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Choosing and Installing Railings

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Craftsman Deck Details

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Midwest Deck Makeover

by Ben and Charles Prowell

Now a designated National Historic District located just nine miles north of Detroit, Pleasant Ridge was originally developed as a summertime retreat for Detroit businessmen and their families. Here, titans of the Gilded Age built a small community of sumptuous weekend "cabins" representing an eclectic range of architectural styles including Tudor, French Colonial, and Georgian Revival. Our client owned one of these homes—a sprawling Arts and Crafts bungalow—and had contacted us after visiting our website looking for ideas for her aging deck.

Design

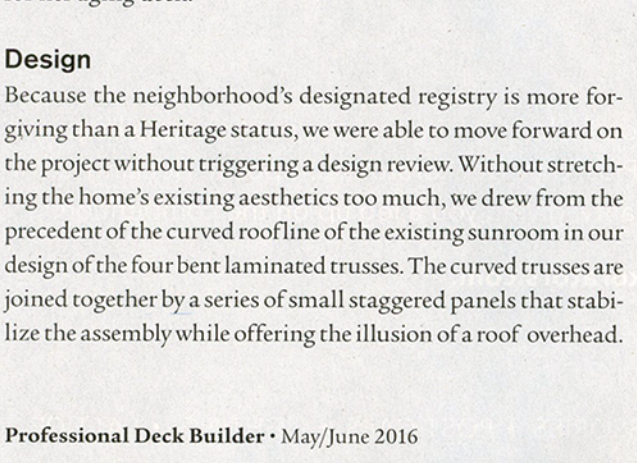
Because the neighborhood's designated registry is more forgiving than a Heritage status, we were able to move forward on the project without triggering a design review. Without stretching the home's existing aesthetics too much, we drew from the precedent of the curved roofline of the existing sunroom in our design of the four bent laminated trusses. The curved trusses are joined together by a series of small staggered panels that stabilize the assembly while offering the illusion of a roof overhead.

Offsetting the muscle and length of the trusses and linked visually with the connecting overhead panels is the more subtle intimacy of a series of open, flush-joined grid panels that span the perimeter of the deck. Three of our #8 lighted Garden Columns—one of them integrated into the deck railing, and two others in the nearby landscape—complete the design.

Construction Details

We prepared our shop drawings using field-verified measurements that were made by the homeowner's contractor, Jeremy Thybault, of Ambient Construction. As we began work in our California shop, 2,000 miles away from the jobsite, Thybault built the new deck and set the supporting posts to the prescribed dimensions of our final drawings. He also prepared the side-wall framing for the eventual beam tie-ins.

Curved trusses. We fabricated the laminated trusses from clear western red cedar. Creating bent laminations is similar to building concrete forms in that a successful lamination hinges largely on the integrity of the form itself. With the



The curved cedar trusses (top) and grid-style panels (above center) were fabricated in the authors' California shop, then shipped across the country to the jobsite in Michigan for installation (above).

form ready, we milled 2x6 S2S stock into 5/16-inch-thick-by-5 1/2-inch-wide plies, which we then uniformly sanded to a 1/4-inch thickness by running them through a drum sander. After rolling Titebond III (titebond.com) on all surfaces and clamping each glue-up to the form for 24 hours, we milled the laminated trusses to a uniform 4 1/2-inch thickness by running them over a 12-inch jointer.

Panels. Among 40 or so panel designs (available on our website), we've developed a series of open-grid styles suitable for fences or railings. The grids range in size from 4 inches square to as large as 12 inches square, to offer varying degrees of transparency. For the railings on this project, our client chose our #21 style, which has a 5-inch-square grid, embellished with the patterned joinery of our #19 style. The grids are simple half-lap joints set with Titebond III.

The first two 66-inch-high panels were designed with window-like portals to accommodate the homeowner's morning coffee routine on the lower deck. The design creates a sense of privacy, but avoids the fortress effect of an opaque separation. The grid sizes remain consistent around the perimeter of the deck, with the horizontal grid dividers in alignment regardless of the varying panel heights.

We join stiles and rails with floating cedar tenons that fit into mortises created with a stationary Laguna horizontal mortiser (lagunatools.com). This is the same basic construction methodology we've used since the early 1990s, though some of our products, such as our gates, have more complex variations of through-tenons, spreading wedges, and locking keys. Vertical and horizontal dividers are joined to the panel stiles and rails with floating tenons fitting to 1/2-inch-by-1-inch-by-3/4-inch-deep mortises.

On site, the contractor centered and secured the 1 1/2-inch-thick panels to the 4x4 posts with 1/4-inch-by-4-inch coated TimberLok lags (fastenmaster.com) driven through mounting holes that we had prebored along each stile.

The small overhead panels set between the curved trusses were built and installed following the same methodology.

Columns. The garden column that anchors the corner of the deck measures 10 1/8 inches square by 54 inches tall and is hard-wired with a 24-LED, 70,000-hour fixture and timer. In the garden are two additional lighted columns, one measuring 10 1/8 inches at the base and 60 inches tall, and the other 12 inches at the base and 48 inches tall (nicknamed Laurel and Hardy by the homeowner).

We also built the red-cedar columns using stile and rail construction. To deal with anticipated dimensional fluctuations of the lower solid insert panels, we seated them in dadoes within the stiles and rails, with drainage weep holes drilled in the bottom rails. The upper grids are half-laps and they are joined to the frames with tiny, 1/4-inch floating tenons

A pair of lighted columns located in the garden are similar in design and construction to the corner column located on the deck, but vary slightly in size.

and backed with removable "white light" plex.

The columns are topped with a variation of our Standard Prowell Post Cap, milled from widths of edge-glued stock. The caps feature a top tier of 1/4-inch-thick black polished plex and four tenons extruded off the eaves simply as a reminder that now and again joinery is fun and can, with some restraint, approach performance art.

Finishes

All of our products are drawn from clear, KD, vertical-grain western cedar, spec'd to a minimum of 20 growth rings per inch. Prior to crating and shipping, everything was pre-finished with two sprayed coats of WoodRX Ultra (woodrx.com), a fast-drying silicone-modified acrylic penetrating wood sealer. We've found that this finish won't check, peel, or yellow in any climate over its eight-plus-year life. And if the maintenance timeline is ignored, the fastness of the color simply fades into the gray patina of weathered cedar. ❖

Ben and Charles Prowell are co-principals of Prowell Woodworks, in Sonoma County, Calif. (prowellwoodworks.com). Photos courtesy Prowell Woodworks and Jennifer Stevenson/Metro Detroit.