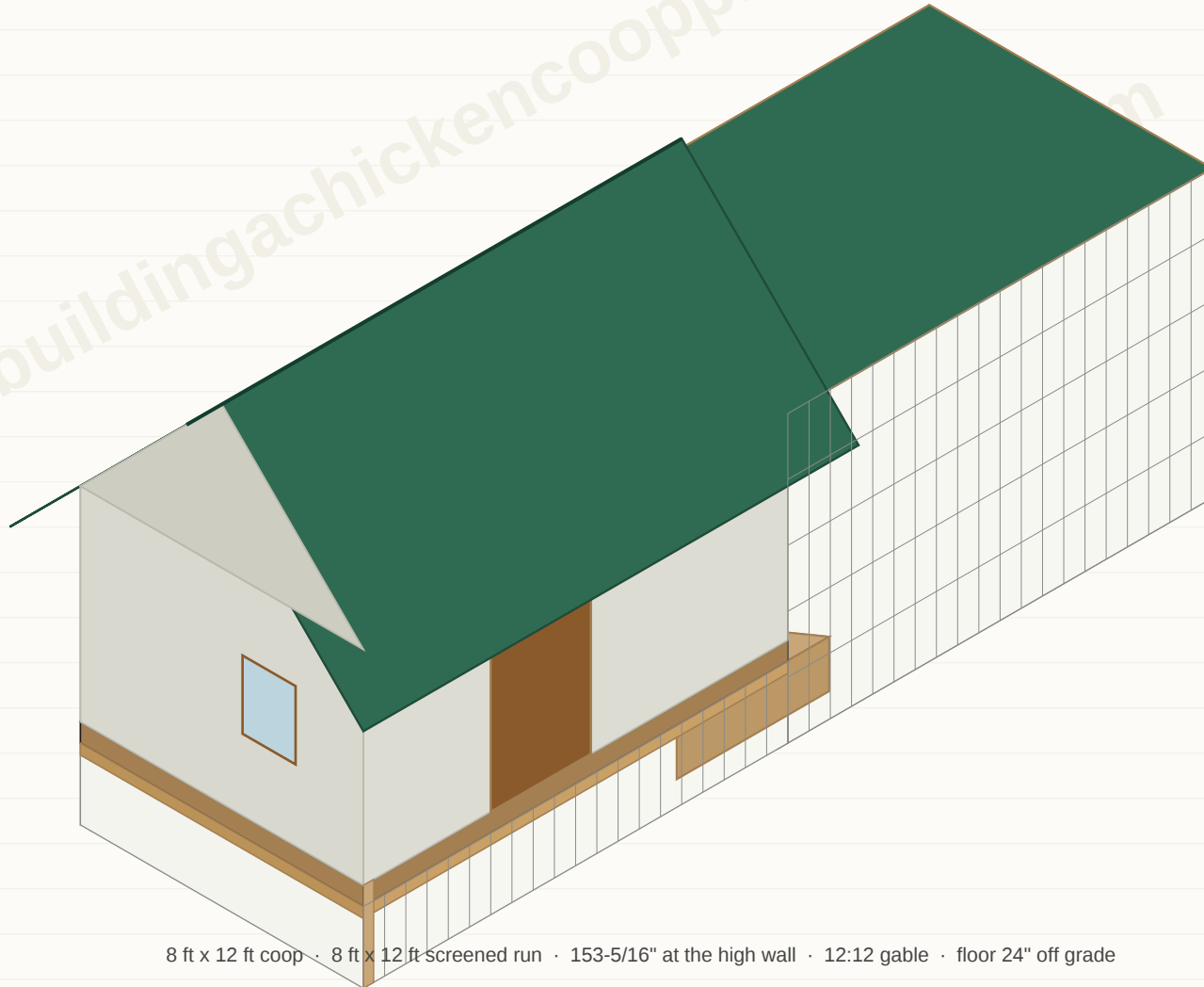


## 8X12 CHICKEN COOP WITH 8X12 RUN

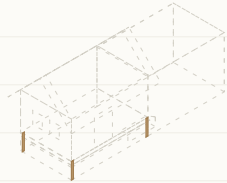
80 sq ft coop · 96 sq ft run · 12-19 hens



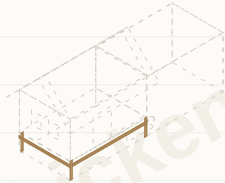
8 ft x 12 ft coop · 8 ft x 12 ft screened run · 153-5/16" at the high wall · 12:12 gable · floor 24" off grade

# THE BUILD, STAGE BY STAGE

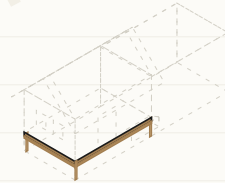
13 stages, in order. Solid is what you have built by the end of that step; the dotted outline is what is still to come. Check your work against the matching picture before you move on — it is much cheaper to notice a wall in the wrong place here than three steps later.



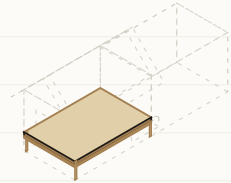
1. Posts



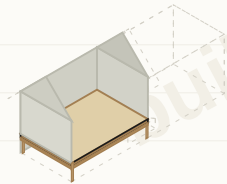
2. Base supports



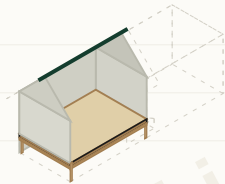
3. Floor joists



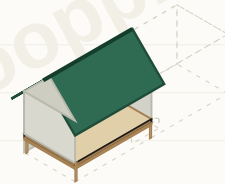
4. Floor deck



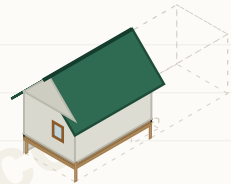
5. Wall framing — the method



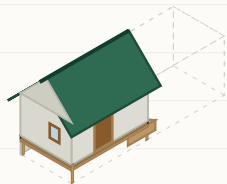
6. Gable ends, rafters and rafters



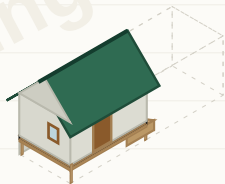
7. Roof deck and metal



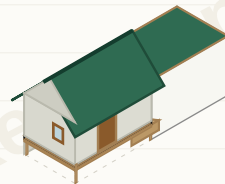
8. Siding



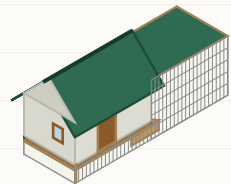
9. Nest bank



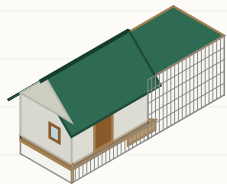
10. Pop door and ramp



11. Run frame



12. Hardware cloth



13. Roosts and droppings board

# CONTENTS

|    |                                             |    |                                         |
|----|---------------------------------------------|----|-----------------------------------------|
| 1  | 8x12 Chicken Coop with 8x12 Run             | 33 | Step 10: Pop door and ramp              |
| 2  | The build, stage by stage                   | 34 | Step 11: Run frame                      |
| 3  | Contents                                    | 35 | Step 12: Hardware cloth                 |
| 4  | Before you begin                            | 36 | Step 13: Roosts and droppings board     |
| 5  | Tools you will need                         | 37 | Important — please read before building |
| 6  | Notes on lumber dimensions                  | 38 | Important — please read (continued)     |
| 7  | Material list                               | 39 | Plans complete                          |
| 8  | Master cut list                             |    |                                         |
| 9  | Master cut list (continued)                 |    |                                         |
| 10 | Master cut list (continued)                 |    |                                         |
| 11 | Master cut list (continued)                 |    |                                         |
| 12 | What to buy - board count                   |    |                                         |
| 13 | Main dimensions: plan view                  |    |                                         |
| 14 | Main dimensions: front                      |    |                                         |
| 15 | Main dimensions: gable end                  |    |                                         |
| 16 | Floor framing layout                        |    |                                         |
| 17 | What the words mean                         |    |                                         |
| 18 | Cut plan — what to cut from each board      |    |                                         |
| 19 | Step 1: Posts                               |    |                                         |
| 20 | Step 2: Base supports                       |    |                                         |
| 21 | Step 3: Floor joists                        |    |                                         |
| 22 | Step 4: Floor deck                          |    |                                         |
| 23 | Step 5: Wall framing — the method           |    |                                         |
| 24 | Step 5a: Front wall                         |    |                                         |
| 25 | Step 5b: Back wall                          |    |                                         |
| 26 | Step 5c: Left end wall (run end)            |    |                                         |
| 27 | Step 5d: Right end wall                     |    |                                         |
| 28 | Step 6: Gable ends, rafters and rafter ties |    |                                         |
| 29 | Step 7: Roof deck and metal                 |    |                                         |
| 30 | Step 8: Siding                              |    |                                         |
| 31 | Step 8b: Doors, hatches and lids            |    |                                         |
| 32 | Step 9: Nest bank                           |    |                                         |

39 pages. Read the whole set once before the first cut.

## BEFORE YOU BEGIN

### **Wear safety gear**

Safety glasses, gloves and ear protection. A circular saw and a framing nailer both throw debris.

### **Read the whole plan first**

Understand every step and have the full material list on hand before the first cut.

### **Check your local rules**

The number a building department measures is the BUILDING FOOTPRINT: 96 sq ft for the coop, or 192 sq ft if your jurisdiction counts the covered run. That is NOT the same as the capacity figure on the cover. Many jurisdictions require a permit past 100, 120 or 144 sq ft of footprint, and most require a setback from property lines. Confirm both before you buy lumber.

### **Work on a level base**

Set the four posts plumb and the base ring level. Every error here compounds through the walls and the roof.

### **Use hardware cloth, never chicken wire**

Chicken wire keeps chickens in. It does not keep raccoons, weasels or foxes out. Quarter-inch 19-gauge hardware cloth, stapled and then screwed through fender washers. Quarter-inch, not half: a least weasel gets through a half-inch opening and does not get through a quarter-inch one.

### **Cut one, test-fit, then batch**

Cut a single instance of each part, fit it, confirm it against the drawing, and only then cut the rest.

## TOOLS YOU WILL NEED

Nothing in this plan needs a table saw, a compound mitre saw, or pocket-hole joinery.

### ESSENTIAL

|                                               |                                                                   |
|-----------------------------------------------|-------------------------------------------------------------------|
| <b>Circular saw</b>                           | Every cut in this plan. A sharp 24-tooth framing blade is enough. |
| <b>Drill / driver</b>                         | Two is better than one - one drilling pilot holes, one driving.   |
| <b>Tape measure</b>                           | 25 ft. Check it against a second tape before you start.           |
| <b>Speed square</b>                           | Marking square cuts and the 45-degree rafter cuts.                |
| <b>4 ft level</b>                             | The base ring and the first wall decide everything after them.    |
| <b>Hammer</b>                                 | Staples, adjustments, persuasion.                                 |
| <b>Tin snips</b>                              | Cutting hardware cloth. Wear gloves - the cut edges are vicious.  |
| <b>Staple gun</b>                             | Tacking hardware cloth before you screw the washers.              |
| <b>Safety glasses, gloves, ear protection</b> | Non-negotiable with a circular saw.                               |

### MAKES IT MUCH EASIER

|                                           |                                                               |
|-------------------------------------------|---------------------------------------------------------------|
| <b>Mitre saw</b>                          | The repetitive stud and rafter cuts go 3x faster and squarer. |
| <b>Impact driver</b>                      | Driving several hundred screws by drill is punishing.         |
| <b>Sawhorses (pair)</b>                   | Cutting on the ground is slow and inaccurate.                 |
| <b>Clamps (4+)</b>                        | Holding a wall square while you fasten it.                    |
| <b>Chalk line</b>                         | Siding courses and deck fastening lines.                      |
| <b>Carpenter's pencil + marking knife</b> | A pencil line is 1/32 wide; that adds up.                     |

### ONLY IF YOU ARE DOING THE OPTIONAL EXTRAS

|                                    |                                                                     |
|------------------------------------|---------------------------------------------------------------------|
| <b>Angle grinder / metal blade</b> | Trimming corrugated roof panels to length.                          |
| <b>Post-hole digger</b>            | Only if you set the posts in the ground rather than on pier blocks. |

## NOTES ON LUMBER DIMENSIONS

### Nominal vs actual

The material list uses nominal sizes (2x4, 4x4). The drawings use actual finished sizes: a 2x4 really measures 1-1/2" x 3-1/2", and a 4x4 measures 3-1/2" x 3-1/2".

### Measure your own stock

Mills vary. Check the lumber you actually bought against the drawings before cutting; a sixteenth of an inch compounds fast across an 8-foot wall.

### Buy a little extra

The material list has no waste allowance. Add two or three 2x4s if you are new to framing.

### Crown matters

Sight down every joist and rafter and mark the crown. Install them all crown-up.

# MATERIAL LIST

| Material                                    | Size                      | Quantity                 | Find it                             |
|---------------------------------------------|---------------------------|--------------------------|-------------------------------------|
| 1x2 lumber                                  | 8 feet                    | 2 pcs                    | <a href="#">search Home Depot</a> ■ |
| 1x4 lumber                                  | 8 feet                    | 2 pcs                    | <a href="#">search Home Depot</a> ■ |
| 2x2 lumber                                  | 8 feet                    | 2 pcs                    | <a href="#">search Home Depot</a> ■ |
| 2x4 lumber                                  | 16 feet                   | 1 pcs                    | <a href="#">search Home Depot</a> ■ |
| 2x4 lumber                                  | 14 feet                   | 4 pcs                    | <a href="#">search Home Depot</a> ■ |
| 2x4 lumber                                  | 12 feet                   | 6 pcs                    | <a href="#">search Home Depot</a> ■ |
| 2x4 lumber                                  | 8 feet                    | 86 pcs                   | <a href="#">search Home Depot</a> ■ |
| 2x6 lumber                                  | 14 feet                   | 4 pcs                    | <a href="#">search Home Depot</a> ■ |
| 2x6 lumber                                  | 8 feet                    | 10 pcs                   | <a href="#">search Home Depot</a> ■ |
| 2x8 lumber (headers)                        | 8 feet                    | 2 pcs                    | <a href="#">search Home Depot</a> ■ |
| 4x4 post (ground contact)                   | 12 feet                   | 2 pcs                    | <a href="#">search Home Depot</a> ■ |
| 4x4 post (ground contact)                   | 10 feet                   | 12 pcs                   | <a href="#">search Home Depot</a> ■ |
| 4x4 post (ground contact)                   | 8 feet                    | 2 pcs                    | <a href="#">search Home Depot</a> ■ |
| 3/4" plywood                                | 4' x 8'                   | 13 pcs                   | <a href="#">search Home Depot</a> ■ |
| 1/2" plywood (partition + header spacers)   | 4' x 8'                   | 1 pcs                    | <a href="#">search Home Depot</a> ■ |
| Lap siding                                  | 12 ft, 8-1/4in exposure   | 37 pcs (~256 sq ft of w  | <a href="#">search Home Depot</a> ■ |
| Corrugated metal roofing                    | 26" x 8 ft                | 7 panels                 | <a href="#">search Home Depot</a> ■ |
| Roof screws, neoprene washer                | 1-1/2"                    | 280 pcs                  | <a href="#">search Home Depot</a> ■ |
| Drip edge / eave closure strip              | 10 ft                     | 5 pcs                    | <a href="#">search Home Depot</a> ■ |
| 1/4" hardware cloth, 19 ga                  | 36" roll                  | 100 ft + 50 ft + 25 ft + | <a href="#">search Home Depot</a> ■ |
| Fender washers + screws for cloth           | 1" washer                 | 744 pcs                  | <a href="#">search Home Depot</a> ■ |
| Heavy-duty staples                          | 1/2"                      | 1 box (1000)             | <a href="#">search Home Depot</a> ■ |
| Coop windows                                | 18" x 23"                 | 4                        | <a href="#">search Home Depot</a> ■ |
| Pier blocks                                 | solid concrete deck block | 12 pcs                   | <a href="#">search Home Depot</a> ■ |
| Gravel, compacted under each block          | 3/4" clean                | 11 cu ft                 | <a href="#">search Home Depot</a> ■ |
| Coarse sand or 3/8in drain rock (run floor) | 3-4in deep                | 2 cu yd                  | <a href="#">search Home Depot</a> ■ |
| 2-1/2" exterior screws                      | 5 lb box                  | 4 boxes                  | <a href="#">search Home Depot</a> ■ |
| 8x1 1-1/2" exterior screws                  | 5 lb box                  | 2 boxes                  | <a href="#">search Home Depot</a> ■ |
| 4" structural screws                        | —                         | 24 pcs                   | <a href="#">search Home Depot</a> ■ |
| 3/8" x 4" lag bolts (run to coop)           | —                         | 8 pcs                    | <a href="#">search Home Depot</a> ■ |

# MASTER CUT LIST

Every cut in the build, grouped by stock. Take this to the saw. The board-count buy list follows it.

## 2X4

| Part                                        | Step | Qty | Length  | Note                                                 |
|---------------------------------------------|------|-----|---------|------------------------------------------------------|
| Ridge board                                 | 6    | 1   | 168"    |                                                      |
| Run top rail                                | 11   | 2   | 144"    |                                                      |
| Run mid rail                                | 11   | 2   | 144"    |                                                      |
| A Bottom plate                              | 5a   | 1   | 137"    | sits flat on the deck — cut out at the doors AFTER s |
| B Top plate                                 | 5a   | 1   | 137"    | first plate over the studs                           |
| A Bottom plate                              | 5b   | 1   | 137"    | sits flat on the deck — cut out at the doors AFTER s |
| B Top plate                                 | 5b   | 1   | 137"    | first plate over the studs                           |
| C Cap plate (upper top plate)               | 5a   | 1   | 134"    | laps the corner — hold back 1-1/2in one end, run 1-1 |
| C Cap plate (upper top plate)               | 5b   | 1   | 134"    | laps the corner — hold back 1-1/2in one end, run 1-1 |
| C Cap plate (upper top plate)               | 5c   | 1   | 92"     | laps the corner — hold back 1-1/2in one end, run 1-1 |
| C Cap plate (upper top plate)               | 5d   | 1   | 92"     | laps the corner — hold back 1-1/2in one end, run 1-1 |
| A Bottom plate                              | 5c   | 1   | 89"     | sits flat on the deck — cut out at the doors AFTER s |
| B Top plate                                 | 5c   | 1   | 89"     | first plate over the studs                           |
| A Bottom plate                              | 5d   | 1   | 89"     | sits flat on the deck — cut out at the doors AFTER s |
| B Top plate                                 | 5d   | 1   | 89"     | first plate over the studs                           |
| Rafter tie                                  | 6    | 7   | 89"     | one per rafter pair, at top-plate level              |
| Run end rail                                | 11   | 3   | 89"     |                                                      |
| Rafter                                      | 6    | 14  | 79-7/8" | 45 deg plumb cut, 12" tail                           |
| J Rough sill                                | 5b   | 1   | 77-1/2" | rough sill under the window                          |
| Nest bank frame                             | 9    | 4   | 74-1/2" |                                                      |
| Run door stile                              | 11   | 2   | 74"     |                                                      |
| Roost bar                                   | 13   | 3   | 73"     | MOUNT ON EDGE — 1-1/2in face up, top corners eased r |
| D Common stud                               | 5a   | 4   | 64-3/4" | 16in OC, crown out                                   |
| E King stud (full height, beside the openin | 5a   | 6   | 64-3/4" | full height, outside the jack                        |
| D Common stud                               | 5b   | 4   | 64-3/4" | 16in OC, crown out                                   |
| E King stud (full height, beside the openin | 5b   | 4   | 64-3/4" | full height, outside the jack                        |
| D Common stud                               | 5c   | 6   | 64-3/4" | 16in OC, crown out                                   |
| E King stud (full height, beside the openin | 5c   | 2   | 64-3/4" | full height, outside the jack                        |
| D Common stud                               | 5d   | 5   | 64-3/4" | 16in OC, crown out                                   |
| E King stud (full height, beside the openin | 5d   | 2   | 64-3/4" | full height, outside the jack                        |
| F Jack stud (carries the header)            | 5a   | 2   | 61-1/4" | carries the header, sits ON the bottom plate         |
| G Jack stud (carries the header)            | 5a   | 4   | 48-1/2" | carries the header, sits ON the bottom plate         |
| F Jack stud (carries the header)            | 5b   | 2   | 48-1/2" | carries the header, sits ON the bottom plate         |
| F Jack stud (carries the header)            | 5d   | 2   | 48-1/2" | carries the header, sits ON the bottom plate         |

## MASTER CUT LIST (CONTINUED)

### 2X4 (CONTINUED)

| Part                             | Step | Qty | Length           | Note                                                 |
|----------------------------------|------|-----|------------------|------------------------------------------------------|
| I Cripple over the header        | 5c   | 2   | <b>44-3/4"</b>   | between header and top plate                         |
| H Header                         | 5a   | 2   | <b>37"</b>       | two pieces + a 1/2in plywood spacer = 3-1/2in thick, |
| Run brace                        | 11   | 4   | <b>33"</b>       | 45° corner braces                                    |
| N Cripple over the header        | 5b   | 6   | <b>30"</b>       | between header and top plate                         |
| Gable stud (varies)              | 6    | 8   | <b>28-13/16"</b> | cut to fit under the rafter                          |
| G Jack stud (carries the header) | 5b   | 2   | <b>27-1/2"</b>   | carries the header, sits ON the bottom plate         |
| Run door rail                    | 11   | 3   | <b>26"</b>       |                                                      |
| K Cripple under the sill         | 5a   | 6   | <b>24"</b>       | between bottom plate and rough sill                  |
| L Cripple under the sill         | 5b   | 3   | <b>24"</b>       | between bottom plate and rough sill                  |
| I Cripple under the sill         | 5d   | 3   | <b>24"</b>       | between bottom plate and rough sill                  |
| I Header                         | 5a   | 4   | <b>21"</b>       | two pieces + a 1/2in plywood spacer = 3-1/2in thick, |
| J Rough sill                     | 5a   | 2   | <b>21"</b>       | rough sill under the window                          |
| I Header                         | 5b   | 2   | <b>21"</b>       | two pieces + a 1/2in plywood spacer = 3-1/2in thick, |
| K Rough sill                     | 5b   | 1   | <b>21"</b>       | rough sill under the window                          |
| G Header                         | 5d   | 2   | <b>21"</b>       | two pieces + a 1/2in plywood spacer = 3-1/2in thick, |
| H Rough sill                     | 5d   | 1   | <b>21"</b>       | rough sill under the window                          |
| Base blocking                    | 2    | 8   | <b>20-1/2"</b>   |                                                      |
| F Jack stud (carries the header) | 5c   | 2   | <b>16-1/2"</b>   | carries the header, sits ON the bottom plate         |
| G Header                         | 5c   | 2   | <b>15"</b>       | two pieces + a 1/2in plywood spacer = 3-1/2in thick, |
| H Rough sill                     | 5c   | 1   | <b>15"</b>       | rough sill under the window                          |
| Roost support                    | 13   | 6   | <b>14"</b>       | wall cleats                                          |
| M Cripple under the sill         | 5b   | 6   | <b>13"</b>       | between bottom plate and rough sill                  |
| L Cripple over the header        | 5a   | 6   | <b>12-3/4"</b>   | between header and top plate                         |
| O Cripple over the header        | 5b   | 3   | <b>12-3/4"</b>   | between header and top plate                         |
| J Cripple over the header        | 5d   | 3   | <b>12-3/4"</b>   | between header and top plate                         |

### 3/4" PLYWOOD

| Part              | Step | Qty | Length                   | Note                                                 |
|-------------------|------|-----|--------------------------|------------------------------------------------------|
| Nest bank floor   | 9    | 1   | <b>74-1/2" x 17"</b>     |                                                      |
| Nest lid          | 9    | 1   | <b>74-1/2" x 18"</b>     | hinged                                               |
| Ramp              | 10   | 1   | <b>69-7/8" x 10"</b>     | trim to your measured drop                           |
| Nest divider      | 9    | 4   | <b>17" x 14"</b>         |                                                      |
| Floor panel       | 4    | 1   | <b>96" x 144"</b>        | notch corners                                        |
| Roof deck panel   | 7    | 6   | <b>4' x 8' sheet</b>     | lay the 8-ft dimension UP the slope; seams land on a |
| Walk-in door slab | 8b   | 1   | <b>33-1/2" x 62-1/4"</b> | hinges, opens out                                    |

## MASTER CUT LIST (CONTINUED)

### 3/4" PLYWOOD (CONTINUED)

| Part            | Step | Qty | Length            | Note                       |
|-----------------|------|-----|-------------------|----------------------------|
| Pop door slab   | 8b   | 1   | 11-1/2" x 13-1/2" | Hinges, opens out          |
| Droppings board | 13   | 1   | 75" x 24"         | removable, sealed or lined |

### 1/4" HARDWARE CLOTH

| Part                                 | Step | Qty | Length    | Note |
|--------------------------------------|------|-----|-----------|------|
| Run walls                            | 12   | 1   | 87 lin ft |      |
| Run roof                             | 12   | 1   | 32 lin ft |      |
| Buried apron, 12in down and 12in out | 12   | 1   | 27 lin ft |      |
| Window screens                       | 12   | 1   | 6 lin ft  |      |
| Continuous eave vent strip           | 12   | 1   | 3 lin ft  |      |
| Nest opening and pop-door surround   | 12   | 1   | 4 lin ft  |      |
| Under-floor skirt                    | 12   | 1   | 27 lin ft |      |

### 4X4

| Part                        | Step | Qty | Length    | Note |
|-----------------------------|------|-----|-----------|------|
| Base support B (sides)      | 2    | 2   | 137"      |      |
| Post A                      | 1    | 4   | 99-1/2"   |      |
| Run post                    | 11   | 8   | 96-13/16" |      |
| Base support A (front/back) | 2    | 2   | 89"       |      |

### 1X4

| Part                         | Step | Qty | Length  | Note                                                 |
|------------------------------|------|-----|---------|------------------------------------------------------|
| Walk-in door batten diagonal | 8b   | 1   | 60-7/8" | BOTTOM HINGE corner up to TOP LATCH corner; mitre bo |
| Walk-in door batten rail     | 8b   | 2   | 32"     | top and bottom, 1in in from each edge                |

### 2X6

| Part                   | Step | Qty | Length | Note                   |
|------------------------|------|-----|--------|------------------------|
| Rim joist (long sides) | 3    | 4   | 144"   | doubled                |
| Floor joist            | 3    | 10  | 90"    | 16" OC, last bay short |

### 1X2

| Part       | Step | Qty | Length | Note                         |
|------------|------|-----|--------|------------------------------|
| Ramp cleat | 10   | 17  | 10"    | every 4in, so a hen has grip |

## MASTER CUT LIST (CONTINUED)

### 2X2

| Part                 | Step | Qty | Length | Note                |
|----------------------|------|-----|--------|---------------------|
| Droppings board rail | 13   | 2   | 75"    | slides out on these |

### 2X8

| Part     | Step | Qty | Length  | Note                                                 |
|----------|------|-----|---------|------------------------------------------------------|
| H Header | 5b   | 2   | 77-1/2" | two pieces + a 1/2in plywood spacer = 3-1/2in thick, |

### 9 FT LAP SIDING

| Part             | Step | Qty | Length | Note               |
|------------------|------|-----|--------|--------------------|
| Lap siding board | 8    | 99  | 9 ft   | 5in wide, ~1in lap |

### CORRUGATED STEEL

| Part             | Step | Qty | Length     | Note                                                 |
|------------------|------|-----|------------|------------------------------------------------------|
| Metal roof panel | 7    | 7   | 8 ft x 26" | 26in wide, 24in coverage; one piece eave to ridge, n |

88 part lines in total — if your copy shows fewer, a page is missing.

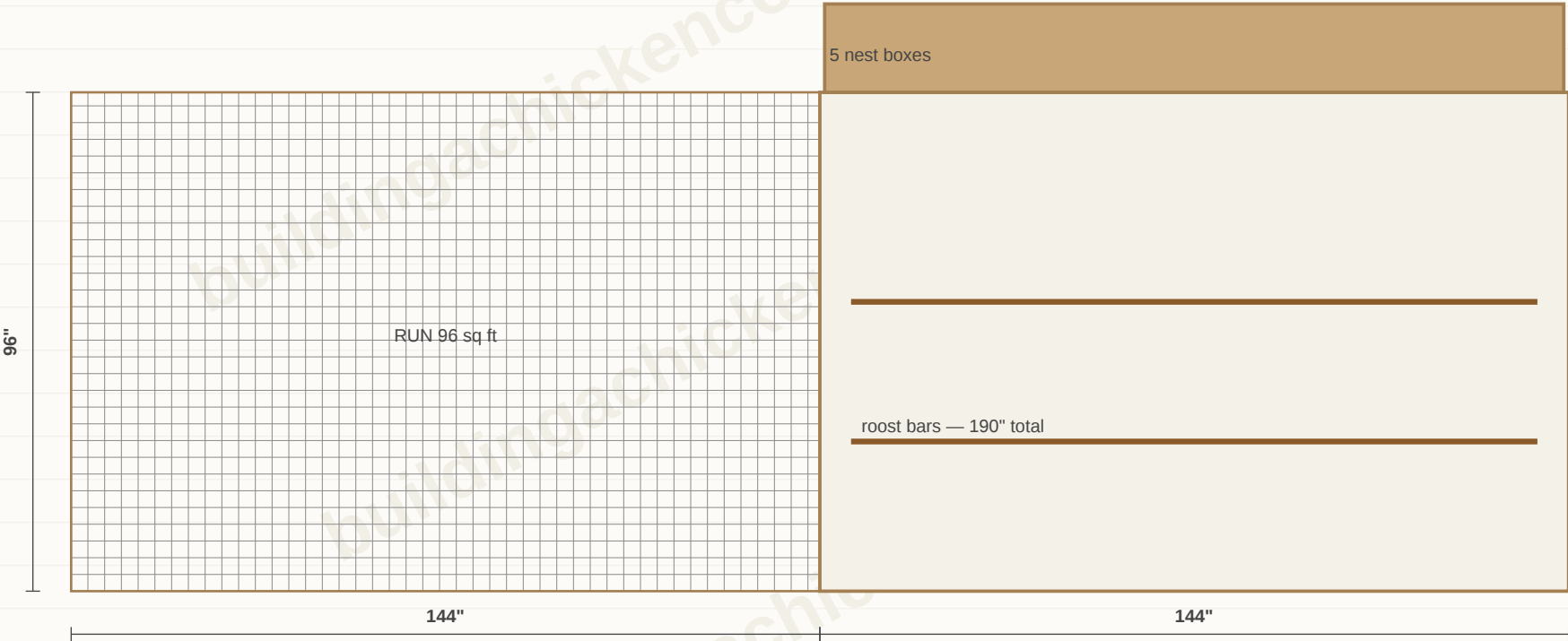
## WHAT TO BUY - BOARD COUNT

These counts come from actually packing the cut list onto real stock, allowing 1/8 inch per saw kerf and 4 inches of margin on any cut over 8 feet. **The material list on page 7 is generated from this same packing**, so the two pages cannot disagree — they used to, by sixteen boards on the 2x4 line and by a three-board shortfall on the 4x4.

| Stock | Buy this length | How many | Longest cut on it | Note                       |
|-------|-----------------|----------|-------------------|----------------------------|
| 1x2   | 8 ft            | 2        | 10"               | general framing            |
| 1x4   | 8 ft            | 2        | 60-7/8"           | general framing            |
| 2x2   | 8 ft            | 2        | 75"               | general framing            |
| 2x4   | 16 ft           | 1        | 168"              | cut from full-length stock |
| 2x4   | 14 ft           | 4        | 144"              | cut from full-length stock |
| 2x4   | 12 ft           | 6        | 137"              | cut from full-length stock |
| 2x4   | 8 ft            | 86       | 92"               | general framing            |
| 2x6   | 14 ft           | 4        | 144"              | cut from full-length stock |
| 2x6   | 8 ft            | 10       | 90"               | general framing            |
| 2x8   | 8 ft            | 2        | 77-1/2"           | general framing            |
| 4x4   | 12 ft           | 2        | 137"              | cut from full-length stock |
| 4x4   | 10 ft           | 12       | 99-1/2"           | cut from full-length stock |
| 4x4   | 8 ft            | 2        | 89"               | general framing            |

Buy two or three extra 2x4s beyond this count if you are new to framing — one bad cut costs less than a second trip to the yard. Sheet goods, mesh, fasteners and hardware are all on the material list and already carry their allowances.

# MAIN DIMENSIONS: PLAN VIEW



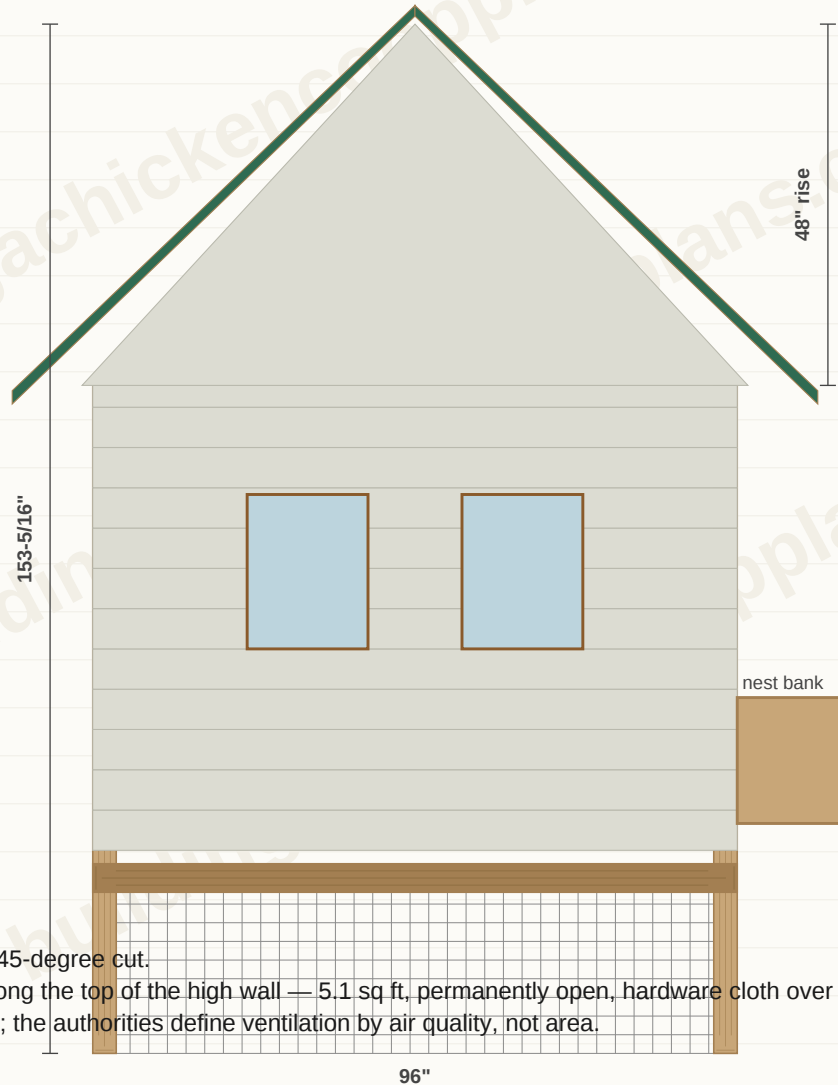
Coop 80 sq ft (19 birds at 4 sq ft each) plus 96 sq ft of screened run.  
Add the 80 sq ft of shaded bay under the raised floor and the flock has 256 sq ft in total.

# MAIN DIMENSIONS: FRONT



Overall 288" long x 153-5/16" to the ridge. 144" run  
Coop floor sits 24" above grade; the bay underneath is screened and becomes run space.  
Ridge runs along the 144" length; the 12:12 gable spans the 96" width — see the gable-end sheet.

## MAIN DIMENSIONS: GABLE END



12:12 gable - rise equals run, so every rafter is a 45-degree cut.

Ventilation is the 5-1/2" x 134" continuous strip along the top of the high wall — 5.1 sq ft, permanently open, hardware cloth over it. The 4 windows are light, not vent: a closed window vents

That 1-sq-ft-per-10 ratio is our own design default; the authorities define ventilation by air quality, not area.

## FLOOR FRAMING LAYOUT



10 joists at 16" on centre, running the short direction. Rim doubled all four sides.  
Clear span 90" — no intermediate support needed.

# WHAT THE WORDS MEAN

Every term this plan uses that is not ordinary English. If a step says something you do not recognise, it is on this page — you should not have to leave the document to understand it.

## **Bird's mouth**

The notch cut in the underside of a rafter so it sits flat on the wall plate instead of on one corner. Two cuts: a flat SEAT that lands on the plate, and a vertical HEEL against its outside face.

## **Cap plate**

The third plate, laid over the top plate. It is there to LAP the corner and tie the four walls into one ring — not for extra strength.

## **Cripple**

A short stud filling the gap above a header or below a window sill. Same spacing as the common studs it lines up with.

## **Crown**

The natural bow along a board's edge. Sight down it, mark the high side, and install every piece with the crown the same way.

## **Eave**

The lower edge of a roof, where it meets the wall. On a shed roof one long wall is the LOW eave and the other is the HIGH eave.

## **Header**

The beam over a door or window that carries the load the missing studs would have carried. Doubled, with a 1/2in plywood spacer to make it 3-1/2in thick.

## **Jack stud (trimmer)**

The short stud under each end of a header. It is what actually holds the header up, and it defines the width of the opening.

## **Kerf**

The width of material a saw blade removes — about 1/8in. It matters when you cut several pieces from one board.

## **King stud**

The full-height stud beside each jack, running plate to plate. It stops the opening racking.

## **Lap**

Where one piece runs past another and they overlap, rather than meeting end to end.

## **On centre (OC)**

Spacing measured from the CENTRE of one stud to the centre of the next, not the gap between them. 16in OC means centres 16in apart.

## **Pier block**

A precast concrete block the posts stand on, so no wood touches soil. Set on 6in of compacted gravel.

## **Plumb / level / square**

Plumb is vertical, level is horizontal, square is a true 90 degrees. Check square by measuring both diagonals of a rectangle — equal diagonals means square.

## **Proud**

Standing out past the surface beside it, deliberately, to be trimmed later.

## **Rake**

The sloping top edge of a wall that follows the roof. RAKE STUDS are the short studs that fill the triangle; the RAKE PLATE caps them.

## **Rough opening (R.O.)**

The framed hole, measured between the jack studs and from the sill to the underside of the header. Always bigger than the door or window that goes in it.

## **Scribe**

To mark a piece by holding it in place and tracing the thing it must fit, rather than measuring.

## **Toe-screw**

To drive a screw at an angle through the end of one piece into the face of another, where you cannot get at it straight on.

# CUT PLAN — WHAT TO CUT FROM EACH BOARD

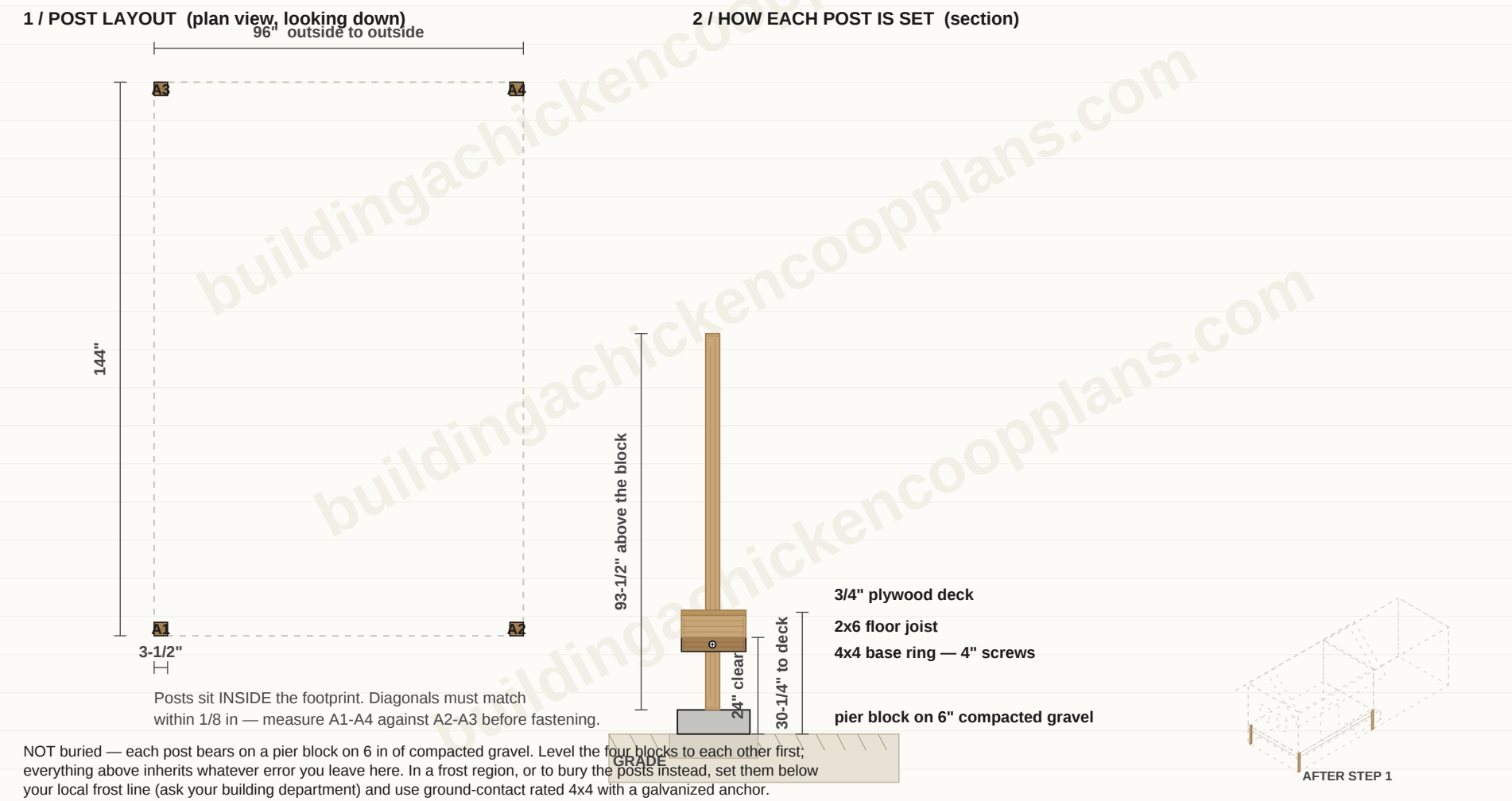
Label every board as you pick it up, then cut it in the order shown. This is the same packing the buy list is counted from, so if you follow it you will not run out and you will not be left holding offcuts you needed. Waste is what is left after the last cut on that board.

|             |         |         |     |     |     |     |              |     |             |         |           |         |              |             |         |         |         |              |
|-------------|---------|---------|-----|-----|-----|-----|--------------|-----|-------------|---------|-----------|---------|--------------|-------------|---------|---------|---------|--------------|
| 1x2 8ft #1  | 10"     | 10"     | 10" | 10" | 10" | 10" | 4-1/8" left  | 10" | 2x4 8ft #39 | 73"     | 21"       |         | 1-3/4" left  | 2x4 8ft #83 | 48-1/2" | 20-1/2" | 20-1/2" | 6-1/8" left  |
| 1x2 8ft #2  | 10"     | 10"     | 10" | 10" | 10" | 10" | 1/8" left    | 10" | 2x4 8ft #40 | 73"     | 21"       |         | 1-3/4" left  | 2x4 8ft #84 | 20-1/2" | 20-1/2" | 20-1/2" | 20-1/2" left |
| 1x4 8ft #1  | 60-7/8" | 32"     |     |     |     |     | 2-7/8" left  |     | 2x4 8ft #41 | 64-3/4" | 30"       |         | 1" left      | 2x4 8ft #85 | 20-1/2" | 16-1/2" | 12-3/4" | 12-3/4" left |
| 1x4 8ft #2  | 32"     |         |     |     |     |     | 63-7/8" left |     | 2x4 8ft #42 | 64-3/4" | 30"       |         | 1" left      | 2x4 8ft #86 | 12-3/4" | 12-3/4" | 12-3/4" | 12-3/4" left |
| 2x2 8ft #1  | 75"     |         |     |     |     |     | 20-7/8" left |     | 2x4 8ft #43 | 64-3/4" | 30"       |         | 1" left      | 2x6 8ft #1  | 90"     |         |         | 5-7/8" left  |
| 2x2 8ft #2  | 75"     |         |     |     |     |     | 20-7/8" left |     | 2x4 8ft #44 | 64-3/4" | 30"       |         | 1" left      | 2x6 8ft #2  | 90"     |         |         | 5-7/8" left  |
| 2x4 8ft #1  | 92"     |         |     |     |     |     | 3-7/8" left  |     | 2x4 8ft #45 | 64-3/4" | 30"       |         | 1" left      | 2x6 8ft #3  | 90"     |         |         | 5-7/8" left  |
| 2x4 8ft #2  | 92"     |         |     |     |     |     | 3-7/8" left  |     | 2x4 8ft #46 | 64-3/4" | 30"       |         | 1" left      | 2x6 8ft #4  | 90"     |         |         | 5-7/8" left  |
| 2x4 8ft #3  | 89"     |         |     |     |     |     | 6-7/8" left  |     | 2x4 8ft #47 | 64-3/4" | 28-13/16" |         | 2-3/16" left | 2x6 8ft #5  | 90"     |         |         | 5-7/8" left  |
| 2x4 8ft #4  | 89"     |         |     |     |     |     | 6-7/8" left  |     | 2x4 8ft #48 | 64-3/4" | 28-13/16" |         | 2-3/16" left | 2x6 8ft #6  | 90"     |         |         | 5-7/8" left  |
| 2x4 8ft #5  | 89"     |         |     |     |     |     | 6-7/8" left  |     | 2x4 8ft #49 | 64-3/4" | 28-13/16" |         | 2-3/16" left | 2x6 8ft #7  | 90"     |         |         | 5-7/8" left  |
| 2x4 8ft #6  | 89"     |         |     |     |     |     | 6-7/8" left  |     | 2x4 8ft #50 | 64-3/4" | 28-13/16" |         | 2-3/16" left | 2x6 8ft #8  | 90"     |         |         | 5-7/8" left  |
| 2x4 8ft #7  | 89"     |         |     |     |     |     | 6-7/8" left  |     | 2x4 8ft #51 | 64-3/4" | 28-13/16" |         | 2-3/16" left | 2x6 8ft #9  | 90"     |         |         | 5-7/8" left  |
| 2x4 8ft #8  | 89"     |         |     |     |     |     | 6-7/8" left  |     | 2x4 8ft #52 | 64-3/4" | 28-13/16" |         | 2-3/16" left | 2x6 8ft #10 | 90"     |         |         | 5-7/8" left  |
| 2x4 8ft #9  | 89"     |         |     |     |     |     | 6-7/8" left  |     | 2x4 8ft #53 | 64-3/4" | 28-13/16" |         | 2-3/16" left | 2x8 8ft #1  | 77-1/2" |         |         | 18-3/8" left |
| 2x4 8ft #10 | 89"     |         |     |     |     |     | 6-7/8" left  |     | 2x4 8ft #54 | 64-3/4" | 28-13/16" |         | 2-3/16" left | 2x8 8ft #2  | 77-1/2" |         |         | 18-3/8" left |
| 2x4 8ft #11 | 89"     |         |     |     |     |     | 6-7/8" left  |     | 2x4 8ft #55 | 64-3/4" | 27-1/2"   |         | 3-1/2" left  | 4x4 8ft #1  | 89"     |         |         | 6-7/8" left  |
| 2x4 8ft #12 | 89"     |         |     |     |     |     | 6-7/8" left  |     | 2x4 8ft #56 | 64-3/4" | 27-1/2"   |         | 3-1/2" left  | 4x4 8ft #2  | 89"     |         |         | 6-7/8" left  |
| 2x4 8ft #13 | 89"     |         |     |     |     |     | 6-7/8" left  |     | 2x4 8ft #57 | 64-3/4" | 26"       |         | 5" left      |             |         |         |         |              |
| 2x4 8ft #14 | 89"     |         |     |     |     |     | 6-7/8" left  |     | 2x4 8ft #58 | 64-3/4" | 26"       |         | 5" left      |             |         |         |         |              |
| 2x4 8ft #15 | 89"     |         |     |     |     |     | 6-7/8" left  |     | 2x4 8ft #59 | 64-3/4" | 26"       |         | 5" left      |             |         |         |         |              |
| 2x4 8ft #16 | 89"     |         |     |     |     |     | 6-7/8" left  |     | 2x4 8ft #60 | 64-3/4" | 24"       |         | 7" left      |             |         |         |         |              |
| 2x4 8ft #17 | 79-7/8" | 15"     |     |     |     |     | 7/8" left    |     | 2x4 8ft #61 | 64-3/4" | 24"       |         | 7" left      |             |         |         |         |              |
| 2x4 8ft #18 | 79-7/8" | 15"     |     |     |     |     | 7/8" left    |     | 2x4 8ft #62 | 64-3/4" | 24"       |         | 7" left      |             |         |         |         |              |
| 2x4 8ft #19 | 79-7/8" | 15"     |     |     |     |     | 7/8" left    |     | 2x4 8ft #63 | 64-3/4" | 24"       |         | 7" left      |             |         |         |         |              |
| 2x4 8ft #20 | 79-7/8" | 14"     |     |     |     |     | 1-7/8" left  |     | 2x4 8ft #64 | 64-3/4" | 24"       |         | 7" left      |             |         |         |         |              |
| 2x4 8ft #21 | 79-7/8" | 14"     |     |     |     |     | 1-7/8" left  |     | 2x4 8ft #65 | 64-3/4" | 24"       |         | 7" left      |             |         |         |         |              |
| 2x4 8ft #22 | 79-7/8" | 14"     |     |     |     |     | 1-7/8" left  |     | 2x4 8ft #66 | 64-3/4" | 24"       |         | 7" left      |             |         |         |         |              |
| 2x4 8ft #23 | 79-7/8" | 14"     |     |     |     |     | 1-7/8" left  |     | 2x4 8ft #67 | 64-3/4" | 24"       |         | 7" left      |             |         |         |         |              |
| 2x4 8ft #24 | 79-7/8" | 14"     |     |     |     |     | 1-7/8" left  |     | 2x4 8ft #68 | 64-3/4" | 24"       |         | 7" left      |             |         |         |         |              |
| 2x4 8ft #25 | 79-7/8" | 14"     |     |     |     |     | 1-7/8" left  |     | 2x4 8ft #69 | 64-3/4" | 24"       |         | 7" left      |             |         |         |         |              |
| 2x4 8ft #26 | 79-7/8" | 13"     |     |     |     |     | 2-7/8" left  |     | 2x4 8ft #70 | 64-3/4" | 24"       |         | 7" left      |             |         |         |         |              |
| 2x4 8ft #27 | 79-7/8" | 13"     |     |     |     |     | 2-7/8" left  |     | 2x4 8ft #71 | 64-3/4" | 24"       |         | 7" left      |             |         |         |         |              |
| 2x4 8ft #28 | 79-7/8" | 13"     |     |     |     |     | 2-7/8" left  |     | 2x4 8ft #72 | 64-3/4" | 21"       |         | 10" left     |             |         |         |         |              |
| 2x4 8ft #29 | 79-7/8" | 13"     |     |     |     |     | 2-7/8" left  |     | 2x4 8ft #73 | 64-3/4" | 21"       |         | 10" left     |             |         |         |         |              |
| 2x4 8ft #30 | 79-7/8" | 13"     |     |     |     |     | 2-7/8" left  |     | 2x4 8ft #74 | 61-1/4" | 33"       |         | 1-1/2" left  |             |         |         |         |              |
| 2x4 8ft #31 | 77-1/2" | 16-1/2" |     |     |     |     | 1-3/4" left  |     | 2x4 8ft #75 | 61-1/4" | 33"       |         | 1-1/2" left  |             |         |         |         |              |
| 2x4 8ft #32 | 74-1/2" | 21"     |     |     |     |     | 1/4" left    |     | 2x4 8ft #76 | 48-1/2" | 44-3/4"   |         | 2-1/2" left  |             |         |         |         |              |
| 2x4 8ft #33 | 74-1/2" | 21"     |     |     |     |     | 1/4" left    |     | 2x4 8ft #77 | 48-1/2" | 44-3/4"   |         | 2-1/2" left  |             |         |         |         |              |
| 2x4 8ft #34 | 74-1/2" | 21"     |     |     |     |     | 1/4" left    |     | 2x4 8ft #78 | 48-1/2" | 37"       |         | 10-1/4" left |             |         |         |         |              |
| 2x4 8ft #35 | 74-1/2" | 21"     |     |     |     |     | 1/4" left    |     | 2x4 8ft #79 | 48-1/2" | 37"       |         | 10-1/4" left |             |         |         |         |              |
| 2x4 8ft #36 | 74"     | 21"     |     |     |     |     | 3/4" left    |     | 2x4 8ft #80 | 48-1/2" | 33"       | 13"     | 1-1/8" left  |             |         |         |         |              |
| 2x4 8ft #37 | 74"     | 21"     |     |     |     |     | 3/4" left    |     | 2x4 8ft #81 | 48-1/2" | 33"       | 12-3/4" | 1-3/8" left  |             |         |         |         |              |
| 2x4 8ft #38 | 73"     | 21"     |     |     |     |     | 1-3/4" left  |     | 2x4 8ft #82 | 48-1/2" | 21"       | 20-1/2" | 5-5/8" left  |             |         |         |         |              |

# STEP 1: POSTS

Four 4x4 posts cut to 99-1/2" carry the structure from grade to the top plate. Setting the floor 24" up keeps the frame out of ground moisture and hands the flock the shaded space underneath.

| Part   | Qty | Length    | Stock | Note |
|--------|-----|-----------|-------|------|
| Post A | 4   | 99 - 1/2" | 4x4   |      |



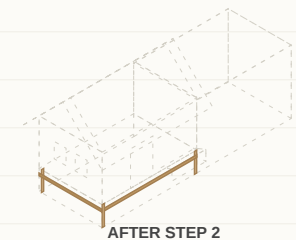
# STEP 2: BASE SUPPORTS

The base ring ties the four posts into a rigid square at grade. Use the 4-inch screws here — this joint carries the racking load for the life of the coop.

| Part                        | Qty | Length    | Stock | Note |
|-----------------------------|-----|-----------|-------|------|
| Base support A (front/back) | 2   | 89"       | 4x4   |      |
| Base support B (sides)      | 2   | 137"      | 4x4   |      |
| Base blocking               | 8   | 20 - 1/2" | 2x4   |      |



Base ring: 89" front and back, 137" on the sides, between the posts.  
Fasten with the 4-inch screws — this is the joint that resists racking.

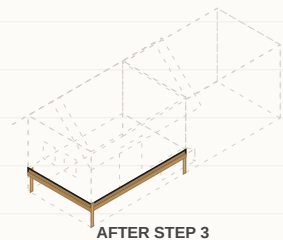
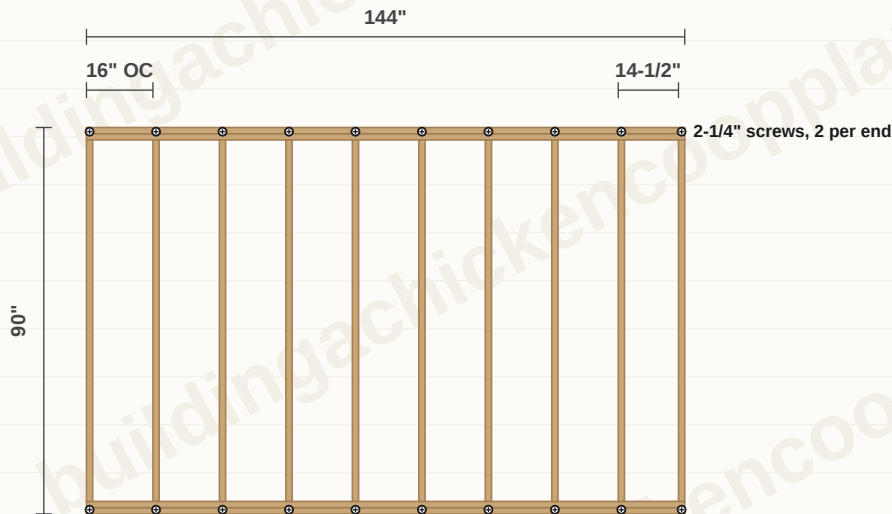


# STEP 3: FLOOR JOISTS

Joists sit 24" above grade on 16" centres, running the short direction across 90" in 2x6, with the rim doubled on all four sides. At 90" the 2x6 joists span well inside the 8 ft 4 in that AWC DCA6 Table 2 allows at 16-inch centres, so no intermediate girder is needed. Crown every joist up before you fasten it.

**Fixing the floor frame to the posts.** This is the joint everything above stands on and it is the one most plans leave to guesswork. Build the rim rectangle first, square it to the diagonals, then drop it over the four posts so the rim sits ON the base ring and CLOSES the outside face of each post. Fasten each corner with **two 4in structural screws driven through the rim into the post, one 1-1/2in down from the top of the rim and one 1-1/2in up from the bottom, offset from each other so they are not in the same grain line.** Eight screws in total, four corners. Predrill — a 4in screw close to the end of a 2x6 will split it otherwise.

| Part                   | Qty | Length | Stock | Note                   |
|------------------------|-----|--------|-------|------------------------|
| Rim joist (long sides) | 4   | 144"   | 2x6   | doubled                |
| Floor joist            | 10  | 90"    | 2x6   | 16" OC, last bay short |



## WATCH OUT

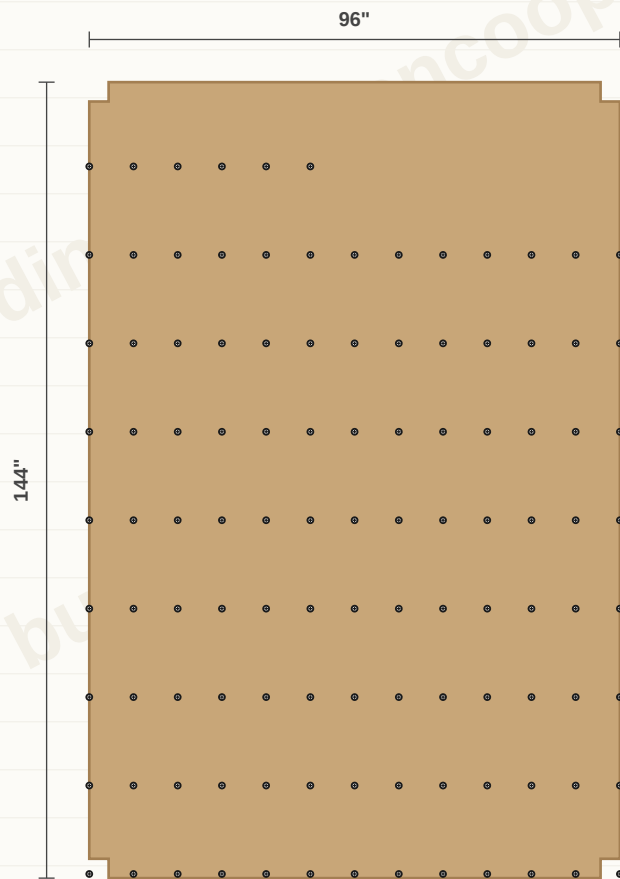
- ! Square the rim rectangle by its diagonals BEFORE it goes on the posts. Once the corners are screwed off it is not coming square again without taking it apart.
- ! Pre-drill every 4in screw. A split rim at a corner is a structural repair, not a cosmetic one.
- ! Two heights get quoted for this coop and they are not the same number: 24" is the CLEAR space under the joists, 30-1/4" is the walking surface of the deck above grade. Set your pier blocks to the first, not the second.

10 joists at 16" on centre, running the short direction. Rim doubled all four sides.  
Clear span 90" — no intermediate support needed.

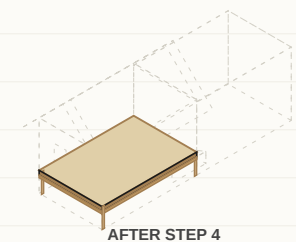
# STEP 4: FLOOR DECK

Deck the floor in 3/4" plywood, notched 3-1/2" square at each corner so it drops cleanly around the posts. Fasten with 1-1/2 inch screws every 8 inches on the joists.

| Part        | Qty | Length     | Stock        | Note          |
|-------------|-----|------------|--------------|---------------|
| Floor panel | 1   | 96" x 144" | 3/4" plywood | notch corners |



3/4" plywood deck, 96" x 144", notched 3-1/2" square at each corner.  
Marks show the fastening pattern: 1-1/2" screws every 8 inches along every joist line.



## STEP 5: WALL FRAMING — THE METHOD

Every wall is framed FLAT ON THE DECK and then stood up. That is the whole trick: you are working on a level surface, gravity holds the parts where you put them, and you can push the frame square before a single screw goes in. Studs run 16" on centre so 4-foot sheet goods break on a stud.

**Build order matters. Front wall, back wall, then the two end walls.** The long walls go up first and get braced to the deck; the end walls then drop between them and lock the box square. If you stand a short wall first it has nothing to brace against.

**Every wall gets three plates :** a bottom plate, a top plate, and a cap plate over the top. The cap plate is not a second top plate for strength — it is there to LAP the corner. Hold the cap plate back 1-1/2" at one end of each long wall and run it 1-1/2" long at the other, so when the end walls go in the caps interlock and tie the four walls into one ring. A butt joint at all four corners is a box that racks.

**Cut the bottom plate CONTINUOUS through every door opening.** Frame it, stand it, brace it, and only then saw the plate out of the doorway with a handsaw. It is what keeps the wall square while you move it.

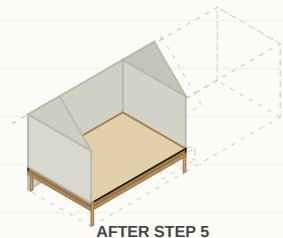
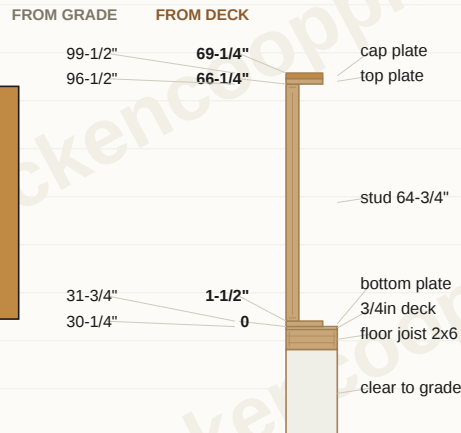
THE TWO PLATE RINGS — reverse the lap between them

SECTION — every height, and where it is measured from

TOP PLATE ring



CAP PLATE ring



AFTER STEP 5

Same four walls, both layers. Because the layers run opposite ways the caps interlock and the box cannot rack. Deck surface is 30-1/4" above grade; the clear space under the joists is 24". On the long walls that means the cap plate is cut 3" SHORT (134") and on the end walls 3" LONG (92"). Every wall dimension in this set is measured from the DECK.

### WATCH OUT

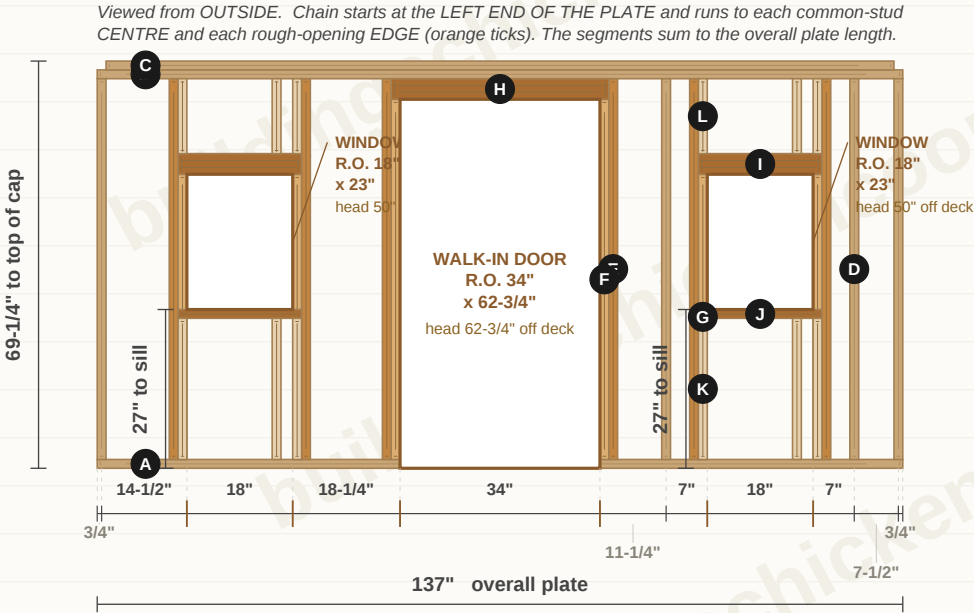
- ! Square each wall to its diagonals BEFORE fastening the sheathing or siding — measure corner to corner both ways and push until the two numbers match.
- ! Crown every stud the same way. Sight down it, mark the high edge, and put all crowns to the outside.
- ! Do not stand a wall alone. A 12-foot framed wall is heavy and it will get away from you.

# STEP 5A: FRONT WALL

The low side. It carries the door and most of the glazing.

Plate length 137". Openings: window 18" x 23", walk-in door 34" x 62-3/4", window 18" x 23". 39 pieces in this wall.

Every dimension on the drawing runs from the LEFT end of the plate to a stud CENTRE. Mark the whole plate out before you cut anything — lay the bottom and top plate side by side, square across both at once, and you cannot get the two out of step.



| Mk | Part                              | Qty | Cut length |
|----|-----------------------------------|-----|------------|
| A  | Bottom plate                      | 1   | 137"       |
| B  | Top plate                         | 1   | 137"       |
| C  | Cap plate (upper top plate)       | 1   | 134"       |
| D  | Common stud                       | 4   | 64-3/4"    |
| E  | King stud (full height, beside th | 6   | 64-3/4"    |
| F  | Jack stud (carries the header)    | 2   | 61-1/4"    |
| G  | Jack stud (carries the header)    | 4   | 48-1/2"    |
| H  | Header                            | 2   | 37"        |
| I  | Header                            | 4   | 21"        |
| J  | Rough sill                        | 2   | 21"        |
| K  | Cripple under the sill            | 6   | 24"        |
| L  | Cripple over the header           | 6   | 12-3/4"    |

39 pieces in this wall



## WATCH OUT

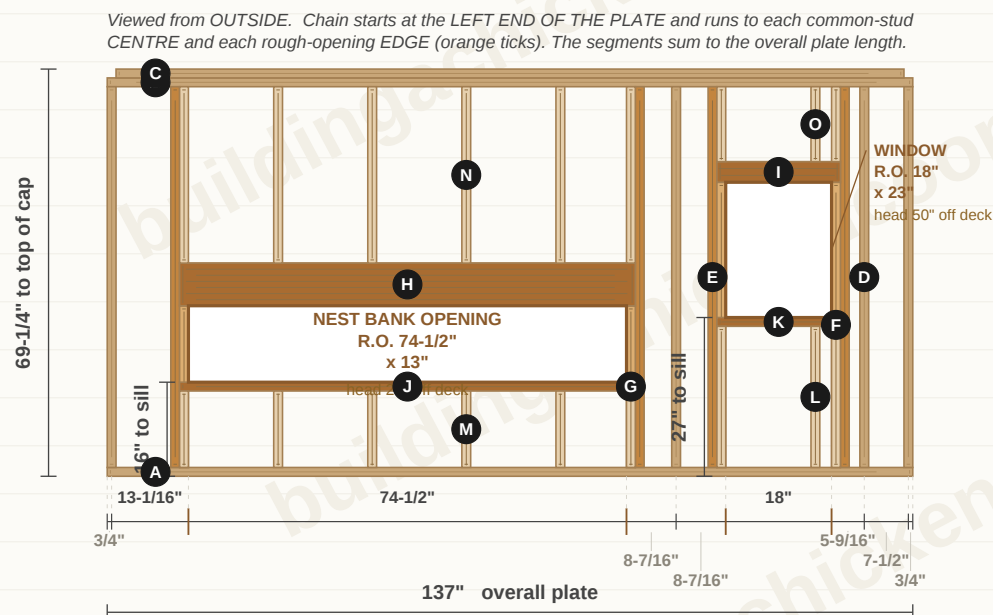
- ! Mark the bottom plate and the top plate TOGETHER, clamped side by side, so the studs cannot end up out of step between them.
- ! The bottom plate runs continuous through the door. Saw it out after the wall is standing and braced, not before.
- ! Rough openings are 1/2in bigger than the unit all round. Check YOUR window against the opening before you cut the studs, not after.

# STEP 5B: BACK WALL

The HIGH side — its studs are longer than the front wall's by the full rise of the roof. The nest bank hangs outside it and the vent strip runs along the top, so keep the top bay clear.

Plate length 137". Openings: nest bank opening 74-1/2" x 13", window 18" x 23". 39 pieces in this wall.

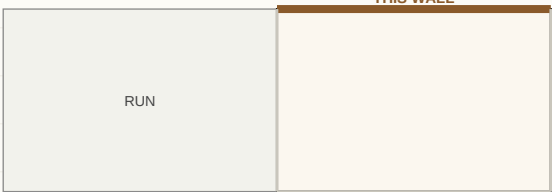
Every dimension on the drawing runs from the LEFT end of the plate to a stud CENTRE. Mark the whole plate out before you cut anything — lay the bottom and top plate side by side, square across both at once, and you cannot get the two out of step.



| Mk | Part                              | Qty | Cut length |
|----|-----------------------------------|-----|------------|
| A  | Bottom plate                      | 1   | 137"       |
| B  | Top plate                         | 1   | 137"       |
| C  | Cap plate (upper top plate)       | 1   | 134"       |
| D  | Common stud                       | 4   | 64-3/4"    |
| E  | King stud (full height, beside th | 4   | 64-3/4"    |
| F  | Jack stud (carries the header)    | 2   | 48-1/2"    |
| G  | Jack stud (carries the header)    | 2   | 27-1/2"    |
| H  | Header                            | 2   | 77-1/2"    |
| I  | Header                            | 2   | 21"        |
| J  | Rough sill                        | 1   | 77-1/2"    |
| K  | Rough sill                        | 1   | 21"        |
| L  | Cripple under the sill            | 3   | 24"        |
| M  | Cripple under the sill            | 6   | 13"        |
| N  | Cripple over the header           | 6   | 30"        |
| O  | Cripple over the header           | 3   | 12-3/4"    |

39 pieces in this wall

KEY PLAN



## WATCH OUT

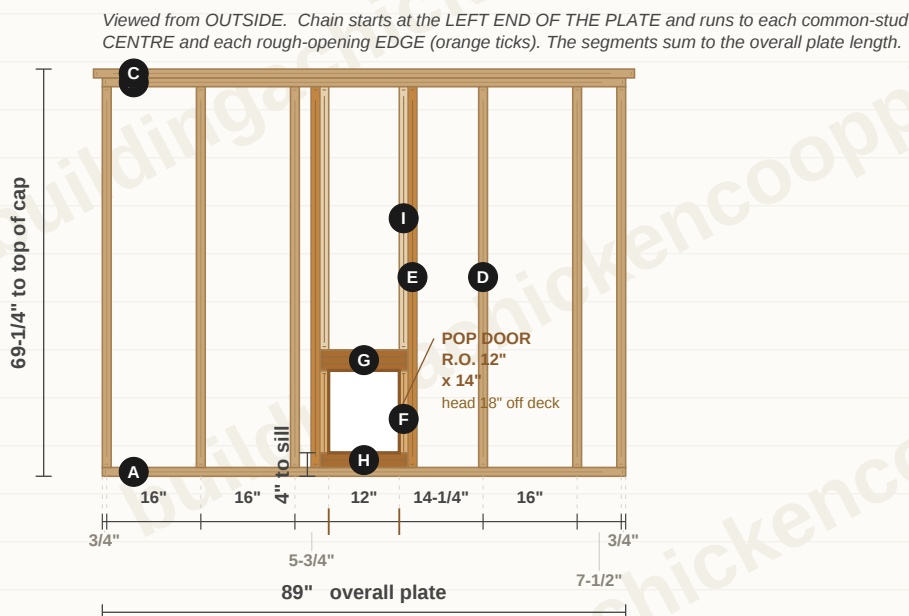
- ! Mark the bottom plate and the top plate TOGETHER, clamped side by side, so the studs cannot end up out of step between them.
- ! Rough openings are 1/2in bigger than the unit all round. Check YOUR window against the opening before you cut the studs, not after.
- ! Leave the top bay clear of blocking — the continuous vent strip runs the length of this wall right under the plate.

# STEP 5C: LEFT END WALL (RUN END)

The run attaches to this wall and the pop door passes through it. Seen from outside, the roof runs DOWNHILL left to right.

Plate length 89". Openings: pop door 12" x 14". 18 pieces in this wall.

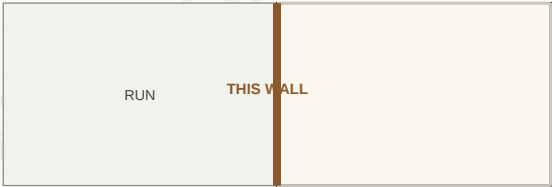
Every dimension on the drawing runs from the LEFT end of the plate to a stud CENTRE. Mark the whole plate out before you cut anything — lay the bottom and top plate side by side, square across both at once, and you cannot get the two out of step.



| Mk | Part                              | Qty | Cut length |
|----|-----------------------------------|-----|------------|
| A  | Bottom plate                      | 1   | 89"        |
| B  | Top plate                         | 1   | 89"        |
| C  | Cap plate (upper top plate)       | 1   | 92"        |
| D  | Common stud                       | 6   | 64 - 3/4"  |
| E  | King stud (full height, beside th | 2   | 64 - 3/4"  |
| F  | Jack stud (carries the header)    | 2   | 16 - 1/2"  |
| G  | Header                            | 2   | 15"        |
| H  | Rough sill                        | 1   | 15"        |
| I  | Cripple over the header           | 2   | 44 - 3/4"  |

18 pieces in this wall

KEY PLAN



## WATCH OUT

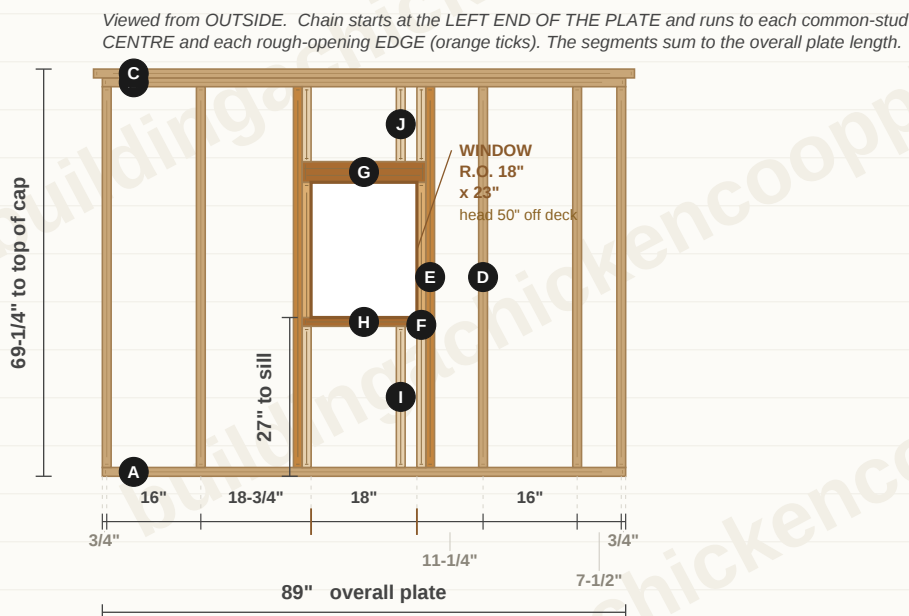
! Mark the bottom plate and the top plate TOGETHER, clamped side by side, so the studs cannot end up out of step between them.

# STEP 5D: RIGHT END WALL

Fixed wall with a window. This wall MIRRORS the left end: seen from outside, the roof runs UPHILL left to right.

Plate length 89". Openings: window 18" x 23". 21 pieces in this wall.

Every dimension on the drawing runs from the LEFT end of the plate to a stud CENTRE. Mark the whole plate out before you cut anything — lay the bottom and top plate side by side, square across both at once, and you cannot get the two out of step.



| Mk | Part                              | Qty | Cut length |
|----|-----------------------------------|-----|------------|
| A  | Bottom plate                      | 1   | 89"        |
| B  | Top plate                         | 1   | 89"        |
| C  | Cap plate (upper top plate)       | 1   | 92"        |
| D  | Common stud                       | 5   | 64 - 3/4"  |
| E  | King stud (full height, beside th | 2   | 64 - 3/4"  |
| F  | Jack stud (carries the header)    | 2   | 48 - 1/2"  |
| G  | Header                            | 2   | 21"        |
| H  | Rough sill                        | 1   | 21"        |
| I  | Cripple under the sill            | 3   | 24"        |
| J  | Cripple over the header           | 3   | 12 - 3/4"  |

21 pieces in this wall

KEY PLAN



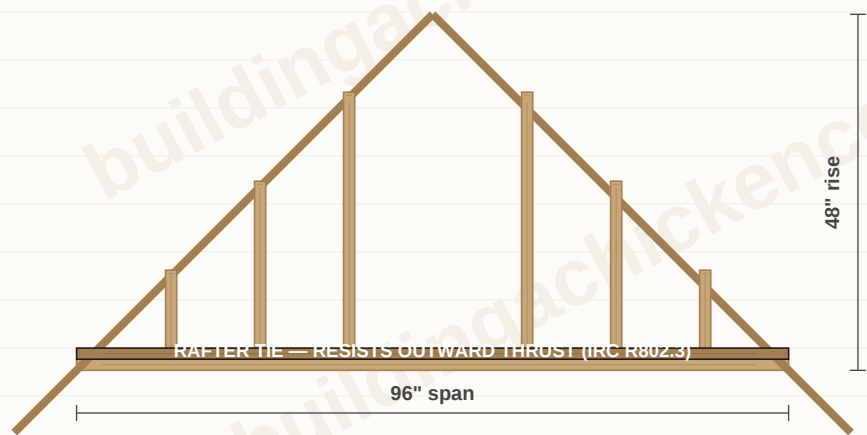
## WATCH OUT

- ! Mark the bottom plate and the top plate TOGETHER, clamped side by side, so the studs cannot end up out of step between them.
- ! Rough openings are 1/2in bigger than the unit all round. Check YOUR window against the opening before you cut the studs, not after.

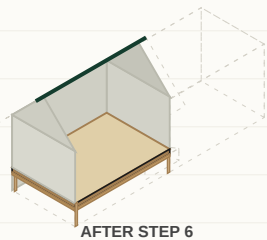
# STEP 6: GABLE ENDS, RAFTERS AND RAFTER TIES

A 12:12 gable — the rise equals the run, so every rafter is cut at 45 degrees and the ridge lands 48" above the top plate. Cut one rafter, test-fit it, then use it as the template for the rest. **Every opposing rafter pair is tied.** A pitched roof pushes outward at the eaves, and without a tie resisting that thrust the walls slowly spread and the ridge drops — the code (IRC R802.3) requires either continuous rafter ties or an engineered ridge beam, and a plain ridge board on untied rafters is neither. The ties sit at top-plate level, so they double as the framing you hang a droppings board from.

| Part                | Qty | Length      | Stock | Note                                    |
|---------------------|-----|-------------|-------|-----------------------------------------|
| Rafter              | 14  | 79 - 7/8"   | 2x4   | 45 deg plumb cut, 12" tail              |
| Ridge board         | 1   | 168"        | 2x4   |                                         |
| Rafter tie          | 7   | 89"         | 2x4   | one per rafter pair, at top-plate level |
| Gable stud (varies) | 8   | 28 - 13/16" | 2x4   | cut to fit under the rafter             |



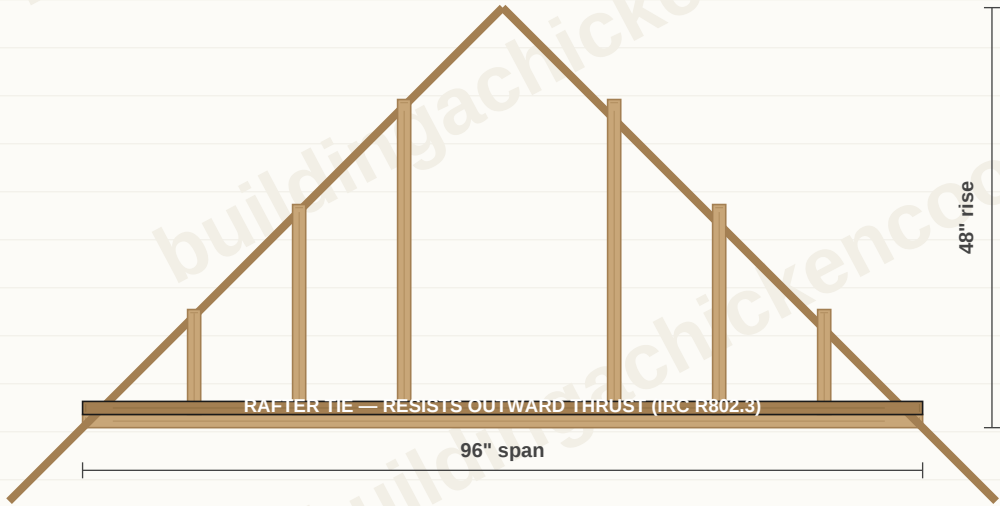
12:12 pitch: 48" of rise over 48" of run. Every rafter cut is 45 degrees.  
Rafter length 79-7/8" including a 12" tail. Cut one, test-fit, then batch.



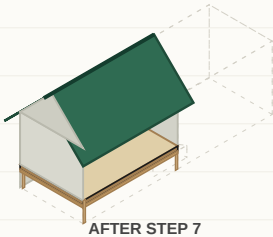
# STEP 7: ROOF DECK AND METAL

3/4" plywood over the rafters, then corrugated metal sheets. Metal over shingles because it sheds snow, lasts decades and never needs a tear-off. Lap the sheets one full corrugation.

| Part             | Qty | Length        | Stock            | Note                                                                 |
|------------------|-----|---------------|------------------|----------------------------------------------------------------------|
| Roof deck panel  | 6   | 4' x 8' sheet | 3/4" plywood     | lay the 8-ft dimension UP the slope; seams land on a rafter          |
| Metal roof panel | 7   | 8 ft x 26"    | corrugated steel | 26in wide, 24in coverage; one piece eave to ridge, no lap partway up |



12:12 pitch: 48" of rise over 48" of run. Every rafter cut is 45 degrees.  
Rafter length 79-7/8" including a 12" tail. Cut one, test-fit, then batch.

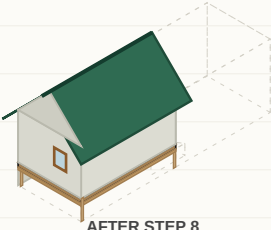


AFTER STEP 7

# STEP 8: SIDING

Lap siding in 9-foot courses, starting from a level chalk line at the bottom and working up. Each course laps the one below by 1 inch. Leave the window and door openings proud and trim after.

| Part             | Qty | Length | Stock           | Note               |
|------------------|-----|--------|-----------------|--------------------|
| Lap siding board | 99  | 9 ft   | 9 ft lap siding | 5in wide, ~1in lap |



# STEP 8B: DOORS, HATCHES AND LIDS

Every opening you framed in step 5 now gets something to close it. Cut each slab **a quarter inch smaller than its rough opening on all four sides** — 3/4in plywood swells in the wet and a door cut to the exact opening size will bind by November.

**Then close that gap with a stop.** A quarter inch is the clearance the door needs and it is also, exactly, the gap this plan tells you a least weasel fits through. Run a 1x2 stop around the inside of every door opening so the slab closes against it and the gap is blocked, not open. On the pop door, staple a strip of hardware cloth behind the stop as well.

Walk-in door on the front wall: slab 33-1/2" x 62-1/4" in a 34" x 62-3/4" opening — a 1/4in gap all round. 3 hinges, out, hinged on the left as you face it from outside.

Pop door on the left end wall (run end): slab 11-1/2" x 13-1/2" in a 12" x 14" opening — a 1/4in gap all round. 2 hinges, out, hinged on the left as you face it from outside.

Every plywood door over 30in tall gets a **Z-brace on the back** : a rail top and bottom and one diagonal running from the bottom hinge corner up to the top latch corner. That diagonal is in compression and it is the only thing stopping the door sagging into a parallelogram. Run it the wrong way and it does nothing.

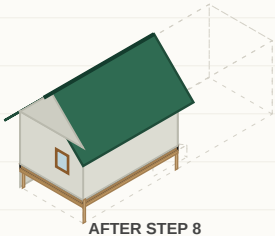
**Hinge side and swing.** All doors here swing OUT, hinged on the left as you face them from outside. Out, because a door that opens inward sweeps the bedding and gets blocked by it; left, so every latch on the coop is in the same place and you are not hunting for it in the dark with an armful of feed.

| Part                         | Qty | Length            | Stock        | Note                                                           |
|------------------------------|-----|-------------------|--------------|----------------------------------------------------------------|
| Walk-in door slab            | 1   | 33-1/2" x 62-1/4" | 3/4" plywood | 3 hinges, opens out                                            |
| Walk-in door batten rail     | 2   | 32"               | 1x4          | top and bottom, 1in in from each edge                          |
| Walk-in door batten diagonal | 1   | 60-7/8"           | 1x4          | BOTTOM HINGE corner up to TOP LATCH corner; mitre both ends to |
| Pop door slab                | 1   | 11-1/2" x 13-1/2" | 3/4" plywood | 2 hinges, opens out                                            |

RUN DOOR — VIEWED FROM THE BACK



Diagonal runs UP from the hinge side. Hinge heights measured from the bottom of the slab.



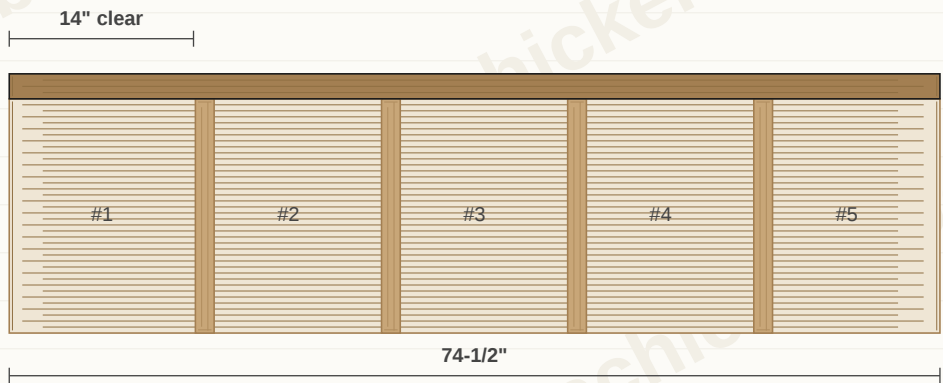
## WATCH OUT

- ! Hang the door BEFORE you trim around the opening — the trim gets scribed to the hung door, not the other way round.
- ! Two-action latches on every door. A hook-and-eye is a raccoon's afternoon.
- ! Check the diagonal brace runs from the BOTTOM HINGE corner upward. Reversed, it is a decoration.

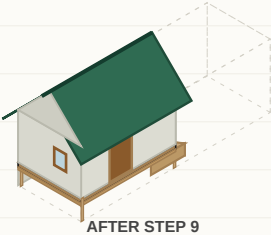
# STEP 9: NEST BANK

An exterior nest bank 74-1/2" long and 17 inches deep, hung off the side wall with a hinged lid. 5 compartments — one per three to four hens. Collecting eggs from outside means you never disturb a sitting bird.

| Part            | Qty | Length        | Stock        | Note   |
|-----------------|-----|---------------|--------------|--------|
| Nest bank floor | 1   | 74-1/2" x 17" | 3/4" plywood |        |
| Nest divider    | 4   | 17" x 14"     | 3/4" plywood |        |
| Nest lid        | 1   | 74-1/2" x 18" | 3/4" plywood | hinged |
| Nest bank frame | 4   | 74-1/2"       | 2x4          |        |



5 compartments across 74-1/2" — 14" clear each, with 6 dividers at 3/4". Bank length is the sum of both, not the length divided by the box count. Mount it lower than the roosts or the birds will sleep in it and foul the eggs.

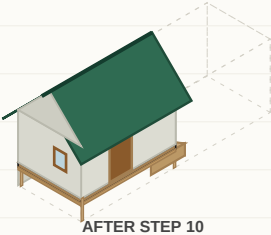


# STEP 10: POP DOOR AND RAMP

The pop-door slab was already cut in step 8b to fit the opening you framed in step 5c — do not cut another one. This step hangs it and builds the ramp.

**Measure the ramp drop on site.** It runs from the pop-door sill, 34-1/4" above grade, down to the FINISHED run surface — which is the sand or drain rock you placed in step 11, not bare ground. On a level site that is about 69-7/8" of ramp at a comfortable angle, but cut it to what you measure, not to what is printed here.

| Part       | Qty | Length          | Stock        | Note                         |
|------------|-----|-----------------|--------------|------------------------------|
| Ramp       | 1   | 69 - 7/8" x 10" | 3/4" plywood | trim to your measured drop   |
| Ramp cleat | 17  | 10"             | 1x2          | every 4in, so a hen has grip |



# STEP 11: RUN FRAME

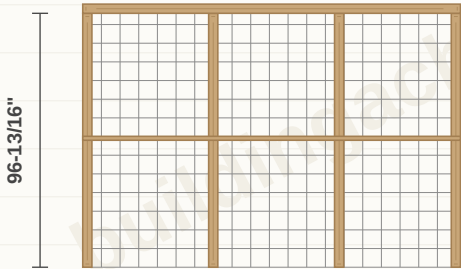
The 8 ft x 12 ft screened run frames off the coop wall, 96-13/16" tall. 4 posts a side on roughly 4-foot centres, with a top rail and a mid rail so the hardware cloth has something to fasten to at every course. **The mid rail goes at 32 inches, not higher** — the cloth comes off a 36-inch roll, so a course run up from the ground reaches 36 inches and has to land ON a rail with a lap to spare.

**Set the run posts the same way you set the coop posts in step 1** — on the same pier blocks, at the same height, checked with the same string line. A run on a different footing system than the coop it hangs off will move against it and open a gap at the joint, which is exactly where a predator starts.

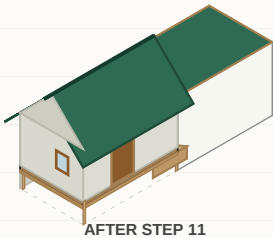
**Fixing the run to the coop:** the two run rails that meet the coop are lag-bolted into the corner posts of the run-end wall, not screwed into siding. Two 3/8in x 4in lag bolts per rail, drilled with a 1/4in pilot, one 3in above the rail's bottom edge and one 3in below its top. Siding is a skin; it holds nothing.

**Get the water out before you put the birds in.** A run that ponds turns into mud, mud turns into the coccidiosis and bumblefoot problems that cost people their flock, and no amount of hardware cloth fixes it. Three things, in order of how much they matter: **grade the run to fall away from the coop** — an inch of drop for every eight feet is enough and it costs you nothing but a rake; **keep the run surface above the surrounding grade** , not level with it, so it sheds instead of collects; and **top it with 3 to 4 inches of coarse sand or 3/8in drain rock** , not topsoil and not straw. Coarse sand drains, dries fast and can be raked clean like a litter box. Do this before the apron goes in — you cannot regrade under a buried mesh skirt.

| Part           | Qty | Length    | Stock | Note              |
|----------------|-----|-----------|-------|-------------------|
| Run post       | 8   | 96-13/16" | 4x4   |                   |
| Run top rail   | 2   | 144"      | 2x4   |                   |
| Run mid rail   | 2   | 144"      | 2x4   |                   |
| Run end rail   | 3   | 89"       | 2x4   |                   |
| Run brace      | 4   | 33"       | 2x4   | 45° corner braces |
| Run door stile | 2   | 74"       | 2x4   |                   |
| Run door rail  | 3   | 26"       | 2x4   |                   |



4 posts a side, mid rail at 32in so a 36in course of cloth laps onto it.144"  
Bury a 12-inch hardware-cloth apron down and out around the whole perimeter.

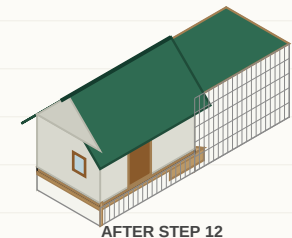


## STEP 12: HARDWARE CLOTH

The step that decides whether you still have a flock in two years. Quarter-inch hardware cloth over every opening, screwed through fender washers rather than only stapled. **Quarter-inch, not half-inch.** A least weasel squeezes through a half-inch opening; quarter-inch mesh stops it. That is the whole reason for the spec (Univ. of Kentucky Extension ID-245), and half-inch mesh — while genuinely raccoon-proof — does not stop weasels, mink or snakes. Chicken wire stops nothing: a raccoon reaches straight through the hexagonal gaps. Bury a 12-inch apron down and out around the whole run perimeter, turned outward at the bottom into an L. Sources for both numbers: Univ. of Kentucky Cooperative Extension ID-245 and Virginia Cooperative Extension 2902-1092.

**The windows get cloth too.** An open 18 x 23 window is a hole a raccoon walks through, and it is the ventilation you rely on in summer, so it has to stay open at night. Staple a panel of cloth to the **INSIDE** of every window opening before the unit goes in — behind the glazing, not over it, so the window still shuts on a clean frame. Same for the continuous vent strip along the top of the back wall and the nest-bank opening.

| Part                                 | Qty | Length    | Stock               | Note |
|--------------------------------------|-----|-----------|---------------------|------|
| Run walls                            | 1   | 87 lin ft | 1/4" hardware cloth |      |
| Run roof                             | 1   | 32 lin ft | 1/4" hardware cloth |      |
| Buried apron, 12in down and 12in out | 1   | 27 lin ft | 1/4" hardware cloth |      |
| Window screens                       | 1   | 6 lin ft  | 1/4" hardware cloth |      |
| Continuous eave vent strip           | 1   | 3 lin ft  | 1/4" hardware cloth |      |
| Nest opening and pop-door surround   | 1   | 4 lin ft  | 1/4" hardware cloth |      |
| Under-floor skirt                    | 1   | 27 lin ft | 1/4" hardware cloth |      |



AFTER STEP 12

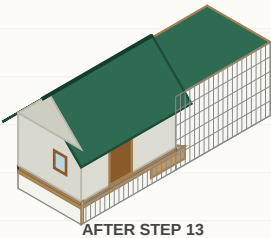
### WATCH OUT

- ! Screw through fender washers every 6in around every edge. Staples alone pull out — a raccoon works an edge until it finds one that gives.
- ! Cut cloth with tin snips and wear gloves. The cut edge is genuinely vicious.
- ! Total on the material list is 186 lin ft of 36in roll — that is the sum of every line in this table, apron included.

# STEP 13: ROOSTS AND DROPPINGS BOARD

19 birds NEED 190 inches of perch at 10 inches each, comfortably above the 6-inch minimum the extension services set. The cut list below BUILDS 219 inches — 3 bars at 73". Those are two different numbers and this plan states both, because a plan that prints the requirement and calls it the built total is contradicting its own cut table. Use a rounded or slightly flattened bearing surface 1 to 2 inches across rather than a thin dowel or a full 3-1/2 inch flat face: it spreads footpad pressure and lowers bumblefoot risk. **So mount the 2x4 ON EDGE, 1-1/2 inch face up, and ease the top corners round.** Laid flat it presents a 3-1/2 inch face, which is the thing the sentence above tells you to avoid — the bar is the same board either way and the plan has to say which. (One exception, and it is not yours unless you are in hard-freeze country: keepers in deep-winter climates deliberately lay the bar flat so a hen can cover her toes with her breast feathers against frostbite. Below about zone 5 that trade is not worth the footpad pressure.) Set the bars 18 to 24 inches off the floor, 10 to 12 inches apart, and at least 8 inches off the wall. Stagger them like stair treads rather than stacking them, so the birds underneath do not get rained on. **No bar sits over a nest box.** Directly beneath the bars goes a removable droppings board — birds put out most of a night's manure while roosting, and catching it on a board you slide out and scrape turns the daily clean into a two-minute job. Never use wire for this: droppings stick to mesh and it becomes impossible to clean.

| Part                 | Qty | Length    | Stock        | Note                                                     |
|----------------------|-----|-----------|--------------|----------------------------------------------------------|
| Roost bar            | 3   | 73"       | 2x4          | MOUNT ON EDGE — 1-1/2in face up, top corners eased round |
| Roost support        | 6   | 14"       | 2x4          | wall cleats                                              |
| Droppings board      | 1   | 75" x 24" | 3/4" plywood | removable, sealed or lined                               |
| Droppings board rail | 2   | 75"       | 2x2          | slides out on these                                      |



# IMPORTANT — PLEASE READ BEFORE BUILDING

## What these plans are

This design is framed to published prescriptive span tables — the American Wood Council's DCA6 deck guide and the International Residential Code joist and rafter tables. Floor joists, girders, rafters, studs and top plates are all sized against those published tables rather than estimated.

## What these plans are NOT

They are not stamped engineered drawings. No licensed professional engineer has reviewed, sealed or certified this design, and it is not site-specific. Prescriptive tables are conservative by design, but they are not a substitute for an engineer's analysis of your particular soil, snow load, wind exposure and seismic conditions.

## You are responsible for local code and permits

Building codes, permit thresholds, setbacks, frost depth, snow load and livestock ordinances vary by state, county, city and HOA, and they change. The IRC exempts detached accessory structures under 200 sq ft from a building permit, but many jurisdictions tighten that to 100, 120 or 144 sq ft, and zoning setbacks are entirely local. Confirm with your building department and zoning office BEFORE you buy materials.

## Heat is a design load too

An uninsulated metal roof in desert or deep-south sun is the most common way a flock gets hurt in a coop that is otherwise built correctly. Hens have no sweat glands and start to suffer above about 85F. If that is your summer: use a light-coloured or reflective roof panel rather than a dark one, add a radiant barrier or rigid foam under the deck, shade the run with cloth or a vine, put the waterers in the shade and add a second one, and consider leaving the top of one gable-end bay permanently open as extra cross-ventilation. None of this is in the framing above because it is climate-specific — but in the wrong climate it matters more than anything that is.

## Snow, wind and seismic loads are your call

The rafter sizing here assumes a moderate roof load. If your ground snow load exceeds 30 psf, or you are in a high-wind or seismic zone, have the roof and anchorage reviewed locally — upsizing rafters is cheap; a collapsed roof in February is not.

## Build safely

Power tools cause serious injury. Wear eye, ear and hand protection, use tools only as the manufacturer intends, and get help lifting walls and roof panels. If a step is beyond your skill or equipment, hire it out.

## Verify before you cut

Check every dimension against your own materials before cutting. Lumber varies between mills and nominal sizes are not actual sizes. We have checked these numbers carefully, but you are the last line of defence against an error.

## Limitation of liability

These plans are provided "as is," without warranty of any kind, express or implied, including any implied warranty of merchantability or fitness for a particular purpose. To the fullest extent permitted by law, buildingachickencoopplans.com and its authors accept no liability for any loss, injury, property damage, animal loss, code violation or cost arising from the use of these plans. By building from them you accept full responsibility for the finished structure and for compliance with all applicable laws.

## IMPORTANT — PLEASE READ (CONTINUED)

### Animal welfare

Capacity assumes 4 sq ft of coop floor per standard-breed hen — comfortably inside the 3-4 sq ft that Virginia Cooperative Extension and Oregon State give for birds WITH run access. This coop gives 80 sq ft of bird floor for 19 hens.

Outdoors, the run is 96 sq ft, or 5.1 sq ft per bird. Extension services genuinely disagree here: Cornell says 4-5 sq ft is enough, Virginia says 10. We are comfortably over the first and under the second. If you want to meet the stricter figure, either build the run longer or keep 9 birds rather than 19.

**The number that actually bites is winter.** Where birds are shut in for days at a time, Oregon State escalates to 8-10 sq ft of INDOOR floor per bird — for 19 hens that is 152-190 sq ft, and this coop has 80. In a climate with long confinement, size the flock off the indoor figure, not the summer one: 10 hens, not 19. Crowding causes feather-pecking, disease and ammonia problems. Fewer birds is always safe; more is not.

## PLANS COMPLETE

### You're done. A few things worth doing before the birds move in.

- Feeder and waterer: hang or stand them so the lip is at the birds' back height (about 8in off the floor for standard breeds) — it stops them scratching bedding into the feed. Allow 4in of feeder edge and 1in of drinker edge per bird: for 19 hens that is one 30in tube feeder and two 3-gallon founts, sited AWAY from under the roosts.
- Bedding: 4 to 6 inches of pine shavings or chopped straw, never cedar. Stir it weekly, top it up rather than replacing it, and strip it out when it stops smelling of nothing.
- Give them a dust bath — a shallow box of dry soil with a little wood ash or sand, kept under cover so it stays dry. It is how a hen treats her own mites, and there is nowhere in this coop to do it unless you build one.
- Keep one spare crate or a corner of the feed room free. You will need somewhere to isolate a sick bird or a new one, and working that out on the day is too late.
- Run a bead of exterior caulk anywhere siding meets trim, and prime every cut end.
- Fit two-action latches on the pop door and every people-door. Raccoons are dextrous and keepers widely report them working simple hooks and slide bolts open, so a latch that needs two different motions is cheap insurance.
- Bury the hardware-cloth apron 12 inches down and 12 inches out before you add bedding.
- Confirm the vents are above roosting height so moisture leaves without drafting the birds.
- Give the flock a week to learn the coop before you let them into the run unsupervised.

**More free plans and build guides at [buildingachickencoopplans.com](http://buildingachickencoopplans.com)**