

A Step-by-step Guide to Building Your Own Wood Fence





BUILD A SHADOWBOX PRIVACY FENCE

By Matt Weber

A fence can add a lot to a landscape. A fence can divide property lines, boost home equity, add to the outdoor décor and—as in our case—safely contain animals.

The animal in question is Raleigh, a goofy, brown cocker spaniel. My wife and I have recently moved to a new house and brought the dog along. Raleigh had grown accustomed to running freely throughout the yard, because our previous country home was safely secluded from traffic. However, the new house in the ‘burbs is on a much busier street, requiring the wife or I to walk the dog on a leash each time he needs to tinkle. This is aggravatingly repetitive and increasingly uncomfortable in cold weather. We decided it would be nice just to shoo the dog out the door while we stay in the house, but we needed a way to keep him out of traffic. That was the genesis of our fence project.

DESIGN & MATERIALS

When it comes to constructing a fence, you have a ton of options to consider for materials and design. Fence materials range from metal and wood to vinyl and wood-plastic composites. For an easy-to-build fence, you might consider using pre-assembled panels, which can dramatically reduce the time you’ll spend building.

However, if your yard is sloped, then to keep the panels level you’ll have to stagger the panel heights where they fasten to the posts.

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Because our yard has a significant grade, the staggered panels would have created gaps at the level bottom of the fence, through which the dog could escape. Not a good solution for us.

We opted to build a wood privacy fence from the ground up, which would closely follow the grade of the yard and secure the dog from the perils of suburbia. For our picket design, we chose

a shadowbox style, which alternates the position of the pickets from one side of the stringer to the other—a feature we felt added extra depth to the design.

For the framing lumber, we visited our local Lowe's to pick up 8-foot 4-by-4 posts and 8-foot 2-by-4 boards for stringers, all pressure-treated for outdoor use, with the posts approved for ground contact.

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Mark off your fence layout with stakes and twine. Pull the line tightly between corner stakes, then stake the line intermittently.



For the fence boards or “pickets,” we used a species of wood that is too often overlooked these days: Cypress. Cypress is actually a soft wood, although it grows alongside hardwoods and is usually grouped and manufactured with hardwoods. According to the Southern Cypress Manufacturers Association (www.cypressinfo.org), the wood's natural durability is a big benefit for exterior applications. Cypress generates cypressene, its own preservative oil, which makes its heartwood naturally resistant to

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insects, decay and chemical corrosion. These inherent strengths make cypress an ideal choice for long-wearing outdoor projects such as fences, decks, docks and siding.

We set the posts in Fast-Setting Concrete from Quikrete. You'll find two big advantages of this product: speed and ease-of-use. This specific formula of Quikrete saves time by eliminating

the need to premix the concrete. Simply pour in the mix dry, straight out of the bag into the post hole. Once the post is buried, then pour about a gallon of water per 50-pound bag over the dry mix, which then cures in about 30 minutes. Using about 1-1/2 bags per post, we found this to be a quick method to set them.



With the line in place, measure for the fence post locations and spray paint an "X" over the exact spot to dig.



We fastened all our connections with hot-dipped galvanized nails with ringed shanks for extra holding power. Make sure your fasteners are approved for exterior use in chemically treated lumber.

PLANNING THE LAYOUT

To a large degree, the construction and style of your fence

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A rented two-man power auger and an electric demolition hammer helped greatly when digging the holes.



is up to you, but always check with local officials regarding building codes and any necessary permits. Some neighborhoods may also have certain architectural guidelines or "covenants" that restrict design, and of course you'll need to double-check that the location of your proposed fence is not on a neighbor's property. It's also wise to locate any underground utilities so as not to dig into disaster. You can dial "811" nationally to get underground utility lines, cables and pipes marked for free.

With that said, the height, décor and trajectory of your fence are up to you, and may be

dictated by other obstacles in your yard, such as trees and sheds. For my fence, I ran 12 feet out from the front corner of my house (enclosing a side door), made a 90-degree turn and ran the side of the fence square with the house, parallel to the house wall. I squared in a large section of the backyard and ended the fence at the wall on the opposite side of the house. My design is just an example. Although your landscape may differ dramatically, the basic steps in fence construction remain the same.

First, mark your layout with stakes and twine. A stake should be placed precisely at every corner post as well as intermittently along the fence perimeter to keep the string tight and straight. With the layout completely lined with string, walk the perimeter with a tape measure and spray paint, painting a large "X" to pinpoint the precise placement of each fence posts.

Fence posts are usually 6 to 8 feet on center. The closer the fence posts, the stronger the fence. This measurement is also crucial for the sake of your materials, because dimensional lumber is sold in standard sizes. So, if your posts are accidentally spaced 8 feet, 1 inch apart, then an 8-foot board will be too






Set the corner posts first, stringing a new line between to line up the other posts.

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Fill each post hole with 4" to 6" of gravel to allow drainage.

short. In such a case, you would have to purchase a 10-foot board and cut off 1-foot, 11 inches to create a stringer long enough. Obviously this would be an expensive waste of material.

SETTING THE POSTS

A good rule of thumb is to dig the holes for fence posts deep enough to bury 1/3 the overall height of the posts (2 feet deep at a minimum). Dig deep enough to set the post below the frost



A Post-Pod (cepcotool.com) is helpful for one-man installation.

line, which will help prevent frost heaving. Additionally, dig an extra 4 to 6 inches deeper than the desired depth of the post to place a bed of gravel beneath the post for drainage. Sounds like a lot of digging, right? It is.

A traditional way to dig a post hole is with a manual clamshell digger and a trench shovel. These are tried and true tools, but if using them, expect to spend many hours, days or even weeks digging your holes, depending on the size of your fence.

To speed up the digging process, I highly recommend



A traditional method to plumb and brace posts is to use a 4-foot level and a couple of pivoting wood legs.

renting a gas-powered auger and recruiting another worker to help steer it. Note: Although, "one-man augers" are available to rent, my experience is these "one-man" models are nothing more than smaller, poorly designed machines that still require a second worker to control—and awkwardly, at that. The two-man models are primo,

though, and with the help of a friend we had the holes completed in a single afternoon.

While digging, we were also soaking the base of the posts in water sealer. The best method to do this is to use a tall bucket and place about 4 posts upright in the bucket at once. Their mass displaces the water, which rises to the top of the bucket, soaking the bottoms of the posts. After soaking for about an hour, we would rotate four new posts into the bucket to soak.

To set the posts, start by filling the bottom 4 to 6 inches of



Quikrete Fast-Setting Concrete can be easily poured into the post hole dry. No mixing is required.

the holes with gravel, which will allow some degree of drainage to help prevent rot at the base of the post.

It's important to set all the corner posts first. If you have a helper, they can hold the post upright while you use a hand level to make sure it is plumb. A post level is also helpful, because it straps around the post while placing level vials on two sides of the posts. A post level frees your hands, which is very helpful if you're setting the posts alone.

Once you've established that the post is plumb left to right and back to front, you're ready

to add concrete. However, you must brace the post in place while you add the concrete. If you have a helper, they can hold it for you. Otherwise, you'll need to nail some scrap lengths of wood (I use 1-by-2's) that extend from the post to the ground to act as moveable braces, with the nails serving as their pivot point for adjustment. Plumb the post, adjust the braces to hold it plumb, and then add the concrete. Use a sledge hammer to pound the posts into the ground once surrounded by concrete, then recheck for plumb and adjust if necessary. It's a good idea to leave the braces in place while the concrete sets.

Another handy device for setting the posts is the Post-Pod from Cepco Tool. This is a real



Pour the water over the dry concrete to set the posts.



Use a story pole to mark your stringer locations along the posts.

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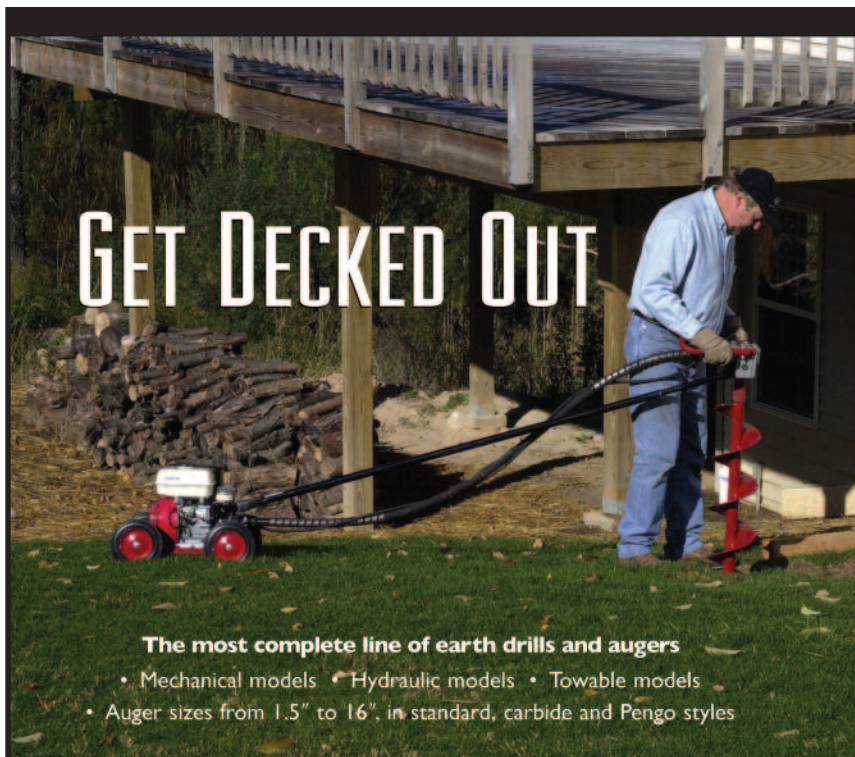
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If you're toe-nailing the fence, then the stringers that follow a slope should be cut at a miter to fit flush between the plumb posts.

timesaver for the solo worker. Rather than cut and nail individual braces, the Post-Pod uses precut wood legs secured in a metal collar that grips the post. Just set the Post-Pod over the post hole. Place the post, check for plumb and tighten the Post-Pod collar over the post. Then add the concrete. You can then move the Post-Pod to the next hole without having to cut new braces, or having to remove and reuse the old ones.

As mentioned earlier, The Fast-Setting Concrete from Quikrete couldn't have been easier to use. However, if you're using standard concrete that should be premixed, you can mix small batches with a wheelbarrow and shovel or hoe, following the manufacturer's instructions for the required



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amount of water. If you have a helper, then another option is to mix and pour with a Crete-Sheet, which eliminates the need for a wheelbarrow and mixing tool.

Allow the posts to set. Once the concrete is hardened, cover it with dirt and slope the earth away from the post to divert water.

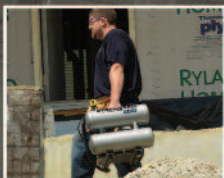

Then, run a line of twine from each corner post to the next, keeping the line on the outside face of the posts. Secure the twine tightly. This string will be the placement guide for each of the posts between the corners. Proceed with setting the other posts in the same manner described above. When plumbing the posts, make sure the outside face of the posts lines up exactly with the string in order to keep the posts in a straight line.



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NAILING THE STRINGERS

For this 6-foot tall fence I positioned the bottom stringer 10 inches up from the ground. The other two stringers were evenly spaced 23 inches apart. You may

need to alter placement, depending on the height of your fence.

To prevent repetitive measurements, I made a story pole from a scrap piece of wood. I marked the position of each stringer on

the pole with masking tape. I then placed the pole alongside each post and used the tape to determine each stringer location, marking it with pencil.

You have many options for attaching your stringers, such as face-nailing, mortise and tenon, or toe-nailing. For the shadow box style, I chose to toe-nail the stringers. By placing the 2-by-2

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Space the stringers evenly and nail them securely.

stringer vertically flush with the outside faces of the posts, the outside wall of the fence would be in a single plane, which makes alternating the pickets easier. To toe-nail, drive at least two nails into the side and one nail through the top of the stringer and solidly into the post.

When it comes to nailing, expect a lot of it. One of the biggest helps on this project came from a cordless framing nail gun from Paslode. This nailer uses a battery to ignite a tiny burst of gas, which “explodes” the nail from the gun with all the driving power

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of an air compressor. Plus, there's no need for a compressor, an air hose or extension cord (which may weaken the compressor). When working in remote areas, the cordless nailer is kind of a godsend, and eliminates all the elbow-thrashing work of the hammer-and-nail method. I used Paslode's 3-inch ring-shank hot-dipped nails for the stringers and the 2-inch versions when nailing the fence boards.

One more note on stringers running uphill ... Cut the ends at an angle so they fit flush between the posts. Here's a tip for how to do so: First, butt the square end of one uncut stringer against the penciled location on your left-hand post. Hold that end firmly against the post while you position the other end of the stringer so it overlaps the right-hand post at the pencil marks. Mark the stringer using the post as a pencil guide. Remove the stringer and take to the cutting table.

Assuming your right-hand post sits at a different height than your left-hand post, the mark should be at an angle. Use an angle finder to transfer that angle to the left-hand end of the stringer. Begin at the corner and



I used a homemade spacing block to keep the pickets even.

cut off just enough material to match the angle. Now, measure the width of that angle cut. Go back to your right-hand angle mark. Keeping the same angle, redraw that mark, moving it over the same distance as the width of the cut on the left-hand side (plus 1/8 inch for blade kerf). This will compensate for that lack of material. Cut the stringer and install.

With all stringers in place, I then used a reciprocating saw to cut the tops of the posts so they were all the same height. When cutting

the posts, it's smart to do so in a manner that diverts water from standing atop the posts, which could contribute to rot. You can cut pyramid-like crowns, cover them with post caps, or just slice them off at an angle like I did.

INSTALLING THE FENCE BOARDS

Attaching the fence boards or pickets is actually one of the simpler phases of construction. I cut a custom spacing block slightly narrower than the width of the fence boards, so there would be a

ALTERNATIVE FENCE MATERIALS

Although wood fencing products remain the most popular residential fencing type, competition from plastic and composite fencing is quickly growing in the consumer market. These alternative materials can offer similar aesthetics to genuine wood, while significantly reducing maintenance costs. In fact, some of the latest composite materials are used not only for the fence boards, but structural posts as well. TimberTech FenceScape now offers a 5-1/4-by-5-1/4-inch self-supporting post. The post is 9 feet long, serrated to match the rails and has 1/2-inch thick walls to provide additional strength. Also new this year, post caps are available in decorative or internal designs to fit the 5-1/4-inch profile. TimberTech's Mountain Cedar fence line also includes fence boards in 5-, 6- or 8-foot lengths that come in either square cut or dog-eared tops. Additionally, FenceScape offers steel-reinforced rails for increased stability, and color-matched, powder-coated rail brackets that eliminate the need for toe-screwing and predrilling. For more information, visit www.fencescape.com or call 1-888-FENCE-52.

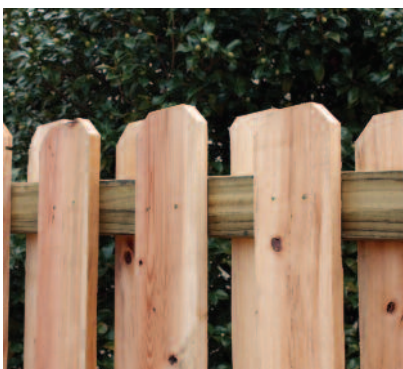




Drive two nails through the fence board at each stringer location.

slight degree of overlap among the alternating pickets.

Place the first board along the corner post and use a 4-foot level to find plumb. Nail it home, using two nails per stringer location. Place the spacing block next to the first fence board and position the second picket against it. Drive in one nail at the top stringer. Use that nail as a pivot while you find plumb, then nail that picket home as well. Follow suit down the stringer. In case your fence boards vary



This shadowbox-style of fence features alternating pickets for extra depth and some degree of see-through visibility.

somewhat in height, keep an eye on the tops so they line up consistently and adjust their placement against the ground if necessary.

Once you reach the next post, return to the first post on the opposite side of the fence. On the opposite side of the stringer you will center a picket across from each space provided by your spacing block to achieve the alternating shadowbox style. Install the boards in the same manner, spacing, plumbing and nailing. Then repeat the same process for each set of stringers as you move down the fence.

FINISHING TOUCHES

I would highly encourage you to prefinish your fence with waterproofer and/or stain before assembling the fence. It's much easier than staining the fence once it's in place. However, I didn't do that here, due to a combination of editorial due dates and inclement rainy weather. I needed to assemble the fence for the instructive purposes of this magazine issue, and while I could build in the rain, I couldn't stain in the rain. Suffice it to say that there is a lot of this fence left unassembled and



The soft wood of the cypress fencing accepts stain easily and its preservative oils make it naturally resistant to decay.



I used Armstrong-Clark's semi-transparent Sierra Redwood stain, and highly recommend applying it to the materials prior to assembly. It's much easier.



un-photographed, which I plan to pre-stain before assembling.

That being said, a quality wood treatment will help add your preferred color tone as well as help to protect against rotting, water-damage and damaging UV rays. I used Armstrong-Clark's semi-transparent Sierra Redwood tone, for a deep tone that will match the exterior house trim I hope to build next spring. But that's another story. **EHT**

For more tips and advice on how to build a fence, including ideas on gate construction and tips on building other styles of fence, visit www.extremehowto.com.