

Porch Rebuild Case Study

Julie & Frank, L. - North Potomac, Maryland



Problem:

The homeowners contacted our company, through a neighbor's referral, to evaluate some issues that they were having with their front porch. They expressed concern that the porch seemed to be sagging and that, "something was just not right with the way it looked on the house".

Evaluation:

After a site visit and preliminary visual inspection of the porch structure, including the decking, steps, columns, and railing system, it was determined and quite evident that the porch needed extensive repairs. It appeared that the previous owners, in an attempt to "pretty up the home" to put it on the market, replaced the rotted front steps with interior grade stair tread material, patched the holes in the rotting columns and decking with wood filler and then just coated over all of the remaining sub-rotted surfaces and railings with a fresh coat of paint. At the time of our visit all of the poorly chosen lumber was beginning to rot again and there were signs the deck was "falling" away from the house. A closer inspection, revealed by crawling underneath the porch, found that the original home builder of the porch failed to meet standard building codes. There were not enough posts, beams and footings for the span and size of the porch. The columns chosen for the porch were not the proper load bearing type. The columns also were installed in a way where the overhead beam of the porch ceiling did not line up the load bearing floor beams. The 2x10 beams that were spliced together were not thru-bolted and not placed over their installed posts and footings. Finally, it was revealed, the ledger board that adjoins and attaches the complete deck structure to the house was only nailed to the house with interior grade "bright" finishing nails, that were corroding. There were sections of this board where you could fit two fingers in between the board and the house, showing just how far the deck had pulled away. The last major discovery was that the 2x8 floor joists were only "toe nailed" into the ledger board and outer beam boards, instead of the required joist hangers. When we left the job site we politely told the homeowners not to slam the front door too hard, that if they did, their front porch might end up in the front yard. In all seriousness this was how precarious the porch condition was determined to be in.

Solution:

Removed and hauled away all decking, steps, columns, posts and railings. Removed and set aside, for later installation, the lower courses of vinyl siding along the porch and house wall, and where needed, the vinyl lattice work on the porch's outer skirt. Provided temporary porch column supports and shored up ledger boards that were pulling away from the house. Once it was determined the work areas were safe to proceed, there were six new concrete footers dug and new 6x6 pressure treated posts put in place. The ledger board was then secured to the house using galvanized lag bolts and washers, staggered and placed into the bay of every-other 2x floor joist. We then installed one galvanized 2x joist hanger with galvanized teco nails on each end, of each of the 2x floor joists. These hangers secured the 2x joists to the ledger board and outer beam board, pulling them together, and preventing the porch from "falling away" from the house again. The temporary columns were replaced with new vinyl columns inter-laced with heavy duty aluminum load bearing posts. Then using hydraulic jacks we raised the deck structure to a level that was compatible with the front entrance door and gave the porch decking the proper slope for water dispersion. The previously installed spliced outer beams were then thru-bolted in the center and a new 6x6 post and footer was provided using the original concrete slab of the walkway. Once the deck structure was raised to its desired height we were ready to begin the new decking installation. The new decking was installed on the porch and steps using low-maintenance composite deck boards and color matching square-head screws. We then installed the new vinyl railing inter-laced with aluminum rails and new vinyl posts inter-laced

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with new pressure treated 4x4 posts. The finishing touches were completed by installing new color matching rimboard around the entire skirt of the porch structure and along the sides of the new steps. Finally the vinyl lattice work and vinyl siding was reinstalled and cut to accommodate the new height level of the entire porch.

Benefits:

All materials chosen for this project were selected so that the homeowners would not be required to perform any of the usual and customary scheduled maintenance of, scraping, caulking, or painting, a project of this nature would normally demand. The vinyl used in all the products is 99% recycled renewable materials and LEED certified for energy conservation uses. The white vinyl columns, posts and railings are made of Pvc vinyl, that when wiped down on an as desired basis, using an everyday house cleaner such as "409" or "Fantastic", will deliver a "showroom" like appearance as if it were installed the same day. The composite wood decking selected has a through-color technology feature to it, that even if were scratched by furniture or accident of some kind, the appearance would remain the same. It is a no rot, no peeling, no chip, no crack product that provides outstanding durability and low maintenance. And the best feature of them all, you can send the kids out barefoot to play on the front porch or deck and never ever worry about them coming back with splinters in their feet.

Testimonial:

"We had four other bids before we met with Troy. When he sat down with us and explained what he would do to rebuild our front porch, I felt relieved and confident that he would do the best job. Once the work began, Troy showed us how unstable the original construction was. He was able to re-enforce the porch and make it much stronger and more secure. It was a wonderful experience and we are thrilled with our new maintenance free porch." - Julie & Frank, L. - North Potomac, Maryland

Materials:

TAMKO - "Evergrain" composite wood deck, color: Cape Cod Grey - www.evergrain.com

Fairway - "Contoured" vinyl posts & railings with square balusters & ball cap tops, color: White

Fairway - "Tapered" vinyl porch columns, color: White - www.fairwayvinyl.com







LEED Program information:

http://www.fairwayvinyl.com/resources/2008/FVS_Green_Conservation_Program.pdf

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Photos:

Before	After
 A wide-angle photograph of a two-story house with a porch. The porch has white columns and a lattice railing. A person is standing on the porch. The house has a grey roof and dark shutters. The lawn is green.	 A wide-angle photograph of the same house, showing the newly rebuilt porch. The porch has a clean, modern look with white columns and a white railing. The house and lawn are the same as in the 'Before' photo.
 A close-up photograph of the porch deck during demolition. The wooden planks are being removed, and the underlying joists are visible. A person is standing on the left side of the frame.	 A close-up photograph of the newly installed porch deck. The deck is made of light-colored composite material and has a white railing with a decorative post. The porch is clean and finished.
 A close-up photograph of the old, weathered wooden deck. The wood is dark, stained, and shows signs of decay and rot. The railing is also old and worn.	 A close-up photograph of the new, clean composite deck. The deck is made of light-colored composite material and has a white railing with a decorative post. The porch is clean and finished.