# Best Practices for the Care of Structures and Landscapes at National Trust Historic Sites

February 2010

**Best Practices Manual**

NATIONAL TRUST FOR HISTORIC PRESERVATION®

On the cover:
*Drayton Hall, Charleston, South Carolina (top photo)*

*Philip Johnson Glass House, New Canaan, Connecticut (bottom photo)*

*Kykuit Landscape and Sculpture, Tarrytown, New York (this page)*

NATIONAL
TRUST
FOR
HISTORIC
PRESERVATION®

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*Villa Finale Formal Garden*
*San Antonio, Texas*

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*Acoma Sky City*
*Acoma, New Mexico*

# Introduction

*This document has been created to provide guidance to National Trust Historic Sites, both Stewardship and Co-Stewardship. The National Trust is pleased to share the Best Practices Manual with other historic sites as an example and model. If a non-Trust site chooses to implement any aspect of these Best Practices, the site will need to tailor the specifics of the Best Practices to its own governance, legal, and preservation requirements.*

This manual and workbook is a reference for staff at National Trust Historic Sites to answer questions and respond to issues that frequently arise regarding best practices for the care of structures and landscapes. The content of this document also presents a standard of care that all National Trust Historic Sites aspire to attain. Credit and acknowledgement is owed to the many excellent staff at the Historic Sites and at the National Trust Headquarters at 1785 Massachusetts Avenue, as well as the architects, engineers, contractors, and other preservation professionals and craftsmen that I have worked with during my 4 years at the National Trust and the previous 20 years at GSA and in private practice. Special credit and thanks are due to my predecessor, William DuPont, AIA, who created the first iteration of this manual. And to Crystal Whiters, the 2008 Mildred Colodny Scholar from the University of Illinois at Urbana/ Champaign who spent the summer of 2008 working on this Manual.

Staff at National Trust Historic Sites may copy and distribute relevant sections of this document (or the whole thing) to other staff, Board members, volunteer leaders, outside consultants, contractors and vendors, or other appropriate personnel as needed. Board members of National Trust Historic Sites are encouraged to review and adopt the entire document. This Manual is a required attachment to all Stewardship site design and construction contracts.

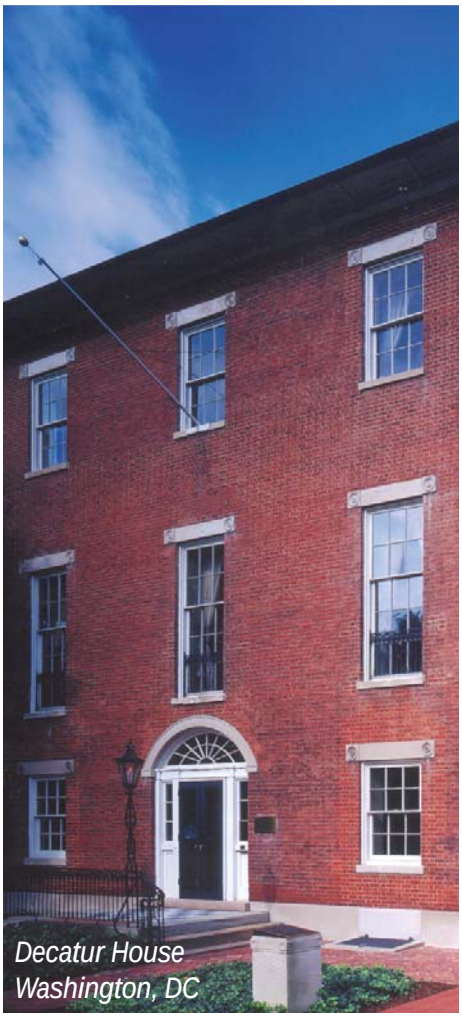
At the heart of any great project are strong and clear preservation objectives. The development of preservation objectives is a broad topic that can include development of mission statements, interpretive programs, and strategic as well as master planning. I have not attempted to give serious attention to this topic, because it goes beyond the scope of what this document should accomplish, but it is a foundation principle that underlies all best practices at a historic site.

And finally, a few 'housekeeping' notes should also be mentioned here. Nothing in this document is intended to supersede the terms of any Co-Stewardship Agreement between the National Trust and the managing entity of the Historic Site. If there is any conflict, the Co-Stewardship Agreement governs. Issues regarding collections care or the quality of interpretive programs are not addressed in this document. These issues are covered in separate documents.

Please note that this manual has been developed primarily as an online tool so it can be periodically updated and readily accessible. The document is available electronically on the National Trust Historic Sites website (http://historicsites.wordpress.com/) with active links to referenced web sites.

Washington, D.C.
February 2010

Barbara A. Campagna, FAIA, LEED AP



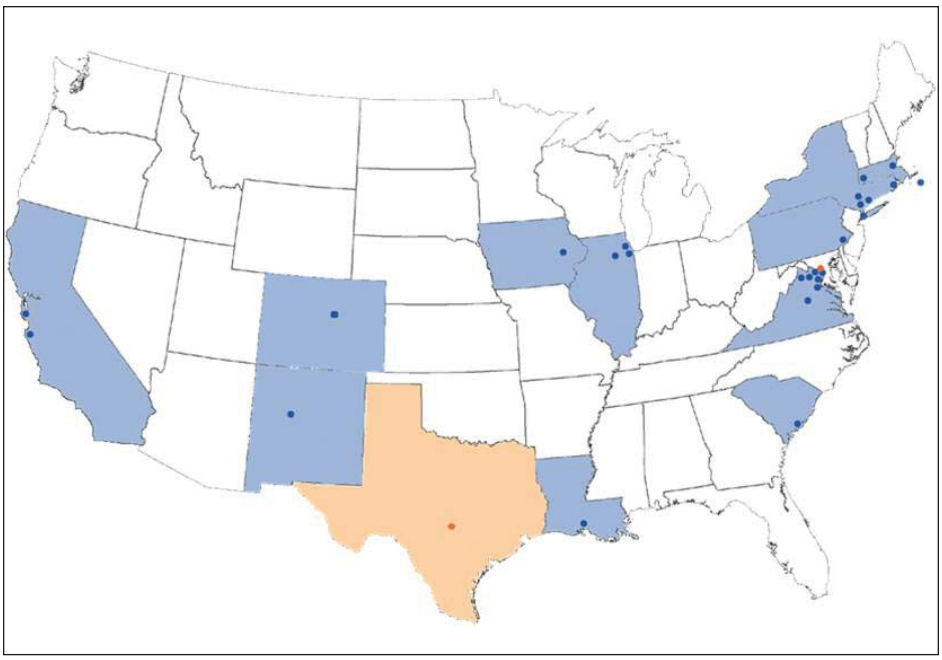
*Decatur House*
*Washington, DC*

### *Enjoy the images in this Manual*

Photographs of the 29 National Trust Historic Sites have been used throughout this manual. The List of Illustrations at the end of the manual provides credits for each photo or image (if not described with the image).

## *MAP OF NATIONAL TRUST HISTORIC SITES ACROSS THE COUNTRY*

At least one site is located in every state colored blue. Our newest site, Villa Finale, in Texas, is scheduled to open to the public in autumn of 2010 (peach colored state).



# I. National Trust + Stewardship

## The National Trust for Historic Preservation and the Stewardship of Historic Sites

### A Brief History of the National Trust for Historic Preservation

In the late 1940s, leaders of the growing American preservation movement, recognizing a need for a national organization to provide support to grassroots preservation efforts, set to work to establish the National Trust for Historic Preservation. President Truman signed legislation creating the National Trust on October 26, 1949.

The founders envisioned an organization whose primary purpose would be the acquisition and administration of historic sites across the country. Therefore, in 1951 the National Trust assumed responsibility for its first museum property: Woodlawn Plantation in northern Virginia. A total of 29 historic sites have come into National Trust stewardship over the years, ranging from the Pueblo of Acoma in New Mexico, which is thought to include the oldest continuously inhabited structures in the United States, to buildings designed by famed architects Frank Lloyd Wright, Ludwig Mies van der Rohe, and Philip Johnson.

Outreach programs have assumed increased importance as the National Trust has matured. The Preservation Services Fund was created in 1969 to provide financial assistance to local preservation projects, and the National Trust created a network of eight regional offices across the country to give timely hands-on assistance to grassroots preservationists. A number of demonstration projects have helped to show how preservation can be used as a tool in other efforts. For example, the National Main Street Center, founded in 1980, emphasizes preservation as a tool for revitalizing traditional business districts. Other special programs focus on historic neighborhoods, rural preservation, heritage tourism, environmental sustainability, statewide organization development, and preservation of modern architecture.

Education has always been at the core of the Trust's work, the centerpiece of which is ***Preservation*** magazine (originally published in 1952 as ***Historic Preservation*** magazine). The Trust's Preservation Honor Awards recognize individuals, organizations, and projects that represent the best in preservation, and have provided a wealth of examples of best practices since 1971. Similarly, the yearly announcement of America's 11 Most Endangered Historic Places, first issued in 1988, has become a highly effective means of spotlighting treasures in trouble and rallying efforts to save them.

Sixty years after its founding, the National Trust has a staff of more than 300 regular employees, an annual operating budget exceeding $50 million, a nationwide network of regional offices, a collection of 29 historic sites, a loyal and dedicated membership of more than 200,000, and a range of programs, projects, and services to help communities protect their irreplaceable heritage.

<u>Milestones of the National Trust</u>
Go to http://www.preservationnation.org/about-us/history.html for "Milestones of the National Trust".

*Woodlawn*
*Alexandria, Virginia*

## The Stewardship of Historic Sites

The National Trust for Historic Preservation's 29 historic sites, hosting almost 1 million visitors annually, are a nationwide network of historic places representing the broad range of the American experience. As tangible and highly visible contributors to the public's understanding of the National Trust for Historic Preservation, the historic sites are important elements in our work to engage more people in the work of historic preservation and in building a national preservation ethic.

### Type of Sites

The National Trust has three different legal relationships with its sites: Stewardship, Co-Stewardship and Contract Co-Stewardship.

1. Stewardship:

Sites owned and managed by the National Trust and/or whose staff are National Trust employees;

2. Co-Stewardship

Sites owned by the National Trust but managed by a separate nonprofit and whose staff are not employees of the National Trust .

3. Contract Co-Stewardship

Sites that are neither owned nor managed by the National Trust.

*The Temple at Montpelier*
*Orange, Virginia*

# I. National Trust + Stewardship

## Current National Trust Sites

For more information on individual sites, please go to the Historic Sites landing page on PreservationNation
http://www.preservationnation.org/travel-and-sites/sites/index.html
or the Historic Sites website at http://historicsites.wordpress.com.

### Stewardship

| | |
|---|---|
| Chesterwood | Stockbridge, MA |
| Drayton Hall | Charleston, SC |
| Farnsworth House | Plano, IL |
| Lyndhurst | Tarrytown, NY |
| Frank Lloyd Wright's Pope-Leighey House | Alexandria, VA |
| Gaylord Building | Lockport, IL |
| President Lincoln's Cottage | Washington, DC |
| Philip Johnson's Glass House | New Canaan, CT |
| Shadows-On-The-Teche | New Iberia, LA |
| Villa Finale | San Antonio, TX |
| Woodlawn | Alexandria, VA |
| Woodrow Wilson House | Washington, DC |

### Co-Stewardship

| | |
|---|---|
| Belle Grove | Middletown, VA |
| Brucemore | Cedar Rapids, IA |
| Cliveden | Philadelphia, PA |
| Cooper-Molera Adobe | Monterey, CA |
| Decatur House | Washington, DC |
| Filoli | Woodside, CA |
| Frank Lloyd Wright Home & Studio | Oak Park, IL |
| Kykuit | Tarrytown, NY |
| Montpelier | Orange, VA |
| Oatlands | Leesburg, VA |

*Cooper-Molera Adobe*
*Monterey, California*

Contract Co-Stewardship

| | |
|---|---|
| Acoma Sky City | Acoma, NM |
| African American History, Museum of | |
| - African Meeting House | |
| & Abiel Smith School | Boston, MA |
| - African Meeting House | |
| & Higginbotham House | Nantucket, MA |
| Lower East Side Tenement Museum | New York, NY |
| Robie House | Chicago, IL |
| Touro Synagogue | Newport, RI |

## The Stewardship of Historic Sites Department

The Stewardship of Historic Sites Department at the National Trust, housed at the National Trust Headquarters in Washington, DC, provides professional support to this collection of sites in areas such as architecture, collections management, educational/interpretive programs, development and archaeology. Following are descriptions of these primary professional departments, biographies of the the chief staff, their responsibilities and the services they provide to the sites.

It should be noted that not all services are provided to each of the 3 types of sites (stewardship, co-stewardship and contract co-stewardship). The services provided to the co-stewardship and contract co-stewardship sites are described in the Co-Stewardship Agreements.

*Touro Synagogue*
*Newport, Rhode Island*

# I. National Trust + Stewardship

## ARCHITECTURE, LANDSCAPES & HISTORIC PRESERVATION

Barbara A. Campagna, FAIA, LEED AP
Graham Gund Architect of the National Trust
(202) 588-6291 barbara_campagna@nthp.org

Elizabeth Milnarik, AIA, PhD
Associate Architect
(202) 588-6354 elizabeth_milnarik@nthp.org

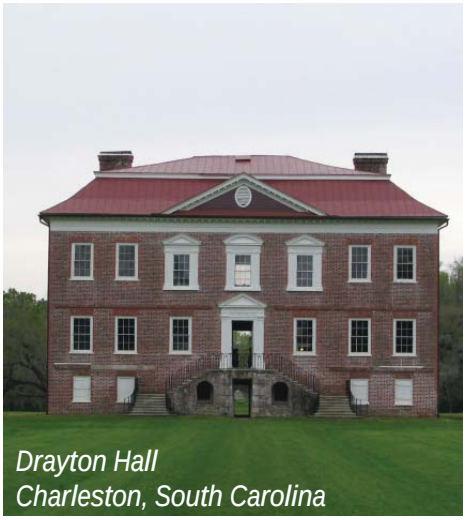
### Experience and Qualifications

Barbara Campagna joined the National Trust as the Graham Gund Architect in March 2006. She has worked for the past 25 years as a preservation architect, planner and historian. Barbara has been the Executive Director of a landmarks organization in Buffalo, ran her own architecture firm for many years in NYC, and served as the Regional Historic Preservation Officer for the Northwest Region of GSA prior to joining the Trust. She has lectured extensively, organized many conferences, serves on a variety of non-profit Boards, teaches, writes and is the author of two books. Barbara recently completed her term as the President of the Association for Preservation Technology International (APT), where she led the efforts of the organization's Technical Committee on Sustainable Preservation and created the Technical Committee on Modern Heritage.

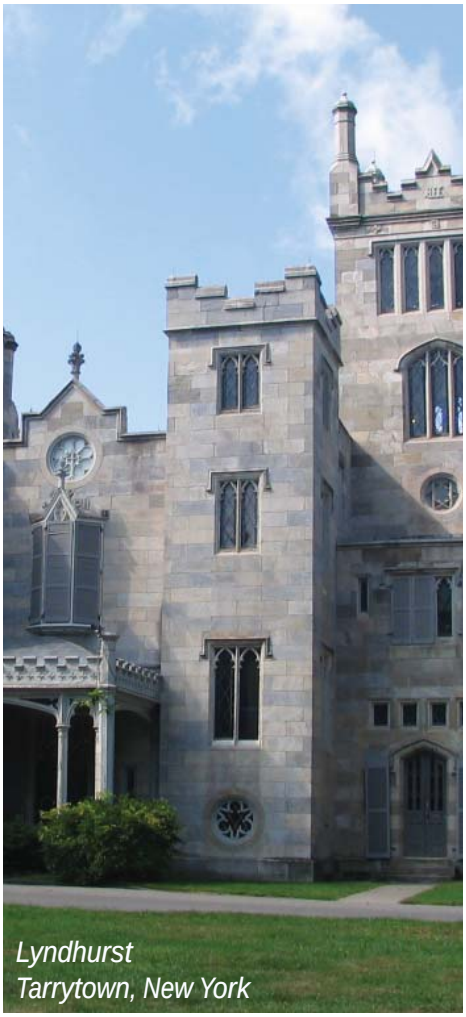
She is one of the leaders of the National Trust's Sustainability Program and the co-founder of the national coalition on sustainable preservation formed between the Trust, APT, AIA and the National Park Service. She received the National AIA Young Architect of the Year Award in 2002 and under her leadership, APT received the National 2007 AIA Award for Collaborative Achievement for their sustainable preservation efforts. Barbara was elevated to Fellowship in the AIA in 2009 as "the leading national architect and policymaker for the integration of preservation values into green building practices, demonstrating that artistic, scientific and cultural aspects of preserving historic buildings are crucial to a sustainable future."

Barbara has an architecture degree from SUNY Buffalo and a Master's in Historic Preservation from Columbia University. She has been a licensed architect since 1992 and became a LEED Accredited Professional in 2007. As the Chief Architect of the National Trust, she is responsible for all work on buildings and landscapes at all of the Trust's 29 historic sites.

*Philip Johnson Glass House*
*New Canaan, Connecticut*



*Drayton Hall*
*Charleston, South Carolina*



*Lyndhurst*
*Tarrytown, New York*

Services the Graham Gund Architect Provides:

- Oversees all planning, design and construction work on the National Trust historic sites. The actual services provided by the GGA are defined by the separate co-stewardship and contract agreements.
- Advises sites on historic preservation approaches, exterior and interior design, finishes, and appropriate types of materials and products.
- Manages the Historic Sites Fund subcommittee, grants, manuals and policy.
- Reviews reports, disaster management plans, construction documents, contracts, invoices and change orders, and insurance policies.
- Interprets the Secretary of the Interior's Standards, Building Codes, Design Guidelines, Planning & Zoning regulations.
- Recommends consultants, design approaches, grants, materials and products.
- Approves all projects receiving Historic Sites Fund grants, all work on Stewardship sites, most work on most Co-Stewardship sites, and some work on Contract sites.
- Prepares specifications, project scopes of work, RFPs (requests for proposals), RFQs (Requests for Qualifications) and design documents.
- Develops and Maintains the Best Practices Manual for the Care of Structures & Landscapes at National Trust Historic Sites.

Please notify the GGA about:

- Upcoming architectural or landscape work.
- Damage to or deterioration of buildings, building materials or landscape elements.
- Building code violations.
- Immediate life safety or hazardous conditions.
- Design or construction projects of neighbors.
- Disasters or emergencies at your site.

The GGA will notify you or designated site staff members About:

- Major initiatives or policies at the National Trust that could affect the safety of your buildings.
- Major opportunities for funding.
- If she will visit your Site or attend an event sponsored by your Site.
- Any observations or experiences at your Site.
- In general, the GGA will visit each site an average of once every 18 months, dependent upon projects and issues at the site. For example, a site with an ongoing construction project can expect many more site visits during the construction period.

Associate Architect

The position of Associate Architect was created in 2008 to support the Graham Gund Architect. The Associate Architect is responsible for managing the Essential Projects list and working with site staff to manage the schedules for these projects. The Associate Architect also works on various projects and programs as directed by the Graham Gund Architect.

# I. National Trust + Stewardship

## ARCHAEOLOGY

Lynne G. Lewis, Senior Archaeologist of the National Trust for Historic Preservation
(540) 672.2728 x161 Lynne_Lewis@nthp.org

### Experience and Qualifications

Lynne Lewis joined the National Trust in January 1971, and became the first National Trust archaeologist in September 1974. Before joining the National Trust, Lynne was the Junior Curator (Children's programs) at the Montgomery Museum of Fine Arts, in Alabama.

She received her Master's in American Studies from George Washington University and Bachelor's in Anthropology from the same institution.

### Services the Senior Archaeologist Provides:

- Assure that all archaeological sites at National Trust sites are properly researched prior to any major disturbance.
- Provide archaeological expertise to all National Trust sites by planning archaeological projects.
- Conducting short term projects as needed.
- Monitoring work done under contract to assure it meets professional standards, and
- Providing advice to property directors on archaeological matters.
- The actual services provided are defined by the separate co-stewardship and contract agreements.
- Review reports, contracts, and RFPs (requests for proposals) where archaeology is involved.
- Interpret the Secretary of the Interior's Standards for Archaeology.
- Recommend consultants, research designs and archaeological approaches for outside contractors.
- Monitor all archaeology projects receiving HSF grants, all archaeological work on Stewardship sites, most work on most Co-Stewardship sites, and some work on Contract sites.
- Prepare specifications, project scopes of work, RFPs.
- Provide archaeological consultation and recommendations for Gifts of Heritage properties.

### Please notify the Senior Archaeologist about:

- Upcoming architectural, landscape or other work with the potential for causing ground disturbance.

### The Senior Archaeologist will notify you or designated site staff members About:

- If she visits your Site or attend an event sponsored by your Site.
- Any observations or experiences at your Site.

*An archaeological dig at Drayton Hall Charleston, South Carolina*

## BUDGET, FINANCE AND ADMINISTRATION

Lyn Howell Moriarity, Administrative Director
(202) 588-6173 lyn_moriarity@nthp.org

Joan Flintoft, Business Coordinator
(202) 588-6156 joan_flintoft@nthp.org

Susannah Rast, Historic Sites Program Coordinator
202-588-6151 susannah_rast@nthp.org

### Experience and Qualifications

Lyn Moriarity has been Administrative Director for Historic Sites since June 2007. She has worked at the National Trust since 1983, serving as a loan fund manager and then from 1999 to 2007 as Director of Grants Management, overseeing federal and state grants received by the National Trust and managing the audit of federal expenditures. Prior to the National Trust, Lyn helped initiate the first statewide Main Street program in Massachusetts. Lyn has a B.A. in geography from Colgate University and completed M.A. courses in geography at Boston University. She received a Certificate of Federal Grants Management in 2002.

*Brucemore*
*Cedar Rapids, Iowa*

Services provided to National Trust Stewardship Sites:

- Facilitate communication between the Sites and the administrative functions in the Washington office and serve as liaison to the Department of Business & Finance, including accounting, budget, information technology, human resources, contracts and grants.
- Assist Site Directors and staff with budget preparation, budget monitoring and analysis.
- Monitor and review daily financial operations and business functions at the Sites, including checking and deposit account activity; provide training in electronic banking functions.
- Review, approve and process invoices and other financial paperwork from the Sites.
- Receive timesheets from the Sites and prepare data for entry into payroll system.
- Work with Site Directors and shop managers to ensure that Sites follow proper accounting and control procedures in managing the shops.

Services provided to all National Trust Historic Sites:

- Manage the financial aspects of the Historic Sites Fund, including monitoring budgets and processing requests for reimbursement of approved expenses.
- Monitor endowment fund values and draw activity.
- Monitor insurance program activity and serve as liaison to National Trust risk manager.
- Provide orientation and training to business staff to promote and ensure good business practices.

# I. National Trust + Stewardship

- Compile visitation statistics provided by the Sites.
- Assist with grant applications, particularly budget preparation and federal grant requirements.

Stewardship Sites, please notify Administrative Staff of:

- Changes in personnel, the status of current staff, potential problems or new hires.
- Monitor insurance program activity and serve as liaison to National Trust risk manager.
- Provide orientation and training to business staff to promote and ensure good business practices.
- Compile visitation statistics provided by the Sites.
- Assist with grant applications, particularly budget preparation and federal grant requirements.
- Upcoming grant applications, grant awards, planned fund raising events, donations of $1,000 or more.
- Potential budget shortfalls, unanticipated expenses or revenue, or other financial concerns.
- Administrative or financial problems with other Washington offices; ideas for improvement in those areas.

Administrative Staff will notify you or designated site staff members of:

- Major initiatives or policies at the National Trust that could affect your budget or change administrative procedures or requirements.

## Business Coordinator

The business coordinator supports the administrative director by managing the invoicing and payment functions for the Stewardship sites, and assists in the coordination of the business of the site shops.

## Historic Sites Program Coordinator

The historic sites program coordinator coordinates the administrative functions of the Historic Sites Fund; provides support to the Vice President and staff of the Historic Sites department; coordinates the Historic Sites' schedule and programming for the National Preservation Conference and Site Directors' meetings;and supports the Historic Sites website.

*Farnsworth House*
*Plano, Illinois*

## MANAGEMENT OF MUSEUM COLLECTIONS

Terri Anderson, John & Neville Bryan Director of Museum Collections
(202) 588-6154 terri_anderson@nthp.org

### Experience and Qualifications

Terri Anderson joined the National Trust for Historic Preservation in July 2006. She was formerly Associate Registrar at the Corcoran Gallery of Art in Washington, D.C., where she worked on outgoing loans and incoming gifts to the museum collections. In previous positions at the Smithsonian Institution's Museum of American History, the B'nai B'rith Klutznick National Jewish Museum, and the DAR Museum, she has worked on database management, collections inventories, and collections research. She received an M.A. in Museum Studies from the George Washington University, and a B.A. in English and Anthropology from the College of William & Mary. She has been an adjunct professor and guest lecturer for the GWU Museum Studies course Collections Management: Practical Applications since 2004.

### Services the Director of Museum Collections Provides:

- Accessions: Provide final approval for museum objects to enter the National Trust-owned collections at Historic Sites, organize corresponding paperwork, and assign accession numbers.
- Deaccessions: Work with Sites staff on deaccession requests for National Trust-owned collections from Historic Sites, including serving as Historic Sites' liaison to the National Trust Collections Committee or Board, as appropriate, to gain deaccession approval.
- Loans: Approve loan requests of National Trust-owned objects to appropriate borrowers, as well as incoming loans of objects from museums or private lenders to National Trust Historic Sites. Generate corresponding loan paperwork.
- Collections Database: Serve as point-person at the National Trust headquarters on the Collections component of the PastPerfect database system.
- Care & Conservation: Approve proposed conservation treatments for National Trust-owned collections, and serve as a resource for determining appropriate care and conservation.
- Object history: Maintain original accession files for National Trust-owned collections. Fulfill research requests for Sites staff regarding the original accession files of National Trust-owned objects.
- Planning: Lead, facilitate, and participate in collections management planning at Historic Sites, particularly relating to the development of collections management policies.
- Consult: Serve as resource on the installation, exhibition, conservation, or storage of collections.
- Liaise: Coordinate between Historic Sites staff and National Trust departments on Collections-related issues.
- Coordinate: Organize collaborative projects among Sites to maximize resources, share expertise, and develop best practices.

*Cliveden*
*Philadelphia, Pennsylvania*

# I. National Trust + Stewardship

Please notify the Director of Museum Collections About:

- Upcoming collections-related projects at your Site.
- Major changes in exhibition, storage, or environment of collections.
- News, updates, conflicts or controversies regarding access to, or use of, your museum collections.

The Director of Museum Collections will notify you or designated site staff members About:

- Major initiatives or policies at the National Trust that could affect the care and management of your collections, including recommendations for best practices.
- Major opportunities for collaborative funding, training, or programming.
- If she visits your Site or attends an event sponsored by your Site.
- Any observations or experiences at your Site.

## PUBLIC EDUCATION, HISTORICAL INTERPRETATION, AND VISITOR SERVICES

Max A. van Balgooy, Director of Interpretation and Education
(202) 588-6242 max_vanbalgooy@nthp.org

### Experience and Qualifications

Max van Balgooy has been Director of Interpretation and Education at the National Trust since 2001. He was formerly at the Homestead Museum in California, a six-acre site with two historic houses and a family cemetery, and oversaw a variety of responsibilities, including educational programs, docent training, historical research, collections management, site security, building maintenance, graphic design, public relations, and capital improvements during his thirteen-year tenure. He was also president of a community cultural center and curator of its regional history museum, and served on the board of a Main Street association and the planning commission in the City of Upland. He received his M.A. in history from the University of Delaware (Hagley Fellow) and a B.A. in history from Pomona College.

Services the Director of Interpretation & Education Provides:

- Consult on expanding and enhancing public education programs, historical interpretation, and visitor services, including consultants, vendors, and finances.
- Consult on personnel issues related to education, interpretation, and visitor services, including recruitment, job descriptions, training, and evaluation.
- Lead, facilitate, and participate in strategic planning, site master planning, interpretive planning, and marketing studies.
- Approve plans for interpretation, marketing, and visitor research for all Stewardship Sites; review and approval responsibilities for Co-Stewardship Sites are defined by agreements and contracts.
- Approve long-term educational projects and activities, such as permanent exhibits, books, Web sites, audiotours, school programs, guide training,

*A tour at the Glass House*
*New Canaan, Connecticut*

and wayside markers for all Stewardship Sites; review and approval responsibilities for Co-Stewardship Sites are defined by agreements and contracts.
- Approve any projects that assign intellectual property rights, including copyright, to persons outside of the National Trust, such as authors, photographers, or publishers for all Stewardship Sites; review and approval responsibilities for Co-Stewardship Sites are defined by agreements and contracts.
- Coordinate collaborative projects among Sites to maximize resources, share expertise, and develop best practices.
- Manage the Interpretation and Education Fund and provide advice to applicants and grantees.
- Liaison to departments of Membership, Information Technology, Communications (including Web site) and to the Heritage Travel and PreservationNation initiatives.

Please notify the Director of Interpretation & Education About:
- Upcoming public events and school programs at your Site (please add the Director to your mailing list).
- Major changes in educational programs, historical interpretation, and visitor services, including admission hours, events, research, finances, and personnel.
- Conflicts or controversies regarding visitor services, public programs, or historical interpretation.

The Director of Interpretation & Education will notify you or designated staff members About:
- Major initiatives or policies at the National Trust that could affect your educational programs, interpretation, audiences, or visitor services.
- Major opportunities for collaborative funding, training, or programming.
- Visitor, member, or media comments about your Site.
- If he visits your Site or attend an event sponsored by your Site.
- Any observations or experiences at your Site.

*A tour at the Lower East Side Tenement Museum New York, New York*

## SITES DEVELOPMENT (FUND RAISING)

Barry Goodinson, Director of Development for Historic Sites
(202) 588-6238 barry_goodinson@nthp.org

### Experience and Qualifications

Barry has been working in non-profit fund raising and program development for over 25 years, having served as Director of Development for House of Ruth (a social service that works with homeless and battered women), AIDS Action Council/AIDS Action Foundation (a national lobbying group), and the American Horticultural Society. He served as Executive Director of Green Spaces for DC and Northern Virginia AIDS Ministry and had a private development consulting practice for 8 years. He has served on several non-profit boards.

# I. National Trust + Stewardship

Barry has an undergraduate degree in philosophy from St. John's College (Boston), a master's degree from Georgetown University and a certificate in landscape design from George Washington University. This position is a new one at the National Trust (filled June 2007). His primary responsibilities are:

1. To keep staff in the development department aware of the needs and activities of our historic sites, so they can be matched to prospective supporters;
2. To identify opportunities for collaboration or joint solicitations, in order to maximize the giving potential of donors;
3. To help sites with small or nascent development programs identify funding opportunities and develop the skills with which to secure funding; and
4. To coordinate solicitations.

Services the Director of Development Provides:

- Review and provide counsel on site development plans;
- Review drafts of written fund raising materials;
- Coordinate solicitations of major donors, foundation and corporations;
- Coordinate research on prospects;
- Help to establish development systems and policies;
- Work with Board to increase development skills and to foster a development "culture;"
- Coordinate joint requests of major donors (for gifts to site and the Trust);
- Coordinate sites' work with Individual Giving Officers and Planned Giving staff;
- Provide peer support to development staff.

Please notify the Director of Development of:

- Program plans and needs (so we can research foundation, corporation and individual prospects);
- Plans to approach foundations and corporations (for Stewardship sites this is necessary; for other sites it is simply a courtesy);
- Plans to approach major donors with a known relationship with other Trust sites or programs (again, this is necessary for stewardship sites and a courtesy for others);
- Major events at which you think Trust presence would be helpful;
- Board or committee meetings at which development counsel might be helpful.

The Director of Development will notify you or designated site staff members:

- If a National Trust giving officer plans to visit a shared donor;
- If the National Trust is planning any kind of fund raising in your neighborhood;
- If he learns of funding or other opportunities appropriate for your site and programs;
- If he notices areas in which you might be able to make your development programs more effective.

*Shadows-on-the-Teche*
*New Iberia, Louisiana*

## SPECIAL PROJECTS

Cindi Malinick, Louise B. Potter Director of Special Projects
(202) 588-6282 cindi_malinick@nthp.org

### Experience and Qualifications

Cindi Malinick joined the National Trust for Historic Preservation in 2002 as the Director of Decatur House, a National Trust Historic Site, and in 2009, she began her position in the Stewardship of Historic Sites Department as the Director of Special Projects. While at Decatur House, she managed the daily operations of the site, providing oversight of its finances, programs, special property use, retail operation, collections, and preservation activities.

Cindi previously served as the Executive Director of the Coronado Historical Association in Coronado, California. Her other professional experience includes her work as Executive Director of the Save Our Heritage Organization in San Diego; the Assistant Archivist for the University of California, San Diego; and the Assistant Curator of Special Collections at the College of William and Mary. Cindi holds a bachelor's degree in education from the College of William and Mary and a master's degree in history from the University of San Diego.

*Decatur House Front Hall*
*Washington, DC*

Services the Director of Special Projects (DSP) provides:

- Assistance in overall site management and board governance.
- Liaison between the sites and the various departments within the National Trust.
- Management of significant transitions of the historic sites of the National Trust.
- Coordination of applicable site work with the Board of Trustees.
- Represents the Vice President at various site meetings and other functions as needed.

Please notify the DSP about:

- Board meeting schedules and other needs related to site boards and their work.
- Any issues with which you need assistance in working with other National Trust departments.
- Any significant changes or transitions at your site, especially related to board governance and general management issues.
- Any events or meetings you would like her to attend.

The DSP will notify you or designated site staff members about:

- Major policies at the National Trust that could affect your board structure or governance policies.
- Major policies at the National Trust that could affect overall site management.
- If she plans to visit your site and any follow-up observations or reports.

# I. National Trust + Stewardship

## VICE-PRESIDENT OF HISTORIC SITES

James M. Vaughan, Vice-President, Stewardship of Historic Sites
(202) 588-6146 jim_vaughan@nthp.org

### Experience and Qualifications

Jim Vaughan has served as Vice-President, Stewardship of Historic Sites, at the National Trust for Historic Preservation since April, 2000. Before joining the National Trust, he served as director of four historic sites/historical organizations: Historic Strawbery Banke in Portsmouth, New Hampshire; Hagley Museum in Wilmington, Delaware; the San Diego Historical Society, San Diego California; and, The Hermitage, Home of President Andrew Jackson, near Nashville, Tennessee.

Jim is active in both the American Association for State and Local History and the American Association of Museums. He has been elected to the AASLH Council and Executive Committee and has served as the chair of six different committees including the Historic House committee. At AAM he serves as a peer reviewer for the MAP and Accreditation programs. He also serves as a peer reviewer for National Endowment for the Humanities and Institute of Library and Museum Sciences. In 2002 and 2007 Jim organized and convened two invitational conferences on the future of the nation's Historic Sites.
In 1999 Jim received AAM's initial Superior Volunteer Service award. In 2006, Jim was named to the American Association of Museum's Centennial Honor Roll. This honor recognizes 100 American museum leaders of the past century who have demonstrated leadership to the field and service to the public throughout their careers and who have worked to innovate, improve and expand how museums in the United States serve the public.

Jim received a B.A. in History and M.A. in Higher Education from the Ohio State University and completed his course work and doctoral exams in American History at the University of New Hampshire.

### Services the Vice-President, Stewardship of Historic Sites Provides

- Overall management of National Trust historic sites and the historic sites department.
- Liaison between historic sites and the various departments of the National Trust.
- Liaison between the National Trust and historic site boards.
- Approval of site strategic and master planning.

*Chesterwood Studio*
*Stockbridge, Massachusetts*

# REGULATORY REVIEW

## A. Overview

Most of our sites are listed in the National Register of Historic Places, many are National Historic Landmarks and many are contributing components to local historic districts as well. While every site and project will be slightly different, it is important to note that nearly every type of construction action on any of our sites will require some type of regulatory review or compliance process. Before a project is begun, and even before a contract is signed with any design consultant or contractor, a determination shall be made regarding the type of regulatory review that will be required. The Graham Gund Architect will work with the site staff to identify the actions and approvals that will be required. In most instances the site staff is responsible for managing the approvals process, but the GGA would be happy to assist with public hearings and meetings on complicated construction or alterations projects. It is important to note that the Vice President of Historic Sites and the GGA must be informed of any regulatory review actions PRIOR to their initiation and all proposed projects must be approved by them PRIOR to initiating discussions with local, state and federal officials.

*Frank Lloyd Wright Home and Studio*
*Oak Park, Illinois*

Examples of regulatory review actions include:

- Section 106: Any project at a National Register-listed resource using government funding or requiring government permits may trigger a Section 106 action. (Section 106 is a chapter of the National Historic Preservation Act which in essence protects the people from the actions of the government.) Section 106 is a complicated review process that usually results in Memoranda of Agreements between various parties including federal agencies, the Advisory Council on Historic Preservation, the State Historic Preservation Officer, the owner, and local/state preservation organizations. For example, at Woodlawn, we have been involved with a Section 106 action for many years where Federal Highways is expanding a road adjacent to the site, resulting in a "taking" of our land. We continue to be in negotiations regarding the appropriate mitigation for our loss of land.

- National Historic Landmarks: Construction projects and changes to any National Historic Landmark must be reviewed by the National Historic Landmark Advisory Board of the National Park Service.

- Federal Grants: Any project using federal grants such as Save America's Treasures, Institute of Museum & Library Sciences, etc must be reviewed by the State Historic Preservation Office and the National Park Service.

# II. Regulatory Review

- Rehabilitation Investment Tax Credits: Any project that involves tax credits will typically require approval of the State Historic Preservation Office and the National Park Service and must meet the *Secretary of the Interior's Standards for Treatment of Historic Properties* (discussed in the next section).

- Local Preservation Ordinances: Any site listed in a local historic district as an individual landmark or as a contributing component to a historic district must have any projects approved by the local preservation body - sometimes a city, town or county.

## How to Start a Project and Avoid Problems with Compliance

When putting together a project team, representatives of the regulatory authorities should be included in the beginning as core team members. Your project will proceed much more smoothly if all the organizations and agencies having a stake in your project are consulted and involved from project initiation.

The rest of this chapter is dedicated to information on the Secretary of the Interior's Standards. Below are some suggestions for publications which every site should have on hand.

## What You Should Have On Hand At Your Site

While you can download all of the Secretary of the Interior's Guidelines, it is helpful to have the actual "manuals" on hand. You should minimally have the following in your site library:

1. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Illustrated Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.* Kay D. Weeks and Anne E. Grimmer.

2. *The Secretary of the Interior's Standards for Rehabilitation with Illustrated Guidelines for Rehabilitating Historic Buildings.* W. Brown Morton III, Gary L. Hume, Kay D. Weeks, and H. Ward Jandl.

3. *The Secretary of the Interior's Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes (rev. 1996).* Charles Birnbaum.

These can all be purchased online at http://www.nps.gov/history/hps/bookstore.htm.

*Acoma Pueblo*
*Acoma, New Mexico*

## B. Compliance with the Secretary of the Interior's Standards

Work at National Trust Historic Sites will be planned, designed and completed in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (rev. 1995). National Trust Historic Sites voluntarily choose to comply with the Standards for all projects, with or without federal funds or local ordinance requirements.

Because National Trust Historic Sites are privately owned, formal State Historic Preservation Office (and sometimes the Advisory Council on Historic Preservation) review for compliance with the Standards only occurs when required by the funding source or local (state, county, or municipal) code or ordinance. Official review and approval for compliance with the Standards is always required for design and construction projects receiving federal grants or part of a Section 106 action.

The *Secretary of the Interior's Standards for the Treatment of Historic Properties* are common sense principles in non-technical language. They were developed by the U.S. Department of the Interior, National Park Service, to help protect our nation's irreplaceable cultural resources by promoting consistent preservation practices. The *Standards* may be applied to all properties listed in the National Register of Historic Places or determined eligible for listing: buildings, sites, structures, objects, and districts. The Standards are a series of concepts about maintaining, repairing and replacing historic materials, as well as designing new additions or making alterations. (From the Standards, www2.cr.nps.gov/TPS/secstan1.htm#intro)

There are three separate components that comprise the Standards:

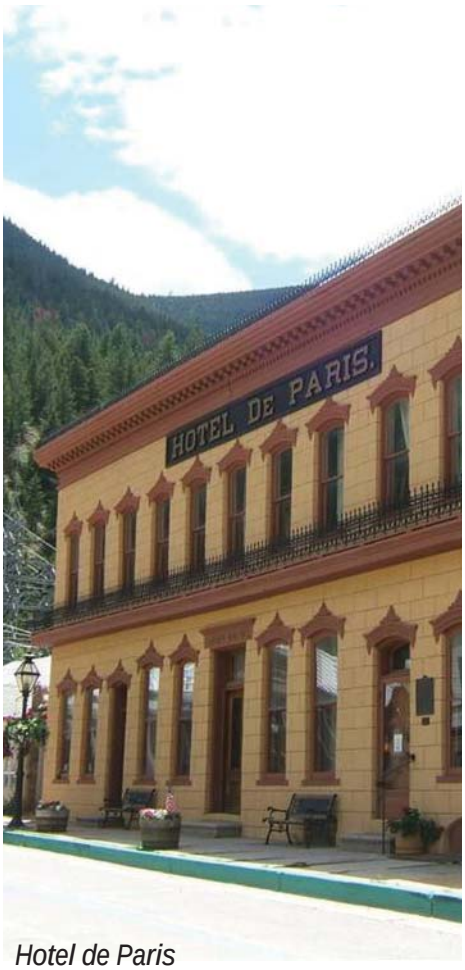
1 - *The Standards for the Treatment of Historic Properties (*referenced above). These Standards are the ones most commonly used at our sites.

2 - *Standards and Guidelines for Archaeological Documentation* (see section C).

3 - *Guidelines for the Treatment of Cultural Landscapes* (see section D).

### Preservation Briefs

Preservation Briefs provide guidance on preserving, rehabilitating and restoring historic buildings and support the the Secretary of the Interior's Standards. Currently there are 47 Preservation Briefs which can all be downloaded from the National Park Service website http://www.nps.gov/history/hps/tps/briefs/presbhom.htm.




*Hotel de Paris*
*Georgetown, Colorado*

# II. Regulatory Review

These Briefs provide invaluable advice on the best practices for evaluating the existing conditions of existing buildings and materials and provide a sound basis for many preservation methodologies. The first step in any preservation project should be to review the relevant *Preservation Briefs*. All construction projects at National Trust historic sites should reference the relevant Briefs in the construction documents, particularly the Specifications.

## Treatments

The Standards are neither technical nor prescriptive, but are intended to promote responsible preservation practices that help protect our Nation's irreplaceable cultural resources. For example, they cannot, in and of themselves, be used to make essential decisions about which features of the historic building should be saved and which can be changed. But once a treatment is selected, the Standards provide philosophical consistency to the work. The four treatment approaches are Preservation, Rehabilitation, Restoration, and Reconstruction, outlined below in hierarchical order and summarized.

### Preservation

The Act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

### Rehabilitation

The Act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural or architectural values.

### Restoration

The Act or process of accurately depicting the form, features and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

### Reconstruction

The Act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time in its historic location.


*Rehabilitated Gaylord Building*
*Lockport, Illinois*

*Restoration at Montpelier*
*Orange, Virginia*

*Preservation at Drayton Hall*
*Charleston, South Carolina*

Choosing the most appropriate treatment for a building requires careful decision-making about a building's historical significance, as well taking into account a number of other considerations:

Relative importance in history. Is the building a nationally significant resource--a rare survivor or the work of a master architect or craftsman? Did an important event take place in it? National Historic Landmarks, designated for their "exceptional significance in American history," or many buildings individually listed in the National Register often warrant Preservation or Restoration. Buildings that contribute to the significance of a historic district but are not individually listed in the National Register more frequently undergo Rehabilitation for a compatible new use.

Physical condition. What is the existing condition--or degree of material integrity--of the building prior to work? Has the original form survived largely intact or has it been altered over time? Are the alterations an important part of the building's history? Preservation may be appropriate if distinctive materials, features, and spaces are essentially intact and convey the building's historical significance. If the building requires more extensive repair and replacement, or if alterations or additions are necessary for a new use, then Rehabilitation is probably the most appropriate treatment. These key questions play major roles in determining what treatment is selected.

*Oatlands*
*Leesburg, Virginia*

Proposed use. An essential, practical question to ask is: Will the building be used as it was historically or will it be given a new use? Many historic buildings can be adapted for new uses without seriously damaging their historic character; special-use properties such as grain silos, forts, ice houses, or windmills may be extremely difficult to adapt to new uses without major intervention and a resulting loss of historic character and even integrity.

Mandated code requirements. Regardless of the treatment, code requirements will need to be taken into consideration. But if hastily or poorly designed, a series of code-required actions may jeopardize a building's materials as well as its historic character. Thus, if a building needs to be seismically upgraded, modifications to the historic appearance should be minimal. Abatement of lead paint and asbestos within historic buildings requires particular care if important historic finishes are not to be adversely affected. Finally, alterations and new construction needed to meet accessibility requirements under the Americans with Disabilities Act of 1990 should be designed to minimize material loss and visual change to a historic building.

(The previous two pages have been abstracted from the National Park Service's website: http://www.nps.gov/history/hps/tps/standguide/overview/choose_treat.htm)

# II. Regulatory Review

The National Trust for Historic Preservation is a *Preservation* organization. It is our policy to acquire sites which have high integrity and tell the many-layered story of America. We begin all of our projects by assuming that we are "preserving" them. There are occasions however, when one of the other three treatments may be appropriate.

## Examples of Various Treatments at Historic Sites

Preservation - Drayton Hall: The mansion at Drayton Hall is probably the most well-known and perfect example of "preservation" in the United States. When the site was acquired by the National Trust, it was decided to keep the mansion in the exact state that it was received. Conservation treatments are applied to decorative paints and finishes to maintain them in their existing state. Mechanical and electrical systems have not been added, and the house is exhibited without furnishings.

Rehabilitation - Gaylord Building: The Gaylord Building was built as a warehouse to store canal construction materials and over the years has housed a store, grain storage and a plumbing supply house. Today the building contains a restaurant, office space and gallery space and as such is an excellent example of adaptive use.

Restoration - Robie House: Robie House, Frank Lloyd Wright's extraordinary example of his Prairie Style, has been undergoing a restoration since the National Trust became the co-steward for the site (which is owned by the University of Chicago). Over the years, since it had gone out of private hands, a variety of inappropriate alterations had been made to the house to accommodate business and university functions. Given the significance of this site, the decision was made to return the house back to its original 1910 splendor. http://www.wrightplus.org/robiehouse/restoration/restoration.html

Restoration - James Madison's Montpelier: The restoration of the mansion at Montpelier is the most comprehensive restoration project ever undertaken at a National Trust historic site and one of the most exhaustive restorations undertaken in the country since the restoration of Colonial Williamsburg. Decades of alterations to the house made by the owners subsequent to the Madisons had more than doubled the original Madison house. The house was restored back to its 1817 form following a very thorough research project. http://www.montpelier.org/restore/index.php

Reconstruction - There are no National Trust Historic Sites that represent the reconstruction treatment option. Colonial Williamsburg is probably the most well-known historic site which uses reconstruction as one of its primary approaches. http://www.history.org/history/ Another site that uses a combination of restoration and reconstruction is Old Salem in Winston-Salem, North Carolina, http://www.oldsalem.org

*Reconstructed Governor's Palace*
*Williamsburg, Virginia*

*Robie House Dining Room after Restoration*
*Chicago, Illinois*

## Notes

[1] A shovel test pit most commonly consists of a round hole about one foot in diameter. The hole is excavated until sterile subsoil (no sign of human occupation) is reached, or until it can no longer be dug due to depth.

*Cooper-Molera Adobe Kitchen Dig Monterey, California*

## C. ARCHAEOLOGY STANDARDS

All work at National Trust Historic Sites will be planned, designed and completed in compliance with the Secretary of the Interior's Standards and Guidelines for Archeological Documentation (see www.cr.nps.gov/local-law/arch_stnds_7.htm for full details of the Standards as well as Guidelines).

*"Archeological documentation is a series of actions applied to properties of archeological interest. Documentation of such properties may occur at any or all levels of planning, identification, evaluation or treatment. The nature and level of documentation is dictated by each specific set of circumstances. Archeological documentation consists of activities such as archival research, observation and recording of above-ground remains, and observation (directly, through excavation, or indirectly, through remote sensing) of below-ground remains. Archeological documentation is employed for the purpose of gathering information on individual historic properties or groups of properties. It is guided by a framework of objectives and methods derived from the planning process, and makes use of previous planning decisions, such as those on evaluation of significance. Archeological documentation may be undertaken as an aid to various treatment activities, including research, interpretation, reconstruction, stabilization and data recovery when mitigating archeological losses resulting from construction. Care should be taken to assure that documentation efforts do not duplicate previous efforts."* ( excerpted from ***Secretary of the Interior's Standards for Archeological Documentation***)

The Senior Archaeologist is responsible for the preservation and management of all archaeological resources at National Trust Historic Sites. The first and best option regarding archaeological sites is to leave them undisturbed. However, this is not always possible, and archaeological interests and construction requirements are often not compatible. In cases where sites cannot be left undisturbed, or there is not enough information about the area in question, steps must be taken to gain as much information as possible, before their destruction and/or disturbance. By the same token, it is readily acknowledged that not all archaeological sites are of equal importance. Therefore each must be evaluated and treated accordingly. Such evaluation and treatments consist of the following steps:

1. Phase I - Survey: A basic survey consists of shovel test pits[1] and/or surface collection. Generally Phase I is used to determine the presence or absence of sites and their limits. The cost of Phase I work depends on the size and topography of the area to be surveyed, but is the least intensive and consequently usually the least expensive. Phase I information can then be used to provide a predictive model and a management plan for a property. It should be remembered, however, that this is only a preliminary sampling and once completed, not everything is known. For example, at Montpelier the Phase I survey (done at a very broad scale due to the size of the property) completely missed the foundation of the 1760s kitchen that staff ultimately worked on for six seasons. The survey, however, did suggest that the general area was

archaeologically sensitive, and the foundation was found during subsequent Phase II testing. We have also gone back and done tighter survey in areas that were not addressed or which were about to undergo more extensive disturbance, such as logging.

2. Phase II - Testing: Excavation of small units or controlled surface collection to determine site integrity. Phase II is conducted on sites within potential impact areas to determine the extent of further work (if any) necessary for a site, or if avoidance of the site during construction should occur. The kitchen mentioned above was found because drainage correction measures called for a ditch through the area. Based on the Phase I survey, staff recognized that the area was sensitive and therefore required Phase II testing, which led to the discovery of the foundation.

This phase generally requires relatively little time and money (a 2-4 person crew, at 5-10 days per site). Phase II, however, is only an interim measure in many cases, with the possibility of Phase III to follow. Generally, if the results of Phase II show that the area in question is of low archaeological potential, then monitoring of ground disturbing activities at the time of construction will be sufficient. This has worked very well in the past, and again using Montpelier as an example, by working on the design phase with the contractors, and based on the Phase I and some Phase II results, staff monitored the installation of more than three miles of water and sewer pipes, encountering only three sites. One site was documented and let go, one was avoided through a minor adjustment in a pipe line route, and one was mitigated on the spot. The work was never held up, since the contractors worked in other areas while the needed archaeology was accomplished.

3. Phase III - Extensive excavation: This is the most costly and time-consuming phase since it requires almost total excavation of a site (or total excavation if the site will be destroyed). Sites can also undergo what amounts to Phase III when they are the subject of research, such as has been done with several sites at Drayton Hall and Montpelier.

To accomplish a given construction project, steps must be taken to gain as much information as possible about areas to be affected. In many sections of a property there are critical sites (and in other cases we know nothing about the property's resources) that would require considerable time and money to investigate. This expenditure can be avoided or ameliorated if:

1. Effective communication and cooperation among all parties concerned (archaeologists, architects, engineers, construction managers, contracting consultants, contractors, laborers, property staff and Headquarters staff) is maintained;

2. The archaeological staff is consulted, briefed and allowed to make recommendations as soon as even the most preliminary planning commences; and

*The Front Lawn of Montpelier where extensive archaeology helped to determine the location and type of original fencing and entry gate, Orange, Virginia.*

3. The recommendations of the archaeologists are considered and any problems, alternatives, etc. are discussed with them before further planning ensues.

Any construction project which will disturb the ground should be discussed with the Senior Archaeologist prior to project initiation. The Senior Archaeologist will help the site's staff determine the appropriate project approach. (This section was prepared by Lynne Lewis, Senior Archaeologist of the National Trust.)

## Archaeology & Landscapes

At the National Trust we call our historic places "historic sites" because we are preserving not just buildings but all of the context - buildings, structures, archaeological resources and landscapes. Rarely will a project impact only one component of our historic site. Therefore, it is crucial that the site staff understand the intricacies and impacts of any project. The Graham Gund Architect is often the first National Trust professional informed about projects and it is her responsibility as an architect to ensure that all the appropriate professionals - both Headquarter's staff and consulting staff - are involved from the beginning.

Landscapes are often the most overlooked component of our sites, due in part to the fact that the Trust does not have a staff Landscape Architect position. The National Park Service has developed Cultural Landscape guidelines to supplement and support the "building" guidelines. *A Cultural Landscape is a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.* On the following pages, an overview of the Cultural Landscape Standards is provided, with more details since it tends to be the most overlooked of the site components.

*English Renaissance Garden at Filoli Woodside, California*

# II. Regulatory Review

## D. CULTURAL LANDSCAPE STANDARDS

All work at National Trust Historic Sites will be planned, designed, and completed in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes (rev. 1996). National Trust Historic Sites voluntarily choose to comply with the Standards for all projects, with or without federal funds or local code requirements.

The National Trust does not have a staff landscape architect. All landscape issues - from removing trees to planting new materials to repaving driveways, etc., must be approved by the Graham Gund Architect.

As adapted from then Secretary of the Interior's Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes (rev. 1996):

### Treatments

In general, treatments for preservation, rehabilitation, restoration, and reconstruction must emphasize protection of the cultural landscape, maintenance, and repair. General guidelines to follow:

- Identify, Retain, and Preserve Historic Materials and Features.
- Stabilize and Protect Deteriorated Historic Materials and Features as a Preliminary Measure.
- Maintain Historic Features and Materials.
- Repair Historic Features and Materials.
- Limit Replacement In-Kind of Extensively Deteriorated Portions of Historic Features.

Treatments are categorized according to the features of the cultural landscape for preserving, rehabilitating, restoring, and reconstructing cultural landscapes. The listed guidelines should be followed:

#### Spatial Organization and Land Patterns

- Prior to beginning project work, document all features contributing to the evolution of the spatial organization and land patterns of the landscape.
- Stabilize features that define spatial organization and land patterns.
- Protect spatial organization and land patterns that extend beyond a landscape.

#### Topography

- Document topographic variation prior to work (shape, slope, elevation, aspect, and contour).
- Use archival resources to understand the evolution of the topography.
- Respect the character of the landform.
- Repair declining topographic features.

*African American Cemetery at Drayton Hall*
*Charleston, South Carolina*

*Invasive weeds at Cooper-Molera Adobe, Monterey, California*

*Well maintained path at Brucemore Cedar Rapids, Iowa*

Vegetation

- Identify, retain, and preserve existing vegetation. Document broad cover types.
- Evaluate the condition and determine the age of vegetation prior to project work.
- Retain and perpetuate vegetation through propagation (seed collection and genetic stock cuttings).
- Use non-destructive methods and perform daily, seasonal, and cyclical tasks
- Utilize maintenance practices which respect habitat, form, bloom, fruit, and color.
- Utilize historic horticultural and agricultural maintenance practices when those techniques are critical to preserving the historic character of the vegetation.
- Rejuvenate vegetation by corrective pruning, deep root watering or fertilizing, aerating soil, and/or grafting onto historic genetic stock.
- Practice proper maintenance practices for water reduction.
    - Prune minimally. Topiary pruning is to be avoided at all costs as it increases water use and stresses plants.
    - Fertilize only enough for plant health, and ideally use a slow release fertilizer.
    - Aerate and de-thatch the lawn once a year to improve infiltration and reduce runoff.
    - Remove weeds, as they use valuable water. Maintain the irrigation system in good working order, and change water cycles with the season.
    - Stabilize vegetation by staking, cabling, reinforcing, or other appropriate methods, in particular vegetation that serves to protect historic or archaeological resources.
- Control invasive or inappropriate volunteer plant materials.
- Protect below-ground root systems from soil compaction.
- Protect tree trunks and limbs from damage by equipment (mowers, weed wackers, and plows).
- Use temporary shoring methods until more permanent methods can be undertaken.
- Monitor use of circulation features and materials.
- Replace in-kind a single plant or an entire plant grouping when the vegetation is too deteriorated or damaged to be saved.

Circulation

- Document all circulation features – small paths to larger transportation corridors.
- Evaluate the existing condition and determine age of circulation systems.
- Repair surface treatment, materials, and edges.

Water Features

- Document shape, edge, and bottom condition/material; water level, movement, sound and reflective qualities; and associated plants and animal life and water quality prior to work.

- Evaluate the condition and, where applicable, the evolution of water features over time.
- Maintain the mechanical, plumbing, and electrical systems to insure appropriate water depth or direction of flow.
- Repair water features by reinforcing materials or augmenting mechanical systems.

### Structures, Furnishings, and Objects

- Document existing features and retain the relationship among the landscape and its buildings, structures, furnishings, and objects.
- Evaluate the condition and determine the age of structures, furnishings, and objects.
- Retain the historic relationships between the landscape and its buildings, structure, furnishings, and objects.
- Reinforce historic materials with repair rather than replacement or destruction/disposal.
- Replace in-kind deteriorated features with new materials that match the old in composition, design, texture, and color.

### Accessibility Considerations

- Identify the cultural landscape's character-defining features, materials, and finishes.
- Comply with barrier-free access requirements and minimize the impact on the cultural landscape.
- Work with local accessibility and preservation specialists to determine the most appropriate solution to access problems which will have the least impact on character-defining features.
- Provide barrier-free access while preserving significant character-defining landscape features, materials, and finishes.

### Health and Safety Considerations

- Identify the cultural landscape's character-defining features, materials and finishes so that code-related work will not result in their damage or loss.
- Comply with health and safety code safety requirements, preserving character-defining features, materials and finishes.
- Remove toxic materials only after thorough testing has been conducted and only after less invasive abatement methods have been shown to be inadequate.
- Provide workers with appropriate personal protective equipment for hazards found in the worksite.
- Work with local code officials to investigate systems, methods, or devices of equivalent or superior effectiveness and safety to those prescribed by code so that unnecessary alterations can be avoided.
- Upgrade character-defining features to meet health and safety codes in a manner that assures their preservation. Install safety-related systems that result in the retention of character-defining features, materials, and finishes.
- Apply the necessary materials to add protection to character-defining features, materials and finishes.
- Add new features to meet health and safety codes in a manner that

*Bench on the grounds of Lyndhurst Tarrytown, New York*

*Protected tree trunks at Farnsworth House, Plano, Illinois*

preserves adjacent character-defining features, materials and finishes.

### Environmental Considerations

- Identify the cultural landscape's character-defining features, materials, and finishes so that environmental protection-required work will not result in their damage or loss.
- Comply with environmental protection regulations in such a manner that character-defining features, materials and finishes are preserved.
- Work with environmental protection officials to investigate systems, methods, devices or technologies of equivalent or superior effectiveness to those prescribed by regulation so that unnecessary alterations can be avoided.
- Reclaim or reestablish natural resources, promoting the highest degree of environmental protection.

### Energy Efficiency

- Retain and maintain historic energy efficient features or parts of features of the landscape.
- Improve energy efficiency of existing features through non-destructive means.
- Use salvaged materials.

*The Farm Barn Complex*
*Montpelier, Virginia*

# III. Building Codes + Zoning

## BUILDING CODES AND ZONING REGULATIONS

The historic sites of the National Trust must follow all building codes and zoning regulations of the jurisdiction in which they are located. Every site and every locale is different. Some states have a state code, and some cities have their own codes. Most jurisdictions have adopted one of the national codes, although there are a minority that have their own separate codes.

In addition, all historic sites of the National Trust must follow all OSHA standards, and regulations and laws regarding hazardous materials in their state – such as disposal of lead paint, and use of VOCs (volatile organic compounds). The National Trust does not endorse seeking waivers for the use of hazardous materials despite their previous use in historic properties.

### BACKGROUND ON CODES IN THE U.S.

The most prevalent standards and building codes in use in the United States are the International Building Code (IBC), Life Safety Code, NFPA 5000, and the ICC/ANSI accessibility standard.

The International Building Code and the ICC Family of Codes were first published in 2000 with subsequent editions published in 2003, 2006 and 2009. The ICC (International Council on Codes) was formed by 4 organizations in 1997 – the Building Officials and Code Administrators International, Inc. (BOCA), the International Conference of Building Officials (ICBO), the Southern Building Code Congress International (SBCCI) and the National Fire Protection Agency (NFPA), which eventually left the ICC and chose to update its own code separately. The ICC family of codes includes the IBC, the International Existing Building Code and 12 other specific codes. The ICC Codes are updated every 3 years, with the next update scheduled for 2012.

The first edition of the IEBC (International Existing Building Code) was published in 2003. It was the first of the new breed of codes to holistically address existing and historic buildings. The most important distinction in the ICC Codes is the difference between prescriptive codes and performance codes. The IEBC has a separate performance code publication that can be used in conjunction with it. A *prescriptive code* gives you a precise requirement so you know exactly what needs to be done to meet the code. A *performance code* gives you an objective but not the specifics of how to achieve it. It describes how to show equivalency. A performance-based code provides structure by stating an objective and providing an administrative process to follow. It shows the designer how to meet these objectives, how to document the results, and how to work with a code official to obtain final approval. An important component of determining equivalencies can be in finding comparable precedents. Many of those jurisdictions have worded their adoption of the IBC to accommodate the revisions which are expected to come out every three years, but some specifically reference a particular year, so it is important to identify which version

*Gaylord Building Staircase*
*Lockport, Illinois*

*Handicap Lift at Brucemore*
*Cedar Rapids, Iowa*

*Villa Finale Front Entrance*
*San Antonio, Texas*

has been adopted by your jurisdiction. The beauty of performance codes is that they allow and encourage creativity and alternative thinking in meeting the spirit of the code – something that works very well with historic and existing buildings. While the introduction of the ICC Family of Codes has helped to standardize some of the codes, it seems unlikely that we will ever have one national code.

### How To Work With Codes and the Building Department

It is important to identify which code your jurisdiction uses and become friends with your local building inspector. On the following two pages you will find a chart we have prepared which identifies the codes currently in use in the jurisdictions at each of our sites. This is intended to be a place to start, but please note, as codes are changed regularly, it may not provide the most up-to-date information. If you notice an error on the chart please let us know.

Prior to starting a construction project or making any changes to your site or buildings on it that involve life safety or codes (such as access, egress, plumbing, electrical, structural etc) please contact the Graham Gund Architect and your consulting architect if you have one on the project.

### Accessiblity

The Americans with Disabilities Act (ADA) was enacted in 1991 in order to ensure fair access to all buildings for all people. It is important to note that the ADA is a law, not a code. Many jurisdictions have adopted ADA as part of their code or reference it. An overview of the ADA Guidelines (ADAAG) can be found online at http://www.access-board.gov/adaag/html/adaag.htm#4.%20 ACCESSIBLE.

In general, access through the primary entrance should be provided whenever possible. A couple of key questions to ask yourself about your site are:
1. Can everyone enter and leave the site at the primary entrance? If not, what is the most equitable location for a fully accessible entrance?
2. Once in the building, can everyone reach the major program space, or office, etc?
3. Are there accessible restrooms?

It is of course more complicated than this, but this is a good place to start. Typically, any construction project should set aside 20% of its budget to improve or achieve accessibility. Every site should have an Accessiblity plan, and each time a project is undertaken, more components should be implemented when possible.

### Waivers for Historic Buildings

Many jurisdictions allow for waivers for certain elements in the code for registered historic buildings. The IEBC's performance code is one of the best tools for achieving code compliance with historic buildings. Do not assume, however, that because you have a historic site, you will be able to avoid bringing your building up to code. Contact the Graham Gund Architect early in the project to determine the best way to proceed.

# III. Building Codes + Zoning

**Table 1. Building Codes by Historic Site and State - Code Adoptions**

| State | Historic Site | City | County | Building Type | Code Adoptions | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Building | Mechanical | Plumbing | Electrical | Existing | Energy | Fire |
| CA | Cooper-Molera Adobe | Monterey | Monterey | A-3 | IBC 06 | UMC | UPC | NEC 05 | --- | --- | IFC 06 |
| | Filoli | Woodside | San Mateo | A-3 | IBC 06 | UMC | UPC | NEC 05 | --- | --- | IFC 06 |
| CT | Glass House | New Canaan | Fairfield | A-3 | IBC 03 | IMC 03 | IPC 03 | NEC 05 | IEBC 03 | IECC 03 | IFC 03 |
| DC | Decatur House | Washington, D.C. | Washington | A-3 | IBC 00 | IMC 00 | IPC 00 | --- | --- | IECC 00 | IFC 00 |
| | President Lincoln's Cottage | Washington, D.C. | Washington | A-3 | IBC 00 | IMC 00 | IPC 00 | --- | --- | IECC 00 | IFC 00 |
| | Woodrow Wilson House | Washington, D.C. | Washington | A-3 | IBC 00 | IMC 00 | IPC 00 | --- | --- | IECC 00 | IFC 00 |
| IL | Farnsworth House | Plano | Kendall | A-3 | IBC 03 | IMC 03 | 2004 IL State Plumbing Code | NEC 02 | --- | N/A for non-commercial bldgs | NFPA 101, 2000 Ed. |
| | Frank Lloyd Wright Home & Studio | Oak Park | Cook | A-3 | IBC 03 | IMC 03 | 2004 IL State Plumbing Code | IEC 03 | --- | N/A for non-commercial bldgs | IFC 03 |
| | Frederick C. Robie House | Chicago | Cook | C* | | | | | --- | | |
| | Gaylord Building | Lockport | Will | A-3 | IBC 00 | IMC 00 | 2004 IL State Plumbing Code | NEC 02 | --- | N/A for non-commercial bldgs | --- |
| IA | Brucemore | Cedar Rapids | Linn | A-3 | IBC 06 | UMC 06 | UPC 06 | NEC 05 | N/A | N/A | IFC 03 |
| LA | Shadows-on-the-Teche | New Iberia | Iberia | A-3 | IBC 06 | IMC 05 | Louisiana State Plumbing Code | NEC 05 | IEBC 06 | --- | --- |
| MA | African Meeting House | Boston | Suffolk | A-3 | IBC 03 | IMC 03 | IPC 03; Massachusetts State Plumbing Code | NEC 05 | --- | --- | --- |
| | African Meeting House | Nantucket | Nantucket | A-3 | IBC 03 | IMC 03 | IPC 03; Massachusetts State Plumbing Code | NEC 05 | --- | --- | --- |
| | Chesterwood | Stockbridge | Berkshire | A-3 | IBC 03 | IMC 03 | IPC 03; Massachusetts State Plumbing Code | NEC 05 | --- | --- | --- |
| NM | Acoma Sky City | Acoma | Cibola | A-3 | IBC 03 | --- | --- | --- | IEBC 03 | IECC 03 | --- |
| NY | Kykuit | Tarrytown | Westchester | A-3 | IBC 03 | IMC 03 | IPC 03 | --- | --- | IECC 03 | |
| | Lower East Side Tenement Museum | New York | New York | A-3 | IBC 03 | IMC 03 | IPC 03 | --- | --- | IECC 03 | IFC 03 |
| | Lyndhurst | Tarrytown | Westchester | A-3 | IBC 03 | IMC 03 | IPC 03 | --- | --- | IECC 03 | IFC 03 |
| PA | Cliveden | Philadelphia | Philadelphia | A-3 | IBC 06 | IMC 06 | IPC 06 | --- | IEBC 06 | IECC 06 | IFC 06 |
| RI | Touro Synagogue | Newport | Newport | A-3 | IBC 06 | IMC 06 | IPC 06 | --- | --- | IECC 06 | --- |
| SC | Drayton Hall | Charleston | Charleston | A-3 | IBC 06 | IMC 06 | IPC 06 | NEC 05 | --- | IECC 06 | IFC 06 |
| TX | Villa Finale | San Antonio | Bexar | A-3 | IBC 03 | IMC 06 | UPC 06 | --- | IEBC 06 | IECC 00 | IFC 06 |
| VA | Belle Grove | Middletown | Frederick | A-3 | IBC 06 | IMC 06 | IPC 06 | NEC 05 | IEBC 06 | IECC 06 | IFC 06 |
| | Montpelier | Orange | Orange | A-3 | IBC 06 | IMC 06 | IPC 06 | NEC 05 | IEBC 06 | IECC 06 | IFC 06 |
| | Oatlands | Leesburg | Loudoun | A-3 | IBC 06 | IMC 06 | IPC 06 | NEC 05 | IEBC 06 | IECC 06 | IFC 06 |
| | Pope-Leighey House | Alexandria | Arlington | A-3 | IBC 06 | IMC 06 | IPC 06 | NEC 05 | IEBC 06 | IECC 06 | IFC 06 |
| | Woodlawn | Alexandria | Arlington | A-3 | IBC 06 | IMC 06 | IPC 06 | NEC 05 | IEBC 06 | IECC 06 | IFC 06 |

**Building Type** *(As indicated in the 2006 International Fire Code)*
A-3 Assemblies intended for worship, recreation or amusement

**Abbreviations** *(Followed by year)*
IBC International Building Code
ICC International Code Council
IEBC International Existing Building Code (ICC component)
IECC International Energy Conservation Code (ICC component)
IFC International Fire Code (ICC component)
IPC International Plumbing Code, IAPMO Ed. (ICC component)

NEC 2005 National Electrical Code, NFPA-70

UMC 2006 Universal Mechanical Code, IAPMO Ed.
UPC 2006 Universal Plumbing Code

**Chicago Building Code - Occupancy Classification**
* Class C, assembly units (Section 13-56-070)

*Created August 2008*

**Table 2. Building Codes by Historic Site and State - City Specific Codes**

| State | Historic Site | City | County | Building Type | City Specific Codes | Website |
|---|---|---|---|---|---|---|
| CA | Cooper-Molera Adobe | Monterey | Monterey | A-3 | 2007 California Building Standards Code | http://www.co.monterey.ca.us/building/ |
| | Filoli | Woodside | San Mateo | A-3 | | |
| CT | Glass House | New Canaan | Fairfield | A-3 | 2005 Connecticut Building Code | http://www.ct.gov/dps/cwp/view.asp?Q=305412&a=2148 |
| DC | Decatur House | Washington, D.C. | Washington | A-3 | | |
| | President Lincoln's Cottage | Washington, D.C. | Washington | A-3 | District of Columbia Official Code<br>2008 District of Columbia Construction Codes | http://government.westlaw.com/linkedslice/default.asp?SP=DCC-1000<br>http://dcra.dc.gov/dcra/cwp/view,a,1342,q,623815,dcraNav,|33420|.asp |
| | Woodrow Wilson House | Washington, D.C. | Washington | A-3 | | |
| IL | Farnsworth House | Plano | Kendall | A-3 | 2005 Kendall County Building Code; 2004 Illinois State Plumbing Code | http://www.co.kendall.il.us/zoning/BLDCODE2005.pdf |
| | Frank Lloyd Wright Home & Studio | Oak Park | Cook | A-3 | 2004 Oak Park Building Codes and Standards; 1997 Illinois Accessibility Code (IAC), ADA, FHA | http://www.oak-park.us/Building_and_Property_Standards/Building_and_Property_Standards.html |
| | Frederick C. Robie House | Chicago | Cook | C* | 2008 Chicago Building Code; Chicago Energy Conservation Code | http://egov.cityofchicago.org/city/webportal/portalEntityHomeAction.do?entityName=Buildings&entityNameEnumValue=5 |
| | Gaylord Building | Lockport | Will | A-3 | 1997 Illinois Accessibility Code (IAC) | http://www.lockport.org/comdev_building.htm |
| IA | Brucemore | Cedar Rapids | Linn | A-3 | 661 Iowa Administrative Code; Iowa Code 103A.10 (Building Code); Iowa Code 104A.1 (Accessibility for Handicapped); Iowa Code 103A.10 (Commercial Energy Code); Iowa Code 104B.1 (Minimum Plumbing Facilities) | http://www.dps.state.ia.us/fm/building/index.shtml |
| LA | Shadows-on-the-Teche | New Iberia | Iberia | A-3 | International Fuel Gas Code | http://www.lsu.edu/sglegal/pdfs/International_BldgCodes_La.pdf |
| MA | African Meeting House | Boston | Suffolk | A-3 | Building Code 780 CMR, 6th Ed., 1997, Basic Code of the Massachusetts State Building Code | http://www.mass.gov/?pageID=eopsterminal&L=4&L0=Home&L1=Consumer+Protection+%26+Business+Licensing&L2=License+Type+by+Business+Area&L3=Home+Improvement+Contractor&sid=Eeops&b=terminalcontent&f=dps_bbrs_building_code&csid=Eeops |
| | African Meeting House | Nantucket | Nantucket | A-3 | | |
| | Chesterwood | Stockbridge | Berkshire | A-3 | | |
| NM | Acoma Sky City | Acoma | Cibola | A-3 | None specified | --- |
| NY | Kykuit | Tarrytown | Westchester | A-3 | 2007 New York Building Code; 2007 New York Energy Conservation | http://www.dos.state.ny.us/CODE/LS-CODES.HTML |
| | Lower East Side Tenement Museum | New York | New York | A-3 | | |
| | Lyndhurst | Tarrytown | Westchester | A-3 | | |
| PA | Cliveden | Philadelphia | Philadelphia | A-3 | The Philadelphia Code, 9th Ed., 2007 | http://www.amlegal.com/nxt/gateway.dll/Pennsylvania/philadelphia_pa/thephiladelphiacode?fn=altmain-nf.htm$f=templates$3.0&vid=amlegal:philadelphia_pa |
| RI | Touro Synagogue | Newport | Newport | A-3 | Rhode Island State Building Code | http://www.rules.state.ri.us/rules/released/pdf/DOA/DOA_3787.pdf |
| SC | Drayton Hall | Charleston | Charleston | A-3 | | http://www.fairfaxcounty.gov/dpwes/construction/codes_standards.htm |
| TX | Villa Finale | San Antonio | Bexar | A-3 | Local amendments to ICC - see website | http://www.sanantonio.gov/dsd/codes.asp |
| VA | Belle Grove | Middletown | Frederick | A-3 | | http://www.fairfaxcounty.gov/dpwes/construction/codes_standards.htm |
| | Montpelier | Orange | Orange | A-3 | Virginia Uniform Statewide Building Code (USBC), 2006 | |
| | Oatlands | Leesburg | Loudoun | A-3 | | http://www.loudoun.gov/Default.aspx?tabid=633 |
| | Pope-Leighey House | Alexandria | Arlington | A-3 | | |
| | Woodlawn | Alexandria | Arlington | A-3 | | http://www.fairfaxcounty.gov/dpwes/construction/codes_standards.htm |

**Building Type** *(As indicated in the 2006 International Fire Code)*
A-3 Assemblies intended for worship, recreation or amusement

**Chicago Building Code - Occupancy Classification**
* Class C, assembly units (Section 13-56-070)

*Created August 2008*

# IV. Managing Buildings & Grounds

On-site staff are responsible for certain duties including visitor and staff safety, construction project management, ongoing care of buildings and grounds, as well as the maintenance of records and documents regarding building and landscape work. Preparation and perpetuation of the Essential Projects List, the Disaster Response Plan and the Cyclical Maintenance Plan are also part of these duties.

## Working with National Trust Headquarters Staff

The Graham Gund Architect is the primary contact between Building Management staff at the site and National Trust Headquarters staff. She is the first person who should be contacted with questions about projects, procedures and approaches involving buildings and landscapes.

Staff working at the historic site oversee the maintenance and preservation of the site - from daily buildings and grounds maintenance to overseeing contractors during preservation work. Typically, one person who reports to the Site Director has this responsibility. Historic Sites use different titles and may choose to divide responsibilities among several staff, hourly employees, professional consultants or vendors. In this manual, the term Building and Grounds Manager (or Manager) refers to any combination of staff, volunteers, and professional consultants who perform these duties.

## Building and Grounds Manager Qualifications

The Building and Grounds Manager must have appropriate training and experience in the preservation skills necessary to care for, or manage the care of, the Historic Site. Consistent with the Site's Cyclical Maintenance Plan (see below), the Manager monitors the condition of the buildings and grounds, and reports on the preservation needs. The Manager must look after the general upkeep of the facilities, ensuring that utility systems such as electric, fire alarm, fire suppression (if any) and site security are fully functioning. The Manager provides copies of work plans and budgets for site maintenance and capital improvements needs, including a periodic listing of Critical Priorities[2] , if any, with cost estimates and other pertinent information to the Graham Gund Architect of the National Trust for reports to the National Trust Board of Trustees.

The Manager acts as the Site's representative to vendors, contractors and other professionals visiting, working, or engaged in construction activities at the site. The Manager observes the progress of preservation work activities, and keeps the Graham Gund Architect appropriately informed.

<u>Disaster Response Plan:</u>
The Manager keeps the Site prepared for emergencies by compiling a Disaster Response Plan that accounts for possible emergencies at the site, including weather, medical, construction, and fire emergencies. The Manager is responsible for ensuring that staff, vendors, contractors, and consultants know and understand the sections of the Disaster Response Plan that apply to their work at the site.

## Notes

[2] The Historic Sites Fund (HSF) exists to provide grants to the National Trust Historic Sites for the restoration and conservation of their collections, additions to collections, and capital additions to endowment. The HSF is governed by a Committee, and the limited funds have typically focused on preservation and conservation needs. The Committee may award up to a 2:1 match for projects classified "Critical Priority" by Historic Sites staff. Refer to the HSF Manual and Guidelines for more details on the HSF and definition of the term "Critical Priority."

*Belle Grove Main Entrance*
*Middletown, Virginia*

Cyclical Maintenance Plan(s):
The Manager writes and perpetuates the maintenance plan in order to foster more planned and less unexpected maintenance. With good prediction, action can precede system failure, material loss, or unnecessary decay/ damage to landscape features. Cyclical work items are listed and scheduled, with the advantage that both staff and finances are budgeted in advance of the need. Unexpected maintenance, especially in response to a crisis or emergency, is undesirable because it corresponds with loss of historic fabric and authenticity, and ultimately decreases the cultural value of the property.

For a detailed description of the duties, work objectives, and qualifications of a Buildings and Grounds Manager, see *Attachment C*. The Position Description is a sample only, and should be modified to suit individual site needs.

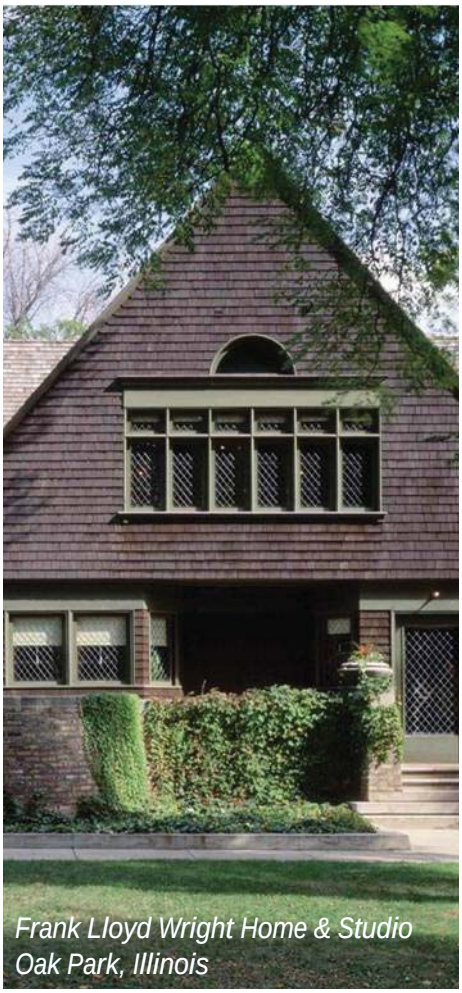
For more information on Disaster Plans and Cyclical Maintenance Plans, see *Sections IX and X* in this Manual.

## Other Names for the Buildings & Grounds Manager

Sites will have different staff positions and numbers of staff depending on their budget, their resources and their location. Some sites may have just one paid staff person who acts as Site Director, Building & Grounds Manager,Tour Guide and Curator. Farnsworth House is an example of this structure.

Other sites have a Site Director, a Curator/Buildings & Grounds Manager and Interpretive Staff. Woodrow Wilson House, Cliveden and Decatur House are examples of this type.

Larger sites may have a Site Director, a Preservation/Restoration Director, a Buildings and Grounds Manager, Curatorial Staff, and Intrepretive Staff. Drayton Hall, Lyndhurst and the Lower East Side Tenement Museum are examples of this type. Drayton Hall and Montpelier are currently the only sites with archaeologists on staff.



*Frank Lloyd Wright Home & Studio*
*Oak Park, Illinois*

# V. Documentation

## DOCUMENTATION OF EXISTING STRUCTURES AND LANDSCAPE FEATURES

A record set of drawings and photographs should exist for all primary historic resources at each of our historic sites. Conditions always need to be documented prior to any physical change that will cause information to be temporarily obscured or lost forever. Documentation of 'as-built' conditions following a construction project is also necessary.[3] As-built documents are required as part of the architectural services on all construction projects for Stewardship sites and many Co-Stewardship sites. It is good and sound stewardship practice to require as-builts since there are often many changes and decisions made in the field on construction projects involving existing and hisoric buildings.

### Historic American Building Survey (HABS)

Good documentation and records of physical conditions are essential for the effective and successful long-term care of a Historic Site. Before making any changes to the fabric of a site that will cause information to be temporarily obscured or forever lost, it is important to carefully document the existing structure so that information about it is easily accessible for future reference. The Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER), and the Historic American Landscape Survey (HALS), form a component of the federal government's involvement in historic preservation. The published guidelines for HABS/HAER and HALS programs are a useful reference for any historic preservation project - private or public. A complete set of HABS/HAER or HALS documentation (measured drawings, large-format photographs, and written history) provides information about the structure or landscape at the time of documentation, before any preservation work, construction, or demolition occurs. For more detailed information, the website at the end of this section provides further details.

All structures at National Trust Historic Sites warrant an appropriate level of documentation. Full and complete sets of drawings and photographs are not always necessary for every structure or feature, but more documentation is always safer than less. Consult with the Graham Gund Architect to determine the appropriate level of documentation on a case by case basis.

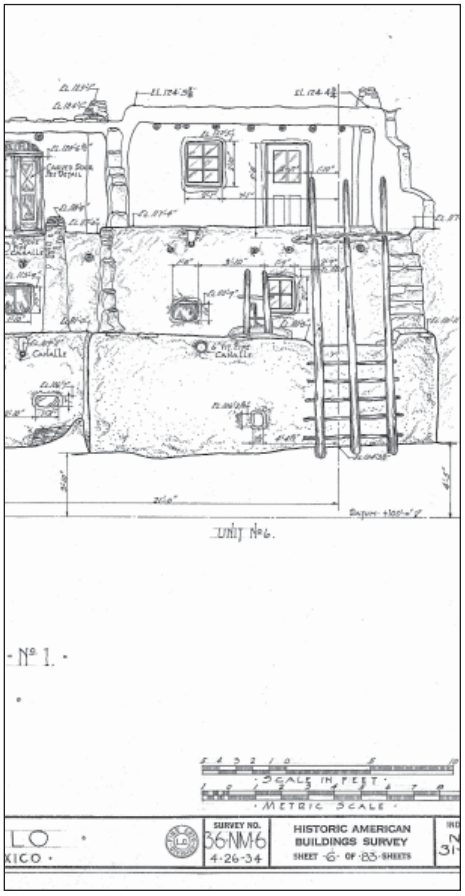
Measured drawings portray conditions at the time of documentation, including the accretions, alterations, and deletions that have occurred since the original construction. Hidden elements, exploded views, sequences of construction, and functional processes are easily portrayed in a drawing. Each set of HABS/HAER or HALS drawings generally includes plans, elevations, sections, details and a cover sheet with a site plan and written information. See the National Park Service website referred to in this section for more details.

### Notes

[3] Projects funded by an HSF grant are required to submit a completion report, which often includes a record set of as-built condition drawings. Refer to the HSF manual for further details.

Most construction projects at Stewardship sites require as-built documents as a final task in the contract. Co-Stewardship sites should also require as-built documents.

*HABS Measured Drawing*
*Elevation of Acoma Pueblo*
*Acoma Pueblo, New Mexico*



Large-format photographs can produce perspective-corrected, black-and-white images of overall views and details of important exterior and interior features of the structure or landscape feature. The photographs record textures, details, and spatial relationships not easily conveyed by drawings or the written word. Generally, black-and-white photographs are recommended due to their greater archival stability. To meet HABS standards, film must be at least 5x7 inches, and after processing, negatives and prints must be archivally stored. http://www.cr.nps.gov/habshaer/note/photos.htm

Written history places the structure within the appropriate context, addressing both the historical and architectural aspects of its significance. In discussing the origins and subsequent development of a structure, the historian also examines its relationship to regional and national trends, and considers associations with important persons or events. The history complements the existing condition drawings and photographs by documenting the changes and additions to the structure. HABS generally uses an outline format because it provides a checklist of the information being requested and ready accessibility to specific information. HAER favors a narrative format report that can take either a chronological or thematic approach depending on the complexity of the structure or site, or the number of factors that play into its significance.

*HABS Large Format Photograph of Central Staircase at Brucemore Cedar Rapids, Iowa*

There are several levels of HABS documentation - Levels I, II and III. Consult with the Graham Gund Architect to determine which level is appropriate for your project or site. Nearly every one of our sites has some level of HABS documentation. We prefer Level 1, the most detailed, whenever possible. The Historic Sites department has downloaded all HABS documentation that has been digitized on all of our sites. The list of HABS documentation available for each site is attached at the end of this section. If you would like these files please contact the Graham Gund Architect or the Associate Architect.

## Types of Documentation

While HABS/HAER documents are one of the most detailed types of physical records of the current state of a building and site, there are a variety of other types of reports, studies and documentation which each site should have at some level. Each National Trust site has been accepted, acquired or received because it tells an important part of the American story. Therefore, as a general policy, we recommend that each site conduct as detailed research as possible for its resources. Some sites have an incredible level of documentation while others may not. The Historic Sites Library at the Headquarters Buidling keeps all reports, studies, and sets of drawings for every building and project. We hope to develop a full digitization project of all of these very important resources at sometime in the future.

Descriptions of various types of documentation that each site would ideally have for its resources are detailed on the following pages. Most of these types of documentation are conducted by multi-disciplinary teams led by an architect.

# V. Documentation

## Historic Structure Reports (HSR)

Historic Structure Reports (HSRs) are the most detailed and most expensive levels of research and reporting that can be conducted on a building. We recommend that all of our primary resources have HSRs, but acknowledge that that may not be feasible. Cultural Landscape Reports are the landscape/natural resource companion to HSRs.

HSRs and CLRs are the key base research documents to have for a site. These documents set the stage for all further informed decisions. Without this information, it is often impossible to make truly informed decisions about treatments of the resources.

*Preservation Brief 43* is an excellent resource that describes all the components and uses for an HSR. A special issue of the *APT Bulletin, volume* XXVII, no. 1 (1997) informed much of the writing of this *Preservation Brief.* The Preservation Brief can be dowloaded at http://www.nps.gov/hps/tps/briefs/brief43.htm and APT members can download the Bulletin from the APT website, www.apti.org. The Historic Sites Department has copies of both of these resources and will provide them to sites upon request.

From the Introductory paragraph of Preservation Brief 43:
*A historic structure report provides documentary, graphic, and physical information about a property's history and existing condition. Broadly recognized as an effective part of preservation planning, a historic structure report also addresses management or owner goals for the use or re-use of the property. It provides a thoughtfully considered argument for selecting the most appropriate approach to treatment, prior to the commencement of work, and outlines a scope of recommended work. The report serves as an important guide for all changes made to a historic property during a project-repair, rehabilitation, or restoration-and can also provide information for maintenance procedures. Finally, it records the findings of research and investigation, as well as the processes of physical work, for future researchers.*

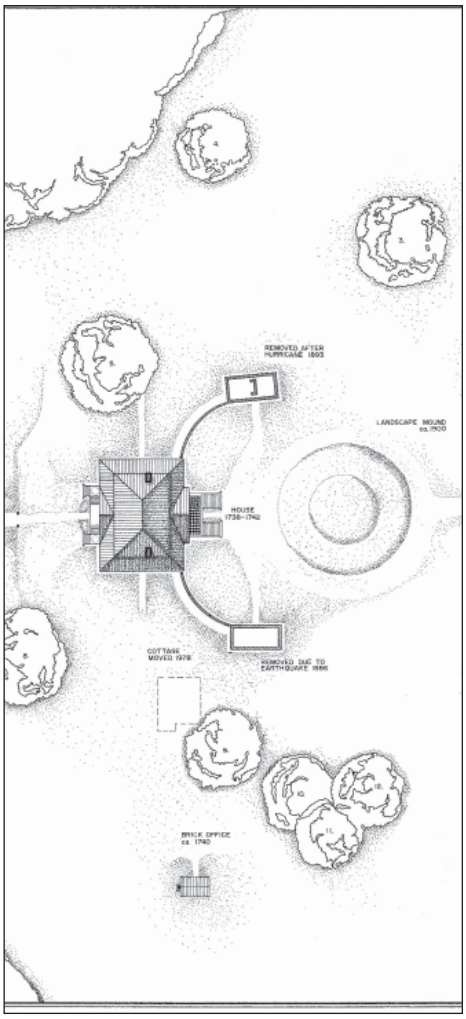
## Historic Landscape Reports/Cultural Landscape Reports

Historic Landscape Reports (HLRs) and Cultural Landscape Reports (CLRs) have become almost interchangeable. *Preservation Brief 36* is another invaluable National Park Service resource which provides information and resources for developing landscape reports. http://www.nps.gov/hps/tps/briefs/brief36.htm

The first few paragraphs of the Brief are worthy of providing here as they clearly describe the difference between Cultural and Historic Landscapes.

*Cultural landscapes can range from thousands of acres of rural tracts of land to a small homestead with a front yard of less than one acre. Like historic buildings and districts, these special places reveal aspects of our country's origins and development through their form and features and the ways they were used.*

*HABS Measured Drawing*
*Site Plan of Drayton Hall*
*Charleston, South Carolina*



*Cultural landscapes also reveal much about our evolving relationship with the natural world.*

*A* ***cultural landscape*** *is defined as "a geographic area,including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values." There are four general types of cultural landscapes, not mutually exclusive: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes. These are defined below.*

***Historic landscapes*** *include residential gardens and community parks, scenic highways, rural communities, institutional grounds, cemeteries, battlefields and zoological gardens. They are composed of a number of character-defining features which, individually or collectively contribute to the landscape's physical appearance as they have evolved over time. In addition to vegetation and topography, cultural landscapes may include water features, such as ponds, streams, and fountains; circulation features, such as roads, paths, steps, and walls; buildings; and furnishings, including fences, benches, lights and sculptural objects.*

*HABS Large Format Photograph*
*Clock tower at Filoli*
*Woodside, California*

*Most historic properties have a cultural landscape component that is integral to the significance of the resource. Imagine a residential district without sidewalks, lawns and trees or a plantation with buildings but no adjacent lands. A historic property consistsof all its cultural resources--landscapes, buildings, archeological sites and collections. In some cultural landscapes, there may be a total absence of buildings.*

*Definitions*

*Historic Designed Landscape--a landscape that was consciously designed or laid out by a landscape architect, master gardener, architect, or horticulturist according to design principles,or an amateur gardener working in a recognized style or tradition. The landscape may be associated with a significant person(s), trend, or event in landscape architecture; or illustrate an important development in the theory and practice of landscape architecture. Aesthetic values play a significant role in designed landscapes. Examples include parks, campuses, and estates.*

*Historic Vernacular Landscape--a landscape that evolved through use by the people whose activities or occupancy shaped that landscape. Through social or cultural attitudes ofan individual, family or a community, the landscape reflects the physical, biological, and cultural character of those everyday lives. Function plays a significant role in vernacular landscapes. They can be a single property such as a farm or a collection of properties such as a district of historic farms along a river valley. Examples include rural villages, industrial complexes, and agricultural landscapes.*

# V. Documentation

*Historic Site--a landscape significant for its association with a historic event, activity, or person. Examples include battlefields and president's house properties.*

*Ethnographic Landscape--a landscape containing a variety of natural and cultural resources that associated people define as heritage resources. Examples are contemporary settlements, religious sacred sites and massive geological structures. Small plant communities, animals, subsistence and ceremonial grounds are often components.*

## Preservation Plans

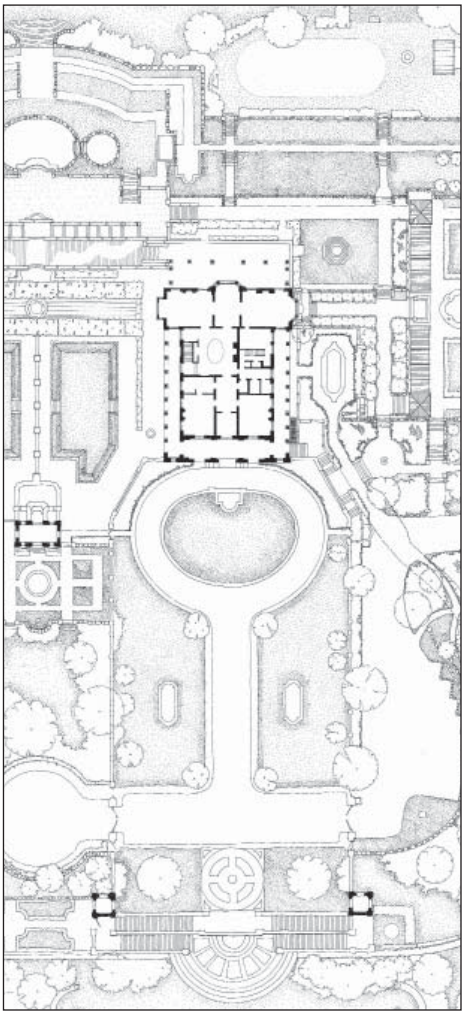
Preservation Plans tend to be prepared to assess and guide the effects of a proposed treatment or construction related capital project on the existing fabric of a property. Examples of such actions may include repair or replacement of historic fabric, change in use, systems upgrades, code compliance or accessibility upgrades, and hazardous materials abatement. Preservation Plans should include as much historical research and existing conditions documentation as is necessary to substantiate its recommendations but are not meant to be the complete documentary record of existing conditions that would be found in an HSR. Preservation Plans are similar to HSRs but: 1. Tend to be prepared immediately proceeding a specific capital improvement project and 2. The history of the construction, alterations, owners, and significant events at the property is abbreviated in detail and is generally limited to what is directly affected by the proposed project. (Abstracted from *Historic Structure Reports & Preservation Plans: A Preparation Guide" prepared by the New Jersey Historic Trust.)* Preservation Plans can be prepared for buildings, spaces, or landscapes.

## Site Master Plans

Site Master Plans are prepared to guide the comprehensive preservation and development of a total site or part of a site. These are not prepared as often as they should be for our sites. In order to complete a proper Site Master Plan, both HSRs and a CLR should have already been prepared or should be prepared as part of the Master Plan. This is crucial, because a clear understanding of the significance of the character defining features of the site is imperative in order to make sound and rational decisions about the future use and planning of the site.

A site master plan will typically divide the site into zones based on significance which identifies what type of treatments are allowed in each zone. Typically there are 4 zones. Zone 1 is the most sacred zone/s on the site with the most intact and significant resources in which Preservation Only is the recommended treatment. Zone 2 is the next most significant zone which either has had some alterations or whose features are not quite as significant as the primary resources in Zone 1. This still tends to be a Preservation Zone with some limited Rehabilitation allowed. Zone 3 is a Rehabilitation Zone in which the resources have been altered or are of secondary importance. Additions and upgrades are permitted.

*HABS Measured Drawing*
*Site Plan of Kykuit*
*Tarrytown, New York*



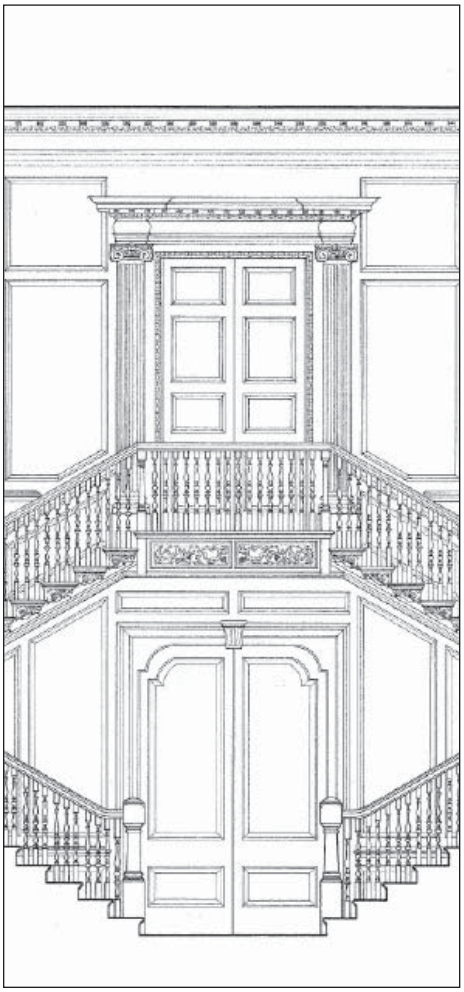
Zone 4 is a New Development zone in which no historic resources remain or have been so altered that new development or construction would not negatively impact them.

In order to make informed design and zoning decisions, an understanding of all resources on the site is required. These resources will include architecture, archaeology, topography, natural resources, landscape, collections.

## Existing Conditions Reports

Evaluations and investigations of certain aspects of buildings are key to understanding their physical and structural conditions prior to developing preservation, restoration or rehabiliation projects or sets of construction documents. While an HSR typically has some level of existing conditions reporting in it, separate Existing Conditions Reports tend to be more focused and detailed on a specific feature or project to help make informed architectural or engineering decisions. *Preservation Brief 35 - Understanding Old Buildings The Process of Architectural Investigation* is a great place to start to help you identify what level of research, documentation and development of options your site might need to undertake. See Preservation Brief 35 at http://www.nps.gov/history/hps/tps/briefs/brief35.htm.

*HABS Measured Drawing*
*Central Staircase of Drayton Hall*
*Charleston, South Carolina*



## Feasibility Studies

Feasibility Studies are typically very targeted studies to determine the financial and/or programmatic feasiblity for a very specific alteration, new use or building project.

## Cyclical Maintenance Manuals

The goal of preservation is to manage the inevitable deterioration of a building. In order to fulfill this goal, necessary measures must be taken to sustain the existing form, integrity, and materials of a historic property. Preservation aims to minimize replacement, and to emphasize protection, maintenance, and repair. In many respects, Cyclical Maintenance Manuals are the most important document your site can ever develop.

Cyclical Maintenance Manuals are useful tools for site staff which specify proper maintenance measures to reduce wear and deterioration, and to prolong the life of the building and site. The goal of these manuals is to provide a means for the site staff to prevent deterioration, treat problems, and document conditions and activity. Proper maintenance will mitigate minor problems before they advance and require major intervention. A typical maintenance manual provides a comprehensive preservation maintenance plan, covering the full range of maintenance activities from routine preventative tasks and condition surveys to hands-on treatment recommendations and documentation. For more details on preparing Cyclical Maintenance Manuals, see Section IX.

# V. Documentation

## Site Inventory of HABS Documentation stored on the N: / Drive, NTHP Server at Headquarters (Obtained from Library of Congress Website, http://memory.loc.gov/ammem/collections/habs_haer/)

ACOMA PUEBLO
- Written Historical and Descriptive Data
- Measured Drawings
- Photographs (Copies of Glass Photogrammetric Images)

ACOMA, SAN ESTEBAN DEL REY MISSION
- Written Historical and Descriptive Data
- Measured Drawings
- Photographs (Copies of Glass Photogrammetric Images)

AFRICAN MEETING HOUSE/ABOLITION CHURCH, BOSTON
- Written Historical and Descriptive Data
- Measured Drawings
- Large Print Photographs

AFRICAN BAPTIST SOCIETY CHURCH, NANTUCKET
- Written Historical and Descriptive Data
- Measured Drawings
- Large Print Photographs

BELLE GROVE
- Written Descriptive Data
- Measured Drawings
- Large Print Photographs

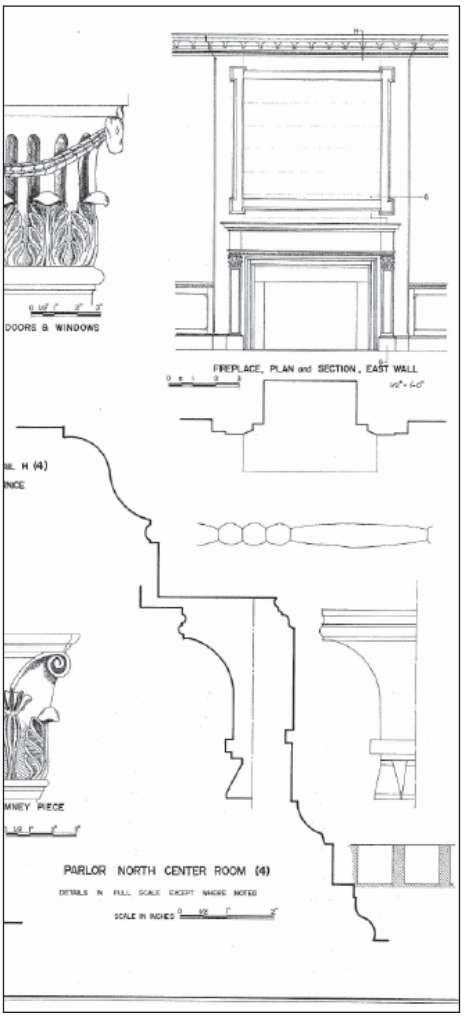
BRUCEMORE
- Measured Drawings
- Large Print Photographs

CLIVEDEN
- Measured Drawings
- Large Print Photographs

CLIVEDEN – UPSALA
- Large Print Photographs

COOPER MOLERA ADOBE, MONTEREY
- Written Historical and Descriptive Data
- Measured Drawings
- Large Print Photographs

*HABS Measured Drawing*
*Decorative Details of Belle Grove*
*Middletown, Virginia*



DECATUR HOUSE
- Measured Drawings
- Large Print Photograph

DRAYTON HALL
- Written Historical and Descriptive Data
- Measured Drawings
- Large Print Photographs

DRAYTON HALL - BRICK HOUSE
- Written Historical and Descriptive Data
- Measured Drawing
- Large Print Photograph

FARNSWORTH HOUSE*
- Written Historical and Descriptive Data
- Measured Drawings
- Large Print Photographs
- *currently being completed by the Historic Sites Department

FILOLI
- Written Historical and Descriptive Data
- Large Print Photographs

FRANK LLOYD WRIGHT HOME AND STUDIO
- Written Historical and Descriptive Data
- Large Print Photographs

FRANK LLOYD WRIGHT ROBIE HOUSE
- Written Historical and Descriptive Data
- Measured Drawings
- Large Print Photographs

KYKUIT
- Measured Drawings
- Large Print Photographs

KYKUIT – COACH BARN
- Measured Drawings
- Large Print Photographs

KYKUIT – JAPANESE GARDEN
- Measured Drawings
- Large Print Photographs

KYKUIT – JAPANESE TEA HOUSE
- Measured Drawings
- Large Print Photographs

*HABS Measured Drawing*
*Front Elevation of Decatur House*
*Washington, DC*

# V. Documentation

KYKUIT – JOHN D. SENIOR, HOME
- Measured Drawings
- Large Print Photographs

KYKUIT – ORANGERIE AND GREENHOUSE
- Measured Drawings
- Large Print Photographs

PRESIDENT LINCOLN'S COTTAGE
- Written Descriptive Data
- Large Print Photographs

LYNDHURST
- Measured Drawings
- Stereo pairs, contact prints

LYNDHURST – BOAT LANDING
- Stereo pairs, contact print

LYNDHURST – OUTBUILDINGS
- Stereo pairs, contact prints

LYNDHURST - STABLES
- Stereo pairs, contact prints

LYNDHURST – SWIMMING POOL
- Stereo pairs, contact prints

MONTPELIER
- Measured Drawings

MONTPELIER DEPOT/STATION/POST OFFICE
- Written Historical and Descriptive Data
- Measured Drawings

OATLANDS
- Written Historical and Descriptive Data
- Measured Drawings
- Large Print Photographs

OATLANDS – BACHELOR COTTAGE
- Written Historical and Descriptive Data
- Measured Drawing

OATLANDS – CARTER BARN
- Written Historical and Descriptive Data
- Measured Drawings
- Large Print Photograph

*HABS Large Format Photograph*
*Aerial View of Lyndhurst*
*Tarrytown, New York*

OATLANDS – CARTER'S MILLS
Written Historical and Descriptive Dat

OATLANDS - GREENHOUSE
Written Historical and Descriptive Data
Measured Drawing

OATLANDS – MOUNTAIN GAP SCHOOL
Written Historical and Descriptive Data
Measured Drawing
Large Print Photograph

OATLANDS – SERVANTS' QUARTERS
Written Historical and Descriptive Data

OATLANDS – STUDIO
Written Historical and Descriptive Data
Measured Drawing
Large Print Photograph

POPE-LEIGHEY HOUSE
Measured Drawings
Large Print Photograph

SHADOWS-ON-THE-TECHE
Written Historical and Descriptive Data
Measured Drawings
Large Print Photographs

TOURO SYNAGOGUE
Written Historical and Descriptive Data
Measured Drawings
Large Print Photographs

WOODLAWN
Written Historical and Descriptive Data
Measured Drawings
Large Print Photographs

WOODLAWN - DAIRY
Large Print Photograph

WOODLAWN - SMOKEHOUSE
Large Print Photograph

WOODROW WILSON HOUSE
Written Historical and Descriptive Data
Measured Drawings
Large Print Photographs

*HABS Large Format Photograph*
*Front Elevation of Shadows-on-the-Teche*
*New Iberia, Louisiana*

# VI. National Trust Programs

The National Trust Historic Sites Department has developed two specific programs dedicated to National Trust historic sites only - the Essential Projects List and the Historic Sites Fund. Both programs are key to the management of maintenance and capital projects.

## THE ESSENTIAL PROJECTS LISTS

The Historic Sites Department develops and maintains a list called "The Essential Projects List" for every site which details the major maintenance and capital improvements projects needed at the site. Projects are separated into 3 categories:

- Level A: Projects to be completed within the next year. These projects must have the funding in hand to be completed within one year and/or must be Critical Priority: Regularly accessible to public, tenants or staff, AND have a code violation, life safety threat, critical structural concern, or high risk of continued deterioration.

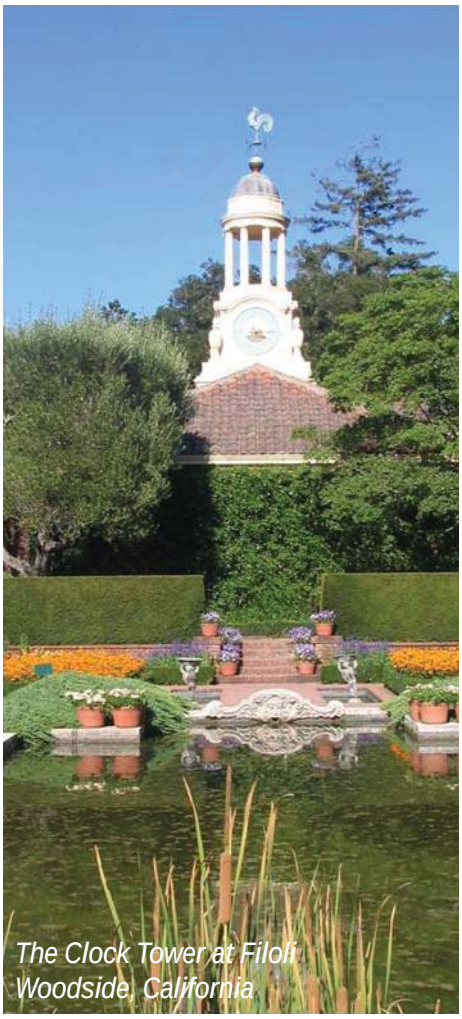
- Level B: Projects to be completed within 3 years;

- Level C: Projects to be completed within 10 years.

The Essential Projects lists are used to prioritize and manage all building and landscape needs at the sites. These projects should not be "pie-in-the-sky" ideas but be realistic projects and needs that can feasibly be undertaken within the timeframe identified. The lists must be updated annually in order to remain relevant. The Essential Projects lists are used by the Sites, Development, and Business staff to keep a running tab of the scope of work needed at our sites. The National Trust board reviews the lists annually at each board meeting.

The lists are maintained in the Historic Sites Department by the Associate Architect who works with the Buildings & Grounds staff at each site to keep the database current. The lists are kept in an Access database on the N drive server at Headquarters.

It is also crucial to keep the Essential Projects lists updated as they are used as the basis of evaluation for all Historic Site Fund grant applications. Examples of two Essential Projects Lists are attached at the end of this section.



*The Clock Tower at Filoli Woodside, California*

## HISTORIC SITES FUND

The Historic Sites Fund (HSF) is an endowment dedicated to the maintenance and capital improvements of buildings, landscape, archaeology and collections of National Trust Historic Sites. The HSF program is managed by the Graham Gund Architect and is a competitive process in which the sites apply for grants for projects under several different categories. There is a separate HSF Manual which can be found on the Historic Sites website or obtained from the Historic Sites department.

### HSF Overview

The growing list (currently 29) of National Trust for Historic Preservation Historic sites comprises about 275 roofed structures on approximately 4,500 acres, with over 60,000 museum objects, and more than 400,000 archaeological artifacts. Each site is different—spanning a millennia of American history and architecture—but they all are in the business of preservation and education, the "public benefit" that is at the core of all National Trust work.

Preventive maintenance, preservation and capital improvements are necessary to keep historic sites clean, safe, and open to the public. Over time, all materials need periodic preservation treatment, such as brick repointing, and some materials and equipment need replacement on a long-term cycle, such as roofing. Improvements necessitated by building codes, structural defects, fire-safety concerns, and the civil rights of Americans with disabilities must also be addressed at a historic site. The Historic Sites Fund (HSF) exists to assist with the preservation, conservation and capital needs of the National Trust Historic Sites.

From 1984 to 2009, the National Trust awarded more than $5.8 million in grants to the historic sites. Despite these seemingly impressive numbers, the sites still have a large backlog of essential projects. Each year significant projects continue to be deferred due to the lack of funds. The HSF Manual lays out the guidelines and particulars of the HSF grant program that has become a steady and significant source of annual funds for the National Trust Historic Sites.

The National Trust completed its second major capital campaign in 2009, "People Saving Places" which raised $3.6 million for the HSF endowment. This comes at a crucial time since the United States is experiencing an economic recession which has hit nonprofits and our endowments particularly hard. As of August 2009 our endowment stood at $12.2 million As the economy improves, we hope to see improvements in our endowment and thus in our ability to further assist the sites in their maintenance and construction backlogs.

*The Studio at Chesterwood*
*Stockbridge, Massachusetts*

## ESSENTIAL PROJECTS LISTS EXAMPLES

Below is an example of an Essential Projects List for a Stewardship site. On the next page is an example of an Essential Projects List for a Contract Co-Stewardship site.

### ESSENTIAL PROJECTS: Woodrow Wilson House

| | PROJECT TYPE | BUILDING / FEATURE | COST | CRITICAL PRIORITY |
|---|---|---|---|---|
| **Level A** | | | | |
| **Climate Management Study**<br>*Design of climate mgmt system. Report due March, 2009* | Maintenance/Improvement | Main House | $175,000 | ☐ |
| **Conservation of Wilson Library**<br>*Conservation of canvas wall coverings; repainting faux finishes. Funds now in hand (HSF + Matching)* | Maintenance/Improvement | Main House | $20,000 | ☐ |
| **Crawlspace Plumbing Repairs**<br>*Grant to correct leaking water and gas pipes in crawlspace* | Maintenance/Improvement | House | $9,994 | ☑ |
| **Garden Resoration/Improvements**<br>*Improve overall drainage in beds, replant, remove hollies by solarium, graft crab apple, improve turf, selective hand pruning of shrubs and trees. Garden lighting and outdoor electrical receptacle replacement.* | Landscape | Site | $5,000 | ☐ |
| | | Total for A (4 projects) | $209,994 | |
| **Level B** | | | | |
| **Floor refinishing/carpet for historic areas**<br>*Refinishing of all hardwood floors in the house and installing carpet runners in high-traffic areas. Period carpeting purchased/installed.* | Maintenance/Improvement | Main House | $125,000 | ☐ |
| **Exterior painting (next in 2009)**<br>*Exterior painting -- approximate every 5 years* | Maintenance/Improvement | Main House | $100,000 | ☐ |
| **Basement Drainage Plan**<br>*Corrective maintenance plan for basement wine cellar. Some investigation into water source ongoing.* | Maintenance/Improvement | Main House | $50,000 | ☐ |
| | | Total for B (3 projects) | $275,000 | |
| **Level C** | | | | |
| **Climate Management - install**<br>*Scope not yet defined* | Maintenance/Improvement | Main House | $400,000 | ☐ |
| **Plumbing upgrade**<br>*Upgrade to existing plumbing system--90 years old* | Maintenance/Improvement | Main House | $20,000 | ☐ |
| | | Total for C (2 projects) | $420,000 | |
| | | Grand Total | $904,994 | |

* Critical Priority: Regularly accessible to public, tenants or staff, AND code violation, life safety threat, critical structural concern, or high risk of continued deterioration.
* Level A: Projects to be completed within the next year; Level B: Projects to be completed within 3 years; Level C: Projects to be completed within 10 years.

7/28/2009 Essential Projects: Woodrow Wilson House Page 1 of 1

*Consultants evaluating the exterior of Woodrow Wilson House*

*Woodrow Wilson House Exterior systems*

*Woodrow Wilson House Crawlspace Repairs, Washington, DC*

## ESSENTIAL PROJECTS: Hotel de Paris

| | PROJECT TYPE | BUILDING / FEATURE | COST | CRITICAL PRIORITY |
|---|---|---|---|---|
| **Level A** | | | | |
| **Water Intrustion Remediation**<br>*Excavate foundations, improve drainage, repair rotten structural elements.* | Maintenance/Improvement | Hotel | $390,606 | ☐ |
| **Water Intrusion Archaeological Monitoring**<br>*Archaeologist must review and observe foundation work.* | Maintenance/Improvement | Hotel | $4,500 | ☐ |
| | | **Total for A (2 projects)** | **$395,106** | |
| **Level B** | | | | |
| **Kitchen Re-roofing**<br>*Repair roof to eliminate leaking in kitchen area.* | Maintenance/Improvement | Hotel | $9,225 | ☐ |
| | | **Total for B (1 project)** | **$9,225** | |
| **Level C** | | | | |
| **Annex Interior and Exhibit Redesign**<br>*Redesign annex interior and exhibit, which are outdated.* | Exhibit/Educational | Annex | $30,800 | ☐ |
| **UV Protection System**<br>*Develop and install UV protection system. Current plexiglass is failing.* | Maintenance/Improvement | Hotel | $4,800 | ☐ |
| **Balustrade Repair**<br>*Repair balustrade along west courtyard wall* | Maintenance/Improvement | Hotel | $2,589 | ☐ |
| | | **Total for C (3 projects)** | **$38,189** | |
| | | **Grand Total** | **$442,520** | |

** Critical Priority: Regularly accessible to public, tenants or staff, AND code violation, life safety threat, critical structural concern, or high risk of continued deterioration.*
** Level A: Projects to be completed within the next year; Level B: Projects to be completed within 3 years; Level C: Projects to be completed within 10 years.*

7/28/2009 **Essential Projects: Hotel de Paris** Page 1 of 1

*Hotel de Paris Rear Yard*
*Georgetown, Colorado*

# VII. Climate Management

## CLIMATE MANAGEMENT AND ADHERENCE TO THE NEW ORLEANS CHARTER

Temperature, relative humidity, and light must be managed with appropriate concern for the building as well as the artifacts displayed or stored within. National Trust Historic Sites follow the principles of the 1990/1991 APT / AIC New Orleans Charter for the Joint Preservation of Historic Structures and Artifacts.

The New Orleans Charter (*see Attachment D*) lays forth the principles necessary to guide a process for making good decisions about climate management. Problems with existing climate conditions need to be studied to define qualitative criteria for competing interests – buildings, artifacts, and human comfort of visitors and staff. There is never one standard, correct answer. A solid and defensible methodology needs to be followed to achieve a well-balanced approach to management of the climate and light in historic buildings.

In the past ten years, there have been a variety of complicated HVAC (heating, ventilation, and air conditioning) projects at National Trust Historic Sites. While they all began with the best intentions – protect the collections and artifacts, provide comfort for staff and visitors, and do no harm to the building fabric – many of these new systems have ultimately created more problems or different problems from the ones that originally existed. An HVAC project is one of the most complicated and challenging projects, and often the most invasive, that can be conducted on an existing building.

Before jumping to the conclusion that you require a new system to accommodate a perceived need, some basic questions should be asked, such as:
1 – Are the current uses in the buildings / spaces appropriate for these places?
2 – Are the current systems working efficiently?
3 – Are there any original, passive building features which are no longer used (such as operable shutters)?
4 – Has an energy audit been completed on the building?

Prior to deciding to move ahead with new systems, a comprehensive evaluation of the existing building, collections, and systems should be conducted to establish a baseline. This requires a multidisciplinary team that includes architects, engineers, and conservators with expertise in the types of objects and artifacts found in the building.

Often programming decisions can be made to avoid installing new systems. For example, relocate staff offices from a house museum to another building that already has air conditioning. Often we have the misperception that a 300 year old piece of wood furniture in a house that has never had air conditioning is deteriorating. But analysis might reveal that the furnishing has self-regulated over the centuries and air conditioning would actually cause more havoc.

*As of August 2009, three sites are conducting comprehensive studies which we intend to as models for this approach: Woodrow Wilson House, Cliveden and the Brick House at Philip Johnson's Glass House. See* ***Attachment H*** *for detailed project descriptions.*

*Woodrow Wilson House Library*
*Washington, DC*

*Dining Room at Woodrow Wilson House, Washington, DC*

*Dining Room at Villa Finale San Antonio, Texas*

## FIRE SAFETY AND HISTORIC SITES

The potential for catastrophic loss from fire at a historic site is very real, so compliance with guidelines for fire safety at the site at all times and in particular on a construction site is vital. National Fire Protection Association (NFPA) publication 241, Safeguarding Construction, Alteration, and Demolition Operations, establishes guidelines for fire safety on general projects. Work at all National Trust Historic Sites must comply with these guidelines and all local codes.

### Open Flame Policy

It is the policy of the National Trust NOT to allow open flames or open flame devices at any time in the life of our historic buildings and structures. This includes fireplaces, candles, heating devices and painting removal devices in all buildings for every type of event. No exceptions (for fundraising events, for parties, etc.) will be granted. Open flame, and candles in particular, are extremely hazardous to historic buildings and their collections. Placing candles in hurricane lamps or candle holders does not mitigate the danger. Damage from open flame might be as relatively minor as dripped wax on historic upholstery, or as devastating as a catastrophic loss of irreplaceable historic buildings and collections. Many of our sites have invested in battery-operated candles for events. Even Cooper-Molera's "candle lit" Christmas tour is now conducted with battery-operated candles.

Further information about electric candles:

http://www.wisegeek.com/what-are-electric-candles.htm
Electric, Battery-Operated, and Rechargeable candles can be found online at stores such as:
http://www.candleimpressions.net/
http://www.lamplust.com/electric-candles-c-3.html
http://www.batteryoperatedcandles.net
http://www.flamelesscandles.net/

### Construction Projects

When preparing contract documents for construction projects, the contract (or specifications that form part of the Contract Documents) must refer to NFPA 241 as indicated below. The burden of compliance is not onerous. During construction on an unoccupied site, the burden for fire safety rests with the Contractor per the typical contractual arrangement. However, site staff plays an important role. While construction activities are underway, site staff must take responsibility for completing a walk-thru safety/ security inspection of all relevant areas at the end of each work day. Site staff must also take responsibility for notifying the Contractor(s) immediately and in writing of any violations discovered.

# VIII. Fire Safety

The NFPA hosts seminars throughout the country on various fire safety topics that can be of use to staff and others working at historic sites. For more information on the NFPA and its programs, visit http://www.nfpa.org.

The NFPA has also developed a Code for Fire Protection of Historic Buildings, NFPA 914. This code is unique in that it emphasizes historic preservation in the application of principles of fire protection. It specifies a team approach to fire safety and delineates means of accomplishing both fire safety and preservation objectives including options for providing equivalent levels of protection,fire risk indexing, and performance-based fire safety evaluation.

Specific to historic sites, there is a useful publication called "Specifying Temporary Protection of Historic Interiors During Construction and Repair," by Frens and Frens, which contains a lot of useful information on the protection of historic sites from damage during preservation work. Useful suggestions from the Frens and Frens article should be utilized by the design professional or project manager whenever relevant. This article is located in *Attachment E*.

Some basic guidelines include:

- Comply with NFPA 241: Safeguarding Construction, Alteration and Demolition Operations, 1996 edition. The contractor's on-site supervisor will be designated as the fire prevention program manager in accordance with paragraph 5-1.1 of NFPA 241.

- Provide and maintain a fire prevention program, fire extinguishers and other fire prevention and protection measures for compliance with NFPA 241. Ensure that the proper number of fire protection and extinguishing devices are available within required distances and in working order throughout construction work.

- Provide proper containers for storage of flammable materials and disposal of waste. Do not allow soiled rags to accumulate.

- Conduct hot work operations (e.g. welding, sweating, soldering, brazing, burning, flame cutting) on the ground at a safe distance away from the building. Request the Owner's permission in writing if any hot work operations must be conducted within or on the building. If permission is granted, appoint a fire watchman in hot work areas to protect combustible materials and watch for fires during and after hot work. Cease using heat devices at least two hours before the end of the workday to increase chances of early detection of fire.

- Do not smoke tobacco or use tobacco products at the project site. Request the Owner's permission in writing if a tobacco smoking area is desired.

- Do not use heat guns or open flame devices for paint removal.

- Do not allow open flame heating devices.

*Heating Buildings and spaces during construction: Sometimes certain construction activities being conducted in cold weather require heating in order to effectively complete the work (plaster repair or repointing for example). Ensure that any heating equipment is turned off AND removed from the historic building at the end of each day. Site staff and the Graham Gund Architect must approve the use of heating equipment.*


*President Lincoln's Cottage during construction, Washington, DC*

*Installation of Mist system at Lyndhurst, Tarrytown, New York*

*Decatur House Kitchen Washington, DC*

## FIRE PROTECTION

Like climate management, which was discussed in the previous section, inserting fire protection or suppression systems (aka sprinkler systems) into an existing building can be one of the most complicated and invasive alteration decisions ever made at a site. No matter which system might be used, it will involve removal of historic building fabric. If it is determined that the need for a fire protection system should be evaluated, then a qualified consultant team (architect and engineers) should evaluate all the potential options.

Why would a site decide to incorporate fire protection? The primary reason is for life safety. The second reason would be to protect precious buildings, objects and artifacts.

A great resource every site should own is *Fire Safety in Historic Buildings By: Jack Watts* published by Forum and available online through Preservation Books. This Manual will not repeat everything that can be found in that publication but some observations and recommendations will be provided.

When new sites come online or major rehabilitation/restoration projects are being developed, a fire protection study should be conducted to determine the best way to minimize risk. When you remove offices and long term occupancy from a building, the need for fire suppression is cut enormously. Jack Watts summarizes that "There are three basic concepts of fire safety in historic buildings: fire prevention (avoiding ignition), passive fire protection (building construction), and active fire protection (detection and suppression)." Most of our sites will have some combination of the three concepts. It is crucial to note that any evaluation must address code requirements first and foremost.

### Recent Case Studies

In the past few years, several sites have evaluated their need for fire protection:

Decatur House: A "dry pipe" suppression system was installed in the Gallery/ gift shop area as part of the HVAC systems' upgrade. In just three years severe deterioration of the pipes and leaking into the Gallery was observed, and as a result the system must be replaced. Research has revealed that these so-called "dry pipe" systems are anything but, and a search of the current thinking will show they are typically not recommended anymore for existing buildings. Dry pipe systems are supposed to be water-less until they are needed. This seemed ideal for museums and historic sites which did not want water accidentally leaking or being released on precious collections or building fabric. Unfortunately, the opposite has been occurring at many sites which used these systems, including Decatur House. The pipes are never actually "dry". Quarterly, they need to be tested and the water is never fully drained. A specific kind of bacteria develops in these pipes which aids in their deterioration. At Decatur House, the pipes are rusting throughout after just a few years and leaks have developed over the areas specifically targeted for "dryness." The system will be renovated into a wet pipe system at significant cost.

# VIII. Fire Safety

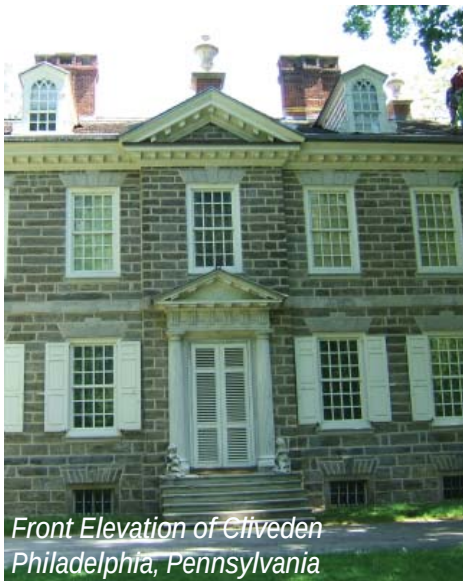
Lyndhurst: A "mist" system was installed at Lyndhurst. The advantage of mist systems is that they release a mist instead of harsher water, and are desirable therefore in museums and historic sites. Unfortunately, the system type was fairly new when installed here, was extraordinarily invasive (there are still some areas where the pipes were never fully integrated into the walls), required a large dedicated area for the equipment and is very expensive to maintain. The maintenance requires a contract with a proprietary company and costs in the range of $10-15k a year. At a site like Lyndhurst, this is overwhelming. Two site staff were sent to 2-day training to learn how to maintain the system themselves but still were unable to do so.

Cliveden: Cliveden is just completing the installation of a climate management system in the mansion which was developed in the least invasive way possible. It was determined that it made more sense to reprogram the site than try to fully heat/cool the mansion. All staff are being moved out of the building so intense cooling is not required. A comprehensive team of architects, engineers and conservators evaluated the need for fire protection as well and determined that since there will no longer be offices in the building, tour groups are small and the impact of installing a suppression system to the building fabric would be large, fire suppression was not required by code nor desirable. A wet pipe system was idenitified as the best choice should one be wanted, but ultimately it was determined that the fire safety program was adequate without the addition of a suppression system.

Woodrow Wilson House: WWH has also just completed a comprehensive evaluation of the building, systems and collections to determine the most sustainable way to introduce any climate management and indeed if anything else were needed. Fire protection was also evaluated. The next phase of work is underway - meeting with the DC Buidling Code official to determine if the attc space can be used for offices which may necessitate the installation of a targeted suppression system.

Montpelier: A mist system was installed in the mansion during the restoration. It should be noted however, that this project is very unlike most of our other preservation projects. Since the complete interior plaster was reconstructed and new, installing systems was much easier It was in essence new construction, so no or very little "historic" fabric had to be removed or impacted. The system was installed and then the plaster and finishes were installed afterwards This site also has a large building maintenance staff and much larger operations budget than nearly all of our other sites.

Current Thinking: There appears to be a lot of research being conducted right now to improve the cost and invasiveness of mist systems so this should be observed. It is a worthwhile endeavor to evaluate whether a fire protection/ suppression system should or could be installed at a site. This can be one of the most important decisions made for life safety and building protection that will ever be made at a site. But first and foremost, it is important that a site have a fire safety program as part of emergency and disaster preparedness.



*Front Elevation of Cliveden*
*Philadelphia, Pennsylvania*

*Cliveden Front Hall*
*Philadelphia, Pennsylvania*

## Why is Cyclical Maintenance So Important?

The goal of preservation is to manage the inevitable deterioration of a building. In order to fulfill this goal, necessary measures must be taken to sustain the existing form, integrity, and materials of a historic property. Preservation aims to minimize replacement, and to emphasize protection, maintenance, and repair. In many respects, Cyclical Maintenance Manuals are the most important document your site can ever develop.

Cyclical Maintenance Programs & Manuals are useful tools for site staff because they specify proper maintenance measures to reduce wear and deterioration, and to prolong the life of the building and site. The goal of these manuals is to provide a means for the site staff to prevent deterioration, treat problems, and document conditions and activity. Proper maintenance will mitigate minor problems before they advance and require major intervention. A typical maintenance manual provides a comprehensive preservation maintenance plan, covering the full range of maintenance activities from routine preventative tasks and condition surveys to hands-on treatment recommendations and documentation. The first time a Cyclical Maintenance Manual is prepared it should be based upon detailed research, field inspections, staff interviews, and review of invoices and mechanical systems. The inspections, interviews, and documents reviewed will develop a baseline.

*Filoli Tea House*
*Woodside, California*

## What is in a Cyclical Maintenance Manual?

A Cyclical Maintenance Manual can be as detailed as you like. The key is to ensure that it is a usable document, and not just something that sits on a shelf. Henry Chambers wrote the only currently referenced guide to preparing a Cyclical Maintenance Plan. For years a Preservation Brief on Cyclical Maintenance has been in development, but it still has not been completed or published.

1. The Existing Conditions Report is intended to document the existing conditions of the site the first time a Manual is prepared, and to develop recommendations for future repair and conservation work. As such, the Manual should clearly identify when the Existing Conditions Report was prepared and some recommendation should be included regarding how often it should be reviewed and updated.

2. The Building Inspection Reports shall be updated annually. This report will stand alone as a reference throughout the remainder of the year and should be performed annually by on-site staff. The objective of the annual inspection is to conduct a comprehensive survey of conditions and uncover the need for other work tasks which are not routine or cyclical. There should be inspection cycles for the various buildings and grounds features, materials and assemblies based on the needs of these components, the climate and the amount of staff or labor available to complete the work.

# IX. Cyclical Maintenance

3. The Building Task List of Routine and Cyclical Maintenance is intended to be a working reference document to be added to as needed by staff. These task lists serve as guides to proper completion of routine maintenance to the buildings and grounds and will include Annual, Daily, Weekly, Monthly and Quarterly Task Lists.

4. Definitions and Detailed Instructions are provided to aid in and ensure proper maintenance. This section presents the histories and problems with various materials in the house, such as travertine and steel, as well as cleaning products and methods best used to maintain them.

5. Supporting Information is provided for reference to the site staff. Contact and Emergency Information is included in this section to provide all relevant information into one record.

6. An Emergency Plan or link to the Site's Disaster Plan should be included to protect and recover the building fabric and collections in the event of unexpected natural disasters or emergencies.

Each site should develop their manual and working inspection reports in a way that suits their staff and their particular situation. An electronic version of this document should be maintained and electronic versions of all blank checksheets should be included for printing and hand-writing notes during future building inspections. The National Trust has not developed a template for a manual, but we do have several very good formats that can be shared. Contact the Graham Gund Architect who can review your needs with you and point you in the right direction.

Some Examples:

Farnsworth House & Pope-Leighey House:

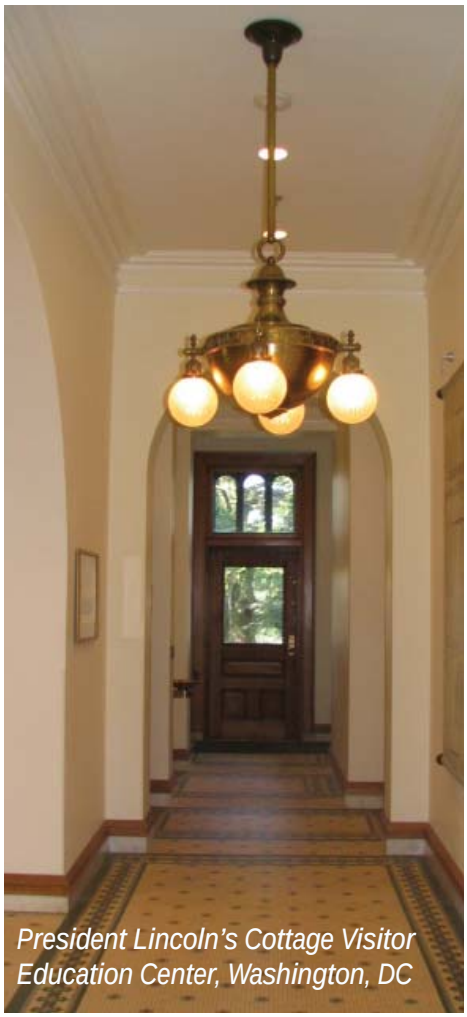
Comprehensive Cyclical Maintenance Manuals have recently been prepared for both *Farnsworth House* and *Pope-Leighey House* with the assistance of federal grants. All of the inspection reports for both of these manuals have been developed in Excel. The Site Director at Farnsworth prefers to work in Access while Pope-Leighey staff prefer to keep it in Excel.

Over the years many complicated databases have been developed but while researching these options during the preparation of the Farnsworth and Pope-Leighey plans, we discovered that they are all very similar and often expensive and proprietary. Most are based on Excel or Access. And databases are only as good as the technical capability of the users. If the database and the inspection reports are too complicated, they will not get used. And that is not the purpose of the Cyclical Maintenance Manual. Simplicity and ease of use is far more important.

See the last page of this section for the Farnsworth House Table of Contents.

*Farnsworth House*
*Plano, Illinois*


*Robie House Living Room Chicago, Illinois*


*President Lincoln's Cottage Visitor Education Center, Washington, DC*

President Lincoln's Cottage & Villa Finale:

Both of these sites have developed a large wall calendar chart on which all of the tasks are listed by date.

Frank Lloyd Wright Home & Studio & Robie House:

The Frank Lloyd Wright Preservation Trust has developed one of the most comprehensive Cyclical Maintenance Manuals and Disaster Plans at any of our sites, both of which are linked to one another in an Access database. It is kept as a binder at both sites.

How to Use the Plans

Preventative maintenance aids in preserving, and results in greater longevity of historic materials and features. The manual must be revisited and augmented frequently (preferably monthly, at least annually) in order to remain useful to the staff responsible for care of the resource.

The Building Inspection Report is a starting point for identifying maintenance concerns. It is a way to systematically examine a structure from top to bottom. Once complete, it can be helpful in many ways. It aids in prioritizing and scheduling work items, assists in budgeting for the upcoming year, assists in goal setting, and most importantly, is a tool to reveal problems early in their development, before damage occurs, which might affect other parts of the buildings or the collections. The checklist begins with an exterior inspection of each built feature, working down from the roof, and then moves to the interior.

Once the inspection has been completed, use the gathered information to compose an Existing Conditions Report. Create a list of all of the problem areas found and indicate their priorities. Add to the Essential Projects List which is discussed in Attachment B. The Building Inspection Report shall be completed annually. This report will stand alone as a reference throughout the remainder of the year.

The Building Task Lists serve as guides to proper completion of routine maintenance. There are seven Building Task Lists typically included in a manual. They are the Daily, Weekly, Monthly, Quarterly, Bi-Annually, Annually, and Long Range Task Lists, although this should be adjusted by site. Tasks should be completed on time, as specified in the lists. Use of a calendar such as Outlook will be useful to track task due dates and completions.

Proper completion of the Building Task Lists is part of effective preservation maintenance. These checklists are tools to reveal problems early in their development, before widespread damage occurs to the buildings or its collections. Building Task Lists are working reference documents to be amended as needed by onsite staff.

# IX. Cyclical Maintenance

SAMPLE OF A CYCLICAL MAINTENANCE MANUAL
FARNSWORTH HOUSE CYCLICAL MAINTENANCE MANUAL
Table of Contents



*Farnsworth House Interior following flood in 2008, Plano, Illinois*

## Disaster Planning

*It is an unexpected incident. It could be a sudden earthquake, a quick-burning fire or a slow-moving hurricane. It can be the busted water pipe that runs all night or the power surge that fries your computers. Disasters take many forms and can strike at any time and anywhere. Man-made or Mother Nature, disasters at historic sites happen. Are you, your site and your community prepared for an emergency and are you ready for recovery? Anthony Veerkamp from the Western Regional office, at the Historic Sites Buildings Conference in Asilomar, September 2008*

None of our historic sites is immune from disaster; in the past year alone, our sites have encountered losses or near losses from flooding, hurricanes and fires. Add climate change to the mix and we have found in the past two years alone that our disaster recovery efforts are taking up more and more of our HSF allocations. If your site is at low risk for these threats, then you are probably "overdue for a mudslide, tornado,volcanic eruption, or plague of locusts." (also quoted from Anthony Veerkamp)

Like Cyclical Maintenance Plans, there are different levels and costs of disaster planning and one isn't better than the other. The goal of this section is not to show you how to write a Disaster or Emergency Plan, but rather to provide you with the resources and options to think through your plan or update it. We have as many different types of Disaster Plans at our sites as we have sites. At the end of this section, we have presented several different approaches that have worked at our sites. Also, as an accompaniment to this Manual, we have downloaded a large folder of resources onto the Historic Sites Weblog which was prepared by Anthony Veerkamp and the Western Regional Office of the National Trust.

*Farnsworth House Flood 2008*
*Plano, Illinois*

### Handling a Disaster or Emergency

There are two basic issues this section will cover:

1. How to respond and react when your site experiences an emergency or disaster; and

2. How to to go about preparing a Disaster Plan that works for you and your site.

This section will NOT cover disaster mitigation in any detail.

Disaster planning rule #1 – never endanger your life or someone else's for a building, object or landscape feature. Disaster planning rule #2 – work in pairs, NEVER do anything alone.

# X. Disaster Planning

## Types of Emergencies

There are typically three general types of emergencies.

A. Minor to moderate, localized emergency within your site. This could be a fire, visitor illness or broken pipe, that only affects a specific place or location at your site.

B. Major disaster involving all or most of your institution. This could be a fire, flood, or electrical outage that causes a shutdown of the entire site.

C. Catastrophic event affecting your community and potential resources.

The following 2 sections have been adapted from *Field Guide to Emergency Response: A Vital Tool for Cultural Institutions, prepared by Heritage Preservation in support of the Heritage Emergency National Task Force in 2006.*

*Shed Damage following a wind storm*
*Belle Grove, Middletown, Virginia*

## 1. How to Respond and React When Your Site Experiences an Emergency or Disaster

### Safety First!!

When an emergency occurs, the first objective is to ensure that everyone is safe. Under no condition shall human life be endangered to save a building, landscape feature or collections item.

Stop, look and listen. Be alert to hazards such as downed power lines, frayed wires, and the smell or sound of leaking gas. Call 911!!

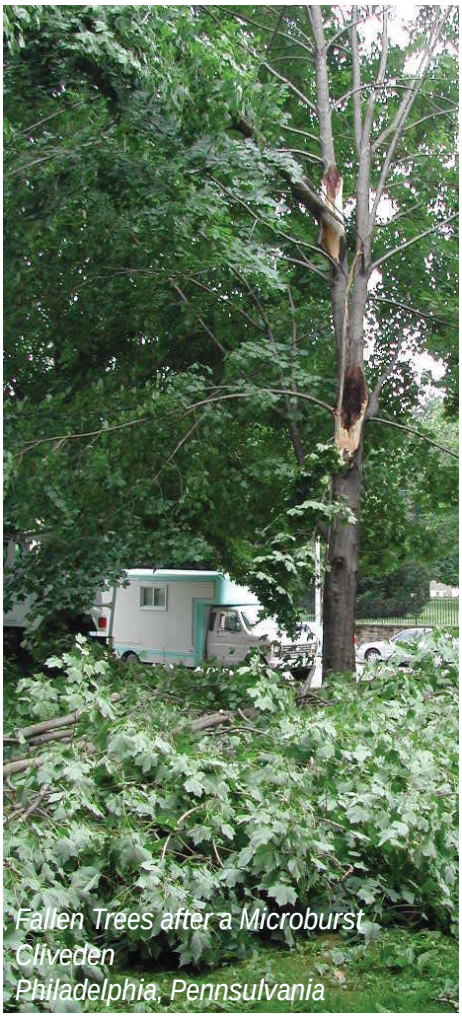
Never enter a damaged building or area alone or without the permission of authorities. Take a means of communication with you. Wear protective clothing. Depending on the specific emergency, you may need rubber boots, eyewear or safety glasses, gloves, hard hat and a N95 respirator mask.

### Remain Calm

The shock of an emergency causes everybody to function at reduced capacity. Try to react calmly and deliberately to the situation and those around you. No one knows how he or she will react when confronted with an emergency, so be as supportive as you can to your colleagues and any visitors. Deep breathing will go a long way.

### Think Ahead

After a major or widespread disaster, you probably won't be able to get into the building/s or access your collections immediately. Use that time to get organized so when you re-enter the building, you can act more effectively. Don't rush in to save treasured objects; assess the situation first and then make a plan. *And don't forget at all times to monitor the health and safety of your team!*



*Fallen Trees after a Microburst*
*Cliveden*
*Philadelphia, Pennsylvania*

## 2. How to to go about preparing a Disaster Plan that works for you and your site.

While it is always possible that you and your site will encounter a situation that could never have been predicted, preparing some key resources ahead of time will always help you no matter what the situation is.

### Emergency Basics

1. Know the location of the nearest emergency exit and fire extinguisher and how to use it.

2. Have first aid kits located throughout your site and ensure all staff knows where they are.

3. Have supply kits located throughout your site and ensure all staff knows where they are.

Have the details of the following information in a protected area that the Response Team can access:

### Documents

1. Building Plans
2. Emergency Plan
3. Insurance Policy
4. Inventory
5. Inventory, off-site copy
6. Staff Contact List and Contact Tree

### Resources

1. Alarm Codes
2. Cash or credit cards (Please note, in the event of a community disaster, credit card machines may not be working and therefore readily accessible cash is very important.)
3. Master keys
4. Computer passwords

### Utilty Shutoffs

1. Electrical
2. Fire suppression systems
3. Gas main valve
4. Water main valve

*Two Ice Storms at Brucemore in winter of 2008 led to substantial landscape and building damage, Cedar Rapids, Iowa*

# X. Disaster Planning

## The Response Team & Volunteers

For effective emergency response, form a team ahead of time and have it listed in your Disaster Plan. Form a team with specific roles and choose a team leader. The typical roles are:

1. Response Team Leader
2. Emergency Responder Liaison
3. Health and Safety Coordinator
4. Administrative and Financial Coordinator
5. Supplies and Equipment Coordinator
6. Communications Coordinator
7. Assessment Coordinator
8. Documentation Coordinator
9. Salvage Coordinator

Every emergency is different. You may not need all of these roles in a moderate disaster and your team/staff depends on the size of your site and staff also, as well as the staff at the site during the emergency. It is reasonable to expect that at a site such as Farnsworth or Shadows-on-the-Teche, most of these roles will be handled by the Site Director while at larger sites such as Montpelier or Filoli each of these roles could be handled by different people. And assign backups in case someone becomes incapacitated or is on vacation.

### Response Team Leader

Good leadership is essential to emergency response. Concentrate on the job at hand; don't be distracted by feelings of inadequacy, which are normal in a crisis. Your mission is to coordinate the response and keep things moving, which includes setting priorities and addressing conflicts.

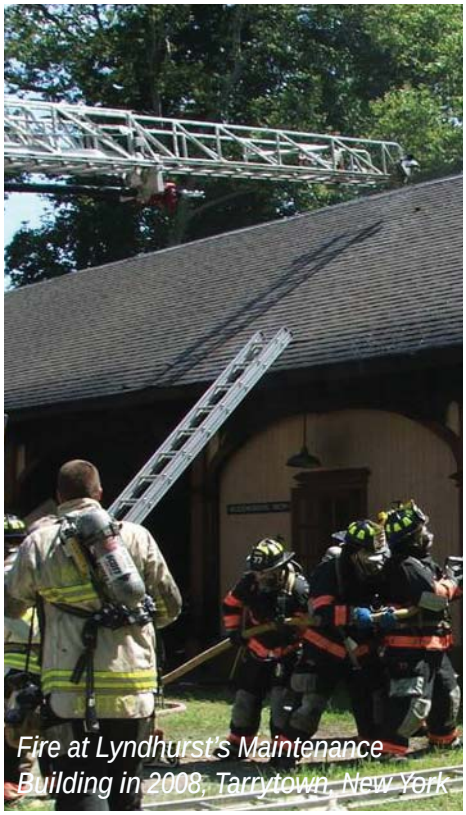
Communicating with the rest of the team is the most important thing you can do. Talk to your staff and encourage them to talk to each other. Breaks are mandatory. Listen carefully if anyone tells you they need to stop working. And pay attention if someone tells you to take a break.

Set up a command center with access for both pedestrians and vehicles.

Define goals and outline the response plan; post it if possible.

### Volunteers

People in your community may offer their services to help your site recover. Do NOT accept the offer unless you can spare someone to train and supervise them. If you do accept volunteers, make sure you clearly define what they should do and how to do it. Try to give them simple tasks. Follow your regular procedures and screen for health issues. Check your insurance policy to see if volunteers are covered; if they are not, they should sign a waiver.



*Fire at Lyndhurst's Maintenance Building in 2008, Tarrytown, New York*

*Damage to Villa Finale from a hurricane in 2007, San Antonio, Texas*

*Tree Damage at Cliveden following a microburst in 2007*
*Philadelphia, Pennsylvania*

*Root Ball of Uprooted Tree,*
*Farnsworth House Flood 2008*
*Plano, Illinois*

## Preparing the Actual Disaster Plan Document and Planning for an Emergency

Your plan could be several volumes or it could be one page. Whatever the size, it's just important that you have one, that all your staff have been trained in it and everyone knows what to do. If you do NOT yet have a Disaster Plan, please do the following immediately:

1. Inform the Graham Gund Architect you need to prepare a disaster plan. We have identified Disaster Planning as one of our department's priorities in 2010. The Associate Architect will be working with every site to ensure that they have a plan or that it has been updated. A copy of each site's Plan will be held at Headquarters as back up.

2. Peruse the list of disaster plan approaches on the next page and identify one approach that might be of interest to your site. Contact that site and ask for a consultation. Sometimes just hearing how someone else made the decisions can help you get started.

3. Consider taking a Disaster Planning course or workshop such as the 2 day workshop Phillip Seitz from Cliveden took for the PReP Form.

4. Consult the list of resources accompanying this manual on our Historic Sites weblog. All of the Disaster Plans discussed on the next page are also included on our website.

5. Obtain a copy of the two most widely used disaster planning guides in our field: the *Field Guide to Emergency Response* prepared by Heritage Preservation in 2006 and dPlan: The Online Planning Tool. Even if you just prepare a simple document using the recommendations in one of these guides, you will be well ahead of the game.

6. Once you have developed what looks like a workable Plan, have a staff meeting, review everything in it and get your colleagues' feedback. Schedule one day a year as "Emergency Preparedness Day", do a run-through, and ensure your first aid and supply kits are stocked and accessible. There is no such thing as being too prepared.

7. And if you do have an emergency - just remember, no one can ever imagine all of the possibilities. If all you are able to do is Call 911, make sure everyone is safe, and call the insurance company, you have been successful.

Resources:
dPlan - www.dplan.org (free)

*Field Guide to Emergency Response; https://www.heritagepreservation.org/catalog/product.asp?IntProdID=33*

# X. Disaster Planning

## Examples of Disaster Planning Approaches at Various National Trust Historic Sites

### Cliveden - the 2 Day Disaster Plan

Phillip Seitz, Cliveden's curator, attended a 2 day workshop to help professionals prepare a disaster plan using the 2 page, pocket-size PReP format. *See Attachment I.*
*pseitz@cliveden.org*

### Cooper-Molera Adobe

Historic Monterey coordinated the development of a community-wide disaster planning effort. They obtained grants to hire a consultant and develop a plan based upon a working partnership with California State Parks, Monterey History and Art Association and the City of Monterey. While several volumes of materials were developed, each partner and their sites also developed the Pocket PReP plan for their use. Kris Quist, Curator at Cooper-Molera, was the State Parks project manager for this comprehensive community project.
kquist@parks.ca.gov

### Frank Lloyd Wright Home & Studio

The Frank Lloyd Wright Preservation Trust has developed a comprehensive Disaster Plan as well as a Cyclical Maintenance Plan. They are both linked and are equally important to the long-term stewardship of the site. Karen Sweeney, the Site Architect and Facilities Director developed plans and a program using both staff and volunteers. Her approach shows that keeping your daily maintenance under control can help you get through the unexpected.
Ksweeney@GoWright.org

### Villa Finale

Villa Finale in San Antonio is our newest site. Chris Roddy, Buildings & Grounds Manager was confronted with a site that had ongoing construction as well as a hurricane in their first year. Chris reviewed several other National Trust Historic Site's plans and developed one that works for them, making the site and those who work there as safe and secure as possible, while preparing to start 2 construction projects. Each stage is so different and unique that he feels they need to be looked at differently in the eyes of safety, security and Disaster Preparedness. And all this along with caring for and maintaining the site during these stages.
christopher_roddy@nthp.org

### Decatur House

Decatur House is one of our few sites that regularly confronts terrorist alerts, since it is located across the park from the White House in Washington, DC. Butch Winter, Buildings & Grounds Manager, developed a very clear and easy to manage 10-section binder Emergency Plan that covers everything from Site Security to Terrorist and BombThreats to Medical Emergencies. Their plan also includes instructions and training for their guides, interns and volunteers.
butch_winter@nthp.org

*Rowing the boat to access Farnsworth House during the 2008 flood Plano, Illinois*

**National Trust Historic Sites are some of the most significant architectural, cultural and historic landmarks in the country. All work, whether it is routine maintenance or comprehensive capital improvements, must be sensitively planned and implemented. Working on these sites is an honor and all staff, consultants and contractors must treat the buildings and landscapes with the respect that our heritage deserves. In addition, all work on buildings and grounds are considered high risk since it impacts life safety and property. Therefore, the contracting requirements for anything related to buildings and grounds are the most stringent policies at the National Trust.**

## A. CONTRACTS & PROCUREMENT OVERVIEW

This section does not supersede the most recent Contracts and Procurements policies which can be found on the Staff Intranet or obtained through the Contracts Administrator. There are some general guidelines however which should always be kept in mind and always followed. **All work on buildings and grounds requires a contract regardless of dollar value of the work. All work that is potentially dangerous such as tree removal, installation of outdoors sculpture, etc requires a contract.**

### BIDDING

*African Meeting House mothballed during construction*
*Boston, Massachusetts*

It is always good business practice and in the best interest of the National Trust to get multiple bids for projects, regardless of dollar value. Contractors or consultants who are continually given projects outside of the bidding process can become to feel entitled and do not find it in their best interest to provide us with competitive costs. All projects over $25,000 require at least 3 bids at all times. All projects over $100,000 require public bidding on our website as well as advertising in relevant newspapers. But some projects, due to their high visibility or complexity or high risk, should obtain multiple bids or be publicly bid regardless of dollar value.

When starting to consider a project, consult with the Graham Gund Architect and the Contracts Administrator to determine which process makes the most sense for your particular project. Do not assume that because you followed one process on a previous project, it will be the same for all your projects. There is nothing more high risk than construction and contracts and bidding protect the lives of our staff and visitors, as well as our physical property.

*A Process Check List can be found at the end of the next Section, Section XII.*

## B. HIRING DESIGN PROFESSIONALS AND OTHER CONSULTANTS

**All significant conservation, preservation, restoration, rehabilitation and new construction work needs to be designed and specified by qualified professional consultants. (See Sections XII regarding inclusion of NTHP professional staff in this process.)**

At Stewardship Sites, design professionals and other consultants must be selected through a competitive process that includes consideration of professional qualifications, prior experience on comparable projects, and cost. If the consultant's fee is expected to exceed $25,000, public notice in a regional newspaper is recommended to ensure that a broad pool of candidates is available. Consultant fees expected to exceed $100,000 must be publicly bid. These policies are required by all governmental funding sources (such as the National Endowment for the Humanities, Federal Save America's Treasures and the Institute of Museum and Library Services) and thus need to be implemented before or during the grant application process. Failure to satisfy these requirements can result in a forfeiture of grant funds and disqualification of the National Trust for future governmental grants.

Co-Stewardship Sites set their own procurement policies, but will still need to follow some established industry procedures to effectively hire good consultants. The National Trust recommends that Co-Stewardship Sites follow the above process regarding advertising for consultants and construction teams. It is just good business sense to bid projects and advertise more broadly. Any projects that receive Historic Sites Fund grants, whether Stewardship or Co-Stewardship sites, are required to meet all National Trust procurement policies.

In selecting an architect, engineer, or other preservation professional, one of two methods can be employed:

**Request for Qualifications**

For large, multi-phase projects that will draw a large number of bidders, it is generally best to issue a Request for Qualifications (RFQ). The RFQ outlines the work ultimately required of a designer, but does not require fee proposals to be submitted immediately. A RFQ simply requests statements of qualifications from a team of professional consultants. Sending a RFQ eliminates some work for the consultants who are not subsequently invited to submit fee proposals. Typically, three consultant teams are short listed after review of qualifications, then interviewed and asked to submit fee proposals. The whole process, along with interview date(s), should be detailed in the RFQ.

**Request for Proposals**

For projects where the scope of services is clear and well-defined, it is appropriate to issue a Request for Proposals (RFP) in which the designers submit fee proposals, including scope of work descriptions and schedule. A RFP outlines the format and requirements of the proposal to be submitted. Typically,

*Touro Synagogue landscape restoration, Newport, Rhode Island*

*The Carter Bank Barn Complex at Oatlands will soon be restored Leesburg, Virginia*

up to three consultant teams are interviewed before selection. Examples for both an RFQ and an RFP are located in *Attachment F.*

## C. CONTRACTS FOR DESIGN PROFESSIONALS, PRESERVATION CONSULTANTS AND CONSTRUCTION CONTRACTORS

**All significant preservation and new construction work needs an Agreement or Contract commensurate with the anticipated complexity of the work.**

The National Trust generally uses standardized contract forms developed by the American Institute of Architects (AIA) in its contracts with design professionals and general contractors who are working on preservation, rehabilitation and restoration projects at the historic sites. Contracts with general contractors use one of the forms in the A Series; contracts with architects use one of the forms in the B Series. The B Series forms can be used for contracts with engineering firms if appropriate modifications are made. Certain forms in the G series are used in administering a contract for construction. Contracts are prepared for Stewardship Sites by the Contracts Office at Headquarters. Co-Stewardship Sites are encouraged to seek the advice of the Contracts Office and use the same documents.

A complete list of AIA Contract synopses can be found at http://www.aia.org/documents/synopses.asp AIA forms do cost money and that is one of the benefits for all sites, Stewardship and Co-Stewardship, of working with the National Trust Contracts Office. We purchase the license for AIA Contracts annually and are well-versed in their use.

*Robie House*
*Chicago, Illinois*

## D. ADDITIONAL LANGUAGE FOR CONSTRUCTION CONTRACTS

**Work specified in Contract Documents (drawings and/or written specifications) by a professional consultant needs to include additional (i.e. in addition to standard information) requirements and procedures for:**

a. Special Procedures for Work on a National Trust Historic Site;
b. Integration with the Site's emergency/disaster plan;
c. Invitation to Bid;
d. Performance Bonds and Labor and Materials Payment Bonds;
e. Bidding;
f. Project Meeting Agendas;
g. Disassembly and Selective Removals (if any); and
h. Project close-out.

**The Associate Architect will provide the consultant with a template cover sheet for drawings with these notes on it, as well as standard Specification sections which must be included in all sets of construction documents.**

# XI. Design + Construction

## a. Special Procedures for Work on a National Trust Historic Site

Specific information and procedures need to be explained for all work on National Trust Historic Sites. These should appear in the Contract Documents according to the following outline:

**1. Historic Site Requirements**
1.1 [Site name] is a National Trust Historic Site, owned by the National Trust for Historic Preservation, and is listed in the National Register of Historic Places as a National Historic Landmark.[4]
1.2 This project at [the site] has been designed in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties (revised 1995), and must be completed consistent with the design.
1.3 The preservation objective for [site name] is [5].[5]
1.4 The Contractor shall recognize that all aspects and elements of the property may potentially contribute to the historic significance, and the Contractor shall not be the judge of the relative significance of any feature. This judgment is entirely the responsibility of the Owner. Consequently, no element shall be altered, removed, reused or taken from the premises without the approval of the Owner [and Architect] as being consistent with the requirements of the Contract Documents.

For larger construction projects there is an added element of involvement from Contractors that can enhance the quality and longevity of their work. To achieve this, include the following language in the Contract Documents:

Because [site name] is a National Trust Historic Site, there are certain expectations and requirements which the contractor will be expected to honor at no additional cost, as follows:

i. All project managers, supervisors, superintendents, or foremen (plus any interested workers) of each Contractor and Subcontractor must attend the regular tour of the site (no charge) prior to commencement of the Work.

ii. During the course of the Work, the National Trust may explain the ongoing preservation and rehabilitation activity to visitors. Limited Contractor collaboration in this process is expected. [On larger projects, more detail may be needed to clarify "limited collaboration."]

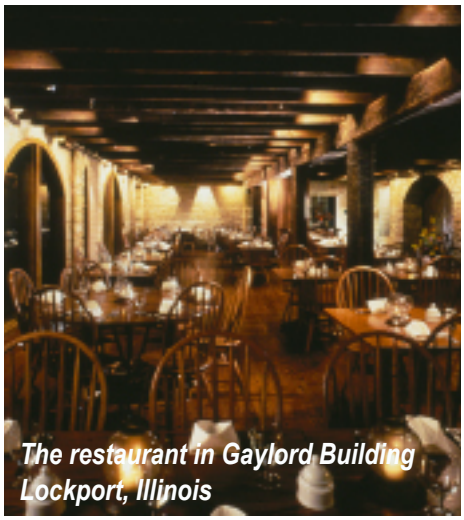
iii. All on-site personnel are expected to conduct their operations in a professional manner and be courteous and polite to all visitors.

iv. The Contractors' and Subcontractors' principals and partners who perform preservation work at a National Trust Historic Site should have some familiarity with the mission and programs of the National Trust. Active membership in the organization is desirable, and complimentary six-month memberships will be provided to those who are not current members. In addition, individual and corporate memberships can be purchased at [site name].

## Notes

[4] Language will differ slightly for co-stewardship sites not owned by the National Trust, sites not listed as National Historic Landmarks, etc.

[5] The statement of preservation objective(s) might read something like: "to stabilize and preserve the existing historic features as they existed during the period of occupation by [a past figure]." Historic significance must be known for the site, feature, or material component under consideration in order to establish a conservation objective. The historic uses, and the chronology of physical change they may have brought, must also be known, along with a complete understanding of the current or proposed use.



*The restaurant in Gaylord Building Lockport, Illinois*

### *Bidding Do's and Don'ts*

***Do***

- *Contact potential bidders when bid set is ready to be issued and encourage them to participate.*
- *Distribute information equally to all bidders.*
- *Check references.*
- *Respond to questions in writing for maximum clarity and distribute to all bidders.*

***Don't***

- *Give unique information to less than 100% of all interested bidders.*
- *Answer casual questions that may affect the bid price, unless all bidders are present to hear the answer.*
- *See **Attachment K** for more Dos & Don'ts.*

*Montpelier during restoration in 2006*
*Orange, Virginia*

**b. Integration with the Site's Disaster Response (Emergency) Plan**

Each National Trust Historic Site has a plan to cover a wide variety of possible emergencies, from natural disasters to medical problems in visitors. The Contractor working on site may need to be aware of emergency procedures for that site, laid out in the disaster response manual. The Contractor must be informed by the Buildings and Grounds Manager of the procedures appropriate and relevant to their work on the site, such as planned responses to fire, hurricane, tornado, earthquake, or flood.

**c. Invitation For Bid (IFB)**

For Stewardship Sites, the Invitation For Bid will be written by the Contracts Office using input furnished by the site and the architect/engineer. The Invitation provides a general introduction to the purpose and scope of the project, the names and addresses of the principal contacts, the deadline for submitting bids and a statement of the more important terms and conditions that will govern the relationship between the contractor and the National Trust. The Invitation is inserted at the beginning of the Project Manual (written specifications) or distributed separately to interested contractors if there is no Project Manual. Please refer to *Attachment G* for examples of Invitations for Bid. Invitations for Bid will be advertised on the National Trust's Bidding website. Both Stewardship and Co-Stewardship sites can use the National Trust's Bidding website.

**d. Performance Bonds and Labor and Materials Payment Bonds**

Projects funded with federal government grants require bonds for construction contracts which exceed $100,000. At Stewardship Sites owned by the National Trust, the National Trust may require bonds for projects costing less than $100,000 depending upon the complexity and duration of the project. Performance Bonds and Labor and Materials Payment Bonds (See AIA Forms A312) represent a commitment by a financial institution (often a subsidiary of an insurance company) to the Owner (usually the National Trust) on behalf of the Contractor. The Performance Bond assures the Owner that the General Contractor will fulfill all of the obligations of the Contract for Construction. The Payment Bond assures the Owner that the labor and material expenses incurred by the Contractor in connection with the Construction Contract will be paid. In the event of default by the Contractor, the surety company will protect the Owner from any financial loss. Without this protection, the Owner could be required to pay twice for the same services, materials or equipment. The Contractor pays the surety company a premium for the bonds, which can vary from 1% to 5% of the principal amount of the contract. This amount is then passed on to the Owner as part of the Contractor's bid. If a Contractor is reluctant to secure these bonds or if the premium is extremely high, it may indicate that the Contractor has a poor record of performance or does not have the financial capacity to complete the project.

Due to the nature of work on National Trust Historic Sites, the standard language of the Performance Bond form (AIA A312) is not acceptable and

must be modified. The purpose of this revision is to assure that, in the event of action by the surety company, the Owner and Architect can be satisfied that the replacement contractor is fully qualified to complete the specified work on an important historic site. Consequently, the contractor, when requesting the Performance Bond from their surety company, must make the following change to AIA A312, paragraph 4.2:

*Undertake to perform and complete the Construction Contract itself, through its agents, or through independent contractors; provided that the Owner and the Architect have been given an opportunity to review the qualifications of the agents or contractors proposed and have consented to the use of such agents or contractors to complete the work.*

**e. Bidding**

At Stewardship Sites, the bidding process for projects costing more than $25,000 or involving high risk work will be coordinated by the Contracts Office at Headquarters working in close cooperation with the staff at the site and the Graham Gund Architect. Bidding must be conducted in a manner that ensures that prospective Contractors are given an opportunity to understand the nature and requirements of the project and sufficient time in which to put together a responsible bid. Typically RFPs, RFQs, and IFBs are advertised on the National Trust website. (See Attachment K for more "Dos and Don'ts of Bidding.)

**f. Project Meeting Agendas**

Before and during the course of the work on a site, regular project meetings are necessary for discussing problems, successes, and questions between the designer and contractor. After a date or regular schedule is set for meetings, the Site Director should inform the appropriate member of the Stewardship for Historic Sites staff at least four weeks in advance of the meeting to allow time for him or her to attend the meeting if feasible and appropriate.

The agenda for the Preconstruction Meeting should include:
- Communications between Contractor, Owner, and A/E
- Procedure for Resolution of Problems and Questions
- Construction Schedule, including Sequence of Critical Work
- Contract Documents and Record of As-Built Conditions
- Samples, Mock-ups, Shop Drawings, and Other Data Requiring Owner and A/E review
- Scope of Work Modification and Change Order Procedure
- Payment Procedure
- Procedures for Safety, First Aid, Security, Quality Control, Disaster Response, Housekeeping, and Related Matters
- Special Project Procedures, including: "Do not touch collections"
- Site tour

The agenda for Regular Project Meetings should include:
- Review Progress since last Meeting

*The Garden Library, Oatlands*
*Leesburg, Virginia*

*Exterior Restoration at Woodlawn*
*Alexandria, Virginia*

*Woodlawn*
*Alexandria, Virginia*

- Review Work Planned for the Next Two Weeks
- Review Conformance with the Schedule, including Corrective Measures to Maintain Schedule
- Review Status of Submittals (including Mock-ups and Shop Drawings)
- Review Status of Change Orders and Modification Requests
- Review Status of Applications for Payment
- Review "As-built Conditions" Drawings
- Identify and Resolve Problems

**g. Disassembly and Selective Removals (if any):**

Activities that involve demolition, disassembly, or selective removal of material can result in permanent loss if care is not taken to avoid such damage.

Appropriate procedures and techniques for storage of disassembled items must be considered before the Work commences. Samples of historic material need to be salvaged and properly stored as a record of the Site's physical history. In addition, physical records such as paint layers must be retained in situ to the greatest extent practicable.

For all projects which involve any type of demolition, disassembly, or selective removal on a historic building or feature, the Contract Documents for the Work must include the following language:

**Definitions:**
*Disassemble:* Carefully take apart materials (or components) that are to be salvaged and stored.

*Remove:* Take away materials that are not to be salvaged, and dispose of them in a proper and legal manner.

General:
(i) Provide qualified site supervision, craftsmen and subcontractor personnel. Assure that site supervisors, craftsmen and subcontractors are knowledgeable and experienced in their portion of the work and understand the specified requirements and methods needed for performance of the Work.

(ii) Coordinate construction activities with the National Trust and other contractors.

(iii) Comply with requirements of governmental agencies having jurisdiction over the Work, including disposal operations.

(iv) Exercise all safety precautions and actions necessary to prevent fire or collapse resulting from the Work. Exercise all precautions necessary to protect the historic structure and the site surface from the Work.

# XI. Design + Construction

**Procedures:**

(i) Carefully identify, disassemble, tag and store those features designated "disassemble" or "salvage" as necessary to accomplish the work. Tag each disassembled item and mark the tag in indelible ink:

Property of [Site Name] – DO NOT REMOVE; name of item; date of disassembly, location found, and initials of person performing work.

(ii) Maintain a log of all disassembled materials, noting the following: Item number, name of item, date of disassembly; original location of item; storage location; and date of turnover to [Site Name] with employee's signature indicating receipt.

(iii) Salvage and store disassembled materials in a neat and orderly manner inside the building.

(iv) Place small items in plastic bags, secured to parent item. Store large/small items on site where directed by the National Trust. Note exact locations and arrangements, where indicated, to permit reinstallation.

(v) Use tags and bags for storage:
   (a) Identification tags: 6 ¼" x 3 1/8" tags, Tyvek material, metal reinforced eyelet, steel wire tie, McMaster-Carr Catalog #15765T25 or equal.
   (b) Parts bags: 4 mil thick, 12" x 15" zip-press polyethylene bags with metal reinforcing grommet and steel wire tie.

(vi) Perform disassembly, demolitions, and removals in a controlled manner without: unnecessary cuts; damage to historic site, structure or features; damage to the materials or construction to remain; alteration of disassembled material or component.

(vii) Protect historic building surfaces, and immediately surrounding environs, through, or over, which equipment and materials are handled. Erect and secure temporary protections without damage to the historic structure, finishes or the site.

(viii) Each day, remove demolished materials completely from the site and dispose of such materials in a legal manner.

(ix) Promptly repair, replace or reinstall, to the approval of the Owner and at no additional cost, any items: demolished where not scheduled to be demolished; or disassembled where not scheduled to be disassembled; or damaged by any of the above activities.

*Frank Lloyd Wright's Pope-Leighey House, Alexandria, Virginia*

Site walk-thru meeting before beginning work: Following careful study of the site, te Contractor shall:
(i) clearly indicate items to be disassembled or removed using a visible mark or tag that leaves no permanent trace;

(ii) mark interfaces to enable workers to identify materials to be disassembled, removed or demolished and clearly identify the limits of demolition or disassembly; and
(iii) walk through site and identify to the Owner the full scope of materials for disassembly, removal and/or demolition.

**h. Project Close-out**

Project close-out is one of the most important (and frequently neglected) aspects of a construction project. It includes the following steps:

The Architect conducts an inspection of the project and then prepares a punch list of deficiencies and incomplete work items.

The Architect, in consultation with the Site Director and Graham Gund Architect, determines the date of substantial completion. This is the date on which the project work is sufficiently complete that the Owner can occupy or use the project site for the use intended, as expressed in the Contract Documents. Substantial completion can occur before all punch list work has been completed as long as a plan for completion of outstanding items has been authorized . Warranties commence to run on the date of substantial completion.

*Drayton Hall Central Stair*
*Charleston, South Carolina*

At Stewardship Sites, the Contracts Office or the Architect prepares a Certificate of Substantial Completion (AIA Form G-704) to which the punch list is attached. The Certificate is signed by the Architect, the Contractor and the Vice President, Stewardship of Historic Sites, and must be approved by the Graham Gund Architect to be considered valid. The Contractor is then entitled to receive payment of the remaining unpaid balance of the Contract Sum except for the amount retained (usually 10%) pending final completion of the work.

When the Contractor completes all of the items on the punch list, the architect conducts a final inspection of the project site. If all punch list items have been completed, the Architect certifies final completion of the work and submits a final Certificate for Payment to the owner.

The Contractor submits Affidavits of Payment of Debts and Claims and of Release of Liens (AIA Form G706) to the owner, together with supporting releases or waivers from all subcontractors and material and equipment suppliers. The Consent of Surety Company to Final Payment (AIA Form G707) is also required if bonds were issued.  Copies of all operating manuals, warranty documents on installed equipment and as-built drawings should be submitted to the Buildings and Grounds Manager.

Final payment of the amount retained should not be made until all of these documents have been obtained and reviewed. At Stewardship Sites, the Affidavits and Lien Releases must be forwarded to the Contracts Office for record purposes in the event that future claims are made.

**Note**: It is crucial that Certificates of Substantial Completion NOT be executed until the Graham Gund Architect is satisfied that all punch list issues have been addressed and that a plan for any minor outstanding items be agreed to by all parties in writing. Once the Certificate of Substantial Completion has been signed, the National Trust only has 3 years to identify any issues not remedied, or work completed according to the documents and contract. After the 3 year mark there is little to no legal recourse for the Owner against the design or construction team if significant issues have not been addressed.

## PREPARATION OF SCOPE OF WORKS AND DESIGN OF SMALL PROJECTS BY THE GRAHAM GUND ARCHITECT

### Scopes of Work

It is the responsibility of the Buildings & Grounds Manager to prepare draft scopes of work and draft RFQs and RFPs for the Graham Gund Architect's review and approval. However we recognize that not every site has the staff with expertise to prepare scopes. Therefore, the Graham Gund Architect will work with the site to determine the best way to complete this work. For less complex scopes of work, the Graham Gund Architect may assign the Associate Architect to prepare them or advise the site staff. In the case of more complex projects, a new full-time staff person or part-time consultant may be recommended.

***Gaylord masonry repair***
***Lockport, Illinois***

#### Design of Small Projects or Preparation of Limited Specifications

For most projects, professional consultants must be hired to complete construction documents. Any project that requires building permits and a licensed professional must be completed by licensed professionals in the state that the site is located. But there are instances when the Graham Gund Architect or the Associate Architect may assist the site and prepare the documents. Such examples include:

- A limited Technical Specification such as masonry cleaning, plaster repair, fence repair, etc. For example, the Graham Gund Architect prepared the masonry repair specification for a recent project at the Gaylord Building.
- Sketches for limited construction that does not require the stamp of a licensed professional since the Site Architects are not licensed in every state and do not currently hold liability insurance.
- Currently, the National Trust does NOT provide full architecture services to the sites, but advises and reviews.
- In every situation, if you are unsure on how to proceed, contact the Graham Gund Architect for clarification.

## CONSULTATION, NOTIFICATION, REVIEW, & APPROVALS

Professional staff of the National Trust will be available for advice and consultation on matters related to historic preservation at National Trust Historic Sites. National Trust Historic Sites will seek advice and consultation for all preservation endeavors and construction activities beyond routine maintenance.

### Architectural Issues:

The Graham Gund Architect of the National Trust provides technical advice and assistance to Site Directors at National Trust Historic Sites (or other appropriate staff person(s) or professional consultant) for the following activities:

1. Maintenance activities and planning (guidelines and examples available).
2. Disaster response planning (information, previous workshop texts, and examples available).
3. Hiring design, preservation and engineering professionals.
4. Site master planning, strategic planning, and development of preservation objectives.
5. Construction project administration and management.

The Graham Gund Architect is available to participate in master planning, assist with decisions regarding preservation philosophy, review technical drawings and specifications for proposed work, and generally advise the National Trust Historic Site on good construction practices and appropriate preservation techniques. Master planning endeavors and construction projects require consultation, participation and (usually) advance approval of the National Trust. Co-stewardship Sites should follow requirements of their Agreement regarding definitions and details.

*Montpelier Archaeolgical Dig*
*Orange, Virginia*

### Archaeological Issues:

The Senior Archaeologist of the National Trust provides technical advice and assistance to the National Trust Historic Sites on all archaeological matters. Activities that will disturb the earth or be conducted over known sensitive areas need to be discussed with the Senior Archaeologist prior to commencement of work. Provide as much advance notice as possible. See Section II-B, for more information.

### Review and Advance Notice:

Provide advance notice for anticipated reviews by professional staff of the National Trust. A minimum of two (2) weeks for review and response on pre-construction reports and documents should be provided. Bulky documents such as full sets of construction documents can take longer (up to 4 weeks). A response will always be issued, so proceeding to another phase should not occur without checking on the status of the review.

# XII. Consultation & Notification

Historic Sites Fund Projects:
Projects funded by the Historic Sites Fund (HSF) always require full participation and advance approval of the National Trust. HSF projects also require a final report. Consult the HSF Manual and Guidelines for additional details.

Typical points of collaboration or review regarding construction activities

The following list of reports, forms, documents and meetings is offered as a guide to indicate when the National Trust Historic Site must seek the involvement, review or authorization of the Graham Gund Architect. A Check List which is now attached to all Design & Construction Contracts is attached in *Attachment J*. Similiar check lists have been developed for Archaeology and Collections projects also.

PRE-CONSTRUCTION
Determination of Project Scope of Work
Preparation of Scope of Work
Request for Qualifications or Proposals (RFQ or RFP)
Responses Received from RFQs or RFPs
Contracts with preservation Architects, Engineers, or other Consultants
Project Kick-0ff Meeting
Design or Construction Schedule
Advance Notification of Important Meetings with Consultants
Draft(s) of Preservation Planning Reports (e.g. Condition Assessment, HSR)
Final Versions of Planning Reports
Preliminary and Final Submissions of Construction/Contract Documents
Contractor Bid Proposals
Construction Contracts

CONSTRUCTION
Advance Notification of Job Meetings (and other important gatherings)
Any Items Prepared and Submitted by the Consulting Architect or Engineer:
Job List (with names and numbers of all concerned parties)
Job Meeting Minutes and Field Reports
Construction Sketches and Field Orders
Construction Change Orders
Substantial and Final Completion Certificates

POST-CONSTRUCTION
Completion Report on archivally stable (acid free, buffered) paper, to include brief description of completed work and photographs
Updated section of Maintenance Manual
Copy of As-Built Drawings (keep 1 set properly stored at site)

NOTE: All reports and sets of design/construction documents must be submitted to the Graham Gund Architect as hard copy (1) and digital (AutoCAD, and pdf) for all submissions, both interim and final.

An Approval Checklist for preservation, design and construction projects is attached in *Attachment J.* Similiar check lists have also been developed for Archaeology and Collections' projects.


*Cooper Molera-Adobe*
*Monterey, California*

"We can't build our way out of this climate change crisis, we must conserve our way out"

- Richard Moe, President of the National Trust

## A. The National Trust's Sustainability Program

The National Trust began to develop its approach to climate change in 2006. The Sustainability Program is a cross-trust initiatiave run out of the Public Policy Department and is led by Emily Wadhams, Patrice Frey, and Rhonda Sincavage in Public Policy, and Barbara Campagna, as the Architectural Leader, from Historic Sites. There is a comprehensive sustainability webpage on the National Trust website: www.preservationnation.org/issue/sustainability

*The following is an introduction to the National Trust's position on sustainability.*

Sustainability Program

Preservation's Essential Role in Addressing Climate Change

The construction and operation of buildings accounts for more than 40% of the United State's carbon dioxide emissions. But reusing and retrofitting our existing buildings can reduce these emissions dramatically. In fact, our existing buildings are one of our greatest renewable resources.

Through our Sustainability Program, the National Trust for Historic Preservation is focusing the nation's attention on the importance of reusing existing buildings and reinvesting in older and historic communities as critical elements in combating climate change. Americans already embrace as common sense the need to recycle aluminum cans, glass, and newspapers. We advocate applying that same common sense to our built environment.

*The National Trust's first LEED certified project: President Lincoln's Cottage Visitor Education Center Washington, D.C.*

We don't discount the value of new, green construction – in fact many green technologies can and should be applied to existing buildings to improve performance. But new construction – no matter how green – still uses energy and other natural resources and generates construction waste that clogs landfills.

Through its research, the National Trust's Sustainability Program is demonstrating that conservation and improvement of our existing built resources are environmentally logical and economically viable elements in combating climate change.

Sustainable Stewardship of our Buildings and Communities – Guiding Principles:

1. Reuse existing buildings: Use what you have. The continued use of our existing buildings reduces the amount of demolition and construction waste deposited in landfills, lessens unnecessary demand for energy and other natural resources and conserved embodied energy (the amount of energy originally expended to create extant structures).

2. Reinvest in our older and historic communities: Older and historic communities tend to be centrally located, dense, walkable, and are often mass-transit accessible – qualities celebrated and promoted by Smart Growth advocates. Reinvestment in existing communities also

preserves the energy embedded in infrastructure, such as roads, water and sewer lines.

3. Retrofit our existing building stock: Many historic and older buildings are remarkably energy efficient because of their site sensitivity, quality of construction, and use of passive heating and cooling, while other buildings require improvements to reduce their environmental footprint. Historic buildings can go green without compromising historic character.

4. Respect the integrity of our historic buildings and their character-defining features.

Our Commitment

Focus on Local, State and Federal Policy: The National Trust for Historic Preservation will work with several cities to develop model policies that encourage preservation as sustainable development. This work will include refining building, energy and zoning codes, as well as developing model language for comprehensive plans and climate change action plans. We will also work to expand the availability of historic tax credits at the state and federal level, encourage other financial incentives for building reuse and community revitalization and support energy policy that improves energy efficiency in older buildings. We opened up the Preservation Green Lab in Seattle in 2009 to lead these outreach efforts.

Empower Preservation Practitioners: The National Trust will provide our network of practitioners with the tools they need to incorporate green building practices into their preservation work. This will include development and dissemination of best practices and other guidance for greening older and historic buildings. A Weatherization Guide for older and historic buildings is a particularly useful tool on our website. http://www.preservationnation.org/issues/weatherization/

How Do Sustainability & Preservation Intersect?

Sustainable Development: The agreed-opon definition of sustainable development is "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." as created by the UN World Commission on Environment and Development, 1987, the Brundtland Commission. All this basically means is that anything we do today should not negatively impact our children and our grandchildren.

In many respects, preservation is just a sound, common-sense approach to protecting the resources, culture and heritage of our planet and that is inherently sustainable deveolopment. In the following pages, we present many ways to make your site greener and to help you improve the components of your historic site that have always been sustainable. Why choose to be more environmentally conscious? Because not only is it good for the planet, it's sound business practice. When you improve your efficiency, you improve your bottom line by providing more funding for your core missions and that's just good for everyone.

*Take a look at the Glossary in Section J of this Chapter, page 108, if you are not sure about a definition.*

*The Green Issue, Preservation magazine, March 2008*

*Two recent "green" projects:*

*Cliveden's environmental management rehabilitation project was evaluated against LEED but could not meet the sewer pre-requisite due to the existing sewers in that area of Philadelphia.*

*The rehabilitation of the North Gate House at Lyndhurst used all Energy Star equipment.*

*Cliveden's existing drainage before the rehabilitation.*

*North Gate House, Lyndhurst*

## B. INTRODUCTION TO SUSTAINABLE PRACTICES

### Is the Existing Building Really the Greenest One?

For some time now, we, at the National Trust, have taken up the mantle "The greenest building is the one already built", first declared by architect Carl Elefante, FAIA of Washington, DC. And while it would seem a no-brainer that it would be less of an impact to climate change to reuse our existing and historic buildings than to build new, we cannot just rest on our laurels. Doing nothing is not an option. Because after all, we got into this problem with our current building stock - by the wasteful way we have been constructing and operating all of our buildings, including our historic sites. We have to do better now - by understanding the inherent green-ness in many historic sites and working much harder to make them better.

We do not necessarily need a big construction project in order to make our sites "greener". Every little bit can help in so many ways. You can start by developing "Green Housekeeping" recommendations – practices that can be implemented at any site with or without a big capital improvements project. And this can be done with little if no hit to your bottom line. The green housekeeping program developed at Lyndhurst, our National Historic Landmark "castle" on the Hudson, is a perfect example of this approach. Here, a staff with no dedicated funding, declared among themselves that they needed to make a difference, started a "green team" and changed all their housekeeping products to Green Seal approved products. This is a great story which is shared in the Case Studies at the end of this section.

And if you are undertaking a capital project, there are many ways to develop an environmentally friendly construction project, up to and including certifying your project under a third party rating system such as LEED (Leadership in Energy & Environmental Design). The Visitor's Education Center at President Lincoln's Cottage in Washington, DC is our first LEED-certified building (and Gold at that!). If you'd like to know more about LEED, please refer to an article located in the Attachments part of this section or contact the Graham Gund Architect.

### Green Building Rating Systems

Sustainable practices provide for human needs while protecting the environment. Over the last ten years, green building rating systems have been developed to assist owners, developers and architects in creating sustainable structures and sites and making our existing building stock greener.

In the United States, LEED, Leadership in Energy and Environmental Design, is the most widely used rating system. LEED certification provides independent, third-party verification that a building project meets the highest green building and performance measures. All certified projects receive a LEED plaque, which is the nationally recognized symbol demonstrating that a building is environmentally responsible, profitable and a healthy place to live and work.

# XIII. Sustainable Practices

LEED was created and is managed by the U. S. Green Building Council, a nonprofit organization headquartered in Washington, DC.

For more details on USGBC and LEED go to www.usgbc.org.

There are both environmental and financial benefits to earning LEED certification. LEED-certified buildings often:

- Lower operating costs and increased asset value.
- Reduce waste sent to landfills.
- Conserve energy and water.
- Are healthier and safer for occupants.
- Reduce harmful greenhouse gas emissions.
- Qualify for tax rebates, zoning allowances and other incentives in hundreds of cities.
- Demonstrate an owner's commitment to environmental stewardship and social responsibility.

A variety of LEED products focus on different aspects of building use and construction. LEED – NC (New Construction) is the most widely used rating system and it includes new construction and rehabilitation projects. LEED-EB (Existing Buildings) is an operations and maintenance program that focuses on maintaining buildings and managing them in a responsible manner. Other LEED programs include Core & Shell, Commercial Interiors, Schools, and Neighborhood Development.

*President Lincoln's Cottage*
*Washington, DC*

## The Sustainable Preservation Coalition

The National Trust for Historic Preservation created the Sustainable Preservation Coalition in 2006 in order to impact further development of the LEED (Leadership in Energy & Environmental Design) Building Rating Systems. We partnered with several national organizations who were developing separate sustainability agendas including the AIA, APT International, the National Park Service, General Services Administration and the National Conference of State Historic Preservation Officers. We realized we could make a bigger impact integrating historic preservation and green building values by working together.

Our first goal was to meet with the U.S. Green Building Council, the developer of LEED, and open up a dialogue to discuss improvements to their products which would better reflect the importance of existing buildings to sustainable stewardship of our planet and its limited resources. While LEED does much to encourage more sustainable development, and historic buildings can achieve the highest LEED rating, we believed it could certainly do better because the previous version of LEED (LEED 2.2):

1. Overlooks the impact of projects on cultural value;
2. Does not effectively consider the performance, longer service lives and embodied energy of historic materials and assemblies;
3. And is overly focused on current or future technologies, neglecting how past experience helps to determine sustainable performance.

*President Lincoln's Cottage*
*Visitor Eduction Center - LEED Gold*
*Washington, DC*

*"Nobody made a greater mistake than he who did nothing because he could only do a little."*
*Edmund Burke*

Our meeting with the President of USGBC (Rick Fedrizzi) and the Director of LEED Technical Development (Brendan Owens) was quite successful, ending with Rick inviting us to help them prepare preservation metrics for the revised versions of LEED. Over the past four years, our coalition has been meeting with USGBC and has assisted in the development of the new version of LEED, LEED 2009 and LEED ND (Neighborhood Development). See the end of this section for further description about the changes to LEED (a posting from PreservationNation's "Beyond Green Building" blog.)

## Putting Sustainability into Practice at a National Trust Historic Site

We do not need a big construction project in order to make our sites "greener". Every little bit can help in so many ways. This section is split into two sections –

Section 1 provides Green Housekeeping recommendations – practices that can be implemented at any site with or without a big capital improvements project. Section 2 discusses the various ways that larger capital construction projects can work to attain LEED certification and just be better for the planet.

The recommendations in both of these sections have been separated under the 4 categories that are used in LEED: Sustainable Sites, Energy and Atmosphere, Materials and Resources and Indoor Environmental Air Quality.
Many of these recommendations are really common sense. LEED certification does cost money and it does require accredited professionals and teams who are experienced in green building design and rehabilitation. The good news is that sustainable design is becoming the norm not the exception in the construction world. Following the tips, there are 3 case studies of National Trust Historic Sites that demonstrate the various levels at which a site can work to be more sustainable, followed by a blog posting by Barbara Campagna and Patrice Frey which discusses the revisions to LEED, and a Windows Tip Sheet prepared by Rebecca Williams from the National Trust's Northeast Office.

*Green Seal cleaning products are used throughout the buildings at Lyndhurst including in this museum space*

## Good Housekeeping is Green Housekeeping

Small changes can generate huge positive results in our impact on the environment as well as on our impact to our bottom line. The US contributes almost 25% of the green house gas emissions in the world despite only having 5% of the world population. While it may seem impossible for one person or one site to make a difference, a recent article in *Time* magazine suggested that the human factor of controlling and changing our behavior could actually positively impact greenhouse gas emissions significantly almost immediately. A McKinsey study found that a global effort to boost efficiency with existing technologies could have "spectacular results," eliminating more than 20% of world energy demand by 2020. With that in mind, no small action will go unnoticed. Therefore, we start our recommendations with the small, achievable "green housekeeping practices" - actions you can integrate into your site's daily and cyclical site maintenance activities with little effort and little extra money.

NOTE: A special section discussing museum spaces and heritage landscapes can be found on page 96.

# XIII. Sustainable Practices

## C. GREEN HOUSEKEEPING PRACTICES

SUSTAINABLE SITES

Practices that provide for human needs while minimizing the impact on the environment, our landscapes and our communities.

- Encourage eco-friendly transportation – Carpool, public transit, install a bike rack/storage.
- Use brooms and rakes instead of gas-powered equipment.
- When you must use gas powered equipment, only use them during the cooler times of the day which will actually use less gas.
- Reduce architectural lighting by turning off exterior night lights at least one night a week. Eliminate entirely if and wherever possible.
- Reduce light pollution – Partially or fully shield all fixtures 50 watts and over so that they do not directly emit light to the night sky.
- Keep any site vehicles tuned up. Well-tuned engines conserve gas.
- If you have a kitchen, restaurant or cafe on your site, encourage the development of a composting program.

*Water | Landscaping & Irrigation*

- Water the yard or garden in the early morning or evening when it is cooler, discouraging excess evaporation.
- Water at the right time of day – sunset, calm winds, and cool temperatures (between evening and early morning).
- Water plants properly – set sprinklers to only water the lawn or garden.
- Don't use a sprinkler when it's windy.
- Use organic fertilizers – can reduce required irrigation among other benefits.
- Compost leaves and yard trimmings to divert from landfills.
- Ensure there is no standing water on your site. By eliminating breeding grounds for mosquitoes and other pests, you will eliminate the need for pesticides.
- Group plants with similar water needs - place thirsty plants together and water them longer, but less often, to encourage deeper roots and increase their drought tolerance.
- Putting mulch around plants and on lawns can cut the amount of water lost through evaporation by up to 70 percent.
- Limit the use of potable water, on or near the site, for landscape irrigation.
- Raise the lawn mower cutting height – longer grass blades help shade each other, reduce evaporation, and inhibit weed growth.
- Be creative and resourceful with water usage. Use the water from the air conditioning condenser, dehumidifier, bath, or sink on plants or the garden.
- Do not use black water or water that contains bleach, automatic-dishwashing detergent, or fabric softener.
- Pools - if your site has a pool, cover it when not in use to minimize evaporation. Covering it will also reduce heating costs by 50-80%.
- Pools - Minimize the need for chlorine, which is harmful to the environment and human health, by using alternative systems such as an ionizing water purifier.

*COMPOST PILES*

*Cooper-Molera Adobe (top photo) and Villa Finale (bottom) have both created compost piles. Villa Finale also built a bat house to encourage bats to remove pests.*

*Compact fluorescent light bulbs (www.tradenote.net)*

*Use of historic interior shutters Villa Finale, San Antonio, Texas*

ENERGY AND ATMOSPHERE
Practices that meet human needs while conserving energy.

*Lighting*

Compact Fluorescent Light bulbs (CFLs).

- Use compact fluorescent light bulbs (CFLs) and T-8 ballasts wherever possible, including street lamps. CFLs are especially useful where extended lighting is required.
- Replace "back of house" incandescent lamps with self-ballasted compact fluorescent lamps.
- Use an outdoor CFL that is between 9 and 18 watts if lighting outdoor areas for security.
- Turn off exterior lights in the morning or install motion sensors.
- There has been some mis-placed concern about the mercury in CFLs. There is a small amount which means you need to properly dispose/recycle them, but the amount of mercury in them is infinitesimal. Far more mercury can be found in the by-product of the incandescent light bulb manufacturing process.

Light-Emitting Diode (LEDs)

- Use LED exit signs wherever possible. Replace exit lights with 2-3 watt LED type fixtures.
- LED replacements are available for track mounted halogen MR-16 lamps which are found in buildings, PAR lamps, candelabra lamps and several other lamp types.
- LEDs are incredibly efficient but much more expensive and not as universally available as CFLs have become. But this is changing and in several years we will probably be changing all of our CFLs to LEDs.

*Natural Light*

- Arrange furniture to take advantage of natural light from windows. Place desks and reading chairs next to windows.
- Install dimmer switches wherever it makes sense and always turn lights out in rooms not being used.

*Energy | HVAC*
*Equipment*

- Use less hot water – wash items and hands in cold water.
- Clean or replace the filter in furnaces and air conditioners monthly or as recommended by the manufacturer.

*Heating and Cooling*

- Adjust thermostats – 2 degrees less in the winter, 2 degrees more in the summer.
- Set the thermostat no higher than 68 degrees in the winter.
- Practice efficient heating during the winter:
    - Close shades, shutters and curtains to reduce heat loss as soon as the sun goes down.
    - Open all the shades and curtains during the day, except those on

north-facing windows to take advantage of solar heat gain.
  - Close doors and vents to rooms that are not being used.
- Do not place lamps near air-conditioning thermostats – heat from the lamp will cause the air conditioner to run longer than necessary.
- Apply door sweeps to the bottom of exterior doors and install weather stripping to minimize gaps and thus heat loss.
- Seal cracks and block openings – Block unnecessary vents, weatherstrip all seams.
- Use operable historic shutters to reduce heat gain – Close shutters in the morning and open in the late afternoon during warm months, perform the opposite in cooler months.
- Use operable double-hung windows – Open the top sash to allow warm air from the top of the room to escape. Open the bottom sash on the shade side of a room to pull in cool air while displacing warm air.
- Wherever possible, provide for natural ventilation. Open up transoms.
- Use ceiling fans to save money on cooling and heating and reduce energy waste. Use them instead of air conditioning. Running them in reverse in the winter pushes the warm air down from the ceiling conserving energy.

*Energy | Appliances*
- When not in use, turn off and unplug electronic devices, especially at night and on weekends and during vacations..
- Purchase appliances with the Energy Star® label.
- Keep the refrigerator full – food retains cold temperatures better than air.
- Set the refrigerator to 37 degrees Fahrenheit, set freezer to 3 degrees Fahrenheit to conserve energy.
- Clean refrigerator gaskets regularly and vacuum the condenser coils twice a year.
- Minimize use of large equipment, 3pm-7pm (the hottest time of day).
- Shift appliance use to off-peak hours – 9pm-7am; call the utility company to see if they offer off-peak rates.

*Water | Plumbing*
- Improve all your faucets with an aerator. Aerators mix air into the water stream, maintaining a steady pressure.
- Only wash oily dirt or stains in hot water; use cold and warm for everything else.

*Windows*
- Reduce heat loss through windows by covering them with heavy drapes at night—this acts as insulation at a time when there is no solar energy to gain.
- Caulk all cracks between walls and window frames and weatherstrip, especially under the windowsills.

*Attic Spaces*
- *Attic Hatches and Doors:* Weatherstrip the edges of the access hole and insulate the back of each hatch and door.
- *Holes in the Attic Floor:* Seal all holes for wires, pipes, ducts and vents with a good general purpose caulk or spray foam. Use filler material for larger

Green Your Cleaning Products
Alternative solutions to paper towels and harsh chemicals

Paper Towels
When using paper towels, opt for more eco-friendly alternatives made from recycled paper and chlorine-free bleach (or no bleach).

Reusable Cloths
Delay their visit to the landfill and reuse old t-shirts. Or, purchase reusable polyester cloths, sold at grocery and drugstores.

Scrub Brushes
Harsh scrubbing products can be replaced with a sturdy, stiff-bristled scrub brush with a little baking soda or borax.

Newspaper
Newspaper and vinegar make a great combination in cleaning glass.

*Aerators like this are used at National Trust sites. (www.folkcenter.net)*

Green Cleaning Products
In addition to using DIY (do it yourself) cleaners, some commercial products which are generally considered good for the environment include:

Method (methodhome.com)
Available at grocery stores and mass retailers such as Target.

Seventh Generation
Available at grocery stores, Whole Foods Market and mass retailers such as Target and Bed, Bath & Beyond.

Clorox GreenWorks
Available at grocery stores and mass retailers such as Target.

*Insulated ducts at Cliveden Philadelphia, Pennsylvania*

holes.

- *Chase for Plumbing Stacks:* This channel may run inside the walls of the building, from the basement to the attic, with openings at each floor where the pipes branch off. If the chase isn't much larger than the pipes, seal with expanding foam. For larger chases, use drywall, wood or rigid foam, and caulk or foam around the edges.
- *Interior Walls and Partitions:* Caulk or insulate along the tops of the interior walls where the top plate meets the plaster or drywall.
- *Exterior Walls:* Caulk along the tops of the exterior walls where the top plate meets the plaster or drywall.
- *Soffits or Changes in Ceiling Height:* Caulk along the joints where the walls change height.

*Basements*

- *Sill Plate and Band Joist:* Fill cracks between the sill plate and foundation with caulk that works well with masonry. Next, caulk areas between the sill plate and band joist and insulate the band joist area.
- *Openings Running Through Basement Ceiling:* Seal the hole where the bathtub drain comes down and any other holes for plumbing or electrical wiring in the basement ceiling with caulk or foam. Use a filler material for larger holes.
- *Ducts:* Caulk or insulate where the metal duct opening and the ceiling, floor
- or wall meet.
- *Hot Water Tanks and Lines:* Wrap storage tanks with R-16 insulation jackets and insulate hot water pipes with R-6 insulation. If this level of insulation is not possible, insulate all hot water pipes in unconditioned space and the first four feet of hot water pipes extending out of the water heater. Water jackets and insulation are inexpensive and easy to install. Save an additional 5%–12% of energy with electric water heater by installing a timer that turns it off at night when hot water is not in use and/or during peak demand times. Timers cost $60 or more, but offer a return in a year.
- *Basement Windows:* Using a caulk that works well with masonry, fill cracks where the frames of the windows are set into the walls.
- *Hatch or Door to Crawl* Space: Weatherstrip the edges and insulate the back of the hatch or door.
- *Other Holes:* Seal any cracks or holes in the foundation with the appropriate patching material.

*Air Infiltration*

- *Electrical Switches and Outlets:* Install foam gaskets on all switches and outlets—even on interior walls. Use child-safety plugs to minimize the amount of cold air coming through the sockets.
- *Recessed Lights and Bathroom Fans:* Caulk around these with a flexible, high-temperature environmentally-friendly caulk as they can cut into the attic insulation and create pathways for air leaks.
- *Doors:* Exterior doors with magnetic seals will offer superior air infiltration benefits. Use interior-grade caulk around the frames of exterior doors. To increase efficiency, interior doors should have adequate undercut to maintain balance in the HVAC system. For carpeting, be sure the airspace from the

undercut is still sufficient after carpeting has been laid since the carpenter will have hung the doors earlier and may not know the thickness of the pad and carpet.

MATERIALS AND RESOURCES

Encourage the use of recycled materials and resources made from natural and recyclable materials, minimizing the impact on the environment.

*Recycling*

- Participate in a recycling program, providing bins on-site for: paper, glass, plastic, batteries (tub collector), and fluorescent light bulbs.
- Send the fronts of holiday greeting cards to St. Jude's Ranch for Children – the children in St. Jude's care make and sell new cards from the old ones they receive: St. Jude's Ranch for Children, 100 St. Jude's Street, P.O. Box 60100, Boulder City, Nevada, 89006.
- Use a paper shredder to shred nonrecyclable paper.
- Consider an alternate use for broken items.
- Implement a towel/linen reuse policy in guest rooms.
- Set up the printer and photocopier to make two-sided copying the default mode.
- Use old paper products as scrap paper/ miscellaneous printing paper.
- Keep recycling bins at everyone's desks and in every office.
- Recycle printer ink and toner cartridges.

*Sustainable Materials | General*

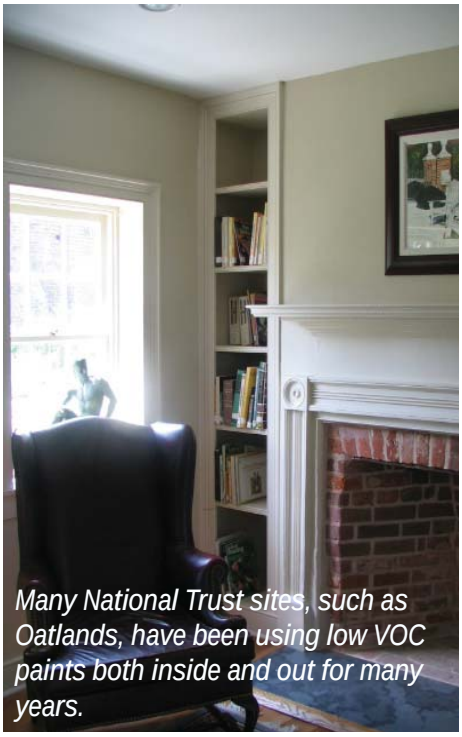
- Use environmentally friendly refrigerants – Non-HCFC refrigerants such as R410A or R134A.
- Use recycled/sustainable materials (100% post-consumer recycled paper, pencils, folders, etc.).
- Use 100% Green Seal certified soap and paper products in public and staff rest rooms.
- Practice sustainable catering – serve sustainable seafood and locally grown food.

*Sustainable Materials | Design*

- Interior Paint Guidelines
    - Clean existing painted surfaces instead of painting.
    - Consider using recycled paint, which is reprocessed to match the performance of new latex paint.
    - For interiors (without historic decorative finishes) consider light colors that reflect more light, improving visibility and reducing the need for supplemental light (when necessary for walls, use semigloss and/or neutral colors, which are easier to clean and hide dirt).
    - Consider the extreme durability of mineral silicate paints for concrete (including stucco), stone, and other mineral substrates.
    - Ask for paint that is Green Seal Certified (i.e. meet GS-11 standards).
    - For interior applications, consider casein-base paint (i.e., milk paint).


*Battery recycling is practiced at Kykuit. (www.batteryrecycling.com)*

*Low VOC Latex paint was used in the shop at President Lincoln's Cottage Washington, DC*



*Many National Trust sites, such as Oatlands, have been using low VOC paints both inside and out for many years.*

*Recent restoration projects at the Smokehouse and Mansion at Woodlawn have used low VOC paints.*

*Cleaning Products*

- Save water, energy, and packaging by switching from liquid detergents to powder detergents.
- Use Do-It-Yourself (DIY) Cleaners or products certified by Green Seal or the Design for Environment program of the EPA.
- Vinegar, borax, lemon juice and baking soda can replace most off-the-shelf cleaners.

INDOOR ENVIRONMENTAL AIR QUALITY

Practices that support healthy indoor air quality by minimizing noise and air pollution indoors.

- Utilize entryway systems (grilles, grates, mats) to reduce the amount of dirt, dust, pollen, and other particulates entering the building at all public entryways to prevent contamination of the building interiors and reduce the need for cleaning and vacuuming.
- Use natural paints and finishes, or water-based (latex) paints with low- or zero-VOC that carry little or no petroleum-based solvents.
- Use products clearly labeled: nontoxic, biodegradable, chlorine-free, phosphate-free, non-petroleum based, vegetable oil based, fragrance-free, and no dyes.
- Make cleaners using distilled white vinegar, baking soda, club soda, salt, cooking oil, lemons, borax, and washing soda.
- Use 100% Green Seal certified cleaning supplies – one product mixed at different strengths to clean windows, floors, walls, etc. Use special waxes and sealers for marble and wood floors once per year.
- Buy/make cleaning products in concentrate.
- Avoid cleaners with: ammonia, chlorine, monoethanolamine (MEA), glycol ethers, alkylphenol ethoxylates (APEs), phthalates, and triclosan.
- Use high-efficient vacuum cleaners that operate at a sound level less than 70 dBA and are capable of capturing 96% of particulates 0.3 microns in size.

## D. DESIGN & CONSTRUCTION PRACTICES

While many of the following recommendations are typically involved in larger capital improvements or construction projects, they can also be included in a "green housekeeping program." The key is to understand how all of your actions and decisions, whether they are part of your daily maintenance or of a construction project, can be better planned to be more environmentally sound and improve your budget in the long run.

### LEED

First published in 1999 by the U.S. Green Building Council, the Leadership in Energy and Environmental Design (LEED) Green Building Rating System defines and evaluates "green buildings." In doing so, the system facilitates improving the quality of buildings and their impact on the environment. Six core rating divisions exist within the system: New Construction, Existing Buildings, Commercial Interiors, Core + Shell, LEED for Homes, and Neighborhood Development. A point system awards credits for the implementation of sustainable design methods in building design and maintenance. Projects are classified according to point accumulation: Certified 40-49, Silver 50-59, Gold 60-79, and Platinum 80-110.

Any capital new construction or rehabilitation projects at Historic Sites will be evaluated by the Graham Gund Architect to determine whether LEED certification should be a goal. Many of the recommendations in both the Green Housekeeping and Design and Construction sections can be implemented regardless of whether actual LEED certification is a goal.

There are many ways to achieve the goals of good sustainable design and a full design project would be developed with the assistance of an architect and engineer experienced in sustainable design. New approaches and techniques are being developed every day. But often, the passive approach at any site is the most effective, such as understanding your climate and using your building's original design features as they were intended to be used in your region. Following are just some of the ways to incorporate sustainable methods into your projects.

### SUSTAINABLE SITES

By maintaining and cultivating the natural landscape with minimal impact, and protecting and enhancing the ability of landscapes to perform their natural functions, you can regulate the climate, clean air and water, and improve quality of life. The categories listed under this heading include proper landscaping and irrigation techniques.

- Implement an integrated pest management strategy. Keeping pests out means not needing to use toxic pest removal products.
- Evaluate the irrigation system – install low-volume, micro-irrigation for gardens, trees, and shrubs.
- Evaluate fountains – do not install or use ornamental water features unless

*The restoration project of the Brick House at Philip Johnson's Glass House is being evaluated for LEED.*

### *When to Know if a Project should register for LEED*

Every construction project at National Trust site is now evaluated for LEED certification. Typically an eco-charrette will be held during the Schematic Design phase of projects. An eco-charrette is an interactive brainstorming and team-building exercise that generates and targets sustainability goals for a building. This will result in a sustainability plan for the construction and operations of the building project, which may or may not include registering for LEED.

*Tankless hot water heater. (www.mcintyrehomes.com)*

*New drip irirrigation will be installed at Villa Finale, San Antonio, Texas*

they recycle the water.
- Compost food waste and yard waste.
- In lieu of irrigation in arid climates, implement xeriscaping, also naturescaping and/or permaculture in other climates.
- Create a meadow of indigenous wildflowers, native trees and shrubs, plant an attractive ground cover, or plant an organic herb and vegetable garden.
- Native plants save time and expense, since they are adapted to local insect species and weather; they won't require daily watering or pesticides. Lawns require daily watering – an unsustainable practice.
- Reduce the heat island effect and control storm water runoff by applying strategies to the site's hardscapes (roads, sidewalks, courtyards, parking lots) – Use masonry pavers, provide shade, use an open-grid pavement system (at least 50% pervious). Use reflective materials.

*Water | Landscaping*
- Use timers to regulate water use in fountains.
- Collect rainwater with a rain water catchment system – Reuse roof runoff, preventing it from being absorbed into the surroundings.

*Water | Irrigation*
- Conduct a review of the site to determine spaces where irrigation requirements can be reduced and/or eliminated.
- Determine appropriate plant material and design the landscape with native or adapted plants to reduce or eliminate irrigation requirements.
- Utilize landscaping strategies that do not require permanent irrigation systems.
- Consider the use of recycled wastewater.
- Consider the use of water treated and conveyed by a public agency specifically for non-potable uses.
- Use an automatic irrigation system in high profile areas, reducing water consumption.
- Set up modern irrigation controls at night – substantially reduce evaporation and allow more of the water to remain where it is needed. These controls could also utilize ground moisture sensors to eliminate irrigation when it is not needed and also reduce runoff associated with excess irrigation.
- Drip type irrigation systems should be considered to improve water efficiency and further reduce evaporation.
- Consider the use of an on-site ground water well to reduce the amount of potable water used for irrigation. Well pumps could be tied to automatic irrigation controls providing operation during off peak electrical periods when electricity costs are substantially reduced.
- Install moisture sensors on sprinkler systems.
- Use weather-based irrigation controllers, which can reduce water use by 20 percent compared to conventional equipment.
- Soil moisture sensors determine the amount of water in the ground available to plants. These sensors, when professionally installed and properly maintained, can potentially save more than 11,000 gallons of water used for irrigation annually.

# XIII. Sustainable Practices

ENERGY & ATMOSPHERE
Practices that meet human needs while conserving energy.

*Lighting | Motion Sensors*

- Use infrared (IR) motion sensors for lights, i.e., lights in stairwells or on dark landings where light is temporarily used, and public spaces (interpretation rooms, restrooms).
- Utilize a time clock in conjunction with a photocell. The system will turn the lights on when the area reaches a specified light level and shut them off at a time specified by the operator.
- Install dimmer switches where dimmed lighting makes sense, i.e., dining rooms and hallways.

*Energy | HVAC*

General

- Create a sustainability master plan to evaluate efficiency of equipment.
- Monitor systems remotely to verify operational control.
- Schedule an energy audit – many utility companies provide audits at no or low cost.
- Commission the existing building's systems to ensure that they are operating properly and efficiently. Many issues could be discovered that could affect energy usage, indoor air quality, and overall proper operation.
- Purchase Renewable/Tradable Energy Certificates (TRCs) or "green tags."

Equipment

- If possible, replace the old boiler with a new, energy efficient one.
- Monitor boiler run hours and reduce nozzle size if possible by removing a boiler section, further reducing burner nozzle size, and thus reducing fuel usage.
- Add a summer domestic hot water heater (a condensing type unit, run at 94% efficiency), eliminating the need to run the large boilers during the summer months, substantially decreasing standby losses.
- Investigate hot water solar panels. Up to 50% of the domestic hot water load could be heated through hot water solar panels.
- Install building automation systems which enable each piece of equipment and each mechanical system to operate only when necessary – chilled water system operation, hot water system operation, air handling units operation, and gallery humidity control.

Heating + Cooling

- Install ceiling fans to save money on heating and cooling.
- Preserve high ceilings to allow air to circulate and light to enter a building.
- Understand your climate and the passive systems that were either originally designed into the buildings or can be. See page 98 for more examples.

*Energy | Appliances*

- Purchase renewable wind energy to offset all electrical usage.
- Use photovoltaic tiles on the roof as an alternative to large, obtrusive photovoltaic panels.

*IR motion sensor. (www.smarthome.com)*


*Renewable wind certificates are used at Kykuit. (www.rogerwendell.com)*

*New energy efficient chiller at Cliveden, Philadelphia, Pennsylvania*

*New low flow toilet in the Visitor Education Center at President Lincoln's Cottage.*

*Cork flooring at the new accessible entrance in President Lincoln's Cottage.*

- Switch to green power – use energy generated by renewable sources such as wind and solar.

MATERIALS & RESOURCES

The use of recycled materials and resources made from natural and recyclable materials, minimizing the impact on the environment.

*Sustainable Materials | General*

- Work with vendors who follow green/sustainable practices.
- Buy laptops, not desktops – recycle the old computers; laptops use less energy than desktops.
- Use a minimum of 50% timber labeled with the Forest Stewardship Council (FSC) certified timber label.
- Replace paper towels with hand dryers – save on paper re-stocking, trash, and staff time.

*Sustainable Materials | Design*

- Use wool floor coverings instead of synthetic alternatives – more durable and easier to clean.
- Use renewable flooring materials: cork, bamboo, linoleum.

*Water | Plumbing*

- Repair all water leaks.
- Replace toilets with ADA comfort height, low-flow and install high efficiency, WaterSense labeled toilets.
- Install water saver faucets.
- Use low-flow fixtures (showerheads in guestrooms), automatic controls, and dry fixtures (waterless urinals).
- Use graywater (water from sinks, showers, and other sources) to substitute for potable water to flush toilets, and urinals.
- Use a tankless/on-demand water heater. These units heat water instantly when called for, eliminating the need for a storage tank. They can also be integrated with a hot water boiler for home heating. Tankless water heaters take up little space, can be highly efficient, provide an endless flow of hot water, and water temperatures can be set according to a specific need. They can be powered by natural gas, LP gas, kerosene, or electricity.

*Roofing*

- *Wood Shingles:* Replace deteriorated wood shingles and shakes, made from unsustainable, old-growth woods with more renewable ones.
- Replace flat roofs with light colored, white reflective membranes and coatings: This is an excellent option for flat roofs with parapet walls. This will reflect the sun's energy and can reduce cooling requirements in the warmer months by as much as 20%. A less expensive alternative is painting your current surface with a reflective paint.
- Consider a green roof: Suitable for flat roofs, especially those with parapet walls. Extensive roofs require a 2'-6" deep layer of mineral based mixture (sand, gravel, crushed brick, leca, peat, organic matter, and soil). Once established, require little maintenance (weeding and membrane inspection

twice a year). More modular green roofs are available, providing ease in installation and requiring less soil.

*Windows*

- Install weatherstripping around the perimeter of double-hung windows.
- Replace inoperable sash locks – Consider side-mounted sash locks that pull the window tight to the sides of its frame, not just where the sash rails meet.
- Sash pockets, pulleys, and meeting rails are prone to air infiltration. Remove sash weights from their pockets and insulate behind the window frame. Whenever insulating frames use only low-pressure, minimally expanding foam that is intended for windows and doors – other foams will bow the frame and keep the sash from working properly.
- Use interior storm windows to create an insulating air pocket between single-pane windows and the inside of the building. These can be custom made and magnetized to snap into place when it's cold and easily removed when you want to let that outdoor air inside. Install interior storms with airtight gaskets, ventilating holes and/or removable clips to ensure proper maintenance and to avoid condensation issues.
- Install exterior, operable storm windows that do not damage or obscure the existing windows and frames.

*Historic wood windows at Shadows-on-the-Teche were recently restored in place, New Iberia, Louisiana*

INDOOR ENVIRONMENTAL QUALITY

Practices that support healthy indoor air quality by minimizing noise and air pollution indoors.

- Hot water extraction (steam cleaning) equipment for deep cleaning carpets
- Powered maintenance equipment (floor buffers, burnishers, automatic scrubbers) can be equipped with vacuums, guards, and/or other devices for capturing fine particulates. Operate at a sound level less than 70dBA.
- Prohibit smoking in the building and designate exterior smoking areas at least 25 feet from building entries, outdoor air intakes and operable windows.
- Implement an occupant comfort survey and complaint response system to collect anonymous responses about thermal comfort, acoustics, indoor air quality, lighting levels, building cleanliness, and other occupant comfort issues – at least 30% of total occupants, include an assessment of overall satisfaction with building performance and identification of any comfort-related problems.

*Weatherstripped windows, National Trust for Historic Preservation headquarters, Washington, DC.*

## E. BALANCING THE NEEDS OF MUSEUM SPACES & HERITAGE LANDSCAPES WITH GREEN PRACTICES

*A bedroom at Belle Grove, a museum space, Middletown, Virginia*

You may be concerned that many of the previous recommendations may negatively impact sacred spaces, character-defining features, archival collections, or heritage landscapes. It is important to remember that these recommendations are tools like any other tool. Just in the way that using a micro-abrasive system to clean exterior limestone may not be appropriate to clean the interior limestone in the same building (I've seen that happen on a project in New York City), applying LEED-NC may be appropriate for one building on your site but maybe not another. Solar panels and wind turbines may not be appropriate for the roof of the "Castle" at Lyndhurst, but they may be appropriate behind the greenhouse on that same site. Choosing the right green housekeeping practices and the appropriate sustainable design approaches must be balanced with your mission, your budget and historic preservation.

We have all been thrust into a new era that is both exciting and daunting. But we have the ability to make changes like we have never had before. We can stop climate change and we can do it with our choices. Denial is no longer an option. In the case studies at the end of this section you will see how many different tools were used at some of our sites. These sites made choices and saw them through, with or without big funders to support them.

*The Dining Room at Frank Lloyd Wright's Home & Studio, a museum space, Oak Park, Illinois*

### Museum Spaces

Cleaning and protecting our museum collections, interior finishes, objects and furnishings has long been one of the greenest practices in our culture. Would you see a curator cleaning a 200 year old wood inlaid table with Lemon Pledge? They've been using and promoting natural, Low VOC, DIY methods for a long time. And we can take some very smart lessons from them. We should continue all of these good, sound, common sense practices and extend them to all of our spaces, all of our buildings. At National Trust sites, museum spaces do NOT comprise the largest collection of our spaces, our buildings. We are a preservation organization - some of our buildings are museums, but many have been adapted for office use or entertainment use or continue in their original uses which were not museums. *Housekeeping for Historic Homes & House Museums,* a manual prepared by former National Trust Director of Collections Melissa M. Heaver, provides great low-impact tips which can be used in all spaces not just historically significant ones.

One basic question to ask yourself every time you think about picking up a product that you're not sure of is - does it have a scent? It's that "new car smell" phenomenon. We've been trained to believe that the "new car smell" or the "new carpet smell" is good; it represents something fresh and new. But it's really the opposite - Added scents to products typically mean that they have VOC's which are bad for your health, bad for the environment. Just say no to the "new car smell." When you have just painted a room or laid a new carpet, you should be able to walk in the room and smell very little or even nothing.

# XIII. Sustainable Practices

## Heritage Landscapes

Protecting and maintaining historic designed landscapes can be the most challenging of our site features in our new green world. Many of them defy all sound, "green" landscape and irrigation methods - they use non-native species, require enormous amounts of water and pruning, and may include topiary features. We are not suggesting you eliminate these important historic features or alter them. But we can suggest that you be smarter about your watering and irrigating techniques. Just implementing some basic changes like watering in the cooler parts of the day, not watering when it's windy or raining (!), and creating a rain-collection/harvesting system can reduce your water use enormously.

## Starting a Green Program at your Site

Do not automatically assume you can't do it at your site, in your building, or on your landscape. You probably recycle your aluminum cans, and do you remember when you started doing that? Maybe you read the newspaper online now. Well, it's the same thing with our buidings and landscapes. Start small, but be vigilant and consistent. We all are too busy, overtaxed and understaffed, but creating a holistic green program is probably the most significant thing your site can do to improve the stewardship of both your particular historic place and the planet. Here are a few basic steps to get you started:

1. Create a "Green Team" with a Team Leader.

2. Have regular meetings and start with achievable goals. For example, start by focusing on your lighting only or your cleaning methods only and proceed from there.

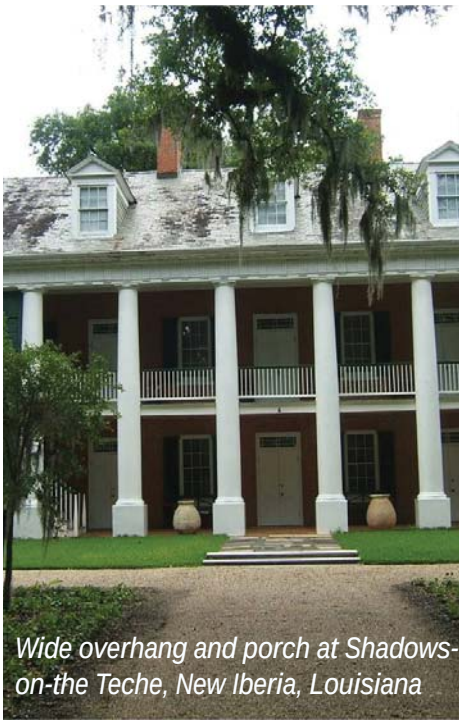
3. Contact one of the sites who have initiated a Green Program and get their advice. Invite their team leader to your kick-off meeting if possible (Lyndhurst, Brucemore and Kykuit are good places to start).

4. If you would like to do something more comprehensive, consider hiring a consultant to prepare a "Sustainability Master Plan" for your site. (Kykuit recently conducted one of these.)

5. When beginning a capital construction project, start by working with the Graham Gund Architect to coordinate an eco-charrette. President Lincoln's Cottage staff can provide details on this process.

*The Gardens at Kykuit*
*Tarrytown, New York*

*Heritage Orchard*
*Filoli, Woodside, California*



*Wide overhang and porch at Shadows-on-the Teche, New Iberia, Louisiana*

*The Brick House at Philip Johnson' s Glass House has been closed since 2008 in part because of toxic mold infestation.*

## F. PASSIVE CLIMATE MANAGEMENT FEATURES IN HISTORIC, TRADITIONAL BUILDINGS

Traditional historic buildings (built before 1945) were often built in ways that recognize the high degree of individual controllability that buildings that respond to their climate and region can have. Traditional and vernacular buildings, constructed before fossil fuels were in widespread use, required active participation of building occupants to manage and control their comfort, health and productivity. The ability to control your environment is enhanced by traditional design elements such as those discussed below. If you have any of these features and they've been closed up or sealed shut, reopen them!!

Operable Windows & Shutters: Not only do operable windows allow you to ventilate your building and get fresh air in, the ability to control your own environment positively impacts your frame of mind. Shutters, whether interior or exterior, are not just there to look pretty. They keep the hot sun out during the hot summer day and the cold air out on the cold winter night.

Awnings: Provide shade and insulation and minimize the need for air conditioning.

Courtyards with Natural Cross Ventilation: Tropical and humid environments have effectively been using courtyards for millennia to ventilate, heat and cool buildings.

High Ceilings with Transoms Above Doors: High celings help to move hot air upward (remember, hot air rises and cold air sinks...). Transoms above doors are there to help move the air and ventilate spaces. Ceiling fans are particularly useful in moving the air around and ventilating rooms.

Roofs & Porches with Wide Roof Overhangs: Porches are not just there to visit with your neighbors, they also protect the interior spaces from hot sun and cold air. Wide overhangs shield the interior spaces from hot sun.

## G. CHALLENGES OF MODERN HERITAGE BUILDINGS?

While many of our traditional buildings are inherently green, many of our modern heritage buildings (those built between 1950-1980) are inherently "less green". Almost 60% of our building stock was built in this period and these buildings were typically the most energy-inefficient ever built. These are the buildings that may be the biggest contributors to climate change. If we want to manage climate change, we need to address these buildings. As we begin to acknowledge the significance of modern heritage and acquire sites from that era, we find ourselves confronting questions and developing solutions reqarding authenticity, building fabric and energy efficiency that in many cases are the exact opposite of how we approach our traditional buildings. At both Farnsworth House and Philip Johnson Glass House, many of these issues are informing every decision we make. We are entering new territory with these buildings.

# XIII. Sustainable Practices

Experimental Materials & Assemblies: Glass curtain walls, precast wall and ceiling systems, concrete structure and panels - all have one thing in common - they were experimental materials and assemblies. The excitement of designing and building something completely new often superseded the rigorous research needed to confirm the longevity of these materials. Now, decades later, they may be crumbling and impossible to restore. Should we be forced to replace them in kind when they never worked or can we redesign and reinstall replacements that will work better but might look differently?

Sealing Buildings with Curtain Walls: In this same period we seemed to decide as a culture that operable windows were old fashioned and unnecessary. So we started hermetically sealing our buildings, and installing curtain walls and windows that couldn't open. How do we remake these features so that they improve our energy use, controllability and comfort but do not endanger the historic integrity of the buildings?

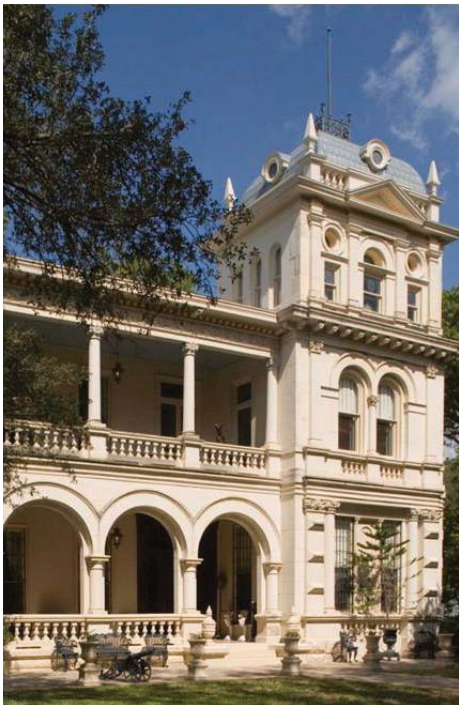
Hazardous & Dangerous Materials: Hand in hand with experimental materials went materials that were dangerous and toxic. Floor tiles made with asbestos. Curtain walls out of plate glass. Sealants with asbestos and sometimes lead. The list goes on. Should we be restoring dangerous materials? I think not. The classic problem is the use of plate glass. At both Glass House and Farnsworth House, plate glass was originally used because tempered glass wasn't readily avalable. But once tempered glass became the norm, whenever a piece cracked, the original owners replaced the glass with the newer, better, safer type. As stewards for the public, we cannot in good conscience continue the use of plate glass and as a result change any cracked glass with tempered glass. That has led to interesting discussions with more traditionally-minded preservationists.

Disposable Approach to Construction: It was all about excess during this era. Why build a building to last when we could just replace it when we tired of it? While most of the primary resources at our historic sites were built to last, that does not mean we may not encounter other resources at current or future sites that just were not built to last.

We will be confronting these challenges more and more as our building stock ages. The National Trust's newest program - the Modernism + Recent Past Program will inform the Sustainability Program and vice-versa and both will inform the management of our Historic Sites. Stay Tuned.....

*Oxide Jacking at the corner of the curtain wall in Farnsworth House Plano, Illinois*

*Shattered plate glass in Glass House after a turkey flew through the window New Canaan, Connecticut*



*Villa Finale, one of the test subjects for the historic windows assessment project, San Antonio, Texas*

*Typical historic double hung wood window at Villa Finale*

## H. NATIONAL TRUST SUSTAINABILITY RESEARCH

National Trust Historic Sites are key components in the National Trust's Sustainability Program and Research. While we all believe that historic and traditional builldings can be the "greenest", there is little scientific data to prove it. Rather than rely on anecdotal evidence, the National Trust has designed a research program to develop real data.

## HISTORIC WINDOWS ASSESSMENT PROJECT

The National Trust for Historic Preservation (NTHP) is undertaking a Historic Windows Assessment Project, which will entail a three-phased evaluation of the performance of historic wood windows. NTHP received funding for Phase I of this project, which will evaluate the thermal performance of historic wood windows relative to new, high performance windows, from NCPTT. Phase I will result in the development of a body of research that will facilitate the creation of a Decision Matrix and guidelines. The Decision Matrix will help building owners decide what interventions are the most appropriate for their building and climate, from both an energy savings perspective as well as from a historic preservation perspective

The National Trust plans to update and expand the seminal 1996 NCPTT Vermont windows study with a three-phased Historic Windows Assessment Project. Phase I of this program will assess the thermal performance of historic wood windows relative to new, high performance windows.

Much of the existing research suggests that the best way to evaluate the potential energy savings from changes in thermal loss associated with windows is to understand the full building through energy modeling. For example, in traditional buildings constructed before 1920, the majority of energy loss is often not through the windows but through the uninsulated roofs. In Phase II of this project, the National Trust intends to undertake an energy audit and energy modeling for each of our test buildings. This Phase will help identify all significant sources of thermal loss and gain in a cross section of historic buildings, and provide the data necessary to make informed decisions about how to improve the overall energy performance of historic buildings - not just the performance of windows.

Finally, Phase III will include a life cycle analysis of the environmental costs associated with the manufacture, use and disposal of existing and common replacement windows. This will provide valuable information about a host of environmental impacts associated with different windows, such as pollution generated during the manufacturing process. This will help demonstrate that while the annual operating performance of windows is important, there are other factors that must be considered when deciding between keeping and replacing historic windows.

# XIII. Sustainable Practices

The objective of the Historic Windows Assessment Project is to help architects, homeowners, developers and others make as informed a decision as possible about energy efficient upgrades to windows. Phase I will result in the development of a Decision Matrix and guidelines which will help building owners decide what interventions are the most appropriate for their building and climate, from both an energy savings perspective as well as from a historic preservation perspective. Additional Information from Phase II and III will be incorporated into the Matrix when it becomes available.

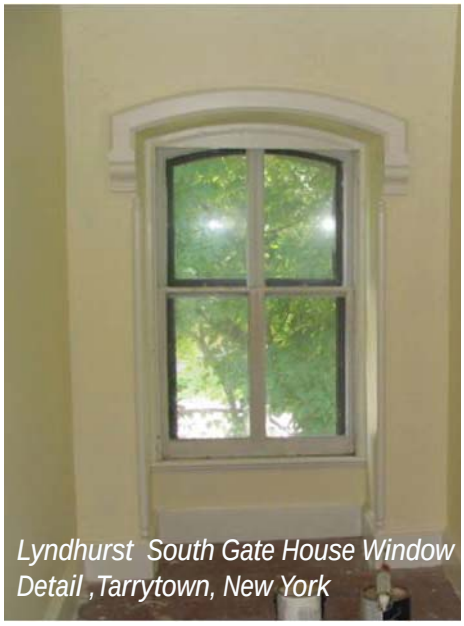
## Phase I

The project involves tests on windows at two of the National Trust for Historic Preservation's sites, including Villa Finale (1876) in Texas and Lyndhurst (1838) in New York. The proposed study at Lyndhurst will include testing of approximately five to ten windows. This will allow the National Trust to test the efficacy of different types of weatherization, such as zinc rib-type or Bronze V-strip weatherstripping. The National Trust is making preparations to open a recently acquired site, the Villa Finale in Texas. Restoration work is will entail the restoration of all windows in the home and improvements to the HVAC system.

The National Trust will incorporate a thermal efficiency element into the restoration of all the wood windows at Villa Finale. Since baseline data about the building's current energy performance is available, this will provide the ideal opportunity to measure the overall energy performance of the house once improvements to the windows have been made. The National Trust will also undertake full energy modeling of Villa Finale as part of Phase II of the Historic Windows Assessment Project to determine the full impact of window improvements compared to other upgrades, such as improved mechanical systems. In Texas, window upgrades may include technologies to reduce summer cooling loads and overheating as well as improve winter heating.

## Technical Details of Phase I

The Lawrence Berkeley National Laboratory (LBNL) is partnering with us as our energy modeling and testing consultant to complete this study. LBNL is a leader in windows research, and has a team of scientists dedicated to the study of window performance in its Environmental Energy Technologies Division, the Windows and Lighting Group. This group is exceptionally qualified to work with the National Trust to refine its methodology for the windows study, and execute the study using the highest scientific standards.



*Lyndhurst South Gate House Window Detail ,Tarrytown, New York*

*Lyndhurst Mansion Window Detail Tarrytown, New York*

The project uses a combination of in situ and laboratory testing, coupled with simulation, to learn more about the thermal performance of historic wood windows compared to new high performance windows. Windows at Villa Finale, and sample windows at the Lyndhurst mansion will be tested on site to determine the baseline level of performance; after upgrades have been made, the windows will be tested again to determine the extent to which such measures have improved the energy performance of the windows. At Villa Finale, the window restoration and upgrades include replacement of weatherstripping, caulking, broken glass and deteriorated wood components; improvement of operability, installation of new glazing putty and interior storms.

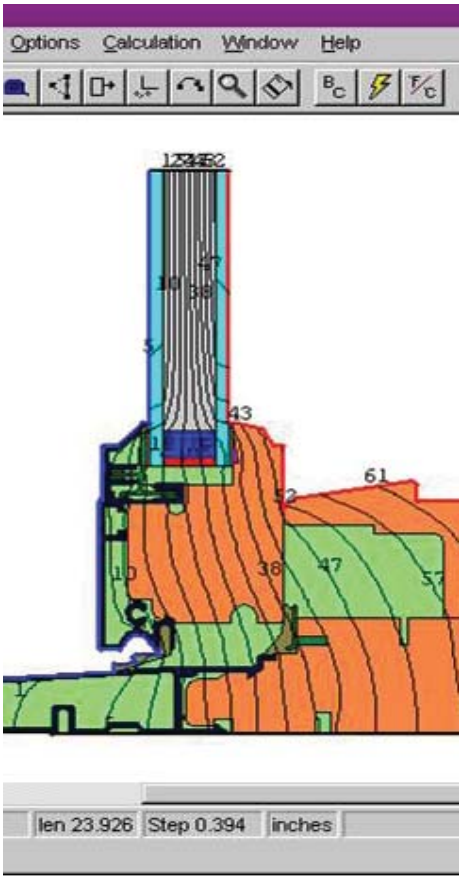
At Lyndhurst a sampling of windows, both sound and deteriorating, will be tested, with specific windows also improved in order to measure the impact of the upgrades. In situ testing may include the use of fan pressurization testing and thermography as well as evaluating the data through the use of such software programs as WINDOW and THERM developed by our partner, the Lawrence Berkeley National Laboratory. As it is not practical to field test replacement windows in the proposed historic sites, energy modeling tests will be used to determine the comparative thermal performance of replacement windows.

## Deliverables

This proposed study is a logical next step to the historic windows study previously funded by NCPTT in 1996. It will provide a vital and timely contribution to our understanding about the performance of strategies for improving historic windows compared to new windows. In combination with the additional phases of this study, which will entail energy modeling and life cycle assessment, the study outlined here will provide a comprehensive understanding of the role that windows can play in reducing overall energy use in historic buildings. To date there is far too little research on this subject.

We anticipate that Phase I of the Historic Windows Assessment Project will provide two important findings, as outlined below. These findings are divided into two different stages, based on the need for a longitudinal study of energy performance at the Villa Finale once window improvements have been completed.

Stage 1: Comparison of the thermal performance of historic versus new windows using a combination of on-site testing, laboratory testing and simulation in two different climate types and construction periods. This data should demonstrate the actual difference between the baseline performance of the windows, and the performance of the windows once they have been upgraded. Baseline and upgraded performance data can then be compared to laboratory tests and/or simulations of replacement windows.




*Example of THERM modeling from Lawrence Berkelely Lab*

# XIII. Sustainable Practices

Stage 2: Once the improvements have been completed at Villa Finale, data about improved energy performance of the entire building can be gathered through a variety of different means such as IR thermography, and analyzing electricity bills. This assessment should run at least a full twelve months to provide data about the performance of the improved windows in different seasons.

The National Trust proposes that two reports be released at the completion of each stage. A Preliminary Report can be released once Stage 1 activities are complete. A Final Report can be released upon conclusion of the Stage 2 longitudinal research.

*Villa Finale Window detail before restoration*

*Villa Finale Exterior Shutter San Antonio, Texas*

## I. LABELS, PRODUCTS & MATERIALS

### How to Know if a Product is Truly Green?

If you have tried to choose a "green" product or material, you probably quickly discovered that there is a lot of "greenwash" out there - claims by companies that their products are green, have been "certified" by LEED, are environmentally safe. Unfortunately there is not yet any readily agreed-upon method to determine how "green" a product is. And LEED does not 'certify" products. A product, assembly or material might be used to achieve a LEED credit, but if someone claims their product has been "certified" by LEED, just move past it.

Some manufacturers label their products to emphasize that the performance of their products meets standards such as Green Seal, DFE or EcoLogo when they have not been certified by those standards. Many products are making an environmental claim when there is only a single environmental benefit, such as recycled content, when there may be (and often are) toxic binders used to fuse materials together. Another example is products that are rapidly renewable but must be shipped extremely far distances to reach a local distributor. There is not yet a consensus on what a green product really is, leaving much of the burden of self-education and careful label reading on the consumer. One approach to this issue is to determine what your top priorities are - whether it is to purchase all non-toxic materials or to only buy locally - and purchase accordingly. You will likely have to make compromises along the way - and it will be that way for quite some time. There is a federal eco-label law taking shape under Senator Diane Fienstein's leadership. It is probably some time until this is enacted, but it is hopeful. See this article from GreenSource magazine. http://greensource.construction.com/news/2009/090223Eco-Labeling.asp

Below are the best places to start:

### The Federal Trade Commission

Because of the growing number of marketing claims on products wth confusing symbols, the Federal Trade Commission has published information to help consumers understand what they are buying. Although manufacturers are constantly finding new ways to market their products, this is a good place to start and weed out some of the greenwash. This information is available online at http://www.ftc.gov/bcp/edu/pubs/consumer/general/gen02.shtm.

### BuildingGreen.com

GreenSpec-Listed Green Building Products

The online GreenSpec® Directory lists product descriptions for over 2,000 environmentally preferable products. To choose these products the editors conduct their own research based on GreenSpec's current editorial focus. This independent research ensures that their product descriptions contain unbiased, quality information. They do not charge for listings or sell ads. http://www.buildinggreen.com/menus/

*New red cedar shingles at the Smokehouse at Woodlawn, where red cedar was chosen because it is a naturally renewable resource.*

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GreenSource Magazine
GreenSource Magazine, a joint venture between the USGBC and McGraw Hill Construction publishes recommended products in their print and online magazine which they have screened with BuildingGreen.com. While these are useful and interesting articles, the current industry resource for green products remains BuildingGreen.com http://greensource.construction.com/products/2009/01.asp

MATERIALS
Creating a list of materials that are green and not-green would be a dissertation in itself, largely because the information and research is changing and improving all the time. Below are just a selection of commonly accepted environmentally friendly materials that are regularly found at our historic sites:

CORK -Cork flooring and wall covering is a rapidly renewable resource which is self-healing, durable, sound absorbing, and naturally resistant to moisture, rot, mold and fire. Beware however of Cork-PVC laminate tiles which are not green.

CERAMIC TILE - Tile is an inherently low-toxic, waterproof and durable material. While it takes a fair amount of energy to manufacture, the materials used to create tile are readily available and fairly low impact. Many also contain post-consumer or post-industrial recycled content.

BAMBOO - Most bamboo flooring comes from the Hunan province of China. It is rapidly renewable. Despite the long-distance transport to the US, the durability, hardness, and short regeneration time provide justification for using it instead of wood.

LINOLEUM - Natural linoleum is a durable, low-maintenance flooring made from linseed oil, pine rosin, sawdust, cork dust, limestone, natural backings and a jute backing. It has been known to release some VOCs into the air however.

TEXTILES - Creating natural textiles impacts the environment in some way - heavy water use, pesticide, clear cutting. But the best alternatives tend to be chemical-free organic cotton, linen, wool and hemp.

INSULATION - Use insulation made from recycled blue jeans, recycled paper cellulose or soybeans. Most but not all fiberglass products use phenol formaldehyde as a binder, which contributes to off-gassing. Even if made from recycled content most traditional pink fiberglass insulation is friable.

The following pages list the various legitimate eco-safe labels you might encounter or should look for when seeking various eco-friendly product-types. Each of these standards is a third-party verification system meaning that no for-profit business manages them or has a stake in their decisions. They are each run by a nonprofit or government entity. While it is the best place to start to identify “green” products, there are some very good products which self regulate and have not been certified by any of these standards - Seventh Generation cleaning products is one of those companies.

*A bamboo forest in China from www.buildinggreen.com*


Energy Star www.energystar.org

Energy Star is a joint program of the EPA and the Department of Energy. It is currently the most widely known environmental standards rating system in the U.S. It establishes energy-efficiency criteria for a variety of equipment, products and even buildings; recommends purchasing specifications, home improvement techniques and training resources.


Design for the Environment (DfE) http://www.epa.gov/dfe/index.htm

DfE is a program of the EPA which focuses on researching and certifiying products based on their impact to pollution. The Design for the Environment (DfE) Program works in partnership with a broad range of stakeholders to reduce risk to people and the environment by preventing pollution. DfE focuses on industries that combine the potential for chemical risk reduction and improvements in energy efficiency with a strong motivation to make lasting, positive changes. DfE convenes partners, including industry representatives and environmental groups, to develop goals and guide the work of the partnership.


Green Seal www.greanseal.org

Products that include cleaners, paints, windows, and paper earn a Green Seal certification if they have a low impact on the environment throughout their life cycles, from manufacturing to disposal. Green Seal and DfE are the two most widely used product certification programs.


Forest Stewardship Council www.fscus.org

Developed by the Forest Stewardship Council, the FSC logo signifies that paper and wood products, such as furniture and flooring, have been harvested using certified sustainable standards.


EcoLogo www.ecologo.org

EcoLogo, at 20 years old, is North America's oldest environmental leadership standard. It includes more than 120 environmental categories and more than 7,000 certified products. It was founded in Canada in 1988, but has not impacted the American industry quite as much as the above 4 standards have.

Green-e www.green-e.org

Green-e certifies sources of renewable electricity and renewable energy credits generatedf from clean energy sources such as wind, solar or small-scale hydro electric. It also certifies products that were manufactured in facilities using renewable energy.


Greenguard www.greenguard.org

Green Guard focuses on indoor-air quality issues. It certifies products in 20 different categories, many with a focus on building materials and interiors. Greenguard identifies itself as the world's largest guide for selecting low-emitting products and materials.

# XIII. Sustainable Practices

Bird Friendly http://nationalzoo.si.edu/ConservationAndScience/MigratoryBirds/Coffee/
Coffee with the Bird Friendly label, created by the Smithsonian Migratory Bird Center, has been grown under a canopy of shade trees, preserving important habitats for migrating birds. It is also certified organic.

Fair Trade Certified www.transfairusa.org
TransFair USA confirms that Fair Trade Certified foods, such as coffee, fruit, chocolate, and sugar, have been grown by farmers who use environmentally friendly practices and receive a fair price for their crops.

Rainforest Alliance Certified www.rainforest-alliance.org
Rainforest Alliance Certified products—from bananas to tea to flowers—come from farms that protect water, soil, and wildlife habitats and provide workers with access to schools and health care.

Demeter www.demeter-usa.org
Wines and foodstuffs that carry the Demeter logo are biodynamic, which means their growers use methods such as crop rotation, composting, and homeopathic sprays to cultivate the long-term health of the soil.

Salmon-Safe www.salmonsafe.org
Fresh produce, cheese, and even beer may carry a Salmon-Safe logo, which means they were produced in a way that protects salmon habitats and water quality in the Pacific Northwest.

EPEAT wwww.epeat.net
EPEAT identifies environmentally preferable computer desktops, laptops, and monitors and rates them with bronze, silver or gold performance tiers.

The previous 4 pages have been informed and adapted from Carla Bruni's Thesis section on "Materials" page 38- 77; Real Simple magazine http://www.realsimple.com/home-organizing/green-living/legitimate-earth-friendly-seals-10000001721713/page8.html; GreenSource magazine and BuildingGreen.com.

## J. GLOSSARY

**Biodegradable:** Organic material such as plant and animal matter and other substances originating from living organisms, or artificial materials that are similar enough to plant and animal matter to be put to use by microorganisms.

**Commissioning:** Process by which equipment, facility, or building systems are tested to verify it functions according to its design objectives and specifications. Typically, a 3rd party commissioning agent conducts the evaluation prior to substantial completion.

**Composting:** The aerobic decomposition biodegradable organic matter, producing compost, i.e., the decaying of food, mostly vegetables or manure.

**Do-It-Yourself (DIY) Cleaners**

*All-Purpose Cleaner Example*

½ c. borax + 1 gal. hot water

Mix in a pail or use smaller amounts in a spray bottle (1/8 c. borax to 1qt. hot water). Dissolve the borax completely and wipe surfaces clean.

*Glass Cleaner*

¼ c. white vinegar or 1 Tbsp. lemon juice + 2+ c. water

Fill a clean spray bottle with water and either white vinegar or lemon juice; wipe surfaces with an old newspaper

*Compost pile at Cooper-Molera Adobe Monterey, California*

**Drip type irrigation:** (Also known as trickle irrigation or microirrigation.) An irrigation method which minimizes the use of water and fertilizer by allowing water to drip slowly to the roots of plants, either onto the soil surface or directly onto the root zone, through a network of valves, pipes, tubing, and emitters.

**Energy Star®:** A joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy promoting the protection of the environment through energy efficient products and practices. Products labeled with the Energy Star® label can save energy, and money.

**Green Seal:** Green Seal provides science-based environmental certification standards that are credible, transparent, and essential in an increasingly educated and competitive marketplace. http://www.greenseal.org

**Heat Island Effect:** The effect describes thermal gradient differences between developed and undeveloped areas – urban air and surface temperatures that are higher than nearby rural areas. Heat islands forms as cities replace natural land cover with pavement, buildings, and other infrastructure. Displacing trees and vegetation minimizes the natural cooling effects of shading and evaporation of water from soil and leaves (evapotranspiration).

# XIII. Sustainable Practices

Integrated pest management (IPM): Management of outdoor pests (plants, fungi, insects, and/or animals) in a way that protects human health and the surrounding environment and that improves economic returns through the most effective, least-risk option. IPM calls for using least-toxic chemical pesticides, minimum use of the chemicals, use only in targeted locations and use only for targeted species. Routine inspection and monitoring is required.

Light Pollution: Light trespass from the building and site, decreasing night sky access and increasing development impact on nocturnal environments.

Mulch: A protective covering, usually of organic matter such as leaves, straw, or peat, placed around plants to prevent the evaporation of moisture, the freezing of roots, and the growth of weeds.

Permaculture: Derived from the words permanent and agriculture. Design elements are assembled in relation to one another so that the products of one element feed the needs of adjacent elements. Synergy between design elements is achieved while minimizing waste and the demand for human labor or energy.

Rain water catchment system: A storage system for rain water collection from the roof. Typically, rain is stored in barrels or cisterns, either placed above ground (warm climates) or below ground (temperate/cooler climates).

Renewable Energy Certificates (RECs): (Also known as Green tags, Renewable Energy Credits, or Tradable Renewable Certificates (TRCs).) Tradable environmental commodities in the United States which represent proof that 1 megawatt-hour (MWh) of electricity was generated from an eligible renewable energy resource.

Renewable resource: A natural resource replenished by natural processes at a rate comparable or faster than its rate of consumption by humans or other users.

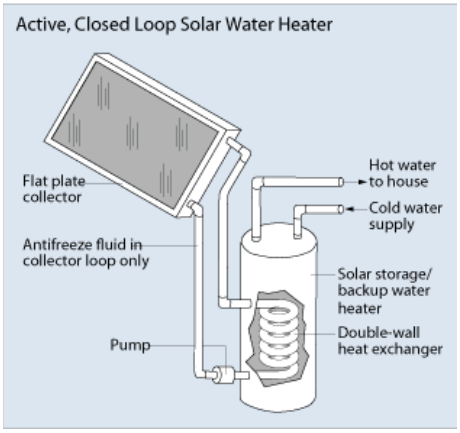
Solar Water Heater: Solar heating systems are generally composed of solar thermal collectors, a fluid system to move the heat from the collector to its point of usage, and a reservoir or tank for heat storage and subsequent use.

Volatile Organic Compounds (VOC): Emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. Concentrations of many VOCs are consistently higher indoors (up to ten times higher) than outdoors.

WaterSense: A partnership sponsored by the EPA to promote water-efficient products and practices. http://www.epa.gov/watersense/

Xeriscaping: Landscaping in ways that do not require supplemental irrigation, primarily used in arid climates. Plants used in Western xeriscaping, for example, include agave, cactus, lavender, juniper, sedum, and thyme.

*The Carriage House at Lyndhurst was recently repainted with low VOC paint Tarrytown, New York*




*Active, Closed Loop Solar Water Heater*

## K. RESOURCES (Some Examples)

BOOKS

Brophy, Sarah S. and Wylie, Elizabeth. *The Green Museum.* Lanham, MD: AltaMira Press, 2008.
*Green suggestions for museums with attention paid to historic site museums.*

Dorfman, Josh. *The Lazy Environmentalist on a Budget.* New York, NY: Stewart, Tabori & Chang, 2009.
*Save Money. Save Time. Save the Planet.*

Heaver, Melissa M. *Housekeeping for Historic Homes and House Museums.* Washington, DC: National Trust for Historic Preservation.

McKay, Kim and Bonnin, Jenny. *true green.* Washington, DC: National Geographic, 2006.
*Easy to implement "green" lifestyle tips and resources.*

Sandbeck, Ellen. *Green Housekeeping.* NY: Scribner, 2006.
*Housekeeping tips that protect the health of humans and the environment.*

Trask, Crissy. *It's Easy Being Green*. Salt Lake City: Gibbs Smith, 2006.
*Easy to implement "green" lifestyle tips and resources.*

*Restored Tea House at Filoli*
*Woodside, California*

THESIS

Bruni, Carla. "Taming the Green Giant: A Guide to Greening Your Historic Home from the Inside Out," Degree of Master of Sciences, School of the Art Institute of Chicago, May 2008.
*Sustainable maintenance tips for historic homes. Helpful glossary and list of resources in the Chicago-land area.*

MAGAZINES/JOURNALS

*National Geographic,* "The Green Guide," Spring 2008, first issue.
*Earth-friendly tips, from housecleaning to beauty products. Simple solutions for a "green" lifestyle change.*

*Time Magazine*. "The Special Environment Issue," April 28, 2008.
*Excellent reporting on climate change with special online resources inlcuding the top 15 green blogs.*

Specter, Michael. *The New Yorker.* "Big Foot," February 25, 2008. *In measuring carbon emissions, it's easy to confuse morality and science. Best article I have read to clearly and succinctly describe cap and trade.*

# XIII. Sustainable Practices

Clinton Climate Initiative (CCI), www.clintonfoundation.org/what-we-do/clinton-climate-initiative

*The Clinton Climate Initiative (CCI) is a program of the William J. Clinton Foundation, a global non-governmental organization. CCI focuses on reducing the carbon footprint of large cities. Listed on the website are "10 Steps to Living the Green Life."*

Whole Building Design Guide, "Sustainable Historic Preservation," http://www.wbdg.org/resources/sustainable_hp.php, site visited June 28, 2008.

*Guidance for meeting LEED-EB requirements, catered to the preservation of historic structures. Suggestions are offered according to the five LEED categories.*

O'Dea Lynch Abbattista Consulting Engineers. "Rockefeller Brothers Fund Sustainability Master Plan," October 29, 2007.

*A five-year plan for implementing various mechanical and electrical sustainability measures at Pocantico. The study outlines existing conditions, options for strategies, recommendations for the next five years, and related costs. The study addresses HVAC strategies, photovoltaic considerations, lighting control, and water conservation measures at Kykuit, the Coach Barn, the Breuer House, and the Greenhouse.*

*The sustainability master plan for Kykuit revealed that the Breuer house boiler was extremely oversized and inefficient. It was replaced with an energy efficient Buderus boiler.*

*Breuer House at Kykuit*
*Tarrytown, New York*

## WEBSITES , BLOGS AND USEFUL LINKS

National Trust for Historic Preservation Sustainability webpage:
www.preservationnation.org/issues/sustainability/

National Trust for Historic Preservation, "Beyond Green Building" blog:
http://blogs.nationaltrust.org/preservationnation/?cat=6

National Trust Historic Sites Weblog, "True Green" blog:
http://historicsites.wordpress.com/?s=True+green

Recycling Tips
www.ecocycle.org

Dot Earth - The New York Times environmental blog by Andrew Revkin.
http://dotearth.blogs.nytimes.com/

Treehugger - The go-to guide for the latest in sustainability news, ideas and blogs. Reports regularly on sustainable preservation issues.
www.treehugger.com

The Green Workplace - a very enjoyable blog for those who "design, manage or occupy green workplaces.
http://www.thegreenworkplace.com/

Time Tells - Vince Michael's amusing blog on preservation and sustainability.
http://vincemichael.wordpress.com/

Switchboard - Kaid Benfield's blog, Director of Smart Growth for NRDC.
http://switchboard.nrdc.org/blogs/kbenfield/

Grist e-Magazine - The "Colbert Report" of green websites.
http://grist.org

Eco-Geek - Science, technology, gadgets and...baby seals. Up to 10 stories daily about innovations that are saving the planet.
www.ecogeek.org

No Impact Man - how to live your life with the least amount of impact, blog.
http://noimpactman.typepad.com/blog/

Climate Progress
http:/./climateprogress.org

World Changing
www. worldchanging.com

*National Trust Historic Sites Weblog http://historicsites.wordpress.com/?s=True+green*

# XIII. Sustainable Practices

## L. CASE STUDIES - HOW GREEN ARE OUR SITES?

National Trust Sites have taken "going green" very seriously and most have implemented a variety of practices and acticivites intended to lessen their impact on the environment and planet. Three examples of different approaches to greening our sites follow as case studies. Below are summaries of other programs.

### Brucemore

Brucemore staff formed a green team to address energy and monetary consumption. They developed an "Office Energy Checklist" which is attached in *Attachment M, page 280.*

### Chesterwood

Chesterwood staff have been going green for several years. All appliances including, washers, dryers, hot water heaters, heating systems, air conditioning units, and audio visual equipment are Energy Star rated. They have begun the change over from standard lighting to energy efficient fluorescent lighting where applicable. All toilets, sinks, and restroom equipment used by the public have been changed over to water saver and energy saver units. For years now Chesterwood has been recycling paper, plastic, glass and other items before disposal at the local transfer station.

### Filoli

Filoli is known for its heritage landscape and here is a good example of a site with a designed landscape that uses many non-native plants working hard to be as green as possible. They 'recycle' all green waste from the garden by composting it and eventually returning it to the garden. They have eliminated the use of pesticides in the rose garden by planting ONLY disease-resistant varieties. Virtually no herbicides are used to control weeds on the lawns; and none for the fruit trees in the gentlemen's heritage orchard.
Bamboo-based flatware are used in the cafe rather than plastic.

### Woodrow Wilson House

Staff at Woodrow Wilson House have developed a recycling resource guide and have implemented a recycling program and are using green products as much as possible such as polishing their wood floors with BioShield Hardwax. This guide is attached in *Attachment M, page 283*.

*The public restrooms at Chesterwood are being renovated using Green Guard certified materials.*

*Brucemore's historic Green House mechanical system soon to be repaired.*

Innovative Practice
Guests at Kykuit conferences and events are served meals prepared with sustainable seafood and locally grown food.


*Conference attendees at Kykuit (Tarrytown, New York) use OzoCar, an eco-friendly, luxury car service based in New York. (www.inhabitat.com)*

*Kykuit*
*Tarrytown, New York*

## CASE STUDY | Kykuit

Built in 1913, Kykuit, owned by the family of John D. Rockefeller, integrates sustainable practices into its daily operations.

| | |
|---|---|
| Location: | Tarrytown, NY |
| Building Type: | House museum and outbuildings |
| Site: | 300 Acres |
| Project scope: | Kykuit (mansion), the Coach Barn, the Breuer House, and the Greenhouse |
| Setting: | A site overlooking the Hudson River. |
| Owner and Occupancy: | Managed by the Rockefeller Brothers Fund |
| Building Program: | House museum, offices, and Conference Center |
| Contact: | Kim Miller, AIA, Architect<br>kmiller@rbf.org |

### Scope of Sustainable Practices

Sustainability is one of the mandates of the Rockefeller Brothers Fund. As such, they have implemented sustainable practices for several years, and now, in both their housekeeping and conference center activities.

#### Sustainable Sites

Integrated pest management.
Consideration of light pollution issues.
Provide access to public transportation.
Provide eco-friendly transportation for guests (Ozocar - luxury car service).

#### Energy + Atmosphere

Replacement of all light bulbs with CFLs and use T-8 ballasts wherever possible.
Use of LED lights in the exit signs.
Purchase of renewable wind energy to offset electricity usage.
Retrocommissioning.
Completion of Sustainability Master Plan by O'Dea Lynch Abbattista (OLA) Consulting Engineers, PC.
Replacement of 50 year old boiler in the Breuer House with an energy efficient Buderus boiler.

#### Materials + Resources

Recycling program: paper, glass, plastic, batteries, and fluorescent light bulbs.
Use of sustainable materials whenever possible (office paper, pencils, folders).

#### Indoor Environmental Quality

Use of green cleaning products.
Use of Low VOC paints and adhesive.

#### Other Sustainable Practices

Purchase of Renewable Energy Certificates to offset emissions from participant travel.
Towel/linen reuse policy for conference attendees.

# XIII. Sustainable Practices

## CASE STUDY | Lyndhurst

Lyndhurst, a Gothic Revival mansion, integrates sustainable, green housekeeping practices into a National Historic Landmark site. The original building dates from 1838.

| | |
|---|---|
| Location: | Tarrytown, NY |
| Building Type: | House museum and outbuildings |
| Site: | 67 Acres |
| Project scope: | Lyndhurst (mansion) and outbuildings |
| Setting: | A bucolic site overlooking the Hudson River |
| Owner and Occupancy: | The National Trust for Historic Preservation |
| Building Program: | House museum, offices, many educational programs, and special events |
| Contact: | Krystyn Silver, Restoration Manager<br>krystyn_silver@nthp.org |

## Scope of Sustainable Practices

Here is an example of a site with limited funding but a staff who felt compelled to do what they could to positively impact the environment. A sustainability program was developed that was affordable and manageable.

### Energy + Atmosphere

Use Energy Star® rated equipment.

Replacement of the boilers with more efficient ones.

Boiler in the North Gate House replaced with an oil fired boiler - Buderus, a European model, above 86% efficient and Energy Star® rated.

### Materials + Resources

Recycling program: paper, glass, plastic, batteries, fluorescent light bulbs.

Use of sustainable materials whenever possible (office paper, pencils, folders).

Use of old stationery as scrap paper.

### Indoor Environmental Quality

Use of Low VOC paints and adhesive.

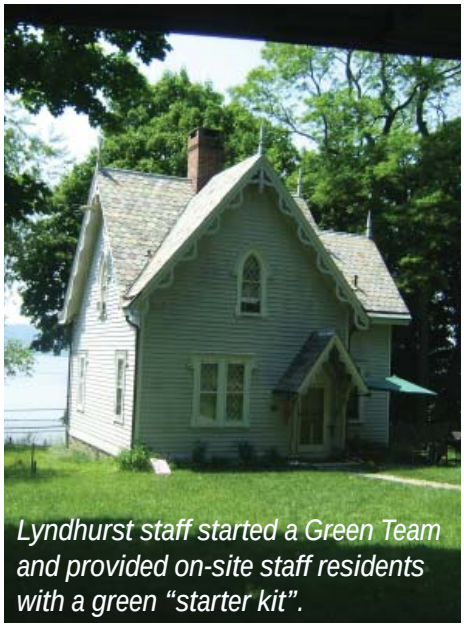
Use of green cleaning products.

100% Green Seal Certified soap and paper products replaced previous, less sustainable products in public and staff restrooms.

Consolidation of cleaning products to one product - a 100% Green Seal Certified, concentrated solution that can be mixed at different strengths to clean windows, floors, walls, etc. Existing special waxes and sealers, used as a finish coat for the marble and wood floors, are now used once per year.

### Innovative Practice

To ease the lifestyle change to green living, on-site staff residents were issued "starter" kits containing CFLs.



*Lyndhurst staff started a Green Team and provided on-site staff residents with a green "starter kit".*


*A new energy efficient Buderus boiler in the North Gate House.*

Innovative Practices
Bio-swales, which encourage direct downward filtration of all water runoff into groundwater rather than re-direction of runoff to a municipal drainage system that feeds into a regional watershed, improve on-site water management.

Signage and an Eco-Tour educates visitors about green practices used to achieve LEED Gold in the building design and rehabilitation.

*A new bicycle rack at President Lincoln's Cottage Visitor Center*

## CASE STUDY | President Lincoln's Cottage Visitor Center

Built in 1842 as President Lincoln's seasonal retreat at the Soldier's Home, the rehabilitated visitor center is the National Trust's first LEED certified proejct. It received LEED Gold (for LEED NC 2.2) in 2009, obtaining 44 points out of a possible 69.

| | |
|---|---|
| Location: | Washington, D.C. |
| Building Type: | Museum |
| Site: | 6 Acres |
| Project scope: | Visitor Education Center |
| Setting: | A bucolic setting in the midst of an urban environment |
| Completed: | February 2008 |
| Owner: | The National Trust for Historic Preservation (long-term lease) |
| Building Program: | Visitor orientation theater, exhibits, a special exhibits gallery, restrooms, and a museum store |
| Contact: | Erin Carlson Mast<br>erin_carlsonmast@nthp.org |

### Funding for the Project

The sustainable rehabilitation of the Visitor Education Center was made possible through the support of United Technologies Corporation (UTC). Thanks to a $1 million contribution and technical expertise provided by UTC, green practices became an integral part of the rehabilitation of this building.

### Scope of Sustainable Practices

This is the first construction project completed by the National Trust to register for LEED certification. We are also working with USGBC to use it as a model for their new LEED v.3 "Life Cycle Assessment of Building Assemblies" alternative compliance method.

#### Sustainable Sites (9 out of 14 points)

Located within a half mile of a residential zone or neighborhood.
Provide safe access for bicycles and pedestrians.
Provide shower and changing areas for bicycle and pedestrian commuters.
Provide storage area for bicycles.
Provide access to public transportation - 3 bus lines located within 1/4 of a mile of the site.
Maximization of open space and reduced building footprint.
Reduced impervious surface area to increase on-site water filtration.
No potable water used for irrigation.
No new parking added to the site.

# XIII. Sustainable Practices

Maximized stormwater management.
Control of the non-roof heat island effect.

Water Efficiency (4 out of 5 points)
Landscape does not require permanent irrigation.
Water has been reduced through the use of low-flush water closets, low-flow lavatories, low-flow kitchen sink and a low-flow shower.

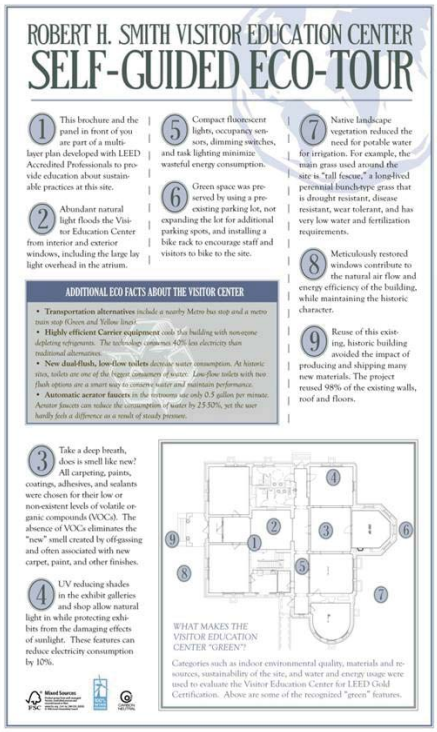
Energy + Atmosphere (5 out of 17 points)
Use of efficient mechanical systems and Energy Star® rated equipment.
Use of HFC-free refrigerants (non-harmful to the ozone layer).
Enhanced commissioning.
Optimization of energy use, saving 34.4% energy as per ASHRAE 90.1-2004.

Materials + Resources (9 out of 13 points)
Minimized construction waste by segregating reusable materials from waste and diverting them to recycling.
Use of materials with recycled content: steel bathroom partitions, carpet.
Use of FSC certified wood.
Reuse of building structure and interiors.
Use of green housekeeping procedures and products.
Diverted 70.887% of construction waste from landfill.
Use of salvaged materials and regional materials.

Indoor Environmental Quality (12 out of 15 points)
Indoor Air Quality management plan to ensure HVAC systems remain dust free and the building remains free of mold during construction.
Individual control systems for thermal comfort provided in work and public areas.
Low VOC emitting materials (caulking, paints, finishes, and carpets).
Use of working windows with exterior and interior shutters to allow staff to adjust daylight and ventilation levels on the interior.

Innovation & Design Process (5 out of 5 points)
Development of an Eco-Tour.
Green housekeeping plan.
Exemplary performance in Water Use Reduction.
Exemplary performance in Heat Island Effect, Non-roof.
Project submitted by a Leed Accredited Professional.

See *Attachment L* for a detailed article on this project prepared by Barbara Campagna and Patrice Frey. For the full LEED-NC report, contact Barbara Campagna.


ROBERT H. SMITH VISITOR EDUCATION CENTER
SELF-GUIDED ECO-TOUR

1 This brochure and the panel in front of you are part of a multi-layer plan developed with LEED Accredited Professionals to provide education about sustainable practices at this site.

2 Abundant natural light floods the Visitor Education Center from interior and exterior windows, including the large lay light overhead in the atrium.

3 Take a deep breath, does it smell like new? All carpeting, paints, coatings, adhesives, and sealants were chosen for their low or non-existent levels of volatile organic compounds (VOCs). The absence of VOCs eliminates the "new" smell created by off-gassing and often associated with new carpet, paint, and other finishes.

4 UV reducing shades in the exhibit galleries and shop allow natural light in while protecting exhibits from the damaging effects of sunlight. These features can reduce electricity consumption by 10%.

5 Compact fluorescent lights, occupancy sensors, dimming switches, and task lighting minimize wasteful energy consumption.

6 Green space was preserved by using a pre-existing parking lot, not expanding the lot for additional parking spots, and installing a bike rack to encourage staff and visitors to bike to the site.

7 Native landscape vegetation reduced the need for potable water for irrigation. For example, the main grass used around the site is "tall fescue," a long-lived perennial bunch-type grass that is drought resistant, disease resistant, wear tolerant, and has very low water and fertilization requirements.

8 Meticulously restored windows contribute to the natural air flow and energy efficiency of the building, while maintaining the historic character.

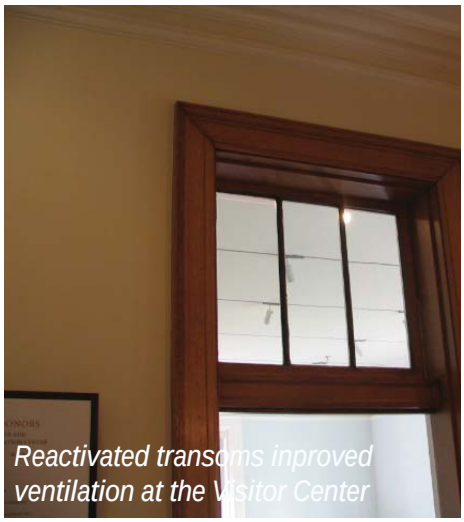
9 Reuse of this existing, historic building avoided the impact of producing and shipping many new materials. The project reused 98% of the existing walls, roof and floors.

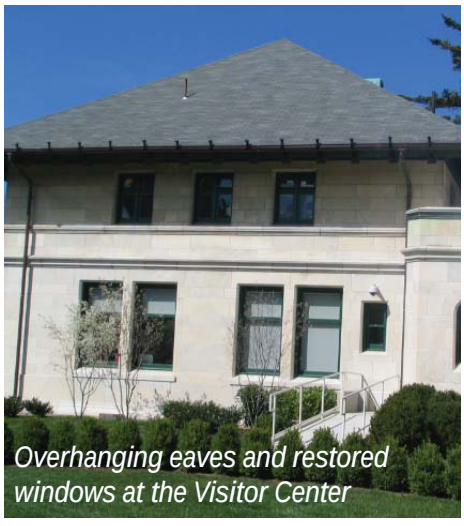
ADDITIONAL ECO FACTS ABOUT THE VISITOR CENTER

- **Transportation alternatives** include a nearby Metro bus stop and a metro train stop (Green and Yellow lines).
- **Highly efficient Carrier equipment** cools this building with non-ozone depleting refrigerants. The technology consumes 40% less electricity than traditional alternatives.
- **New dual-flush, low-flow toilets** decrease water consumption. At historic sites, toilets are one of the biggest consumers of water. Low-flow toilets with two flush options are a smart way to conserve water and maintain performance.
- **Automatic aerator faucets** in the restrooms use only 0.5 gallon per minute. Aerator faucets can reduce the consumption of water by 25-50%, yet the user hardly feels a difference as a result of steady pressure.

WHAT MAKES THE VISITOR EDUCATION CENTER "GREEN"?

Categories such as indoor environmental quality, materials and resources, sustainability of the site, and water and energy usage were used to evaluate the Visitor Education Center for LEED Gold Certification. Above are some of the recognized "green" features.


*Reactivated transoms inproved ventilation at the Visitor Center*


*Overhanging eaves and restored windows at the Visitor Center*

NATIONAL TRUST FOR HISTORIC PRESERVATION

# Historic Wood Windows

**A tip sheet from the National Trust for Historic Preservation**

**National Trust for Historic Preservation**
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www.PreservationNation.org

This tip sheet on historic wood windows was developed as part of the National Trust for Historic Preservation Sustainability Initiative.

**About the Initiative:**
Historic preservation can – and should – be an important component of any effort to promote sustainable development. The conservation and improvement of our existing built resources, including re-use of historic and older buildings, greening the existing building stock, and reinvestment in older and historic communities, is crucial to combating climate change.

**Learn more about Preservation and Sustainability on the web:**
www.preservationnation.org/issues/sustainability

**For more information, contact:**

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## Introduction

There is an epidemic spreading across the country. In the name of energy efficiency and environmental responsibility, replacement window manufacturers are convincing people to replace their historic wood windows. The result is the rapid erosion of a building's character, the waste of a historic resource, and a potential net *loss* in energy conservation. Typically replacement windows are vinyl, aluminum, or a composite with wood, and none will last as long as the original window. Repairing, rather than replacing, wood windows is most likely to be the "greener option" and a more sustainable building practice.

Research shows that most traditionally designed wood-frame buildings lose more heat through the roof and un-insulated walls than through the windows.[1] A historic wood window, properly maintained and fitted with a storm window, can be just as energy efficient as a new window.[2] Replacing a historic single-pane window also may not save you much money in the long run. While the exact figure will vary depending on the type of window installed and whether or not a storm window is used, studies have found that it could take 100 years or more for a replacement window to pay for itself in energy savings.[3] According to information published in a recent *Old House Journal* article, it could take 240 years to recoup the cost of replacing a single-pane window-storm window combination with a low-e glass double-pane thermal replacement window.[4] Also, a historic wood window can easily last more than 100 years, while a new window may not last 25.

Not every wood window can be repaired and there are situations where replacement is appropriate. However, many historic wood windows can and should be repaired, especially if the windows were manufactured before about 1940. Wood windows made before this time were constructed with individual parts, each of which can be repaired or replaced. The wood itself is denser and of higher quality than what is grown today, and it is generally more rot- and warp-resistant than modern wood.

Courtesy of the Woodlawn Museum

Historic windows are among the most important elements of a building. Simple repairs and routine maintenance coupled with storm windows make for energy efficiency that in most cases matches, if not exceeds, the efficiency of replacement windows. Workshops throughout the region have taught building owners easy ways to care for their historic windows. At the Woodlawn Museum in Ellsworth, ME, a grant from the National Trust for Historic Preservation helped fund a window repair workshop.

These are just some of the practical reasons to repair rather than replace historic wood windows. In addition, repairing the historic window helps maintain a building's authenticity. Once original material is removed from a building, it is gone forever. There are many more benefits to repairing your wood windows, so keep reading.

1. Rypkema (2006); James *et al* (1996); Klems (2002). 2. James *et al* (1996); Klems (2002). 3. Sedovic (2005); *e.g.* research by Keith Heberern, calculations available at www.historichomeworks.com/hhw/education/windowshandout/windowenergyanalysis.pdf. 4. "Let the Numbers Convince You: Do the Math." Old House Journal 35 no. 5 (September/October 2007).

# Wood Window Basics

Using this 12-over-12, double-hung wood window as our example, here are the basic terms used for wood window parts. This window is called 12-over-12 because there are 12 panes of glass in each sash. Both sashes are moveable so it is called double-hung. If only the bottom sash moves, it is called single-hung.

**Jamb** (the wood that frames the window opening)

**Rail** (horizontal part of sash)

**Meeting Rail** or **Check Rail** (the rail where the two sash come together)

**Bottom Sash** (lower section of window, typically slides up to open)

**Sill** (exterior, horizontal piece at the bottom of the window frame, commonly wood, stone, or brick)
**Stool** (interior shelf-like board at the bottom of a window against which the bottom rail of the sash rests)

A c. 1846 wood window in the former Robbins and Lawrence Armory, now the American Precision Museum in Windsor, VT.

**Top Sash** (upper section of window, may slide down to open)

**Light/lite/pane** (glass, held in place by glazing putty and metal glazing points)

**Stile** (vertical part of sash)

**Muntin** (horizontal, vertical, diagonal, or curved pieces that frame and provide mounting surface for the lights) The shape, or profile, of the muntin provides a clue to the window's age.[1]

1. Garvin (2002).

# My Windows Are Old and Drafty, Why Shouldn't I Buy New Ones?

1. **More heat is typically lost though your roof and un-insulated walls than through your windows**. Adding just 3 and 1/2 inches of insulation in your attic can save more energy than replacing your windows.[1]
2. **Replacement windows are called "replacement" for a reason.** Manufacturers often offer lifetime warrantees for their windows. What they don't make clear is that 30% of the time, a replacement window will be replaced within 10 years.[1]
3. **Replacement windows that contain vinyl or PVC are toxic to produce and create toxic by-products.** Installing these in your house is not a 'green' approach.[2]
4. **If your wood windows are 60 years old or older, chances are that the wood they are made of is old growth**—dense and durable wood that is now scarce. Even high-quality new wood windows, except for mahogany, won't last as long as historic wood windows.
5. Studies have demonstrated that **a historic wood window, properly maintained, weatherstripped and with a storm window, can be just as energy efficient as a new window**.[2]
6. According to studies, **it can take 240 years to recoup enough money in energy savings to pay back the cost of installing replacement windows**.[3]
7. **Each year, Americans demolish 200,000 buildings. That is 124 million tons of debris, or enough waste to construct a wall 30 feet high and 30 feet thick around the entire U.S. coastline.**[4] Every window that goes into the dump is adding to this problem.
8. With a little bit of practice, **it can be easy—and inexpensive—to repair and maintain your wood windows.**[5]
9. Not a DIY-er? There are people near you who can do it for you. **Hiring a skilled tradesperson to repair your windows fuels the local economy and provides jobs.**[1]
10. **Historic wood windows are an important part of what gives your older building its character.**

1. Rypkema (2006). 2. Sedovic (2005). 3. *e.g.* Calculations by Keith Heberern available at www.historichomeworks.com/hhw/education/windowshandout/windowenergyanalysis.pdf. 4. Hadley (2006). 5. *e.g.* www.historichomeworks.com

## Basic Maintenance

There are many good, practical books and magazine articles to guide a handy person in the basic maintenance of wood windows. Several publications are listed in the references section of this tip sheet. To get you started, here are some of the keys to many years—and generations—of life with older wood windows.

1. Keep the exterior surfaces painted, including the glazing putty. Paint protects the wood and putty from water and extends their service life. Be especially attentive to horizontal surfaces where water may collect.
2. Glazing putty will eventually dry out and is meant to be periodically replaced. You can do spot repairs initially, but eventually it will be easier to re-glaze the whole sash.
3. Keep movable surfaces, such as the inside jamb, free of paint build-up so that the sash can slide freely.
4. If your sashes are hung with cord, keep the rope free of paint. This will improve the window's operability. Cord will eventually dry out and break but can be replaced. When replacing the cord you can also re-hang the weights so that the sash will be balanced.

## Winter Tips

Most of the heat transfer occurs around the perimeter of the sash rather than through the glass. So the tighter the seal around the window and between the upper and lower sash, the more energy efficient the window will be. Here are some tips to help you save on your heating bills.

- **Check the lock**. Most people think the sash lock is primarily for security. It does help with security, but the lock's most important job is to ensure that the meeting rails are held tightly together. A tight fit greatly reduces air infiltration.
- **Weather stripping**—add it or renew it. Adding weather stripping to your window can increase the window's efficiency by as much as 50%. It's an inexpensive way to boost your window's efficiency. There are many different kinds from which to choose. Refer to the articles listed at the end of this tip sheet. The staff at your local hardware store should also be able to assist you.
- **Storm windows**—use them! There are many styles from which to choose, including storms that can be fitted on the interior of the window. Many studies have shown that a wood window in good condition fitted with a storm window can be just as energy efficient as the more expensive replacement window. Due to the thermal exchange properties of wood, there is also a growing interest in traditional wood-framed storm windows as they transfer less heat than metal-framed storms.
- **Condensation**. If you find condensation on the inside of your primary window, cold air leaking through the storm window is likely the culprit. If the condensation is forming on the inside surface of the storm window, warm air from the building interior is leaking in around the primary window. When warm and cold air are present on opposite sides of glass, condensation forms (think of a cold glass of lemonade on a hot day). When condensation forms on your window glass, water can collect on the horizontal wood parts of the rails, muntins, and sill, which can lead to paint failure and rot. To reduce condensation, you need to limit the amount of leaking air. Add or replace weather stripping, make sure the sash are meeting properly and that the sash lock is tight, and check the seal around the exterior of the storm window and caulk if necessary. When caulking around the perimeter of exterior storms it is important to leave weep holes at the bottom so that any condensation or infiltration that does occur can drain out.

## What About Lead?

If your windows retain paint that was applied prior to 1978, chances are there is lead paint on them. Just because there may be lead paint on the windows does not mean they are unsafe or that they need to be replaced. There are steps you can take to protect yourself and others if you suspect lead paint may be present. **Before beginning work, consult your local or state ordinance to determine the legal method for handling and disposing of lead paint in your area.**

- Children and pregnant women should not be allowed in the work area.
- Do not smoke or eat or drink in the area you are working in and wash your hands and face before doing so.
- Wear disposable gloves and eye protection.
- Use a respirator if there is friable paint, or if you are scraping or sanding paint.
- Use a wet sanding technique to minimize dust.
- Vacuum using a HEPA filter.
- Wash your work clothes separately from your household laundry. You can also wear a tyvek suit to protect your clothes. Take it, and your shoes, off before you leave your work area.
- Place tarps under your work surface to collect loose paint. Seal off the work space from other rooms and from HVAC systems. Cover any furniture and other items in the work area with 6 mil plastic taped to the floor.
- Eating a nutritious diet rich in iron and calcium will reduce the amount of lead absorbed by your body if any does happen to be ingested.

*(Continued on page 4)*

## Lead continued

- For more tips on how to work lead-safe, see "Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work" available at www.hud.gov/offices/lead/training/LBPguide.pdf and the National Park Service Brief #37, "Appropriate Methods for Reducing Lead-Paint Hazards in Historic Housing" at www.nps.gov/history/hps/TPS/briefs/brief37.htm.
- John Leeke's website www.historichomeworks.com also has practical tips on lead-safer work practices.

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*This list is a place to start—it is not intended to be comprehensive, nor does the inclusion of a business or organization serve as an endorsement.*

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New England Window Restoration Alliance www.windowrestorationne.org

## Additional Resources

This Tip Sheet on historic wood windows is part of our continuing effort to provide information to help you make environmentally responsible and informed decisions about the preservation of historic buildings.

With nearly half of greenhouse gas emissions attributed to the construction and operation of buildings, older and historic buildings are central to our efforts to address climate change. The **National Trust for Historic Preservation's Sustainability Initiative** promotes the reuse of existing buildings, reinvestment in existing communities, and green retrofit of older and historic buildings to help lower carbon emissions. For more information visit www.preservationnation.org/issues/sustainability/.

Additional help may be available from your **State Historic Preservation Office** (SHPO). Find your SHPO at www.ncshpo.org/. Private **statewide and local preservation groups** serve as the network centers and representatives of local preservation activities within their states. Many of them have materials to assist your project. The nine **Regional and Field Offices of the National Trust for Historic Preservation** (NTHP) represent NTHP programs and services by providing assistance to preservationists within their regions. Find your nearest NTHP Regional Office and state and local preservation organizations at www.preservationnation.org/about-us/partners/statewide-local-partners/contacts.html

# The draft version of LEED v.3 2009 Does Not Include the Existing Building Changes - from Barbara & Patrice

by Barbara Campagna

(As posted on the PreservationNation Blog, blogs.nationaltrust.org/preservationnation, June 12, 2008, 10:22am)


Patrice and I have been getting calls and emails from around the country asking for help in understanding the draft version of LEED v3 2009 currently out on the street for public comment. We're sorry for not getting this out sooner, but with our crazy schedules it took us a month to sit down with our colleagues at USGBC to review the final draft that went out on May 19th. And NO, you're not going crazy, some of the most significant changes we've reported in this blog do not show up in it, yet. But don't despair, there's a perfectly good reason why and below we will describe in detail what is happening.

## LEED v3 2009 Draft Overview

So, if you have had the opportunity to look at the draft LEED v3 2009 documents, then you've seen some of the changes but may be wanting more. First, we'll give you a briefing on some of the significant changes and then we will describe what you can't see yet but is in the works. (Warning! This is a long and fairly technical posting!)

The U.S. Green Building Council has provided drafts for 5 products: NC (New Construction & major Rehabs), Core & Shell, CI (Commercial Interiors), Schools and EB (Existing Buildings - which is for maintenance and operations NOT rehabs of historic/existing buildings). We are specifically discussing the changes to NC since that is the most commonly used product for large Rehabilitation projects, although Core & Shell is sometimes used as well. Here are some highlights of some of the major changes:

The credits are now weighted according to Life Cycle Analysis criteria (LCA) . And by applying LCA to the existing credits the total score for a project has been increased from 69 to 100 points (although actually 110 since there are various bonus points). The workbooks used to come up with the new weighting are provided as Supporting Documents under the Weightings Tool on the USGBC website.

The 6 divisions remain the same, but the points have been reallocated according to the results of the LCA weighting. Sustainable Sites has gone from 14 possible points to 26. Water Efficiency has increased from 5 possible points to 10. Energy & Atmosphere has increased from 17 possible points to 35. Materials & Resources has increased from 13 possible points to 14. Indoor Environmental Quality has remained at 15 possible points. Innovation & Design has increased from 5 possible points to 6. And a New Section of Regional Bonus Credits with 4 possible points has been added.

*Sustainable Sites:* Some of the biggest changes to LEED are found here and the increases in these points are directly related to one of the issues we talk about all the time - "green sprawl". The increase of Credit 2 - Development Density & Community Connectivity encourages the construction or renovation of buildings within a dense community - and this credit has increased from 1 to 5 credits. We applaud this improvement. We've all heard about the building that's been constructed in the suburban fringe going for LEED platinum. This helps to dissuade that kind of activity.

The next biggest change in the Sustainable Sites division is in Credit 4.1 - Alternative Transportation - Public Transportation Access which has been increased from 1 point to 6 points. Again encouraging the placement of buildings in dense communities with access to various forms of public transportation .

*Water Efficiency:* This division is now more effectively addressing the topic of water use in our buildings. We hear all the time about carbon footprints and energy efficiency, but many scientists believe that the overuse of water may have an even more significant impact on our way of life in the very near future. There is now a prerequisite in this division for a 20% reduction of water use of the baseline for the building type. Every other credit has been doubled from 1 point to 2.

*Energy & Atmosphere:* With an increase from 17 to 35 possible points, and an addition of 9 possible points to

Credit 1 - Optimize energy performance, this is where one of the biggest impacts can be made. And this doesn't mean you need really complicated systems and technology. I saw a presentation last week about a Gold certified rehab project in Baltimore that also received tax credits and received all 10 points from this credit using a very low tech approach.

*Materials & Resources:* This is the division that is causing a lot of consternation in the preservation community because at first glance, Credits 1.1 and 1.2 don't appear to have changed significantly. Credit 1.1 (Building Reuse, Maintain 75% of Existing Walls, Floors and Roofs) has increased from 1 to 2 points. In addition, in Credit 1.2 if you maintain 95%, you can get an additional point for a total of 3 points (this remains the same from 2.2). Does this seem too little? Well that's because there is an entirely separate Compliance Path that is still in development using the durability of the building materials as the metric. Read about this below.

*Indoor Environmental Quality:* This division has basically remained the same.

*Innovation & Regional Bonus Credits:* The USGBC Chapters are being given the responsibility to develop 4 additional points under the Innovation & Design Process division to increase the value of pursuing credits that address environmental areas of concern in a project's region. This is also a positive change which can benefit many traditional buildings which were often designed with an understanding that their siting was specific to their climate.

Should we expect more changes? Yes, and soon. It was a daunting task for USGBC to revise LEED even this much in less than a year. It is now on the road to becoming a much more scientific approach. Can it improve? Well of course and LCA is still really in its infancy. But USGBC did not want to change their products so drastically in one year to upset the entire market. The intention is that the next revision, targeted for 2010, will actually change some of the credits, removing some and adding others.

## Alternate Compliance Path for Existing Buildings

Okay, so this is what is missing in the current draft on the street - a completely new Alternate Compliance Path that will benefit Existing Buildings and will be entitled "Life Cycle Assessment of Building Assemblies." This will be an optional path to use the Materials & Resource Credits by addressing the durability and embodied energy of existing materials by using LCA for assemblies. Life Cycle Assessment is a scientific methodology to assess the environmental performance of a product over its full life cycle. But the science is young and there are many different approaches to it. USGBC has an LCA working group comprised of the most experienced LCA scientists on the continent. And just as they were getting ready to put LEED v3 2009 out for public comment, it was decided that this Alternate Compliance Path still needed some work because it is so groundbreaking and they are developing a special LCA Credit Calculator that quantifies the life cycle impact of various materials and building assemblies.

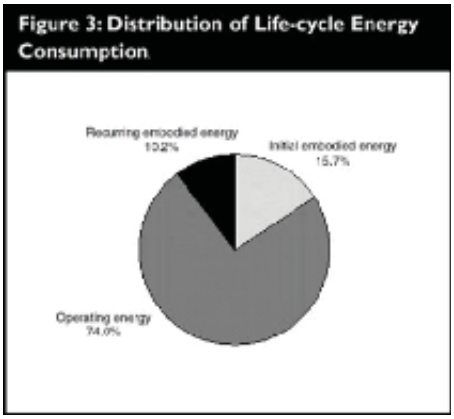
Since it is still being finalized we are not at liberty to discuss the details of the draft, but it is likely that up to 3-5 additional points can be attributed to existing assemblies. Don't quote us on that - this is just an example while it is being finalized. We are very, very supportive of this approach. The intent of this path is to encourage environmentally preferable building materials and assemblies. New construction can also use this path, however, from our first review of it, existing buildings would rank the highest and achieve the most points.

### What Next?

This Alternate Compliance Path will also be ready for use with LEED v3 2009 in early 2009. Currently the intent is that any building already registered for LEED will be able to use the Alternate Compliance Path - even if your project is registered under one of the past versions such as NC 2.2. We are delighted to announce that we have volunteered one of our projects - the Visitor Education Center at Lincoln Cottage in Washington, DC which is registered under LEED NC 2.2 and is on target for LEED Gold - to be a pilot project for the Alternate Compliance Path.

We will be working with USGBC to further incorporate more social and cultural metrics into the next LEED revision - these are the unquantifiable metrics such as social sustainability and social capital. See my blog posting from December 19th which further describes these. We are planning a retreat with USGBC and other partners in the fall to flesh this out.

### Embodied Energy - it's not the Silver Bullet




A lot of people would like to believe that the concept of embodied energy is the most significant reason that "the greenest building is the one that's already been built." And as a result we have people anecdotally arguing that an existing building should get 15 points or more in the LEED system (in MR Credit 1.1) because of that. But we want to remind everyone about this basic fact represented in the pie chart from the Athena Institute. Over the life of a building, typically about 75% of the energy use is from operating energy, while about 15% is from embodied energy and 10% from recurring embodied energy (the energy used to renovate a building). This is why the early rating systems have focused on improving the operating energy use of buildings and not significantly addressed the embodied energy. And if you look at the assignment of points in the new 100 point LEED system, at just about 15% of the points, Materials & Resources appears to be right on target.

Any questions feel free to contact me or Patrice directly, or post a comment on this blog. Barbara_campagna@nthp.org or Patrice_frey@nthp.org

### Should you Comment on LEED v3 2009?

We have been encouraging everyone to read and comment on LEED v3 2009. Given the fact that the Alternate Compliance Path isn't officially out for public comment, we are not overly concerned now about ensuring that everyone comments. We're not dissuading you from commenting and certainly until you see the final text for yourself, you just have our assurances that we are encouraged that this Alternate Compliance Path is a really terrific start at the better integration of preservation metrics into LEED. If you want to comment on other aspects of LEED v3 2009, remember comments are due by 5pm June 22nd.

# ATTACHMENTS

## *Attachments*



*National Trust Site Directors tour*
*Acoma Pueblo, 2008*
*Acoma, New Mexico*

# National Trust Historic Sites

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# Attachment B

## OTHER NATIONAL TRUST RESOURCES

### Essential Projects List

An Essential Projects List is maintained for every site (see *Section VI* for detailed information on this list). The master list is kept and maintained by the Associate Architect in Historic Sites. The list is kept in an Access database. The Associate Architect regularly works with Site Staff to update the list for each site. The site is provided with pdfs of their list.

### Collections Management Policy and Procedures

The Collections Management Policy is developed and maintained by the John & Neville Director of Museum Collections. It is posted on the Historic Sites website and can be found at http://historicsites.wordpress.com/reference/
Please contact the Director with any questions.

### Collections Care Manual

An official Collections Care Manual has not yet been completed. When it is completed by the Director of Museum Collections it will be posted on the Historic Sites website. Currently, there are a variety of resources posted on the website to assist with collections care.
http://historicsites.wordpress.com/reference/collections-care-preventative-conservation-and-housekeeping/

### Historic Sites Fund Manual

The Historic Sites Fund Policy and Manual is managed and maintained by the Graham Gund Architect. The Policy and Manual was updated in 2009 for the first time since its creation in 2004. It is kept on the Historic Sites website in a password-protected section and will also be available from the Historic Sites Program Coordinator. http://historicsites.wordpress.com/funding/nthp-funding/historic-sites-fund/

### Cyclical Maintenance Plan (Site specific)

Every site should have a maintenance plan of some level. See *Section X* for further information. Please contact the Graham Gund Architect if your site needs help in developing your plan to manage ongoing maintenance.

### Emergency & Disaster Plan (Site specific)

Every site should have an Emergency & Disaster Plan of some level. See *Section IX* for further information. Please contact the Graham Gund Architect if your site needs help in developing your plan. The Associate Architect will be working with the sites in 2010 to develop or update their plans.

### NTHP Housekeeping Manual

This housekeeping Manual, developed by former Director of Museum Collections, Melissa M. Heaver, can be purchased from NTHP Housekeeping Manual, available from Preservation Books http://www.preservationbooks.org/Bookstore.asp?Item=1203

*Decorative masonry details, Brucemore*

*Hotel de Paris Dining Room Georgetown, Colorado*

# Building and Grounds Manager Position Description

## WORK OBJECTIVES

Oversee all aspects of buildings and grounds maintenance, including proper care, preservation and stewardship, of Historic Sites. All duties shall be performed with the full knowledge and approval of the Director, and often in consultation or collaboration with other staff on site or in Washington, D.C., including the National Trust Graham Gund Architect.

## DUTIES

### Administrative

- Complete, implement, and perpetuate a comprehensive emergency preparedness (a.k.a disaster) plan suitable and appropriate for the site. Perpetuate (and augment, if needed) the existing security and fire safety programs for the buildings and grounds. Assist with staff and volunteer training regarding emergency preparedness, security, and fire safety programs.
- Complete, implement and perpetuate the cyclical maintenance plan for the ongoing maintenance of the site.
- Keep a maintenance log, maintain files/records, and generate completion reports as appropriate for all work tasks and projects.
- Prepare and submit an annual work plan and budget for buildings and grounds maintenance to the Director for approval.

### Project Management

- Service as liaison for all vendors, consultants and contractors who perform tasks or provide services related to buildings and grounds maintenance, preservation, restoration, or general construction projects.

### Custodial

- Perform or oversee all cyclical and routine maintenance tasks in a cost effective manner. Give first priority to life safety (of both visitors and staff), fire safety, safe working practices, and site security. Special attention shall be given to the cleaning of gutters and down spouts, as well as mitigation of all uncontrolled moisture sources within the buildings. Ensure that the Site is kept neat, clean, and orderly. Predict maintenance needs and take action before system failure or material loss.
- Maintain all building mechanical systems including security, fire detection/alarm, HVAC, plumbing and electric; procure and utilize outside vendors as appropriate.
- Assure security of the site through daily buildings and grounds checks; respond appropriately to all fire and burglar alarms (at all times) as well as medical emergencies.
- Develop and implement a comprehensive pest management system; utilize outside vendors as appropriate.

*Woodrow Wilson House Fountain*
*Washington, DC*

# Attachment C

## Preservation/Restoration

- Advise the Director and National Trust Architect regarding the preservation needs of the buildings and grounds.
- Communicate and collaborate with the maintenance superintendents at the other National Trust Historic Sites.

## QUALIFICATIONS

Progressive, responsible experience in facilities maintenance, with demonstrated ability to undertake the varied and technical tasks of maintaining a historic site. B.A. degree, or specialized training in historic preservation or building conservation required. Communication, organizational and motivational skills, and writing ability essential. Mechanical aptitude and carpentry skills important. Other requirements: sensitivity to sound historic preservation ethics; common sense; able to deal professionally with vendors and the public; able to work a flexible schedule, including weekends when necessary; valid driver's license; experience with word processing and spreadsheet software programs. Architectural, conservation, construction management, restoration carpentry, and horticultural skills are all desired.

*National Trust Historic Sites Buildings & Grounds Staff Buildings & Grounds Conference, Filoli, September 2008*

*From the Association for Preservation Technology (APT) website, www.apti.org*

# New Orleans Charter for the Joint Preservation of Historic Structures + Artifacts

- Arising from a concern for the coexistence of historic structures and the artifacts within them;
- Recognizing our responsibility as stewards to provide the highest levels of care for the structures and other artifacts placed in our care;
- Recognizing that many significant structures are used to house, display, and interpret artifacts;
- Recognizing that historic structures and the contents placed within them deserve equal consideration in planning for their care;
- Recognizing that technologies and approaches will continue to change, and
- Recognizing that those involved in preservation are part of a continuum, and are neither the first nor the last to affect the preservation of historic structures and artifacts:

We, therefore, adopt these principles as governing the preservation of historic structures and the artifacts housed in them:

*Brucemore Wallpaper*
*Cedar Rapids, Iowa*

- Institutions' statements of mission should recognize the need to preserve the unique character of both the historic structure and artifacts.
- The preservation needs of the historic structure and of the artifacts should be defined only after study adequate to serve as the foundation for the preservation of both.
- Requisite levels of care should be established through the interdisciplinary collaboration of all qualified professionals with potential to contribute.
- Appropriate preservation must reflect application of recognized preservation practices, including assessment of risk before and after intervention, and the expectation of future intervention.
- Measures which promote the preservation of either historic structure or the artifacts, at the expense of the other, should not be considered.
- Regarding public use, the right of future generations to access and enjoyment must outweigh immediate needs.
- Appropriate preservation strategies should be guided by the specific needs and characteristics of the historic structure and artifacts.
- Appropriate documentation of all stages of a projects is essential, and should be readily accessible and preserved for the future.
- The most appropriate action in a particular case is one which attains the desired goal with the least intervention to the historic structure and the artifacts.
- Proposed preservation strategies should be appropriate to the ability of the institution to implement and maintain them.

The New Orleans Charter is the product resulting from two symposia on "Museums in Historic Buildings" held in Montreal, Quebec (1990) and New

# Attachment D

Orleans, Louisiana (1991), co-sponsored by the American Institute for the Conservation of Historic And Artistic Works (AIC) and The Association for Preservation Technology International (APT). This Charter has been officially adopted by the Boards of Directors of both AIC and APT. The New Orleans Charter was subsequently adopted by the National Council of State Historic Preservation Officers (NCSHPO) at its Annual Meeting in Washington, D.C. in March, 1992; the American Institute of Architects (AIA) Committee on Historic Resources at its Spring meeting in April, 1993; and the Board of Directors of the American Association of Museums (AAM) in December, 1993.

Note from the Graham Gund Architect, January 2010:

The New Orleans Charter has been a key guiding charter for historic site professionals since its development. However, it has been challenging to meet these goals without specific standards and guidelines to follow. One of the goals of the National Trust's Historic Sites Initiative is to develop practical guidelines and standards, based on experiences at our own sites, that historic sites and house museums across the country can implement.

*The Abraham Lincoln Model at Chesterwood*
*Stockbridge, Massachusetts*

*Decatur House Staircase*
*Washington, DC*

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# PRESERVATION Tech Notes

**TEMPORARY PROTECTION
NUMBER 2**

## Specifying Temporary Protection of Historic Interiors During Construction and Repair

**Dale H. Frens, AIA**
Frens and Frens

## PLANNING AND SPECIFYING TEMPORARY PROTECTION

Projects involving historic interiors range from the meticulous restoration of a National Historic Landmark residence as a museum to the insertion of modern apartment units in an abandoned loft building. The size of the building, significance of the interiors, and scope of work will determine how best to protect interior finishes, features, and collections during construction work. Al1 work involving historic buildings, however, shares the need to properly plan for and specify appropriate temporary protection measures. Without such provisions, unnecessary damage can result which will require additional the funds to correct or which can lead to irreversible loss of historic fabric.

### Problem

Relying on the contractor to protect interiors without specifying such protection puts historic material and finishes at unnecessary risk. Protective measures must be specified in the construction specifications for the job.

Although general contract language may make reference to "protecting existing construction" and may require that the contractor "restore any damage to its original condition at no additional cost to

owner" (or other similar language), in practice, the general nature of the language affords little protection to existing historic finishes or features. At best, such measures may provide a mechanism for repairing and paying for damage after it has occurred. Rather than provide adequate protection, some contractors deliberately elect to repair damage, believing it is cheaper.

***Historic interiors and collections should be protected from potential damage during construction work.***

## Solution

The planning process includes three important goals: 1) protection of any collections where present; 2) fire protection; and, 3) protection of historic architectural features and finishes. Collections safety during construction applies to buildings in which collections are stored or displayed, including cases where there are historic furnishings that are not part of a formal collection. Construction operations pose a serious threat to collections, and it is nearly always desirable for the collection to be removed from the work area. While this may seem obvious, in practice, maintenance and repair activities often take place in spaces containing collections. Common examples of this include the installation of wiring for security systems, electrical upgrades, or telecommunications; repainting; and additional work undertaken after owner occupancy. Except for the most minor repairs, as defined by the curator of collections for the institution or other responsible parties, collections should be moved out of the construction areas to a secured and safe location until all work has been completed. For small buildings where extensive work is taking place, the collection should be entirely moved off site to another location. This approach may also be desirable for larger buildings, depending upon the nature of the work, risks to collections, and availability of protected space on site.

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TEMPORARY CONSTRUCTION, NUMBER 2

## Fire Protection

Fire poses the greatest risk of sudden catastrophic loss during construction activities in existing buildings. Just one of the numerous examples is the 1985 Harrison Court fire in Philadelphia, in which a blocklong National Register warehouse building undergoing rehabilitation burned to the ground (see cover photo). The fire was caused by sparks from cutting torches that were being used during selective interior demolition work.

To address the threat of loss of life and property during construction operations, the National Fire Protection Association (NFPA) publishes NFPA 241: *Safeguarding Building Construction and Demolition Operations*, most recently reissued in 1989(1). Although written to provide fire protection procedures for all types of building construction activities, including new construction, NFPA 241 should be a reference standard in any selective demolition specification, and a foundation for addressing fire safety on building rehabilitation sites. Additional guidance is available in NFPA 914: *Rehabilitation and Adaptive Reuse of Historic Structures*. When these are utilized as reference standards, the historic building owner should obtain and enforce their recommendations (*see figure 1*).

The building owner and design professional should also review fire protection measures and fire fighting methods that are permitted by the standard but may be insensitive to the protection of historic finishes. Such measures and procedures should be clearly sited as "prohibited" in the specifications or construction agreement.

According to NFPA, 60 % of the fire losses to buildings under construction were caused by the following:

1) portable heating equipment (25%);
2) cutting, welding, and plumbers' torches (20%); and,
3) matches and smoking (15%) .

In addition to these three causes cited by NFPA, for historic buildings there is a fourth major cause-the use of heat devices to remove paint. They share a common characteristic: they are all caused by contractor operations on the site. For these reasons, full adherence to the project specifications is needed to reduce, or eliminate, these causes of fire.

**Figure 1. The spontaneous combustion of cloth rags that had been used in applying a common finishing wax caused over $1 million damage to a historic government office building in 1991. Remains of the trash can where the rags**

## Temporary Heat

**had been stored overnight is indicated by the fireman's notepad. After the cause of the fire was determined, a standard specification provision was developed for future contracts requiring the contractor to remove all material contaminated with finishing products from the site at the end of the day.**

During the normal operation of a building, the heating plant-boiler or warm air furnace-is placed at a remote location (usually in a fire-rated room); set in a stationary position; equipped with a fresh air supply and non-combustible exhaust flue; and supplied with fuel piped from a remote oil bank or by a natural gas pipe brought into the building. In the case of construction projects involving historic buildings, temporary heating devices are frequently utilized. These devices are inherently dangerous because they are portable and often unstable; have movable and nearby fuel tanks; and often exhaust into the space being heated.

Electric temporary heaters are considered the safest temporary heating devices, but require heavy conductors and power supplies which are not always available at desired locations when temporary heat is needed. As a result, these are generally not used. One alternative is a propane heater, which is safer and cleaner in operation than the oil-fired temporary heating unit, and has greater output and portability than the electric heater. Oil-fired temporary heaters should be avoided unless they can be vented directly to the building's exterior, or be placed in a completely open space of a building that is of non-combustible construction.

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TEMPORARY CONSTRUCTION, NUMBER 2

## Cutting, Welding, and Plumbers' Torches

The second most important cause of fire during construction operations is the use of open flame cutting, welding, and soldering equipment. Cutting and welding in existing buildings should be conducted with adequate supervision, fire watches, and emergency fire protection apparatus to assure that sparks or drops of hot metal do not start fires. Cutting and welding should be controlled by requiring a new permit each day, issued by the general contractor or construction manager, for each location where cutting or welding is to occur. A permit should not be issued until the following conditions are satisfied:
1. It has been determined that cutting and welding can be safely conducted at the desired location;
2. Combustibles have been moved away or safely covered;
3. Fire watchmen with extinguishers are posted for the duration of the work and for 30 minutes after work completion; and
4. Cutting and welding operations cease 2 hours prior to the close of construction each day to minimize the risk of undetected smoldering fire.

Permits and the inspection and maintenance of fire protection systems should be managed by a fire protection manager employed by the contractor or construction manager. (For small projects, the construction foreman may fill this role.) In addition to issuing and logging-in the cutting and welding permits, the fire protection manager should routinely inspect cutting and welding locations, all temporary heating equipment in operation, existing fire protection systems and exits, and first aid fire fighting equipment.("First aid" fire fighting equipment refers to fire extinguishers and available water sources available at the job site for providing the "first aid" in fighting a fire). At the end of each work shift, the fire protection manager should file a written report with the construction manager or contractor and the owner. Any violations or unsafe conditions relating to fire protection should be immediately reported to the construction project manager for action, including halting unsafe operations, improving fire protection measures, and notification of the owner.

A fire *watchman* reporting to the fire protection manager should be stationed at each cutting or welding location. The fire watchman's responsibilities include watching the work area for falling sparks and molten meal; covering combustible materials with fire blankets and mainlining such protection; and inspecting and maintaining first aid fire fighting equipment. For smaller projects, the construction fireman or other designated people should be assigned the responsibility of inspecting of each cutting and welding location frequently during the day (*see figure 2*).

The extent of first-aid fire fighting equipment is dependent on the size and type of building and scope of project work. At a minimum, even for restoration work in a small house museum, one or two ABC-type fire extinguishers should be placed in plain sight on each floor of the building where work is taking place. The available water supply should be located and clearly marked, maintained, and provisions made for its ready use.

**Figure 2. Because of the fire risks, open flame cutting and welding deserves careful attention both in the preparation of specifications and during the work.. As much welding as possible should be done offsite. For example, at the Nightingale Brown House, several large trusses were assembled offsite, then carefully hoisted through a window for installation. Photo: Irving B. Haynes and Associates.**

For all rehabilitation projects, the provision and/or maintenance of exits is of critical importance, both for life safety of construction personnel, and for fire fighters' access to work areas. For major rehabilitation projects in large and tall buildings, the handling of exit stairways is of great importance. Existing exit stair towers should be maintained, and construction priority given to the completion of new exit stairways. Where an existing fire door requires replacement, the old door should be removed and the new door and hardware installed immediately. While perhaps not as efficient as removing all doors in one phase and installing all new doors in a second phase, replacement on a one-for-one basis ensures that no more than one fire tower door is out of operation at any time during construction.

Prior to the commencement of any major rehabilitation on the small or large historic property, the owner and construction manager or contractor should meet with the local fire marshal to plan site and building access in the event of fire. The extent of fire department coordination is dependent on the size and location of the project, the significance of the structure, and the type of hazardous operations included in the project scope. Access paths for heavy fire fighting equipment should be laid out and maintained. Free access from the street to fire hydrants and to outside connections for standpipes, sprinklers or other fire extinguishing equipment should be provided and maintained.

The third most common cause of fire during construction is smoking and matches- entirely a construction management issue. Construction specifications for rehabilitation work should always prohibit smoking within the building, and enforcement of the prohibition is a priority responsibility of the contractor or construction manager.

A fourth cause of fire in historic buildings is the use of heating devices to remove paint. Due to the high fire risks, the use of open flame devices to remove paint should be prohibited in the specifications. Special precautions should be delineated when allowing heat plates and especially hot airguns. In addition to the possibility of igniting the wood, there is the even greater risk of ignition of flammable debris commonly found in wall cavities and behind cornices (see Preservation Tech Note Number 18). Where heat devices are permitted, their use should be prohibited from cornice soffits or other similar conditions where friable combustible material may be exposed to heat through cracks and open joints. Additionally, paint removal work should stop at

least two hours prior to the site being vacated each evening, to increase chances of early detection of any smoldering fire. The area of the day's work must also be carefully inspected. Construction specifications should also require that temporary fire detection devices be installed in close proximity to the specific work area and that the alarm system be directly monitored.

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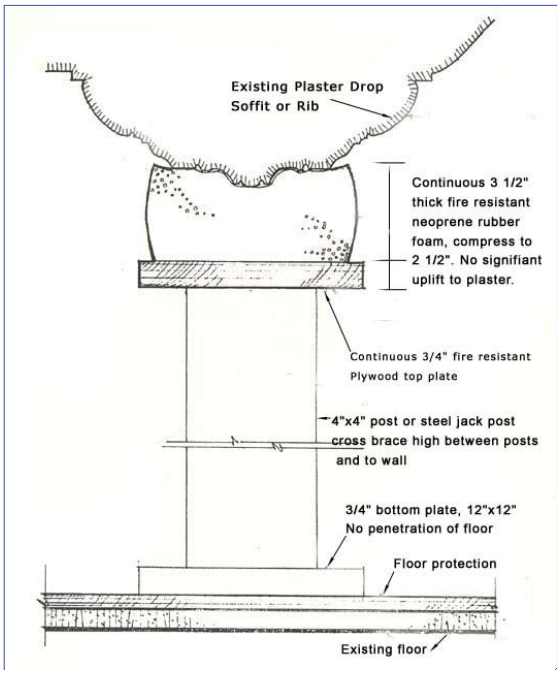
TEMPORARY CONSTRUCTION, NUMBER 2

## Protection of Historic Interior Features and Finishes

An important difference between protecting historic interior features and finishes and protecting new interior features and finishes during construction is in the timing of the construction schedule. In new work, important and fragile casework and finishes are installed late in the construction schedule, after mechanical and electrical systems and other high impact work are completed, thus not exposing the finishes to major construction operations. In preservation work, however, existing interior finishes are exposed to all the high impact and potentially damaging construction phases of the project, except to the extent that such finishes are temporarily protected or separated from construction work.




**Figures 3A & B. Vibrations generated during construction may necessitate the installation of temporary support for such fragile features as plaster ceiling cornices and soffits. Drawing: Villard Houses - courtesy of Emery Rotb & Sons Architects. RC. Photo: The Octagon, Annie Hovey, AIA. (Click on diagram to expand)**

Important architectural features which are easily removed should be stored off site, if possible, to protect them from vandalism, theft and damage during construction. Lighting fixtures, fireplace mantels, and interior doors are typical examples. Less movable architectural material or finishes such as wallpaper are often best retained in place but may require custom-designed protective measures developed and monitored by a conservator (*see figure 3*).

Access by construction personnel to spaces with significant features and finishes should be restricted, except for their work relating directly to the preservation of such spaces. Spaces with restricted access should be identified by the planning team and indicated in the construction documents in order to allow the contractor to include any associated costs in his price proposal (*see figure 4*).

For spaces such as halls and lobbies, it may not be practicable to limit access, and for all interior spaces, some construction work may be required. In such circumstances, interior finishes must be physically isolated from construction operations by means of protective barriers and coverings. Such surfaces are generally limited to flooring, walls up to approximately 6 foot height, and special construction such as staircases. Only under unusual circumstances do ceilings or upper wall areas require physical protection during construction. Examples are walls with historic wallcoverings or fragile ornamental ceilings that are at risk to physical abuse or to vibration damage caused by construction activities.

Flooring should be protected from damage caused by abrasion, falling objects, dust and dirt, and spilled liquids (*see figure 5*). If work in, or traffic through, a particular space does not involve one or more of these risks, temporary protection may be reduced. Damage caused by abrasion can be controlled by means of protective coverings such as canvas tarps or resilient wood fiber panels. Canvas tarps should overlap and be taped at all joints. Resilient wood fiber panels should be carefully fitted with tight seams and laid continuously wall to wall. Joints should be taped to avoid displacement of the panels after setting. For added safety, resilient panels left exposed should also be fire-retardant treated to achieve a UL Class A listing for flame spread and smoke developed. Such a readily available product is N.C.F.R Homasote.

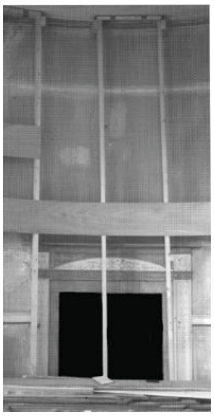


**Figure 3B**

For greater protection from physical force, a layer of plywood can be applied over the Homasote panel underlayment, with joints staggered to stabilize the assembly. In this double layer assembly, the top plywood should be treated with a fire-retardant, but the underlayment need not be. Where protection from spilled liquids is required, a layer of polyethylene sheeting should be applied between the Homasote panels and the plywood top layer. Care should be taken in planning the protection assembly to ensure that moisture from spilled liquids is not trapped against the historic flooring.

**Figure 4. Temporary protection during construction can involve covering historic features, such as floors and walls, as well as using temporary doors to control the passage of workers and the inevitable dust and dirt. Prominently located fire extinguishers are mandatory. Photo: Annie Hover, AIA,The Octagon.**

Otherwise, the staining, splitting, wood-grain raising, or stone-finish destruction could potentially go undetected for months while concealed from view under the protection assembly. Care should also be taken to avoid sheet coverings such as building felt, which could potentially stain the historic flooring.

Wall protection is typically fabricated from fire-retardant treated plywood attached to wood framing. The assembly should be self-supporting and self-bracing, secured at its base to the floor protection assembly. Struts and walers need to be provided, as required, to brace the assembly without installing fasteners into the historic wall finish. Careful assembly includes using screw fasteners in order to eliminate hammering during assembly and ripping damage during disassembly. Where wood framing, furring, or panels abut historic wall materials, the back side of the protective assembly should also be padded using strips of neoprene or strips of Homasote board, glued to the protective assembly member.

Historic stairways, balustrades, balconies, fireplaces, door surrounds, window surrounds, and other components will also need to be protected from construction damage by combining the techniques described for floors and wails (*see figure 6*). Horizontal surfaces should be protected as floors, and vertical assemblies treated as walls, with the major difference being the complexity of the framing required.

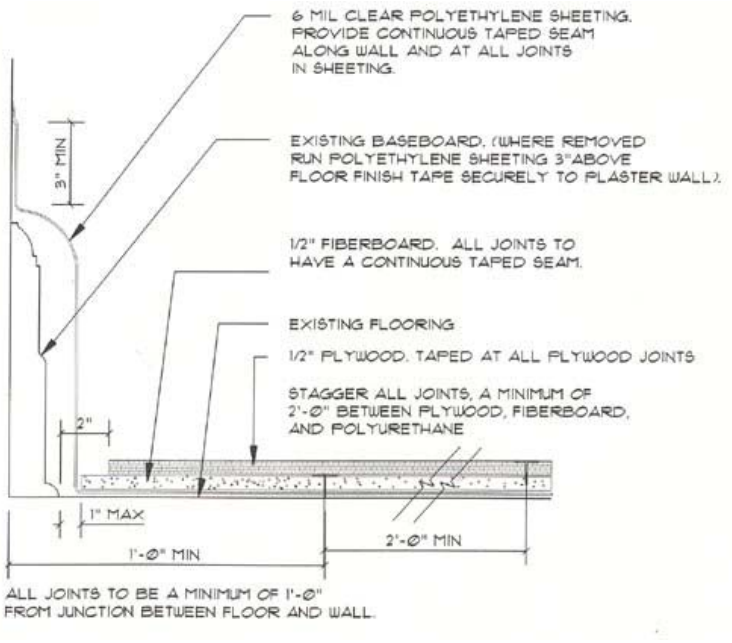



**Figure 5. To provide for adequate floor protection in the New Jersey State Capitol, this area was swept clean, then covered with polyethylene sheeting to protect against spills and dirt abrasion. Fiberboard (1/2" thick) was placed over floors and the joints sealed with tape. Finally 1/2" plywood was laid with all joints taped. This floor protection system has been successful over many years of use and is recommended in major construction areas, and where tile, marble, parquetry wood, or other historic flooring is involved. Photo and drawing: Ford Farewell Mills and Gatsch Architects. (Click on diagram to expand)**

# Attachment E

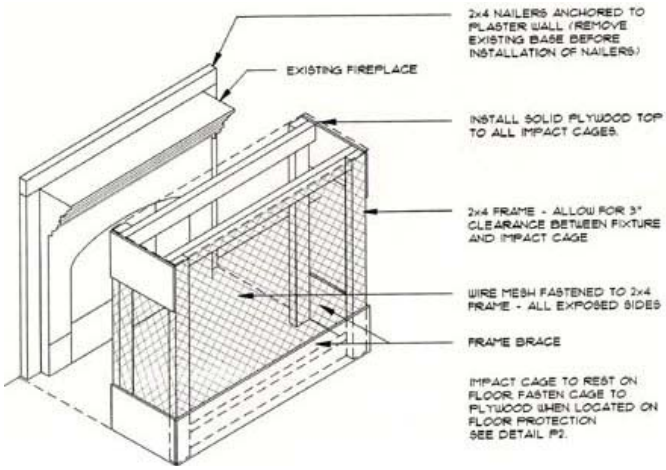



**Figure 6. A self-supporting impact cage utilizing wood and wire mesh protects the fireplace. In this project, the long construction process required builders to have visible access to features such as the fireplace. The wire mesh also facilitated monitoring during the lengthy construction. Photo and drawing: Ford Farewell Mills and Gatsch Architects. (Click on diagram to enlarge)**

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## TEMPORARY CONSTRUCTION, NUMBER 2

### Specifying Protection

Detailing and specifying temporary protection of historic interiors during construction is the responsibility of both the architect and contractor. Most general conditions of a construction contract contain language similar to AIA Document A201, *General Conditions of the Contract for Construction*: "The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the work."(2) The same document in a later paragraph states "The Architect will not have control over or charge of and will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the worked."(3) And, directly related to temporary protection, "The Contractor shall use reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to . . . other property at the site or adjacent to . . . not designated for removal, relocation, or replacement in the course of construction."(4) Thus, the contractor is responsible for the means and methods of construction, including protection of public and property. The courts have reinforced this concept by holding an architect liable for construction injuries where the architect took an active role in enforcing construction safety practices.

The above notwithstanding, architects routinely specify temporary facilities including temporary utilities, temporary construction and support facilities, and security and protection services. For preservation projects, it is recommended that temporary protection of historic interiors during construction be specified in a separate Division 1 specification section entitled "Special Project Procedure" or "Restoration Project Procedures" to ensure that required provisions are not overlooked by bidders because they appear in the often lengthy Section 01500 - Temporary Facilities. Under competitive bidding circumstances, bidders logically seek to minimize the cost to the project for providing temporary facilities, including temporary protection of historic interiors. By creating a separate section in a price proposal, the bidder will be inclined to treat the "special project procedures" as an added cost rather than a part of the temporary facilities required for any alteration project. The contractor's project manager can thus anticipate making reasonable expenditures for providing specified temporary protection during construction. To ensure the adequacy of temporary protection measures in projects involving a construction manager, temporary protection is often best provided by the construction manager, who normally works for the owner on a cost-plus-fee basis (*see figure 7*).

**Figure 7. A contractor's solution to protecting the limestone door surround consisted of thin foam sheeting, secured with wood nailed to the masonry. This protection was rejected as inadequate by the architect, and a full plywood enclosure constructed. In the architect's solution, it should be noted that a temporary door is used while the original door is stored for safe keeping during construction. Photo: Ford Farewell Mills and Gatsch Architects.**

Temporary protection should generally be specified rather than detailed, with details provided by the contractor as shop drawings. Materials permitted and prohibited, fasteners, attachment to existing construction, descriptions of assemblies, and other provisions should be specified in adequate detail to enable the contractor to prepare shop drawings for specific field conditions. More detailed requirements may be involved where a conservator's plan is required for select items or rooms due to their special significance.

The temporary protection of historic interiors during construction is also affected by other specification sections. In Section 01045-Cutting and Patching, it should be clearly stipulated who is to perform cutting and patching in spaces involving historic interiors. This is particularly important in multiple prime contracts, where each contractor is responsible for his own cutting and patching. Unless carefully specified, all the positive temporary protection work specified in Section 01100 may be lost to damage done during cutting and patching work. In Section 01500- Temporary Facilities, requirements for trash chutes affect tire protection, as do requirements for field offices, materials storage and site access. Additionally, dust control, whether specified in Section 01500 or in Section 02070 Selective Demolition, must not be permitted in historic buildings by means of water sprinkling.

Conditions prior to commencement of construction should be photographically documented by the contractor. For large preservation projects, project specifications may require a professionally prepared videotape survey of the entire building interior. For small projects, a videotape survey may also be an effective supplement to existing conditions photographs. The owner may wish to document existing conditions independent of the contractor in order to avoid any future dispute regarding damage caused by construction operations as opposed to pre-existing damage.

### Special Hazards Involving Large Buildings

The rehabilitation of large buildings demands the greatest planning for fire safety. Although structural components are typically noncombustible, other building assemblies, stored materials, and finishes are not. A number of special hazards are created during rehabilitation that could cause major damage to the historic building. Alterations to fire stairs and elevators may create unvented, unprotected multi-story shafts which behave as flues in the event of a fire. Alterations to fire stairs, fire separations, and fire sprinkler systems may require the deactivation or partial deactivation

of such systems during construction work. Building heat and water are often turned off during major rehabilitation, introducing the hazard of temporary heat while reducing the protection afforded by a quick water supply. And finally, the rehabilitation of major structures typically involves large construction equipment, including those powered by internal combustion engines within or immediately adjacent to the building.

For large, non-combustible construction structures requiring the use of internal combustion engines indoors, fuel storage, equipment operation, and equipment service should be addressed in the specifications. Except for propane fueled "bobcat" loaders, all exhausts should discharge to the building exterior. Fuel for internal combustion engines should not be stored and equipment should not be serviced within the building.

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## TEMPORARY CONSTRUCTION, NUMBER 2

### Conclusions

Temporary protection of historic interiors during construction, an essential component of any preservation project, is largely a construction management issue. A succesful protection program is the result of careful pre-planning, thorough project specific specifications, owner vigilance, contract enforcement, and contractor diligence. Cost savings can be realized by minimizing damage to the historic structure in the course of construction work. Even more importantly, a successful protection program controls risks and hazards that could otherwise result in the loss of significant historic materials and finishes or an entire building.

### Notes

1. NFPA 241 is available from the National Fire Protection Association, Quincy, Massachusetts, telephone 800-344-3555.

2. AIA Document A201, General Conditions of the Contract for Construction, Paragraph 3.3.1.

3. AIA Document A201, Paragraph 4.2.3.

4.AIA Document A201, 10.2.1.3.

For further reference, see Preservation - Tech Notes Number 18 on paint removal and Number 10 on temporary protection of historic stairways.

This **PRESERVATION TECH NOTE** was prepared by the National Park Service. Charles E. Fisher, Preservation Assistance Division, National Park Service, serves as Technical Editor of the series. Special thanks go to Marilyn Kaplan of Preservation Architecture, for her comments and review, and to Annabelle Radclaffe-Trenner, AIA, RIBA, Ford Farewell Mills and Gatch Architects; Nancy Davis and Lonnie Hovey, AIA, The Octagon, Caroline Alderson and Daniel Niner, General Services Administration; and Martha L. Werenfels, AIA, Irving B. Haynes and Associates, Architects, for their assistance. Thanks also go to Ward Jandl, Timothy Buehner, Michael Auer, Kay Weeks, and Dalhia Hernandez of the Preservation Assistance Division.
Cover Photo: Urban Archives, Temple University, Philadelphia

**PRESERVATION TECH NOTES** are designed to provide practical information on traditional and innovative techniques for successfully maintaining and preserving cultural resources. All techniques and practices described herein conform to established National Park Service policies, procedures and standards. This Tech Note was prepared pursuant to the National Historic Preservation Act, as amended, which direct the Secretary of the Interior to develop and make available to government agencies and individuals information concerning professional methods and techniques for the preservation of historic properties. Comments on the usefulness of this information are welcomed and should be addressed to Tech Notes, Preservation Assistance

Division, National Park Service, P.O. Box 37127, Washington, D.C.20013-7127. ISSN: 0741-9023 PTN-38 024-005-01 130-7 October 1993

## Attachment F

# EXAMPLES OF REQUEST FOR QUALIFICATIONS AND REQUEST FOR PROPOSALS

Attached are several examples of RFQs and RFPs for both Stewardship and Co-Stewardship Sites.

1. Request For Qualifications for Architectural and Engineering Services for the Conservation and Restoration of the Exterior Envelope at Woodlawn
   PAGES 148 - 159

2. Request For Proposals for the Brick House Restoration at Philip Johnson's Glass House
   PAGES 160 - 184

3. Request For Proposals for an Environmental Planning Study of the Cliveden Main House and its Collections
   PAGES 185 - 204

*The Brick House at Philip Johnson's Glass House*
*New Canaan, Connecticut*

NATIONAL TRUST FOR HISTORIC PRESERVATION

March 17, 2004
RFQ #2004-06

# REQUEST FOR QUALIFICATIONS FOR ARCHITECTURAL AND ENGINEERING SERVICES FOR THE CONSERVATION AND RESTORATION OF THE EXTERIOR ENVELOPE AT WOODLAWN

1. INTRODUCTION.

A. The National Trust for Historic Preservation is soliciting qualification statements from firms interested in providing the architectural and engineering services required for the Conservation and Restoration of the Exterior Envelope of the mansion, out-buildings, garden walls and walkways at Woodlawn, a National Historic Landmark located at 9000 Richmond Highway in Alexandria, Virginia. The project will involve the construction of improvements to the building's drainage systems, the development of measures to prevent moisture intrusion and the construction of repairs and improvements to the building's roofing systems.

B. The purpose of this RFQ is to solicit qualifications from individual A/E firms or from teams of affiliated professional consultants who can provide the required professional design services. Fee proposals, rates and a proposed scope of work are not required at this time. After a review of qualification statements, the National Trust will select a short list of approximately three firms who will be asked to submit fully-developed proposals. A pre-proposal conference and briefing will be conducted at that time with the short-listed firms.

2. DEADLINE FOR SUBMISSION. Qualifications Statements submitted in response to this RFQ will be accepted by the National Trust for Historic Preservation at its Headquarters, 1785 Massachusetts Avenue, NW, Washington, DC 20036, until 5:00 p.m. on Friday, April 2, 2004.

3. BACKGROUND.

A. Woodlawn is located 3 miles west of Mount Vernon on U.S. Route 1 in Fairfax County, Virginia. It consists of 126 acres that are bounded by Dogue Creek on the east, Fort Belvoir on the south and west and the Mount Vernon Memorial highway (VA Route 235) on the north. Most of the property is in woodlands with some open fields in the northern and western sections.

B. Woodlawn was carved from George Washington's Mount Vernon estate and presented to Major Lawrence

Lewis, his nephew, and Eleanor Parke Custis at the time of their marriage. Eleanor, who as a child was known as "Nelly," was the granddaughter of Martha Washington through her first marriage to Daniel Parke Custis. Upon death of Nelly's father, John Parke Custis, she and her younger brother George Washington Parke Custis were taken to Mount Vernon to be raised by George and Martha Washington. In January 1799, Washington legally adopted Nelly in order to authorize the license for her marriage. She and Lawrence Lewis were married on February 22, 1799, Washington's last birthday. Washington set aside 2,000 acres of Mount Vernon lands for the couple which included a portion of his Dogue Run Farm, Washington's grist mill and distillery.

C. Washington chose the site for the construction of the main house and selected Dr. William Thornton, the first architect of the U.S. Capitol, to design the building. Construction began in 1800 and was completed in 1805. The house is one of Dr. Thornton's few surviving domestic residences. The integration of Georgian and Federal features makes Woodlawn unique among extant Thornton buildings in the nation's capitol. Woodlawn was the home of the Lewis family until the 1840's. During the Lewis years, the residents of Woodlawn included a community of 80 to 100 slaves, several white servants, and eight members of the Lewis family.

D. From 1846 to 1850 Woodlawn was home to a community of Quakers. The Georgian mansion was used as a meeting house, and the 2000 acres were divided into several small farms. It also served as a Free School, one of the first integrated schools in the state of Virginia. In 1853 the property was sold to John Mason who used the Mansion as a residence and meeting house for a growing Baptist community. Woodlawn stood abandoned from 1892-1901. In 1901, the house and remaining acreage was purchased by playwright Paul Kester who sold the house to Elizabeth Sharpe in 1905. During her twenty years as owner of Woodlawn, Sharpe undertook the only major restoration of the structure. From 1925 to 1948 the house and surrounding grounds were owned by the family of Senator Oscar Underwood of Alabama.

E. In 1949, Paul Mellon worked with local residents to establish the Woodlawn Public Foundation, a private non-profit organization whose purpose was to preserve the declining historic site. The Woodlawn Public Foundation rescued the site from sale to a private owner and two years later, the property was turned over to the National Trust for Historic Preservation in 1951 for operation as its first historic house museum. For more than fifty years, staff members and volunteers have been providing the public with a view of life at Woodlawn during the Lewis period of occupancy. Woodlawn is a fully-operational house museum open to the public seven days a week, serving as an educational tool for visiting school groups. Special events are also held at Woodlawn, which require catering services and tents installed on site.

F. The mansion is a symmetrical, five-part Palladian-plan structure constructed of brick with Aquia stone trim. The 2-story central block is flanked by 1½ story hyphens and wings. The central block has a modillion cornice and a 1-story porch with balustrade on the eastern facade. The hyphens have round-arched entrances and floor-length windows, and gabled dormers. The wings also have gabled dormers and oval lights are present on the north and south ends. Connected to the wings by brick garden walls are a meat house and dairy, on the north and south sides respectively. A small, hexagonally shaped Necessary is located to the south of the Dairy. The various components of the building are identified in the drawings which are attached to this RFQ and identified as Exhibit A.

G. The principal parts of the structure are currently being used for the following purposes:

i. First Floor:

| | | |
|---|---|---|
| 1. | North Wing | - Museum Shop |
| 2. | North Hyphen | - Visitor Reception/Orientation Area |
| 3. | Center Block | - Museum Interpretive Spaces |
| 4. | South Hyphen | - Meeting/Educational Spaces |
| 5. | South Wing | - Kitchen & Multi-purpose Storage |

ii. Second Floor:

| | | |
|---|---|---|
| 1. | North Wing & Hyphen | - Staff Offices & Collections Storage |
| 2. | Center Block | - Museum/Interpretive Space |
| 3. | South Wing & Hyphen | - Staff Offices & Collection Storage |

iii. Basement:

| | | |
|---|---|---|
| 1. | North Wing | - Public Restrooms |
| 2. | North Hyphen | - Furnace Room, Electrical Panels, Storage |
| 3. | Center Block | - Miscellaneous Storage |
| 4. | South Hyphen | - Miscellaneous Storage |
| 5. | South Wing | - Storage & Network/Phone System Hub |

4. PAST PLANNING REPORTS AND DOCUMENTATION.

A. In 1998, the National Trust entered into a contract with the firm of Watson & Henry for the preparation of a comprehensive Historic Structure and Landscape Report (HSLR) for Woodlawn. During the course of their investigation, they (1) traced the historical development of the building and site through documentary evidence and physical examinations; (2) determined the existing condition of the historical structure and the architectural fabric of the building; (3) attempted to identify the factors contributing to those conditions; and (4) developed a phased program of measures recommended to stabilize and preserve the building and its landscape for future generations. In February 2004, Watson & Henry submitted their final report. An extract from their report, which includes recommendations for the restoration and rehabilitation of the exterior is attached to this RFQ as Exhibit B. A copy of their complete report is available for inspection at the Site.

B. The National Trust plans to implement the recommendations contained in the HSLR in phases beginning with the more critical recommendations for the conservation and restoration of the exterior building fabric. Subsequent phases will be implemented as funding becomes available. The A/E team selected for this phase of the project will be given serious consideration for, but will not be guaranteed a contract award for subsequent phases of the work. The funds required for this first phase are available through a grant from the Save America's Treasures Program administered by the National Park Service of the U.S. Department of the Interior. SAT funds will be matched with funds raised by Woodlawn from private sources.

5. ANTICIPATED SCOPE OF PROJECT. The professional services required by this RFQ will be limited to the architectural and engineering services required for the exterior envelope restoration of Woodlawn. The principal objectives of the project as described in the HSLR include:

A. Building Drainage:

(i) Investigate sub-grade drainage conditions and repair drain lines;

(ii) Conduct an archaeological investigation of any undisturbed soil areas that need to be examined;

(iii) Install weatherproofing on the foundation wall in areas most prone to basement leaking;

(iv) Rebuild deteriorated entrance walks and ramps adjacent to the house; and

(v) Re-grade areas surrounding the house for improved surface water drainage.

B. Moisture Intrusion:

(i) Replace or repair deteriorated gutters and downspouts;

(ii) Repair deteriorated eaves and cornices;

(iii) Repoint facade brickwork, including garden walls & dependencies;

(iv) Repoint chimney brickwork;

(v) Conserve exterior stone trim;

(vi) Excavate at the foundation to the extent required for access for repointing;

(vii) Disassemble and repair windows and replace weatherstripping;

(viii) Reglaze and reputty windows;

(ix) Disassemble and repair doors and replace weatherstripping; and

(x) Prepare and paint exterior trim, windows and doors.

C. Roofing:

(i) Remove wood shingles and flashing on the Meat House;

(ii) Install new wood shingle roof on the Meat House;

(iii) Remove slate roofing and flashing on the remainder of the building;

(iv) Construct underlayment for new roof;

(v) Install new slate roofing;

(vi) Remove and reinstall snow guards;

(vii) Install new copper flashing; and

(viii) Repair/improve lightning protection.

6. SELECTION PROCESS.

A. Short List. Following a two-week period for a review of qualifications, the National Trust will issue a 'short list' of A/E teams who will be asked to proceed with the subsequent steps in the selection process.

B. Pre-Proposal Conference. Short-listed teams will attend a pre-proposal conference at Woodlawn for a team presentation, interview and discussion of the proposed project methodology. All respondents to this RFQ should hold the date for this meeting, see below. Participants will have an opportunity to tour the site with National Trust staff members who will be responsible for the project. The interviews and presentations will be private.

C. Fee Proposals and Related Materials. Short-listed firms must prepare and submit a fee proposal consisting of:

(i) a narrative description of their proposed project methodology;

(ii) a fixed fee proposal for the Basic Services required for the project from design through administration of the construction contract;

(iii) an allocation of the fee by percentage for the principal phases of the project, i.e. schematic designs, design development, construction documents, etc.;

(iv) an allowance for reimbursable expenses and a listing of the expected items and services covered by the allowance;

(v) a listing of hourly rates/charges for Additional Services; and

(vi) a timeline of services from the design phase up to the issuance of bid documents.

D. Schedule. the schedule for the selection process is as follows:

| | | |
|---|---|---|
| (i) | April 2, 2004 | Qualification Statements Due |
| (ii) | April 16, 2004 | Anticipated date of notification to short-listed firms. |
| (iii) | April 21, 2004 | On-site pre-proposal conference. |
| (iv) | May 3, 2004 | Fee Proposal Materials Due |
| (v) | May 14, 2004 | Contract Award |
| (vi) | June 1, 2004 | Professional services commence. |

7. ADDITIONAL BACKGROUND INFORMATION. This RFQ contains the minimum information needed to understand the project for the submission of qualification statements. However, the short-listed firms will undoubtedly want to have a more complete understanding of the planning work that has been done to date. This will require a review of the 2003 Historic Structure and Landscape Report which includes an Analysis

of Condition Assessment. This document will be made available for review on the date of the Pre-Proposal Conference, and may be scheduled for review at other times as needed.

8. ANTICIPATED SCOPE OF PROFESSIONAL SERVICES. The professional services required for this project will follow the standard five phases outlined in AIA Contract Document B-151, which are summarized and, in some cases, modified as follows:

A. Research and Schematic Design Phase. During this phase of the project, the A/E team will:

(i) Review the HSLR and become thoroughly familiar with the overall scope of the work required at Woodlawn;

(ii) Review the condition assessment and cost estimates completed by Watson & Henry and update that material as needed;

(iii) Inspect all existing conditions relevant to the conservation and restoration of the exterior envelope, including architectural, structural, mechanical, electrical, and plumbing conditions;

(iv) Prepare Schematic Designs consisting of:

(a) A concise, written report of your findings;

(b) A written narrative description of the proposed conservation treatments and construction activity to be undertaken;

(c) Schematic Design Documents consisting of drawings and other documents illustrating the scale and relationship of all project components;

(d) A preliminary estimate of Construction Cost; and

(e) A schedule of proposed construction activity.

B. Climate Management Analysis. The A/E Team will also conduct a Climate Management Analysis of the interior of the building beginning in this phase of the project. The uses that are being made of the building require a climate management system that balances the needs of: (1) the building materials, (2) the collections/artifacts, and (3) staff members and visitors. Since the performance of the building envelope is directly affected by interior climate conditions, climate management analysis needs to begin immediately in order to inform the exterior envelope treatments as well as subsequent phases of the planned capital improvements. The work to be completed by the A/E Team during this phase of the project will include the establishment of a climate monitoring program (temperature and relative humidity) so that the resulting data can be used to diagnose and analyze the performance of existing climate management systems and of the building envelope. The professional services required will include system design, set-up, monthly data checks, quarterly reports and data analysis. All recommendations must be consistent with the "APT/AIC New Orleans Charter for the Joint Preservation of Historic Structures and Artifacts."

C. Climate Management Report. At the conclusion of the period established for the climate monitoring program, the A/E Team will prepare and submit a report of their finding and recommendations. Their report should include the following components:

(i) A written analysis that assesses the wants and needs of the three competing criteria (building, collection, human) in the context of the proposed use and operational practices at Woodlawn;

(ii) A written review of alternatives for climate management with critical analysis of each alternative in order to inform the selection of the most appropriate combination of daily and seasonal practices, passive techniques, and new mechanical systems (Consideration should be given to installation cost (including alteration of building's thermal transmittance values), as well as all factors of sustainability, simplicity of operation, operation cost, maintenance cost and longevity of components); and

(iii) Quarterly reports on the status and efficacy of the climate monitoring program.

D. Design Development Documents. Following National Trust approval of the recommendations made in the Schematic Design Phase, the Architect will prepare and submit:

(i) Design Development drawings, outline specifications and other documents necessary to describe the size and character of the project as to architectural, structural and other elements; and

(ii) Adjustments to the Preliminary estimate of construction cost for each element.

E. Construction Documents. The Architect will prepare Construction Documents suitable for use in obtaining bids from contractors and the approval of any governmental authorities having jurisdiction over the work.

(i) The Construction Documents will include complete drawings and detailed specifications. Final cost estimates for construction must also be submitted.

(ii) The Architect will submit documents to the appropriate government authorities for plan check and will obtain the necessary sign-offs and approvals required for permits as part of this phase of the work. The team will also prepare a listing, cost estimate, and schedule for obtaining the required permits.

(iii) The Construction Documents will include the relevant textual materials and other information taken from the manual: "Best Practices for the Care of Structures and Landscapes at National Trust Historic Sites".

(iv) The Construction Documents will be revised and put into final form by the Architect following a 2-week period when they will be reviewed by the National Trust.

F. Bidding and Negotiation.

(i) Following National Trust approval of the Construction Documents, the Architect, working in close cooperation with the Contracts Office of the National Trust, will prepare a bid package including Instructions to Bidders and a Bid Form. The Contracts Office will be responsible for placing newspaper advertisements notifying prospective contractors of the availability of a contract opportunity.

(ii) Following National Trust approval of the bid package, the Architect will:

(a) make the plans and specifications for the project available for inspection by interested

contractors;

(b) recommend to the National Trust highly-qualified firms that may be interested in submitting bids for the work and notify them of the contract opportunity;

(c) assist with the distribution of the Bid Package, including the plans and specifications to interested contractors for the purpose of preparing bids;

(d) participate in a pre-bid conference at Woodlawn and respond to questions raised by prospective contractors concerning the project;

(e) evaluate the qualifications and experience of firms submitting bids in response to the IFB;

(f) assist the staff in checking references submitted by prospective contractors;

(g) assist the staff in reviewing and evaluating the bids received; and

(h) submit a recommendation to the National Trust as to the firm best-qualified for a contract award.

G. Contract Administration Phase. Following the award of a contract by the National Trust for construction, the Architect will provide general administration of the construction contract on behalf of the National Trust.

(i) The services required during this phase will include frequent site visits, inspections, reviews of shop drawings, conducting tests and evaluations, providing interpretations of the Construction Documents, preparing Change Orders, reviewing and acting on applications for payment submitted by the contractor, and such additional customary contract administration services as may be required from time to time.

(ii) The key member(s) of the project team should provide up to eight hours of lecture/education time at the discretion of the National Trust. Joint presentations with National Trust staff will be encouraged.

(iii) The National Trust would like to work these special services into the public programs, tours and fund-raising events related to Woodlawn.

9. SITE AND PROJECT CONSTRAINTS.

A. All work recommended by the A/E Team must conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties (rev. 1995) as well as all applicable codes and regulations governing the work.

B. Barrier-free access must be achieved that combines compliance with local codes, ADA architectural guidelines and great sensitivity to the historic building.

C. Any area that may need to be tested by an archeologist during the Research Phase will be determined by the A/E team in consultation with the Senior Archeologist of the National Trust.

10. PROFESSIONAL TEAM COMPOSITION. The professional services required for this project will be supplied by a

team of architects, engineers and other experts possessing the knowledge, skills and abilities listed below.

A. Historical Architect. Professional degree in architecture and licensed to practice architecture in Virginia. Specialized training or degrees in historic preservation preferred. The individual filling this role must be demonstrate significant professional experience with at least five (5) similar historic preservation projects involving the same range of design issues, preservation problems, and types of materials existing and anticipated for this project at Woodlawn.

B. Structural Engineer. Professional degree in engineering with an emphasis on structural engineering, and l licensed to practice as an Engineer in the Commonwealth of Virginia.

C. Mechanical/Electrical/Plumbing/Civil Engineers. Professional degree in engineering with an emphasis on the relevant discipline, and licensed to practice as an engineer in Virginia. The individual lead Engineer(s) must demonstrate significant professional experience with at least three (3) similar historic preservation projects. The Engineer must be expert in dealing with historic buildings such as the Woodlawn.

D. Archeologist. The A/E team may be asked to recommend an archeologist qualified to conduct field surveys and otherwise inform the site work. The candidate recommended must have a graduate degree in Anthropology or Archeology with a specialization in Historical Archeology and be recognized by governing authorities in the Commonwealth of Virginia as an Archeologist. Experience conducting archeology surveys within the Washington capital region will be required

11. INSTRUCTIONS FOR SUBMISSION OF QUALIFICATIONS.

A. Two copies of the qualification statements must be submitted on the firm's letterhead. One copy must be unbound and in a form suitable for duplication. Telephone and facsimile submissions will not be accepted.

B. Your submission must contain the following information:

(i) a description of the professional qualifications of the team and its members;

(ii) an organizational chart that identifies the project manager and the members of the team and clearly defines their respective roles and responsibilities;

(iii) a statement of the prior work experience of the members of the team on other relevant projects;

(iv) if consultants will be used, the name and address of such firms, together with a description of their area of responsibility;

(v) the name, address and telephone numbers of references who may be contacted concerning work done on comparable projects;

(vi) a description of the legal status of the firm, i.e. sole proprietorship, partnership, limited partnership, joint venture or corporation, and state of residency or incorporation;

(vii) the name, address and position of persons within the firm who are authorized to execute contracts on its behalf; and

(viii) a statement indicating whether or not the firm carries insurance in the following categories and the principal amount of all coverages maintained:

(a) Commercial General Liability
(b) Professional Liability
(c) Automobile Liability
(d) Workers' Compensation

12. CRITERIA FOR SELECTION.

A. In evaluating the qualifications received in response to this RFQ, the National Trust will consider the following factors:

(i) professional qualifications of individual team members;

(ii) the experience of the team members in working with comparable projects at similar historic properties;

(iii) the ability to complete the project within a reasonable time frame;

(iv) a positive, can-do attitude of achieving goals while working in a cost effective manner; and

(v) responses received from references.

B. In evaluation the fees proposals received from short-listed firms, the National Trust will consider all of the criteria above plus;

(i) project methodology,

(ii) value and

(iii) proposed timeline.

C. The National Trust reserves the right, in the exercise of its discretion:

(i) to reject all submissions received;

(ii) to accept a submission without further discussion;

(iii) to reject a submission due to defects, irregularities or provisions inconsistent with this RFQ;

(iv) to waive any defect or irregularity in a submission and to accept it when it is otherwise proper and reasonable to do so; and

(v) to negotiate directly with respondents for other terms, prices and conditions deemed proper and reasonable for the completion of the project.

13. FUNDING AND CONTRACT CONDITIONS.

A. The National Trust is a charitable, educational and nonprofit corporation created by Act of Congress. It is responsible to Congress for encouraging public participation in the preservation of sites, buildings and

objects that are significant in American history. Financial support for the National Trust is provided by membership dues, endowment funds and contributions from private members and donors. It also receives matching grants from agencies of state and federal government, including the National Park Service of the U.S. Department of Interior. The funding required for the project covered by this RFQ will be provided in part by a Save America's Treasures grant administered by the National Park Service, Department of Interior.

B. The contract between the National Trust and the firm selected for this project will be based on AIA Document B151, Abbreviated Form of Agreement Between Owner and Architect for Construction Projects of a Limited Scope (1987 Edition).

14. EQUAL OPPORTUNITY.

A. The National Trust is an equal opportunity employer. It maintains an Affirmative Action Plan as required by Executive Order 11246, as amended, and by the applicable implementing regulations issued by the Secretary of Labor (41 CFR 60-1). The firm selected for the contract anticipated by this RFQ will be expected to maintain similar policies and plans, and to comply with all applicable notice and reporting requirements, to the extent that they are required by the Executive Order and the implementing regulations.

B. The National Trust is committed to a policy of encouraging greater economic opportunities for minority and women-owned business enterprises. Firms owned by minority interests and by women are invited and encouraged to respond to this Request for Qualifications.

15. FOLLOW-UP.

A. Questions concerning the technical specifications for this project or the Preliminary Conference at Woodlawn should be addressed to:

William Dupont, AIA
Graham Gund Architect of the National Trust
Department of Stewardship of Historic Sites
National Trust for Historic Preservation
1785 Massachusetts Avenue, NW
Washington, DC 20036
(202) 588-6261

B. Questions concerning the proposed scope of work or working conditions at Woodlawn should be addressed to:

Ross Randall, Director or
Craig Tuminaro, Associate Director, Preservation Programs
P.O. Box 37
Mount Vernon, Virginia 22121

Phone: (703) 780-4000 FAX (703) 780-8509

C. Questions concerning National Trust contract procedures, should be addressed to:

Tony Martinez,
Contracts Office
National Trust for Historic Preservation
1785 Massachusetts Avenue, NW
Washington, DC 20036
(202) 566- 6108

16. SUBMISSIONS. Qualifications statements must be received by the National Trust at its Headquarters Building in Washington, DC no later than 5:00 p.m. on Friday April 2, 2004. Submissions should be addressed, as follows:

Contracts Office
National Trust for Historic Preservation
1785 Massachusetts Avenue, NW
Washington, DC 20036
"RFQ 2004-06 A/E Services Woodlawn"

Please remember that your Qualification Statement must be received by the Contracts Office at National Trust Headquarters no later than 5:00 PM on Friday April 2, 2004.

NATIONAL TRUST FOR HISTORIC PRESERVATION®

**NATIONAL TRUST RFP #2009-9**
**Request for Proposals**
**for**
**Philip Johnson Glass House, New Canaan, Connecticut**
**Brick House Restoration**

**Architectural, Engineering and Conservation Services**

**1. Introduction..**

The National Trust for Historic Preservation is soliciting competitive proposals from firms interested in providing architectural, engineering and conservation services for the Brick House, located on the Philip Johnson Glass House complex in New Canaan, Connecticut. The Brick House was designed as both a companion piece and counterpoint in the original Glass House composition completed in 1949. The scope of work will include exterior and interior restoration of the building, conservation of the interior finishes and collections, and mechanical upgrades and improvements. The scope of work also includes site drainage improvements appropriate to the landscape of the site.

**2. Deadline for Proposals.**

Proposal submitted in response to this RFP will be accepted by the National Trust for Historic Preservation at its Headquarters, 1785 Massachusetts Avenue, NW, Washington, DC 20036 until 5:00 p.m. on Friday, November 6, 2009.

**3.Updates.** This RFP may be downloaded from the National Trust's website at http://www.preservationnation.org/resources/career-opportunities/requests-for-proposals/current-rfp-listings.html. When downloading the RFP, please register your firm's contact information to confirm we can contact you in the event of modifications, extensions, or changes. Any firm submitting a proposal in response to this RFP is solely responsible for obtaining complete information and documentation as may be needed to generate a comprehensive proposal.

1785 Massachusetts Avenue, NW Washington, DC 20036
P 202.588-6000 F 202.588.6038 TTY 202.588.6200 E info@nthp.org WWW.PRESERVATIONNATION.ORG

**4. Pre-Bid Conference & Site Visit.**

A preliminary conference and site visit will be held at the Brick House on Tuesday, October 27th, 2009 at 11:00 a.m. and 2:00 p.m. for approximately two (2) hours. The site visit to the Brick House will begin from the Philip Johnson Glass House Visitor's Center at 199 Elm Street, New Canaan, Connecticut 06840. Attendance is mandatory. Your participation in the conference will be essential for a complete understanding of the project. Time will be scheduled on-site for participant questions and scope of work clarifications to assist participants in preparing fee proposals. **PLEASE NOTE: Pre-bid conference registration is required in advance due to the transportation arrangements from the Visitor's Center to the site. Attendance is limited to two people per A/E team.** For pre-bid conference registration, contact the Restoration Project Manager, Mary Kay Judy at marykayjudy@gmail.com (Please include "Brick House RSVP" is subject heading.)

**5. Background.**

Philip Johnson's Glass House is a registered National Historic Landmark and is one of the United States' most significant architectural resources of the Modernist period. With 47 acres and 14 structures spanning four decades, the Glass House is a masterpiece of architectural, artistic and landscape design. It provides an unparalleled insight into the life and work of one of America's foremost architects, Philip Johnson, while chronicling the history of modern architecture in America.

The first buildings on the property are known as the Glass House. The Glass House proper is comprised of two structures engaged in a dynamic dialogue of opposites, one constructed in Glass and one constructed in Brick. Given the vital role of the Brick House in the composition, it is one of the most important structures and a central asset of the property.

The Brick House (aka the Guest House) was designed in conjunction with the Glass House during1945-1948 and completed in 1949. The two buildings, situated in a bi-axial plan with landscaped courtyard, were conceived as one design, the solidity of the Brick House serving as a counterpoint to the transparency of the Glass House. The Brick House's Flemish bond façade is only interrupted with a full-height door at the west façade and three oversize round windows on the east façade at rear. The round windows were chosen to be the least disruptive design to the continuity of the brick plane. Both buildings are 56' feet long with the Brick House only being be half as deep. The Brick House contains all the mechanical support systems below grade that serve

both buildings by means of a tunnel under the central court. It has a flat roof with three skylights over the central hall.

The interior originally contained three guestrooms and bath. It was remodeled in 1953 to create one large master bedroom and a study. In the master bedroom a series of vaults were installed at the ceiling and the walls were covered in Fortuny silk. The bathroom was remodeled in the 1980s and finished with rich, veined grey marble cladding and brass fixtures.

Philip Johnson deeded the Glass House to the National Trust for Historic Preservation before his death, and it was opened to the public in 2007. Today the National Trust's mission for the 47 acre site is to become a center point and catalyst for the preservation of modern architecture, art and landscape design. The Brick House restoration will be the first fully comprehensive Modernist preservation project on the site under National Trust stewardship and will serve as a model of the preservation of Modernist heritage in the future.

The National Trust for Historic Preservation is a private non-profit membership organization dedicated to protecting the irreplaceable. The National Trust was founded in 1949 and provides leadership, education, advocacy, and resources to save America's diverse historic places and revitalize communities. Its Washington DC headquarters staff, six regional offices and 29 historic sites work with the National Trust's members and thousands of local community groups in all 50 states.

**6. Existing Conditions.**

The Brick House has been closed to the public since 2008 due to its poor condition and subsequent interior environmental concerns. The building has suffered from high levels of moisture due to poor site drainage, inadequate foundation waterproofing, breaches in the main roof and flashing as well as a lack of any interior mechanical ventilation system. While the exterior masonry envelope is in good condition, the wooden windows and main door have suffered from high levels of moisture and deferred maintenance. High levels of moisture have resulted in mold affecting the interior finishes and collections, including the Fortuny silk wall coverings, textiles, furniture, artwork and books.

**7. Documentation.**

The Glass House complex has been extensively studied and documented by architects, theorists and historians. Original Johnson drawings are available in Avery Library at Columbia University and select copies are available on-site. Photographic

documentation is available in a variety of published materials from 1949 to the present. The MOMA Architecture Department and the Getty Center Archives have early documentation photographs donated by Johnson's office at different periods.

In the 1980s the National Trust performed a series of general conditions surveys in advance preparation for transfer of the property. A comprehensive condition survey of the Glass House site took place in 1996 under the direction of Philip Johnson, Ritchie and Fiore Architects addressing all architectural components and mechanical systems. In addition to the conditions surveys, a reference and maintenance manuals for each building were issued detailing specifications, products, suppliers and contractors for the site.

Prior to the public opening of the house in 2007, baseline conditions surveys of several of pieces from the interior collection were prepared. Since the house opened to the public in 2007, a series of site drainage studies and interior environmental studies have also been undertaken.

All the interior finishes, artworks and books have been removed from the interior and are in storage elsewhere on the site due to interior conditions, with the exceptions of the master bedroom Fortuny silk wall covering, which is fastened to the walls and the plaster vaults that are built-in.

In August 2009, an up-to-date Brick House conditions survey, including existing site plans and sections, was prepared by the Restoration Project Manager, Mary Kay Judy. In addition, Mary Kay Judy also compiled a resources guide to archival materials, prior surveys and studies on the house and in its collections with an annotated bibliography of published materials pertaining to the Brick House. Both documents are available to bidders.

**8. Anticipated Scope of Work.**

**A. Site Drainage.** The site has an underground stream that flows into the mechanical room of the brick house as well as natural run-off drainage affecting the foundation on the east façade which is partially below grade. Johnson designed the foundation with early bituminous flashings, a footing drain, and field stone terracing below grade to improve drainage. The original system is still in place but has deteriorated over time. The scope of work includes the remediation or re-direction of the underground stream and drainage improvements at the foundation, footings and under the floor slab.

**B. Building Restoration-Exterior.** The brick façade has minor areas of deterioration with fine hairline cracks, open joints and biological growth in limited areas. There are no serious cracks or observed structural problems. The wooden door and frame and the wooden round windows need to be refurbished and refinished. The window hardware needs to be refurnished and missing pieces replaced. The main roof, associated flashings and skylights are leaking and will need to be evaluated for repairs or full-scale replacement. The metal fascia has minor surface deterioration that should be repaired.

**C. Building Restoration-Interior.** The interior has significant deterioration at the plaster walls and ceilings in all rooms from water infiltration at the base and the roof. A probe into the wall cavity (*from the interior only*) may be considered to determine the extent of damage to the wood studs and wall construction. It is known that an early type of insulation board with aluminum backing was used, which will present special conservation issues. The ceiling is also lined with aluminum sheeting in conjunction with this insulation system.

The interior has a high mold count due to the conditions described that have especially affected the interior textiles. Apart from object conservation, the interior will require a mold remediation program.

The Fortuny Silk wall coverings in the master bedroom should be evaluated carefully by a fabric conservator to determine whether replacement, conservation or recreation would be necessary. The carpets in both the study and master bedroom will likely need to be recreated and replaced to match the original. The furniture, artwork, light fixtures and books will all have to be cleaned and conserved prior to re-installation in the Brick House.

**D. Building Restoration-Mechanical.** A full assement and evaluation of existing mechanical systems and recommendations for repair or upgrade shall be performed by a MEP Engineer. The floor has the original radiant heat system from 1949, which has no reported problems to date, but should be thoroughly inspected. Obsolete equipment and fixtures in the mechanical room should be identified and removed.

Apart from problems posed by water infiltration, the building suffers from the lack of an active ventilation system, natural or mechanical. An air conditioner in the master bedroom was removed in 1993. Since that time, the conjunction of water infiltration and lack of ventilation has created a high mold count and potentially hazardous air quality. The introduction of a ventilation system

appropriate to the building and site should be evaluated as part of the scope of work. If a mechanical ventilation system is deemed necessary and appropriate for the building, the system design and installation will be included in the scope of work.

**E. Hazardous Materials.**

1. The selected Consultant shall determine what, if any, procedures are necessary to comply with federal, state and local laws relating to the possible presence of hazardous materials during the performance of this scope of work; and

i. Obtain the services of firms qualified to conduct assessment or surveys as may be required by law and oversee the performance of such surveys;

ii. In the event that hazardous materials remediation, abatement encapsulation or other removal procedures are required by law, select a firm to conduct the necessary procedures. The Consultant shall oversee the performance of the work under that agreement in compliance with federal, state and local laws; and

2. This section applies to the presence of asbestos, lead paint, and any other materials identified as hazardous by governing law.

**9. Professional Services Required.**

The professional services required for this project will follow the standard five phases outlined in the AIA Contract Document B-101 2007, which are summarized and in some cases modified below:

**A. Research and Schematic Design Phase**. During the phase the A/E team will:

(i) Review all existing documentation and prior surveys and become thoroughly familiar with the overall scope of the work required at the Brick House.

(ii) Review conditions assessment prepared in August 2009 by Mary Kay Judy and update material as necessary.

(iii) Inspect all existing conditions of the site, interior and exterior of the building, mechanical systems and collections relevant to the conservation and restoration of the building and collections, including architectural, structural, mechanical, electrical and plumbing conditions.

(iv)Evaluate project for potential of LEED certification.

(v) Prepare Schematic Designs consisting of:

a.) A concise written report of your findings;

b.) A written narrative report description of the proposed corrective interventions, conservation and restoration treatments proposed for the site, building and collections;

c.) Drawings and other documents illustrating the scale and relationship of all project components;

d.) A preliminary estimate of construction costs; and

e.) A schedule of proposed construction activity.

**B. Design Development Documents.** Following National Trust approval of the recommendations made in the Schematic Design Phase, the Architect will prepare and submit:

(i) Design Development Drawings, outline specifications and other documents necessary to describe the size and character of the project as to architectural, structural and other elements; and

(ii) Adjustments to the preliminary estimate of construction costs for each element.

**C. Construction Documents.** The architect will prepare Construction Documents suitable for use in obtaining bids from contractors and the approval of any governmental authorities having jurisdiction over the work.

(i) The construction documents will include complete drawings and detailed specifications. Final cost estimates for construction must also be submitted.

(ii) The Architect will submit documents to all appropriate government authorities including Town of New Canaan, Connecticut Building Department; Town of New Canaan Inland Wetlands Department; Connecticut Commission on Culture and Tourism; and the National Historic Landmark Advisory Board for plan approval and will obtain necessary permits and approvals required for permits as part of this phase of the work. The team will also prepare listing, cost estimate, and schedule for obtaining the required permits.

(iii) The construction documents will include the relevant textural materials and other information taken from the manual: "Best Practices for the Care of Structures and Landscapes at the National Trust Historic Sites."

(iv) The Construction Documents will be revised and put into final form by the Architect following a two-week period when they will be reviewed by the National Trust.

**D. Bidding and Negotiation.**

(i) Following National Trust approval of the Construction Documents, the Architect, working in close cooperation with the Contracts Office of the National Trust, will prepare a bid package including instructions to Bidders and a Bid Form,

(ii) Following National Trust Approval of the bid package, the architect will:

(a) Make the bid package plans and specifications for the project available for inspection by interested contractors,

(b) Recommend to the National Trust highly qualified firms that may be interested in submitting bids for the work and notify them of the contract opportunity;

(c) Assist with the distribution of the Bid Package, including the plans and specifications to interested contractors concerning the project;

(d) Participate in a pre-bid conference on-site at the Brick House and respond to questions raised by prospective contractors concerning the project;

(e) Evaluate the qualifications and experience of contractors submitting bids in response;

(f) Assist the National Trust in checking references submitted by prospective contractors;

(g) Assist the staff in reviewing and evaluating the bids received; and

(h) Submit a recommendation to the national trust as to the firm best-qualified for the contract award.

**E. Construction Administration Phase.** Following the award of a contract by the National Trust for construction, the Architect will provide general administration of the construction contract on the behalf of the National Trust.

(i) The services required during this phase will include frequent site visits, inspections, reviews of shop drawings, conducting tests and evaluations, providing interpretations of the Construction Documents, preparing Change Orders, reviewing and acting on applications for payment submitted by the contractor, and such additional customary contract administration services as may be required from time to time.

(ii) The key member(s) of the project team should provide up to eight hours of lecture/education time at the discretion of the National Trust. Joint presentations with National Trust staff will be encouraged.

(iii) The National Trust would like to work these special services into the public programs, tours and fund-raising efforts related to the Glass House.

**10. Site and Project Constraints.**

**A.** The day-to-day work of the Consultant will be scheduled, overseen and coordinated with Mary Kay Judy, Restoration Project Manager who will act as the NTHP's Project Manager. **Please take note of the documents at Exhibit C, Construction and Contracts Checklists. These documents reflect the required reviews and approvals for completion of the project. Be advised that final payment will not be released unless and until all Checklist items have been completed to the satisfaction of the National Trust. The Project Manager shall retain master copies of the Checklists, and coordinate and confirm completion of all required reviews and document submissions.**

**B.** Mary Kay Judy and the selected Consultant shall work in close communication with **Barbara A. Campagna**, FAIA, LEED AP, Graham Gund Architect of the National Trust. Barbara Campagna has authority for final approval of all requests for payments, change orders, construction change directives, and Certificates of Substantial Completion.

**C.** The successful architect will be the Architect of Record and will be responsible for performing administration of the Contract for Construction. Their duties and responsibilities are as described in AIA Document A201-2007 General Conditions of the Contract for Construction, and the project specifications.

D. All work recommended in the final report must confirm to the Secretary of Standards for the Treatment of Historic Properties (rev. 1995) as well as all applicable New Canaan and Connecticut codes and regulations governing the work.

**E.** The National Trust has adopted a very comprehensive sustainability program (see www.nationaltrust.org/green). All work, including mechanical systems, should utilize the best understanding of integrating green building technologies with historic preservation values.

**F.** The Glass House site is open to the public for tours from April 1st through October 31st, six days a week, excluding Tuesdays.

**G.** All work and construction at the Brick House and surrounding site must be completed prior to February 2011 to allow the building time to reopen as scheduled in March 2011.

**H.** All applications and ongoing work at the Brick House will be reviewed by the Glass House Executive Director, Curator and Collections Manager and the Manager of Buildings and Grounds. In addition, the work must be approved by the following professional staff from the National Trust: The Archeologist of the National Trust (Excavation and Site Work) Graham Gund Architect of the National Trust (Architecture, Construction, Landscaping and Site Work), the John and Neville Bryan Director of Museum Collections (Arifact and Collections Conservation), the Director of Interpretation and Education and the Vice President of the Stewardship of Historic Sites. Review time by the National Trust and the Glass House will be built into the project schedule and will be discussed at the pre-bid conference.

**11. Professional Team Composition.**

The professional services required for this project will be supplied by a team of architects, engineers and conservators and other experts possessing the knowledge, skills and abilities listed below. The team should be led by an architect/architecture firm.

**A. Historical Architect.** Professional degree in architecture and licensed to practice in Connecticut. Specialized training or degrees in historic preservation preferred. The individual filing this role must demonstrate significant professional experience with at least five (5) similar preservation projects involving the same range of design issues, preservation problems, and types of materials existing and anticipated for the project at the Brick House.

**B. Landscape Architect.** Professional degree in landscape architecture and licensed to practice in Connecticut. Specialized training or degrees in historic landscapes preferred. The individual filing this role must demonstrate significant professional experience with at least five (5) similar landscape preservation projects involving the same range of design issues, drainage problems, and types of conditions existing and anticipated for the project at the Brick House.

**C. Structural Engineer**. Professional degree in engineering with an emphasis on structural engineering, and licensed to practice as an Engineer in Connecticut. The Engineer must be an expert in dealing with historic structures.

**D. Mechanical/Electrical/Plumbing/Civil Engineers.** Professional degree in engineering with an emphasis on the relevant discipline, and licensed to practice as an engineer in Connecticut. The individual lead engineers must demonstrate significant professional experience with at least three (3) similar historic preservation projects. The Engineer must be an expert in dealing with historic buildings and climate control for historic interiors and collections.

**E. Architectural and Object Conservators.** Professional degree in historic preservation, conservation science or related field with an emphasis on the relevant discipline. The individual(s) should have at least five (5) years experience working in the field on similar projects. All conservators shall follow the American Institute of Conservation "Code of Ethics and Guidelines for Practice."

**13. Instructions for Submission of Proposal.**

**A.** Proposals must be submitted in duplicate on the firm's letterhead and should include the following information:

(i) A description of the professional qualifications of the firm and its members

(ii) a Certification Regarding Debarment and Suspension **(Exhibit A**)

**(iii)** If third-party members will be used, the name and address of such firms, together with a description of their area of responsibility and qualifications;

(iv) An organization chart that identifies the project manager and other members of the team and clearly defines their respective roles and responsibilities;

(v) A statement of prior work experience of the members of the team on relevant projects, with particular emphasis on projects involving other Modernist or Mid-Century buildings, historic landscapes and National Register/National Historic Landmark properties,

(vi) A statement of prior work experience on projects that involve sustainability and green building technologies. Experience with implementing sustainable and green building practices into historic sites, as well as applying LEED rating systems on historic sites is desirable,

(vii) A fixed fee for professional services required to complete the project, the fixed fee should be broken down to reflect fees for each phase of the work as outlined in this RFP:

a.) Research Schematic Design Phase

c.) Design Development Documents

d.) Construction Documents

e.) Bidding and Negotiation

f.) Construction Administration

(viii) An allowance of reimbursable direct expenses, including travel,

(ix) A listing of hourly rates and charges for additional services, not covered by the fixed fee,

(x) The name and address and telephone numbers of references who may be contacted concerning work done on comparable projects,

(xi) A proposed timeline for the completion of the project assuming the start date is January 1, 2010.

(xii) A description of the legal status of the firm, i.e. sole proprietorship, partnership, corporation, etc.,

(xiii) The name, address and position of persons in the firm who are authorized to execute contracts in its behalf,

(ixx) a statement indicating whether the firm carries insurance in the following categories and principal amount of the coverage maintained:

a.) Commercial General Liability

b.) Professional Liability

c.) Automotive Liability

d.) Worker's Compensation

**14. Criteria for Selection.**

**A.** In evaluating proposals received in response to this RFP, Philip Johnson's Glass House of the National Trust will consider the following factors:

(i) The professional qualifications of the individual team members,

(ii) Experience working on projects for comparable Modernist, Mid-century and National Register/National Historic landmark properties,

(iii) Ability to complete the project within the time frame established in the fee proposal,

(iv) Responses received from references.

**B.** Philip Johnson's Glass House of the National Trust reserves the right, in exercising its discretion:

(i) To reject all submissions received,

(ii) To accept a submission with no further discussion,

(iii) To reject a submission due to its defects, irregularities or provisions

inconsistent with this RFP,

(iv) To waive any defect or irregularity in any submission and to accept it when it is otherwise proper and reasonable to do so

(v) To negotiate directly with respondents for other terms, prices and conditions deemed proper and reasonable for the completion of the project.

**C.** Short-listed candidates will be notified the week of November 9, 2008 and scheduled for interviews the week of November 16, 2009. The project is anticipated to be awarded the week of November 23, 2009.

**15. Funding and Contract Conditions.**

**A.** The funding required for the contract with the firm selected for this project may be provided though a grant from the "Save America's Treasures" program which will be matched with private funds raised by Philip Johnson Glass House of the National Trust. The contract with the firm selected for this project will be prepared by the National Trust and will include the supplemental terms and conditions contained in **Exhibits B, Supplemental Terms and Conditions, and Exhibit B-1, Supplemental Terms and Conditions Mandated By Funding Source**. Please review these provisions carefully before deciding whether or not you wish to submit a bid. These terms reflect the required federal provisions related to the application of federal funding as well as standard policies of the National Trust and exceptions may be considered only in extremely limited circumstances. Firms unwilling to agree to these terms must note any objection in their bids.

**B.** The contract between the National Trust and the firm selected for this project will be based on AIA Document B101-2007, Standard Form of Agreement between Owner and Consultant.

**16. Equal Opportunity.**

**A.** The National Trust is an equal opportunity employer. It maintains an Affirmative Action Plan as required by Executive Order 11246, as amended, and by applicable implementing regulations issued by the Secretary of Labor 941-CFR 60-1). The firm selected for the contract anticipated by the RFP will be expected to maintain similar policies and procedures, and to comply with all applicable notice and regulations.

**B.** The National Trust is committed to a policy of encouraging greater economic opportunities for minority and women-owned business enterprises. Firms owned by minority interests and women are invited and encouraged to respond to the Request for Proposals.

**17. Follow-up.**

**A.** If you have questions concerning this project, site conditions or technical specifications outlined in this RFP, please contact:

**Mary Kay Judy**
**Brick House Restoration Project Manager**
Phone: 1.917.886.1719
Email: marykayjudy@gmail.com (Please include "Brick House" in subject line)

**B.** Questions pertaining to the National Trust contracting procedures, should be addressed to:

**Eve Errickson**
**Contracts Manager**
National Trust for Historic Preservation
1785 Massachusetts Avenue, NW
Washington DC 20036
Phone: 1.202.566.6000
Email: Eve_Errickson@nthp.org

**18. Submission.**

Proposal submitted in response to this RFP will be accepted by Diana Maxwell in the Contracts Office of the National Trust for Historic Preservation at its Headquarters, 1785 Massachusetts Avenue, NW Washington DC 20036 until 5:00 p.m. on Friday, November 6, 2009.

RFP 2009-9

Exhibit A

U.S. Department of the Interior

**Certifications Regarding Debarment, Suspension and Other Responsibility Matters, Drug-Free Workplace Requirements and Lobbying**

Persons signing this form should refer to the regulations referenced below for complete instructions

Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions - The prospective primary participant further agrees by submitting this proposal that it will include the clause titled, "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions. See below for language to be used or use this form for certification and sign. (See Appendix A of Subpart D of 43 CFR Part 12.)

Certification Regarding Debarment, Suspension, Ineli and Voluntary Exclusion- Lower Tier Covered Transacti (See Appendix B of Subpart D of 43 CFR Part 12.)

Certification Regarding Drug-Free Workplace Requireme Alternate I. (Grantees Other Than Individuals) and Alt II. (Grantees Who are Individuals) - (See Appendix Subpart D of 43 CFR Part 12)

Signature on this form provides for compliance certification requirements under 43 CFR Parts 12 an The certifications shall be treated as a m representation of fact upon which reliance will be when the Department of the Interior determines to the covered transaction, grant, cooperative agreeme loan.

**PART A: Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions**

*CHECK _____IF THIS CERTIFICATION IS FOR A PRIMARY COVERED TRANSACTION AND IS APPLICABLE*

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily exclud and Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment re against them for commission of fraud or a criminal offense in connection with obtaining, attempting to or performing a public (Federal, State or local) transaction or contract under a public transaction; violat Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsificati destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transa (Federal, State or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, prospective participant shall attach an explanation to this proposal.

**PART B: Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions**

*CHECK x IF THIS CERTIFICATION IS FOR A LOWER TIER COVERED TRANSACTION AND IS APPLICABLE.*

(1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is pre debarred suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation i transaction by any Federal department or agency.

(2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, prospective participant shall attach an explanation to this proposal.

DI-2010 June 1995 (This form replaces DI-1953, DI-1954, DI-1955, DI-1956 and DI-1963)

**PART C: Certification Regarding Drug-Free Workplace Requirements**

*CHECK x IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS NOT AN INDIVIDUAL.*

Alternate I. (Grantees Other Than Individuals)

A. The grantee certifies that it will or continue to provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possessi or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will taken against employees for violation of such prohibition;

(b) Establishing an ongoing drug-free awareness program to inform employees about --

(1) The dangers of drug abuse in the workplace;

(2) The grantee's policy of maintaining a drug-free workplace;

(3) Any available drug counseling, rehabilitation, and employee assistance programs; and

(4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a):

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will --

(1) Abide by the terms of the statement; and

(2) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;

(e) Notifying the agency in writing, within ten calendar days after receiving notice under subparagraph (d)(2) fr an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees m provide notice, including position title, to every grant officer on whose grant activity the convicted employee w working, unless the Federal agency has designated a central point for the receipt of such notices. Notice sh include the identification number(s) of each affected grant;

(f) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(d), w respect to any employee who is so convicted --

(1) Taking appropriate personnel action against such an employee, up to and including terminati consistent with the requirements of the Rehabilitation Act of 1973, as amended;

(2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitati program approved for such purposes by a Federal, State, or local health, law enforcement, or oth appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e) and (f).

B. The grantee may insert in the space provided below the site(s for the performance of work done in connection with the specific grant:

Place of Performance (Street address, city, county, state, zip code)

Check _____ if there are workplaces on file that are not identified here.

**PART D: Certification Regarding Drug-Free Workplace Requirements**

*CHECK _____ IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS AN INDIVIDUAL.*

Alternate II. (Grantees Who Are Individuals)

(a) The grantee certifies that, as a condition of the grant, he or she will not engage in the unlawful manufa distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant;

(b) If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant ac he or she will report the conviction, in writing, within 10 calendar days of the conviction, to the grant offic other designee, unless the Federal agency designates a central point for the receipt of such notices. When r made to such a central point, it shall include the identification number(s) of each affected grant.

DI-2010

June 1995

(This form replaces DI-1953, DI-

1954

DI-1955, DI-1956 and DI-1963)

**PART E: Certification Regarding Lobbying**
**Certification for Contracts, Grants, Loans, and Cooperative Agreements**

*CHECK _____IF CERTIFICATION IS FOR THE AWARD OF ANY OF THE FOLLOWING AND THE AMOUNT EXCEEDS $100,000: A FEDERAL GRANT OR COOPERATIVE AGREEMENT; SUBCONTRACT, OR SUBGRANT UNDER THE GRANT OR COOPERATIVE AGREEMENT.*

*CHECK _____IF CERTIFICATION IS FOR THE AWARD OF A FEDERAL LOAN EXCEEDING THE AMOUNT OF $150,000, OR A SUBGRANT OR SUBCONTRACT EXCEEDING $100,000, UNDER THE LOAN.*

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any perso influencing or attempting to influence an officer or employee of an agency, a Member of Congress, and offic employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Fe contract, the making of any Federal grant, the making of any Federal loan, the entering into of any coope agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, or cooperative agreement.

Check _____ if there are workplaces on file that are not identified here.

**PART D: Certification Regarding Drug-Free Workplace Requirements**

*CHECK _____ IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS AN INDIVIDUAL.*

Alternate II. (Grantees Who Are Individuals)

(a) The grantee certifies that, as a condition of the grant, he or she will not engage in the unlawful manufa distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant;

(b) If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant ac he or she will report the conviction, in writing, within 10 calendar days of the conviction, to the grant offic other designee, unless the Federal agency designates a central point for the receipt of such notices. When r made to such a central point, it shall include the identification number(s) of each affected grant.

DI-2010

June 1995

(This form replaces DI-1953, DI-1954

DI-1955, DI-1956 and DI-1963)

**PART E: Certification Regarding Lobbying**
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(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influenci attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employ Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or coope agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbyir accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subav at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and all subrecipients shall certify accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was mad entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Se 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of no than $10,000 and not more than $100,000 for each such failure.

As the authorized certifying official, I hereby certify that the above specified certifications are true.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL

TYPED NAME AND TITLE

DATE

DI-2010

June 1995

(This form replaces DI-1953, DI-1954

DI-1955, DI-1956 and DI-1963)

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influenc attempting to influence an officer or employee of any agency, a Member of Congress, an officer or emplo Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or coop agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbyi accordance with its instructions.

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As the authorized certifying official, I hereby certify that the above specified certifications are true.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL

TYPED NAME AND TITLE

DATE

DI-2010

June 1995

(This form replaces DI-1953, DI-

1954

DI-1955, DI-1956 and DI-1963)

**RFP 2009-9**
**Exhibit B**

## SUPPLEMENTAL TERMS AND CONDITIONS

**1.** **Conflicting Provisions**. If a provision of these Supplemental Terms and Conditions conflicts with any other provision of this Agreement, the provision in these Supplemental Terms and Conditions will control.

**2.** **Representatives**.

**A.** Mary Kay Judy, the Project Manager of the Glass House, will act as the Representative of the National Trust and is authorized to administer this Agreement on its behalf.

**B.** Barbara A. Campagna, Graham Gund Architect, must review and approve all plans, designs, and specifications submitted by the Consultant prior to final approval by the Owner.

**C.** Architect?

**3.** **Approval of Subcontractors**.

**A.** The Owner approves the following firms as subcontractors of the Consultant. The Consultant shall not add subcontractors or change these subcontractors without the Owner's advance written approval:

**i.** __[NAME]__ (electrical engineering); and
**ii.** __[NAME]__ (structural engineering).

**B.** The Consultant is encouraged to include small businesses and minority- and women-owned businesses as subcontractors.

**4.** **Insurance**.

**A.** The Consultant shall maintain in effect during the term of this Agreement a policy or policies of insurance providing coverage for the following risks in the following

minimum amounts:

| Workers' Compensation | Statutory Amount |
|---|---|
| Employers' Liability | $1,000,000 per accident<br>$1,000,000 policy limit<br>$1,000,000 per person |
| Commercial General Liability | $1,000,000 per occurrence<br>$2,000,000 aggregate<br>$1,000,000 personal & advertising injury |
| Motor Vehicle Liability (owned, non-owned and hired vehicles) | $1,000,000 combined single limit (bodily injury and property damage) |
| Consultant's Professional Liability | $1,000,000 per claim<br>$1,000,000 aggregate |

**B.** All policies must be written on an "occurrence" and not on a "claims made" basis.

**C.** The Consultant shall provide the Owner with a certificate indicating that this coverage is in effect and naming the Owner as an Additional Insured on the CGL policy with a right to notice no less than thirty (30) days prior to cancellation or any material change in coverage. The Consultant shall also provide the Owner with a copy of the Endorsement to the policy naming it as Additional Insured.

**D.** Subcontractor Insurance. The Consultant shall include the following provisions as conditions of any subcontract, and require each subcontractor to include the following provisions in any sub-subcontract.

**i.** The subcontractor must maintain liability insurance for the risks and in the amounts indicated in the chart above as if the subcontractor were the Consultant.

**ii.** If any individual subcontractor is not covered by Workers' Compensation or Employers' Liability insurance, the subcontractor must release the Owner from all claims, liabilities, damages, and expenses (including but not limited to reasonable attorney's fees) based upon or arising out of any bodily injury sustained or death that occurs while the subcontractor is at the Project site.

**E.** If a subcontractor cannot meet these insurance requirements, the Consultant shall immediately notify the Representative of the Owner. The subcontractor shall not

commence work unless its insurance coverage is approved in writing by the Owner.

**5.** **Indemnification**. The Consultant shall defend and indemnify the Owner against all claims, liabilities, damages, and expenses (including but not limited to reasonable attorney's fees) based upon or arising out of any act, omission, negligence, misconduct, and/or breach of this Agreement by the Consultant, its directors, officers, employees, subcontractors, and/or agents while engaged in the performance of this Agreement.

**6.** **Site and Project Constraints**.

**A.** All work must conform to all applicable codes and regulations as well as the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (revised 1995).

**B.** Barrier-free access must be achieved that combines compliance with local codes, ADA architectural guidelines, and great sensitivity to the historic building.

**C.** The Consultant shall work in close communication with Mary Kay Judy, Project Manager and Barbara Campagna, Graham Gund Architect of the National Trust for the Owner.

**D.** The following documents must be reviewed and approved by the Graham Gund Architect of the Owner prior to implementation:

**i.** Design Development and Construction Documents,
**ii.** Estimates of Construction Cost,
**iii.** Applications for Payment submitted by contractors,
**iv.** Change Orders and Construction Change Directives, and
**v.** Punchlists and Certificate of Substantial Completion.

**E.** The on-site activities of the Consultant will be scheduled and coordinated with Mary Kay Judy who will maintain an office is at the site.

**F.** The use of cranes, lifts, scaffolding, rigging, or any material handling equipment including dollies and hand trucks must be approved in advance by Brendan Tobin, Manager of Buildings and Grounds.

**G.** The work involved in this project may be proceeding concurrently with work being done by other consultants and contractors at the Glass House. The Consultant shall coordinate its work at the property with that of other consultants and contractors who may be working on-site at the same time. The Owner expects to keep the Glass House available for public tours and special events while the work is in progress. All on-site contractors, subcontractors, and consultants must coordinate their activities and make allowances for occasional on-going educational and fund-raising activities at the property.

**H.** Any area that may need to be tested by an archeologist will be determined by the Consultant in consultation with the Senior Archeologist of the Owner. Any excavation and/or trenching work in the ground and any subsurface or destructive testing of architectural surfaces, or removal of building materials for research, must be reviewed by and coordinated with the Senior Archeologist and Graham Gund Architect of the Owner.

**I.** In carrying out its responsibilities, the Consultant must comply with the following:

**i.** All work must conform to the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (revised 1995) as well as all applicable codes and regulations governing the work.

**ii.** Barrier-free access must be achieved that combines compliance with local codes, ADA architectural guidelines, and great sensitivity to the historic building.

**iii.** The drawings and specifications for each component of the project must be reviewed and approved by the National Park Service and the State Historic Preservation Office in Connecticut prior to the start of any grant-assisted work on the project.

**iv.** Pursuant to Section 106 of the National Historic Preservation Act, the Owner must complete the consultation process stipulated in the regulations issued by the Advisory Council for Historic Preservation in 36 CFR 800 prior to the start of construction.

**v.** The process of soliciting bids for construction expected to cost more than $100,000 will be administered by the Contracts Office at National Trust Headquarters in Washington D.C.

**vi.** The contract for construction (regardless of cost) will be prepared by the Contracts Office at National Trust Headquarters in Washington D.C.

**vii.** The Director at the Glass House may sign contracts on behalf of the Owner for work valued at less than $10,000. The only officers authorized to sign contracts valued at $10,000 or more are located at National Trust Headquarters in Washington D.C.

**viii.** Invoices and Applications for Payment must be processed through the Office of Finance at National Trust Headquarters where all checks will be generated and all accounting records will be maintained.

**ix.** All insurance certificates, lien releases, affidavits, and warranties must be forwarded to the National Trust Contracts Office for record purposes.

**x.** All Change Orders, Construction Change Directives, and Certificates of Substantial Completion must be forwarded to the National Trust Contracts Office for signature by the appropriate Owner officer.

# Attachment F

REQUEST FOR PROPOSALS
for an
Environmental Planning Study of the
Cliveden Main House and its Collections

1. INTRODUCTION. Cliveden of the National Trust, Inc. is soliciting competitive proposals from firms interested in providing architectural, engineering and conservation services for a building and collections study intended to inform a subsequent environmental project in its historic Main House. The study will compare historical and contemporary observations of the building and collections to evaluate its conservation needs, and use this data to prepare recommendations for the development of a new, minimally invasive HVAC system for the building and its dependencies. These recommendations will be implemented in a separate, second project stage.

2. DEADLINE FOR PROPOSALS. Proposals submitted in response to this RFP will be accepted by Cliveden of the National Trust at its office in Philadelphia until 5:00 p.m. on Monday, February 4, 2008. Proposals should be sent to: Phillip Seitz, Curator of History, Cliveden, 6401 Germantown Avenue, Philadelphia, PA, 19144.

3. PRE-BID CONFERENCE & SITE VISIT. A preliminary conference and site visit will be held in the Cliveden Carriage House (6401 Germantown Avenue in Philadelphia) at 10:00 am on Tuesday, January 22, 2008, for approximately two hours. Attendance is mandatory. Your participation in the conference will be essential for a complete understanding of the project. A time will be set aside when you will have an opportunity to ask questions in order to clarify your understanding of the scope of the work and assist you in preparing a fee proposal. PLEASE NOTE: Cliveden occupies an entire city block, and the entrance is located on Morton Street at the rear of the property. If you have any questions concerning the conference, please call Curator of History Phillip Seitz at (215) 848-1777 ext. 230.

4. BACKGROUND

a. History. Cliveden is one of the least altered and best documented Colonial buildings in the United States. Built in 1763-1767 as the country house of colonial jurist Benjamin Chew, it is best known as the site of the Battle of Germantown where, on October 4, 1777, British troops occupying the mansion defeated Washington's army and forced it to winter at Valley Forge. Home to six generations of Philadelphia's socially prominent Chew family over 200 years, Cliveden became a property of the National Trust for Historic Preservation in 1971, and under a co-stewardship agreement, is now operated by Cliveden of the National Trust, Inc., a local preservation organization. Called "one of the finest examples of Georgian architecture in America," Cliveden is a rare site where all pieces of the historical puzzle survive: the park-like landscape, buildings with few alterations, an important collection of over 4000 artifacts used by generations of the same family—including some of the nation's most important pieces of colonial Philadelphia furniture—and an enormous collection of related historical documents that support interpretation of these resources.

b. Existing conditions. Cliveden's boiler, which serves the Main House, Kitchen and Wash House Dependencies, was installed in the 1970s and is ready for replacement. During the 1970s the boiler was moved from the Main House basement to the Wash House basement, and the Main House and Kitchen. The dependencies are currently served via underground hot water service from the Wash House. The Main House is heated with forced hot air on the first floor and hot water radiators on the second and third floors. Several rooms on the second floor are without radiators. Collections are displayed throughout the first and second floor areas of the Main House, and collections storage areas are located in the third floor and basement areas. There is no air conditioning or humidification.

c. Documentation. Cliveden has been extensively studied and documented since its transition to a historic site in 1972. These records provide data from which the environmental record and collections changes can be extracted. Building records include a 17-sheet set of measured drawings and 87 large format photographs assembled by the Historic American Building Survey (HABS, 1972), a four volume Historic Structures Report (1994), a comprehensive environmental and conservation survey (1993), building-wide data logger survey records of temperature and humidity (1998-2000), and two extensive building inspections (1993-4). Comprehensive conservation surveys of various collections were undertaken at various times in Cliveden's recent history: Furniture and 3d objects (1988), paintings and textiles (1991). Individual item conservation reports—especially for paintings—are available as well and often provide a valuable baseline. A list of all known collection-level reports conducted at Cliveden is available from the Curator of History.

5. ANTICIPATED SCOPE OF WORK

a. Recommended Program (Schematic Design). During this phase of the study the conservator(s), architect and engineer will:

i. review all relevant reports, documents and records at Cliveden and/or at National Trust headquarters, with particular emphasis on object and building conservation and condition records;

ii. investigate the existing condition of the building and develop a selection process for examination of objects within the collection in an effort to determine the level of decay that may have been caused by the man-made environment (both the lack of appropriate systems and/or the excess of systems);

iii. notify and obtain the permission of Cliveden of the National Trust before conducting or authorizing any tests that involve sub-surface or destructive procedures;

iv. meet with staff and leadership of Cliveden and of the National Trust as required for the development of up to 3 options for a new, minimally invasive environmental/HVAC system for the Main House and its dependencies;

v. evaluate the results of the research, investigation and any tests completed and submit for review and approval by Cliveden of the National Trust a Recommended Program consisting of:

# Attachment F

1. a description of each problem identified (annotated with drawings and photographs as appropriate) and an explanation of the cause of the problem;

2. specific recommendation(s) for the treatment for each problem, including optional approaches that could be implemented by Cliveden of the National Trust;

3. schematic recommendations for the replacement of Cliveden's existing boiler and any other HVAC or other equipment recommended by the project team, including recommendations for the location each piece of equipment within the Main House complex;

4. descriptions of the impact on the building and collection that any schematic changes from the current system are likely to have.

5. Please Note: The National Trust has adopted a very comprehensive sustainability initiative (see www. nationaltrust. org/green). All recommendations should balance the best understanding of green building technologies with historic preservation values. We pay particular attention to the use of passive climate controls and systems, and understanding regional climatic implications.

b. Documents

i. A conservation examination report must be generated for each collection item or architectural feature examined to be included with the project Final Report for Cliveden's records. Conservators will be required for the following areas.

1. Environment
2. Paintings
3. Furniture
4. Architecture
5. Objects
6. Textiles

ii. The recommendations of the Project Team will be delivered to Cliveden in the form of a Final report, which shall be submitted in two printed and one digital (MS Word) copy. The Final Report will include at least the following:

1. Executive summary
2. Narrative detailing the activities of the project team during the project
3. Conservation reports
4. Project team recommendations
5. Menu of options for new environmental approach including cost estimates, suggested phasing and schedule.

6. SITE PROJECT CONSTRAINTS

a. All work recommended in the final report must conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties (rev. 1995) as well as all applicable Philadelphia codes and regulations governing the work.

b. All applications and ongoing work at Cliveden will be reviewed by the Executive Director, the Chair of the Preservation Committee, and the Curator of History. In addition, all work must be reviewed and approved by the following professional staff from the National Trust: The Graham Gund Architect of the National Trust, the Senior Archaeologist, the John and Neville Bryan Director of Museum Collections, the Director of Interpretation and Education and the Vice President of the Stewardship of Historic Sites. Review time by the National Trust and Cliveden will be built into the project schedule and will be discussed at the pre-bid conference.

7. INSTRUCTIONS FOR SUBMISSION OF PROPOSALS

a. Proposals must be submitted in duplicate on the firm's letterhead and should be addressed as follows:

b. Your submission must contain the following minimum information:

i. a description of the professional qualifications of the firm and its members
ii. if third party members will be used, the name and address of such firms, together with a description of their area of responsibility and qualifications;
iii. an organizational chart that identifies the project manager and other members of the team and clearly defines their respective roles and responsibilities;
iv. a statement of the prior work experience of the members of the team on other relevant projects, with particular emphasis on projects involving other National Register/National Historic Landmark Properties
v. a statement of prior work experience on projects that involve sustainability and green building technologies. Experience with implementing sustainable and green building practices into historic sites, as well as experience applying the LEED rating system on historic sites is desirable;
vi. a fixed fee for the professional services required to complete the project;
vii. an allowance for reimbursable direct expenses including travel expenses;
viii. a listing of hourly rates, charges and multiples for additional services not covered by the fixed fee;
ix. the name address and telephone numbers of references who may be contacted concerning work done on comparable projects;
x. a proposed timeline for the completion of the project assuming a start date of February 25, 2008.
xi. a description of the legal status of the firm, i.e. sole proprietorship, partnership, corporation, etc.;
xii. the name address and position of persons in the firm who are authorized to execute contracts on its behalf;
xiii. a statement indicating whether or not the firm carries insurance in the following categories and the principal amount of the coverage maintained:

1. Commercial General Liability,

2. Professional Liability,

3. Automobile Liability, and

4. Workers' Compensation.

8. CRITERIA FOR SELECTION

a. In evaluating the qualifications received in response to this RFP, Cliveden of the National Trust will consider the following factors:

i. The professional qualifications of the individual team members;
ii. Your experience working on projects at comparable National Register/National Historic Landmark properties;
iii. Your ability to complete the project within the time frame established;
iv. Your fee proposal; and
v. Responses received from your references.

b. Cliveden of the National Trust reserves the right, in exercising its discretion:

i. to reject all submissions received;
ii. to accept a submission with no further discussion;
iii. to reject a submission due to defects, irregularities or provisions inconsistent with this RFP;
iv. to waive any defect or irregularity in any submission and to accept it when it is other wise proper and reasonable to do so; and
v. to negotiate directly with respondents for other terms, prices and conditions deemed proper and reasonable for the completion of the project.

9. FUNDING AND CONTRACT CONDITIONS

a. The funding required for the contract with the firm selected for this project will be provide from a grant by the National Park Service under the Save America's Treasures program, which will be matched with private funds raised by Cliveden of the National Trust.

b. The contract between Cliveden of the National Trust and the firm selected for this project will be based on Cliveden's standard in-house contract. An examination copy of this contract is attached for your inspection.

10. FOLLOW-UP. Questions concerning to the specifications of this project or Cliveden contracting procedures should be addressed to:
Phillip Seitz, Curator of History
Cliveden of the National Trust
6401 Germantown Avenue
Philadelphia, PA 19144
215-848-1777 x230

Cliveden of the National Trust
6401 Germantown Avenue
Philadelphia, PA 19144
215-848-1777

[NAME OF CONTRACT]
Contract: General Terms and Conditions

1) Proposal. All work will be carried out by [NAME OF CONTRACTOR] (the Contractor) under the terms set forth in this Agreement and in accordance with the materials and methodology specified in Attachment A (Scope of Work), Attachment B (Cliveden Work Rules), and Attachment C (Cliveden Room Numbers). The Contractor assumes that the specified work can be executed as planned without hindrance from any hidden, concealed or unforeseeable conditions that require structural revisions or repairs to the buildings/collections on site. These and other conditions, including code violations, that must be repaired, corrected, replaced or overcome, shall require a change order to the work.

2) Contractor's Obligations. The Contractor agrees to deliver the materials and to perform the services set forth or otherwise identified in this Agreement and on any continuation sheets or exhibits, using its best skills and attention, for the consideration stated herein.

3) Changes. Cliveden of the National Trust, Inc. ("Cliveden"), without invalidating the Agreement, may order changes consisting of additions, deletions or modification to the work to be performed as specified herein. All such changes will be authorized by a written Addendum or Change Order signed by an Authorized Representative of Cliveden. The cost or credit to Cliveden as a result of such approved changes will be determined by the mutual agreement of both parties, and the price and time for performance will be adjusted accordingly. Cliveden may order changes in the work, which do not require deletions or modifications to the Agreement. Upon mutual agreement of both parties this work will be carried out on either a fixed price or time and materials basis. If work is performed on a time and materials basis, an hourly rate of [AMOUNT] will be charged for labor.

4) Payment of Compensation. Following the receipt by an Authorized Representative of Cliveden of an itemized invoice, payment of the compensation authorized by this Agreement will be made within thirty (30) days. Cliveden shall pay the Contractor the sum of charges for labor and materials as specified in the Agreement; this payment will include approved additions and deletions to the Agreement. The Contractor may cancel the agreed work for failure to receive payment by issuing a written order of cancellation.

5) Equal Opportunity. Both parties agree that they will not discriminate against any employee or applicant for employment because of race, color, religion, gender, age or national origin. Further, they will take affirmative action to assure that applicants are employed and that employees are treated during their employment without regard to their race, color, religion, gender, age or national origin. The obligations of this paragraph will extend to disabled veterans, Vietnam Era veterans and handicapped persons. The parties further agree that they will comply with all applicable provisions of Executive Order 11246, entitled, "Equal Employment Opportunity," as amended by Executive Order 11375 and as supplemented by Department of Labor regulations (41 CFR Part 60).

6) Conflict of Interest. No trustee, officer nor employee of Cliveden may participate in any decision on behalf of Cliveden relating to this Agreement which effects his/her personal interest or the interest of any corporation, partnership and/or association in which he/she is directly or indirectly interested. In addition, nor may any such trustee, officer or employee of Cliveden have any interest, direct or indirect, in this Agreement or the proceeds thereof.

7) Insurance.

A. It is an explicit condition of this Agreement that the Contractor will secure and maintain in effect throughout the term of this Agreement a policy of Workman's Compensation Insurance. The insurance will provide all of the coverage required by the law of the State in which the Contractor's principal place of business is located.

B. The Contractor will secure and maintain in effect a policy of Commercial General Liability insurance providing coverage with a limit of no less than $1,000,000 in the aggregate to protect against errors or omissions in connection with the work.

C. The Contractor will provide Cliveden with a certificate indicating that such coverage is in effect and naming Cliveden as an additional insured with a right to notice prior to cancellation or any change in coverage. Similar documentation must be provided for all subcontractors.

8) Indemnification. The Contractor agrees to defend, indemnify and hold Cliveden, its trustees, officers, employees and agents harmless from any responsibility, liability, damages or expenses for any personal injury, death, property damage or loss suffered or sustained by any person or thing which is caused by or arises out of an act or omission by the Contractor, its officers, employees or agents while engaged directly or indirectly in the performance of this Agreement.

9) Termination for Default.

A. Cliveden may terminate this Agreement by written notice to the Contractor if the Contractor fails to perform or defaults in any manner in the performance of this Agreement in strict accordance with its terms.

B. In the event of such termination, the Contractor will cease all work, return all original Cliveden documents and materials, and turn over to Cliveden all work produced up to the date of termination. This includes but is not limited to: all drawings, reports, partially completed work, and materials that have been charged to Cliveden's accounts or for which the Contractor has been reimbursed.

C. In the event of such termination, Cliveden will have the right to procure, upon such terms and in such manner as it may deem appropriate, the services or materials which, except for such termination, would have to be required by this Agreement to be performed by the Contractor, and the Contractor may be liable to Cliveden for any reasonable costs incurred by Cliveden in procuring such services or materials from other sources.

D. The Contractor will not be liable for any excess costs if its failure to perform this Agreement arises out of causes beyond its control and without its fault or negligence, including, but not limited to: acts of God, of the public enemy or omissions by Cliveden, fires, floods, epidemics, quarantine restrictions or strikes, freight embargoes and unusually severe weather.

E. The rights and remedies of the parties provided in this Paragraph are not exclusive, but are in addition to any other rights and remedies provided by law or under this Agreement.

10) Disputes. This Agreement is made in and will be governed by the laws of the State of Pennsylvania. Any dispute concerning the interpretation, application or performance of this Agreement that is not resolved by the representatives of these parties will be resolved through arbitration, conducted according to the rules of the American Arbitration Association. Judgment upon the award entered by the arbitrator(s) may be entered in any court having jurisdiction thereof.

11) Contractual Relationship. The Contractor is furnishing its services as a independent contractor. Nothing contained herein may be interpreted or construed as creating an association, partnership, joint venture or employee-employer relationship between the parties.

12) Subcontracting. This Agreement may not be assigned and the Contractor may not subcontract the services without the prior written consent of Cliveden.

13) Building Codes and Violations. The Contractor is not responsible for any existing flaws or exiting code violations inherent at Cliveden. The Contractor shall not be liable for code-mandated changes due to existing conditions including, but not limited to, flaws in the structure, heating, electrical, or mechanical systems at Cliveden (except when such work falls within the overall scope of work as outlined in the Agreement.)

14) Work site.

A. Cliveden shall not use nor relocate any materials, tools or equipment belonging to the Contractor.

B. The Contractor will be responsible to Cliveden for any loss or damage to Cliveden buildings, collections, plants or grounds resulting from the work. The Contractor will notify the Authorized Representative of Cliveden in advance of any property and/or collections that could be jeopardized by the work, and obtain Cliveden's approval of all measures planned to assure the protection of these items against loss or damage before the work is carried out.

15) Sole Agreement. This document constitutes the sole agreement between the parties concerning the services and obligations specified herein. No amendment modification or waiver of the terms or conditions of this Agreement will be valid, unless in writing and signed by both parties.

# Attachment F

16) Criteria for Contract Award.

a) In evaluating the bids received in response to this IFB, Cliveden of the National Trust will consider the following factors:

i) price;
ii) experience of the contractor in working with comparable projects at historic properties;
iii) responses received from references; and
iv) ability to complete the project within the time frame established.

17) Cliveden of the National Trust reserves the right, in the exercise of its discretion:

a) to hold all bids for a period not to exceed sixty (60) days from the bid opening in order to review prices and qualifications;

b) to reject all bids received;

c) to accept a bid without further discussion or negotiation;

d) to reject an individual bid due to defects, irregularities or provisions inconsistent with this IFB;

e) to waive any defect or irregularity in a bid and to accept it when it is otherwise proper and reasonable to do so; and

f) to negotiate directly with respondents for other terms, prices and conditions deemed proper and reasonable for the completion of the project or to protect the interests of Cliveden of the National Trust.

Agreed to and accepted this _____ day of _____, 2007:

Cliveden of the National Trust, Inc. Date

Date

Attachment A
Scope of Work

Overview

Fees

Contract Period
The contract will commence [DATE] and finish [DATE].

Scope of services

Administration

Schedule of Payment
Contractor will invoice Cliveden on a monthly basis.  Net terms are 30 days.

Agreed to and accepted _____

# Attachment F

Supplemental Conditions
of the Contract for [TYPE OF SERVICES]
Updated July 1, 2004

1. Historical Significance

1.1. Cliveden is a National Trust Historic Site, owned by the National Trust for Historic Preservation, and is listed on the National Register of Historic Places as a National Historic Landmark.

1.2. This project at Cliveden has been designed in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties (revised 1995), and must be completed consistent with the design.

1.3. The conservation objective of this project is to [PURPOSE OF CONTRACT] without loss of material that might otherwise serve as a source of useful historical information.

1.4. The Contractor shall recognize that all aspects and elements of the property may potentially contribute to the historic significance, and the Contractor shall not be the judge of the relative significance of any feature. This judgment is entirely the responsibility of the Owner. Consequently, no element shall be altered, removed, reused or taken from the premises without the approval of the Owner and Architect as being consistent with the requirements of the Contract Documents.

2. Active Historic Site.

2.1. Because Cliveden is a National Trust Historic Site, there are certain expectations and requirements which the contractor will be expected to honor at no additional cost, as follows:

2.2. All project managers, supervisors, superintendents, or foremen (plus any interested workers) of each Contractor and Subcontractor must attend a special tour of the site (no charge) prior to commencement of the Work.

2.3. During the course of the Work, the National Trust may explain the ongoing preservation and rehabilitation activity to visitors. Limited Contractor collaboration in this process is expected. All on-site personnel are expected to conduct their operations in a professional manner and be courteous and polite to all visitors.

2.4. The Contractors' and Subcontractors' principals and partners who perform preservation work at a National Trust Historic Site should have some familiarity with the mission and programs of the National Trust. Active membership in the organization is desirable. Complimentary six-month memberships will be provided to those who are not current members. In addition, individual and corporate memberships can be purchased at Cliveden.

3. Fire Safety

3.1. Contractor must comply with NFPA 241: Safeguarding Construction, Alteration and Demolition Operations (National Fire Protection Association, 1996 edition) .

3.2. The contractor's on-site supervisor will be designated as the fire prevention program manager in accordance with paragraph 5-1.1 of NFPA 241.

3.3. Provide and maintain a fire prevention program, fire extinguishers and other fire prevention and protection measures for compliance with NFPA 241. Ensure that the proper number of fire protection and extinguishing devices are available within required distances and in working order throughout construction work.

3.4. Provide proper containers for storage of flammable materials and disposal of waste. Do not allow soiled rags to accumulate.

3.5. Conduct hot work operations (e.g. welding, sweating, soldering, brazing, burning, flame cutting) on the ground at a safe distance away from the building. Contractor must obtain owner's daily permission in writing if any hot work operations must be conducted within or on the building. If permission is granted, appoint a fire watchman in hot work areas to protect combustible materials and watch for fires during and after hot work. Cease using heat devices at least two hours before the end of the workday to increase chances of early detection of fire.

3.6. As a fire prevention measure, smoking is forbidden inside or within ten feet on any building on the Cliveden property.

3.7. Do not use heat guns for paint removal unless absolutely necessary.

3.8. Do not allow open flame devices for paint removal.

3.9. Do not allow open flame heating devices.

4. Emergency services

4.1. Driveway must remain clear at all times to permit entry of emergency vehicles.

5. Housekeeping

5.1. No food or beverages are allowed in the Main House, Kitchen Dependency or Wash House (Main House complex).

5.2. Only Cliveden employees may touch or move furniture, books, papers, textiles or decorative items in the Main House. Contract workers should ask the Owner to have items moved.

5.3. Sinks, toilets and other plumbing fixtures in the Main House complex are primarily for historic display purposes and are not to be used.

# Attachment F

6. Scheduling

6.1. Cliveden reserves the right to control scheduling of any work in the Main House complex so that a Cliveden employee can be present to monitor the safety of the collections.

7. Demolition

7.1. All drilling, cutting, structural alteration, removal or selective demolition of existing building material must be approved in advance by the Owner.

8. Grounds

8.1. Equipment, vehicles or tables can only be stored, used, or transported on hardscaped areas. No personnel or equipment are permitted on unpaved or grassy areas without prior consent.

8.2. Use of fuel-operated generators is restricted to paved areas only.

8.3. All, cutting, structural alteration, removal or selective demolition of existing landscape material must be approved in advance by the Owner.

9. Equipment and cable runs

9.1. Cliveden reserves the right to approve the placement and movement of all equipment and cable runs.

10. Vehicles and Parking

10.1. No vehicle or trailer longer than 18' is allowed on the site without prior permission of the Owner.

10.2. Vehicles or trailers must be parked, loaded, and unloaded on paved areas, including those adjacent to the Carriage House or the by the Main House kitchen entrance. The Carriage House wash rack may be used for loading and unloading, but not for parking. No vehicles are permitted on the grass without prior permission of the Cliveden Authorized Representative.

11. TERMS AND CONDITIONS MANDATED BY FUNDING SOURCE

11. 1 This project is funded, in part, through a grant to the National Trust from the National Park Service. The Contractor shall cooperate with, and ensure that its sub-contractors comply with, the National Trust in complying with the General and Special Terms and Conditions to the grant award, including the obligation to provide the funding agency with periodic reports on the status of the project. This Section 11 is not exhaustive. The National Trust reserves the right to include any terms necessary to comply with the terms of the grant.

11.1. Consultant Conduct

11.1.1. A consultant shall not use his/her position for the actual or apparent purpose of private gain other than payment for services rendered for himself/herself or another person, particularly one with whom he/she has family, business, or financial ties.

11.1.2. A consultant shall not convey inside information that has not become part of the body of public information and that would not be available upon request directly to any person for the purpose of private gain for himself/herself or another person, particularly one with who he/she has family, business, or financial ties.

11.1.3. A consultant shall not, either for or without compensation, engage in teaching, lecturing or writing that is dependent on information obtained as a result of his/her employment with Cliveden of the National Trust, except when that information has been made available to the general public or will be made available upon request, or when the SHPO gives written authorization for the use of non-public information on the basis that the use is in the public interest.

11.2. Examination of Records. The National Trust, the Department of the Interior and the Comptroller General of the United States or any of their duly authorized representatives will have the right to obtain access to any books, documents, papers and records of the Contractor which are directly pertinent to the Agreement for purpose of audit and to make excerpts, copies and transcriptions thereof. The Contractor will maintain such records for a period of three (3) years following the receipt of final payment from the National Trust. Further, the Contractor agrees to permit such representatives access to its facilities and personnel for the purpose of on-site inspections, and to provide information as requested, to determine compliance with the grant terms and conditions.

11.3. Termination of Award. In the event that funds are not appropriated or otherwise made available for the continued performance of the grant award, or if the grant award is terminated, the National Trust may terminate this Agreement without penalty upon written notice to the Contractor.

11.4. Prohibition on Lobbying & 18 U.S.C. 1913.

11.4.1. Nothing contained in this Agreement shall be interpreted or construed as:

11.4.1.1. authorizing the Contractor to provide any service or to produce or distribute any advertisement, telegram, telephone call, letter, printed or written communication, or other device intended or designed to influence in any manner a member of Congress, to favor or oppose, by vote or otherwise, any legislation or appropriation by Congress; or

11.4.1.2. obligating the National Trust to pay any compensation to the Contractor or to reimburse the Contractor for any expenses incurred in providing any service or producing or distributing any advertisement, telegram, telephone call, letter, printed or written communication, or other device intended or designed to influence in any manner a member of Congress, to favor or oppose, by vote or otherwise, any legislation or appropriation by Congress.

11.4.1.3. No part of the money appropriated by any enactment of Congress shall, in the absence of express authorization by Congress, be used directly or indirectly to pay for any personal service, advertisement, telegram, telephone, letter, printed or written matter, or other device, intended or designed to influence in any manner a Member of Congress, to favor or oppose, by vote or otherwise, any legislation or appropriation by Congress, whether before or after the introduction of any bill or resolution proposing such legislation or appropriation; but this shall not prevent officers or employees of the United States or of its departments or agencies from communicating to Members of Congress on the request of any Member or to Congress, through the proper official channels, requests for legislation or appropriations which they deem necessary for the efficient conduct of the public business. Whoever, being an officer or employee of the United States or of any department or agency thereof, violates or attempts to violate this section, shall be fined under this title or imprisoned not more than one year, or both; and after notice and hearing by the superior officer vested with the power of removing him, shall be removed from office or employment.

11.5. Federal Laws & Regulations. The Contractor shall comply with, and cooperate with the National Trust in requiring that all contractors and sub-contractors comply with, the provisions of the following laws and regulations to the extent applicable as special conditions to the Federal grant that is being used to fund the project.

11.5.1. Buy American Act. In the purchase of any equipment or products required for the work, the contractor must comply with the provisions of the Buy American Act, Title 41 U.S.C. 10a-c and Public Law 105-277, which requires the purchase of American-made equipment and products unless such equipment and products are not produced or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality.

11.5.2. Byrd Anti-Lobbying Amendment and Prohibition on Lobbying. The contractor must file a certification indicating that it will not and has not used Federal funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress or an employee of a member of Congress in connection with obtaining any Federal contract, grant, cooperative agreement, loan or any other award covered by 31 U.S.C. 1352 and to disclose any lobbying activity that takes place in connection with obtaining any Federal award.

11.5.3. Clean Air Act of 1970. The contractor must comply with all applicable standards, orders and regulations issued pursuant to the Clean Air Act of 1970 (42 U.S.C. 7401 et seq.). Any violations shall be reported to the Regional Office of the Environmental Protection Agency and the federal funding agencies.

11.5.4. Clean Water Act. The contractor must comply with all applicable standards, orders and regulations issued pursuant to the Clean Water Act (33 U.S.C. 1368 et seq.).

11.5.5. Debarment and Suspension Certification. Prior to the start of any work on the project, the contractor must deliver to the National Trust a properly-executed Certificate regarding debarment, suspension and other matters using the form which is attached as Exhibit B. Further, the contractor is prohibited from using sub-contractors who have been debarred, suspended or otherwise excluded from participation in Federal Assistance programs under Executive Order 12549 and 12689.

11.5.6. Drug-free Workplace Act. The contractor must comply with all applicable standards, orders and regulations issued pursuant to the Drug-free Workplace Act (41 U.S.C. 701).

11.5.7. Equal Employment Opportunity. The contractor must comply with the provisions of Executive Order 11246 entitled “Equal Employment Opportunity”, as amended by Executive Order 11375 and as supplemented by Department of Labor regulations (41 CFR, Part 60).

11.5.8. Federal Water Pollution Control Act. The contractor must comply with all applicable standards, orders and regulations issued pursuant to the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.). Any violations shall be reported to the Regional Office of the Environmental Protection Agency and the federal funding agencies.

11.5.9. Lead-Based Paint Poisoning Prevention Act. The Contractor must comply with all applicable standards, orders and regulations issued pursuant to the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4801 et seq.).

11.5.10. Non-Discrimination Acts. The Contractor must comply with all applicable Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which grant award was made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the grant award.

11.5.11. Seat Belt Usage Policies. The contractor must comply with the provisions of Executive Order 13043 which requires all government contractors, sub-contractors and grantees to adopt and enforce on-the-job seat belt policies and programs for their employees when operating company-owned, rented or personally-owned vehicles.

11.5.12. Violating Facilities. The contractor must comply with the provisions of Executive Order 11738 and the implementing regulations of the Environmental Protection Agency (40 CFR. Part 15), which prohibit the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities and require reporting of violations to the National Park Service and the EPA Administrator for Enforcement.

11.5.13. "Welfare to Work Initiative". The contractor must comply with the "Welfare to Work Initiative" as promulgated by the National Endowment for the Humanities, which encourages employers, whenever possible, to hire and to provide additional needed training and/or mentoring for welfare recipients.

Agreed to and accepted _____

# Attachment F

SUPPLEMENTAL TERMS AND CONDITIONS TO AGREEMENT FOR CONSTRUCTION

The contract awarded under this RFP will include Supplemental Terms and Conditions, including but not limited to the following:

1. Insurance.

A. The Architect will secure and maintain in effect during the term of this Agreement, a policy or policies of insurance providing coverage for the following risks in the following minimum amounts:

| Workers Compensation | Statutory Amount |
|---|---|
| Employers' Liability | $1,000,000 per accident |
| | $1,000,000 policy limit |
| | $1,000,000 per person |
| Commercial General Liability | $1,000,000 per occurrence $2,000,000 aggregate<br>$1,000,000 personal &<br>advertising injury |
| Motor Vehicle Liability (owned, non-owned and hired vehicles) | $1,000,000 combined single limit |
| | (bodily injury and property damage) |

B. All such policies must be written on an Aoccurrence@ and not on a Aclaims made@ basis.

C. The Architect will provide the National Trust with a certificate indicating that such coverage is in effect and naming the National Trust as an additional insured, with a right to notice no less than thirty (30) days prior to cancellation or any material change in coverage. The Architect shall also provide the National Trust with a copy of the Endorsement to the policy, naming it as Additional Insured.

D. During the term of this Agreement, the Architect will maintain, at its own expense, a policy of Architect=s Professional Liability insurance providing coverage in a principal amount of no less than One Million Dollars ($1,000,000) for any willful or negligent act, error or omission by the Architect arising out of the performance of the professional services covered by this Agreement. The Architect will provide the Owner with a certificate indicating that such insurance is in effect and giving the Owner the right to notice no less than thirty (30) days prior to cancellation or any material change in coverage.

2. Indemnification. The Architect agrees to defend, indemnify and hold harmless the National Trust, its trustees, officers, employees and agents from and against any and all claims, liabilities, damages or expenses (including reasonable attorney's fees) due to any personal injury, death, property damage or loss suffered or sustained by any person or thing which is caused by or arises out of any act or omission by the Architect, its officers, employees or agents while engaged, directly or indirectly, in the performance of this Agreement.

3. Site and Project Constraints.

A. The Architect will work in close communication with William Dupont, Chief Architect of the National Trust.

B. The day-to-day operations of the Architect will be scheduled and coordinated with Martin Skrelunas, Preservation Director, whose office is at the site.

C. Barrier-free access must be achieved that combines compliance with local codes, ADA architectural guidelines and great sensitivity to the historic building.

D. The work involved in this project may be proceeding concurrently with work being done by other consultants and

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| Motor Vehicle Liability (owned, non-owned and hired vehicles) | $1,000,000 combined single limit |
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C. The Architect will provide the National Trust with a certificate indicating that such coverage is in effect and naming the National Trust as an additional insured, with a right to notice no less than thirty (30) days prior to cancellation or any material change in coverage. The Architect shall also provide the National Trust with a copy of the Endorsement to the policy, naming it as Additional Insured.

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| | $1,000,000 per person |
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| Motor Vehicle Liability (owned, non-owned and hired vehicles) | $1,000,000 combined single limit |
| | (bodily injury and property damage) |

B. All such policies must be written on an Aoccurrence@ and not on a Aclaims made@ basis.

C. The Architect will provide the National Trust with a certificate indicating that such coverage is in effect and naming the National Trust as an additional insured, with a right to notice no less than thirty (30) days prior to cancellation or any material change in coverage. The Architect shall also provide the National Trust with a copy of the Endorsement to the policy, naming it as Additional Insured.

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2. Indemnification. The Architect agrees to defend, indemnify and hold harmless the National Trust, its trustees, officers, employees and agents from and against any and all claims, liabilities, damages or expenses (including reasonable attorney's fees) due to any personal injury, death, property damage or loss suffered or sustained by any person or thing which is caused by or arises out of any act or omission by the Architect, its officers, employees or agents while engaged, directly or indirectly, in the performance of this Agreement.

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| | $1,000,000 per person |
| Commercial General Liability | $1,000,000 per occurrence $2,000,000 aggregate<br>$1,000,000 personal &<br>advertising injury |
| Motor Vehicle Liability (owned, non-owned and hired vehicles) | $1,000,000 combined single limit |
| | (bodily injury and property damage) |

B. All such policies must be written on an Aoccurrence@ and not on a Aclaims made@ basis.

C. The Architect will provide the National Trust with a certificate indicating that such coverage is in effect and naming the National Trust as an additional insured, with a right to notice no less than thirty (30) days prior to cancellation or any material change in coverage. The Architect shall also provide the National Trust with a copy of the Endorsement to the policy, naming it as Additional Insured.

D. During the term of this Agreement, the Architect will maintain, at its own expense, a policy of Architect=s Professional Liability insurance providing coverage in a principal amount of no less than One Million Dollars ($1,000,000) for any willful or negligent act, error or omission by the Architect arising out of the performance of the professional services covered by this Agreement. The Architect will provide the Owner with a certificate indicating that such insurance is in effect and giving the Owner the right to notice no less than thirty (30) days prior to cancellation or any material change in coverage.

2. Indemnification. The Architect agrees to defend, indemnify and hold harmless the National Trust, its trustees, officers, employees and agents from and against any and all claims, liabilities, damages or expenses (including reasonable attorney's fees) due to any personal injury, death, property damage or loss suffered or sustained by any person or thing which is caused by or arises out of any act or omission by the Architect, its officers, employees or agents while engaged, directly or indirectly, in the performance of this Agreement.

3. Site and Project Constraints.

A. The Architect will work in close communication with William Dupont, Chief Architect of the National Trust.

B. The day-to-day operations of the Architect will be scheduled and coordinated with Martin Skrelunas, Preservation Director, whose office is at the site.

C. Barrier-free access must be achieved that combines compliance with local codes, ADA architectural guidelines and great sensitivity to the historic building.

D. The work involved in this project may be proceeding concurrently with work being done by other consultants and

## Attachment G

# EXAMPLES OF INVITATIONS FOR BID

Attached are several examples of Invitations for Bid.

1. Invitation for Bids: Exterior Restoration of the President Lincoln and Soldiers' Home National Monument
   PAGES 206 - 215

2. Invitation for Bids for Drainage Improvements and Window, Door, and Woodwork Restoration at Shadows-on-the-Teche
   PAGES 216 - 227

3. Invitation for Bids for "Omnibus" Construction Services at Villa Finale, San Antonio, Texas
   PAGES 228 - 248

*Shadows-on-the-Teche*
*New Iberia, Louisiana*

NATIONAL TRUST FOR HISTORIC PRESERVATION

September 10, 2003
IFB #2003-11

Invitation for Bids:

Exterior Restoration of the
President Lincoln and Soldiers' Home National Monument

1. Introduction. The National Trust for Historic Preservation is soliciting qualification statements and competitive bids from general contractors for a fixed-price contract for the exterior restoration of the President Lincoln and Soldiers' Home National Monument, (hereafter referred to as the "Lincoln Cottage" ) a National Historic Landmark site located at the Armed Forces Retirement Home, 3700 North Capitol Street, NW in Washington, DC. The project represents the first phase of a cooperative effort to restore the Cottage to its appearance during the residency of President Abraham Lincoln (June to November 1862-1864) and to open the site for public visitation and educational functions. Subsequent phases will address the need to restore the interior of the building and to introduce appropriate visitor service and interpretive facilities. The project involves the use of federal grant funds. The contractor must comply with all federal, state and local laws, rules and regulations applicable to the expenditure of such funds.

2. Preservation Approach. The President Lincoln and Soldiers' Home National Monument is listed on the National Register of Historic Places and is recognized, both locally and nationally, as a highly visible significant landmark building. The Lincoln Cottage is a cultural artifact made up of many different elements which contribute individually to the structure's architectural and historic character. The Construction Documents for the exterior restoration of the Cottage were designed in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. All work must be completed in a manner that is consistent with that design. Contractors and sub-contractors who perform work on the Cottage are entrusted with an irreplaceable cultural object. They must recognize that a special degree of care and skill is required to perform this work and must be sensitive to the problems that will be encountered during the restoration of an historically significant building. This includes recognition of the fact that all aspects of the property may contribute to its historic significance and that the contractor shall not be the judge of the relative significance of any particular feature. That judgment is entirely reserved to the National Trust and its designated representatives. Consequently, no element of the Lincoln Cottage shall be altered, removed, reused or taken from the premises without the prior written approval of the National Trust or the Project Architect, unless such action is consistent with the requirements of the Construction Documents.

3. Project Architect. The Architect for the project is The Hillier Group Architecture D.C., P.C. whose offices are at 1444 I ("Eye") Street, NW, Suite 1100. The architects assigned to the project are:

Richard I. Ortega, Director of Preservation Technology
One South Penn Square
Philadelphia, Pennsylvania 19107-3502
Phone: 215-636-9999
Fax. 215-636-9989
e-mail: rortega@hillier.com

Gretchen K. Pfaehler
1444 I ("Eye") Street, NW
Suite 1100
Washington, DC 20005
Phone: 202-216-0111
Fax. 202-216-0096
e-mail: gpfaehler@hillier.com

4. Selection Procedure. The selection of a contractor for this project will be conducted in two steps. The first step will involve a review of the drawings and specifications by interested contractors followed by the submission of qualifications statements and references emphasizing the training and prior experience of the contractor, its sub-contractors and key building trades personnel working on historic buildings. The National Trust will evaluate the qualifications statements and will contact references. At the end of this review, a short list will be published listing the contractors who appear to be best-qualified to work on this important historic building. The short-listed firms will be given a bid form and asked to submit a sealed bid. Bids will be evaluated by the National Trust staff and the Project Architect. This will be followed by a contract award. It is anticipated that work will begin early in December 2003.

5. Schedule.

A. Mandatory Pre-Bid Conference. A mandatory pre-bid conference and site visit for prospective contractors will be held at the Lincoln Cottage at the Armed Forces Retirement Home, 3700 North Capitol Street, NW on Wednesday, September 24, 2003 beginning at 10:00 AM. The conference will be attended by National Trust staff personnel and the Project Architect. Directions to the Home are attached to this Invitation for Bids.

B. Deadline for Qualification Statements. Qualification statements will be accepted until 5:00 P.M. on Monday, October 6, 2003 at National Trust Headquarters, 1785 Massachusetts Avenue, NW, Washington, DC 20036, Attention: Tony Martinez, Contracts Office. Contractors may use the standard American Institute of Architects Contractor's Qualification Statement, AIA-A305 (1986) or any comparable format. Your response should emphasize your prior experience working on historic buildings in general and National Register/National Historic Landmark buildings in particular. It should provide similar background information on your principal sub-contractors. It should also list the qualifications and prior experience of your project superintendent/manager and the following building trades personnel:

(i) carpenters,
(ii) masons,
(iii) roofers,
(iv) painters,
(v) electricians,
(vi) plumbers and
(vii) any other personnel performing preservation functions.

C. Short-List. The National Trust will publish a short list of pre-qualified firms and distribute bid forms no later than Friday, October 17, 2003.

D. Deadline for Bids. Bids will be accepted from short-listed firms at National Trust Headquarters, 1785 Massachusetts Avenue, NW until 3:00 PM on Monday, November 3, 2003 at which time all bids will be opened and recorded.

E. Bid Bonds. Bidders must submit a bid bond, certified check or other negotiable instrument as assurance that, if your bid is accepted by the National Trust, you will execute such contractual documents as may be required.

6. Drawings and Specifications.

A. Prospective bidders may examine copies of the drawings and specifications at:

The Hillier Group Architecture D.C., PC
1444 Eye Street, NW, Suite 1100
Washington, DC 20005
(202) 216-0111
Contact: Gretchen Pfaehler, or

National Trust Headquarters
1785 Massachusetts Avenue, NW
Washington, DC 20036
(202) 588-6308
Contact: Sophie Lynn

B. Copies of the drawings and specifications are available through the offices of The Hillier Group in Washington, DC. A $125.00 deposit will be charged for each set. Your deposit will be refunded if the set is returned to the Architect in good condition within thirty days following the bid opening.

C. If you have questions concerning the drawings or specifications, please contact Gretchen K. Pfaehler at (202) 216-0111.

7. Scope of Work. The work to be performed by the contractor will include the following elements:

A. Carefully disassemble, salvage, label, number and record various building materials that will be stored or reused, such as iron balconies and the north entrance awning and its support structure;

B. Carefully remove and properly dispose of all non-Lincoln era appurtenances as indicated on the construction drawings, including the 1960s elevator shaft, roofing materials, and exterior stucco;

C. Repair and repoint brick substructure exposed by stucco removal and apply new, unpainted stucco to building exterior;

D. Repair and restore windows and doors, and repair and restore wood trim;

E. Paint exterior trim with historically accurate fresh paints and finishes;

F. Make structural improvements to the roof and other areas as indicated on the drawings, including:

(i) reinforce the valley rafters of the main house and construct bearing walls,
(ii) repair and reinforce beams at the west balcony,
(iii) repair and replace veranda roof framing, and
(iv) repair brick at areaway walls;

G. Install new roof (using slate and metal materials), gutters, leaders, down-spouts;

H. Reconstruct and restore the south porch;

I. Make alterations to the plumbing/sprinkler systems, including:

(i) relocate waste lines, and

(ii) modify sprinkler pipe to accommodate vertical lift (See paragraph 2.L below);

J. Make site improvements to drainage, grading and pathways;

K. Install new electrical service, including:

(i) locate transformer in adjacent building,
(ii) supply new 208/120V service,
(iii) install exterior lighting around the building; and

L. Install a Limited Use Limited Access (LULA) vertical lift system which penetrates the existing roof line; and

M. Perform interior work associated with the LULA installation, which includes:

(i) lay the foundation for the LULA,
(ii) install electrical and hydraulic lines to serve LULA,
(iii) install the LULA shaft,
(iv) relocate some doors and steps to permit access to the LULA, and
(v) install the LULA equipment.

8. Background and Purposes.

A. The Lincoln Cottage was built in 1842-43 as a country home for George W. Riggs, Jr., a prominent banker in Washington, DC. In 1851, Riggs sold the Cottage and surrounding farmland (approximately 250 acres) to the federal government which, in turn, established the first Soldiers' Home serving disabled and retired veterans. Today, the Cottage and a few other nearby buildings form the historic core of what is now known as the Armed Forces Retirement Home (AFRH). The Cottage served as the first quarters for residents of the Soldiers' Home. The six acre historic core of the AFRH was designated a National Historic Landmark in 1974.

B. The Cottage derives its exceptional significance from the fact that President Abraham Lincoln spent approximately one-quarter of his presidency there. President Lincoln, often accompanied by his family, lived at the Cottage during June B November of 1862, 1863 and 1864 in order to escape the heat of the

city and the intense political pressures of the presidency during the Civil War. While there are other sites and monuments with ties to Lincoln in Washington, DC and elsewhere in the U.S., the Soldiers' Home is the only site in the country (other than the White House) with strong personal and intellectual ties to the Lincoln presidential years. On July 7, 2000, former President Clinton designated the site (2.3 acres) as the President Lincoln and Soldiers= Home National Monument. A Site Map of the property is attached as Exhibit A.

C. The National Trust, in cooperation with various public and private funding sources, is committed to restoring and preserving the President Lincoln and Soldiers= Home National Monument and establishing the country's premier study center dedicated to enhancing public understanding of Abraham Lincoln's presidency and his extraordinary intellectual legacy. The National Trust and the Armed Forces Retirement Home intend that the National Monument will be opened for limited public visitation beginning in 2004.

D. The National Trust for Historic Preservation and the AFRH have entered into a cooperative agreement to develop a program for the preservation and historical interpretation of the site to the period of Lincoln's occupancy. In September 2000, the National Trust retained the Hillier Group, an architectural firm, to devise a restoration plan for the Lincoln Cottage. In February 2001, The Hillier Group produced a Pre-Design Study Report (revised in January 2003) for the interior and exterior restoration of the site. The Hillier Group has now completed construction documents for the exterior restoration of the Cottage. The purpose of this solicitation is to obtain bids for the construction of the work outlined in the construction documents. The principal sources of funding for the project are a federal appropriation to the National Trust through the District of Columbia and a grant by the National Park Service of the U.S. Department of the Interior through the Save America's Treasures Program, which is matched by funds contributed from private sources.

9. Site and Project Constraints.

A. The AFRH is an active retirement community for approximately 1,100 veterans. All contractors and sub-contractors on the AFRH property will be required to:

(i) use the entrance at the intersection of Upshur Street and Rock Creek Church Road NW (the "Eagle Gate");

(ii) park in the parking lot between the Grant and Administration Buildings;

(iii) respect the 15 m.p.h. speed limit that applies to the entire campus;

(iv) remain in the immediate vicinity of the Lincoln Cottage, unless otherwise authorized;

(v) wear identifying badges provided by the AFRH Security Office;

(vi) accept their own deliveries in person; and

(vii) lay down their tools and equipment in designated areas only.

B. The contractor must provide adequate protection for the Lincoln Cottage during all phases of the work, particularly during the phase that involves the removal of the existing roof. Proper protections for all existing interior historic building fabric must be provided in accordance with the Construction Documents.

C. The Work involved in this project may be proceeding concurrently with work being done by other consultants and contractors at the Lincoln Cottage. The contractor will be expected to coordinate its work at the property with that of other consultants and contractors who may be working on-site at the same time.

D. A complete listing of the rules and regulations adopted by AFRH for the site is contained in Exhibit B, which is attached and incorporated herein by reference.

10. General Requirements.

A. The contractor will work in close communication with William Dupont, AIA, Graham Gund Architect for the National Trust, and David Cera, Architectural Associate for the National Trust.

B. The day-to-day operations of the contractor will be scheduled and coordinated with David Overholt, Preservation Projects Director at the National Trust, who will have an office at the site.

C. All work performed and all materials supplied by the firm selected for this project must comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties (rev. 1995), as well as all applicable codes and regulations governing the work.

D. Any excavation and/or trenching work in the ground and any subsurface or destructive testing of architectural surfaces, or removal of building materials for research must be reviewed by and coordinated with the Senior Archaeologist and Staff Architect of the National Trust.

E. Contractors must comply with National Fire Protection Act, NFPA 241: Safeguarding Construction, Alteration and Demolition Operations, 1996 edition. The contractor's on-site supervisor will be designated as the fire prevention program manager in accordance with paragraph 5-1.1 of NFPA 241.

F. The contractor shall be responsible for any/all damage to existing conditions and shall notify National Trust staff members of any instance when protection or additional protection is required.

G. The use of cranes, lifts, scaffolding, rigging or any material handling equipment including dollies and hand trucks must be approved in advance by the Preservation Projects Director.

11. Bidding Requirements.

A. Bidders must comply with all provisions of District of Columbia law pertaining to licensing as contractors.

B. In order to qualify for the short-list, contractors, sub-contractors and principal building trades personnel must have recent experience working on similar projects involving significant historic buildings.

C. Firms that are pre-qualified and selected for the short list must provide the following:

(i) a completed Bid Form;

(ii) a Bid Bond or certified check or other negotiable instrument; and

(iii) a Certification Regarding Debarment and Suspension (Exhibit C).

D. Your bid must include a separate Add/Alternate price representing the cost to the National Trust of a

Performance Bond and Labor and Materials Bond, each in the amount of your bid. The firm selected for this project will be required to secure and submit such bonds prior to the start of the work. Each bond must be underwritten by a surety company licensed and authorized to engage in such business in the District of Columbia and must be countersigned by an authorized agent of such surety who is a resident of the District of Columbia.

E. The firm selected for the project must maintain insurance covering the following risks in the minimum amounts indicated. All such policies must be written on an "occurrence" rather than a "claims made" basis.

| | | |
|---|---|---|
| (i) | Workers' Compensation: | Statutory limits |
| (ii) | Commercial General Liability: | $1,000,000 per occurrence<br>$1,000,000 aggregate |
| (iii) | Automobile Liability: | $1,000,000 combined single limit |

12. Contract Requirements.

A. The National Trust plans to execute a contract with the general contractor selected for this project using AIA Document A-101 (1997) Standard Form of Agreement Between Owner and Contractor for Construction Projects where the basis of payment is a Stipulated Sum, including Supplemental Terms and Conditions.

13. Special Conditions. This project is funded, in part, through grants to the National Trust from District of Columbia and the National Park Service. The contractor will be required to comply with the following Special Terms and Conditions to those grant awards.

A. Certification Regarding Debarment and Suspension. Prior to the start of any work on the project, the contractor must deliver to the National Trust a properly-executed Certificate regarding debarment, suspension and other matters using the form which is attached as Exhibit C and incorporated herein by reference.

B. Davis Bacon Act. The contractor must comply with the provisions of the Davis-Bacon Act. as amended, (40 U.S.C. 276a to a-7), which includes the following requirements:

(i) All laborers and mechanics employed or working at the project site in the construction or development of the project must be paid unconditionally and not less than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted under regulations issued by the Secretary of Labor), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at the time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor for the District of Columbia, which is attached as Exhibit D and incorporated herein by reference, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

(ii) The contractor must comply will the provisions of the Act and with the regulations adopted by the Secretary of Labor (29 CFR 5.5) with respect to payroll records, reporting and the retention of records.

(iii) The contractor must include the foregoing provisions in any subcontracts entered into and must require that any subcontractors include these clauses in any lower tier subcontracts.

C. Copeland "Anti Kick-Back Act. The contractor must comply with the Copeland "Anti Kick-Back" Act (Title 18 U.S.C., Section 874), as supplemented by Department of Labor regulations (29 CFR Part 3), which prohibits any contractor from inducing, by any means, any person employed in the construction, completion or repair of any public work, to give up any part of the compensation to which he is otherwise entitled.

D. Examination of Records. The National Trust, the Department of the Interior and the Comptroller General of the United States or any of their duly authorized representatives will have the right to obtain access to any books, documents, papers and records of the contractor which are directly pertinent to the Agreement for purpose of audit and to make excerpts, copies and transcriptions thereof. The contractor will maintain such records for a period of three (3) years following the receipt of final payment from the National Trust.

E. Publicity. Any press release, publication or other promotional materials publicizing or relating to the work performed by the contractor on this project (including web sites or other electronic forms) must include an acknowledgment that the project was supported by a grant from the National Park Service. The contractor must provide the National Trust with two copies of such materials, which will be delivered to the Park Service.

F. Buy America Act. In the purchase of any equipment or products required for the work, the contractor must comply with the provisions of the Buy America Act, Title 41 U.S.C. 10a-c, which requires the purchase of American-made equipment and products unless such equipment and products are not produced or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality.

G. Prohibition on Lobbying. The contractor must file a certification indicating that it will not and has not used Federal funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress or an employee of a member of Congress in connection with obtaining any Federal contract, grant, cooperative agreement, loan or any other award covered by 31 U.S.C. 1352 and to disclose any lobbying activity that takes place in connection with obtaining any Federal award.

H. Equal Employment Opportunity. The contractor must comply with the provisions of Executive Order 11246 entitled "Equal Employment Opportunity", as amended by Executive Order 11375 and as supplemented by Department of Labor regulations (41 CFR, Part 60).

I. Contract Work Hours and Safety Standard Acts. The contractor must comply with Section 102 and 107 of the Contract Work Hours and Safety Standard Act (40 U.S.C. 327-330) as supplemented by Department of Labor regulations (29 CFR, Part 5). Under Section 102 of the Act, the contractor shall compute the wages of every mechanic and laborer on the basis of a standard work day of 8 hours and a standard work week of 40 hours. Work in excess of the standard work day or work week is permissible provided that the worker is compensated at a rate of not less than 1-1/2 times the basic rate of pay for all hours worked in excess of 8 hours in any calendar day or 40 hours in the work week.

J. Environmental Compliance. The contractor must comply with all applicable standards, orders and regulations issued pursuant to the Clean Air Act of 1970 (42 U.S.C. 7401 et seq.) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.). Any violations shall be reported to the Regional Office of the Environmental Protection Agency and the federal funding agencies.

14. Contract Award and Funding.

A. The National Trust reserves the right, in the exercise of its discretion:

(i) to hold all bids for a period not to exceed 30 days from the bid opening in order to review prices and qualifications;

(ii) to reject all bids;

(iii) to accept a bid without further discussion or negotiation;

(iv) to reject a bid because of defects, irregularities or provisions inconsistent with this Invitation for Bids;

(v) to waive any defect or irregularity in a bid when it is otherwise reasonable to do so; and

(vi) to negotiate directly with respondents for other terms, prices and conditions deemed proper and reasonable for the completion of the work or to protect the interests of the National Trust.

B. The National Trust is a nonprofit corporation created by Act of Congress. It is responsible for encouraging public participation in the preservation of sites, buildings and objects that are significant in American history. Financial support for the National Trust is provided from membership dues, endowment funds and contributions from private members and donors. The National Trust also receives grants from agencies of state and federal government. The funding required for any contract resulting from this Invitation for Bids will be provided from two federal funding sources and from private funds.

15. EQUAL OPPORTUNITY.

A. The National Trust is an equal opportunity employer. It maintains an Affirmative Action Plan as required by Executive Order 11246, as amended, and by the applicable implementing regulations issued by the Secretary of Labor (41 CFR 60-1). The contractors selected for this work will be expected to maintain similar policies and plans, and to comply with all applicable notice and reporting requirements, to the extent that they are required by the Executive Order and the implementing regulations.

B. The National Trust is committed to a policy of encouraging and promoting greater economic opportunities for minority and women-owned businesses. Firms owned by minority interests and by women are encouraged to respond to this Invitation for Bids. Prospective general contractors are encouraged to include minority and women-owned businesses as subcontractors and suppliers.

16. Follow-up

A. If you have questions concerning the architectural drawings and specifications, please contact:

Gretchen K. Pfaehler
The Hillier Group, Architecture D.C., PC
1444 Eye Street, NW, Suite 1100
Washington, DC 20005

Phone: (202) 216-0111
Fax: (202) 216-0966

B. If you have any questions concerning the project site or the pre-bid conference, contact:

Sophie Lynn (Project Manager)
National Trust for Historic Preservation
1785 Massachusetts Avenue, NW
Washington, DC 20036
Phone: (202) 588-6308, or

David Overholt (Preservation Projects Director)
(202) 730-3139 or
(202) 374-3601 or
(202) 291-3606 (H)

C. If you have questions concerning National Trust contract procedures, please contact:

Russell A. Garman Jr., Contracts Administrator (202) 588-6262 or
Tony Martinez, Program Assistant, (202) 588-6108
National Trust for Historic Preservation
1785 Massachusetts Avenue, NW
Washington, DC 20036

PLEASE NOTE THAT YOUR QUALIFICATION STATEMENT MUST BE RECEIVED AT

NATIONAL TRUST HEADQUARTERS IN WASHINGTON DC NO LATER THAN 5:00 PM

ON WEDNESDAY, SEPTEMBER 24, 2003

NATIONAL TRUST
for HISTORIC PRESERVATION®

**IFB #2007-6**
**January 18, 2007**

# INVITATION FOR BIDS
# for
# DRAINAGE IMPROVEMENTS and
# WINDOW, DOOR, AND WOODWORK RESTORATION
# at
# SHADOWS-ON-THE-TECHE

**1.** **INTRODUCTION**. The National Trust for Historic Preservation is soliciting competitive bids from general contractors in the New Iberia, Louisiana area for a fixed-price contract for exterior improvements at Shadows-on-the-Teche, a National Trust Historic Site located on East Main Street in New Iberia, Louisiana. The work includes (i) a drainage improvement program and (ii) window, door, and woodwork restoration, all at the main house. The goal of the project is to mitigate moisture entry into the brick walls and to improve the appearance and performance of the doors and windows. The National Trust would prefer that the work be complete no later than **August 1, 2007** but is willing to consider an extended timeframe.

**2.** **PRE-BID MEETING**. There will be a pre-bid meeting and site visit for prospective bidders at Shadows-on-the-Teche at **10:00 AM on Tuesday, February 6, 2007**. The purpose of this meeting will be to familiarize prospective bidders with the site and the scope of work. During this conference special procedures for work at a National Trust Historic Site will be introduced and explained. These procedures include compliance with site rules, fire safety, disaster response and mitigation, selective removals, disassembly and storage protocol for architectural elements. Attendance or representation at the pre-bid meeting is optional. However, familiarity with the site and understanding of the scope of work will be expected of all bidders.

**3.** **DEADLINE FOR SUBMISSIONS.** Bids submitted in response to this Invitation for Bids ("IFB") will be accepted by the National Trust at its Headquarters Building in Washington D.C. until **3:00 p.m. on Friday, February 16, 2007** at which time all bids will be opened and recorded. Please see Section 12-D regarding fax submissions. There will be no public opening of bids.

**4.** **BID BONDS.** Bidders must submit a bid bond, certified check or other negotiable instrument as assurance that, if your bid is accepted by the National Trust, you will execute such contractual documents as may be required. Bid security is required in an amount equal to five percent (5%) of the bid amount.

**5.** **PROJECT ARCHITECT.**

**A.** The Landscape Architect for the project is **Ted Viator, ASLA of Viator & Associates, Inc**., whose offices are at 292 Mecca St., Lafayette, LA 70508; P: 337-237-3044; F: 337-237-3111; E: viator200@aol.com. The Landscape Architect will be responsible for providing construction administration services for the project, and will be the primary contact for the contractor.

**B.** The Architect for the project is **Matthew Jennings, AIA**, of **Westlake, Reed, Leskosky Architects** whose offices are at 1850 M St. NW, Suite 1095, Washington, DC 20036; P: 202-296-6116; F: 202-296-4344; E: mjenn@wrldesigns.com.

**6.** **DRAWINGS AND SPECIFICATIONS.** One set of construction documents, including drawings and the Project Manual which includes specifications and bid forms, may be picked up by each interested contractor starting **Monday, January 29, 2007** at Shadows-on-the-Teche. **Please call in advance to reserve a package – Patricia Kahle, Site Director, 337-369-6446.**

**7.** **BACKGROUND AND PURPOSES.**

**A.** The National Trust for Historic Preservation is a private, nonprofit membership organization dedicated to protecting the irreplaceable. Recipient of the National Humanities Medal, the National Trust was founded in 1949 and provides leadership, education, advocacy, and resources to save America's diverse historic places and revitalize communities. Its Washington, DC headquarters staff, six regional offices and 28 historic sites work with the National Trust's 270,000 members and thousands of local community groups in all 50 states.

**B.** The Shadows-on-the-Teche is an antebellum historic house museum that depicts the plantation culture that dominated southwestern Louisiana in the 19th century. Constructed between 1830 and 1834 as the home of sugar planter David Weeks, it is not only one of the oldest surviving buildings of its type, it is also one of the best documented. More than 17,000 letters and documents saved by the Weeks family and stored in trunks in the attic provide a detailed chronicle of plantation life, local economies, and social structure on the bayou. Surrounded by live oak trees draped in Spanish moss, the architecture of the Shadows reflects an Anglo-American Classic Revival style with eight distinctive white columns across the façade. From 1834 until 1958, four generations of the Weeks family lived at the Shadows. In 1958 the property was given to the National Trust.

**C.** The Shadows-on-the-Teche comprises about 2 and one-half acres of historic gardens along East Main Street (State Hwy 182) in New Iberia. Visitors are received at the Visitor's Center located across the street at 320 E. Main Street. The Shadows main house experiences high levels of moisture and very irregular humidity levels due to inadequate control of surface and storm water. Existing catch basins do not allow water to flow directly into the storm drains. This moisture has caused deterioration of the plaster and paint at the base of the first floor and structural damage to the first floor joists. Windows and doors, too, require a major restoration effort after the long cycle of continued use and natural deterioration.

**D.** The purpose of this IFB is to select a contractor to carry out (i) the drainage program and (ii) the window, door, and woodwork restoration program, as described below.

**8.** **SCOPE OF WORK.** The National Trust is soliciting proposals for a firm to provide the services, materials, equipment, facilities and personnel required to perform a series of drainage improvements and window and door restoration. The work will generally include:

**A.** Drainage Improvement to mitigate moisture entry into brick walls below grade. The contractor will:

**i.** Excavate around the perimeter of the Shadows main house to remove inactive drain pipes that are retaining moisture near the walls;
**ii.** Repair below-grade brick walls and repoint mortar;
**iii.** Apply a moisture barrier to the outer surface of the house walls; and
**iv.** Repair gutters and install new drains and drainage lines to divert water from the house and toward the Bayou Teche.

**B.** Window, Door, and Woodwork Restoration. The contractor will:

**i.** Repair windows, shutters, and doors to improve appearance, operability, security and HVAC performance;
**ii.** Repaint as necessary with the assistance of a paint conservator;
**iii.** Remove old putty and reglaze;
**iv.** Replace broken glass panes and modern glass panes with period reproduction glass;
**v.** Remove and replace UV filtering film;
**vi.** Install metal weatherstripping;
**vii.** Repair and replace window/shutter hardware and latches where indicated (Some pieces will need to be replicated and replaced.);
**viii.** Repair doorknobs and locks on all doors as directed in the Documents and install metal weather-stripping;
**ix.** Repair and repaint exterior woodwork (cornice, dormer pediments, porches, galleries, stairs, columns, and doors); and
**x.** Repoint mortar at areas with mortar loss.

**9. FUNDING.** Financial support for the National Trust is provided through membership dues, endowment funds and contributions from private members and donors. It also receives grants from agencies of state and federal government. The funding required for the contract covered by this IFB will be provided entirely from private sources. No governmental funding will be used.

**10. EQUAL OPPORTUNITY**

**A.** The National Trust is an equal opportunity employer. It maintains an Affirmative Action Plan as required by Executive Order 11246, as amended, and by the applicable implementing regulations issued by the Secretary of Labor (41 CFR 60-1). The firm selected for this contract will be expected to maintain similar policies and plans, and to comply with all applicable notice, reporting, and compliance requirements, to the extent that they are required by the Executive Order and the implementing regulations.

**B.** The National Trust is committed to a policy of encouraging and promoting greater economic opportunities for minority and women-owned business enterprises and for small businesses. Small businesses and firms owned by minority interests and by women are encouraged to respond to this IFB. Prospective contractors are encouraged to include small and minority and women-owned businesses as subcontractors and suppliers.

**11. GENERAL REQUIREMENTS.**

**A.** The contractor selected for this project, and its sub-contractors and principal building trades personnel must have significant recent experience working on similar projects involving historic buildings. The contractor must have at least 5 years experience working on buildings listed in the National Register of Historic Places.

**B.** The contractor must comply with all provisions of Louisiana law pertaining to licensing.

**12. INSTRUCTIONS FOR SUBMISSION OF QUALIFICATION STATEMENTS AND BIDS.**

**A.** Firms submitting a qualifications statement and bids in response to this IFB must provide the following:

**i.** a **Bidder Qualification Statement** (AIA Document A-305 or comparable format) with information on the firm's prior experience on comparable projects. Your response should emphasize your prior experience working on historic buildings in general and National Register/National Historic Landmark buildings in particular. It should provide similar background information on your principal sub-contractors. It should also list the qualifications and prior experience of your project superintendent/manager and the following building trades personnel:

**a.** carpenters,
**b.** masons,
**c.** roofers,
**d.** painters,
**e.** electricians,
**f.** plumbers, and
**g.** any other personnel performing preservation functions.

**ii.** the **Bid Form** found in the Project Manual.

**iii.** a **Bid Bond** or certified check or other negotiable instrument.

**iv.** the following information:

**a.** the name, address and telephone numbers of references who may be contacted concerning the work done on projects completed within the past five years.
**b.** a time line for completion of the work;
**c.** a description of the legal status of the entity submitting the qualifications, i.e. sole proprietorship, partnership, limited liability company, joint venture or corporation, and state of residency or incorporation; and
**d.** the name, address and position of persons within the firm who are authorized to execute contracts on its behalf.

**v.** Firms which do **not** attend the pre-bid meeting must also include the following information in their qualification statements:

**a.** a description of their prior familiarity with the site conditions; and
**b.** a description of their understanding of the scope of work.

**B.** Your bid must include a separate Add/Alternate price representing the cost to the National Trust of a **Performance Bond and Labor and Materials Bond**, each in the amount of your bid. The firm selected for this project will be required to secure and submit such bonds prior to the start of the work. Each bond must be underwritten by a surety company licensed and authorized to engage in such business in Louisiana and must be countersigned by an authorized agent of such surety who is a resident of Louisiana. When requesting the Performance Bond from your surety company, you must notify them that the National Trust will require the following change to AIA A312, paragraph 4.2:

"Undertake to perform and complete the Construction Contract itself, through its agents, or through independent contractors; *provided that the Owner and the Architect have been given an opportunity to review the*

*qualifications of the agents or contractors proposed and have consented to the use of such agents or contractors to complete the work.*"

**C.** Your bid should be addressed to the attention of:

Tony Martinez, Contracts Office
National Trust for Historic Preservation
1785 Massachusetts Avenue, N.W.
Washington, D.C. 20036
Attn: IFB #2007-6

**D.** Alternatively, you may fax your **bid** only to Tony Martinez at 202-588-6059 by the deadline given above. Faxed bids must include all pages of the bid form and a copy of the bid bond or other assurance. Signed original versions of the bid form, the original bid bond or assurance, and qualifications must be delivered to the attention of Tony Martinez no later than 5:00pm on **Tuesday, February 20, 2007**.

**13.** **SELECTION PROCEDURE.** Qualification statements and bids will be evaluated by National Trust staff and the Project Architect. If necessary, the National Trust may schedule site visits with one or more individual bidders to discuss their bids during the week of **February 26, 2007.** This will be followed by a contract award.

**14.** **CONTRACT AWARD.** It is anticipated that a contract award will be made by the National Trust within two weeks after the closing date and that the contractor will begin work on the project no later than **March 12, 2007.** The National Trust plans to execute a contract with the contractor selected for this project using AIA Document A101 (1997) Standard Form of Agreement Between Owner and Contractor for Construction Projects where the basis of payment is a Stipulated Sum, including modifications and Supplemental Terms and Conditions.

**15.** **SUPPLEMENTAL TERMS AND CONDITIONS.** The contract with the firm selected for this project will be prepared by the National Trust and will include the supplemental terms and conditions contained in **Exhibit A**. Please review these provisions carefully before deciding whether or not you wish to submit a bid. These terms reflect the standard policies of the National Trust and exceptions may be considered only in limited circumstances. Firms unwilling to agree to these terms must note any objection in their bids.

**16.** **CRITERIA FOR CONTRACT AWARD.**

**A.** In evaluating the bids received in response to this IFB, the National Trust will consider the following factors:

**i.** price;
**ii.** experience of the contractor in working with comparable projects at historic properties;
**iii.** responses received from references; and

**iv.** ability to complete the project within the time frame established.

**B.** The National Trust reserves the right, in the exercise of its discretion:

**i.** to hold all bids for a period not to exceed sixty (60) days from the bid opening in order to review prices and qualifications;
**ii.** to reject all bids received;
**iii.** to accept a bid without further discussion or negotiation;
**iv.** to reject an individual bid due to defects, irregularities or provisions inconsistent with this IFB;
**v.** to waive any defect or irregularity in a bid and to accept it when it is otherwise proper and reasonable to do so; and
**vi.** to negotiate directly with respondents for other terms, prices and conditions deemed proper and reasonable for the completion of the project or to protect the interests of the National Trust.

## 17. FOLLOW-UP

**A.** Questions concerning the technical specifications for the project should be directed to:

**Ted Viator, ASLA**
Viator & Associates, Inc.
292 Mecca St.
Lafayette, LA 70508
P: 337-237-3044
F: 337-237-3111
E: viator200@aol.com

or:

**Patricia Kahle, Director, Shadows-on-the-Teche**
317 East Main Street
New Iberia, LA 70560
P: 337-369-6446
F: 337-365-5213
E: patricia_kahle@nthp.org

**B.** Questions concerning National Trust contract procedures should be addressed to:

**Tony Martinez**, Contracts Office
E: antonio_martinez@nthp.org

## SUPPLEMENTAL TERMS AND CONDITIONS TO AGREEMENT FOR CONSTRUCTION

The contract awarded under this IFB will include Supplemental Terms and Conditions, including but not limited to the following:

**1. Contractor's Insurance.**

**A.** The liability insurance to be maintained by the Contractor as required by Article 11.1.1 must cover the following risks in the minimum amounts indicated, and shall be maintained in effect for three years after the expiration of this Agreement regarding coverage pursuant to the "Completed Operations" clause:

| | |
|---|---|
| Workers' Compensation | Statutory Amount |
| Employers' Liability | $1,000,000 per accident<br>$1,000,000 policy limit<br>$1,000,000 per person |
| Commercial General Liability | $1,000,000 per occurrence<br>$2,000,000 aggregate<br>$1,000,000 personal & advertising injury<br>$2,000,000 products &completed operations aggregate<br>$300,000 fire legal liability<br>$10,000 medical payments |
| Motor Vehicle Liability (owned, non-owned and hired vehicles) | $1,000,000 combined single limit (bodily injury and property damage) |
| Excess Liability Umbrella Coverage | $5,000,000 limit |

**B.** The Commercial General Liability policy must include:

**i.** general aggregate on a per project basis;
**ii.** contractual liability assumed under contract;
**iii.** coverage to apply on a primary and non-contributory basis;
**iv.** additional insured coverage for "ongoing operations" (CG2010 11/85 or equivalent);
**v.** additional insured coverage for "your work" included in the Products & Completed Operations coverage (CG2037 11/85 or equivalent); and
**vi.** no construction defects exclusion.

**C.** All such policies must be written on an "occurrence" and not on a "claims made" basis.

**D.** The Contractor will provide the National Trust with a certificate indicating that such coverage is in effect and naming the National Trust as an additional insured, with a right to

notice no less than thirty (30) days prior to cancellation or any material change in coverage. The Contractor shall also provide the National Trust with a copy of the Endorsement to the policy, naming it as Additional Insured.

**E.** Subcontractor Insurance.

**i.** The Contractor shall require any subcontractor to maintain liability insurance for the risks and in the amounts indicated in Article 11.1.1 and this Section, Contractor's Insurance, as if the subcontractor were the Contractor.

**ii.** In the event that any individual subcontractor is not covered by Workers' Compensation or Employers' Liability insurance, the Contractor shall require the subcontractor to release the National Trust from all claims, liabilities, damages, or expenses (including reasonable attorney's fees) based upon or arising out of any bodily injury sustained, or death which occurs, while the subcontractor is at the Project site.

**iii.** The Contractor shall require that its subcontractors include the foregoing provisions as conditions of any sub-subcontract.

**iv.** In the event that a subcontractor cannot meet the insurance requirements set forth above, the Contractor shall immediately notify the Representative of the National Trust and said subcontractor shall not commence work unless its insurance coverage is approved in writing by the National Trust.

**2. Owner's Property Insurance**. The Builder's Risk coverage required by the Contract Documents will be provided through the Owner's existing property insurance on the property as issued by the Chubb Group with a $5,000 deductible. If requested, the Owner will furnish the Contractor with a certificate indicating that such insurance is in effect.

**3. Historic Property Requirements.**

**A.** The Shadows-on-the-Teche is a National Trust Historic Site, owned by the National Trust for Historic Preservation, and is listed on the National Register of Historic Places as a National Historic Landmark.

**B.** This project at Shadows-on-the-Teche has been designed in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (revised 1995), and must be completed consistent with the design. All work must conform to the *Secretary of the Interior's Standards for the Treatment of Historic Properties* as well as all applicable codes and regulations governing the work.

**C.** The Contractor shall recognize that all aspects and elements of the property may potentially contribute to its historic significance and that the Contractor shall not be the judge of the relative significance of any feature. That judgment is entirely the responsibility of the National Trust. Consequently, no element of Shadows-on-the-Teche shall be altered,

removed, reused or taken from the premises without the prior written approval of the National Trust or the Project Architect as being consistent with the requirements of the Construction Documents and contract.

**4.** **Special Requirements**. Because Shadows-on-the-Teche is a National Trust Historic Site, there are certain expectations and requirements which the Contractor will be expected to honor at no additional cost, as follows:

**A.** All project managers, supervisors, superintendents, or foremen (plus any interested workers) of each contractor and subcontractor must attend the regular tour of the site (no charge) prior to commencement of the work.

**B.** During the course of the work, the National Trust may explain the ongoing preservation and rehabilitation activity to visitors. Limited Contractor cooperation in this process is expected.

**C.** All on-site personnel are expected to conduct their operations in a professional manner and to be courteous and polite to all visitors.

**D.** The Contractor's and subcontractors' principals and partners who perform preservation work at the National Trust Historic Site should have some familiarity with the mission and programs of the National Trust. Active membership in the organization is desirable, and complimentary six month memberships will be provided to those who are not current members. In addition, individual and corporate memberships can be purchased at Shadows-on-the-Teche.

**5.** **Site and Project Constraints**.

**A.** The Contractor will work in close communication with the Graham Gund Architect of the National Trust. The Graham Gund Architect of the National Trust must review and approve:

**i.** Design Development and Construction Documents,
**ii.** Estimates of Construction Cost,
**iii.** Applications for Payment submitted by contractors,
**iv.** Change Orders and Construction Change Directives, and
**v.** Punch lists and Certificate of Substantial Completion.

**B.** The day-to-day operations of the Contractor will be scheduled and coordinated with the Director of Shadows-on-the-Teche, whose office is at the site.

**C.** The use of cranes, lifts, scaffolding, rigging or any material handling equipment including dollies and hand trucks must be approved in advance by the Director of Shadows-on-the-Teche.

**D.** The work involved in this project may be proceeding concurrently with work being done by other consultants and contractors at Shadows-on-the-Teche. The Contractor will be expected to coordinate its work at the property with that of other consultants and contractors who may be working on-site at the same time. The National Trust expects to keep Shadows-on-the-Teche available for public tours and special events while the work is in progress. All on-site contractors, sub-contractors and consultants are expected to coordinate their activities and to make allowances for occasional on-going educational and fund-raising needs at the property.

**E.** Any area that may need to be tested by an archeologist will be determined by the Architect in consultation with the Senior Archeologist of the National Trust. Any excavation and/or trenching work in the ground and any subsurface or destructive testing of architectural surfaces, or removal of building materials for research must be reviewed by and coordinated with the Senior Archaeologist and the Graham Gund Architect of the National Trust.

**F.** The protection of the property at Shadows-on-the-Teche is an explicit requirement of all on-site activities during construction. The Contractor shall be responsible for any/all damage to existing conditions and shall notify National Trust staff members of any instance when protection or additional protection is required. The Contractor, its employees, subcontractors and suppliers will provide any and all materials, labor, equipment, etc., necessary to protect the grounds, landscaping, buildings, and fixtures on the property from damage or destruction. The Contractor will also be responsible for the removal and disposal of all protective materials upon the completion of the Work.

**G.** The project has not been tested for the presence of lead paint. However, given the age of the painted components it is reasonable to assume that it exists. The Contractor is responsible for complying with all applicable codes and regulatory requirements for working with lead painted surfaces and the disposal of lead paint encountered on the project.

**H.** The process of soliciting bids and awarding construction contracts to be entered into by the National Trust and expected to cost more than $100,000.00 will be administered by the Contracts Office at National Trust Headquarters in Washington D.C.

**I.** The Director at Shadows-on-the-Teche may sign contracts on behalf of the Owner for work valued at less than $10,000.00. The only officers authorized to sign contracts valued at $10,000.00 or more are located at National Trust Headquarters in Washington, DC.

**J.** Invoices and Applications for Payment for all contractors must be processed through the Office of Finance at National Trust Headquarters where all checks will be generated and all accounting records will be maintained.

**K.** All insurance certificates, lien releases, affidavits and warranties required of contractors and their subcontractors shall be forwarded to the National Trust Contracts Office for record purposes.

**L.** All Change Orders, Construction Change Directives and Certificates of Substantial Completion shall be forwarded to the National Trust Contracts Office for signature by the appropriate National Trust officer.

**M.** For contracts valued at $100,000 or more, Performance bonds and Labor and Materials Payments bonds equivalent to one hundred percent (100%) of the contract sum will be required.

**6.** **Examination of Records**. The Contractor agrees that the National Trust or any of its duly authorized representatives, will have access to and the right to examine any books, documents, papers and records of the Contractor involving transactions related to this Agreement for the purpose of audit or making excerpts and transcriptions. The Contractor will maintain auditable records for three (3) years following the completion of the Agreement.

**7.** **Prohibition on Lobbying**. Nothing contained in this Agreement shall be interpreted or construed as:

**A.** authorizing the Contractor to provide any service or to produce or distribute any advertisement, telegram, telephone call, letter, printed or written communication, or other device intended or designed to influence in any manner a member of Congress, to favor or oppose, by vote or otherwise, any legislation or appropriation by Congress; or

**B.** obligating the National Trust to pay any compensation to the Contractor or to reimburse the Contractor for any expenses incurred in providing any service or producing or distributing any advertisement, telegram, telephone call, letter, printed or written communication, or other device intended or designed to influence in any manner a member of Congress, to favor or oppose, by vote or otherwise, any legislation or appropriation by Congress.

**8.** **Equal Opportunity**. The parties agree that they will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, national origin or sexual orientation. The parties further agree to take affirmative action to assure that applicants are employed and that employees are treated during their employment without regard to their race, color, religion, sex, age, national origin or sexual orientation. The obligations of this Section will also extend to disabled veterans, Vietnam era veterans and handicapped persons. The parties further agree that they will comply with all applicable provisions of Executive Order 11246, entitled "Equal Employment Opportunity", as amended by Executive Order 11375 and as supplemented by Department of Labor regulations (41 CFR Part 60).

NATIONAL TRUST FOR HISTORIC PRESERVATION®

**IFB #2009-08**
**October 2, 2009**

# INVITATION FOR BIDS
# for
# CONSTRUCTION SERVICES
# at
# VILLA FINALE

**1. INTRODUCTION**. The National Trust for Historic Preservation ("NTHP") is soliciting qualification statements and competitive bids from firms qualified to perform interior and exterior restoration of the Main House, Carriage House, Director's House, Landscape and Gardens, including a comprehensive restoration of windows and doors.

**2. BACKGROUND AND PURPOSES.**

**A.** The National Trust for Historic Preservation is a non-profit membership organization bringing people together to protect, enhance and enjoy the places that matter to them. By saving the places where great moments from history – and the important moments of everyday life – took place, the National Trust for Historic Preservation helps revitalize neighborhoods and communities, spark economic development and promote environmental sustainability. With headquarters in Washington, DC, 9 regional and field offices, 29 historic sites, and partner organizations in all 50 states, the National Trust for Historic Preservation provides leadership, education, advocacy and resources to a national network of people, organizations and local communities committed to saving places, connecting us to our history and collectively shaping the future of America's stories. For more information visit www.PreservationNation.org

**B.** Villa Finale, originally built in 1876, was restored in the late 1960s by preservation visionary Walter Mathis, who lived in the home until his death in 2005. The preservation of Villa Finale led the way for the revitalization of the beautiful and stately King William neighborhood, a National Historic District. Today, Villa Finale houses the extraordinary collection of Mr. Mathis, which includes Napoleonic materials; art and furniture from Texas artists; and American and European decorative arts. Mr. Mathis bequeathed Villa Finale to the National Trust, and the National Trust has opened the site to public visitation as of July 2009.

**C.** The buildings at 401 King William, known as "Villa Finale", and 414 King William, are within a local historic district. 401 King William is a Recorded Texas

1785 Massachusetts Avenue, NW Washington, DC 20036
P 202.588-6000 F 202.588.6038 TTY 202.588.6200 E info@nthp.org WWW.PRESERVATIONNATION.ORG

Landmark. Proposed work will be reviewed by the Historic and Design Review Commission, in accordance with local regulations. The Main House and the Carriage House are also located in the City of San Antonio Historic District that is designated as a National Historic District.

**D.** The Main House and the Carriage House do not bear local historic, National Register or National Landmark status. However, they are considered architecturally significant and contributing to a City of San Antonio Historic District. In keeping with its mission, the National Trust seeks to treat the grounds and structures at Villa Finale in keeping with prevailing standards applicable to historic structures, including but not limited to emphasis on the conservation of original materials and compliance with architectural and design standards currently or as may be established by entities such as the City of San Antonio Historic District and the U.S. Secretary of the Interior, as set out herein.

**E.** The National Trust is seeking firms qualified to provide construction services for the completion of the project in this IFB, as follows:

a. **Comprehensive General Contractor.** The NTHP will consider bids for the entire scope of work listed in **Section 7 (A)-(I)** to be administered by a **single general contractor**; **OR**
b. **General Contractor + Specialist.** The NTHP will consider combined bids for the scope of work listed in **Section 7 (A) – (I)(a)** to be performed by a general contractor **AND** contractor specializing in the preservation of wood doors and windows for **Section 7 (I)(b)** as an approved subcontractor. **However, firms coordinating to submit a combined bid must each independently meet each of the contract and bid requirements set out in this IFB as they pertain to the services provided.**

**3.** **PROJECT ARCHITECT.** **There are two Project Architects for this IFB.** Fisher Heck Architects will act as Project Architect with regard to the scope of work and all deliverables for this Project as set out in Sections 7(A)-(I)(a), excluding windows and doors. The point of contact for Fisher Heck Architects is listed below in Section 14(A). Main Street Architects will act as Project Architect for the scope of work and all deliverables for Section 7(I)(b), pertaining to windows and doors. The point of contact for Main Street Architects is listed below in Section 14(B).

**4.** **DEADLINE FOR SUBMISSIONS.** Bids submitted in response to this Invitation for Bids ("IFB") will be accepted by the NTHP at its Headquarters Building in Washington D.C. until **3:00 p.m. on October 27, 2009** at which time all bids will be opened and recorded. Please see Section 10(D) regarding fax submissions. There will be no public opening of bids.

**5. PRE-CONTRACT REQUIREMENTS:** The following requirements for bid submission under this IFB are in addition to the Instructions for Submission of Qualifications Statements and Bids set out at Section 10 herein:

**A. PICK UP DRAWINGS AND SPECIFICATIONS.** One set of construction documents, including drawings and the Project Manual, which includes specifications, may be picked up by each interested contractor on Monday, October 5, 2009 at Villa Finale Visitor's Center at 122 Madison Street. A deposit of Seventy Five Dollars ($75.00), in the form of a check made out to **"Fisher Heck Architects"** will be required. An additional deposit of Seventy Five Dollars ($75.00), in the form of a check made out to **"Main Street Architects"** will be required. Your deposits will be refunded if the set is returned to the respective Architect in good condition within ten (10) days following the bid opening.

**B. ATTEND PRE-BID MEETING**. There will be a mandatory pre-bid meeting and site visit for prospective bidders at Villa Finale at 11:00 am on October 8, 2009. The purpose of this meeting will be to familiarize prospective bidders with the site and the scope of work. During this conference special procedures for work at a NTHP Historic Site will be introduced and explained. These procedures include compliance with site rules, fire safety, disaster response and mitigation, selective removals, disassembly and storage protocol for architectural elements. Attendance or representation at the pre-bid meeting is mandatory for contractors who plan to submit bids.

**C. SUBMIT BID BONDS WITH YOUR BID.** Bidders must submit a bid bond, certified check or other negotiable instrument as assurance that, if your bid is accepted by the NTHP, you will execute such contractual documents as may be required. Bid security is required in an amount equal to five percent (5%) of the bid amount.

**D. CHECK FOR UPDATES.** This IFB may be downloaded from the National Trust's website at http://www.preservationnation.org/resources/career-opportunities/requests-for-proposals/current-rfp-listings.html. Firms interested in submitting proposals in response to this IFB should download the IFB from the website in order to receive updates via email. **Any firm submitting a proposal in response to this IFB is solely responsible for obtaining complete information from the responsible Project Architect and for providing the NTHP any and all information and documentation as may be needed to generate a comprehensive proposal.**

**6. CRITERIA FOR CONTRACT AWARD.**

**A.** In evaluating the bids received in response to this IFB, the NTHP will consider the following factors:

**a.** price;
**b.** experience of the contractor in working with comparable projects at historic properties;
**c.** responses received from references; and

**d.** ability to complete the project within the time frame established.

**B.** The NTHP reserves the right, in the exercise of its discretion:

**a. to accept bids submitted in response to this IFB in whole or in part;**
**b.** to hold all bids for a period not to exceed sixty (60) days from the bid opening in order to review prices and qualifications;
**c.** to reject all bids received;
**d.** to accept bids without further discussion or negotiation;
**e.** to reject any individual bid due to defects, irregularities or provisions inconsistent with this IFB;
**f.** to waive any defect or irregularity in any bid and to accept it when it is otherwise proper and reasonable to do so; and
**g.** to negotiate directly with respondents for other terms, prices and conditions deemed proper and reasonable for the completion of the project or to protect the interests of the NTHP.

**7.** **SCOPE OF WORK.** The NTHP is soliciting proposals for a firm to provide the services, materials, equipment, facilities and personnel required to provide the following services:

**A.** Implementation of storm water management plans, to include mitigation of storm water under the Main House foundations, into the Main House and diversion of storm water away from the Main House;
**B.** Implementation of storm water management plans, to include mitigation of storm water management under the carport;
**C.** Phased restoration for exterior stone, stucco, and brick, including the foundations;
**D.** ADA accessibility upgrades at the first level of the Main House, the entrance of the Carriage House and at the rest room at the Carriage House;
**E.** Interior restoration of the first floor kitchen, central hall stair, and second floor;
**F.** Painting the Library ceiling;
**G.** Fence and wall restoration and stabilization, to include wrought iron gate;
**H.** Landscape and Garden Restoration to include the Front Yard and the Formal Garden;
**I.** Exterior restoration is managed by two different architects and different documents, as follows:
**a.** Exterior wood restoration, excluding windows and doors will be managed by Fisher Heck Architects; and
**b.** Exterior restoration of windows and doors will be managed by Main Street Architects.

8. **Project Constraints.**

**A.** Exhibit C and the specifications contain additional site and project constraints including General Requirements, Historic Property Requirements and Special Requirements. **Please read Exhibit C, Supplemental Terms and Conditions, carefully. Any objection to the contract terms must be noted expressly in the Agreement awarded under this IFB.**

**B.** The day-to-day operations of the Contractor will be scheduled and coordinated with Christopher Roddy, Buildings & Grounds Manager who will act as the NTHP's Project Manager. **Please take note of the documents at Exhibit D, Construction and Contracts Checklists. These documents reflect the required reviews and approvals for completion of the project. Be advised that final payment will not be released unless and until all Checklist items have been completed to the satisfaction of the National Trust. The Project Manager shall retain master copies of the Checklists, and coordinate and confirm completion of all required reviews and document submissions.**

**C.** The consultant team will work in close communication with **Barbara A. Campagna**, FAIA, LEED AP, Graham Gund Architect of the National Trust, who will be responsible for final approval of all requests for payments, change orders, construction change directives, and Certificates of Substantial Completion.

**D.** The Architect of Record as reflected in Section 14 will be responsible for performing administration of the Contract for Construction. Their duties and responsibilities are as described in AIA Document A201-2007 General Conditions of the Contract for Construction, and the project specifications.

**E.** **Procedures.** Please see specifications for special procedures on demolitions, selective removals, and disassembly that will be required on this project.

**F.** **Fire Safety.** Please see specifications for special procedures on fire safety that will be required on this project.

9. **CONTRACT CONDITIONS:**

**A.** **FUNDING.** Financial support for the NTHP is provided through membership dues, endowment funds and contributions from private members and donors. It also receives grants from agencies of state and federal government. The funding required for the contract covered by this IFB will be provided entirely from private sources. No governmental funding will be used, but terms may be included in the agreement to allow for such funding to be applied to the project.

## B. EQUAL OPPORTUNITY

**a.** The NTHP is an equal opportunity employer. It maintains an Affirmative Action Plan as required by Executive Order 11246, as amended, and by the applicable implementing regulations issued by the Secretary of Labor (41 CFR 60-1). The firm selected for this contract will be expected to maintain similar policies and plans, and to comply with all applicable notice, reporting, and compliance requirements, to the extent that they are required by the Executive Order and the implementing regulations.

**b.** The NTHP is committed to a policy of encouraging and promoting greater economic opportunities for minority and women-owned business enterprises and for small businesses. Small businesses and firms owned by minority interests and by women are encouraged to respond to this IFB. Prospective contractors are encouraged to include small and minority and women-owned businesses as subcontractors and suppliers.

## C. QUALIFICATIONS.

**a.** The contractor selected for this project, and its sub-contractors and principal building trades personnel must have significant recent experience working on similar projects involving historic buildings.

**b.** The contractor must comply with all provisions of Texas law pertaining to licensing.

## 10. INSTRUCTIONS FOR SUBMISSION OF QUALIFICATION STATEMENTS AND BIDS.

**A.** Firms submitting a qualifications statement and bids in response to this IFB must provide the following:

**a.** a **Bidder Qualification Statement** (AIA Document A-305 or comparable format) with information on the firm's prior experience on comparable projects. Your response should emphasize your prior experience working on historic buildings in general and National Register/National Historic Landmark buildings in particular. It should provide similar background information on your principal sub-contractors. It should also list the qualifications and prior experience of your project superintendent/manager and the following building trades personnel:

**a.** carpenters,
**b.** masons,
**c.** roofers,

**d.** painters,
**e.** electricians,
**f.** plumbers and
**g.** any other personnel performing preservation functions.

**b.** a Certification Regarding Debarment and Suspension **(Exhibit B**).

**c.** the **Bid Form** (Please see our sample Bid Form at Exhibit A; a detailed bid form will be made available at the walk through).

**d.** a **Bid Bond** or certified check or other negotiable instrument, as described above.

**e.** the following information:

**a.** the name, address and telephone numbers of references who may be contacted concerning the work done on projects completed within the past five years.
**b.** a time line for completion of the work;
**c.** a description of the legal status of the entity submitting the qualifications, i.e. sole proprietorship, partnership, limited liability company, joint venture or corporation, and state of residency or incorporation; and
**d.** the name, address and position of persons within the firm who are authorized to execute contracts on its behalf.

**f.** Firms which do **not** attend the pre-bid meeting must also include the following information in their qualification statements:

**a.** a description of their prior familiarity with the site conditions; and
**b.** a description of their understanding of the scope of work.

**B.** Your bid must include a separate Add/Alternate price representing the cost to the NTHP of a **Performance Bond and Labor and Materials Bond**, each in the amount of your bid. The firm selected for this project will be required to secure and submit such bonds prior to the start of the work. Each bond must be underwritten by a surety company licensed and authorized to engage in such business in Villa Finale and must be countersigned by an authorized agent of such surety who is a resident of Texas. When requesting the Performance Bond from your surety company, you must notify them that the NTHP will require the following change to AIA A312, paragraph 4.2:

> "Undertake to perform and complete the Construction Contract itself, through its agents, or through independent contractors; *provided that the Owner and the Architect have*

*been given an opportunity to review the qualifications of the agents or contractors proposed and have consented to the use of such agents or contractors to complete the work.*"

**C.** Your bid should be addressed to the attention of:

Diana Maxwell, Contracts Office
National Trust for Historic Preservation
1785 Massachusetts Avenue, N.W.
Washington, D.C. 20036
Attn: IFB #2009-08

**D.** Alternatively, you may fax your **bid** only to Diana Maxwell at 202-588-6059 by the deadline given above. Faxed bids must include all pages of the bid form and a copy of the bid bond or other assurance. Signed original versions of the bid form, the original bid bond or assurance, and qualifications must be delivered to the attention of Diana Maxwell no later than 5:00pm on October 28, 2009.

**11. SELECTION PROCEDURE.** Qualification statements and bids will be evaluated by the National Trust staff and the Project Architect . This will be followed by a contract award.

**12. CONTRACT AWARD.** It is anticipated that a contract award will be made by the NTHP within one week after the closing date and that the contractor will begin work on the project no later than **November 16, 2009.** The NTHP plans to execute a contract with the contractor selected for this project using AIA Document A101 (2007) Standard Form of Agreement Between Owner and Contractor for Construction Projects where the basis of payment is a Stipulated Sum including modifications and Supplemental Terms and Conditions.

**13. SUPPLEMENTAL TERMS AND CONDITIONS.** The contract with the firm selected for this project will be prepared by the NTHP and will include the supplemental terms and conditions contained in **Exhibit C**. These terms reflect the standard policies of the NTHP and exceptions may be considered only in limited circumstances. Firms unwilling to agree to these terms must note any objection in their bids.

**14. FOLLOW-UP**

**A.** Questions concerning the technical specifications as to Section 7(A)-(I)(a) and exterior wood restoration, excluding windows and doors for this project should be directed to Fisher Heck Architects.

**Fisher Heck Architects, Inc**.
915 S. St. Mary's Street
San Antonio, TX. 78205

**B.** Questions concerning the technical specification as to Section 7(I)(b), pertaining to windows and doors for this project should be directed to Main Stree Architects:

**Main Street Architects**
133 W Mistletoe Ave
San Antonio, TX 78212-4391

**C.** If you have any questions concerning NTHP contract requirements and procedures, contact:

**Diana Maxwell,** Contracts Office
E: Diana_Maxwell@nthp.org

**D.** All questions regarding the bid documents and scope of work must be submitted in writing and delivered by mail, courier, fax or e-mail to **Diana Maxwell** at the contact information provided above. Questions must be submitted no later than noon on October 13, 2009.

**Exhibit A**
**SAMPLE BID FORM FOR:**
**Villa Finale Interior and Exterior Restoration at**
**401 King William**
**San Antonio, TX 78204**

Date: _____

Owner: National Trust for Historic Preservation
1785 Massachusetts Avenue N.W.
Washington D.C. 20036

Architect of Record: **Fisher Heck Architects, Inc**.
915 S. St. Mary's Street
San Antonio, TX. 78205

**Main Street Architects**
133 W Mistletoe Ave
San Antonio, TX 78212-4391

I/We_____
_____of_____
_____the undersigned, having carefully examined the conditions affecting the work, Instructions to Bidders, the Drawings and Project Manual (including the General Conditions) prepared by Fisher Heck Architects and Planners, San Antonio, Texas do hereby offer to furnish all labor, materials, tools, equipment, plant, transportation, machinery, supplies, insurance specified and services to complete the scope of work for the Villa Finale Interior and Exterior Renovation in accordance with the Drawings and Specifications (including the General Conditions), including Addenda issued prior to date of opening of Proposals, which is / are hereby acknowledged, for the following considerations.

I. Base Bid:

For all work complete, the sum of

_____ Dollars
($_____).
Broken down as follows:

Proposal Breakdown:

| *DIV* | *DESCRIPTION* | *COSTS* |
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| | Bonds | |
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| | **GRAND TOTAL** | |

If awarded the contract, I agree that my firm will achieve substantial completion of the construction work by DATE 1, provided that the notice to proceed is issued prior to a site mobilization and start date of DATE 2. We anticipate that the work will take NUMBER (#) weeks to complete following receipt of a notice to proceed.

I agree to hold my Bid firm for a period of sixty (60) days from the date of the bid opening.

I hereby certify that I am authorized to submit this proposal on behalf of the organizati
identified on the first page of this bid form:

| Signature | Title | Date |
|---|---|---|

| Print Name | Print Title |
|---|---|

**Exhibit B**
**IFB 2009-08**

**U.S. Department of the Interior**

## Certifications Regarding Debarment, Suspension and Other Responsibility Matters, Drug-Free Workplace Requirements and Lobbying

Persons signing this form should refer to the regulations referenced below for complete instructions

Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions - The prospective primary participant further agrees by submitting this proposal that it will include the clause titled, "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions. See below for language to be used or use this form for certification and sign. (See Appendix A of Subpart D of 43 CFR Part 12.)

Certification Regarding Debarment, Suspension, Ineli and Voluntary Exclusion- Lower Tier Covered Transacti (See Appendix B of Subpart D of 43 CFR Part 12.)

Certification Regarding Drug-Free Workplace Requireme Alternate I. (Grantees Other Than Individuals) and Alt II. (Grantees Who are Individuals) - (See Appendix Subpart D of 43 CFR Part 12)

Signature on this form provides for compliance certification requirements under 43 CFR Parts 12 an The certifications shall be treated as a m representation of fact upon which reliance will be when the Department of the Interior determines to the covered transaction, grant, cooperative agreeme loan.

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**PART A: Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions**

---

*CHECK _____IF THIS CERTIFICATION IS FOR A PRIMARY COVERED TRANSACTION AND IS APPLICABLE*

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily exclud and Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment re against them for commission of fraud or a criminal offense in connection with obtaining, attempting to or performing a public (Federal, State or local) transaction or contract under a public transaction; violat Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsificati destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transa (Federal, State or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, prospective participant shall attach an explanation to this proposal.

---

**PART B: Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions**

---

*CHECK x IF THIS CERTIFICATION IS FOR A LOWER TIER COVERED TRANSACTION AND IS APPLICABLE.*

(1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is pre

debarred suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation i transaction by any Federal department or agency.

(2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, prospective participant shall attach an explanation to this proposal.

DI-2010 June 1995 (This form replaces DI-1953, DI-1954, DI-1955, DI-1956 and DI-1963)

**PART C: Certification Regarding Drug-Free Workplace Requirements**

*CHECK x IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS NOT AN INDIVIDUAL.*

Alternate I. (Grantees Other Than Individuals)

A. The grantee certifies that it will or continue to provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possessi or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will taken against employees for violation of such prohibition;

(b) Establishing an ongoing drug-free awareness program to inform employees about --
  (1) The dangers of drug abuse in the workplace;
  (2) The grantee's policy of maintaining a drug-free workplace;
  (3) Any available drug counseling, rehabilitation, and employee assistance programs; and
  (4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a):

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will --
  (1) Abide by the terms of the statement; and
  (2) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;

(e) Notifying the agency in writing, within ten calendar days after receiving notice under subparagraph (d)(2) fr an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees m provide notice, including position title, to every grant officer on whose grant activity the convicted employee w working, unless the Federal agency has designated a central point for the receipt of such notices. Notice sh include the identification number(s) of each affected grant;

(f) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(d), w respect to any employee who is so convicted --
  (1) Taking appropriate personnel action against such an employee, up to and including terminati consistent with the requirements of the Rehabilitation Act of 1973, as amended;
  (2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitati program approved for such purposes by a Federal, State, or local health, law enforcement, or oth appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e) and (f).

B. The grantee may insert in the space provided below the site(s for the performance of work done in connection with the specific grant:

Place of Performance (Street address, city, county, state, zip code)

Check _____ if there are workplaces on file that are not identified here.

**PART D: Certification Regarding Drug-Free Workplace Requirements**

*CHECK _____ IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS AN INDIVIDUAL.*

Alternate II. (Grantees Who Are Individuals)

(a) The grantee certifies that, as a condition of the grant, he or she will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant;

(b) If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, he or she will report the conviction, in writing, within 10 calendar days of the conviction, to the grant officer or other designee, unless the Federal agency designates a central point for the receipt of such notices. When notice made to such a central point, it shall include the identification number(s) of each affected grant.

DI-2010
June 1995
(This form replaces DI-1953, DI-

1954

DI-1955, DI-1956 and DI-1963)

**PART E: Certification Regarding Lobbying**
**Certification for Contracts, Grants, Loans, and Cooperative Agreements**

*CHECK _____IF CERTIFICATION IS FOR THE AWARD OF ANY OF THE FOLLOWING AND THE AMOUNT EXCEEDS $100,000: A FEDERAL GRANT OR COOPERATIVE AGREEMENT; SUBCONTRACT, OR SUBGRANT UNDER THE GRANT OR COOPERATIVE AGREEMENT.*

*CHECK _____IF CERTIFICATION IS FOR THE AWARD OF A FEDERAL LOAN EXCEEDING THE AMOUNT OF $150,000, OR A SUBGRANT OR SUBCONTRACT EXCEEDING $100,000, UNDER THE LOAN.*

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying" in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

As the authorized certifying official, I hereby certify that the above specified certifications are true.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL

TYPED NAME AND TITLE

DATE

DI-2010
June 1995
(This form replaces DI-1953, DI-

DI-1955, DI-1956 and DI-1963)

1954

Exhibit C
IFB 2009-08

## SUPPLEMENTAL TERMS AND CONDITIONS TO AGREEMENT FOR CONSTRUCTION

The contract awarded under this IFB will include Supplemental Terms and Conditions, including but not limited to the following:

**1.** Historic Property Requirements.

**A.** Villa Finale a National Trust Historic Site, owned by the National Trust for Historic Preservation.

**B.** This project has been designed in compliance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (revised 1995), and must be completed consistent with the design.

**C.** The contractor shall recognize that all aspects and elements of the property may potentially contribute to its historic significance and that the contractor shall not be the judge of the relative significance of any feature. That judgment is entirely the responsibility of the National Trust. Consequently, no element of the site shall be altered, removed, reused or taken from the premises without the prior written approval of the National Trust or the Project Architect as being consistent with the requirements of the Construction Documents and contract.

**2.** Special Requirements. Because Villa Finale is a National Trust Historic Site, there are certain expectations and requirements which the Contractor will be expected to honor at no additional cost, as follows:

**A.** All project managers, supervisors, superintendents, or foremen (plus any interested workers) of each contractor and subcontractor must attend the regular tour of the site (no charge) prior to commencement of the work.

**B.** During the course of the work, the National Trust may explain the ongoing preservation and rehabilitation activity to visitors. Limited contractor cooperation in this process is expected.

**C.** All on-site personnel are expected to conduct their operations in a professional manner and to be courteous and polite to all visitors.

**D.** The contractor's and subcontractors' principals and partners who perform preservation work at the National Trust Historic Site should have some familiarity with the mission and programs of the National Trust. Active membership in the organization is desirable, and complimentary six month memberships will be provided to those who are not current members. In addition, individual and corporate memberships can be purchased at Villa Finale.

3. Site and Project Constraints.

**A.** The contractor will work in close communication with the Graham Gund Architect of the National Trust. The Graham Gund Architect must review and approve:

- **i.** Design Development and Construction Documents,
- **ii.** Estimates of Construction Cost,
- **iii.** Applications for Payment submitted by contractors,
- **iv.** Change Orders and Construction Change Directives, and
- **v.** Punch lists and certificate of substantial completion.

**B.** The day-to-day operations of the contractor will be scheduled and coordinated with Christopher Roddy, Buildings and Grounds Manager, whose office is at 401 King William.

**C.** The use of cranes, lifts, scaffolding, rigging or any material handling equipment including dollies and hand trucks must be approved in advance by the Director of Villa Finale.

**D.** The work involved in this project may be proceeding concurrently with work being done by other consultants and contractors at Villa Finale. The contractor will be expected to coordinate its work at the property with that of other consultants and contractors who may be working on-site at the same time. The National Trust expects to keep Villa Finale available for public tours and special events while the work is in progress. All on-site contractors, sub-contractors and consultants are expected to coordinate their activities and to make allowances for occasional on-going educational and fund-raising needs at the property.

**E.** Any area that may need to be tested by an archeologist will be determined by the Architect in consultation with the Senior Archeologist of the National Trust. Any excavation and/or trenching work in the ground and any subsurface or destructive testing of architectural surfaces, or removal of building materials for research must be reviewed by and coordinated with the Senior Archaeologist and Graham Gund Architect of the National Trust.

**F.** The protection of the site is an explicit requirement of all on-site activities during construction. The contractor shall be responsible for any/all damage to existing conditions and shall notify National Trust staff members of any instance when protection or additional protection is required. The contractor, its employees, subcontractors and suppliers will provide any and all materials, labor, equipment, etc., necessary to protect the grounds, landscaping, buildings, and fixtures on the property from damage or destruction. The contractor will also be responsible for the removal and disposal of all protective materials upon the completion of the Work.

**G.** Pursuant to Section 106 of the National Historic Preservation Act, the National Trust must complete the consultation process stipulated in the regulations issued by the Advisory Council for Historic Preservation in 36 CFR 800 prior to the start of construction.

**H.** The process of soliciting bids and awarding construction contracts to be entered into by the National Trust and expected to cost more than $25,000.00 will be administered by the Contracts Office at National Trust Headquarters in Washington D.C. The only officers authorized to sign contracts on behalf of the National Trust are located at National Trust Headquarters in Washington D.C.

**I.** The Director at Villa Finale may sign contracts on behalf of the Owner for work valued at less than $10,000.00. The only officers authorized to sign contracts valued at $10,000.00 or more are located at National Trust Headquarters in Washington, DC.

**J.** Invoices and Applications for Payment for all contractors must be processed through the Office of Finance at National Trust Headquarters where all checks will be generated and all accounting records will be maintained.

**K.** All insurance certificates, lien releases, affidavits and warranties required of contractors and their subcontractors shall be forwarded to the National Trust Contracts Office for record purposes.

**L.** All Change Orders, Construction Change Directives and Certificates of Substantial Completion shall be forwarded to the National Trust Contracts Office for signature by the appropriate National Trust officer.

**4.** Conflict of Interest

**A.** No officer or employee of the National Trust and no member of its Board of Trustees may participate in any decision on behalf of the National Trust relating to this Agreement which affects his/her personal interest or the interest of any corporation, partnership, or association in which he/she is, directly or indirectly, interested; nor may any such officer or employee of the National Trust, or any member of its Board of Trustees have any interest, direct or indirect, in this Agreement or the proceeds thereof.

**B.** Should either party discover such a conflict of interest, either apparent or actual, during the Term of this Agreement, the party shall promptly inform the National Trust Contracts Office.

**5.** Contractor's Insurance.

**A.** The liability insurance to be maintained by the Contractor as required by Article 11.1.1 must cover the following risks in the minimum amounts indicated, and shall be maintained in effect for five (5) years after the expiration of this Agreement regarding coverage pursuant to the "Completed Operations" clause:

| Workers' Compensation | Statutory Amount |
|---|---|
| Employers' Liability | $1,000,000 per accident<br>$1,000,000 policy limit<br>$1,000,000 per person |
| Commercial General Liability | $1,000,000 per occurrence<br>$2,000,000 aggregate<br>$1,000,000 personal & advertising injury<br>$2,000,000 products &completed operations aggregate<br>$300,000 fire legal liability<br>$10,000 medical payments |
| Motor Vehicle Liability (owned, non-owned and hired vehicles) | $1,000,000 combined single limit (bodily injury and property damage) |
| Excess Liability Umbrella Coverage | $5,000,000 limit |

**B.** The Commercial General Liability policy must include:

**i.** general aggregate on a per project basis;
**ii.** contractual liability assumed under contract;
**iii.** coverage to apply on a primary and non-contributory basis;
**iv.** additional insured coverage for "ongoing operations" (CG2010 11/85 or equivalent);
**v.** additional insured coverage for "your work" included in the Products & Completed Operations coverage (CG2037 11/85 or equivalent); and
**vi.** no construction defects exclusion.

**C.** All such policies must be written on an "occurrence" and not on a "claims made" basis.

**D.** The Contractor will provide the National Trust with a certificate indicating that such coverage is in effect and naming the National Trust as an additional insured, with a right to notice no less than thirty (30) days prior to cancellation or any material change in coverage. The Contractor shall also provide the National Trust with a copy of the Endorsement to the policy, naming it as Additional Insured.

**6.** Owner's Property Insurance. The Builder's Risk coverage required by the Contract Documents will be provided through the Owner's existing property insurance

on the property as issued by the Chubb Group with a $5,000 deductible. If requested, the Owner will furnish the Contractor with a certificate indicating that such insurance is in effect.

**7.** Amendments. This Agreement may not be altered, changed or amended except by a Change Order or Construction Change Directive executed in accordance with the provisions of Article 7 of AIA A201, General Conditions, or by a written contract amendment signed by the authorized contract officers of both parties.

## CURRENT CLIMATE MANAGEMENT PROJECTS

The National Trust for Historic Preservation launched three programs in the past three years: the Sustainability Program, the Modernism + Recent Past Program and the National Initiative on Historic Sites. The Sustainability Program is designed to promote the understanding of historic buildings as significant environmental, economic, social and cultural resources. The Modernism Program recognizes the importance and significance of cultural resources of the post-war and modern era, and aims to enhance the public's appreciation for and understanding of mid-20th Century architecture. The National Trust hopes to unite emerging popular interest in preserving the recent past with proper preservation practices through the promotion of continued use and sensitive rehabilitation of these structures. The Historic Sites Initiative was developed to assist historic sites struggling with issues of long term viability.

One of the key issues that has been impacting our historic sites is the appropriate installation and use of environmental management systems – a topic which intersects all three programs. The National Trust is not alone among cultural institutions that have discovered over the past decade that many of the new systems that we have been installing have often caused more problems than they have solved.

### Environmental Issues & Historic Sites

*Cliveden's closets used for ventilation Philadelphia, Pennsylvania*

At certain historic sites, including Cliveden, Woodrow Wilson House and Philip Johnson's Glass House, we are developing programs to address environmental issues that have been impacting our sites and our teams are making innovative suggestions for rethinking our approach to climate management systems. By understanding the inherent passive approaches of the original designs that were often based on a clear understanding of regional climate impacts, traditional design approaches can be better integrated with new green technology. In the past 10 years we have had major catastrophes at several sites where new HVAC systems or programs ended up in each case requiring complete redesign. These systems did not acknowledge the original design features of the buildings and their climates and were often too heavy handed.

### Is Less More?

Rather than start a project by asking what kind of HVAC system we want, we should be asking what kind of uses our buildings and spaces need and can support.

Do we even need HVAC systems? Should we be rethinking our programming first?

Authenticity versus Visitor Comfort, does one supersede the other?

Should we add new architectural features that never existed to change the

environment – such as shutters that were never there?

What should we do about our Collections Storage? Are attics and basements the best places to store our collection items like furniture, artwork, textiles and books?

Should we broaden the environmental guidelines adopted by curators for purpose-built museums decades ago and arbitrarily inflicted on house museums because no other specific standards for them exist? The previously agreed-upon standards (created by curators for purpose-built museums – 50% relative humidity and 70deg F) may be fine for some objects, but often end up negatively impacting building fabric by encouraging, for example, the formation of a dew point inside the walls.

How often are these new systems overdesigned?

How do we maintain complicated, experimental, and proprietary systems with limited technical staff?

Should we be using commercial grade systems when the buildings are really just houses? Maybe we should be changing behavior (of staff and visitors) rather than historic fabric.

And why have we forgotten the original design of our traditional buildings? Often if we just remind ourselves of the passive and sustainable approaches to managing our climates (such as operable windows and shutters), we may not even need to install expensive systems.

Understand the complete picture of your site before you automatically assume that the HVAC system is the problem. If you can move staff out of your historic house, then maybe you don't need air conditioning in the summer. If you can move your stored collections to a purpose-built space, then maybe you don't need to manage the environment in your basement and attic. Determine whether your current environment actually is negatively impacting your objects -– often if a piece of furniture has been in a house for 200 years, it has self-regulated itself and it actually doesn't need a conditioned environment. And get a grasp on your programming and space use needs. Don't make decisions based on anecdotal assumptions. When it comes to building systems, in most cases less IS more.

*Upsala - across the street from Cliveden, will be used for staff offices.*

## Cliveden
## Philadelphia, PA

At Cliveden, a National Historic Landmark Revolutionary-era site in Philadelphia, a multi-disciplinary team led by Farewell Mills Gatsch Architects prepared a "Sustainable Environmental Planning Study" which included a programming analysis, and an assessment of all of the conditions of the buildings and collections on the site to understand what impact the current environmental conditions was actually having on them. The team determined that the most sustainable and lightest impact possible on all of the buildings and collections involved relocating offices out of the museum-quality mansion, and making improvements to the building envelope by reducing air infiltration, moisture infiltration and heat loss and gain through the exterior walls.

The project has been divided into two phases. Phase 1 involved the relocation of all staff from the mansion to another building, Upsala, which is located across the street from the site. A new high-efficiency boiler was installed as well as a ventilation system with humidistat used to introduce humidity into the air when necessary. An off the shelf HVAC control system was installed which can be managed and monitored by all trained staff on-site or off-site.

Phase 2 is currently in design and includes renovating Upsala for office and program space and building a purpose-built collections storage space in Upsala.

*Installing new drainage at Cliveden as part of the environmental planning project.*

## Woodrow Wilson House
## Washington, DC

Like Cliveden, a multi-disciplinary team led by Wendy Jessup conducted a study of the current conditions at the site and developed a comprehensive set of recommendations. The goals of the study were:

To provide the highest level of stewardship for the collections and the building in the most sustainable manner possible.

Maintain site authenticity & enhance the visitor experience.

Improve physical & intellectual control over the collections.

Improve collections care.

Improve staff efficiency & working conditions.

Maintain earned-income opportunities.

Improve staff & visitor comfort.

*Conservators evaluate objects at Woodrow Wilson House.*

# Attachment H

The project methodology included: Review of previous documentation.
A year-long environmental monitoring program to understand the comportment of the building. Condition assessment of the collections by specialist conservators. Systems assessment by the preservation engineer informed by an understanding of how the building works. Collaborative identification and prioritization of objectives, goals & strategies. Stakeholder involvement in determining the way forward

Recommendations included:
Collections Environment: reduce extremes in temperature, relative humidity and daily fluctuations; reduce particulate and gaseous pollutants deposition on objects; reduce artificial and daylight intensity; and
eliminate pests.

Operations: provide sufficient funding for on-going collections-care operations
.
Fire Suppression: expand current fire protection to include suppression.

Collections Care: provide appropriate storage furniture and housings; decompress/expand storage; and provide improved display housings and mounts

Interpretation: maintain authenticity of the collections in the historic structure.

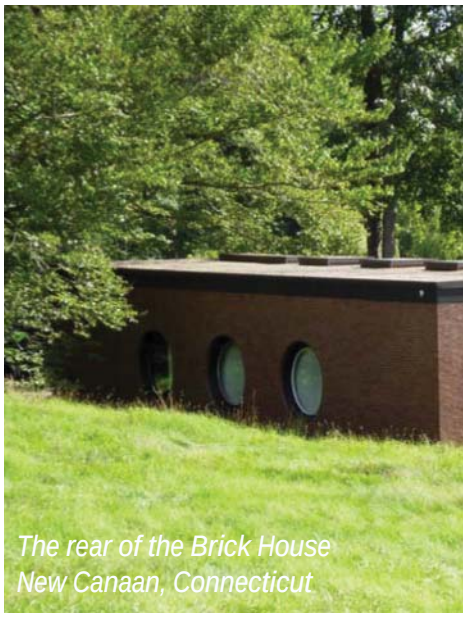
Strategies to Proceed: complete a Master Plan for facilities improvements; make incremental improvements to the collections on display and in storage. Complete a Stewardship Site Master Plan that includes overall space utilization. Determine Staff work zones. Determine visitor and exhibition space. Collection storage planning and decompression. Fire protection improvements. Replacement of the mechanical system in a targeted strategic manner that balances needs of collections and building in a realistic and achievable manner.

Currently, Archetype Architects is preparing schematic design options to re-program the building's space and identify the most sustainable environmental systems which will achieve the goals of the study.

*The workskhop between all the stakeholders to develop recommendations for Wilson House.*

*Understand the original design features in order to make the most informed design decisions at Woodrow Wilson House.*

## The Brick House at the Philip Johnson Glass House
## New Canaan, CT



*The rear of the Brick House*
*New Canaan, Connecticut*

The Brick House (aka the Guest House) was designed in conjunction with the Glass House during 1945-1948 and completed in 1949. The two buildings, situated in a bi-axial plan with landscaped courtyard, were conceived as one design - the solidity of the Brick House serving as a counterpoint to the transparency of the Glass House. The Brick House's Flemish bond façade is only interrupted with a full-height door at the west façade and three oversized round windows on the east façade (see adjacent photo). The round windows were chosen to be the least disruptive design to the continuity of the brick plane. Both buildings are 56' feet long with the Brick House only being be half as deep. The Brick House contains all the mechanical support systems below grade that serve both buildings by means of a tunnel under the central court. It has a flat roof with three skylights over the central hall.

The interior originally contained three guestrooms and bath. It was remodeled in 1953 to create one large master bedroom and a study. In the master bedroom a series of vaults were installed at the ceiling and the walls were covered in Fortuny silk. The bathroom was remodeled in the 1980s and finished with rich, veined grey marble cladding and brass fixtures.

*Brick House Library*
*New Canaan, Connecticut*

The Brick House has been closed to the public since 2008. The building has suffered from high levels of moisture due to poor site drainage, inadequate foundation waterproofing, breaches in the main roof and flashing as well as a lack of any interior mechanical ventilation system. While the exterior masonry envelope is in good condition, the wooden windows and main door have suffered from high levels of moisture and deferred maintenance. High levels of moisture have resulted in mold affecting the interior finishes and collections, including the Fortuny silk wall coverings, textiles, furniture, artwork and books.

This project will eliminate the sources of these problems and remove threats to the visitors, building and artifacts, and the tour experience: water infiltration will be managed, the envelope will be restored, the interior will be restored, and the artifacts will be cleaned, restored or replaced. In addition, the project will be designed as a model for the integration of historic preservation, sustainability practices and the proper integration of building systems into historic fabric. All capital improvement projects at National Trust sites are now designed to ensure that the best environmentally friendly practices possible will be followed including evaluating whether LEED certification will be a component of the project. A major goal of this project will be to balance sustainable practices with modern heritage issues – issues which are often in conflict since modern heritage buildings are typically the most energy inefficient buildings ever built.

# Attachment H

The design team, led by Li/Saltzman Architects from New York City, was chosen through a competitive bid process in which 23 bids were submitted. The project began January 2010 with construction completion scheduled to coincide with the site's reopening in April, 2011. The scope of work will include exterior and interior restoration of the building, conservation of the interior finishes and collections, and mechanical upgrades and improvements. The scope of work also includes site drainage improvements appropriate to the landscape of the site. The Glass House and Historic Sites' blogs will document the ongoing work.

*Brick House Bedroom Today*
*Carpet removed*

*Brick House Bedroom when in use*
*New Canaan, Connecticut*

# DISASTER PLAN SAMPLE - PReP Form as used by Cliveden and Cooper-Molera Adobe



Template for Pocket Response Plan for Collections **SIDE A (Communications).** Use this side to collect phone numbers for the individuals and organizations you are most likely to need to talk to in the first minutes and hours after an emergency occurs: staff, emergency responders, facility managers, utilities, vendors, and assistance organizations.

**Cliveden of the National Trust**

**Pocket Response Plan**

**Date revised: June 1, 2008**

**INSTITUTIONAL CONTACTS**

Director
Name
O: XXX-XXX-XXX xOOO / H: XXX-XXX-XXXX / C: XXX-XXX-XXXX / O: work@domain.org/ H: home@domain.org

Deputy Director

Facilities / Building Manager

Business Manager

Public Relations Officer

Building Services

Housekeeping

**INSTITUTIONAL CONTACTS** (con't)

Insurance Contact / Agent

Financial Services/Accountant

Lawyer / Board Chair

Architect

**CARETAKERS**

**BUILDING UTILTIES/GROUNDS**

Fire Sprinklers
Yourtown Fire Protection
XXX-XXX-XXXX

Fire Suppression (other)

Water – Potable

Plumber

Electricity
Utility—
Electrician—

Telephone
Carrier—
Service—

Security System

HVAC

Building repairs

Trees

Security guards

**FIRST RESPONDERS**

Fire Department
911

Emergency Medical / Ambulance

Police Department / Law Enforcement

State Emergency Mgmt. Agency

OSHA
800-321-6742

Red Cross

**FEMA**

Disaster Assistance (National)
800-621-FEMA
FEMA Regional

**EMERGENCY RECOVERY SERVICES**

American Institute for Conservation
AIC "Guide to Conservation Services"
www.aic-faic.org/guide/form.html
202-452-9545

Regional conservation center

Paintings conservator
Joe Painter
O: XXX-XXX-XXXX

Objects conservator

Environmental conservator

Freezer Storage

Commercial Recovery Service (dehumidification, freeze drying, A/V )

Data Recovery Service

Industrial Hygienist / Mold Testing Lab

Exterminator / Fumigation Service

Structural Engineer

**NATIONAL TRUST CONTACTS**

Vice President
Jim Vaughan
O: 202-588-6146 / O: jim_vaughan@nthp.com

Architect
Barbara Campagna
O: 202-588-6291 / C: 917-319-1970 / O: barbara_campagna@nthp.org

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Terri Anderson
O: 202-588-6154 / C: 571-274-9929 / O: terri_anderson@nthp.org

Information Technology Officer / IT
Bob Sellapan
O: 202-588-6091 / O: bob_sellapan@nthp.org

Legal
Tom Mayes
O: 202-588-6182 / O: tom_mayes@nthp.org

**IMPORTANT SITE PARTNERS**

**Rental Coordinator**

**Councilperson**

Print on 8 ½" x 14" paper. Trim on outside lines to $12^{1}/_{2}$" x $6^{3}/_{4}$", fold on vertical lines like an accordion, then fold in half (bringing short sides together) so that final folded document measures $2^{1}/_{8}$" x $3^{1}/_{2}$". Insert in PReP™ Tyvek® envelope for protection, available from CoSA http://www.statearchivists.org/prepare 

**SIDE B (Actions).** Use this side to provide step-by-step instructions for library and affiliated personnel who will respond to a disaster affecting your own institution. Ideally, steps should already be defined in the library disaster plan. This document is NOT intended to be a substitute for a comprehensive emergency plan. Instead, it should distill the most important tasks to be taken in the first minutes and hours after an event occurs that affects collections, especially those that occur when staff members are away from their offices.

## Immediate Response and Checklist for Collections Recovery

### IMMEDIATE RESPONSE

**Notification (as appropriate):**

- ❍ First Responders

  Ensure that all staff and visitors are safe and accounted for

  Maintain security of building and collections
- ❍ Institutional Contacts
- ❍ Building Utilities
- ❍ Activate the Disaster Plan's emergency response actions
- ❍ Activate the Disaster Team if collection damage
- ❍ Follow other Communication steps

### WATER RESPONSE

- ❍ Stop the source, remove standing water
- ❍ Cover collections with plastic sheeting
- ❍ Remove materials from water path. Move books higher on shelves or onto book trucks

### ASSESSMENT

**Ensure through proper authorities that all hazards are cleared before entering building**

- ❍ Health & safety first; protect staff
- ❍ Document with photos, videos, notes
- ❍ Assess damage to collections, building, information systems
  - ❍ What type of an emergency was it (fire, smoke, chemical, clean water, dirty water, heat, humidity)?
  - ❍ What areas are affected?
  - ❍ How much of the collection is damaged?
  - ❍ What types of materials are damaged?
  - ❍ Are critical information systems functional / safe?

### WATER RESPONSE

- ❍ Identify materials needing immediate salvage action (coated paper, leather bindings, unstable inks, film, etc.)
- ❍ Stabilize the environment (cool, dry, circulating air optimal)

### COMMUNICATION

**Establish and maintain channels of communication**

- ❍ Establish communication with appropriate local & regional emergency management
- ❍ Communicate with staff using the Phone Tree
- ❍ Contact risk manager and insurance agent
- ❍ Contact the public relations officer
- ❍ Contact CCAHA, Regional Contacts, conservators
- ❍ Contact outside Emergency Recovery Services
- ❍ Confirm funding sources for emergency services as needed
- ❍ Contact regional libraries to ensure continued services to constituents
- ❍ Report status to administration and public
- ❍ Post emergency information and instructions on the institutional website
- ❍ Obtain appropriate permissions to begin salvage (public safety, public health, structural engineer)

### WATER RESPONSE

- ❍ Quick response is essential to prevent mold growth and irreversible damage to materials
- ❍ Obtain refrigerated trucks, freezer storage

### COLLECTION SALVAGE

**Salvage collections using pre-established Collection Priorities, taking into account access & extent of damage**

- ❍ Identify and gather emergency supplies
- ❍ Identify secure, dry location for pack-out and air-drying
- ❍ Recruit staff / volunteers
- ❍ Wear appropriate safety protection
- ❍ Start collection salvage guided by Disaster Plan and collection response protocols, including Collection Priorities

### WATER RESPONSE

- ❍ Quick response is essential to prevent mold growth and irreversible damage to materials
- ❍ Organize staff / volunteers to load priority materials into freezer based on material type
- ❍ Organize staff / volunteers to air-dry materials that should not be frozen

### COLLECTION PRIORITIES

**First Priority Collections:**

Building one

Building two

**Second Priority Collections:**

### MAJOR DISASTERS: INCIDENT COMMAND SYSTEM

**ICS authority structure:**

- ❍ Incident Commander: Responsible for overall management of the incident
- ❍ Public Information Officer: Responsible for communication with media/public
- ❍ Safety Officer: Monitors safety of the incident in regards to both the facility and the responders
- ❍ Liaison Officer: Coordinates with representatives of cooperating agencies
- ❍ Planning Section Chief: Prepares Incident Action Plan (IAP) to respond to the event
- ❍ Operations Section Chief: Ensures that the IAP is enacted
- ❍ Logistics Section Chief: Responsible for all support needs to enact the IAP
- ❍ Finance/Administration Section Chief: Manages all financial aspects of the incident

Print on 8 ½" x 14" paper. Trim on outside lines to $12^{1}/_{2}$" x $6^{3}/_{4}$", fold on vertical lines like an accordion, then fold in half (bringing short sides together) so that final folded document measures $2^{1}/_{8}$" x $3^{1}/_{2}$". Insert in PReP™ Tyvek® envelope for protection, available from CoSA http://www.statearchivists.org/prepare 

Project Number # __ __ . __ __ . __ __

NATIONAL TRUST FOR HISTORIC PRESERVATION®

# PRESERVATION, DESIGN & CONSTRUCTION CHECKLIST

This Checklist identifies all of the steps for which review and approval are required by the Graham Gund Architect of the National Trust. Deliverables are also identified.

**HISTORIC SITE:** _____ **DATE:** _____

**PROJECT TITLE:** _____

**HSF FUNDING:** ❑ YES ❑ NO HSF Grant Number _____

**PROJECT TYPE:** (*check one*)

- ❑ **Corrective Maintenance** (*requiring a consultant and/or contractor*)
- ❑ **Capital Improvement/Major Construction**
- ❑ **Planning, Research & Archeology** - *Reports, plans, historic structure reports etc.*
- ❑ **New Initiative** - *New construction and exhibits*

**Checklist Instructions:** This Checklist provides the Site Staff, Consultants and Contractors a chart which identifies every step that must be reviewed by the Graham Gund Architect ("GGA") for any type of preservation consulting, engineering, architectural design, construction and major repair projects. Note that two checklists are attached—one for Pre-Construction (which includes architects, engineers, and consultants) and one for Construction (which includes builders, contractors, and construction managers.) **Please use the checklist as an internal document to ensure that all GGA approvals have been received prior to proceeding to the next step and are coordinated with other required approvals, as noted. Examples include the Contracts Office ("CO"), Administrative Director ("AD") and Business Manager ("BM").**

**REQUIRED DOCUMENTATION: The following documents are required as submittals to the GGA (both as a hard copy and digital submission)**

- ❑ Architectural/Engineering Documents
- ❑ Consultant Proposals
- ❑ Reports/Studies
- ❑ Other: _____

**PROJECT BUDGET:**

Base Contract: $ _____

Change Orders (Total): $ _____

**PROJECT TEAM:**

Historic Site Project Manager: _____ Title: _____

Consultant/Contractor Project Manager _____ _____

# Attachment J

| PHASE | Site Staff/Date | Consultant/Date | Contractor/Date |
|---|---|---|---|
| **PRE-CONSTRUCTION** | | | |
| Determination of Project Scope of Work (Coordinate review with budgetary approvals via the AD). | | | |
| Preparation of Scope of Work in draft form. Draft scope submitted to GGA for review and approval. | | | |
| Submission of approved scope to CO for draft Request for Proposals or Qualifications (RFP or RFQ), and review of same by GGA. | | | |
| Publication of RFQ or RFP by CO (allow 3 weeks). | | | |
| Bidding Walk-Thru (Usually 2 weeks after RFP is posted). | | | |
| Responses Received from RFQs or RFPs (usually 3 weeks after RFP is posted). | | | |
| Contracts with preservation Architects, Engineers, or other Consultants (please allow CO 2 weeks for processing). | | | |
| Project Kick-0ff Meeting | | | |
| Design or Construction Schedule memorialized in written form and sent to GGA, Site director, and consultants. | | | |
| Advance Notification to GGA of Important Meetings with Consultants as issues arise. | | | |
| Draft(s) of Preservation Planning Reports . | | | |
| Final Versions of Planning Reports | | | |
| Schematic Design Submission (Construction/Contract Documents). | | | |
| Design Development Submission (Construction/Contract Documents). | | | |
| Final Construction Documents Submission (Construction/Contract Documents). | | | |

| PHASE | Site Staff/Date | Consultant/Date | Contractor/Date |
|---|---|---|---|
| BIDDING & CONSTRUCTION | | | |
| Invitation for Bid (IFB) drafted, approved and published by GGA and CO, per above. | | | |
| Contractor Bid Walk Thru (usually 2 weeks after RFP posting). | | | |
| Contractor Bid Proposals (usually 3 weeks after IFB posting). | | | |
| Contractor Bids Evaluation | | | |
| Contractor Contracts (allow 2 weeks for processing). | | | |
| Construction Project Kick-Off/Schedule. | | | |
| Advance Notification of Job Meetings to GGA (and other important gatherings) as issues arise. | | | |
| Any Items Prepared and Submitted by the Consulting Architect or Engineer. | | | |
| Job List (with names and numbers of all concerned parties) | | | |
| Job Meeting Minutes and Field Reports. | | | |
| Construction Sketches and Field Orders . | | | |
| Construction Change Orders submitted to GGA and CO in draft form prior to approval and signature by NTHP HQ. | | | |
| Punch List (please cc to CO) | | | |

# Attachment J

| PHASE cont. | Site Staff/Date | Consultant/Date | Contractor/Date |
|---|---|---|---|
| Substantial and Final Completion Certificates forwarded to GGA and CO in draft form prior to approval and signature of same. ***Final payments will not be issued until this step is completed to the satisfaction of the GGA and the CO and this final Checklist is submitted. | | | |
| POST-CONSTRUCTION | | | |
| Completion Report to include description of completed work and photographs. | | | |
| Updated section of Maintenance Manual. | | | |
| Copy of As-Built Drawings (keep 1 set properly stored at site). | | | |

# THE DOs AND DON'Ts of BIDDING

*Bank Barn at Woodlawn*
*Alexandria, Virginia*

One of the primary goals of bidding is to ensure that there is a level playing field for all potential bidders. It is important that all bidders be given the same information. Sharing some information with some of the bidders can open up you up to legal action, and will not give you the best, most informed pool of potential bidders.

## DO

- Contact potential bidders when bid set is ready to be issued and encourage them to participate.
- Prepare a list of potential bidders and send them an eblast informing them that the project is open for bidding.
- Distribute information equally to all bidders.
- Have a mandatory pre-bid conference where the potential bidders can all be shown the site at the same time. This keeps the playing field level but also ensures that you or your staff are not burdened with many tours.
- Respond to questions in writing for maximum clarity and distribute to all bidders.
- Allow potential bidders to come to the site only if you can spare the time of your staff. Have a staff person who is NOT familiar with the project just act as a guide to show them the project site.
- Inform your staff that they cannot share any information regarding the bidding process or bidders to other bidders.
- Check references.

*The Studio at Chesterwood*
*Stockbridge, Massachusetts*

## DON'T

- Give unique information to less than 100% of all interested bidders.
- Give individual site tours to any of the potential bidders.
- Send information to one bidder on request. It must be sent to all bidders (Example - someone calls and asks for a copy of a Master Plan mentioned in the RFP. If it is determined that the information will be shared, it must be sent to all potential bidders.)
- Answer casual questions that may affect the bid price, unless all bidders are present to hear the answer. (Example - a potential bidder contacts you and asks you if the project schedule can be extended. Inform the bidder that the answer for that question will be included in a list of questions/answers that will be sent to all potential bidders.)

## Attachment K

# THE DOs AND DON'Ts of BIDDING

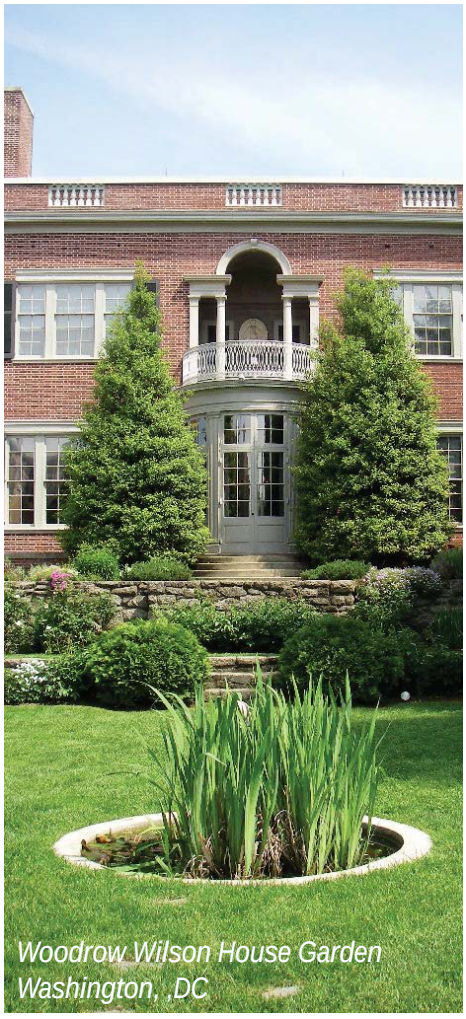
## ONCE BIDS HAVE BEEN RECEIVED AND BEFORE A CONSULTANT/CONTRACTOR HAS BEEN SELECTED

### DO

- Prepare a summary chart comparing the bidders.
- Select a short list of bidders who meet your qualifications.
- Interview every bidder on the short list in the same manner (for example, prepare a list of general questions to ask each bidder, followed by specific questions tailored to their proposal.) .
- Review the bids with your design team for construction projects if your contract allows it. (But you do NOT need to take their recommendations.)
- Conduct interviews over the phone or in person in which every bidder is given the same information and the same agenda (For example, conduct 30 minute interviews with each bidder, no more, no less.)
- Lead and conduct all contract negotiations. Design consultants may be present at negotiations and interviews at your pleasure, but are not required.
- Make it clear to your design team that contract interviews and negotiations are only to be conducted by the owner.
- Provide debriefing information to non-selected bidders AFTER the selection has been made.
- Refer any questions you have to the Graham Gund Architect and Contracts Administrator.
- Err on the side of caution.

### DON'T

- Allow the design team to meet with a contractor or vendor without you present.
- Share budgets with the bidders.
- Share information about other bidders with potential bidders.
- Tell bidders where their proposed fee fell within the other bidders' fees until after a selection has been made.
- Be concerned if you do not know how to answer a question. It is perfectly acceptable to tell a bidder that you will get back to them with the response.
- Allow a bidder to intimidate you. Refer any bidder who makes you uncomfortable to the Graham Gund Architect and Contracts Administrator.
- Accept gifts or meals from any bidder during the bidding process.



*Woodrow Wilson House Garden*
*Washington, ,DC*

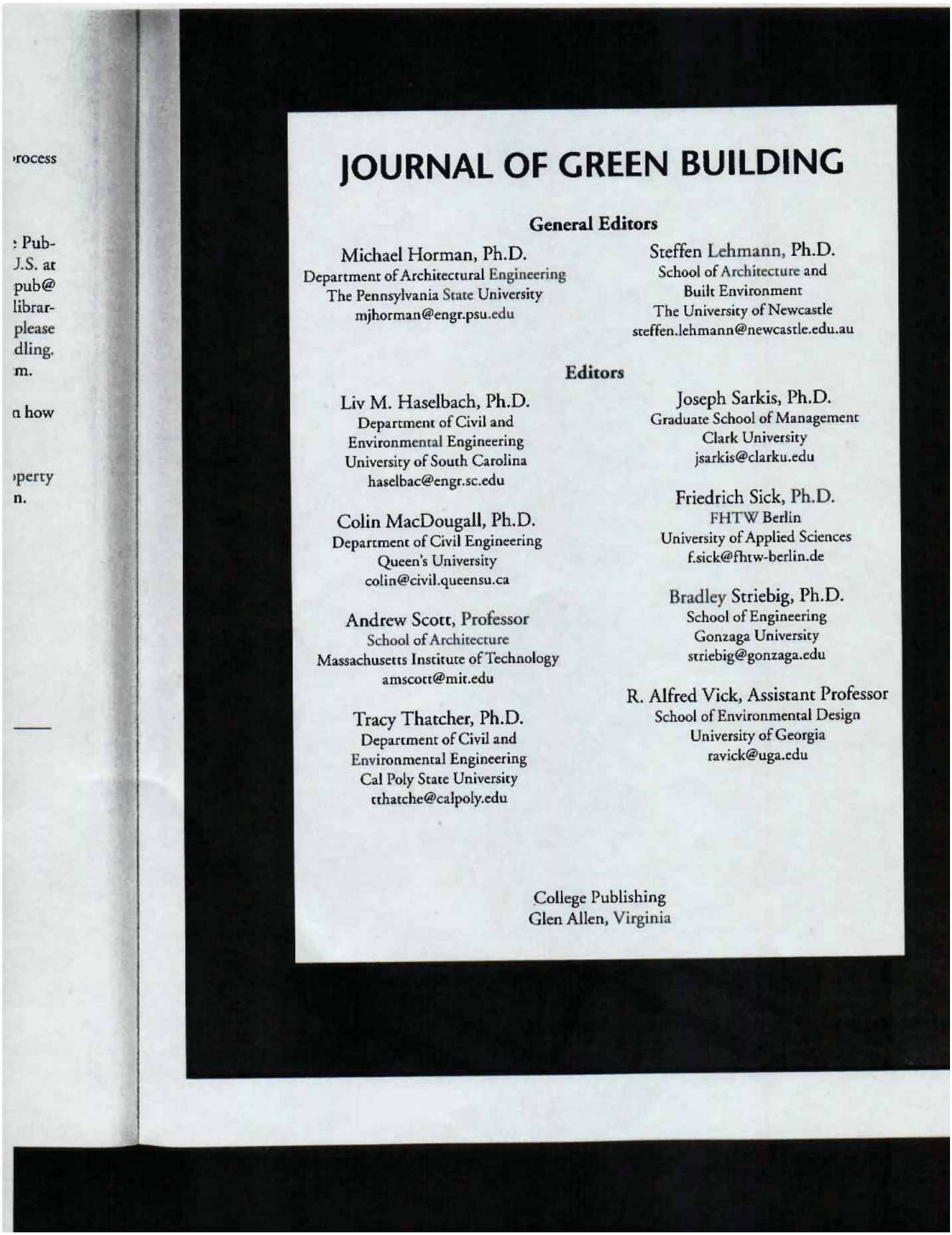
JOURNAL OF
# greenbuilding
VOLUME 3 NUMBER 4 **FALL 2008**

## IN THIS ISSUE

### INDUSTRY CORNER



### RESEARCH ARTICLES



# JOURNAL OF GREEN BUILDING



College Publishing
Glen Allen, Virginia

# CONTENTS

# THE IMPACT OF EVOLVING LEED STANDARDS ON HISTORIC PRESERVATION PROJECTS

Barbara A. Campagna, AIA, LEED AP,[1] and Patrice Frey[2]

At a 2008 forum on climate change, green building, and historic preservation held by the Getty Conservation Institute, one architect ventured the view that there is as much relationship between historic preservation and green building as there is between *cheese* and *street width*. That is to say, the issue of heritage conservation and protecting our environment are not typically thought of as interrelated. Indeed, the term "high performance green building" calls to mind sophisticated contemporary designs that employ cutting-edge new technologies to reduce environmental impacts of buildings; at first blush, historic buildings may not seem to offer much in the way of similarities with such tech-savvy, environmentally friendly buildings.

Yet there is much to be learned from historic buildings, and historic preservationists have more in common with green building advocates and environmentalists than might be expected. In their role as stewards for the historic built environment, preservationists are particularly adept at thinking long-term about the way buildings deteriorate over time, are maintained and restored, and adapt to new uses. Preservationists, after all, are in the business of making sure buildings endure for the next generation to use, enjoy, and benefit from—and planning for the next generation is the very essence of sustainability.

This focus on the long-term survivability of buildings is an essential element of any green building standard. However, many have expressed concern that the most popular of the green building rating systems in the United States, the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) program, fails to adequately take into account the value of the continued use and greening of existing buildings. There is considerable criticism that LEED is far too focused on *new* construction, despite the fact that nearly half of our carbon emissions come from *existing* buildings.

Other charges are levied by preservationists, specifically that even when LEED is applied to historic buildings, it is often done in a way that is not sensitive to historic fabric. And persistent beliefs remain about fundamental incompatibilities between LEED and the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties, the most widely-accepted and commonly used standards for historic preservation in the United States.

In 2007, the National Trust for Historic Preservation launched its Sustainability Program, in large part to address concerns by preservationists about the rapidly expanding and increasingly influential LEED program. The National Trust's Sustainability Program emphasizes not only the social and economic value of preservation, but the environmental benefits of conserving our built resources. The Program is guided by the four core principles of sustainable stewardship: **reuse** of older and historic buildings, **reinvestment** in our existing communities, green **retrofits** of older and historic buildings to conserve energy, and **respect** for our heritage buildings.

During the past two years, the National Trust has worked closely with the U.S. Green Building

[1]Barbara A. Campagna (barbara_campagna@nthp.org), AIA, LEED AP, Graham Gund Architect of the National Trust, is the Chief Architect for the 29 Historic Sites operated by the National Trust and architectural leader of the National Trust's Sustainability Initiative. She received the National AIA Young Architect of the Year Award 2002 and was the president of the Association for Preservation Technology International 2005–2007.

[2]Patrice Frey (patrice_frey@nthp.org) is the Director for Sustainability Research at the National Trust for Historic Preservation. Her graduate work included a thesis on LEED and historic buildings, *Measuring Up: The Performance of Historic Preservation Projects Under the LEED-NC Green Building Rating System*. She has also authored other research pieces on sustainability and preservation, available at www.preservationnation.org/green.

Council to encourage the improvement of LEED Green Building standards to better reflect the benefits of building reuse and the reinvestment in existing neighborhoods. Recent changes in LEED 2009 address some—though not all—of these concerns. Most significantly, however, LEED's transition from a system based on loose ideas about what makes buildings sustainable to a program that is based on the science behind green building signals the USGBC's commitment to reforming the system in a meaningful and substantial way. Such changes are expected to favor historic preservation projects and existing buildings in general.

In recent years, we have seen the greening of a number of historic buildings under the previous version of LEED-NC, version 2.2, including the Portland Armory (LEED-Platinum), Pasadena City Hall (LEED-Gold), the Cobb Building in Seattle (LEED-Silver), and the National Trust's green rehabilitation of the President Lincoln's Cottage Visitors Education Center in northwestern Washington, D.C. (LEED-Gold). However limited LEED-NC v. 2.2 is in recognizing the value of historic buildings, it is clear that achieving certification for such projects is feasible. This is only expected to improve under LEED 2009.

This article profiles the LEED certification of the President Lincoln's Cottage Visitors Education Center under LEED-NC v. 2.2 and looks in detail at changes in LEED 2009 and LEED Neighborhood Development, and the projected impact on future historic projects.

## INTEGRATING HISTORIC PRESERVATION VALUES AND GREEN BUILDING PRACTICES AT THE ROBERT H. SMITH VISITOR EDUCATION CENTER AT PRESIDENT LINCOLN'S COTTAGE

It is well established that buildings are the largest contributor to the greenhouse gas emissions in the United States that cause global warming—and making buildings more energy efficient is one of the most immediate and measurable ways to address this growing concern. The advantages of "green buildings" are well documented: 30 percent energy savings, 35 percent carbon savings, 30–50 percent water savings, and 50–90 percent waste cost savings.

In the past two decades, a variety of third-party building rating systems have been developed to measure the impact of building construction and building operations on the environment. As these systems have been further finessed, and as the science has improved, their primary purpose has become to encourage and develop best practices in the construction field. In just eight years, one rating system in particular has truly transformed the market and the ways in which architects practice—the USGBC's LEED program. As of May 1, 2008, more than 3.5 billion square feet of building projects (10,000+ individual projects) have registered intent to seek LEED certification, with dozens more signing up every day.

LEED certification is increasingly respected in the building industry as a recognition of social responsibility and leadership in an emerging field. Many state and local governments, and some federal agencies such as the General Services Administration, now recommend or require that construction projects earn a LEED rating. In addition to reaping the economic benefits of sustainable design—from improved worker productivity and health to lower operating costs—LEED-certified buildings in a few states and cities can now qualify for financial incentives. In Maryland for example, their state rehabilitation tax credit will be 20% for regular projects or 25% if LEED Gold can be achieved.

The Armory building in Portland, Oregon was certified LEED Platinum in 200X. Originally constructed in 1891 for Oregon's National Guard, the structure is now an arts performance hall for Portland Center Stage.

Though there are now around a dozen LEED products, LEED for New Construction & Major Renovation (NC) is most commonly used for historic preservation projects. LEED for Core and Shell (CS) is used occasionally as well. The greening of the Lincoln Cottage Visitors Education Center in Washington DC offers one study of the use of LEED-NC with a historically significant property.

The President Lincoln Cottage and Soldiers' Home National Monument in Washington D.C. is managed by the National Trust for Historic Preservation in cooperation with the Armed Forces Retirement Home. In 2000, the Trust initiated efforts to preserve President Lincoln's Cottage, where the Lincoln family resided seasonally between 1862 and 1864. The Cottage was constructed in 1842 for George Washington Riggs, one of Washington's earliest and most successful bankers, and is located three miles north of the Capital on a rise overlooking the City.

As part of opening the President Lincoln's Cottage to the public, the National Trust also undertook the adaptive use of a nearby building. The Administration Building, an Italianate Renaissance Revival style building that was constructed in 1905 as part of the Soldiers' Home complex, has been adapted for use as the Visitor Education Center (VEC) for President Lincoln's Cottage, and incorporates administration space for the Trust. The Cottage and the VEC were opened to the public in February 2008, and the VEC project was registered for LEED NC 2.2 certification and is awaiting final certification at the gold level.

President Lincoln's Cottage in Washington, D.C.

High LEED ratings *can* be achieved with historic buildings. With its rehabilitation of the President Lincoln's Cottage Visitor Education Center in Washington, D.C., the National Trust initially aimed for a silver rating but is now on track to earn gold. This project will also be used as a pilot to test the Alternate Compliance Path. Photo courtesy of the National Trust.

The National Trust is committed to integrating sustainable planning policies and sustainable conservation treatments in both the Lincoln Cottage and the VEC. This effort was undertaken as part of the National Trust's larger Sustainability Program, which is designed to promote the understanding of historic buildings as significant environmental, economic, social, and cultural resources. The VEC project was made possible through the support of United Technologies Corporations, which is facilitating the LEED-NC certification.

The Lincoln Cottage VEC case study suggests that there are few points of tension between green building and historic preservation standards. With relatively few exceptions, LEED-NC and historic projects can be mutually reinforcing, and even help demonstrate the degree to which there is a natural link between historic preservation and sustainability.

A brief summary of some of the credits achieved in the project provides an overview of how the intrinsic values of an existing building can be used within the LEED construct. Out of a potential 69 points, the project received 44 points: in the Sustainable Sites Category 9 points out of 14 were achieved; in the Water Efficiency Category 4 points out of 5 were achieved; in the Energy & Atmosphere

category, 5 points out of 17 were achieved; in the Materials & Resources category, 9 points out of 13 were achieved; in the Indoor Environmental Quality category 12 points out of 15 were achieved, and in the Innovation & Design Process category, all 5 points were achieved. Highlights from each of the 6 categories follow:

### *Sustainable Sites*

Since the building is located in a densely developed urban area, the project was able to take advantage of the credits provided to urban sites under the Sustainable Sites category such as providing access to community services and transportation alternatives such as the metropolitan Washington, DC bus lines. Bike racks and a shower encourage employees to walk, run, or bike to work and no parking spaces were added to the site.

### *Water Efficiency*

The use of indigenous landscape vegetation requires no potable water for irrigation. Using water-efficient plumbing fixtures reduces the building's use of potable water by 44%. Some of the strategies included use of dual-flush, low-flow toilets, 0.5 gallon per minute automatic lavatory faucets and aerators, and installing showerheads using less than 2.2 gallons per minute. Stormwater was managed by disconnecting roof leaders and storm drains from conventional infrastructure and the use of subsurface infiltration basins.

### *Energy & Atmosphere*

The building is expected to exceed minimum energy-efficiency requirements by 10% largely by reducing the use of electric lighting. Daylighting of up to 75% of all the occupied spaces and outside views to 92% of occupants is provided by the restored large perimeter windows. Further control is provided by occupancy sensors, dimming switches, and individually controlled multi-level task lighting. It is significant to note that the meticulously restored windows contributed to the energy efficiency of the building, specifically with the use of brass weatherstripping. Like all LEED projects, this project was commissioned, one of the most important benefits that the prerequisites in LEED have provided to the building community.

### *Materials & Resources*

The reuse of an existing building avoided the impacts of producing and shipping many new materials. The project reused 98% of the existing walls, roof, and floors. Recycling 15% of the building components was achieved through refurbishment and reuse. New materials used products with high levels of recycled content. And approximately 20% of all the new materials in the project were sourced from within 500 miles of the site.

### *Indoor Environment Quality*

In order to provide a comfortable and healthy indoor environment, an indoor air quality plan during construction was implemented, and all carpeting, paints, coatings, adhesives, and sealants were chosen for their low levels of volatile organic compounds.

### *Innovation & Design Process*

Three of the five potential points in this category were achieved by using a LEED Accredited Professional on the project, developing an education plan about the sustainable practices at use on the site, and instituting a green housekeeping program. The final two points were achieved by instituting exemplary performance in both water reduction and in non-roof heat island effect.

The greening of the President Lincoln's Cottage VEC demonstrates the remarkable degree to which historic buildings are compatible with LEED-NC standards—indeed, many other preservation projects have also earned LEED certification with relative ease. Out of the 69 points offered under LEED-NC v. 2.2, about 20 are building-type neutral, meaning any building or project type—renovation or new construction—can get these points. Another 10 points directly support preservation activities. Recent projects suggest that *any* existing building should be able to achieve a "certified" rating with very little effort. Earning "silver" requires a bit more effort, and even "gold" is readily achievable, as the Lincoln Cottage VEC demonstrates.

President Lincoln's Cottage VEC Construction Manager and LEED Coordinator Gavin Gardi notes that while no sustainability criteria would fit every project, and LEED-NC "is not a perfect fit" for historic projects, it generally works well. Nonetheless, there were a number of ways in which LEED-NC

v 2.2 could be modified to better respond to the realities of historic buildings—or any existing building. An ad hoc coalition of organizations called the Sustainable Preservation Coalition has been advising the USGBC on ways to incorporate preservation, social, and cultural values into LEED, and the updated versions of LEED reflect this.

## INTEGRATING PRESERVATION VALUES INTO LEED: THE SUSTAINABLE PRESERVATION COALITION

The National Trust for Historic Preservation created the Sustainable Preservation Coalition in 2006 to influence further development of the LEED Building Rating Systems to better recognize the value of historic and existing buildings. The National Trust partnered with several national organizations that were developing separate sustainability agendas, including the American Institute of Architects, Association for Preservation Technology International, National Park Service, General Services Administration, and National Conference of State Historic Preservation Officers. The coalition's first goal was to meet with the USGBC to start a conversation on how to improve its rating systems to better reflect the importance of existing buildings to sustainable stewardship of our planet and its limited resources.

While historic buildings have achieved a number of gold and platinum LEED ratings, the Sustainable Preservation Coalition believed the rating system could be improved because version 2.2 of LEED-NC overlooks the impact of projects on cultural value, does not effectively consider the performance, longer service lives, and embodied energy of historic materials and assemblies, and is overly focused on current or future technologies, neglecting the advantages of many traditional building practices.

The coalition's engagement resulted in an invitation from the USGBC to help the USGBC prepare preservation metrics (standards of measurement) for new versions of LEED. The coalition developed a white paper that identified eight basic metrics that appeared to be lacking in LEED. The eight metrics presented to USGBC were split into two categories, including four Life Cycle Assessment metrics that can be more readily measured scientifically, and four metrics for social and cultural values that are more difficult to quantify.

### A. LCA BASED METRICS

1. **Reduced Carbon Footprint—Construction Process**—Recognize impacts that are avoided by the reuse of existing and/or historic buildings, such as the preservation of embodied energy, avoidance of waste generation, and reduction in the production, transportation, and use of new materials. Embodied energy can be considered the more "actionable" assessment of the environmental, economic, and social impacts that are avoided by extending the useful service life of existing buildings. If we can identify the energy consumption of new building construction and creation of new products versus energy not consumed by using an existing building, we can better understand what does *not* happen by using an existing building.

   In order to assess these impacts, the energy consumption of new building construction and existing building rehabilitation must be quantified. The lower energy consumption of existing buildings must be adequately recognized. This might be best captured in a Life Cycle Analysis that produces a point score, with those projects with lighter carbon footprints earning higher scores than those that consume more resources.
2. **Reduced Carbon Footprint—Operations and Livability**—Recognize the value of passive climate control. Historic buildings were traditionally designed with many sustainable and passive features that responded to climate and site. When effectively restored and reused, these features can bring about substantial energy savings. Preference should be given to projects that maximize passive climate control.

   Where necessary, today's energy efficiency technology can supplement inherent sustainable features without compromising unique historic character. Understanding and recognizing the climate a building is in and how the original design may have responded to its microclimate, allows, and continues to allow, a more holistic approach to building and site design.
3. **Durability**—Identify the relative durability of various materials, systems, and assemblies and reward buildings whose components are more durable. Recognize the relatively long service life of traditional materials, which optimize the

length of time a building can effectively remain in service. A material or assembly may be considered durable when its useful service life and performance is fairly comparable to the time required for related impacts on the environment to be absorbed by the ecosystem. Improving durability reduces the need for resources and expenditures associated with maintenance, repair, and replacement.

4. **Life Cycle Flexibility**—Recognize the multiple reuses and adaptability of historic building types that extends the life cycle of buildings, the building stock, and our communities. Life cycle assessment MUST extend to building renewal protocols, moving from a cradle-to-grave to a cradle-to-cradle approach.

## B. NON-LCA BASED METRICS

5. **Social sustainability**—Celebrate existing buildings and provide more reward for the recognized sites of architectural, cultural, and social significance using the nationally recognized standards and criteria already established by the National Register of Historic Places criteria and the Secretary of the Interior's Standards for the Treatment of Historic Properties. Nationally recognized standards for historic buildings exist as a result of the National Historic Preservation Act of 1966, and these standards should be acknowledged as a way to measure the intangibility of social and cultural sustainability. For example:
   - Local Landmark
   - Listed in the State Register of Historic Places
   - Listed in the National Register of Historic Places
   - National Historic Landmark

   The LEED-ND standards do a commendable job of beginning to reward the reuse of historic buildings. Like other "LEED Referenced Standards", we believe that the National Register designation offers an excellent proxy for social sustainability and could be adopted as such.
6. **Health and Comfort**—Recognize the high degree of individual controllability in historic and existing buildings. Traditional and vernacular buildings, constructed before fossil fuels were in widespread use, required active participation of building occupants to manage and control their comfort, health, and productivity. The ability to control one's environment is enhanced by traditional design elements such as operable windows and shutters, awnings, daylighting, and natural ventilation. While these metrics are already implied in the Daylighting and Ventilation Metrics of LEED-NC, we believe they should be integrated throughout the credits and products.
7. **Social capital**—Recognize the importance or "social capital" associated with historic buildings and neighborhoods. LEED should recognize the success of historic buildings in relating and connecting to their context—other buildings and infrastructure—and recognize that "historic districts" have comparable values that give them a unique sense of place or "neighborhood." Such metrics should help to discourage trends such as teardowns and sprawl.
8. **Density**—Optimize the location of a building to community infrastructure. Density through "smart growth" invests time, attention, and resources to restoring community and vitality to center cities and older suburbs. Density that is more town-centered, is transit and pedestrian oriented, has a greater mix of housing, commercial, and retail uses, and preserves open space presents a long-term thinking about our communities.

A number of these preservation metrics are better represented in LEED 2009.

Downtown Manitou Springs, Colorado. Such spaces not only provide a sense of context and history, they are also sustainability designed—with walkable streets, mixed uses, and higher densities. Such neighborhoods are also frequently transit-accessible.

## LEED 2009

LEED's rapid success presents its stewards, the USGBC membership, with opportunities to continue to improve the rating systems to ensure that future buildings certified under its criteria are even greener than the stock in the pipeline to date. With its unveiling of LEED 2009, also referred to as Version 3 (v3), the USGBC released its most comprehensive amendments to LEED since 2000. The final version of LEED-2009 was approved by USGBC members in November 2008. These latest and comprehensive edits to LEED look familiar, but the way they will be used is different. They also have significant implications for historic buildings.

The many changes to LEED 2009 include some that will directly favor the preservation and continued use of existing buildings. Changes to NC: New Construction & Major Renovation are discussed here, since this will have the largest impact on historic projects.

The LEED Accreditation and project certifications processes have changed substantially under LEED 2009. In 2008, USGBC spun off a new organization, called the Green Building Certification Institute (GBCI), to manage its accreditation and Accredited Professional testing process. Beginning in 2009, GBCI will take over the certification process as well. Peter Templeton, the founding Director of LEED, was recently announced as the new President of GBCI. USGBC will now handle all the development of LEED and green building practices, and GBCI will handle all credentialing and certification, ensuring an independent third-party verification of the testing and certifying processes.

The biggest complaint about the current LEED rating systems (such as LEED NC 2.2) is that every credit is worth one point—and that there is no weighting by impact or priority. But with LEED 2009 this has changed. Points are now distributed based on consideration of the relative environmental or human benefit provided by that item.

The credits in the new version are weighted according to Life Cycle Assessment (LCA) criteria. Life Cycle Assessment is a scientific methodology to calculate the environmental performance of a product over its full life cycle. By applying LCA to the existing credits, the total possible score for a project has been increased from 69 to 100 points, or actually 110 since there are various bonus points. LEED 2009 uses US EPA's TRACI environmental impact categories. TRACI is a computer software tool developed by the U.S. EPA to assist with impact assessment for Life Cycle Assessment, Industrial Ecology, Process Design, and Pollution Prevention.

Layered on top of the TRACI environmental impact categories are weightings devised under the auspices of NIST (National Institute of Standards and Technology) that compare the impact categories to each other and assign a relative importance to each. Together, the TRACI impact categories and the weightings assigned by the NIST process provide a foundation for discussion of the environmental impacts related to the design, construction, operations, and maintenance of the built environment.

The six measurement categories (sustainable sites, water efficiency, materials and resources, energy and atmosphere, indoor environmental quality, and innovation and design process) remain the same, but the points have been reallocated according to the results of the LCA weighting. *Sustainable Sites* has gone from 14 possible points to 26. *Water Efficiency* has increased from 5 possible points to 10. *Energy & Atmosphere* has increased from 17 possible points to 35. *Materials & Resources* has increased from 13 possible points to 14. *Indoor Environmental Quality* has remained at 15 possible points. *Innovation & Design* has increased from 5 possible points to 6. And a new section of *Regional Bonus Credits* with 3 possible points has been added.

There are a number of ways that the weighted system will better support smart growth and preservation goals: First, there are many concerns that past versions of LEED are not sensitive enough to the context of buildings—witness the new "green" buildings that have been constructed in the suburban fringe and seek LEED platinum. The increase of weighting and points in *Credit 2—Development Density & Community Connectivity,* under the category *Sustainable Sites,* encourages the construction or renovation of buildings within a dense community to help dissuade that kind of activity. This credit has increased from 1 point to 5 points. *Sustainable Sites, Credit 4.1—Alternative Transportation—Public Transportation Access* has been increased from 1 point to 6 points, thereby encouraging the placement of buildings in dense communities with access to various forms of public transportation. Such

changes clearly support Smart Growth principles for sustainable sites.

Many older and historic buildings are located in smart locations, communities that were designed before widespread use of the automobile. These neighborhoods were built more compactly out of necessity, and tend to be dense, walkable, feature mixed uses, and are very often accessible to public transit. In short, most historic building rehabilitations seeking LEED certification should benefit from the increased number of points awarded under the *Sustainable Sites* category.

The *Water Efficiency category* is now more effectively addressing the topic of water use in our buildings. While the statistics about carbon footprints and energy efficiency top most reports discussing climate change impacts, many scientists believe that the overuse of water may have an even more significant impact on our way of life and our planet in the very near future. There is now a prerequisite in this division for a 20% reduction of water use of the baseline for the building type. Every other credit has been doubled from 1 point to 2. Such changes are expected to have little impact on historic projects.

With an increase from 17 to 35 possible points in the *Energy & Atmosphere* category, and an addition of 9 possible points to *Credit 1 – Optimize energy performance*, this is where one of the biggest impacts can be made. This change does not necessarily require the installation of complicated systems and technology; projects are also encouraged to use low-tech and passive systems that acknowledge regional climatic impacts, which can result in positive impacts to the rating of traditionally built buildings that often better recognize the climate in their design features than later buildings.

The revision to the *Materials & Resources* category has caused a lot of consternation in the preservation community because at first glance, Credits 1.1 and 1.2 don't appear to have changed significantly. *Credit 1.1 (Building Reuse, Maintain 75% of Existing Walls, Floors and Roofs)* and *Credit 1.2 (Building Reuse, Maintain 95% of Existing Walls, Floors and Roofs)* have been combined into Credit 1.1 and have a total of 3 possible points (one more point than both credits together provided in NC 2.2). In addition, *Credit 1.3, Building Reuse: Maintain 50% of Interior Non-Structural Elements,* has become Credit 1.2 but remains unchanged from LEED v. 2.2 just providing one point. Many preservationists have expressed concerns that these changes are far too insignificant. However, an entirely separate Alternative Compliance Path is under development using the durability of the building materials as the metric. See the following section for more details.

The category *Innovation & Design Process* will now offer the opportunity to earn *Innovation & Regional Bonus Credits.* The USGBC Chapters are being given the responsibility to develop three additional points to reward projects that address environmental areas of concern in a project's region—for example, having operable windows and shutters in areas with high humidity, or courtyards that allow cross ventilation in tropical regions. This change will benefit many traditional buildings, whose siting and design often demonstrate low-energy solutions to meeting the requirements of their specific climate.

Yet even more changes are expected—and soon. It was a daunting task for USGBC to revise LEED even this much in less than a year, and the result is that it is now on the road to becoming a much more scientific approach to assessing green buildings. More comprehensive changes to the LEED standards remain a challenge, given that LCA remains in its infancy. Furthermore, the USGBC has expressed caution about changing their products so drastically over a short period of time that it upsets

Old San Juan, Puerto Rico. Building features designed to suit local climate conditions—such as operable windows, shutters, high ceilings, and cross-ventilation—may soon earn points toward LEED certification under a system of *Regional Bonus Credits* that is now being developed. Photo courtesy of the National Trust.

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the marketplace. Nonetheless, it is expected that the next revision, targeted for 2011, will result in the removal of some credits and the addition of others.

Most significantly, the weighting system has been constructed in a way that if environmental and societal priorities shift, the focus of LEED can also shift by adjusting weightings across the key impact categories—without requiring a complete reconfiguration of LEED.

## ALTERNATE COMPLIANCE PATH FOR EXISTING BUILDINGS

A completely new Alternate Compliance Path is being developed that will benefit existing buildings, entitled "Life Cycle Assessment of Building Assemblies." This will be an optional path to use the *Materials & Resources Credits* based on the durability and embodied energy of existing materials as determined through LCA criteria.

The science behind LCA is young and there are many different approaches to it. The USGBC has an LCA working group, made up of the most experienced LCA scientists on the continent, who are developing a special LCA Credit Calculator that quantifies the life cycle impact of the durability of various materials and building assemblies. Acknowledging the durability of materials and building assemblies is one of the most significant benefits that traditional historic buildings can present.

The Alternate Compliance Path was not ready for public review when the rest of the drafts for LEED 2009 were put out for public comment, but it will be available for use with LEED v3 in 2009. Currently the intent is that any building already registered for LEED will be able to use the Alternate Compliance Path—even if the project is registered under one of the past versions such as NC 2.2. The National Trust has offered our first LEED project, the President Lincoln's Cottage Visitor Education Center, as a case study and a way to further formalize our partnership with USGBC.

The Sustainable Preservation Coalition is very supportive of this approach. While new construction can also use this path, we anticipate that existing buildings will rank the highest and achieve the most points. LEED for Neighborhood Development (LEED-ND) also offers some exciting changes for preservation projects and existing buildings.

### *LEED Neighborhood Development*

LEED ND – Neighborhood Development is among the USGBC's newest rating systems, and was in pilot phase during 2007 and 2008. With the LEED-ND the USGBC has expanded the meaning of green building to more fully embrace the concept of sustainable development, offering points not only for ecologically sound building practices, but also for facilitating social, economic, and cultural sustainability. Points are offered for providing affordable housing, mixed-uses, access to park and recreational facilities, universal accessibility, and community outreach and involvement—to name only some of the many credits available. "The development of LEED for Neighborhood Development speaks to the breadth of what 'green building' means," says Sophie Lambert, the Director of LEED ND, on the USGBC web site. "What was once a rating system solely designed for commercial construction is now evolving beyond single buildings to address development at the neighborhood scale."

LEED Neighborhood Development (ND) is in some respects as different from LEED 2009 as it is similar. It has a very different construct including four sections instead of six (Smart Locations & Linkages (SLL); Neighborhood Pattern & Design (NPD); Green Infrastructure & Buildings (GIB); and Innovation & Design Process). The system was

The Bottling Building (Building 29 – Block 3) of the Brewery Project in Downtown Milwaukee, Wisconsin was built in 1910 and is eligible for federal and state historic rehabilitation tax credits. The Brewery Project is registered by the USGBC as a LEED-ND Pilot Project. Photo courtesy of The Brewery Project LLC.

developed by a working group of three organizations—USGBC, Natural Resources Defense Council (representing the Smart Growth community), and Congress for New Urbanism—and focuses on infrastructure and the public realm, with buildings as just one component. But like LEED 2009, LEED-ND has the standard four recognition levels—certified, silver, gold, and platinum

LEED ND can be used on a single building, a Main Street, a community, or even as a tool to retrofit suburbia. During the pilot stage, 239 projects were registered in 39 states and 6 countries, which has allowed for the identification of many conflicts and issues, some of which highlighted points of tension between preservation goals and LEED-ND. The National Trust for Historic Preservation advised the staff at USGBC on the final edits to LEED ND, and some of the biggest changes to the final version of LEED ND involve historic preservation and existing buildings.

There have been a number of major structural changes to LEED ND since the pilot version came out. Historic preservation values are particularly addressed in NPD Credit 1 – Walkable Streets and GIB Credits 4 – Existing Building Reuse & 5 – Historic Building Preservation & Reuse. The strongest part of the revisions is the better alignment of terminology, made in order to best utilize the agreed-upon and legal terminology and concepts as established in the National Historic Preservation Act, and adopted and implemented by states and local jurisdictions across the country. The Secretary of the Interior's Standards for the Treatment of Historic Properties and Section 106, for example, are all referenced.

### *NPD Prerequisite 1 – Walkable Streets*

The concept behind walkable streets is a sound neighborhood design element. The major goal of this section is to promote walking, bicycling and transportation efficiency. This prerequisite, as well as the related Credit 1, provide guidelines for this section. The prerequisite credit does provide for an exemption for historic districts if their historic design does not follow these guidelines.

> Projects located in a designated historic district subject to review by a local historic preservation entity are exempt . . . if approval is not granted for compliance. Projects located in historic districts listed in or eligible for listing in a State Register or the National Register or designated as National Historic Landmarks, that are subject to review by a State Historic Preservation Office (SHPO) or the National Park Service, are [also] exempt . . . if approval is not granted for compliance.

This credit now acknowledges that sometimes a key feature of a historic district could potentially be in conflict with current urban planning concepts of what is "good and walkable" but that for a historic district the sense of place can outweigh the urban planning precept.

### *Green Infrastructure & Building Credits 4 & 5: Existing Building Reuse & Historic Building Preservation & Reuse*

The language in the current draft has cut the points for these credits to a total of two from an original draft version of four; nevertheless, these credits represent a much stronger recognition of historic preservation laws and concepts than has heretofore existed in the pilot. The pilot version gave one point for keeping or reusing a historic building, and little of the recognized preservation terminology was used. Most significantly, there is a prerequisite that invalidates using either of these points if a historic building is demolished.

> To achieve this credit, no historic building or portion of a historic building may be demolished as part of the project. An exception is granted only in instances where approval for such action is provided by the appropriate review body.

It is worth noting, however, that it would still be possible with this current construction, to demolish a historic building and simply not opt for either of these two credits, as it is only a prerequisite for these two credits, and not for LEED ND on the whole.

The next revision of LEED, both 2009 and ND, is targeted for 2011, and will change some of the credits, removing some and adding others. The Sustainable Preservation Coalition will be working with USGBC to further incorporate more social and cultural metrics into the next LEED revision.

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## CONCLUSION

In his 2008 speech at Greenbuild, National Trust President Richard Moe noted that the changes to LEED in recent months are "great steps forward," but he cautioned that there is more work to be done. "The science that informs the USGBC's standards and, indeed, all ratings systems is still evolving. We must ensure that this science is accurate, especially when it comes to understanding the embodied energy and embodied carbon in buildings, and the life cycles of buildings and materials."

Indeed, the ability of the USGBC to make continual improvements to LEED will hinge on the generation of better data, the development of more accurate life cycle modeling, and a willingness to incorporate social and cultural values into the system. While these are significant challenges, Moe notes that, "the preservation and green building communities share a common goal: securing a viable, sustainable, meaningful future for our children and the generations that will follow them." This common ground provides a foundation for further cooperation between the preservation and green building fields that will undoubtedly produce better standards that reflect the important building lessons we have learned over the millennia, and the value of our heritage resources.

# Office Energy Checklist

The following is a simple checklist of energy conservation/efficiency measures to use at the office.

- ☐ Replace incandescent lights with **compact fluorescent lights (CFLs)** for desk lamps and overhead lighting. Using CFLs instead of comparable incandescent bulbs can save about 50 percent on your lighting costs. CFLs use only one-fourth the energy and last up to 10 times longer.
  ***Brucemore commitment***: Replace all incandescent bulbs with CFLs in service areas as they burn out. Currently, 40,000 hour, incandescent bulbs are used throughout the formal side of the mansion and CFL and fluorescent lights are used in most of the service areas, including the maintenance building, head house, administrative office, and servants' side of the mansion.

- ☐ **Switch off all unnecessary lights**. High utility costs are often a result of paying for energy that is completely wasted by lights left on for long periods while not in use. Replace incandescent light bulbs with compact fluorescent light bulbs wherever appropriate. CFLs use 75% less energy than standard incandescent bulbs to provide the same amount of light, last up to 10 times longer, and generate less heat than conventional light bulbs. Use **task lighting**; instead of brightly lighting an entire room, focus the light where you need it, to directly illuminate work areas.
  ***Brucemore commitment***: The mansion and exhibit space lights remain off until guests arrive, at which point employees turn on the lights. Lights in the exhibit space were reconfigured to illuminate the panels with fewer lights. All lights in the bathrooms, kitchen, basements, offices, and other spaces are turned off when no one is occupying a space. All interior lights are turned off at night. Exterior lights are timed to turned off in the late evening. All staff use natural lighting or daylighting in their workspaces

- ☐ **Unplug equipment** that drains energy when not in use (i.e. cell phone chargers, fans, coffeemakers, desktop printers, radios, etc.). Unplug battery chargers when the batteries are fully charged or the chargers are not in use. Many appliances continue to draw a small amount of power when they are switched off. These phantom loads occur in most appliances that use electricity, such as VCRs, televisions, stereos, computers, and kitchen appliances. In the average home, 75% of the electricity used to power home electronics is consumed while the products are turned off. This can be avoided by unplugging the appliance or using a power strip and using the switch on the power strip to cut all power to the appliance. To maximize savings with a laptop, put the AC adapter on a power strip that can be turned off (or will turn off automatically); the transformer in the AC adapter draws power continuously, even when the laptop is not plugged into the adapter.
  ***Brucemore commitment***: All equipment not in use remains unplugged until needed, including the coffee maker and toaster. All workstations are plugged into power strips to be switched off each night and turned on each morning. During slower months, the Cutting Gardens Flower Shop will only operate out of one cooler.

- ☐ Turn off your **computer and monitors** at the end of the work day, if possible. If you leave your desk for an extended time, turn off your monitor. There is a common misconception that screen savers reduce energy use by monitors: they do not. Automatic switching to sleep mode or manually turning monitors off is always the better energy-saving strategy. Common misconceptions sometimes account for the failure to turn off equipment. Many people believe that equipment lasts longer if it is never turned off. This incorrect perception carries over from the days of older mainframe computers.
  ***Brucemore commitment***: All monitors are programmed to turnoff after 5 minutes. All computers and monitors are turned off each night or if not used for long periods of time during the day.

- ☐ **Save paper**. Photocopy only what you need. Always use the second side of paper, either by printing on both sides or using the blank side as scrap paper.
  ***Brucemore commitment***: A note is posted to remind people to scan rather than copy if possible. All network computers are set to default to duplex and black and white printing.

- Turn off photocopier at night or purchase a new copier with low standby feature. Purchase printers and fax machines with **power management** feature and use it.
  ***Brucemore commitment***: The networked printer has a low standby feature that is used.

- **Use fans to reduce the need for air conditioning.** Ceiling fans can cut energy use -- circulating air can make a somewhat higher temperature and/or humidity feel more comfortable. In fact a temperature setting of only 3 to 5 degrees higher can feel just as comfortable when fans are used. So turn the thermostat up several degrees while using the fans to deliver the extra cooling comfort. A ceiling fan cools **you** – not the room – so remember to turn the fan off when you leave the room. Each degree of higher temperature can save about 3% on cooling costs. When the temperature outside is more comfortable than inside, a "box fan" in the window or large building fan in the attic can push air out of the building and pull in comfortable outside air.
  ***Brucemore commitment***: Ceiling fans were installed in the Cutting Gardens Flower Shop and the Administrative Office in 2007. These fans, in addition to personal fans placed strategically through the work areas provide cooling measures in lieu of air conditioning. Staff and volunteers will continue this practice

- Utilize natural air flow through **open windows and doors**. Where possible, open windows and turn on fans to control air temperature prior to turning on the air conditioner.
  ***Brucemore commitment***: Doors in the Mansion, Maintenance Building, and Visitor Center are left open to enable air to circulate.

- Close or adjust window blinds to block direct sunlight to reduce cooling needs during warm months. **Overhangs or exterior window covers** are most effective to block sunlight on south-facing windows. In the winter months, **open blinds on south-facing windows** during the day to allow sunlight to naturally heat your workspace. At night, close the blinds to reduce heat loss at night.
  ***Brucemore commitment***: Drapes and blinds are used with energy efficiency in mind—blocking hot sunlight in the warmer months and helping to insulate older windows in the cooler months.

- **Schedule annual, pre-season maintenance checkups with a licensed contractor to ensure your cooling system is operating efficiently and safely.** "Tune-up" your heating, ventilating, and HVAC system with an annual maintenance contract. Even better, have your HVAC serviced prior to both heating and cooling seasons. A new HVAC system, like a new car, will decline in performance without regular maintenance. A contract automatically ensures that your HVAC contractor will provide pre-season tune-ups before each cooling and heating season. You save energy and money, and your system may last years longer with reasonably priced yearly maintenance fees. Your chances of an emergency HVAC break-down also become very remote with regular maintenance. Change (or clean if reusable) HVAC filters every month during peak cooling or heating season. Clean or change furnace filters once a month during the heating season. **Check furnace** ducts for disconnects or leaks. Ensure HVAC ductwork is **well insulated**.
  ***Brucemore commitment***: The maintenance staff at Brucemore diligently monitor all HVAC systems for inefficiencies and mechanical failures. Duct insulation is not an option currently in the historic buildings due to the invasiveness of the project. However, the furnace is checked on daily by staff and maintained professionally annually. The air conditioning units are cleaned of debris annually.

- **Install and use a programmable thermostat.** Automate your air-conditioning (HVAC) system and save energy while your small business is closed or unoccupied. This solid-state, electronic device automatically adjusts temperature settings based on your schedule, and can be "overridden" as needed for unscheduled events. This "smart thermostat" can turn on the HVAC one hour before arrival and keep it off or at a higher, more energy-efficient temperature on weekends instead of heating or cooling unoccupied space.
  ***Brucemore commitment***: Programmable thermostats are installed in the Visitor Center. Maintenance staff will monitor the programmed temperatures to ensure that they are heating/cooling in an efficient manner. The thermostats in rarely used spaces are kept close to the outdoor temperature.

- **Plug leaks with weather stripping and caulking.** Caulking and weather stripping let you manage your ventilation, which is the deliberate controlled exchange of stuffy inside air for fresher outdoor air.
  ***Brucemore commitment***: A project is underway to keep the mansion's historic wood windows in good repair so that the meeting rails can be locked and the sashes fit tightly in their frames. Weather stripping has also been installed on most doors and windows in the Visitor Center and maintenance building and will continue to be installed/maintained in the future.
- **Control air flow.** Change fan/discharge duct arrangements.
  ***Brucemore commitment***: HVAC ducts in the mansion were identified and areas were closed off to create zones so that hot/cold air to better distribute throughout the spaces. While fans and ducts in a historic building are challenging to change, the affect that they have can be made more efficient.
- **Insulate water heater**, hot water piping and tanks to reduce heat loss.
  ***Brucemore commitment***: All water heaters have been insulated for several years.
- Install low-flow toilets and shower heads.
  ***Brucemore commitment***: The Visitor Center toilets, the public toilets (Chicken Coop), and the ADA toilet in the mansion are all low-flow toilets. This translates to all primary public toilets being low-flow.
- **Collect your utility bills**. Separate electricity and fuel bills. Target the largest energy consumer or the largest bill for energy conservation measures.
  ***Brucemore commitment***: Utility bills are collected and examined regularly to identify various areas for energy reduction.
- **Carpool, bike, or use mass transit** when commuting to work.
  ***Brucemore commitment***: While some employees walk, few have opportunities to take mass transit or carpool to work. Many staff members have made a conscious effort to live closer to work to reduce the emissions on their commute.
- **Turn off the engine** rather than letting it idle. Vehicles don't require any warming up unless temperatures are less than 25 degrees (and even then, an engine needs less than a minute). The best way to get your car, including its wheel bearings, the steering mechanism, tires and transmission, warm and willing, is to begin driving. An engine that idles for 10 minutes yields 90 grams of this gas and consumes 0.14 liters of fuel, (commercial vehicles produce even more). When stopped, shut off your engine. You get 0 mpg when your engine is idling. In a typical gasoline vehicle, idling for more than 10 seconds uses more fuel than re-starting the engine. To save gas: **drive the speed limit**, accelerate and decelerate slower, and make sure tires are pumped up.
  ***Brucemore commitment***: Brucemore delivery vehicles will not be left idling unless the product's condition depends on the automobile maintaining a specific temperature. When possible all utility vehicles will be consciously turned off to reduce fuel consumption.
- Use **coffee mugs, real silverware, and real plates** instead of disposable cups, flatware, and plates.
  ***Brucemore commitment***: Brucemore has operational kitchens in both the mansion and the Visitor Center. Consequently, employees wash and re-use coffee mugs, real silverware, and real plates. In attempt to reduce waste, Brucemore uses drinking fountains for water rather than a water cooler.

## Attachment M

# WILSON HOUSE RECYCLING COLLECTION

YES:

- PAPER PRODUCTS
  - Newspaper including inserts
  - Direct Mail Pieces
  - Corrugated cardboard
  - Brown paper bags
  - Computer and office paper including shredded paper
  - Mixed Paper – Magazines, catalogs, telephone books, paperback books, envelopes, file folders,
  - Paper Board – shoe boxes, cereal boxes
  - Photographs (no Polaroids)
  - Containers (paper-based egg and berry cartons) – if clean
- METAL PRODUCTS (rinsed and empty) – DO NOT FLATTEN
  - Steel, Aluminum and Tin cans, including lids and labels
  - Pie Pans
  - Foil
  - Aerosol cans
- PLASTIC PRODUCTS (rinse and remove caps and rings)
  - Narrow-neck plastic bottles (plastic codes 1 through 7)
  - Bags
  - Wide-mouth containers
  - Rigid Plastics (large toys, laundry baskets, lawn furniture, butter tubs, yogurt cups, medicine bottles)
- GLASS PRODUCTS (empty and rinse)
  - Jars
  - Bottles

NO:

- PAPER PRODUCTS
  - Pizza boxes
  - Juice boxes
  - Hardback books
  - Carry-out containers
  - Blueprints
  - Waxed cardboard
  - Cups/plates
  - Tissues
  - Paper towels
  - Food contaminated paper
- METAL PRODUCTS
  - Auto parts
  - Kitchen supplies
  - Bicycles
  - Furniture
- PLASTIC PRODUCTS
  - Deli and grocery containers
  - Yogurt containers, butter tubs or peanut butter jars
  - Motor oil bottles
  - Bottles used to hold toxins (ex. pesticides)
- GLASS PRODUCTS
  - Light bulbs
  - Window glass
  - Glass cookware/dishes
- Styrofoam products

# Attachment M

RECYCLYING INFORMATION/IMPLEMENTATION

- For twice a week service, recycling goes out on the second collection day (Friday)
- Do NOT tie up paper or put in paper bagging
- Housekeeper should pick up recycling once a week, Thursdays, and place recycling in bin that will go on curb
    - The recycling does NOT have to be sorted or placed in paper bags
    - Recycling should go directly into bin to be set out on the curb
    - If there is more recycling than space in the bin, place the recycling in a plastic bag and leave in the garage until recycled the following week.
- For questions:
    - Recycling Hotline at 202-645-8245
    - Recycling website: http://recycle.dpw.dc.gov/recycle/cwp/view,a,1374,q,617354.asp

COLLECTING RECYCLING IN THE HOUSE RECOMMENDATIONS

- Public space
  - Rubbermaid 23 Gal Slim Jim Waste Receptacle
    - $39.99
    - 20" x 11" x 30" h
    - http://www.reliablepaper.com/ProductDetails.asp?ProductCode=RCP354000BLUE&Click=671
  - Slim Jim Bottle and Can Recycling Top
    - $25.29
    - 2 round openings on top
    - http://www.reliablepaper.com/Green_Slim_Jim_Bottle_and_Can_Recycling_Top_p/rcp2692-88gre.htm
- In offices
  - Rubbermaid Deskside Recycling Container
    - $5.42
    - 7 gallon desk side bin
    - http://www.nextag.com/Rubbermaid-Deskside-Recycling-Container-613097208/prices-html
- Kitchen
  - Slim Jim Waste Container 15.9 Gallon
    - $28.17
    - 20" x 11" x 24"h
    - http://www.kitchensupplydirect.com/RCP-3541-73-BLU.html

GRANT OPPORTUNITIES

- District of Columbia Government
  - Only give grants in the environment for Kids Gardening and for teachers
- EPA
  - Grants focus on construction and dumping
- National Trust Preservation Fund
  - Matching grants that go to preservation planning and education efforts
  - http://www.preservationnation.org/resources/find-funding/nonprofit-public-funding.html
- The Coca-Cola Company National Recycling Coalition Bin Grant Program
  - Only collects beverage container recyclables in public settings
  - Open to non-profit groups
  - http://www.bingrant.org/home.htm

# Attachment M

RECYCLING PRINTER CARTRIDGES (CANON, DELL AND HP)

- Guernsey Office Products
  - Supplier of office materials
  - Does NOT recycle printer cartridges
- Canon
  - Recommends that you return more than one cartridge per shipping label
  - Recycle back to HP directly
  - http://www.ereturn.usa.canon.com/
- Dell
  - Prepaid return envelope was included in ink cartridge box
  - If not, contact customer service team
  - http://www.dell.com/content/topics/segtopic.aspx/ink_recycling_popup?c=us&cs=19&l=en&s=dhs&~lt=print
- HP
  - You can print out your own free postage-paid HP shipping materials
  - Recycle back to HP directly
  - Both InkJet and LaserJet
  - http://www.hp.com/hpinfo/globalcitizenship/environment/recycling/product-recycling.html
- Office Depot accepts ink cartridges to recycle for free but no benefit to you
- Staples will accept up to 10 cartridges per customer per month when you present your Staples Rewards card
  - earn $3 back in Staples Rewards per cartridge
  - you can use reward to buy anything from Staples in store, online or on phone
  - only one Staples Rewards account per address
  - you can turn in more than 10 cartridges but you will receive rewards only on up to 10
  - Accepts Canon, Dell and HP

RECYCLING LIGHT BULBS

- Compact Fluorescent Light bulbs
  - District of Columbia Department of Public Works
    - Fort Totten Transfer Station (4900 Bates Road NE)
    - Benning Road Transfer Station (3200 Benning Road NE)
  - Home Depot
    - Bring in any expired, unbroken CFL bulb to return's desk
    - Only for CFLs – not any other fluorescents
  - Tenleytown Ace Hardware (4500 Wisconsin Avenue NW)
- Incandescent
  - No recycling centers in area
  - Considered to be "safe" to throw away – even though contain lead

RECYCLING BATTERIES

- Best Buy
  - NiCAD Batteries
  - Rechargeable Batteries
- Office Depot
  - NiCAD Batteries
  - Rechargeable Batteries
- RadioShack
  - For residents of Washington only
  - NiCAD Batteries
  - Rechargeable Batteries
- Staples
  - NiCAD Batteries
  - Rechargeable Batteries
- Tenleytown Ace Hardware (4500 Wisconsin Avenue NW)
  - NiCAD Batteries
  - Rechargeable Batteries

RECYCLING GASOLINE

- Washington DC Household Hazardous Waste Disposal
  - Benning Road Trash Transfer Station (3200 Benning Road NE)
    - Every Saturday 8:00 am to 3:00 pm
  - Ft. Totten Trash Transfer Station (4900 Bates Road NE)
    - Every Saturday 8:00 am to 3:00 pm

# Illustrations



Photographer Key

| | |
|---|---|
| AV | Anthony Veerkamp |
| BC | Barbara Campagna |
| CH | Carol Highsmith for the National Trust |
| CR | Christopher Roddy |
| CW | Crystal Whiters |
| DBA | From Davis Buckley Architects |
| DC | Dennis Campbell |
| EM | Elizabeth Milnarik |
| HP | From Hotel de Paris |
| JK | Jim Kern |
| KS | Krystyn Silver |
| MN | Mark Nussbaum for the Wilson House Study |
| MvB | Max van Balgooy |
| MS | Mainstreet Architects |
| NTHP | National Trust Staff |

*Lower East Side Tenement Museum*
*New York, New York*

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*Abiel Smith School, African Meeting House, Boston, Massachusetts*

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*Pope-Leighey House*
*Alexandria, Virginia*

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*Guest Room in Kykuit*
*Tarrytown, New York*

| | | |
|---|---|---|
| Page 251: | Upsala | BC |
| Page 252: | Cliveden | BC |
| | Wilson House | MN |
| Page 253: | Wilson House | MN |
| | Wilson House | NTHP |
| Page 254: | Brick House | BC |
| | Brick House | Historic Photo |
| Page 255: | Brick House Today | BC |
| | Brick House Original | Historic Photo |
| | Brick House/Glass House | BC |
| Page 262: | Wilson House | BC |
| | Chesterwood | BC |
| Page 263: | Wilson House | BC |
| Page 289: | Lower East Side Tenement | BC |
| Page 290: | Abiel Smith School | BC |
| Page 291: | Pope-Leighey | BC |
| Page 292: | Kykuit | BC |
| Page 293: | Belle Grove | DC |

*Belle Grove during the Blizzard of 2010*