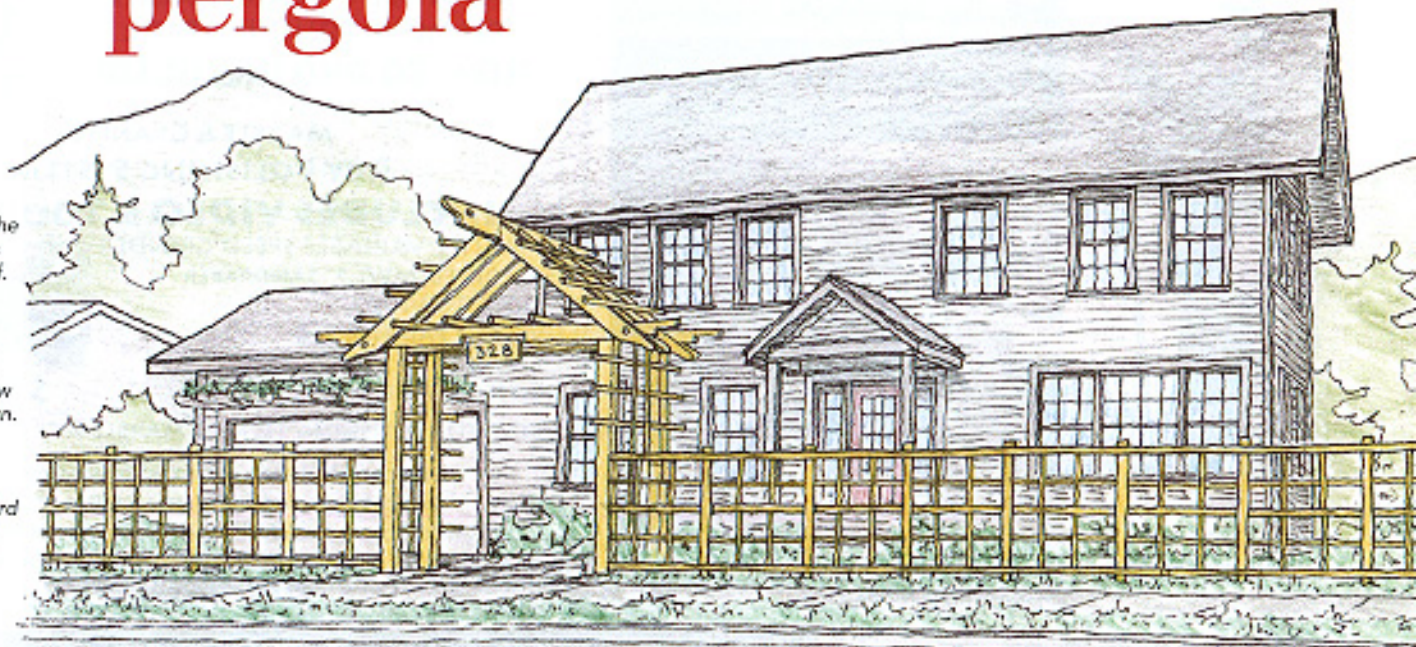


# Designing a pergola

- The gabled pergola has the same pitch as the entry roof.
- The fence design picks up the window muntin pattern.
- The fence is about one-third the height of the pergola.



Creating patterns of light and shadow, a pergola can transform a space and stimulate the senses. These versatile structures shape outdoor areas and define boundaries. (See the project that begins on p. 42.) Depending on its design, a pergola can provide privacy or serve as an inviting entry. As shown above, one common location for a pergola, or arbor, is between the street and the front door of a house. Pergolas also frequently are built as garden structures, and in these instances, they can soften a stark house wall and break down its scale.

A pergola and its trelliswork are similar to a tree: They become lighter the higher they rise above the ground. The posts are the trunk of the structure and are rooted in the ground. As you look up, the pergola's horizontal layers decrease in size from support beams to purlins to trelliswork to a canopy of vines, reflecting the progression from limbs to branches to twigs to leaves.

## Look around the neighborhood to find design clues for your pergola

Because a pergola's success depends on the interplay of the structure and its surroundings, both natural and man-made, I look carefully at the environment for inspiration. I start by examining the immediate location for the pergola and expand outward. Is the site flat or sloping? Rural or urban? Wooded or open? A sloped site might require a pergola that steps down the incline, while a flat, open

## Pergolas make welcoming entries

An entry pergola marks the beginning of the transition from public space to the privacy of the house. The scale and proportions of the pergola come from the entry porch to relate the pergola to the house.

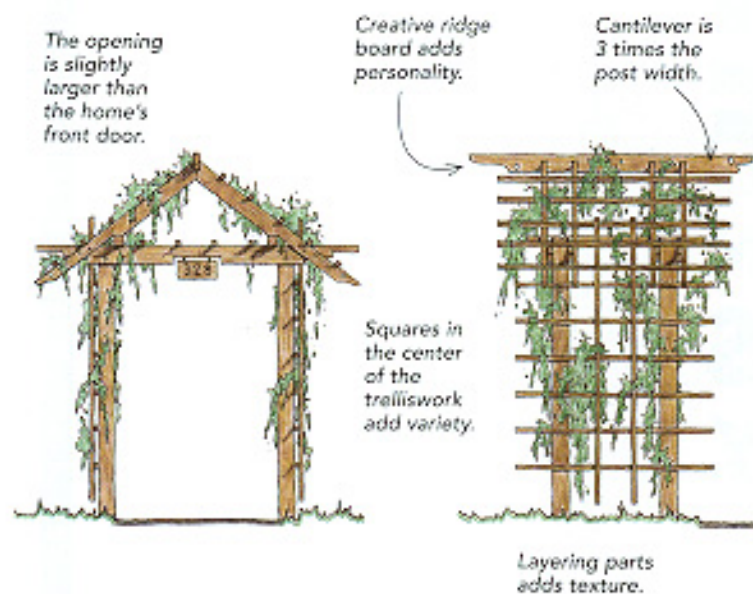
meadow calls for a structure of modest height with trelliswork to support flowering vines.

Also ask yourself how the house will influence the design. Look for attractive characteristics from the house that can be repeated in the pergola. The shape of the front door or roof, window proportions, muntin patterns, decorative trim, and siding patterns and colors often influence my designs. Once you've considered the immediate site, expand your horizons: Does the neighborhood have any attractive features that can serve as design elements to connect the structure to its surroundings?

Sometimes the design of the pergola is shaped by unattractive site elements. On a small, tight lot, the neighboring houses can draw attention from the horizon. By framing a view with the pergola's posts and by incorporating a fence to screen the garage that's attached to the house next door, you can create a very different backyard experience.

Check the local code requirements so that you can factor in their limits and restrictions as you begin designing your pergola. If the project is near the edge of the property, I verify the exact location of





### Proportions and personality are important

A projecting ridge and generous cantilevers give this pergola treelike proportions that please the eye. Whimsical cutouts in board ends and an integrated house number personalize the design.

the property line and discuss the project with the adjacent neighbors to make sure no conflicts exist.

### Find the right scale for an entry pergola

A pergola set along the sidewalk in front of the house announces, "Welcome, enter here," and acts as a transition from the public street to the privacy of your property; it's a place to pause and adjust. Pay close attention to proportions to build a great-looking pergola. I look at the scale of the house and surrounding elements for context to determine the pergola's height and width. A pergola for a big two-story house among mature trees should be larger than a pergola for a single-story cottage surrounded by open gardens. The scale also should relate to our human proportions. For an entry pergola, I size the opening slightly bigger than the front door of the house, but I use the same proportions.

Proportions that relate to elements on the house or in the neighborhood help to connect the structure to its context, but pleasing proportions that feel right for the structure also are important. I often look to two traditional proportioning tools: the golden section and Japanese tatami-mat dimensions. Both of these ancient ratios create rectangles with an agreeable relationship between height and width. Traditional Japanese mats use a ratio of 1-to-2 where the long side of the rectangle is twice the short side. The golden section

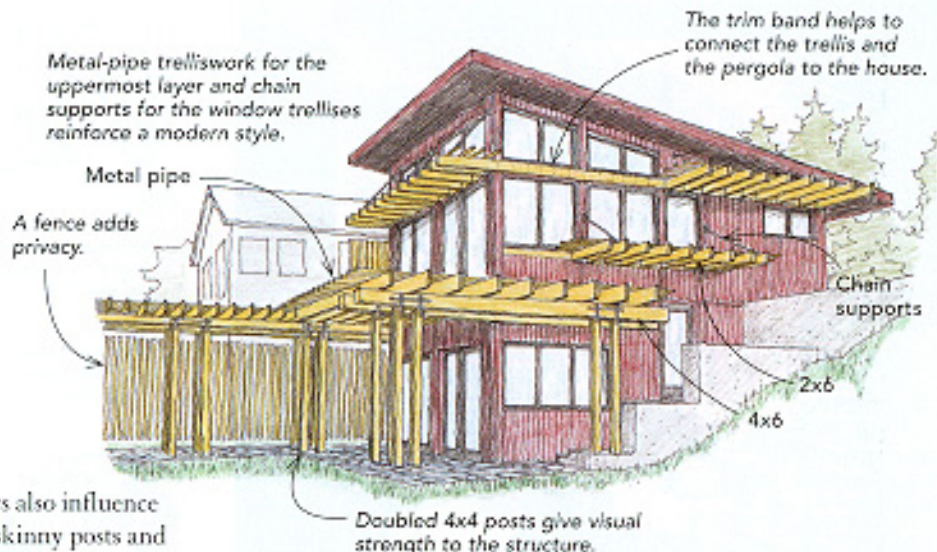
is 1-to-1.62. (For more on the golden section, see *FHB* #166, p. 128.)

### A pergola's parts must work together

The most common shortcoming I see in pergolas is a stiff, boring design. The cantilever of the trellis members beyond the supporting posts often appears too short, and the design looks timid. Extend the trellis members; give them life. I've found that a 3-to-1 ratio works well. For instance, if the posts are 6 in. wide, extend the trellis members 18 in. beyond the posts (drawing p. 118).

The size and spacing of posts and trellis members also influence the appearance of a pergola. A pergola built with skinny posts and husky beams appears top heavy. Balance the height of the structure visually with the size of the posts and the size of the trellis.

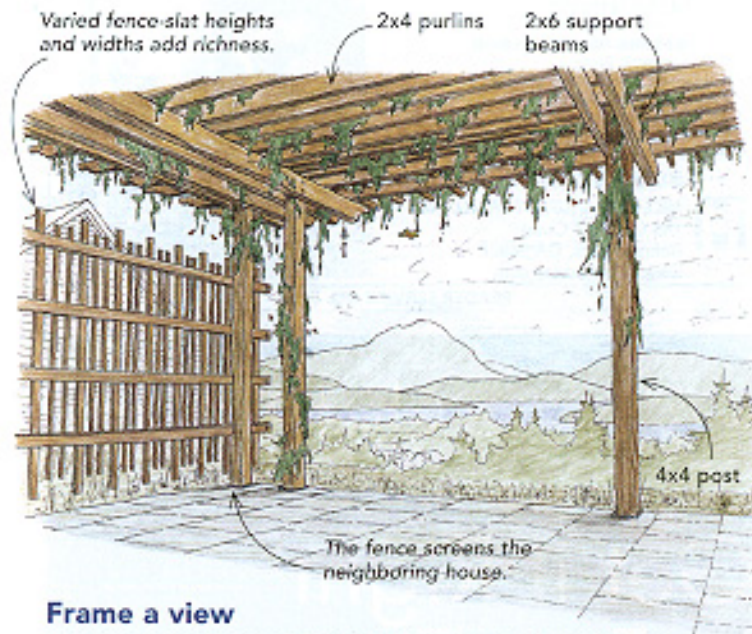
A good pergola design can become an exceptional one by using rhythm and repetition in the layout. Recurring patterns and their resultant rhythms make up a pergola's trelliswork and give it character. I try to avoid being too rigid with repetition and symmetry, and strive for thoughtful variation in my patterns. For instance, the pergola on p. 118 has trelliswork of both squares and rectangles, and



### Create an outdoor room

A pergola attached to a house can soften a big featureless wall and tie the house to the site. Additional trellises over windows enhance the connection. For a pergola with a trellis canopy up to 8 ft. high, the visual height of 4x4 posts generally works well. Above 8 ft. high, use 6x6 posts or double up 4x4s. Post spacing should be between 4 ft. and 5 ft. for 4x4s and between 6 ft. and 8 ft. for 6x6s.





### Frame a view

Sometimes the design of the pergola is shaped by unattractive elements of the site. On a small, tight lot, neighboring houses can be a distraction, drawing attention away from a scenic view. By framing the view with the pergola's posts and screening the garage next door with a fence, you shift the focus to the horizon.

the fence on this page has varying slat sizes. I like to create visual interest with accents and use simple decorative elements to catch the eye, engage the imagination, and create the appearance of movement.

### Include plants and personalize the design

Pergolas and plants go together. A backyard pergola draped with vines softens and de-emphasizes a big, ordinary wall by breaking down the scale and easing the transition between the built and natural worlds. In addition to helping to connect a house to its site, a pergola can buffer views of the neighbor's garage or swing set. If vines will grow on the structure, make sure the joinery can carry the weight. I've seen wisteria pull apart many unsubstantial pergolas. Including features such as birdhouses and hummingbird feeders encourages this connection with nature.

A pergola is an opportunity to have some fun. Personalize the design by incorporating a street number or family name. You also can create subtle reference to an activity you enjoy. I often incorporate references to nature in the structure with shapes and cutouts. For my design projects, I think of the pergola as the icing on the cake.

*Russell Hamlet is an architect on Bainbridge Island, Wash. For more creative examples of garden structures, visit his Web site, [www.studiohamlet.com](http://www.studiohamlet.com). Drawings by the author.*