Project Profile

Project
Parkland Memorial Hospital
Dallas, Texas

Owner
Parkland Health & Hospital System

Roofing Contractor
SLR Roofing Systems, Inc.
Fort Worth, Texas

Roofing Consultant
Exterior Consulting Innovations, Inc.
Duncanville, Texas

Waterproofing System
Inverted Roof Membrane Assembly using 60 mil Sarnafil® G410 membrane

Project Size
21,600 square feet

Completed
February 2008

Sika Sarnafil Cures Parkland Memorial Hospital's Leaking Roof

As any surgeon will tell you, sometimes you don't know everything you are dealing with until you begin operating. That was the case when SLR Roofing Systems, Inc. of Fort Worth, Texas began "operating" on the roof at the Outpatient Clinic Building at Parkland Memorial Hospital in Dallas. When they removed the old, failing, ballasted roof on the building and under the heliport utilized by both Parkland and Children's Medical Center, they were surprised to find a large number of column stubs under the old roofing membrane. These construction extensions — which were put in place in case the hospital decided to add another story to the building in the future — were buried in the tapered roof insulation under the old membrane, according to Rondi Perry, president of SLR Roofing Systems. With the new waterproofing system, however, the column stubs would extend through the newly configured system membrane, and thus "become rows of penetrations that would have to be addressed," Perry stated.

Exterior Consulting Innovations, Inc. decided to deal with the 40 column stubs by building Sarnaclad metal boxes to fit around the penetrations. Fortunately, the Sika Sarnafil system uses a thermoplastic, PVC membrane with hot-air welded seams, creating a monolithic, continuous sheet with seams as strong as the membrane itself. "That's the beauty of Sika Sarnafil's heat-welded seams," explained Michael Tolson, Sr., president of Exterior Consulting Innovations (ECI), Inc. of Duncanville, Texas. "We were able to heat weld the membrane right to the Sarnaclad metal boxes, creating a watertight seal."

Hot-Air Welded Seams and More

There were several other reasons that the Sika Sarnafil system was selected for this application. One was because the adhered waterproofing system used a low-VOC adhesive. "The clinic was going to remain fully operational during the installation of the roof, so we needed a roof that could be installed with minimal disruption to the patients," said Michael Roe, building and grounds manager at Parkland Health & Hospital System. "To that end we were looking for a system that didn't require any hot kettles, wasn't torch applied and thus a fire risk, and that would not have any odor or fume issues."

Roe added that because of the heliport on the roof they also wanted a system with minimal maintenance. "We chose the IRMA (inverted roof membrane assembly) Sika Sarnafil system because that way the membrane would be 100 percent fully adhered to the roof deck and then covered

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with insulation and pavers, which would protect it from roof and helicopter traffic."

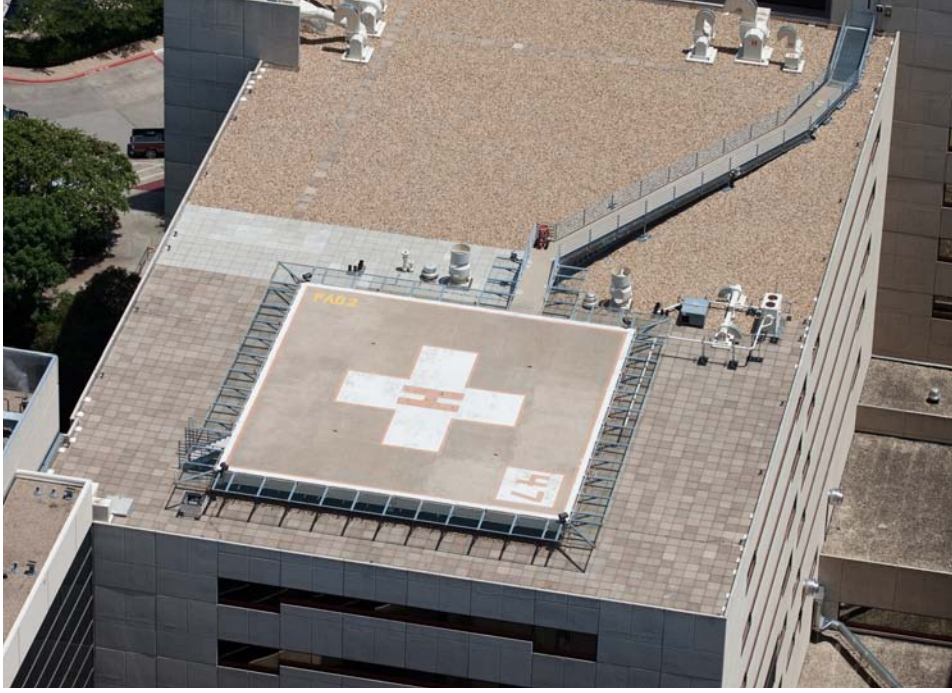
Finally, the reputation of Sika Sarnafil and its products also played a deciding factor. "We've used Sika Sarnafil roofing and waterproofing membranes in numerous applications and think very highly of these products," said Michael Tolson, Jr., vice president of ECI. "We've worked with Parkland Health & Hospital System for about 10 years and knew this would be the best system for their needs."

An Installation with Complications

Installation of the waterproofing system on the roof was fraught with challenges. In addition to the unforeseen complication of the column stubs, the installation took place eight stories high with the only access being a very congested narrow passageway between the clinic building and an adjoining medical school. "Because of the cramped conditions, crane work was limited to weekends, and the crane had to be moved offsite after each use," Perry stated. "The lack of a convenient staging area necessitated countless trips up and down the building to mobilize equipment and supplies."

The tight quarters made the removal of the old roofing debris, which consisted of an EPDM system with extensive ballasted coverage, very time-consuming and somewhat hazardous, according to Perry. "Fortunately, we were able to hire a subcontractor to vacuum off the river rock that was layered four inches deep across 60 percent of the roof surface."

After the old system was removed, SLR Roofing installed the Sika Sarnafil membrane, as well as a drainage mat. Two layers of 2 ½ inch Sarnatherm extruded polystyrene insulation covered the entire roof assembly, followed by large river rocks which were used for ballast on half the roof. On the other half of the roof, which included the heliport (a steel structure about six feet above the main roof) and surrounding areas, precast concrete pavers were used to provide wind-uplift resistance and to protect the roof. SLR Roofing pulled the existing pavers off the roof, cleaned and sealed them, and then installed them on the new roof.



Patients Come First

Another challenge was scheduling certain installation activities so as not to disturb the clinic patients. "We had to restrict the hours in which we could do noisy, 'heavy duty' activities like hammer drilling," Perry explained. "Some of our equipment even affected the operation of sensitive medical equipment and procedures being used on the patients located on floors below, which necessitated further restrictions."

Since the heliport was out of service during the installation and roof insulation (aiding in the stabilization of temperatures in the areas below) was missing, SLR Roofing was under pressure to complete the job as quickly as possible. This was not an easy task, considering the restrictions put on the hours in which they could do certain installation activities. In addition, the bulk of the work was being done from October to January, the "most challenging time of the year," Perry said. "We had to worry about making everything watertight every night, because we couldn't expose the building to moisture or wind or rain." Outdoor temperatures also had to be monitored closely for product applications and proper storage of materials.

Despite all of these obstacles, SLR Roofing was able to complete the job to everyone's satisfaction. "This was a very challenging installation, but it went very well," Roe stated. "Phasing was critical and required a lot of coordination between the SLR Roofing and the subcontractors. SLR Roofing worked very closely with us and we were quite pleased with their work."

"SLR Roofing's workmanship was outstanding," added Michael Tolson, Sr.

It was this quality of workmanship and professionalism that earned SLR Roofing Systems Second Place in Sika Sarnafil's 2008 Project of the Year, Waterproofing Category.

A Long-Lasting Cure

Today the roof is performing well, thanks to the workmanship of SLR Roofing Systems. "We are very pleased with the system and were impressed with the Sika Sarnafil representatives, who were very helpful and professional throughout," Roe said. "I would definitely use the Sika Sarnafil system again."

Added Michael Tolson, Jr., "The Sika Sarnafil representatives were a big help to us when dealing with many of the challenges of this installation."

"A large part of the success of this project goes to Sika Sarnafil's waterproofing system," Perry stated. "The system is great to work with and enables the roofer to deal with penetrations and anomalies more efficiently and effectively. The end result is what every customer longs for ... a watertight roof."

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