



A



B



C



D

Elegant Elliptical Stairs for a Multilevel Deck

by Sean McAleer

Built on a steep lot overlooking the New York City skyline, our clients' home offered both opportunities and challenges ... just the way our deck-building company likes it. The steep lot created the perfect scenario for building a multilevel deck with dry, usable living space on the ground level. Our clients wanted to maximize the size of the upper deck to take advantage of the views, while minimizing the size of the lower deck to preserve as much of their lawn as possible. Besides the structural challenges of framing the upper and lower levels, the trick would be to integrate them so that they would flow together (A).

Our solution was to connect the two levels with a gracefully curving elliptical staircase with wide treads and low

risers. We fabricated the stringers in our shop, first drawing the stair layout in full-scale onto a temporary plywood "deck," then using 2x4s to frame curved walls representing the inside and outside edges of the stair. We ripped 1/2-inch pressure-treated plywood into 16-inch-wide lengths and laminated these sections together in multiple layers to build up the curved stringers, using the framed and reinforced 2-by walls as forms (B).

After determining the actual riser and tread dimensions, we laid out the horizontal tread cuts and vertical plumb cuts on the stringers. Then—with the laminated stringers still fastened to the form walls—we carefully cut the sawtooth pattern in the stringers (C).

Before disassembling the forms, we

screwed 2-by PT subreads and 1/2-inch PT plywood subrisers to the stringers. Then everyone on the crew helped hoist the assembly onto a flatbed trailer so that we could haul it to the jobsite.

After manhandling the rough stairs down the steep bank at the side of the house and installing them, we finished the carriage with PVC risers and skirtboards, and Zuri treads to match the decking used on the rest of the outdoor living space. Finished with custom curved powder-coated aluminum railings and LED riser lights, the stairs offer an elegant and easily navigated transition between upper and lower deck levels (D). ♦

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