Past Projects and Current Research on Guastavino Tile Ceilings, Domes and Vaults

Past Projects
As part of our work inspecting and documenting historic buildings, Vertical Access (VA) has been involved with several projects investigating original Guastavino tile ceilings, vaults and domes. Notable buildings constructed with Guastavino tile surveyed by VA in New York City include Cram and Goodhue’s St. Thomas Church and Bertram Goodhue’s St. Bartholomew’s Church, St. Paul’s Chapel at Columbia University, the Oyster Bar in Grand Central Terminal, the Battery Maritime Building and the Federal Reserve Bank. Outside of New York City, VA has performed survey work on All Saints Cathedral in Albany, NY, designed by Robert W. Gibson, and Cram, Goodhue and Ferguson’s Cadet Chapel at The United States Military Academy. In the fall of 2006, VA performed a comprehensive investigation of St. Francis de Sales Church in Philadelphia, a Byzantine Revival structure designed by Henry D. Dagit in collaboration with the R. Guastavino Company.

The structure contains several large Guastavino vaults and domes, including a central dome measuring 61 feet across that originally employed exposed Guastavino tile at both the interior and exterior.

Other recent projects include Soldiers’ and Sailors’ Monument in New York City; Nebraska State Capitol in Lincoln; The Basilica of St. Lawrence in Asheville, NC; Toronto Union Station and Buffalo Central Terminal.

Current Research
Building on these pilot studies, VA’s current research involves the construction of full-size mock-ups of Guastavino vaults for the investigation of non-destructive evaluation techniques in a controlled environment. Building on this project experience, VA employees have undertaken a testing and research program to define and evaluate the acoustic properties of Guastavino tiles and the use of non-destructive evaluation of Guastavino tile as an assessment tool. As part of this research, she has conducted two pilot studies to measure pulse velocity and frequency responses at Guastavino vaults in New York City’s St. Thomas Church and Battery Maritime Building for the purposes of determining the feasibility of using ultrasonic frequency response for the evaluation of Guastavino tile structures. Building on these pilot studies, VA’s current research involves the construction of full-scale mock-ups of Guastavino vaults for the investigation of non-destructive evaluation techniques.

Bibliography
The following is a selected bibliography of general resources useful in the study and evaluation of structures incorporating Guastavino construction systems:

- Wright, Peter B. “The Works of Rafael Guastavino,” Parts I to IV. Brickbuilder 10 (April, May, September, October 1901).