



# Green Infrastructure & Stormwater Management CASE STUDY

---

## Lincoln Cottage & Smith Visitor Education Center

**Location:** Armed Forces Retirement Home, Washington, DC

**Client:** National Trust for Historic Preservation

**Design Firm(s):** George Skarneas, PhD, AIA, Formerly of Hillier Preservation Studio now Preservation Design Partnership

**Landscape architect/Project contact:** Patricia M. O'Donnell, FASLA, AICP

**Email:**

[odonnell@heritagelandscapes.cc](mailto:odonnell@heritagelandscapes.cc)

**ASLA Chapter:** Vermont and Connecticut



### Project Specifications

**Project Description:** Heritage Landscapes has completed a series planning and implementation projects for the Lincoln Cottage and Smith Visitor Education Center, in collaboration with the RMJM Hillier team and the National Trust, culminating in the opening of this new Lincoln commemorative site on the 12th of February 2008, Lincoln's birthday. Amidst the tumultuous days of the Civil War, President Lincoln and his family sought the Lincoln Cottage and the grounds of the Soldiers' Home as a summer retreat, much like Camp David is used today. It was here that Lincoln spent his evenings after days in the White House, meeting with distinguished people such as abolitionist Frederick Douglass, and where he formulated his thoughts on one of the most important legacies of his presidency, the Emancipation Proclamation. While the Lincoln association with the property spans from 1862 to 1864 during the Civil War, the landscape design influences at the Soldiers' Home and former Riggs property span over a century. The Lincoln Cottage and Soldiers' Home National Monument, designated in 2000, was taken on as an important initiative of the National Trust to bring this historic Lincoln site located in the nation's capitol to the public. Heritage Landscapes planned for the

preservation, adaptation and interpretation of this significant historic landscape, in anticipation of increased public visitation, as the ideal place to experience Lincoln's presidency. The Lincoln Cottage Historic Landscape Report & Preservation Treatment Plan, completed in 2004, uncovered sufficient documentation of the Lincoln Cottage South Lawn to recommend restoration of missing features and development of an interpretive sequence along curving paths. The visually separate West Yard and North Environs, changed by post-Lincoln era structures, were more appropriate for rehabilitation and visitor access. In a pioneering initiative, the National Trust brought in the U.S. Green Building Council to apply a LEED process to a historic landscape and structure, the 1903 Administration Building. The project received a LEED Gold-rating with several landscape credits including the zero net gain stormwater. Heritage Landscapes designed the components of the LEED landscape credits for site preservation, limitation of disturbance and, with Edwards Kelsey, stormwater management. The completed Lincoln Cottage site is receiving wide acclaim from educators and youth. In order to meet District of Columbia stormwater management guidance the Visitor Center downspouts were released into the landscape and fed to a rain garden to offset added paving for visitor access for no net gain of stormwater. Near the Lincoln Cottage the parking lot was allowed to flow onto turf and an adjacent swale was constructed with highly permeable soil and gravel layers to absorb that runoff. Lincoln Cottage downspouts were piped to large drywalls rather than having roof run-off added to the subsurface stormwater basins and pipes.

**Project Type:**

Government complex

A retrofit of an existing property

**Design features:** Rain garden, bioswale, and downspout removal. In order to meet District of Columbia stormwater management guidance, the Visitor Center downspouts were released into the landscape and fed to a rain garden to offset added paving for visitor access for no net gain of stormwater. Near the Lincoln Cottage the parking lot was allowed to flow onto turf and an adjacent swale was constructed with highly permeable soil and gravel layers to absorb that runoff. Lincoln Cottage downspouts were piped to large drywalls rather than having roof run-off added to the subsurface stormwater basins and pipes.

**This project was designed to meet the following specific requirements or mandates:**

Local ordinance, Federal, preservation guidance and local District of Columbia stormwater management code.

**Impervious area managed:** 1 acre to 5 acres

**Amount of existing green space/open space conserved or preserved for managing stormwater on site:** 1 acre to 5 acres

**The regulatory environment and regulator was** indifferent to the project.

**Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements?** Historic preservation while adapting to stormwater management requirements.

### Cost & Jobs Analysis

**Estimated Cost of Stormwater Project:** \$500,000-\$1,000,000 (Public funding: Federal – The National Trust for Historic Preservation raised the project funding from both private and public sources.)

**Related Information:** Construction cost for the landscape alone was \$750,000. Landscape research, planning and design over a period of 5 years was \$90,000.

**Was a green vs. grey cost analysis performed?** No

**Cost impact of conserving green/open space to the overall costs of the site design/development project:** There was a cost of about 10% specifically addressing the stormwater management.

**Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)?** Did not influence costs. The Lincoln Cottage area is a National Historic Landmark and National Monument already preserved/conserved. The project greatly enhanced the landscape use and functions.

**Number of jobs created:** 2.43 person years of employment based on 2080

**Job hours devoted to project:**

Planning and Design: 1,550

Construction: 3,500

Annual Maintenance: 2,000

### Performance Measures

**Stormwater reduction performance analysis:**

2-year storm. Threshold measure was to achieve no net gain to the District of Columbia subsurface stormwater system.

**Community & economic benefits that have resulted from the project:** Historic site improved for greater use and access. Heritage tourism interest.

### **Additional Information**

**Links to images:** <http://www.heritagelandscapes.com/Project.asp?PID=3&CID=2>

<http://www.heritagelandscapes.com/Content.asp?Key=24>

This was a banner project that moved LEED forward into addressing historic structures and landscapes.