

Basis of Design Report
for
SAGAMORE HILL NATIONAL HISTORIC SITE
PMIS: 077375
REHABILITATE THEODORE ROOSEVELT HOME

FINAL REPORT – June 26, 2009



Denver Service Center
National Park Service

EXECUTIVE SUMMARY

The National Park Service is preparing a line item construction project to rehabilitate the Theodore Roosevelt Home at Sagamore Hill National Historic Site.

Summary Description of Project

The Theodore Roosevelt Home is a nationally significant historic building that currently functions as a house museum. Guided public tours are led through the house by National Park Service staff and volunteer docents. The exterior of the house has seen little modification over time, except where toilet rooms have been added and porches have been modified. The interior is furnished to reflect the daily life of the Roosevelt family; additional stairs and modifications to the third floor were made in the 1950s when the house first opened as a museum. As the only home that Roosevelt built for himself and his family, the house and its contents are a unique interpretive and educational experience and an important, irreplaceable cultural resource that requires the highest level of care and preservation to ensure its long-term survival.

The Theodore Roosevelt Home has been well maintained by the National Park Service, but the condition of the house is starting to deteriorate, and both the exterior and interior are in need of restoration and repair in many areas. Water infiltration is a pressing concern, requiring remedial work at the building's foundation walls and a complete roof replacement. A holistic approach to the restoration of the entire house should guide decision-making for the first phase of construction work anticipated at the house. Priorities for the building's restoration and upgrade have been established to address the most critical problems above and beyond water infiltration that affect the house; these priorities include upgrades to the existing mechanical, electrical, and fire protection systems.

The design team for Pre-Design, Value Analysis, and Schematic Design was composed of professional and technical staff from John G. Waite Associates Architects PLLC, MACTEC Engineering and Consulting, Inc., and Plus Group Consulting Engineering, PC.

A set of 29 architectural, mechanical, and electrical drawings dated 6/26/09 accompany this Basis of Design Report.

Summary Recommendations

The scope developed for the Schematic Design phase for the Rehabilitation of the Theodore Roosevelt Home took into account the relevant PMIS statements and available line item construction funding limitations, as well as a recent and detailed evaluation of the existing conditions of the building and its systems.

Following the Value Analysis Study, the Preferred Alternative for Schematic Design that was selected for further development included the following scope of work:

- Stabilization and repair of the exterior of the building, to include: roof restoration and lightning protection; foundation repair; wall shingle repair; masonry restoration; and window, storm, door, and shutter restoration;
- Replacement of underground storm drainage system around perimeter of house;
- Minor interior rehab / repair of main stair, select areas of third floor;
- Construction of an accessible entrance to the first floor of the house;
- Electrical upgrades, to include removal of existing distribution panels, new distribution panels for normal power, emergency power, and lighting, and targeted wiring improvements throughout house to reduce risk of fire and provide branch circuiting where possible;
- Mechanical upgrades, to include the replacement of existing air handlers and oil-fired boilers with new equipment (including humidification) and the reuse of existing ductwork and hot water radiators;
- Sprinkler upgrades, to include improvements to the existing wet pipe system at the basement and first floor distribution, and the installation of a dry pipe system for attic and exterior porch coverage; and
- Minor repair / upgrades to existing fire detection / notification and security systems as required.

While the selection of this HVAC system will likely have the least impact on existing historic building fabric, it does not provide any measurable improvement to the current existing indoor environmental conditions regarding temperature control or humidification / dehumidification control throughout the house. Further discussion with the NPS to confirm direction will be required at the beginning of Design Development.

No work is anticipated to the building's potable water distribution system or sanitary system at this time.

Further Information

Related scopes of design and construction work that require separate funding were identified and confirmed, and include the following:

- Upgrades to existing incoming electrical service including provisions for 3-phase service and possible transformer and underground vault replacement;
- New stand-by generator for the site;
- Exterior site lighting for safety and security across the site;
- Archaeological planning, testing, and monitoring;
- Hazardous materials identification and testing;
- LEED certification under either LEED-NB or LEED-EB;
- Site survey information for underground utilities and topographic features, including soils investigation;
- Landscape improvements to provide an accessible route from the Visitor Parking area to the Theodore Roosevelt Home; and
- Interior lighting upgrades for safety as well as exhibition and interpretation purposes.

Upgrades to the existing water service to the house may be required, based on initial hydrant flow tests to determine existing pipe sizes and available water pressure. Further study of this issue is recommended during the Design Development phase, and separate funding for this work would be required.

Applicable Codes, Planning Criteria, and Research

Applicable Codes and Regulations

- National Historic Preservation Act, Section 106, and 36 CFR 800
- Building Codes – International Building Code, Building Code of New York State
- Mechanical – ASHRAE 90.1; State, National, and International Energy Codes; UL
- NFPA Fire Prevention Codes and Standards
- OSHA Guidelines
- Architectural Barriers Act Accessibility Standards (ABAAS)

Planning Criteria

- The Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation
- National Park Service Cultural Resources management Director's Order #28
- Programmatic needs
- Consultation with NY SHPO
- Consultation with Theodore Roosevelt Association (friends group)

Research

Materials were made available to the design team, including archive drawings and specifications, the 1988/1997 Historic Structure Report for the Theodore Roosevelt Home, as well as the Cultural Landscape Report and the recently-completed General Management Plan for Sagamore Hill National Historic Site. In addition, recent studies including the Environmental Analysis and Recommendations report dated February 4, 2009 by Art Preservation Services, Inc. and the Building Envelope Study dated December 2008 by John G. Waite Associates, Architects, were utilized.

Additional archival and physical research will be undertaken by the design team and summarized in an Addendum to the existing Historic Structure Report. The focus of this further research is primarily the original roof materials, configuration, and details, as well as information regarding the design and installation of original building systems including heating, ventilation, gas and electric, and water distribution within the house.

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