



PROJECT DATA SHEET: Saratoga National Historic Park

STABILIZING A MONUMENT OF AMERICAN HISTORY



*Masonry Preservation
and Enhancement Specialists*

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Repair and enhance without changing the aesthetics.



Saratoga National Historic Park Monument

Location: Saratoga, New York

Age: Built 1877

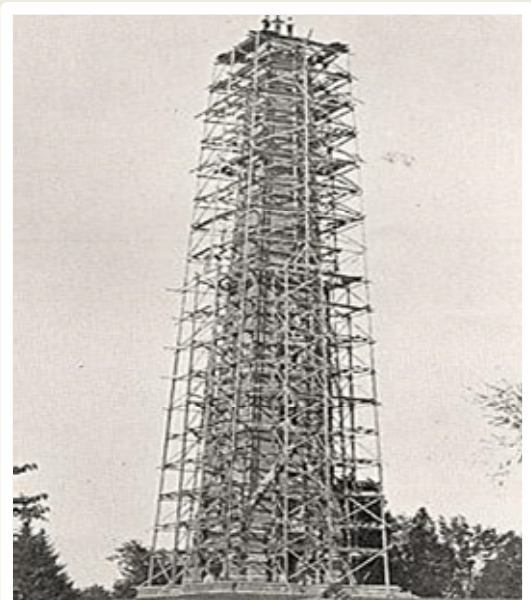
Key Topics: Historic preservation,
water permeation, crack repair,
NDE, CIF Injection

Project Background:

- Saratoga National Historic Park was the site of a turning point in the American War for Independence, the Battle of Saratoga
- A member of the National Register of Historic Places
- The park and its featured monument were created to commemorate the American victory
- The National Park Service, concerned about the safety of their 155 ft. tall obelisk, closed the monument to the public and launched a \$2.5 million renovation campaign

Challenges Presented:

- Severe cracking was visible throughout the granite façade, void patterns were assumed to be plaguing its structural integrity, and a persistent case of water permeation was threatening its historic fabric
- Years of deterioration had left conditions unfit for visitors, with pieces of plaster and rusted metal becoming dislodged and falling down inside the staircase
- The problems were interconnected and required a comprehensive solution, one that would not change the historic appearance of the monument





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Services and Solutions:

- Masonry Solutions laboratory engineers began by evaluating the structure, utilizing sonic pulse velocity to characterize the existing masonry and locate voids within the exterior walls
- Interior walls were carefully examined using fiber-optic borescoping
- MSI personnel and project team members found that a compatible injection procedure would eliminate voids and solidify the structure, which in turn would seal pathways for moisture penetration as well as immobilize the granite to thwart cracking
- MSI laboratory engineers then developed a historically compatible custom lime-based CIF for injection
- Masonry Solutions technicians, utilizing a low pressure injection protocol, injected the entire 155 ft. structure, plus an additional 15 ft. tall basement wall, providing the whole monument with monolithic performance
- The project team provided instrumental support to MSI techs, expertly facilitating their endeavors and ensuring a swift, quality project unfolded
- Further non-destructive evaluation verified the proper filling of voids and cracks and the elimination of future water infiltration
- MSI's successful program gave the peace of mind to NPS staff that their monument could once again open to the public without undue concern over its appearance or visitor safety



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Masonry Solutions International has worked in the field of masonry preservation and enhancement for over 20 years. It has pioneered a number of advanced techniques, including compatible masonry injection and undercut fabric anchorage.