

PROJECT

Benjamin-Powell Smokehouse
Colonial Williamsburg, Virginia

CLIENT

Colonial Williamsburg Foundation
Williamsburg, Virginia

PROJECT DESCRIPTION

The brick masonry smokehouse adjacent to the Benjamin-Powell House in Colonial Williamsburg, Virginia had suffered severe deterioration of both brick and mortar due, apparently, to crystallization of salts. Mortar deterioration was so severe that repointing of the mortar joints was required almost semi-annually. Due to the irregular patterns and rate of deterioration, architectural conservators were hesitant to implement conservation measures without a clear definition of the extent and source of the damage and the mechanism of deterioration.



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Atkinson-Noland worked with Masonry Solutions International to evaluate conditions using nondestructive measures. The team worked with Colonial Williamsburg conservators to develop a scheme to desalinate exterior brick walls. Internal void spaces were first injected with a Compatible Injection Fill (CIF) to provide a monolithic wall section. A de-humidifying system was installed at the interior to draw moisture towards the interior where the salts were collected using a series of poultice treatments. Laboratory testing of each poultice treatment showed that salts were effectively removed after 4 poultice applications.

SERVICES PROVIDED BY ATKINSON-NOLAND

- Nondestructive evaluation: ultrasonic and mechanical pulse velocity surveys, infrared thermography scans
- Coordination with restoration architects and other structural analysts
- Development of CIF formulation and injection protocols
- Laboratory testing of poultice material to quantify salt content



Infrared thermography scanning and image



Poultice application and laboratory testing



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