

OPEN-AIR A-FRAME RABBITRY SHELTER

Printable Construction Plan • Based on the Video Build

The Rabbitry Center

Purpose: a simple roofed, open-air structure with partial upper side sheathing and open ends. It is designed to provide shade and weather protection while preserving strong cross-ventilation. The same basic structure can be adapted for hanging rabbit cages, equipment, a small boat, firewood, or similar uses.

IMPORTANT: The transcript contains a few changing dimensions. This plan uses the final dimensions stated in the video: approximately 16 ft overall roof length × 10 ft overall roof width, with the four main 4×4 posts laid out at approximately 12 ft × 9 ft 6 in. Verify all field measurements before cutting. Roof pitch, truss spacing, snow/wind loading, footing depth, fastener schedule, and permit requirements should be confirmed for your location before construction.

1. Project Specifications

Item	Plan
Overall roof size	Approx. 16 ft long × 10 ft wide
Main post footprint	Approx. 12 ft long × 9 ft 6 in wide
Main posts	Four pressure-treated 4×4 posts
Post depth shown in video	At least 24 in; local frost/structural requirements may require deeper
Main horizontal framing	Pressure-treated 2×6 lumber, doubled/sistered
Corner bracing	2×4 diagonal braces, approx. 30 in long
Roof framing	2×4 A-frame trusses/rafters with OSB gussets as demonstrated
Roof deck	OSB sheathing
Side covering	Upper portion only; lower portion remains open for airflow
Ends	Open
Floor	None
Roof finish	Underlayment, drip edge, asphalt shingles, ridge caps

2. Lumber & Material List

The video transcript does not state every exact board count or truss spacing, so the list below separates items that are clearly stated from items that must be field-sized or purchased to suit your chosen truss layout. Buy a small overage for cutting mistakes, warped lumber, and blocking.

Material	Quantity	Use / Notes
Pressure-treated 4×4 posts	4 minimum	Long enough to achieve required finished height plus burial depth.
Pressure-treated 2×6 lumber	Field measure	Main perimeter rails plus matching sister boards. Video describes one 2×6 on the face/back and sistering the framing around the structure.
2×4 lumber - corner braces	1 eight-foot board minimum	Four 30 in braces are stated in the video, but four 30 in pieces cannot actually be cut from one 8 ft board. Plan on at least two 8 ft boards for four 30 in braces, plus waste.
2×4 lumber - roof trusses/rafters	Field size by truss count	Two sloped members per truss plus any bottom tie/required bracing.
OSB - truss gussets	As needed	Cut gussets for truss joints.
OSB - roof sheathing	Approx. 6 sheets minimum by area	A 16×10 roof footprint is 160 sq ft before slope/waste. Actual sloped roof area is

		greater; buy based on measured rafter length and layout.
2×4 lumber - side sheathing supports	4 × 8 ft stated in video	Horizontal supports for the partial side covering.
Side sheathing	Field measure	Video describes cutting 4×8 sheets in half for the partial walls.
Pressure-treated 1×4 trim	Field measure	Protects/finishes exposed sheathing edges.
Concrete	Approx. 1/2 bag per post stated	Use an appropriate footing mix/quantity for local soil and structural requirements.
Roofing underlayment	1 roll typically sufficient	Size to actual sloped roof area.
Drip edge	Field measure	Roof eaves/rakes as applicable.
Asphalt shingles	Size to actual roof area + waste	Match house/shed if desired.
Ridge-cap shingles	Approx. 16 linear ft + waste	For the roof peak.
Exterior structural screws / approved framing fasteners	As needed	Use fasteners appropriate for treated lumber and structural connections.
Roofing nails	As needed	For shingles.
Roofing cement/tar	1 tube	For final exposed nail heads/repairs.
Hooks/eyelets + galvanized wire	Optional	For hanging rabbit-cage corners as shown in the video.

3. Cut List

Part	Stock	Cut	Notes
Corner braces	2×4	4 pieces × approx. 30 in	Trim ends to fit the post/rail connection. Verify actual angle in place.
Side-wall horizontal supports	2×4	4 pieces × 8 ft (stated)	Run between posts/centered over a post so adjoining pieces have fastening surface.
Roof sheathing	OSB	Field cut	Video uses full 4×8 sheets where possible and an additional approx. 22 in course/piece based on that roof geometry.
Side sheathing	Sheet goods	Cut 4×8 sheets in half as required	Video describes using half sheets for partial upper side coverage.
Truss rafters	2×4	Make one master pair, then duplicate	Birdsmouth or flat-seat method shown. Exact length/pitch was not stated in transcript.
Truss gussets	OSB	Duplicate from a master template	Fasten both sides where appropriate.
1×4 trim	PT 1×4	Field cut	Fit to exposed lower/edge portions of sheathing.

Do not pre-cut all roof members until the first truss has been test-fitted on the actual structure.

4. Recommended Tools

- Tape measure, carpenter's pencil/marker, string line, stakes, level and framing square
- Post-hole digger or auger
- Circular saw and/or miter saw; reciprocating saw for modifications
- Drill/impact driver and appropriate bits
- Clamps, including C-clamps
- Hammer and utility/roofing knife
- Sawhorses for cutting sheet goods
- Ladder(s) and proper fall-protection equipment for roof work
- Eye, hearing, hand and respiratory protection

5. Construction Sequence

Step 1 - Lay Out and Set the Four Main Posts

Choose a level, well-drained location. Establish the four-post footprint at approximately 12 ft long × 9 ft 6 in wide, based on the final dimensions stated in the video. Run string lines from corner to corner/along the post lines to keep the posts aligned. Check diagonals to get the layout as square as practical.

Dig the holes to the depth required for your local conditions. The video uses at least 24 in in Michigan and approximately half a bag of concrete per post, followed by water and compaction. Because frost depth and structural requirements vary, use the video dimension as a description of the original build rather than a universal footing specification. Let the posts set before loading the frame.

Step 2 - Install the Outside 2×6 Framing

Connect the 4×4 posts with pressure-treated 2×6 horizontal framing. Keep the rails level and fasten them securely to the posts with exterior structural fasteners appropriate for treated lumber. These rails form the main lower frame and later provide attachment points for bracing and the rabbit-cage system.

Step 3 - Sister the 2×6 Rails

Install a second 2×6 directly beside the first 2×6 members. The video calls this a sister board. Fasten the two members together and tie them securely into the posts. The doubled framing reduces flex and gives the structure a much more substantial rail for cage support and diagonal bracing.

Step 4 - Add the 30-Inch Diagonal Braces

Fit diagonal 2×4 braces at the corners between the posts and the newly installed framing. The video uses braces approximately 30 in long. Cut/fine-tune each brace so it bears well against the framing, then fasten it securely. These braces are what stop the frame from racking back and forth.

NOTE: The transcript says four 30 in braces can be obtained from one 8 ft 2×4. That is mathematically impossible because four 30 in pieces require 120 in of stock. Allow at least two 8 ft boards for four 30 in braces, plus saw kerf/waste.

Step 5 - Build One Master A-Frame Truss

Build the first roof truss on a flat surface. The video demonstrates two possible rafter-seat methods: (1) a birdsmouth cut that seats the rafter on the supporting frame, or (2) a flatter attachment at the 4×4 with the upper/outside corner trimmed to create the roof plane.

Because the transcript does not state the exact roof pitch, rafter length, ridge detail or engineered truss design, establish these dimensions from the actual structure. Build and test-fit ONE truss first. Once it sits correctly and produces the desired approximately 10 ft overall roof width/overhang, use it as the master pattern for the remaining trusses. Reinforce joints with OSB gussets as demonstrated.

Step 6 - Duplicate and Install the Remaining Trusses

Duplicate the master truss so the roof planes remain consistent. Set each truss on the structure, keep it plumb, align the ridge, and fasten it to the supporting frame/posts with approved structural connections. Add temporary bracing while setting the trusses so they cannot tip. Permanent roof/truss bracing should meet local structural requirements.

The video does not state truss spacing. Choose spacing only after considering the roof sheathing span rating, snow load, wind load and local code requirements.

Step 7 - Install the Roof OSB

Start at the lower roof edges and install the OSB across the trusses. Keep the lower edges straight and the panel joints supported. Stagger joints where appropriate and leave manufacturer-recommended panel expansion gaps.

The video notes that the 16 ft building length works conveniently with two 8 ft sheets end-to-end. It also mentions an additional approximately 22 in of roof sheathing on the upper course for the particular rafter length used. Treat that 22 in dimension as specific to the original roof geometry; measure your finished rafter before cutting.

Step 8 - Frame the Partial Side Covering

Install horizontal 2×4 supports for the side sheathing. The video states that four 8 ft 2×4s were used and that the support line was positioned about 4 ft down from the top/truss area. Where two boards meet at a post, center the joint so both pieces have solid fastening surface.

The goal is NOT to create a closed wall. Cover only enough of the upper sides to reduce blowing rain and snow. Keep the lower side area open so air can move freely beneath and through the rabbit cages.

Step 9 - Install Side Sheathing and Trim

Cut the 4×8 side-sheathing panels into manageable sections as shown in the video and fasten them to the horizontal 2×4 supports. Keep the lower portion of the structure open. Install pressure-treated 1×4 trim along vulnerable/exposed edges before completing the weatherproofing details.

Step 10 - Install Drip Edge and Roofing Underlayment

Protect every exposed OSB roof edge from water. Install drip edge in the correct sequence for the roofing system you are using. Roll roofing underlayment from the low edge upward so every upper course overlaps the lower course and sheds water.

The video shows some work being performed in a different order because of access/pitch. For a new build, follow the roofing-material manufacturer's installation sequence rather than intentionally duplicating an improvised sequence.

Step 11 - Shingle the Roof

Install the starter course and asphalt shingles according to the shingle manufacturer's exposure and nailing instructions. Stagger end joints so seams do not line up from one course to the next. The video demonstrates starting a subsequent course with a shortened shingle to create the stagger.

Continue to the ridge on both sides, then install ridge-cap shingles along the approximately 16 ft peak. Cover any permitted exposed final fasteners with compatible roofing cement.

Step 12 - Optional Hanging Rabbit-Cage System

If the shelter will be used as a rabbitry, cages can be hung so manure and urine fall directly to the ground rather than collecting on a wood support. The video demonstrates removing the support beneath the rabbit's chosen bathroom corner, installing a hook/eye above that corner, and suspending the cage corner with twisted galvanized wire.

Use hardware and wire with ample load capacity, avoid sharp wire ends inside or immediately adjacent to the cage, and inspect hanging points regularly. A cage should never depend on a single questionable fastener or an attachment point that can pull out of weak lumber.

6. Ventilation & Rabbitry Design Notes

- Keep the ends open and the lower sidewalls open to maximize cross-ventilation.

- Use the partial upper side covering primarily as a rain/snow shield, not as a full enclosure.
- Fresh air is especially important where manure and urine are directly beneath cages.
- Orient the shelter with local prevailing weather in mind so the roof/partial walls block the worst blowing precipitation without trapping hot air.
- If screening is added later, preserve large free-air openings and provide a full-size access door.
- Keep rabbits shaded from direct summer sun and protected from wind-driven precipitation.

7. Build Checks Before Moving to the Next Stage

Checkpoint	Verify
After posts	Posts are aligned, plumb, adequately set, and the footprint is checked diagonally.
After 2×6 rails	Rails are level and securely fastened; sister boards are tight to the primary rails.
After diagonal braces	Frame no longer racks noticeably side-to-side.
After first truss	Both rafter seats fit, ridge is centered, overhang is acceptable, and the truss is symmetrical enough to use as a pattern.
Before sheathing	Trusses are plumb, aligned and permanently braced/connected.
Before shingles	OSB is dry, properly fastened, panel joints supported, drip-edge/underlayment sequence is correct.
Before hanging cages	All hooks, wire, rails and attachment points are structurally sound and sharp ends are inaccessible to rabbits.

8. Important Corrections / Clarifications From the Spoken Transcript

- The video first mentions different structure sizes, but the final stated overall size is approximately 16 ft × 10 ft, with the buried 4×4 footprint approximately 12 ft × 9 ft 6 in. This plan uses those final figures.
- Four 30 in braces cannot be cut from one 8 ft 2×4. Four braces require at least 10 linear ft before saw kerf/waste.
- The transcript does not provide enough information to specify a safe universal truss pitch, rafter length, truss spacing, footing design or structural fastener schedule. Those must be matched to the actual build and local loads.
- The approximately 22 in roof-OSB cut mentioned in the video is specific to the original roof geometry; field-measure before duplicating it.
- Roofing underlayment and drip edge should be installed according to the roofing manufacturer's instructions and local code.

9. Quick Build Order

1. Lay out the 12 ft × 9 ft 6 in post footprint.
2. Set the four pressure-treated 4×4 posts.
3. Install the primary pressure-treated 2×6 rails.
4. Sister the 2×6 rails.
5. Install four approximately 30 in diagonal corner braces.
6. Build and test-fit one master A-frame truss.
7. Duplicate, install, align and brace the remaining trusses.
8. Install OSB roof sheathing.
9. Install the partial side-wall 2×4 supports.
10. Install partial side sheathing and treated 1×4 trim.
11. Install drip edge and roofing underlayment.
12. Install shingles and ridge caps.
13. Install optional cage-hanging hardware.

14. Final-check fasteners, sharp edges, roof weatherproofing and ventilation.

10. Safety / Structural Note

This document is a construction guide derived from a do-it-yourself video transcript, not an engineered structural drawing. Ground snow load, wind exposure, frost depth, soil conditions, roof pitch, rafter/truss design, connector type and local building rules can materially change what is required. Before building, verify the structural details and permit/code requirements for the actual site. Use temporary bracing while erecting roof framing and appropriate fall protection when working at height.

The Rabbitry Center • Open-Air A-Frame Shelter Build Plan