BUILD IT WITH

REDWOOD

2x2 Baluster Railings

REDWOOD

Naturally beautiful
Easy to use
Practical and economical
Durable and stable
Resistant to decay and insects

2x2 Baluster Railings

Custom redwood railings give redwood decks personality and can add a sense of space or scale. These 2x2 baluster railing designs provide a range of options from simple to simply elegant.

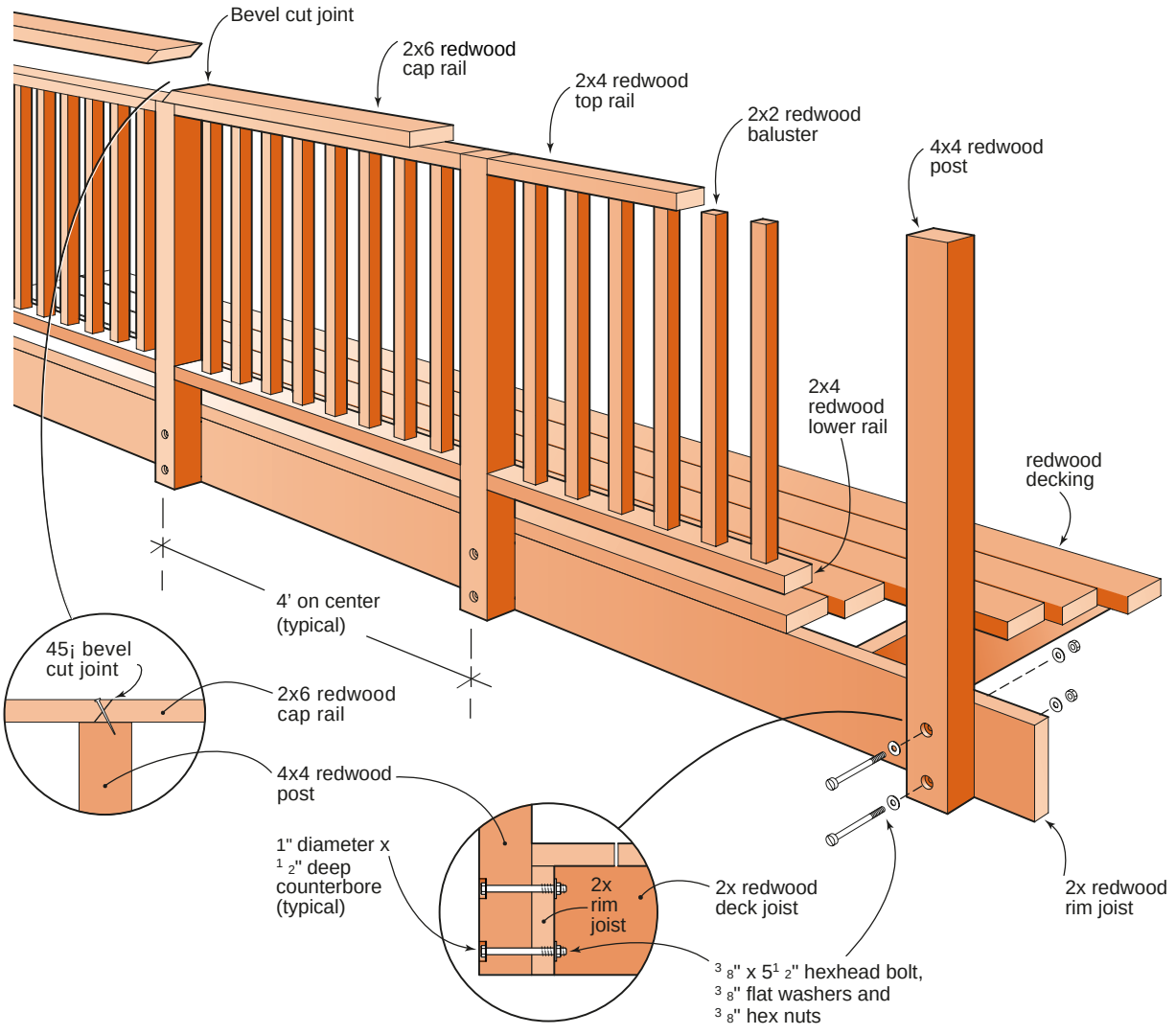
Use the all-heartwood grades of redwood, Construction Heart or Deck Heart, for their increased decay resistance or choose Construction Common and Deck Common grades for their colorful heartwood and sapwood combinations. B grade redwood may be your best choice for the balusters.

RAILING CONSTRUCTION TIPS

Railing construction is quite basic and can be repetitive. There are a few construction shortcuts you can use to trim time and effort when installing railings. Cut all the pieces of each kind at the same time, which will give you a consistent look and measurements. Work on a flat surface, even on your deck if you are able, to help you assemble railing sections before you install them. Use scrap wood as spacers to set the balusters evenly and to support the railing sections while you secure them to the posts.

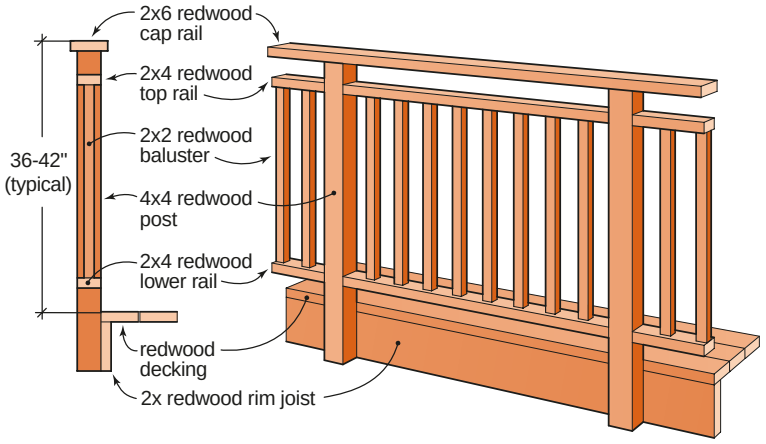
Use the Materials Lists as a guide, but measure your post locations carefully and cut the various rails to fit. This will ensure proper and secure installation. Use only corrosion-resistant screws and fasteners to prevent staining.

Tools you will need Table saw, circular or hand saw, miter box, hammer, drill, socket wrench, square and carpenter's rule or tape and level.

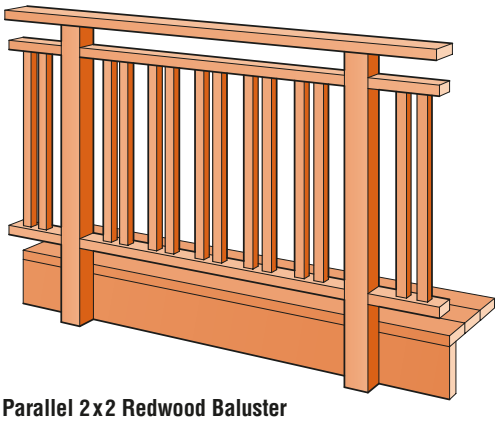


1. Post installation Install corner posts first, then measure and mark the location of the posts between the corners. Spacing should be even and conform to any local building codes. Cut posts to length and predrill them. Make any decorative cuts, such as a beveled bottom, using a circular saw or a power miter saw. Set posts plumb and use a drill to mark the hole locations on the rim joists. Drill pilotholes through the joists. Fasten the posts with ⅜-inch by 5½-inch hex-head bolts, washer and hex nuts. For a more finished look, counterbore the holes to sink the bolt heads.

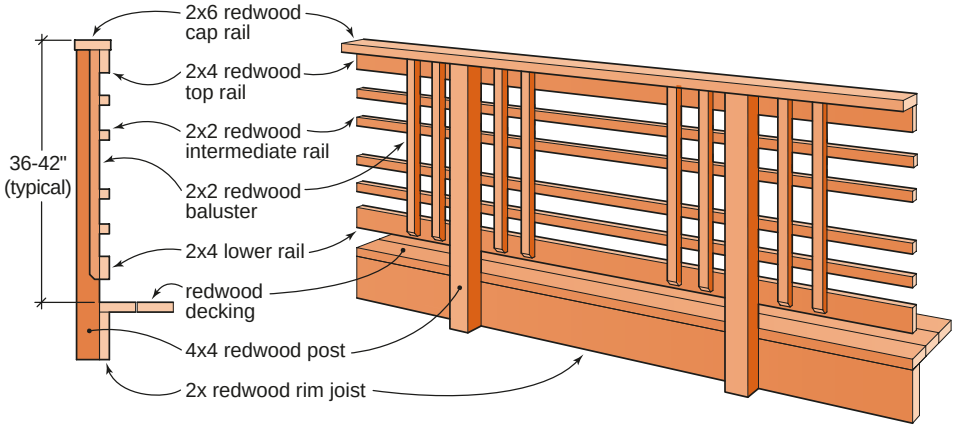
2. Railing installation In general, these railing designs can be constructed a section at a time, then secured to the posts. This will be especially helpful in the first two designs where you would want to fasten the balusters with screws driven through the top and bottom rails into the balusters. Spacing between balusters



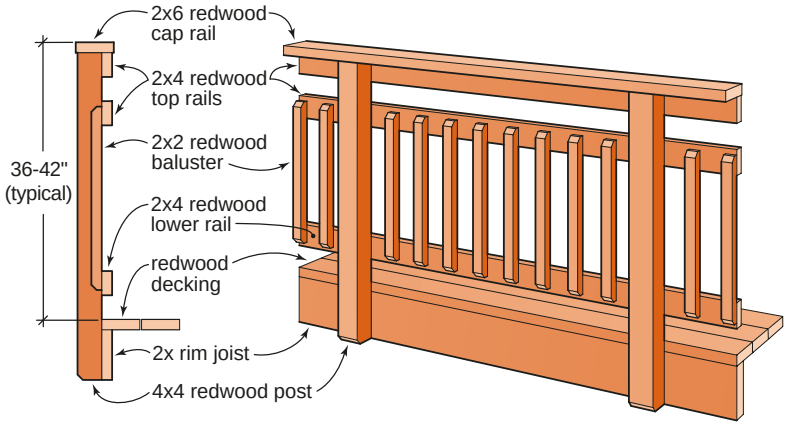
Even-spaced 2x2 Redwood Baluster



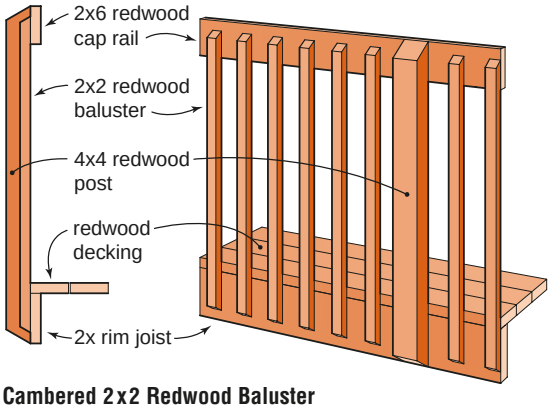
Parallel 2x2 Redwood Baluster



Horizontal 2x2 Redwood Baluster



Cambered 2x2 Redwood Baluster and Rails



Cambered 2x2 Redwood Baluster

and between the bottom rail and the deck surface should be four inches or less, which will comply with most building codes.

3. Cap rails Position cap rail joints over posts. For a smooth and unbroken surface, join cap rails with a beveled joint as shown in the illustrations. Seal the cut ends to prevent moisture damage. Use mitered joints at railing corners. This adds stability to the railing along with professional good looks.

Finishing Sand all the top or cap rails with medium grit sandpaper and seal all surfaces with a clear water repellent finish. See the back of this brochure for information about other finish options, including stains and paints.

Note Materials are estimated for a single four-foot section. Adjust all the lengths to fit your railing. To develop your shopping list simply multiply the materials by the number of sections you need. Additional posts and hardware that are required to complete the last four-foot section are itemized in the columns marked: +*.

Materials For Baluster Railing

	Quantity	Size	Length	+*
Post	1	4 x 4	4 feet	+1
Cap rail	1	2 x 6	4 feet 6 inches	
Top and lower rails	2	2 x 4	4 feet	
Even-spaced balusters or Paired balusters	8 or 10	2 x 2	30 inches	
Machine bolts, washers and nuts	2 sets		⅜x5½ inches	+2
Deck screws	1 pound		2 inches	

Materials For Cambered Baluster and Rail Railing

	Quantity	Size	Length	+*
Post	1	4 x 4	4 feet	+1
Cap rail	1	2 x 6	4 feet	
Top and lower rails	3	2 x 4	4 feet 6 inches	
Balusters	8	2 x 2	24 inches	
Machine bolts, washers and nuts	2 sets		⅜x5½ inches	+2
Deck screws	1 pound		2 inches	

Materials For Cambered Baluster Railing

	Quantity	Size	Length	+*
Post	1	4 x 4	4 feet	+1
Top rail	1	2 x 6	4 feet 6 inches	
Balusters	8	2 x 2	3 feet 8 inches	
Machine bolts, washers and nuts	2 sets		⅜x5½ inches	+2
Deck screws	1 pound	2 inches		

Materials For Horizontal Baluster Railing

	Quantity	Size	Length	+*
Post	1	4 x 4	4 feet	+1
Cap rail	1	2 x 6	4 feet 6 inches	
Top and lower rails	2	2 x 4	4 feet	
Intermediate rails	4	2 x 2	4 feet	
Balusters	4	2 x 2	3 feet	
Machine bolts, washers and nuts	2 sets		⅜x5½ inches	+2
Deck screws	1 pound		2 inches	

Contact the California Redwood Association for more great publications containing redwood technical and building information. Call us toll free at 1-888-Cal-Redwood for a complete literature list or to ask for any of the titles listed here:

Other Construction Tipsheets

Deck Over Concrete
Freestanding Deck
Calistoga Spa Surround
Windsor Shade Shelter
Monterey Potting Center
Adirondack Chair
Garden Tool Shed
Mendocino Bench
Lake Tahoe Gazebo
Petaluma Planters
Sonoma Picnic Table
Adirondack Swing
Santa Cruz Sandbox

Also Available

Deck Construction
Fences for All Reasons
Deck Grades, Nails and Finishes
Landscape Architecture

Redwood

For beauty and performance, redwood is naturally superior to other woods. That's why it's the first choice for decks, fences and most outdoor projects. Redwood retains its beauty outdoors, shrinks and swells less than other woods and is less likely to warp, split, check or cup. With relatively little or no pitch, redwood is easy to drill, saw and shape. Redwood heartwood has natural durability and resistance to insects and will last longer outdoors than most woods.

Grades

B grade Architectural grade with limited knots and other characteristics. Ideal for any above ground, quality outdoor application.

Construction Heart/Deck Heart is all heartwood and contains knots; used for load-bearing applications near the ground. Deck Heart is graded for strength and is available in 2x4 and 2x6.

Construction Common/Deck Common contains sapwood and knots; used for decking and above-ground uses. Deck Common is graded for strength and is available in 2x4 and 2x6.

Finishes

Redwood accepts finishes better than most woods. Some heighten redwood's natural beauty, bringing out the color and the grain. Others help the wood harmonize or contrast with surrounding structures. Read the labels on all finish products before using.

No-finish option Redwood performs better than most woods if left unfinished. This no-maintenance option will result in redwood weather-bleaching to a soft driftwood gray.

Clear water repellent finish with mildewcide is recommended to stabilize the color at tan.

Semitransparent stains in "redwood" or many other shades tint the wood without hiding the grain.

Solid-color stains or paints should be applied over compatible oil-based primers.

Fasteners

Use only non-corrosive hardware such as aluminum, stainless steel or top quality hot-dipped galvanized screws or nails. Ordinary nails and screws will cause stains.

California Redwood Association

405 Enfrente Drive, Suite 200
Novato, CA 94949-7201
Telephone 415 382-0662
Toll Free 888 Cal-Redwood
Fax 415 382-8531
www.calredwood.org