

Suspended Stairs

by Mark Taylor

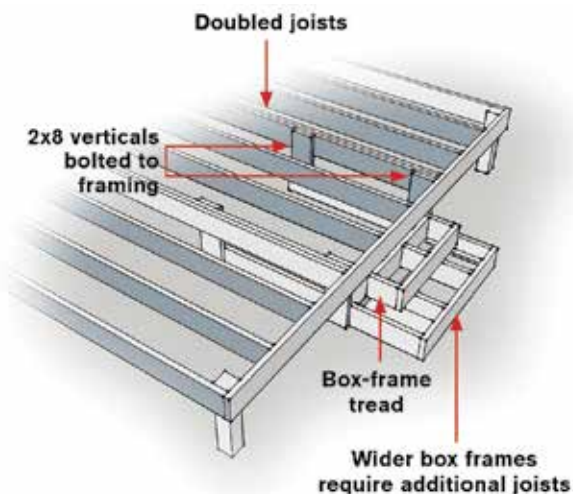
Frost penetrates deep into the ground where I live in upstate New York, so footings for stair stringers require a lot of digging. To save my back, I've started hanging some stairs off the main deck frame instead of supporting them with piers.

I build a simple box frame, typically out of 2x8 material, and using appropriate fasteners, suspend it from the deck joists as shown in the drawing (right). For a strong assembly, I double-up the joists the box frame will hang from and attach the box frame to them with treated 2-by offcuts — typically 2x8 or 2x10 material. (When the stairs will run perpendicular to the deck frame, I install blocking between the joists and attach the 2-by verticals to the blocking.) I use simple box framing for any additional treads, following typical rules for cantilevers (the American Wood Council limits cantilevers to one-fourth of the joist span), which puts a practical two- or three-tread limit on the height of the stairs. Stair width, however, is unlimited; I simply add more cantilevered joists to the box frame as required. The bottom tread of the suspended stair shown in the photo at right, for example, is about 5 feet wide.

I attach the framing members together with $\frac{3}{8}$ -inch carriage bolts, nailing the connections together first to make assembly easier. Adding more verticals than are shown in the drawing will make the stairs even stronger and should impress your building inspector. I've used this detail on three different projects, with no objections from my local inspector.

Mark Taylor owns M W Taylor Construction in Marietta, N.Y.

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