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## FLOATING A 25,000-POUND SPHINX





ON THE  
COVER

"It was a once in a lifetime opportunity. I was so glad to be a part of it."

Pat McAndrew, Superior Scaffold estimator.

Build photos by Erik Highland. Move photos by Pat McAndrew.

# FLOATING A 25,000-POUND SPHINX

THE RELOCATION OF A PRICELESS MUSEUM OBJECT REQUIRED SUPPORTED SCAFFOLDING AND SHORING TO PROVIDE SAFE ACCESS.

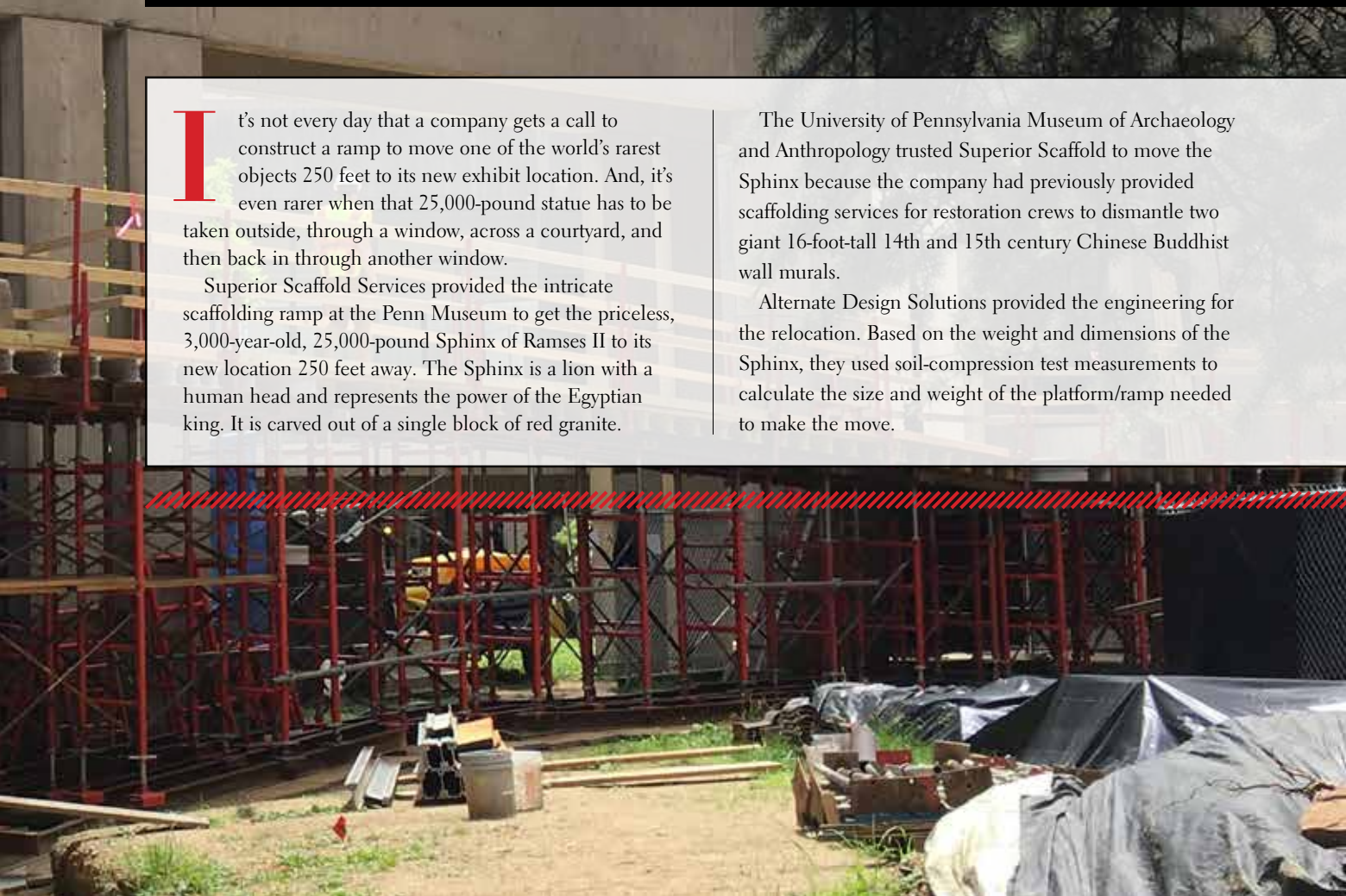
BY ERIK HIGHLAND

**I**t's not every day that a company gets a call to construct a ramp to move one of the world's rarest objects 250 feet to its new exhibit location. And, it's even rarer when that 25,000-pound statue has to be taken outside, through a window, across a courtyard, and then back in through another window.

Superior Scaffold Services provided the intricate scaffolding ramp at the Penn Museum to get the priceless, 3,000-year-old, 25,000-pound Sphinx of Ramses II to its new location 250 feet away. The Sphinx is a lion with a human head and represents the power of the Egyptian king. It is carved out of a single block of red granite.

The University of Pennsylvania Museum of Archaeology and Anthropology trusted Superior Scaffold to move the Sphinx because the company had previously provided scaffolding services for restoration crews to dismantle two giant 16-foot-tall 14th and 15th century Chinese Buddhist wall murals.

Alternate Design Solutions provided the engineering for the relocation. Based on the weight and dimensions of the Sphinx, they used soil-compression test measurements to calculate the size and weight of the platform/ramp needed to make the move.





### **The Scaffolding**

The relocation of the Sphinx presented several challenges for the Superior team. Each piece of scaffold equipment had to be walked in because there was very little access to the courtyard. The crew also had to shore up the floor inside beneath the giant Sphinx with hi-load frames and post shores, just as a security measure, in preparation for the move to the exit ramp. Crews removed a large window and then widened the wall a bit so the Sphinx would fit through the opening.



They then built an exit ramp out of system scaffold in order to elevate the Sphinx enough to get it through the window.

The outside ramp was constructed using hi-load shoring frames to hold the weight of the stone beast. The team started with wood sills on the entire run over the dirt/grass followed by steel beams and then a variety of hi-load shoring frames down

the entire 250-foot run. Those frames had U-heads and steel beams crossed with aluminum beams, which were then topped with solid plank and then 3/4-inch plywood. The plywood was then covered by a special surface that would help the air dollies float beneath the Sphinx. The team also installed an elaborate maze of guardrails and stanchions along the



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entire route. It took some creative layout to position the shoring frames around several pipes at the back end of the ramp. The final step in preparing access was to build another deck or loading platform out of system scaffold on the inside at the other end of the long ramp to receive the

giant stone carving. Another window was removed to get the Sphinx into its new resting place.

#### **The Move**

The Sphinx was first hoisted onto the ramp using a hydraulic lift and placed

onto four air dollies that used compressed air and essentially floated it off the ground allowing crews to push it the entire distance. This was the first time that the Sphinx had seen light since it was moved into the museum back in 1926, when the gallery was built around it. The red



granite, or stone of kings, as it was called, sparkled in the sunlight. The Sphinx moved at a slow pace while hundreds of spectators watched the event. The move required four to eight people to move the behemoth along the route.

Once it reached the other side of the courtyard, there was only 1.5 inches of clearance on either side of the new opening for the stone statue to slide in between onto the second loading platform. As a precaution, Superior shored up the floor beneath the entry point as well - using 20-kip shores. Penn Museum had a new floor designed and placed just to accommodate the weight of the ancient object in its new display. A hydraulic lift removed the Sphinx from the platform and onto the concrete where it would be moved to its final resting spot. The entire relocation went off as planned, and it was truly a once in a lifetime opportunity.

#### About the Author

Erik Highland is Marketing Director at Superior Scaffold Services. Contact him at [erik.highland@superiorscaffold.com](mailto:erik.highland@superiorscaffold.com).

