

Working Out Eaves Details

One of the last tasks in framing a house is installing the exterior trim—in particular, the eaves trim. In most cases, this trim—the soffit and fascia—must be installed before the roofing goes on to make the building weathertight. Roofing is usually a payment milestone for the framing crew, as well.

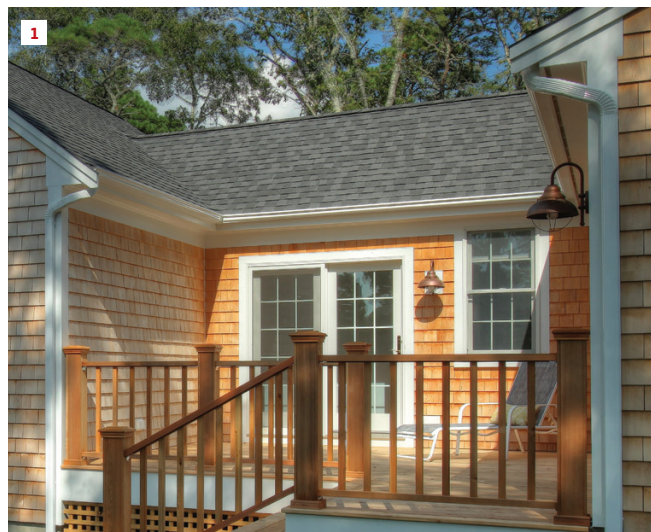
Begin at the design phase. Determining the configuration of the eaves typically occurs at the design phase of construction. Designers work out the overhang, or the distance from the exterior wall of the house to the edge of the eaves trim or fascia. (They also figure out rakes and returns that may also include soffit overhangs.)

In the most general terms, wide overhangs (16 inches or more) tend to work better visually with shallow-pitched roofs and more contemporary designs. Wider overhangs also do a better job of keeping roof runoff away from siding and can offer shading for windows to help reduce a home's solar gain.

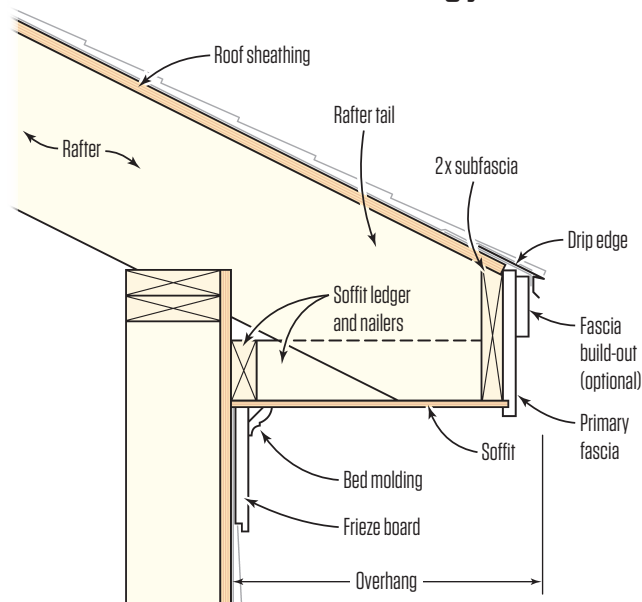
Narrow overhangs (12 inches or less) generally look better with steeper-pitch roofs and more classic designs. Narrow overhangs don't offer much shading, and they do not offer nearly as much protection against rain. Where I live in New England, most narrow eaves are equipped with gutters to collect roof runoff (1).

Designers have to properly proportion the size of the fascia (the vertical part of the eaves) to the width of the soffit (the horizontal part of the eaves) (see Eaves Terminology, right). A skinny fascia can accentuate the width of an overhang, while a tall fascia can make eaves look clunky. The vertical distance of the fascia beyond the soffit material (the reveal) creates a shadow line, which can be crucial to the overall aesthetics of the eaves. Details such as the frieze board on the wall below the soffit, additional fascia boards, or crown molding are some of the nuances that a skilled designer can incorporate into the design of the eaves to achieve a desired effect. Framers rarely have input into the design of the eaves, but because the rafter tails are an intricate part of that design, it's important to have these details worked out completely ahead of time.

Make a full-scale drawing. Once the design is completed and put on the blueprints, most framers I know make a full-scale drawing of the eaves detail on the end of a straight piece of rafter stock or piece of sheathing (2). They begin by drawing the birdsmouth, or the rafter cut out that fits over the wall plate (see "Cutting Common Rafters," Mar/17). From there, they mark out the total overhang as taken from the plans. Working back from the overhang, they mark the width of the fascia and any secondary fascia trim that might be called for. Next is the subfascia, which is usually made from 2-by stock that is nailed to the rafter tails.



Eaves Terminology



Narrow overhangs rely on gutters to help keep water off the siding (1). To lay out and install the parts of eaves, framers must be able to visualize the details and how those details relate to the wall and roof framing (illustration, above).



Visualizing the details of eaves is easier with a full-scale drawing. For this complex eaves with crown molding, the builder uses a section of the molding along with a piece of 1-by stock to ensure a proper layout (2).

Going back to the fascia board on the drawing, framers mark the height of the board as determined by the design and by stock widths. (For 1x8 fascia, they would mark 7¹/₂ inches down from the top). Then they mark the reveal along with the thickness of the soffit material. The top of the soffit material and the inside edge of the subfascia help define the cut lines for the rafter tails.

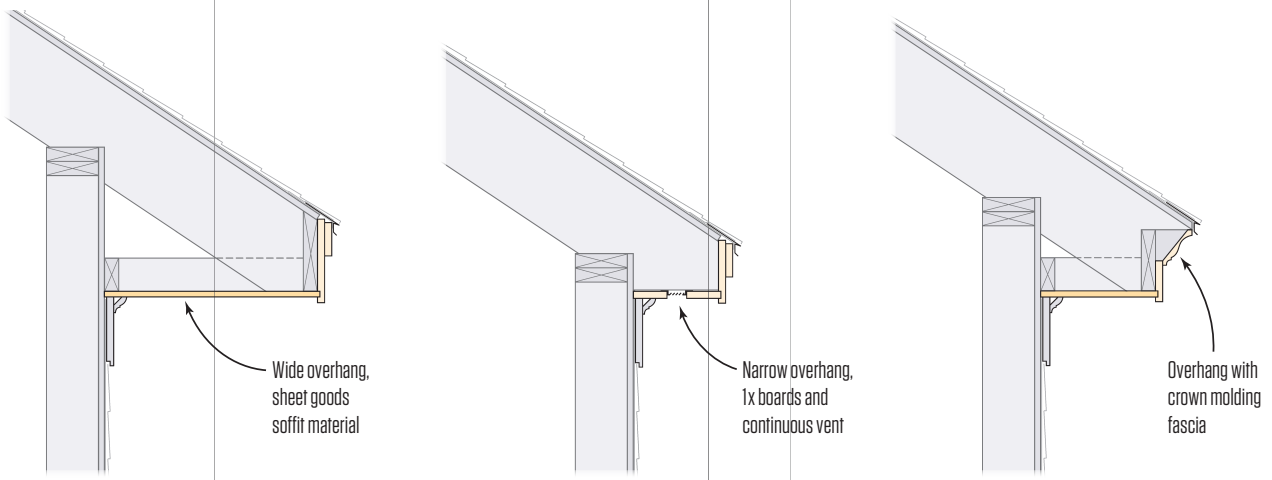
A full-scale drawing is particularly important when the plans call for a cornice with crown molding (see “Building a Cornice,” Apr/17). Because crown-molding angles can vary, it’s helpful to have a sample of the material you plan to use on hand as you make your drawing. Some builders make their full-scale drawings and mock-ups on a sheet of plywood and work out the cornice returns as well.

Eaves with narrow overhangs. Regardless of the overhang dimensions, fascia is most often made from 1-by stock. The material for the fascia can range from preprimed wood to a wide variety of rot-resistant synthetic materials. On the other hand, materials for the soffit can vary greatly.

For narrow overhangs, the rafter tails may provide all the nailing needed when they’re spaced 16 inches on-center (see Basic Eaves Configurations, below). One-by material works well for the soffit, and the continuous nailing provided by the subfascia isn’t necessary. In this case, the level part of the rafter tail usually ends close the wall, so no additional nailing surface is needed along the house wall.

For narrow eaves, the outer piece of soffit material goes on first, nailed to the level underside of rafter tails with the outer edge of

Basic Eaves Configurations



Here are three of the most common residential eaves configurations; each of these can vary greatly according to the wishes of the designer or client. Wide overhangs offer greater protection from runoff (left). Narrow overhangs usually don’t require additional nailing surface (center). Crown molding can add a distinctive flare to the look of the fascia (right).



Seen from below, blocking between the subfascia and the wall adds plenty of nailing surface for attaching a wider soffit (3).



To join the fascia to the soffit, this crew member runs the 1-by fascia material through a table saw to create a dado groove (4).



A frieze board (5) captures the top edge of the siding while closing the joint between the soffit and the wall.

the soffit flush with the outer edge of the tail. If you are including continuous strip vent (see “Three Ways to Vent a Soffit,” Jan/13), the flange for the vent slips between the soffit strip and the rafter tail, and the inside soffit strip captures the other side of the vent.

If enough care has been taken during installation to line up the rafter tails perfectly, the fascia can butt against the soffit and nail directly to the plumb cuts of the rafter tails to give you a nice straight eaves detail. Sighting down the rafter tails will give you a quick indication of whether extra straightening work is needed. With 1-by soffit material, the fascia can be nailed directly to the soffit as well.

Eaves with wide overhangs. Most wide soffits are made from sheet goods ripped to the proper width. We used to make those soffits from $\frac{3}{8}$ -inch AC plywood. Wide soffits require some sort of nailer in the form of a cleat or blocking along the wall of the house. Wide soffits may also benefit from blocking that runs between the wall ledger and the subfascia (3). That blocking is typically nailed to the sides of rafter tails.

Methods for attaching the soffit to the fascia vary depending on the material. For thin plywood soffits, the preferred method is cutting a dado or groove along the reverse side of the fascia. The fascia dado for $\frac{1}{4}$ - or $\frac{3}{8}$ -inch plywood can be made with a couple of quick, shallow passes on a table saw (4). When you’re attaching the soffit to the nailers, the outer edge extends past the subfascia by $\frac{3}{8}$ inch or so. The dado in the fascia then slips over the protruding soffit and captures the edge of the material. The dado groove also provides some leeway to adjust the straightness of the fascia. If thicker soffit material, such as 1-by stock, is used, a wider dado can be cut, or the soffit can be joined to the fascia with a simple butt joint.

Where the soffit meets the wall. When measuring the width of the soffit, most framers I know give themselves a little leeway to compensate for any waviness or irregularities in the wall. Any small gaps (up to $\frac{3}{4}$ inch wide) can then be covered with a frieze board. Not only does the frieze board disguise the joint between the soffit and the wall, it is also part of classic entablature (see “A Look at Traditional Trim Designs,” Aug/15) that completes the aesthetics of the eaves (5).

Most frieze boards are 1-by material with a rabbet cut along one edge. The frieze board goes over a band of tar paper or weather-resistant barrier attached to the wall just below the soffit, and the top edge of the board slides up against the soffit with the rabbet facing the house. The top siding course then slips into the rabbet. Bed molding can then cover the frieze/soffit intersection if desired.

A quicker (but perhaps less attractive) method is to skip the frieze altogether and run the siding up to the soffit. Instead of trying to create a perfect joint between the soffit and siding, butt a narrow strip of 1-by material against the soffit and nail it to the siding. The strip will be cocked to the angle of the siding, but that angle puts a corner of the strip against the soffit for a crisp and tight line.

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