



# A Case Study for Preserving a Department of Defense Historic Building and Achieving LEED Certification for a Major Renovation Project Indiana Army National Guard Stout Field, Building 5

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## Background:

The Department of Defense (DoD) owns or manages over 340,000 buildings in the United States and its territories. By 2015, approximately 140,000 will reach the age of 50 years old. Buildings owned by the federal government that are 50 years of age or older are subject to requirements of the National Historic Preservation Act of 1966, as amended (NHPA). In addition, the DoD is directed to advance national energy security and environmental performance standards. Building renovations must be conducted in accordance with sustainability strategies, including resource conservation, reduction, and use; siting; and indoor environmental quality. The reuse of an existing building maximizes resource conservation. Historic buildings, therefore, are inherently sustainable because their preservation maximizes the use of existing materials and infrastructure, reduces waste, and preserves the historic character of older installations.

This project was a case study of the renovation of a DoD historic building to LEED Silver certification while preserving the historic integrity of the building. The building featured in the project is Building 5, a hangar at Indiana National Guard Joint Forces Headquarters, Stout Field, Indianapolis, Indiana. The building is a simple massed plan monolithic concrete structure comprising a three-story central block surmounted by a steel and glass control tower flanked by two-story wings.

## Objective:

The objective of this project is to determine the feasibility of a LEED Silver certifiable renovation on a historic structure while having “no adverse effect” to the structure under Section 106 of the NHPA and to compare the cost of achieving LEED Silver compared to other non-LEED renovation strategies.

## Summary of Approach:

A two-day charrette was held with Indiana National Guard facility management, master planning, anti-terrorism force protection, and cultural resource personnel; Indiana state historic preservation personnel; architectural design team personnel; LEED AP personnel; and the project manager. During the charrette, attendees divided into two groups, and using the 2009 LEED for New Construction and Major Renovation Checklist, developed two strategies to accomplish LEED Silver certification that was also a “no adverse effect.” A cost analysis was then developed to compare the

economic feasibility of the LEED Silver strategy with demolition and conventional (non-LEED compliant) renovation.

## Benefit:

This study supports the theory that under some circumstances it is possible to perform a major renovation to a historic building in a cost effective manner without adversely affecting the property. The benefit to the DoD is that its vast, aging infrastructure can be sustainably renovated while maintaining its historic significance.

## Accomplishments:

Achieving LEED Silver certification and having no adverse effect under Section 106 of the NHPA (preserving the historical integrity) to Building 5 is achievable (not considering Antiterrorism Force Protection constraints), both from sustainability and economic perspectives.

For INARNG, the report provides project-specific data and strategies for achieving



LEED certification, and assisting with Section 106 of the NHPA consultation. For DoD in general, this document presents the feasibility and cost analysis for combining LEED certification and historic preservation goals and policies; and lessons learned and recommendations to be carried forward in other DoD construction, planning, and cultural resources management projects.

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