

WICHITA CABIN COOP BUILDING GUIDELINES & MATERIAL LIST

Background Information

This coop is sized for about 3 to 5 “normal” sized chickens, based on the rule of thumb allowing about 4 ft.² per bird of coop space and 10 ft.² per bird of run space for a combined coop-run setup. If the birds are allowed to “free range” (i.e. stay outside of coop- run) most of the time, and only use the coop for eating and/or roosting at night, it may be able to accommodate another bird or two. However, we recommend against overcrowding, especially if the chickens will be confined to the coop-run for prolonged periods of time (e.g. few days) due to things like bad weather conditions or predators hanging around.

I am not a skilled carpenter, and this was one of my first major building projects. Hence, some of the design and construction techniques portrayed in the BYC “Wichita Cabin Coop” webpage and SketchUp models may not be the “standard” way of doing things, or particularly fast / efficient (e.g. roof framing, building windows, etc.). Nevertheless, I strove to keep the design as simple and easy to build as possible, given my limited experience. Hopefully you’ll find that none of this is too crazy or difficult.

If you have any questions or need additional information, feel free to contact us anytime. Good Luck with your coop building project!

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Google "SketchUp" Model Notes

We've included 2 Google "SketchUp" files for this coop. One contains the basic framing elements, while the other includes all details of the finished coop.

Note that these files contain Google "SketchUp" 3D computer models of the coop, and not a set of dimensioned drawings or detailed instructions – we do not have anything like that available at this point. You will need the "Google SketchUp" program (available free off the web) installed on your computer to open these files.

If you are familiar with the Google "SketchUp" program, you can use the models to see how all the pieces fit together, extract dimensions / measurements, modify the design, etc. If not, once again the SketchUp program is available free off the web, and by dedicating a little time to learning using the online tutorials (also available off the web -- e.g. YouTube and similar), you should be able to figure out the basics, and then be good to go. A few other points / hints to consider:

- Before you start working with and/or modifying the models, we recommend that you save the original to a secure location, and then create separate working copies for actual use.
- Use the "Edit, Hide/Unhide" function of the SketchUp program to select and then hide individual elements from the models, so that you can expose underlying elements if/as desired.
- The "Tools, Tape Measure" function can be used to extract dimensions / measurements of individual elements.
- There are several "component / group" type elements in the model (e.g. doors, windows) which are composed of collections sub-elements. By double-clicking on a particular component or group, you can open it up to view / work with its sub-elements. Note that some sub-elements may also be arranged into additional components / groups.
- The models can be altered, added to, etc. if/as desired. For example, to modify things like basic footprint / height, or change details to suit your own particular needs / tastes.



Building Material List

| description | size | quantity | notes |
|------------------------|---|------------|---|
| paving stones / blocks | 2" x 8" x 16" (or similar / as desired) | 45 | <ul style="list-style-type: none"> • for base / "foundation" • some blocks may need to be cut / broken to fit • alternately, may use cinder blocks, pour concrete, etc. |
| framing studs / beams | 2" x 6" x 10' | 3 | <ul style="list-style-type: none"> • for base framing • consider use of pressure treated lumber, as these rest directly on the foundation / ground |
| framing studs / beams | 2" x 4" x 8' | 50 | <ul style="list-style-type: none"> • for wall, roof, floor, etc. structure |
| framing studs / beams | 2" x 4" x 12' | 2 | <ul style="list-style-type: none"> • for roof framing end pieces |
| floor boards | 1" x 6" x 6' (or similar / as desired) | 7 | <ul style="list-style-type: none"> • for coop flooring • alternately, may use additional shiplap / tongue-in-groove siding as floor boards |
| plywood roof sheathing | ½" x 4' x 8' | 4 | <ul style="list-style-type: none"> • optional for metal roof • install roofing felt if desired • install drip rails along edges if desired |
| metal roofing panels | 3' x 8' | 5 | <ul style="list-style-type: none"> • will need roofing screws or nails compatible with metal roofing system used • alternately, can use shingles for roofing |
| hardware cloth mesh | 3' x 25' roll | 2 | <ul style="list-style-type: none"> • for run enclosure and door / window coverage • alternately, may use chicken wire or other suitable metal mesh |
| wall / siding boards | 1" x 5"(true) x 8' (or similar / as desired) | 22 | <ul style="list-style-type: none"> • for coop walls and door • recommend tongue-in-groove or shiplap style boards • alternately, regular flat edged boards may be used, but gaps may develop over time |
| nesting box boards | 1" x 15" x 8' (or similar / as desired) | 2 | <ul style="list-style-type: none"> • for nesting box and pop-up door • alternately, ¾" – 1" thick plywood can be used |
| trim boards | 1" x 4" x 8' | 10 | <ul style="list-style-type: none"> • for trim work around edges of walls, doors, etc. |
| trim boards | 1" x 3" x 8' | 2 | <ul style="list-style-type: none"> • for inner front door window trim and pop door guides |
| trim strips | 1" x 2-1/2" x 8' | 6 | <ul style="list-style-type: none"> • for screen retention, window and nesting box trim, etc. |
| trim strips | 1" x 2" x 8' | 10 | <ul style="list-style-type: none"> • for screen retention, window trim, etc. |
| ramp board | 1" x 8" x 6' | 1 | <ul style="list-style-type: none"> • use trim scrap or other suitable molding for ramp rungs |
| window framing & glass | ref. notes | ref. notes | <ul style="list-style-type: none"> • reference "Window Construction" section for details |

| | | | |
|--|-----------------------------------|-------------|--|
| carpenter's wood glue | n/a | as required | • recommend exterior / waterproof wood glue |
| screws (alternate – nails) | 1-5/8", 2-1/2", 3-1/2" lengths | as required | • recommend exterior treated screws for wet locations, or use with pressure treated lumber |
| paint or stain | n/a | as required | • may paint / stain pieces before assembly if / as desired |
| door and window hinges & latches, brackets, eyebolts, etc. | as required / desired | as required | • pick suitable hardware as desired for doors and windows, hanging food and water, roosting bars, etc. |

Suggested Tools

- shovel / spade
- measuring tape / rulers
- carpenter's level
- framing square
- clamps
- sawhorses
- circular saw
- jigsaw
- miter box / saw
- drill
- screwdriver
- hammer
- tin snips or metal-cutting circular saw blade
- staple gun
- paint brush

Construction Notes / Hints

We recommend estimating and allowing for adequate time to build, especially if you are an inexperienced builder. Difficulties, mistakes, and unforeseen circumstances will invariably arise. Tough or unrealistic deadlines can lead to further mistakes and frustration. Consider scheduling in extra time to keep the project more enjoyable.

Keep everything level, square, and cut as accurately as you can during construction. Old sayings like “measure twice, cut once” apply here. Although it may seem slow, careful / quality construction and attention to detail will pay off in saved time and effort overall.

I used screws for the construction of our coop. While more expensive than nails, they tend to hold things very tight, pull together any warped pieces, and allow for relatively easy disassembly should you make mistakes or want to incorporate later design changes. Nails should work fine as well, though, especially for experienced carpenters. If using screws, I recommend drilling pilot holes in outer pieces (i.e. screw-head side), and/or clamping parts tightly together before driving screws, to keep everything square and pulled together tightly.

Measurements taken from the SketchUp models are “exact” dimensions, from a solid computer model of the coop. In real life, measurements may not always exactly match up with the dimensions taken from the computer models, due to things like tolerance buildup, framing not being perfectly square, small construction mistakes, etc. Modify your plans / construction as necessary to accommodate any differences that arise during the actual build.



Locating Your Coop

Before you start construction, we recommend spending some time to think about where you want your coop located / oriented, and why. You may want to consider things like:

- drainage: Try to find a place for your coop where the run will not be swampy or underwater following heavy rainfall. Higher ground is preferable. When building the foundation, piling dirt and/or constructing the base a few inches above the surrounding terrain will aid with drainage and keeping the run dry.
- exposure to sun and/or shade/cover: Locating the coop in an area which will be shaded during hottest parts of the day in the summer (by trees or etc.) will help keep your coop and birds cooler. Conversely, sun exposure in the winter will aid in keeping the coop and birds warmer, and help to dry out wet areas/things faster.

Note that the sun's path through the sky (and resulting sun and shade exposure areas) will differ significantly from summer to winter throughout most non-tropical regions of the world. This may allow you to find a location that achieves the "best of both worlds" for the considerations mentioned above.

- exposure to wind and blowing rain/snow: Chickens generally don't require any supplemental heat in cold weather, so long as they are able to stay dry and keep out of the wind and drafts. Locating the coop in an area with some natural shelter (e.g. adjacent buildings, fences, bushes, etc.) will help them with this. In the summer heat, however, exposure to breeze is usually desirable.
- security: Chickens naturally attract all kinds of predators. Common ones include animals like dogs, foxes, and hawks in the daytime, while raccoons, possums, and owls can be a threat at night. This coop design is fairly predator-proof, but you may still want to consider locating the coop in such a manner that you can monitor it easily for any predator activity or threats. Placing the coop in a securely fenced area can aid in keeping your chickens in, and neighbor's dogs out. Bushes, low buildings, tables / chairs, and etc. can provide cover for chickens to hide under when hawks come around.
- potential smells / flies: There will usually be a little "chicken coop" odor and/or some flies about whenever you keep chickens. If you attend to cleaning regularly, this can be kept to a reasonable minimum. Nonetheless, you may want to consider positioning your coop far enough away from your house to minimize any potential issues with flies / smells. Keeping a compost pile near the coop can help with your cleaning activities.
- aesthetics / neighborliness: Always check to see what the local ordinances or laws are with regards to keeping chickens on your property. Even though you may be very excited about getting and keeping chickens, your neighbors may not be so enthusiastic about the idea. It's a good idea to be considerate when locating your coop, to keep it looking nice and avoid exposing your neighbors to undesired sights, noises, smells, etc.

Foundation Construction:

We built our coop's base or "foundation" using paving stones, since we had a lot of them readily available. Also, because it would be relatively easy to remove them and restore the area to its original state if we ever needed to move the coop. Alternately, things like cinder blocks, poured concrete, or other similar materials / configurations can be used as a foundation for your coop.

The main considerations for materials used to build a base are that they be:

- "rot-proof" -- i.e. able to withstand damp or wet ground conditions for prolonged periods
- stable -- i.e. do not readily move or shift over time.

The primary goals when constructing the base / foundation are to keep it as square / level as possible, and firmly support all materials so they cannot move or shift over time. If paving stones are used for the foundation, dig a slit trench and carefully fit each brick, firmly packing the earth under and around it after placement (recommend using a wood block and large mallet or similar to firmly pound/pack dirt around each paving stone).

Consider building the base / foundation a few inches higher than the surrounding terrain to aid in keeping the run area drained and dry.

After construction of coop is completed, we recommend using sand to fill the run area because:

- it is relatively simple to keep clean -- i.e. periodically sift poop, feathers, and etc. out of
- it is easy for chickens to scratch / dig down into
- it will dry out fast if it becomes damp or wet.

Nesting Box Construction

We used 1" (3/4" true) thick boards to make our nesting box -- these were left-over "glue-lam" boards (straight grained) from a friend's cabinetry project. They tended to split easily and needed to be glued together along all joining edges. For a new coop, we would suggest considering using 3/4" – 1" thick plywood instead, and/or adding framing members along the inside edges of the nesting box assembly to give better attachment options and help prevent splitting.

Doors Construction

The doors to the run and coop areas were assembled using both screws and liberal amounts of carpenter's wood glue at all joint / mating locations, for increased strength and rigidity.

For the run door, we used long (3-1/2" or larger) screws placed in deep countersunk holes at the corner and center cross-piece locations, along with metal reinforcing brackets. If you are a skilled carpenter, you may want to consider using "mortise-and-tenon" or similar joints at the corners / intersections for increased strength. Alternately, a readymade screen door w/ wooden frame could be fitted at this location.

Windows Construction

We built our windows from scratch, since I couldn't find any commercially available or old / used ones that were small enough and "looked right" for what I had in mind. We thus made our own custom wooden frames, and then glazed in individual panes of glass. This was just essentially copying the "old fashioned" construction method used for most wooden framed windows found in older houses -- somewhat time-consuming, but not overly complicated.

The frames were built up from lumber stock, sized as portrayed in the SketchUp model. Some of the outer frame pieces were "ripped" to size (e.g. 2-1/8" true or 2-3/8" true widths) from wider initial pieces, 1" x 4" trim boards, or similar. The center "mullions" (dividing pieces) were made from exact-sized trim or molding pieces procured at hardware or lumber stores. All parts were assembled using screws and liberal amounts of carpenter's wood glue.

After the glue had dried and any rough edges had been trimmed or sanded, a couple coats of primer were applied to the frames. We then cut and glazed in individual panes of glass for each opening in the window frames (note that we live in an old house w/ wooden windows -- plus lots of kids who like to throw balls -- so I'm pretty familiar w/ the process). If you've never done this before, we recommend that you search YouTube or similar sources for instructional videos. Also, many glass shops will cut panes and glaze them in for you as well

After the glass panes have been glazed in and putty has dried, final coats of paint should be applied to the windows to seal and finish them.

Alternate (simpler) methods of window construction may be used as well. We recommend searching the BYC website coops for window styles / construction methods you may prefer.