Notes	Price
☐	4 boards	1x6 exterior trim board, 8 ft	For marks T, U.	

	Qty	Item	Notes	Price
☐	8 boards	1x6 pressure-treated board, 8 ft	For mark K.	
☐	8 boards	1x6 pressure-treated board, 10 ft	For mark L.	

Fasteners and hardware

	Qty	Item	Notes	Price
☐	5 lb	1-1/4" galvanized roofing nails		
☐	12 bolts	1/2" x 6" galvanized carriage bolts, with nuts and washers	Two through each post into the rim.	
☐	6 caps	4x4 post caps (Simpson BC4 or equal)	Ties each beam to its post.	
☐	10 ties	Hurricane ties, rafter to beam (Simpson H2.5A or equal)		
☐	1 lb	1-1/2" joist-hanger nails, for the caps and ties		
☐	5 lb	16d (3-1/2") galvanized framing nails		
☐	5 lb	8d (2-1/2") hot-dip galvanized nails, for the roof sheathing		
☐	5 lb	3" exterior deck screws, for the deck boards	About 112 screws.	
☐	1 lb	2" exterior screws, for the slats	About 112 screws.	
☐	2 lb	6d (2") galvanized siding nails, for the trim		
☐	1 tube	Construction adhesive, for the beam spacers		

Cut list: lumber

Foundation

Mark	Part	Qty	Material	Length	Notes
A	Skid	2	4x6 pressure-treated, ground contact	96"	Laid flat, so it is 5-1/2" wide under the posts and the rim.

Floor

Mark	Part	Qty	Material	Length	Notes
B	Rim joist	2	2x6 pressure-treated	96"	
C	Floor joist	7	2x6 pressure-treated	45"	
D	Deck board	8	2x6 pressure-treated	96"	About 9/16" gaps between boards so the wood can breathe.

Walls

Mark	Part	Qty	Material	Length	Notes
E	Front post	3	4x4 pressure-treated, ground contact	78-3/16"	Square ends.
F	Back post	3	4x4 pressure-treated, ground contact	61"	Square ends.
G	Beam board	4	2x6 framing lumber	96"	Two per beam, nailed together over a 1/2" plywood spacer (mark Y).
H	Knee brace	4	2x4 framing lumber	24"	Both ends cut at 45°, long point to long point.

Roof framing

Mark	Part	Qty	Material	Length	Notes
N	Rafter	5	2x6 framing lumber	80-7/8"	Cut one, test it on the beams, then use it as the pattern.

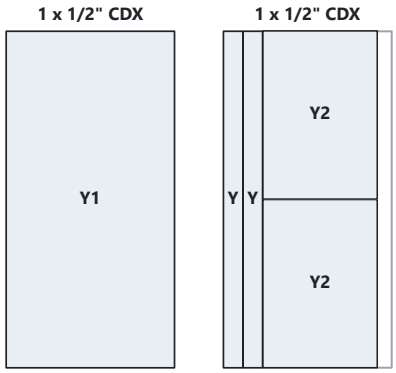
Siding and trim

Mark	Part	Qty	Material	Length	Notes
K	Back slat	8	1x6 pressure-treated board	96"	
L	Side slat	16	1x6 pressure-treated board	55"	
T	Fascia	2	1x6 exterior trim board	96"	One across the front rafter tails, one across the back.
U	Rake board	2	1x6 exterior trim board	80-5/8"	On the outside of each end rafter. Plumb cut at 18.4° on both ends.

Cut list: sheets

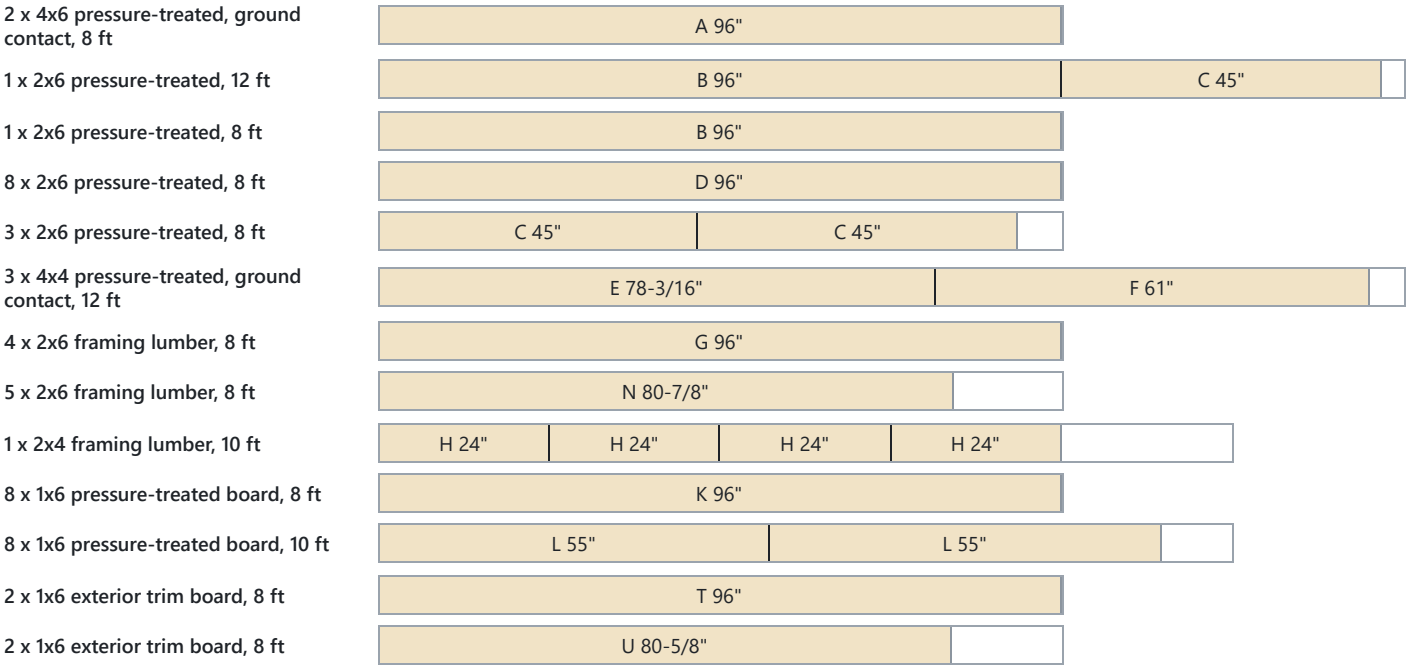
Mark	Part	Qty	Material	Size (across x along the sheet)	Notes
Y1	Roof sheathing	1	1/2" CDX plywood (roof sheathing)	48" x 96"	Width is measured down the slope.
Y2	Roof sheathing	2	1/2" CDX plywood (roof sheathing)	32-5/8" x 48"	Width is measured down the slope.
Y	Beam spacer	2	1/2" CDX plywood (roof sheathing)	5-1/2" x 96"	

Sheet cutting plan (pieces are never turned)



Board cutting plan

Each bar is one board from the shopping list, with the cuts to take from it. Cut the longest pieces first and keep the offcuts until the shed is finished.



Building the shed

1 Pick a spot

A firewood shed is usually small enough not to need a permit, but check with your building department and any homeowners association first. Many people keep firewood at least 20 ft from the house so insects living in the wood do not move in.

Choose a spot that drains well, with the open front facing away from the prevailing wind if you can. Call 811 a few days before you dig.

2 Build the gravel pad

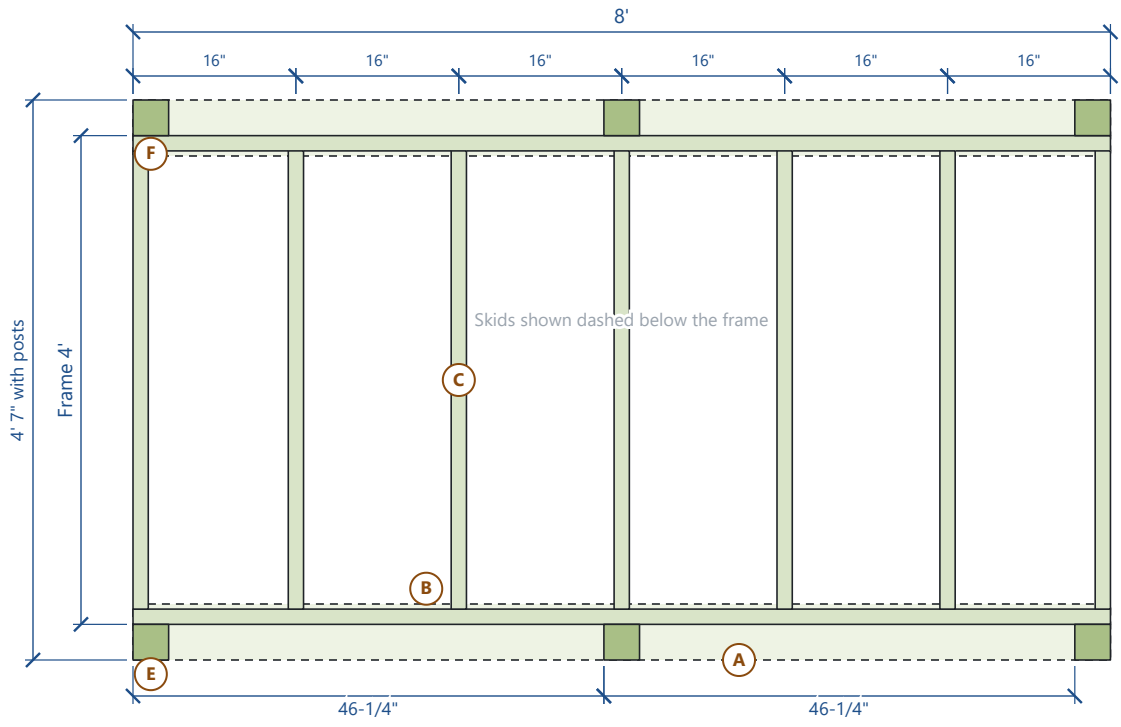
Mark out a 10' x 6' 7" area, dig it about 4" deep, tamp the soil, lay landscape fabric and fill with crushed stone in two tamped layers. Check that the top is flat and level within about 1/4".

3 Set the skids and build the floor frame

Lay the 2 skids (A) flat on the pad, running the full 8' width, in the positions shown. The front and back skids stick out 3-1/2" past the floor frame so the posts can stand on them.

Mark the joist layout on both rim joists (B) together: a joist flush at each end and the rest centred on every 16" mark. Nail the joists (C) between the rims with three 16d nails into each end. Check the diagonals are equal (about 8' 11-5/16"), then toenail the frame to the skids.

Skids, floor frame and post positions (plan view)



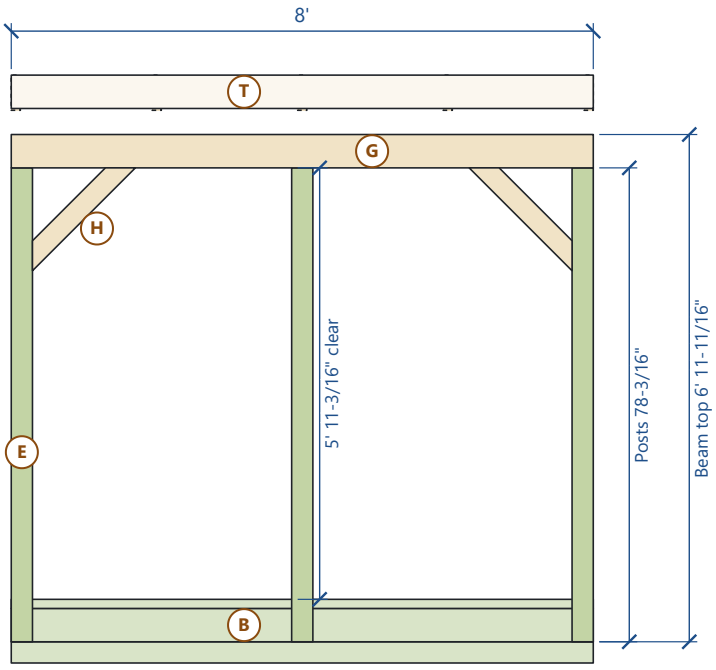
Front (open side)

4 Stand the posts

Cut the front posts (E) to 78-3/16" and the back posts (F) to 61". Stand each one on its skid tight against the outside of the rim joist, at the positions shown, with the end posts flush with the ends of the frame.

Clamp each post plumb in both directions, drill two 1/2" holes through the post and rim, and fit the carriage bolts with a washer and nut on the inside. Brace the posts with temporary diagonal boards until the beams are on.

Front view: posts, beam and knee braces



Heights are from the top of the skids

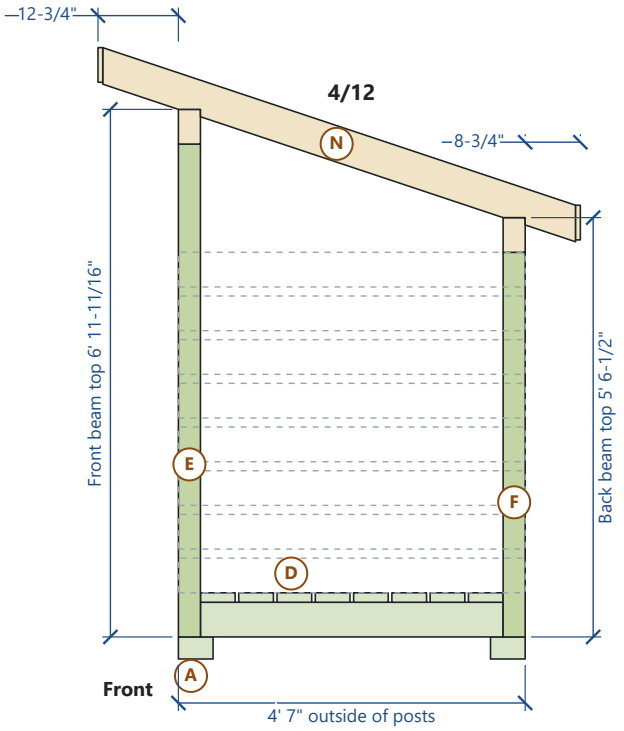
5 Build and set the beams

Make each beam from two beam boards (G) with the plywood spacer strips (Y) between them, glued and nailed with 16d nails every 12" from both sides. A finished beam is 3-1/2" thick, the same as the posts.

Fix a post cap on top of each post and drop the beams in. The top of the front beam should be 6' 11-11/16" above the top of the skids, and the back beam 5' 6-1/2". Check each beam is level along its length, then nail the caps.

Fit a knee brace (H) between each end post and its beam, flush with the outside face, with two 16d nails at each end. Then take the temporary braces off.

Side view through a rafter (slats shown dashed)

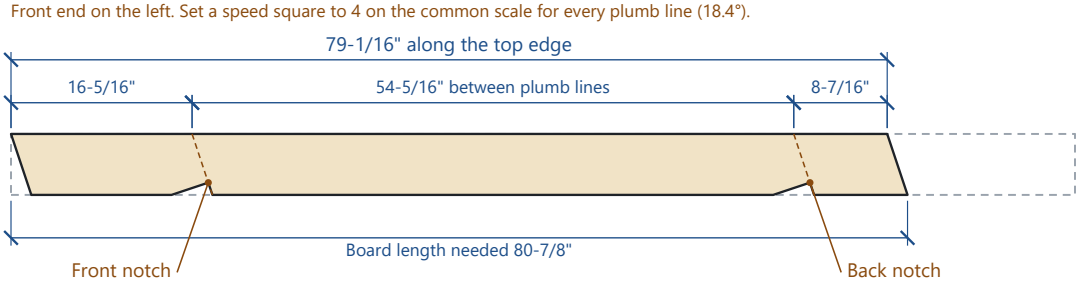


6 Cut and fit the rafters

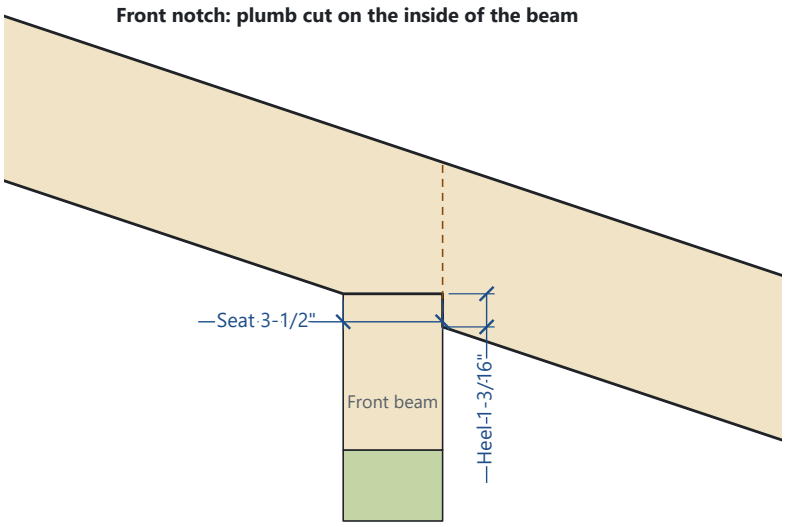
Lay out one rafter (N) using the rafter drawing. Both notches are 3-1/2" long and 1-3/16" deep on the plumb line, but they face opposite ways: at the front the plumb cut is on the inside of the beam, at the back it is on the outside. Set a speed square to 4 on the common scale for the plumb lines (18.4° from square).

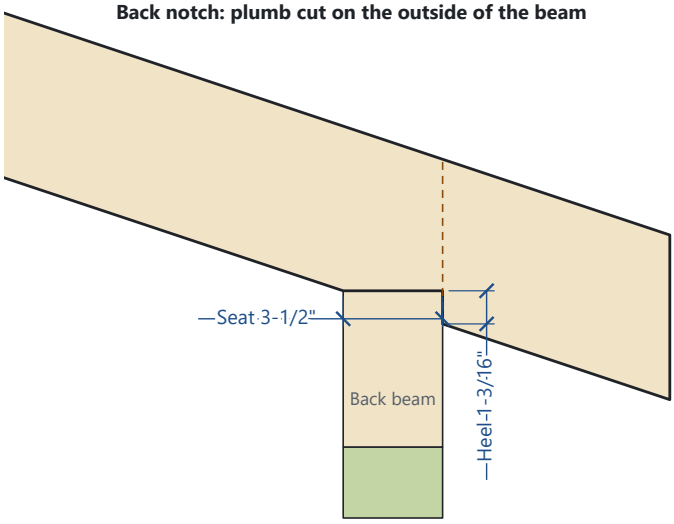
Test the first rafter on the beams, then use it as the pattern for the other 4. Fit them at 24" centres from one end, flush with the ends of the beams, toenailed with two 16d nails at each beam and a hurricane tie at each beam.

Rafter pattern (N), make 5



Rafter notches, where the rafter sits on each beam





7 Lay the deck

Screw the 8 deck boards (D) across the joists with two 3" screws at every joist. Start flush with the front rim and space the boards about 9/16" apart; a scrap of 1/2" plywood makes a good spacer.

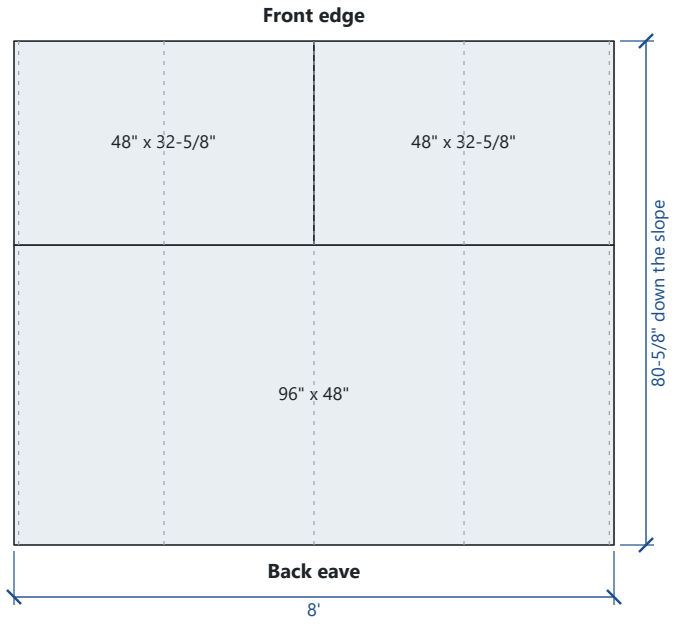
8 Roof it

Nail the fascia (T) across the front and back rafter tails and the rake boards (U) to the outside of the end rafters, all with their tops in line with the tops of the rafters.

Sheathe the roof with plywood, long side across the rafters, starting at the low back edge with full sheets and staggering the joints in the next row. Put an H-clip between each pair of rafters along the joints between rows.

Fit drip edge along the back eave, lay the underlayment from the back up, then fit drip edge on the sides and front. Shingle from the back edge up, starting with a starter strip. At the high front edge, finish with a row of cap shingles folded over the edge. At 4/12, a single layer of underlayment is enough.

Roof sheathing layout

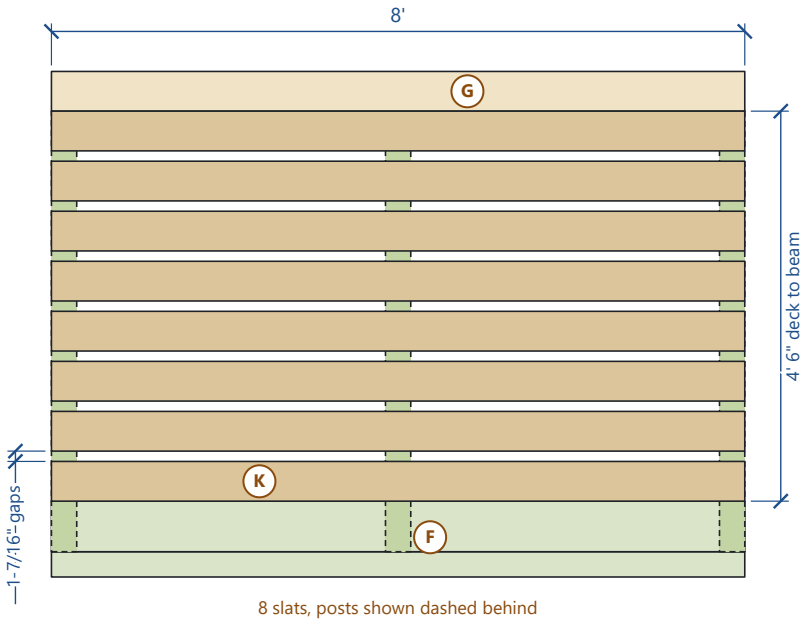


9 Fit the slats

Screw the back slats (K) across the outside of the back posts, starting at deck level, with two 2" screws into each post. Space them about 1-7/16" apart so the top slat finishes just under the back beam.

Fix the side slats (L) the same way, across the outside faces of the front and back posts.

Back slats (outside view). The sides are slatted the same way



10 Finish and fill

Pressure-treated lumber can be left to weather or stained after a few months once it has dried. Paint or stain the trim boards.

Stack the wood bark side up with a little air space between rows and behind the back row. Wood dries fastest with the wind blowing through, so leave the front open.

Notes

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