

A piece of the past

Donald B. Smith Roofing Inc. installs a new roof on a historical railroad station

by ***Krista Reisdorf***

The Lincoln Train Station in Gettysburg, Pa., was built in 1858. It has been a part of Civil War history, serving as a makeshift hospital during the summer of 1863 and the arrival spot for Abraham Lincoln when he came to deliver his famous Gettysburg Address. But after going through an expansion in 1886, the station was used less frequently. Its last passenger train passed through in 1942. By the 1990s, the building was in poor condition and needed to be preserved.

Several Gettysburg citizens formed a committee to find funding and a new owner. Their efforts were rewarded when the current owner donated the station to the Borough of Gettysburg. The federal and state governments and community worked for years to raise money to restore the railroad station to its previous glory and reopen it. So when restoration began and the railroad station needed a new roof system, it was important to find a contractor who would respect the building's history and install a roof that would resemble the original one.

Finding a match

John Milner Architects Inc., Chadds Ford, Pa., the architect for the project, tore through the modern roofing material, which was galvanized standing-seam metal, and found the roofing materials and substrates from the 1858 original roof and 1880s addition. Some of the galvanized standing-seam metal roof system was determined to be installed around 1914, an estimation based on newspapers found lying between the metal roof and substrate.

"There was enough evidence remaining to confirm the original materials and color," says John Drew, architect for John Milner Architects. "There only were a few roofing materials available in the 1850s. The substrate we found on the original section was a shallow-sloped solid plank wood, which suggested the original roofing material was flat-seam metal roofing. This was further corroborated by some early photographs of the building."

Donald B. Smith Roofing Inc., Hanover, Pa., was asked to remove the existing roof system and install a roof system similar to the original one.

"We were asked to coordinate a systematic removal (in phases) of the existing roof system to the wood substructure," says Doug Smith, president of Donald B. Smith Roofing. "We also were asked to install temporary roofing so the general contractor and architect could inspect and repair the roof deck daily while keeping the building watertight."

"Installation of the new metal roof systems was to match the existing profiles as closely as possible," he continues.

Layers of history

The original 3,800-square-foot roof system was a galvanized standing-seam metal roof system on the lower building and about 80 to 90 years old.

The upper roof of the railroad station consisted of flat-soldered seam in 18-by 24-inch panels and hidden (built-in) gutters.

"We believe the flashing around the bell tower was from the pre-Civil War era and the flat-seam Follansbee tin roof to be about 20 years old," Smith says.

"We cut and removed the old metal roof system and installed a 45-mil-thick loose-laid EPDM roof membrane over the area," he continues. "The membrane then was folded back daily to expose the deck for repairs and resealed every evening. The lower roof had a 3-in-12 [14-degree] slope with a ridge line. This was easier to keep watertight because the membrane lapped over the ridge."

An unexpected amount of rotted structural beams and deck material was discovered and replaced by the general contractor for the project. This delayed the project three to four months.

Re-creating history

Donald B. Smith Roofing installed a high-temperature underlayment self-adhered on all roof areas with a red rosin slip sheet installed between the underlayment and metal roofing areas. The company then approached the various roofs.

"On the higher bell tower roof, we installed a custom flat-soldered seam with all panels and hidden gutters formed in our metal shop," Smith says. "The panels were formed from 18-by 24-inch cuts of Follansbee Steel's Terne-Coat stainless steel, which was painted red by the painting subcontractor."

"On the lower peaked roof, we installed a Terne-Coat Follansbee stainless-steel 17-inch-wide double-lock standing-seam roof system with matching half-round gutter and downspouts," he continues. "All metal used was 28-gauge Terne-Coat stainless steel for roof panels, flashings and trims. Painting again was performed by the painting subcontractor."

The red-painted metal roof provided a look similar to the original roof.

"This is one of the most high-profile historical buildings in the country," says Walter Powell, historic preservations officer for the Borough of Gettysburg. "Follansbee comes close to replicating the original roof. That's why this product was selected."

In addition, a new free-standing 2,700-square-foot train shed was installed at the back of the railroad station. The company installed a pre-painted red Follansbee Steel Terne-Coat roof system in 17-inch-wide panels.

Roofing workers took safety precautions when working on the historical structure.

"We used a complete steel scaffold system, manlift and ladders," Smith says. "The roofing workers were tied in daily with a full harness system secured to the bell tower on the high roof and at the ridge line on the lower roofs."

Keeping the original profile of all metal panels, flashings and trims intact was a unique challenge for the roofing company.

"Using our computerized Roper/Whitney auto brake to fabricate the panels and trim, things were kept as close as possible to the original profile," Smith says.

Another challenge was coordination of the deck replacement, Smith says.

"We would remove a portion of the roof not knowing what we would find underneath," he says. "Sometimes, we would fall back on other flashing details while the deck was replaced. Other times, we had to work on another project for a couple of days then return when the deck had been replaced."

Revival

The historical value of the Lincoln Train Station was special.

"It holds Civil War history, and the pre-Civil War architecture with metal and wood design also was unique," Smith says.

This truly made the work on the train station worthwhile.

"It felt good to know the architect and general contractor trusted our installation and workmanship for such a sensitive project," Smith says. "Being involved in the rehabilitation of this historical building that is such an important part of American history was the most rewarding part of the project."

The newly restored Lincoln Train Station opened to the public Nov. 18,



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2006—exactly 143 years after Lincoln arrived to deliver the Gettysburg Address. Now functioning as a museum and visitor center, the train station will continue to play an active part in sharing the history of Gettysburg.

Krista Reisdorf is managing editor of Professional Roofing magazine.

Project name: Lincoln Train Station

Project location: Gettysburg, Pa.

Project duration: September 2005-February 2006

Roof system type: Metal

Roofing contractor: Donald B. Smith Roofing Inc., Hanover, Pa.

Roofing manufacturer: Follansbee Steel, Follansbee, W.Va.
