

Restoring the Lincoln Vault

BY RHONDA BUCKHOLD

Freelance Contributor

The Medieval Latin word *ingeniator* means "designer." Its verbal derivative - *ingenium* - is "to devise." The modern translations became "engineer" and "engineering." Coincidentally, the modern word "genius" shares the same Latin root.

The combination of superior intellect and the ability to devise design adjustments was required to complete the momentous project of restoring a small brick structure in Oak Ridge Cemetery, known as the Lincoln Vault.

The Lincoln Vault was built as a public receiving area in the side of a hill to the north of the spot which would become Lincoln's Tomb five years later. The vault held Lincoln's body from May 4 to Dec. 21, 1865, while the tomb itself was being prepared. The vault also held the body of Lincoln's son, Willie Lincoln, who died in 1862.

Fred Coombe, project manager at Fehr-Graham Associates and former owner of Coombe-Bloxdorf, P.C., said the original scope of the project required several adjustments due to 150 years of water damage and rules of historic preservation.

The project timeline originally called for plans to be drawn up by September 2014 and construction to begin after the May 2015 reenactment of Lincoln's funeral. The schedule was accelerated, however, so that work would be finished in time for the funeral reenactment. The project was a collaboration between Coombe's firm and R.D. Lawrence Construction Company, Western Specialty Contractors and the Illinois Capital Development Board.

"The challenge for us ... was to come up with a design to provide permanent support to the roof of the vault and reconstruct the exterior walls," Coombe said, "which required us to execute several contract change-orders within a very tight project budget and time schedule."

Coombe said one challenge required a temporary earth retention system to allow excavations in a very tight space.

"Since the vault was originally constructed against the hill side from inside of the vault, the exterior of the original vault was visible for the first time ever," he said. "The original vault structure was in excellent condition. However, the vertical extensions were much different from assumed and in very poor condition."

The severely deteriorated stone finish of the vault's façade required planners and

craftsmen to find suitable replacements from commercial quarries, then replicate the fit and finish to match the original.

"It developed through much trial and error," Coombe said. "It was a combination of modern machine fabrication 'enhanced' by hand hewing."

The construction work continued during a period of subzero temperatures, using heated enclosures around the vault. Despite the difficult conditions and extra work required, the project was finished on budget and in time for the Lincoln funeral ceremony.

Since then, Coombe-Bloxdorf has been acquired by Fehr-Graham Associates, LLC. The organization has several ongoing projects in Springfield, such as surveying and drainage studies on the "flyover" portion of Springfield's rail improvement project. Coombe, now on staff with Fehr-Graham, is also involved in the renovation of the Booth and Ferguson buildings in downtown Springfield, including the design of an elevator and stair tower that will provide access to the two buildings.

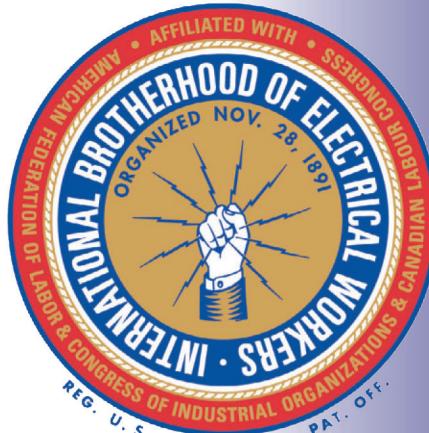
"Numerous conflicts exist in developing a foundation under an existing structure and constructing a tower structure wedged between two historic buildings," Coombe said.

The engineers will again be required to design solutions for significant challenges posed by preserving history. To take on the task of restoration while staying true to an original design is an exceptional challenge, but these professionals have already demonstrated they are up to the task. ♦



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