Shed & Bench shedandbench.com

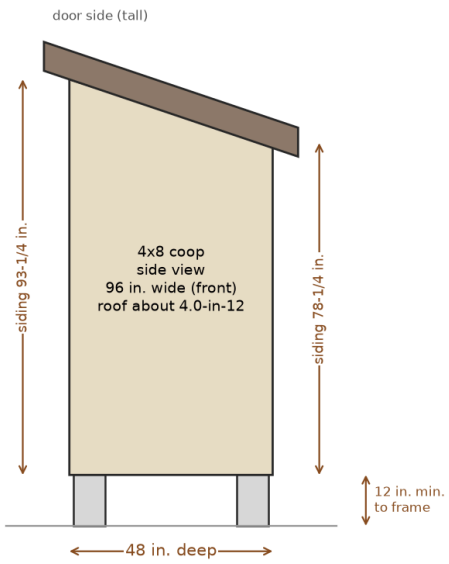
Walk-In Chicken Coop, 4x8 and 8x8: Printable Plan

Materials list, cut list, key steps, and diagrams. Free to print and use.

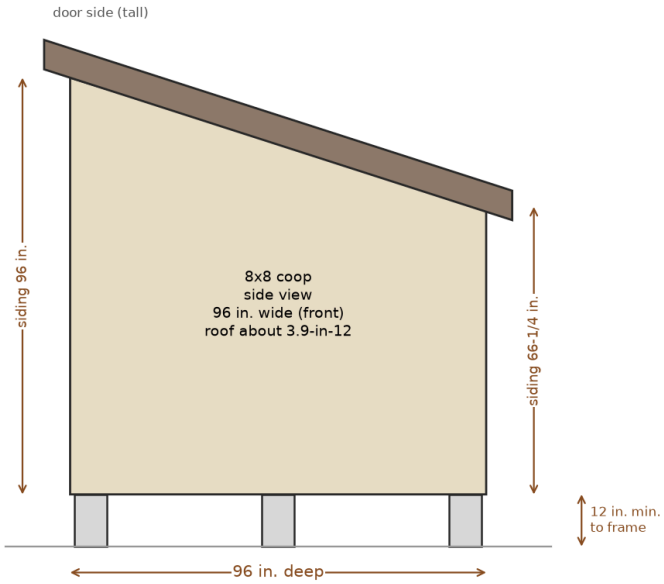
Not engineered. Check your local rules first. No engineer has reviewed this plan. Rafter, header, and fastener choices come from published tables (AWC 2024 span tables, 2024 IRC) for up to 50 psf roof snow load and 70 psf ground snow load at the header. Space, roost, and nest-box numbers follow Oregon State University and University of Maryland Extension guidance (sources on the web page). Your town sets the rules on keeping hens, coop setbacks, and permits; your building department sets snow, wind, and frost requirements. No sourced vent-area rule was found: the vent areas shown are this design's openings only. Confirm everything locally before you build.

At a glance: 4x8 coop: 96 x 48 in. floor, front wall 87 in., back 72 in., 25.3 sq ft inside (up to 8 hens with a run at OSU's 3 sq ft per bird), 2 nest boxes. 8x8 coop: 96 x 96 in. floor, front wall 89-3/4 in., back 60 in., 55.0 sq ft inside (5-6 hens with no run at OSU's 8-10 sq ft per bird), 3 nest boxes. Both: floor raised 12 in., 2x6 rafters at 16 in. on center, two 2x2 roosts 24 in. up and 10 in. apart, nest box floors 18 in. up, 14-1/2 x 15 in. pop door, eave vents screened with 1/2 in. hardware cloth. All sizes are actual lumber sizes. Full instructions and sources: shedandbench.com/chicken-coop-plans/

4x8: 48 in. deep x 96 in. wide



8x8: 96 in. deep x 96 in. wide



Overall dimensions, both sizes

Materials list: 4x8 coop

Foundation and floor

- 2 – 4x4 treated x 8 ft (rated Ground Contact; skids)
- Solid concrete blocks for 6 block stacks (both ends and the middle of each skid), so the skid tops sit 12 in. above the gravel (about 8-1/2 in. of block under each 3-1/2 in. skid)
- 6 – 2x6 treated x 8 ft (2 rim joists and 7 floor joists)
- 1 – 23/32 in. APA Rated Sturd-I-Floor panel, 24 oc, 4 ft x 8 ft (floor deck)
- Crushed gravel and landscape fabric for the pad
- 4 (minimum) ground anchors with cable and clamps, sized for your soil by the anchor maker

Framing

- 31 – 2x4 x 8 ft (plates, studs, jack studs, side walls, pop-door blocks, roost cleats, nest legs)
- 1 – 2x6 x 8 ft (door header, 2 pieces)
- 4 – 2x6 x 12 ft, No. 2 grade, SPF, SPF (South), or Southern Pine (8 rafters, two per board; 7 needed, 1 spare)
- Scrap of 1/2 in. plywood for the header spacer

Roof

- 2 – 15/32 in. or 1/2 in. APA Rated Sheathing, span rating 32/16, 4 ft x 8 ft
- Roofing underlayment for about 45 sq ft plus laps (double layer for shingles below 4-in-12)
- Drip edge, 3 pieces x 10 ft
- Roofing: architectural asphalt shingles, 2 bundles (GAF says 3 bundles of Timberline HDZ cover 98.4 sq ft; this roof is about 42 sq ft) plus starter strip and roofing nails, **or** exposed-fastener metal panels rated by their maker for 3-in-12 or lower, with trim and screws
- 14 – Simpson Strong-Tie H2.5A hurricane ties, plus 140 – 0.131 x 2-1/2 in. nails (or Simpson SD9212 screws)

Siding, trim, and doors

- 7 – 4 ft x 8 ft panel siding sheets (walls and people door; the pop door and ramp come from offcuts)
- 11 – 1x4 x 8 ft (8 corner boards, door Z-frame, pop-door guides)
- 4 – 1x6 x 8 ft (fascia and rake trim)
- 2 – 1x2 x 8 ft (pop-door guide spacers and stop, ramp cleats)
- 3 – heavy-duty exterior T-hinges or strap hinges, a hasp with a locking clip or padlock, and a door pull
- Pop door: a handle and a pin or barrel bolt to hold it shut
- 1/2 in. hardware cloth, 24 in. x 10 ft roll (cut into two 12 in. strips for the eave vents)

Roosts and nest boxes

- 3 – 2x2 x 8 ft (2 roost poles and the nest landing perch)
- 1 – 1/2 in. exterior plywood, 4 ft x 8 ft (2-box nest unit, 25-1/2 in. wide)

Materials list: 8x8 coop

Foundation and floor

- 3 – 4x4 treated x 8 ft (rated Ground Contact; skids)
- Solid concrete blocks for 9 block stacks (both ends and the middle of each skid), so the skid tops sit 12 in. above the gravel (about 8-1/2 in. of block under each 3-1/2 in. skid)
- 9 – 2x6 treated x 8 ft (2 rim joists and 7 floor joists)
- 2 – 23/32 in. APA Rated Sturd-I-Floor panels, 24 oc, T&G, 4 ft x 8 ft (floor deck)
- Crushed gravel and landscape fabric for the pad
- 4 (minimum) ground anchors with cable and clamps, sized for your soil by the anchor maker

Framing

- 39 – 2x4 x 8 ft (plates, studs, jack studs, side walls, pop-door blocks, roost cleats, nest legs)
- 1 – 2x6 x 8 ft (door header, 2 pieces)
- 8 – 2x6 x 10 ft, No. 2 grade, SPF, SPF (South), or Southern Pine (8 rafters; 7 needed, 1 spare)
- Scrap of 1/2 in. plywood for the header spacer

Roof

- 3 – 15/32 in. or 1/2 in. APA Rated Sheathing, span rating 32/16, 4 ft x 8 ft
- Roofing underlayment for about 80 sq ft plus laps (double layer for shingles below 4-in-12)
- Drip edge, 4 pieces x 10 ft
- Roofing (about 76 sq ft): exposed-fastener metal panels rated by their maker for 3-in-12 or lower, with trim and screws (suggested), **or** architectural asphalt shingles, 3 bundles, over double underlayment
- 14 – Simpson Strong-Tie H2.5A hurricane ties, plus 140 – 0.131 x 2-1/2 in. nails (or Simpson SD9212 screws)

Siding, trim, and doors

- 9 – 4 ft x 8 ft panel siding sheets (walls and people door; the pop door and ramp come from offcuts)
- 11 – 1x4 x 8 ft (8 corner boards, door Z-frame, pop-door guides)
- 2 – 1x6 x 8 ft (fascia)
- 2 – 1x6 x 10 ft (rake trim)
- 2 – 1x2 x 8 ft (pop-door guide spacers and stop, ramp cleats)
- 3 – heavy-duty exterior T-hinges or strap hinges, a hasp with a locking clip or padlock, and a door pull
- Pop door: a handle and a pin or barrel bolt to hold it shut
- 1/2 in. hardware cloth, 24 in. x 10 ft roll (cut into two 12 in. strips for the eave vents)

Roosts and nest boxes

- 3 – 2x2 x 8 ft (2 roost poles and the nest landing perch)
- 1 – 1/2 in. exterior plywood, 4 ft x 8 ft (3-box nest unit, 38 in. wide)

Both sizes, fasteners and finishing (nail sizes from IRC Table R602.3(1); IRC R304.3.1 requires hot-dip galvanized, stainless, silicon bronze, or copper fasteners in treated wood)

- 16d common nails (3-1/2 x 0.162 in.), hot-dip galvanized, for framing
- 10d common nails (3 x 0.148 in.) for toenailing rafters
- 8d common nails (2-1/2 x 0.131 in.) for the floor deck and roof sheathing; hot-dip galvanized 8d for toenailing joists to skids
- Siding nails: 6d hot-dip galvanized, long enough to go at least 1-1/2 in. into framing (LP's minimum for panel siding)
- 1-5/8 in. and 2-1/2 in. exterior screws (trim, door, nest unit, roost cleats, pop-door guides)
- About 60 – 1-1/4 in. exterior screws with 1 in. fender washers (hardware cloth)
- Exterior sealant, exterior primer and paint

Cut list: 4x8 coop

Part	Material	Qty	Length / size	Notes
Skids	4x4 treated (ground contact)	2	96 in.	Full length; set on solid blocks
Rim joists	2x6 treated	2	96 in.	Front and back of floor frame
Floor joists	2x6 treated	7	45 in.	48 in. minus two 1-1/2 in. rims; 16 in. o.c.
Front wall plates	2x4	3	96 in.	1 bottom, 2 top
Front wall studs	2x4	6	82-1/2 in.	2 end, 2 common, 2 king
Jack studs	2x4	2	77 in.	Support the header
Door header	2x6	2	37 in.	Plus a 1/2 in. plywood spacer, 5-1/2 x 37 in.
Back wall plates	2x4	3	96 in.	1 bottom, 2 top
Back wall studs	2x4	7	67-1/2 in.	16 in. on center
Pop-door sill block	2x4	1	14-1/2 in.	On edge, on the bottom plate between studs at 16 and 32 in.
Pop-door header block	2x4	1	14-1/2 in.	Flat, between the same studs; bottom 15 in. above the sill block
Side wall bottom plates	2x4	2	41 in.	Fit between front and back walls
Side wall sloped top plates	2x4	2	about 43-1/4 in.	Flat under the end rafter; angled ends, cut to fit
Side wall studs	2x4	8	about 82-3/4 in., 78-3/4 in., 73-1/2 in., 69-1/2 in. (2 of each)	Long-point lengths; cut to fit after the end rafters are set
Rafters	2x6, No. 2	8	63-5/16 in. along each edge	7 + 1 spare; parallel plumb cuts; 2 birdsmouths
Roost poles	2x2	2	88-1/2 in.	Round over the top edges; set 24 in. above the floor, 10 in. apart
Roost cleats	2x4	2	24 in.	On edge, one per side wall, top 22-1/2 in. above the floor
Nest-unit legs	2x4	2	18 in.	Front corners of the nest unit
Nest landing perch	2x2	1	25-1/2 in.	Across the front legs, about 4 in. below the box floor
Pop-door guides	1x4	2	38 in.	Over 1x2 spacers, each side of the opening, outside
Pop-door guide spacers	1x2	2	38 in.	
Door rails	1x4	2	33 in.	Top and bottom of the Z-frame
Pop-door stop	1x2	1	17-1/2 in.	Across the bottom of the guides; the closed door rests on it
Ramp cleats	1x2	8	11 in.	Every 4 in. up the ramp
Corner trim, front	1x4	4	93-1/4 in.	Two per front corner (one each face); match the siding height
Corner trim, back	1x4	4	78-1/4 in.	Two per back corner
Fascia	1x6	2	96 in.	Rafter tails, front and back

Rake trim	1x6	2	about 65-5/16 in.	Along each sloped side; cut to fit
Door brace	1x4	1	Cut to fit (diagonal)	Low end on the hinge side
Floor deck	23/32 in. APA Rated Sturd-I-Floor, 24 oc	1	48 x 96 in.	Every panel end on a joist
Roof sheathing	15/32 or 1/2 in. rated sheathing, 32/16	2	48 in. x 96 in. and 15-5/16 in. x 96 in.	Total 63-5/16 in. down the slope
Front siding	Panel siding	2	48 x 93-1/4 in.	Cut the door opening after hanging
Back siding	Panel siding	2	48 x 78-1/4 in.	Cut the pop-door opening after hanging
Side siding	Panel siding	2	48 in. wide; 78-1/4 in. back edge, 93-1/4 in. front edge	Straight sloped top edge
Door	Panel siding	1	36 in. x 81 in.	Hangs outside the opening
Pop door	Panel siding offcut	1	17-1/2 x 17-1/2 in.	Slides in the guides
Ramp	Panel siding offcut	1	12 in. wide x about 36 in.	1x2 cleats every 4 in.; adjust length to your height
Nest unit (2 boxes)	1/2 in. exterior plywood	1	25-1/2 in. wide x 12-1/2 in. deep x 25 in. tall at the back	Parts in the nest-box table

Cut list: 8x8 coop

All sizes are actual dimensions. Side-wall studs and sloped top plates are cut to fit after the end rafters are set.

Part	Material	Qty	Length / size	Notes
Skids	4x4 treated (ground contact)	3	96 in.	Full length; set on solid blocks
Rim joists	2x6 treated	2	96 in.	Front and back of floor frame
Floor joists	2x6 treated	7	93 in.	96 in. minus two 1-1/2 in. rims; 16 in. o.c.
Front wall plates	2x4	3	96 in.	1 bottom, 2 top
Front wall studs	2x4	6	85-1/4 in.	2 end, 2 common, 2 king
Jack studs	2x4	2	79-3/4 in.	Support the header
Door header	2x6	2	37 in.	Plus a 1/2 in. plywood spacer, 5-1/2 x 37 in.
Back wall plates	2x4	3	96 in.	1 bottom, 2 top
Back wall studs	2x4	7	55-1/2 in.	16 in. on center
Pop-door sill block	2x4	1	14-1/2 in.	On edge, on the bottom plate between studs at 16 and 32 in.
Pop-door header block	2x4	1	14-1/2 in.	Flat, between the same studs; bottom 15 in. above the sill block
Side wall bottom plates	2x4	2	89 in.	Fit between front and back walls
Side wall sloped top plates	2x4	2	about 93-1/2 in.	Flat under the end rafter; angled ends, cut to fit
Side wall studs	2x4	14	about 85-1/2 in., 81-3/4 in., 76-1/2 in., 71-1/2 in., 66-1/4 in., 61-1/4 in., 57-1/2 in. (2 of each)	Long-point lengths; cut to fit after the end rafters are set
Rafters	2x6, No. 2	8	113-7/16 in. along each edge	7 + 1 spare; parallel plumb cuts; 2 birdsmouths
Roost poles	2x2	2	88-1/2 in.	Round over the top edges; set 24 in. above the floor, 10 in. apart
Roost cleats	2x4	2	24 in.	On edge, one per side wall, top 22-1/2 in. above the floor
Nest-unit legs	2x4	2	18 in.	Front corners of the nest unit
Nest landing perch	2x2	1	38 in.	Across the front legs, about 4 in. below the box floor
Pop-door guides	1x4	2	38 in.	Over 1x2 spacers, each side of the opening, outside
Pop-door guide spacers	1x2	2	38 in.	
Door rails	1x4	2	33 in.	Top and bottom of the Z-frame
Pop-door stop	1x2	1	17-1/2 in.	Across the bottom of the guides; the closed door rests on it

Ramp cleats	1x2	8	11 in.	Every 4 in. up the ramp
Corner trim, front	1x4	4	96 in.	Two per front corner (one each face); match the siding height
Corner trim, back	1x4	4	66-1/4 in.	Two per back corner
Fascia	1x6	2	96 in.	Rafter tails, front and back
Rake trim	1x6	2	about 115-7/16 in.	Along each sloped side; cut to fit
Door brace	1x4	1	Cut to fit (diagonal)	Low end on the hinge side
Floor deck	23/32 in. APA Rated Sturd-I-Floor, 24 oc, T&G	2	Full sheets, long edges across the joists; rip the T&G edge as needed	Every panel end on a joist
Roof sheathing	15/32 or 1/2 in. rated sheathing, 32/16	3	48 in. x 96 in. and 48 in. x 96 in. and 17-7/16 in. x 96 in.	Total 113-7/16 in. down the slope
Front siding	Panel siding	2	48 x 96 in.	Cut the door opening after hanging; a full 96 in. sheet with no leftover: check each sheet's length and don't trim the bottom
Back siding	Panel siding	2	48 x 66-1/4 in.	Cut the pop-door opening after hanging
Side siding	Panel siding	4	Two per side, 48 in. wide: 96 in. to 81-1/8 in., and 81-1/8 in. to 66-1/4 in.	Seam on the stud at 48 in.
Door	Panel siding	1	36 in. x 83-3/4 in.	Hangs outside the opening
Pop door	Panel siding offcut	1	17-1/2 x 17-1/2 in.	Slides in the guides
Ramp	Panel siding offcut	1	12 in. wide x about 36 in.	1x2 cleats every 4 in.; adjust length to your height
Nest unit (3 boxes)	1/2 in. exterior plywood	1	38 in. wide x 12-1/2 in. deep x 25 in. tall at the back	Parts in the nest-box table

Nest box unit parts

2-box unit (4x8 coop), 25-1/2 in. wide:

Part (1/2 in. exterior plywood)	Qty	Size	Notes
Bottom	1	24-1/2 in. x 12 in.	Between the sides, in front of the back panel
Back	1	24-1/2 in. x 25 in.	Between the sides; screws into the wall framing
Roof (45°)	1	25-1/2 in. x 17-11/16 in.	Bevel the top edge to sit against the wall
Front lip	1	24-1/2 in. x 4-1/2 in.	Keeps the bedding in
Sides	2	12-1/2 in. x 25 in.	12-1/2 in. at the front, 25 in. at the back; straight 45° top
Dividers	1	12 in. x 24 in.	12 in. at the front, 24 in. at the back; sit on the bottom

3-box unit (8x8 coop), 38 in. wide:

Part (1/2 in. exterior plywood)	Qty	Size	Notes
Bottom	1	37 in. x 12 in.	Between the sides, in front of the back panel
Back	1	37 in. x 25 in.	Between the sides; screws into the wall framing
Roof (45°)	1	38 in. x 17-11/16 in.	Bevel the top edge to sit against the wall
Front lip	1	37 in. x 4-1/2 in.	Keeps the bedding in
Sides	2	12-1/2 in. x 25 in.	12-1/2 in. at the front, 25 in. at the back; straight 45° top
Dividers	2	12 in. x 24 in.	12 in. at the front, 24 in. at the back; sit on the bottom

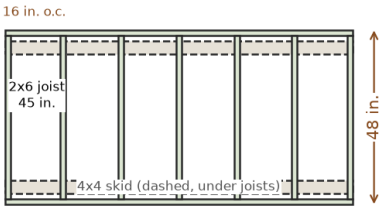
Key steps

1. **Rules and site.** Check hen limits, rooster rules, coop setbacks, permits, and HOA rules. Pick a well-drained spot; face the tall front wall south or east if you can. Call 811 before you dig.
2. **Foundation.** Compacted gravel pad over fabric. Treated 4x4 skids (Ground Contact) on solid concrete block stacks at both ends and the middle, skid tops 12 in. above the gravel (OSU: raise the coop at least 1 ft). 2 skids for the 4x8, 3 for the 8x8. At least 4 ground anchors.
3. **Floor.** Two 96 in. rims and seven 45 in. (4x8) / 93 in. (8x8) treated 2x6 joists at 16 in. o.c. (3-16d per joint); toenail to skids (3-8d galvanized); 23/32 in. Sturd-I-Floor, 8d at 6 in. edges / 12 in. field.
4. **Back wall.** Seven 67-1/2 in. (4x8) / 55-1/2 in. (8x8) studs, double top plate; wall 72 in. (4x8) / 60 in. (8x8). Pop door between the studs at 16 and 32 in.: 2x4 sill block on edge, flat 2x4 header block 15 in. above it (14-1/2 x 15 in. opening).
5. **Front wall.** Studs 82-1/2 in. (4x8) / 85-1/4 in. (8x8), jacks 77 in. (4x8) / 79-3/4 in. (8x8), two-2x6 header with 1/2 in. spacer, 34 in. door opening from 31 to 65 in.; wall 87 in. (4x8) / 89-3/4 in. (8x8). Leave the bottom plate in the opening until the siding is on.
6. **Rafters.** Pattern rafter 63-5/16 in. (4x8) / 113-7/16 in. (8x8) along each edge, 3-1/2 in. seat cuts, plumb cuts about 1-3/16 in. (4x8) / 1-1/8 in. (8x8), plumb tails, 6 in. overhangs. Seven rafters at 16 in. o.c., 3-10d toenails each end plus a Simpson H2.5A tie at each wall.
7. **Side walls.** Bottom plates 41 in. (4x8) / 89 in. (8x8); sloped top plates under the end rafters; studs cut to fit (long points about 82-3/4, 78-3/4, 73-1/2, 69-1/2 in. for the 4x8; 85-1/2, 81-3/4, 76-1/2, 71-1/2, 66-1/4, 61-1/4, 57-1/2 in. for the 8x8). 24 in. 2x4 roost cleats on edge, tops 22-1/2 in. above the deck.
8. **Roof.** 32/16 sheathing (48 in. + 15-5/16 in. / 48 in. + 48 in. + 17-7/16 in. down the slope), 8d at 6 in. edges and rafters; fascia; drip edge; underlayment. 4x8 is about 4-in-12 (double underlayment under shingles below 4-in-12). 8x8 is about 3.9-in-12: metal panels rated for 3-in-12 suggested, or shingles over double underlayment.
9. **Siding and vents.** Panel siding, front 93-1/4 in. (4x8) / 96 in. (8x8), back 78-1/4 in. (4x8) / 66-1/4 in. (8x8); 6 in. o.c. edges, 12 in. field. Notch the top of the back panels around the rafter tails (about 1-5/8 x 1-3/8 in.). On the 8x8 the front panels are a full 96 in. with no leftover: check each sheet's length and don't trim the bottom. Cut out the door and pop-door openings. 1/2 in. hardware cloth over every open rafter bay at the front and back eaves, with screws and fender washers every 4-6 in.
10. **Doors.** People door 36 x 81 in. (4x8) / 36 x 83-3/4 in. (8x8) Z-frame on three hinges, raccoon-resistant latch. Pop door 17-1/2 in. square in 38 in. 1x2 + 1x4 guides with a 1x2 stop; pin or bolt to lock it. Ramp 12 in. wide, about 36 in. long, 1x2 cleats every 4 in. (sill about 23-1/4 in. above the ground).
11. **Roosts and nest boxes.** Two 2x2 roost poles with rounded top edges on the cleats, tops 24 in. up, 10 in. apart. Nest unit (12 x 12 x 12 in. boxes, 45° roof, 4-1/2 in. lip) with box floors 18 in. up (on the 4x8, the 25-1/2 in. unit sits in a 26 in. clear bay left of the door: dry-fit it first and keep it tight to the wall framing): back screwed to the wall framing, front on two 18 in. 2x4 legs, 2x2 landing perch about 4 in. below the box floor.

Wear eye and hearing protection, and get a helper to raise walls and set rafters. Use 1/2 in. hardware cloth, not chicken wire, over openings, and lock the flock in at night. Treated lumber is used only for the skids and floor frame; keep it away from feed and water.

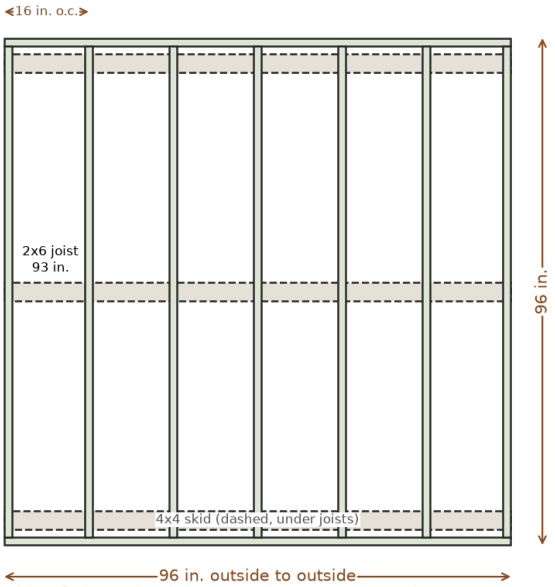
Diagrams

4x8 floor frame (top view; front at bottom)



7 joists: flush at each end, then centered at 16, 32, 48, 64, 80 in.
Deck: one 4x8 sheet, flush on all edges.

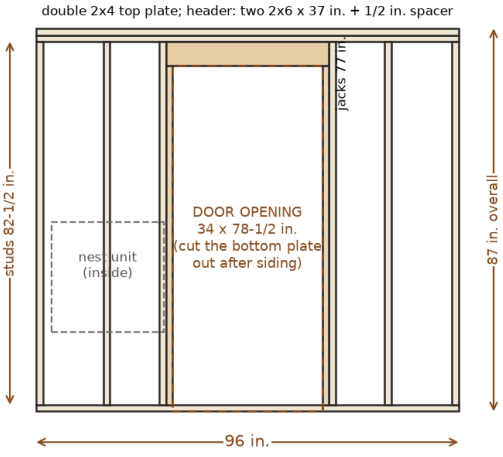
8x8 floor frame (top view; front at bottom)



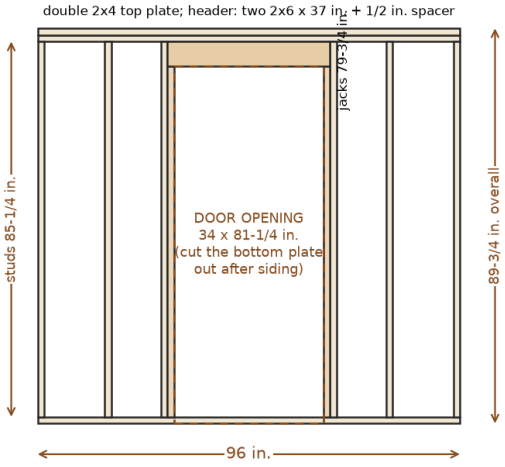
7 joists: flush at each end, then centered at 16, 32, 48, 64, 80 in.
Deck: two 4x8 T&G sheets, long edges across the joists.

Floor frames

4x8 front wall (outside face)

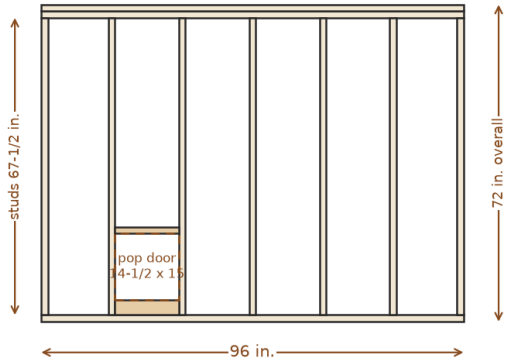


8x8 front wall (outside face)



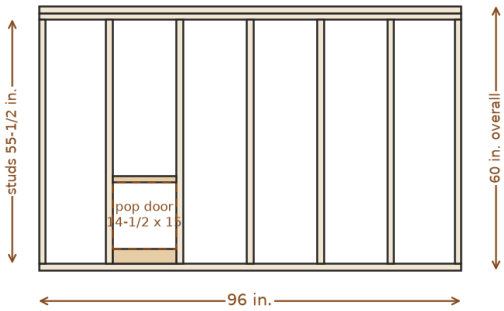
Front wall framing

4x8 back wall (inside face; pop door at left)



Pop-door opening between the studs at 16 and 32 in. (measured from the left end, inside face): 2x4 sill block on edge (top 5 in. above the deck), flat 2x4 header block 15 in. above it.

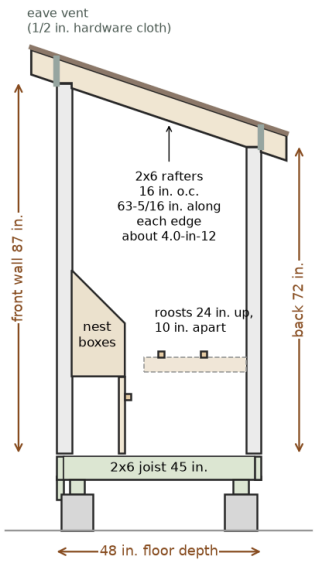
8x8 back wall (inside face; pop door at left)



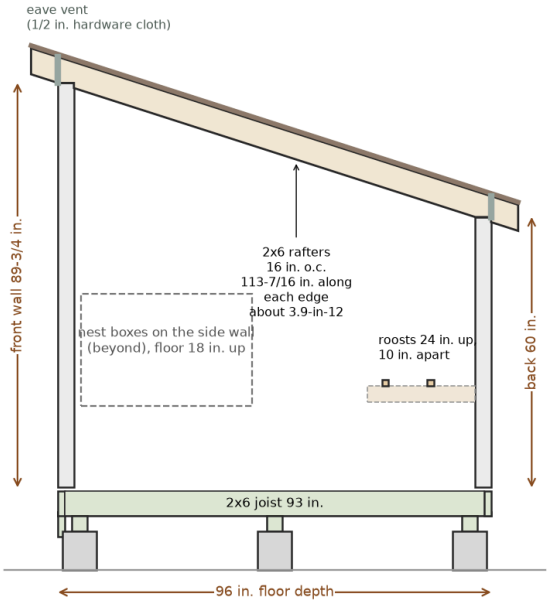
Pop-door opening between the studs at 16 and 32 in. (measured from the left end, inside face): 2x4 sill block on edge (top 5 in. above the deck), flat 2x4 header block 15 in. above it.

Back wall framing and pop-door opening

4x8 section (door side at left)

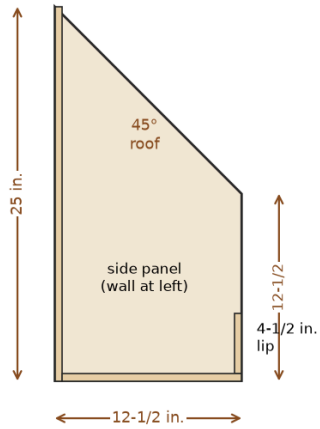


8x8 section (door side at left)



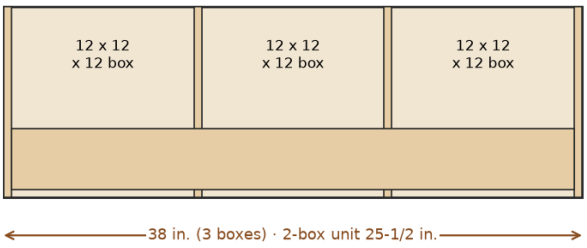
Side sections

Side view



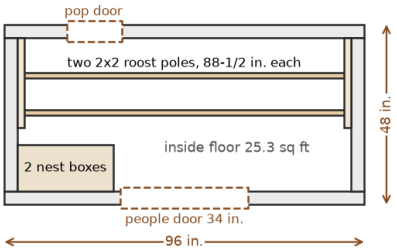
Front view

Front view: 1/2 in. plywood. Boxes 12 in. wide, deep and tall inside (OSU EC 1644).
Floor 18 in. above the coop floor on two 2x4 legs; 2x2 landing perch about 4 in. below.

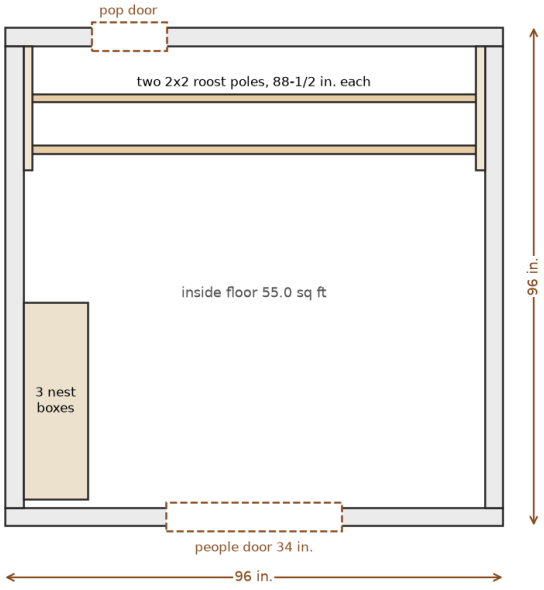


Nest box unit

4x8 inside layout (top view; front at bottom)

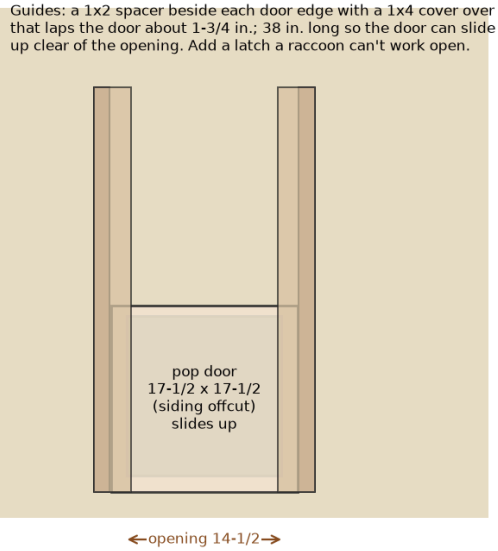


8x8 inside layout (top view; front at bottom)

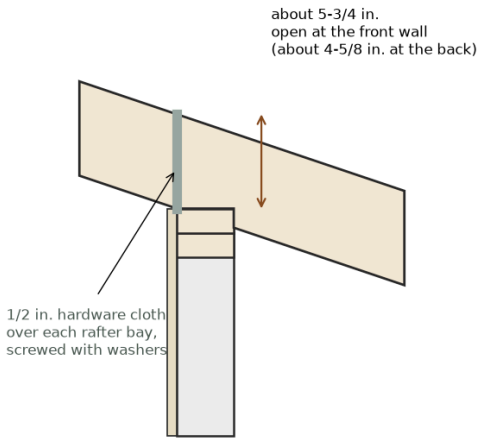


Inside layouts

Pop door (outside, back wall)



Eave vent at the front wall (section)



Eave openings: 6.2 sq ft (4x8) / 6.2 sq ft (8x8) gross, high above the 24 in. roosts. Hardware cloth reduces the free area.

Pop door and eave vent details