

PARTNERS

UNICO Contractor

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President Lincoln's Cottage

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The Unico System is designed to fit. It's ideal for heating or cooling buildings with:

- Electric Heat
- Hot Water Heat
- Chilled Water Loops
- Steam Heat
- Radiant Floor Heat
- Inadequate or No Ductwork
- Limited Space
- Inadequate Cooling on Upper Levels
- Baseboard Heat
- Radiator Heat



Overview

The opening of President Lincoln's Cottage to the public in February 2008 was the culmination of a seven-year mission to restore the home to its condition during the time Lincoln resided there. Designated a National Historic Landmark in 1974 and a National Monument in 2000, the home was President Lincoln's seasonal home from June to November during 1862-1864. One key concern for the restoration was that it not harm the existing architecture of the historic home. The exterior restoration was completed in April 2005, and The Christman Co. was then charged with an extensive interior renovation that included fire protection, electrical, mechanical and finishes. Throughout the \$17 million restoration project, the goal was to make it appear as though Lincoln were still in residence, down to the smallest details. With this objective in mind, it was vitally important that all systems in the museum – including the HVAC system – be as invisible as possible.

Strategy

A conventional HVAC system would have required removing portions of the very historic ceilings, walls and floors to run new duct work. The National Trust recommended The Unico System, which Christman knew only by reputation, because of its longstanding partnership with the organization and its past experience designing systems for historic buildings. Upon exploration, Christman learned that The Unico System's small ducts could be snaked through existing spaces behind the walls, under the floor and above the ceiling, resulting in minimal impact on the historical fabric of the museum. Unico also offered to donate all of the equipment required for the project. "Unico's generous donation of its services and equipment to this project demonstrates its longstanding support of the National Trust for Historic Preservation," said Emily Gleason, manager, corporate partnerships business development, National Trust for Historic Preservation.

Christman worked with Unico's in-house engineering department to develop an early budget for the project, sending floor plans and existing drawings to determine the costs that would be involved. According to Ron Staley, Christman's senior vice president and director of historic preservation, it was clear that The Unico

System would be a more cost-effective option, regardless of the equipment donation. "The biggest savings was that we didn't have to tear out a lot of walls and then repair them. The Unico System fit economically into the building. Unico's engineering support group explained how it would work, where we would need to feed the duct work, then worked with the National Trust staff to make it happen," explained Staley.

Before the renovation, President Lincoln's Cottage used a steam heating system with radiators (not original to the home) and a few window units for air conditioning. The initial plan was to only install central heating because the home had natural ventilation due to its location on a hilltop and shutter system. However, The Unico System was easily adaptable for both heating and cooling by adding an air conditioning module at the fan end of the system, with no changes to the duct work. Unico's easily customizable circular outlets were stained to match the original wood floors on the first floor and the walls and ceilings on the second floor. The system is fed by three 5-ton air handlers with chilled water coils that provide both heating and cooling. The air handlers are tucked away in the basement and third-floor servants' quarters, while the chillers were installed remotely in a historic water tower structure away from the main building.

Results

President Lincoln's Cottage commended Unico for designing a system that could be installed with minimal damage to the historic architecture and also serving as a true partner throughout the process, even after the system was in place. Frank Milligan, director of President Lincoln's Cottage, said, "The post-installation service was exceptional, and the system has been performing admirably for us."

Everyone involved in the project was extremely pleased with the final installation. As a new user of The Unico System, Staley was very complimentary. He said, "It is one of the most straightforward systems I have ever used. We had no problems getting it started up, and it's a very quiet system – the perfect solution for President Lincoln's Cottage."

