SUSTAINABILITY AND HISTORIC FEDERAL BUILDINGS

Integrating the Requirements of the National Historic Preservation Act with the Requirements of Executive Order 13514: Federal Leadership in Environmental, Energy, and Economic Performance

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INTRODUCTION

In 2009, President Barack Obama issued Executive Order 13514, “Federal Leadership in Environmental, Energy, and Economic Performance.” This Executive Order (E.O.), referred to in this guidance as the “Sustainability Order,” establishes an overall federal policy on energy efficiency and sustainability and sets goals for federal agencies to implement that policy. The Sustainability Order builds on the requirements contained in E.O. 13423, “Strengthening Federal Environmental, Energy, and Transportation Management,” and a host of other pre-existing orders, memoranda, laws, regulations, and guidance.

E.O. 13514 requires federal agencies to ensure new construction and major renovations comply with the 2006 Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding (MOU). The MOU defined Guiding Principles for energy efficiency and sustainability and established the federal government’s leadership in ensuring that new direct and indirect federal undertakings meet those Guiding Principles. In 2008, the Office of Management and Budget issued guidance revising the Guiding Principles for New Construction and Major Renovation and adding Guiding Principles for Sustainable Existing Buildings.

The administration of federally owned or controlled buildings is governed by a wide range of federal laws, regulations, and policies. Since 1966, federal agencies administering real property, including the General Services Administration (GSA), Department of Defense (DoD), Department of Veterans Affairs (VA), Department of the Interior (DOI), and others have balanced their federal missions and program needs with the requirements of the National Historic Preservation Act. The Advisory Council on Historic Preservation (ACHP), an independent federal agency established by the Act, promotes the preservation, enhancement, and sustainable use of our nation’s diverse historic resources, and advises the President and the Congress on national historic preservation policy.

With the support of the President’s Council on Environmental Quality (CEQ), the ACHP has developed the guidance presented here to assist federal agencies in their efforts to meet the expectations of the Sustainability Order and the Guiding Principles while also meeting the requirements of the National Historic Preservation Act. In addition, this guidance addresses the

WHAT IS A “HISTORIC PROPERTY”?  
A “historic property” is a building, structure, object, site, or district that is included in or eligible for inclusion in the National Register of Historic Places. For a property to qualify for the National Register it must be associated with an important historic context and retain historic integrity of those features necessary to convey its significance. The National Register is maintained by the National Park Service.

For more information on the National Register of Historic Places and its eligibility requirements, see: http://www.nps.gov/history/nr/

See the GLOSSARY of technical terms beginning on page 33.
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In particular, Section 110 directs federal agencies to be responsible stewards of historic properties on behalf of the American public. Agencies must use historic properties, “to the maximum extent feasible,” prior to acquiring, constructing, or leasing buildings for agency purposes.

Section 106 directs federal agencies to consider the effects of their undertakings on historic properties. The ACHP’s regulations implementing Section 106, “Protection of Historic Properties” (36 CFR Part 800), outline a process for the consideration of alternatives that promote preservation and offer the public and stakeholders the opportunity to influence federal decisions:

- Initiate the review and determine if it applies to a given program or project,
- Identify historic properties that may be affected,
- Assess the effects of the project on the identified historic properties, and
- Resolve adverse effects by exploring alternatives to avoid, minimize, or mitigate the effects.

The NHPA establishes the federal historic preservation policy through the creation of the Advisory Council on Historic Preservation, Federal Preservation Officers responsible for a historic preservation program in each federal agency, and State and Tribal Historic Preservation Officers.

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For more information, see: http://www.achp.gov

The goal of this guidance is to assist federal decision makers, usually capital asset managers, facility managers, and other program and project managers, in their considerations regarding sustainability and historic federal buildings. Decision makers will benefit from the ACHP’s recommended strategies to consider historic preservation along with energy efficiency and sustainability concerns; to seek out historic preservation outcomes; and to take advantage of opportunities for meeting historic preservation, energy efficiency, and sustainability goals together in the administration of federal buildings. Accordingly, this guidance recommends the following approach to decision making regarding federal historic buildings:

- Consider reusing a historic building before constructing a new building or leasing space in a privately owned building,
- Rehabilitate a historic building by using, reclaiming, and enhancing historic sustainable features and by adding compatible sustainability improvements when needed,
- Design compatible new green construction in existing historic communities when needed, and
- Consider disposing of a historic building only after other options are appropriately considered.

The sections of this guidance are organized to reflect this approach to decision making regarding sustainability and historic federal buildings: Integrated Planning and Design, Reusing Historic Buildings, Applying the Guiding Principles to Historic Buildings, Reinvesting in Historic Districts, and Considering Disposal of Historic Buildings. Each section provides key information regarding who should be involved in decision making, what should be considered, and when it should be considered.
Policy Background

The Sustainability Order is the latest in a series of orders, memoranda, laws, and regulations which guide federal agencies in their daily real property management decisions. The National Historic Preservation Act is one such predecessor to the Sustainability Order. In Section 2, the Act establishes federal preservation policy, stating the government shall:

- Foster conditions under which our modern society and our historic resources can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations,
- Provide leadership in the preservation of historic resources, and
- Administer federally owned, administered, or controlled historic resources in a spirit of stewardship for the inspiration and benefit of present and future generations.

One of the important applications of federal historic preservation policy is the procedural requirement in Section 106 of the Act, which requires federal agencies to consider the effects of their undertakings on historic properties and provide the ACHP with an opportunity to comment on those undertakings. By coordinating the Section 106 review process with other sustainability, design, and environmental considerations, federal agencies make well-informed and balanced decisions regarding property management.

The Sustainability Order also reaffirms the tenets of other important legislation, including the Public Buildings Cooperative Use Act, and various E.O.s, including “Protection and Enhancement of the Cultural Environment” (No. 11593, 1971), “Federal Space Management” (No. 12072, 1978), and “Locating Federal Facilities on Historic Properties in our Nation’s Central Cities” (No. 13006, 1996).

Equipped with a firm understanding of policy, sustainable-minded federal decision makers have opportunities to plan and design, build and rehabilitate, and operate and manage federal buildings in accordance with the new Sustainability Order, the Guiding Principles, the National Historic Preservation Act, and other coordinating legislation, orders, memoranda, regulations and guidance.
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Applicability

This guidance was prepared specifically to address requirements and considerations for federal historic buildings. However, federal agencies and non-federal entities may find the general principles highlighted here to be informative for other types of projects. For instance, many of the principles described here would be applicable to federally permitted, licensed, or assisted projects involving non-federal historic buildings subject to the requirements of Section 106 of the National Historic Preservation Act.

GUIDING PRINCIPLES OF SUSTAINABILITY

The 2006 MOU regarding Federal Leadership in High Performance and Sustainable Buildings established Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings and challenges the signatory federal agencies to meet these principles. Because these principles will be referenced in this guidance, they are summarized here.

- Employ integrated design principles through a collaborative, integrated planning and design process and tailored total building commissioning practices.
- Optimize energy performance through energy efficiency and rigorous measurement and verification.
- Protect and conserve indoor and outdoor water.
- Enhance indoor environmental quality through the use of ventilation and thermal comfort, moisture control, daylighting, low-emitting materials, and indoor air quality protection during construction.
- Reduce environmental impact of materials through the use of recycled and biobased content, limiting construction waste, and eliminating the use of ozone depleting compounds.

For more information, see:

Key Concepts:

- Historic federal buildings are sustainability assets for federal agencies, not liabilities
- By considering historic preservation and sustainability concurrently, federal agencies can meet both goals
INTEGRATED PLANNING AND DESIGN

The Sustainability Order and Guiding Principles recognize that real property development is a dynamic, phased, multi-disciplinary process, which succeeds when talented cohesive teams implement architectural plans that are innovative and informed. Further, seasoned federal real property development professionals understand that involving sustainability and historic preservation specialists as early as possible in project planning yields achievable project schedules, budgets, and design goals. The National Historic Preservation Act (Sections 106 and 110) and various E.O.s encourage early coordination so that historic preservation concerns can be identified and resolved early in project planning.

The Whole Building Design Guide (WBDG) provides guidance on successful real property development in the public and private sectors. The goal of whole building design is to create a successful high-performance building by applying an integrated design and team approach to the project during the planning and programming phases. This guidance was produced by the National Institute of Building Sciences (NIBS) in collaboration with the Sustainable Buildings Industry Council and numerous federal agencies. The WBDG, an ever evolving Web site, was initially developed under federal oversight to assist the design community with integrating government criteria, non-government standards, vendor data, and expert knowledge into a “whole building” perspective. The WBDG includes direct references to the National Historic Preservation Act and the Secretary of the Interior’s Standards for the Treatment of Historic Properties and acknowledges that preservation is inherently sustainable.

Integrated Design Rationale

According to the 2006 MOU, the federal government owns approximately 445,000 buildings and leases 57,000 buildings, comprised of many different building types including single family and multi-family housing communities, schools, hospitals, laboratories, museums, hotels, warehouses, transportation and customs buildings, office buildings, retail facilities, and others. When federal real property development professionals adopt an integrated approach to sustainability and preservation, they can
achieve compliance goals efficiently within their varied building portfolios. Historic federal building projects present opportunities for preservation-sensitive sustainable innovation.

In the 2008 publication, “Sustainability Matters,” the GSA includes the results of a “comprehensive post-occupancy evaluation of 12 of GSA’s sustainably designed buildings,” seven of which received the US Green Building Council’s Leadership in Energy and Environmental Design (LEED) certification. In this study, GSA also profiled two LEED certified rehabilitation projects of historic federal buildings. GSA’s evaluation showed that an integrated approach to sustainable design—addressing environmental, financial, and occupant satisfaction issues in aggregate — improves building performance. GSA also concluded that, “adaptive reuse strategies make it possible for existing facilities to meet modern office needs while eliminating the huge environmental burden of building anew, [and]… preservation of our existing building stock is the greenest alternative of all.”

Integrated Teams

Real property development teams usually consist of numerous subject matter experts, who are brought into the process at different stages by an agency lead, sometimes referred to as a project manager. Among other things, agency leads should have good working knowledge of design and engineering principles, end-user requirements, and applicable federal and state laws, regulations, and codes.

For sustainable historic federal building projects, agency leads should include sustainability and preservation specialists on their development teams during concept development, and throughout design development and project execution.

The agency lead should inform additional stakeholders particular to historic preservation as sustainable historic federal building projects progress (for example, the State and Tribal Historic Preservation Officers, the ACHP, local governments, advocacy organizations, and members of the public).

Integrated Design Management

Skilled agency leads communicate regularly with historic preservation stakeholders, engage proper team members at the
appropriate time, and prepare for resolution of unanticipated conditions. Through the project execution process, the agency lead should involve historic preservation specialists and stakeholders to ensure that the character-defining features of the historic property are identified and that their preservation is considered in decision making. In each phase of project execution, from feasibility to construction, there are opportunities to coordinate sustainability and historic preservation issues. Each of these phases is discussed below.

**Feasibility Analysis** – When considering a sustainability project in a historic building, agency leads should coordinate with the appropriate agency energy manager and conduct an energy audit to determine whether there are opportunities to improve the energy performance of the historic building in a manner that respects the building’s character-defining features and significant spaces. Agency energy managers or modeling specialists should also review a historic property’s embodied energy, define an energy baseline when appropriate, perform a life-cycle analysis, and consider extant passive building systems such as transom windows and operable exterior windows. A historic preservation specialist should be brought on the team to identify the character defining features of the historic building and to complete conditions studies and reports. For existing historic building renovations, be sure to evaluate minimally invasive alternatives, requiring the least amount of change to character-defining features. Agency leads and the historic preservation specialists should consider the appropriateness of early consultation with historic preservation stakeholders in accordance with Section 106 of the National Historic Preservation Act.

**Project Planning** – Agency leads should structure their project timelines and scopes of work to allow for ongoing collaboration through meetings among the historic preservation and sustainability specialists and other critical team members. Building facilities staff and others knowledgeable with a historic building and its uses should participate in discussions about existing building conditions, operational standards, and ongoing maintenance needs.

**Conceptual Design** – As an agency lead reviews potential concept designs with the architects and engineers, the historic preservation specialist should identify the effects that those
design options may have on the character-defining features and significant spaces within the historic building. The historic preservation specialist’s report should be presented to the agency lead, their architects and engineers, and the sustainability specialist, to facilitate a discussion on preservation compliance and sustainability details. Meanwhile, the agency lead should continue or initiate discussions with historic preservation stakeholders to keep sustainable historic projects on schedule, especially for those projects that involve new construction or substantial alteration. If a historic property may be adversely affected by the project, an agreement documenting the agency’s commitments to avoidance, minimization, and mitigation measures should be executed by the end of this phase, in accordance with Section 106 of the National Historic Preservation Act.

**Design Development** – As the agency lead works with his or her architect and engineer through design development, the historic preservation and sustainability specialists should attend milestone project meetings to ensure that design solutions will comply with federal and state preservation standards, federal sustainability goals, and sustainability certification requirements (for example, LEED). Meanwhile, continuing discussions with historic preservation stakeholders can help to keep sustainable historic projects on schedule, especially for those that include new construction or substantial alteration.

**Construction** – As remediation, excavation, and selective demolition plans are drafted, along with design documents, the historic preservation specialist and the sustainability specialist should attend regular milestone walking tours of the in-progress work at the historic building with the agency lead, architects, engineers, and contractors. Special inspection tours may be necessary to ensure protection of significant spaces or character-defining features of a historic building. Design specifications should be provided to the historic preservation and sustainability specialists prior to materials purchasing. Both specialists should be given the opportunity to review and comment on change orders in a timely manner, as appropriate, and should be consulted with regard to unanticipated conditions that may require revising a design already reviewed by the stakeholders. Building facilities staff, and others knowledgeable with the historic building and its uses, should participate in discussions.

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**ENERGY AUDITS OF HISTORIC BUILDINGS**

Conducting an energy audit is a good first step in the planning process because it helps define how a specific building performs overall—its positive and negative attributes—and the goals for any improvement efforts. This type of audit evaluates the thermal performance of a building and can identify deficiencies in the building envelope and mechanical systems. The goal of the audit is to identify deficiencies and recommend upgrades such as added insulation, caulking, general repairs, lighting, and improvements to or replacement of mechanical systems or major equipment that would enhance the efficiency of the building. The information obtained in an energy audit can aid in making informed decisions to improve the performance of the building.

The following should be considered for a historic building once an energy audit is conducted:

- Elimination of air infiltration
- Selection of efficient heating, cooling, and electrical systems with programmable controls and sensors
- Selection of efficient appliances
- Repair and upgrade of windows and doors
- Installation of insulation in the attic, basement or crawlspace and around pipes and ducts
- Addition of shading devices (awnings, trees, shades, drapes, etc.)
- Continuing use or restoration of historic passive air circulation systems

For more information, see: [http://www.nps.gov/history/hps/tps/weather/](http://www.nps.gov/history/hps/tps/weather/)
about logistics, operational standards, and ongoing maintenance needs, as appropriate, to ensure that operational requirements can be met.

**Completion** – Prior to project close-out and agency lead signoff, the historic preservation and sustainability specialists should attend a special tour to identify any concerns and confirm compliance with federal and state requirements, including sustainability certifications. The building facilities staff, others knowledgeable with the historic building, and the design team including the architect, engineers, historic preservation and sustainability specialists should collaborate to develop a maintenance manual that addresses ongoing building system operations, sustainability measures, and custodial cleaning practices including the care of historic materials.

In summary, an integrated design management approach offers long term economic benefits in improved operations and building care, and demonstrates a federal agency’s ongoing commitment to its investment in a sustainable historic building and compliance with Guiding Principles, the *Secretary of the Interior’s Standards*, the National Historic Preservation Act, and the Sustainability Order.
REUSING HISTORIC BUILDINGS

D.C. Architect Carl Elefante, FAIA, deserves the credit for the statement, “the greenest building is the one already built,” but historic preservationists and seasoned agency leads have long been aware of this fact. Largely due to the increased awareness in sustainable practices brought about by the Sustainability Order and other environmental awareness, this concept is gaining broader acceptance today. While not all historic buildings are created equal, many are inherently more sustainable than their modern counterparts or even new construction when evaluated for energy use and efficiency and taking into account life-cycle cost analyses. This is due in part to the construction techniques, materials, and locations of many historic properties, and the savings in demolition and new construction debris created by reuse of an existing structure. The assumption that a historic building cannot be adapted to meet sustainability goals or that historic buildings prevent a federal agency from meeting agency-wide sustainability goals is not supported by past federal project experience. Further, this assumption is not consistent with the National Historic Preservation Act or the Sustainability Order. Historic federal buildings should be included in the agency baseline as defined in the agency’s Strategic Sustainability Performance Plan (SSPP), in accordance with the 2008 High Performance and Sustainable Buildings guidance.

Federally Owned Historic Districts and Non-Federal Historic Communities

Many existing federal facilities comprise or are within historic districts listed in or determined eligible for listing in the National Register of Historic Places. Examples include the following:

- Pearl Harbor, Joint Base Pearl Harbor-Hickam, Hawaii, Navy and Air Force
- Plum Island Life Saving and Light Stations, Door County, Wisconsin, US Fish and Wildlife Service
- Fort Walla Walla Historic District, Walla Walla VA Medical Center, Washington, Veterans Health Administration

Each of these examples illustrate how federal agencies are often challenged to meet modern needs – national defense, wildlife
REUSING HISTORIC BUILDINGS

conservation, and medical care for veterans, respectively – while considering and preserving, when feasible, significant historic characteristics and features. It is a favorable historic preservation and sustainability outcome when modern federal functions are newly located or retained in historic districts.

In addition to federally-owned historic districts, there are more than 858 Preserve America Communities nationwide designated as of 2011. Preserve America Communities are designated because they use their historic assets for economic development and community revitalization and encourage people to experience and appreciate local historic resources through education and heritage tourism programs.

There are also more than 1,700 Certified Local Governments (CLGs) nationwide as of 2010. CLGs are local governments with a demonstrated commitment to historic preservation through the following:

- Establishment of a qualified historic preservation commission,
- Enforcement of appropriate state or local legislation for the designation and protection of historic properties, usually through a local ordinance,
- Maintenance of a system for the survey and inventory of local historic resources, and
- Provision for public participation in the local historic preservation program, including participation in the National Register of Historic Places process.

In addition to these known historic communities, there are thousands of historic districts nationwide in central business districts and rural town centers. Maintaining federal facilities in these historic communities presents an opportunity to the maintain or improve economic vitality of these communities, maximize multi-modal transportation use, provide access to low to moderate income residential areas, reuse existing utilities, and meet the other sustainable site selection criteria.

Embodied Energy

During the energy crises of the 1970s, federal planners, architects, and engineers tried to improve the energy efficiency of federal buildings. Innovative building systems, powered by solar

SECTION 110 OF THE NATIONAL HISTORIC PRESERVATION ACT

Many federal laws, regulations, and Executive Orders require the consideration and utilization of historic properties, but, as mentioned in the introduction, Section 110 of the NHPA states that “Prior to acquiring, constructing, or leasing buildings for purposes of carrying out agency responsibilities, each federal agency shall use, to the maximum extent feasible, historic properties available to the agency.”

This requirement has been reinforced by later Executive Orders such as E.O. 13006 “Locating Federal Facilities on Historic Properties in Our Nation’s Cities (May 21, 1996) and most recently by E.O. 13415. While funding for Section 110 requirements can be elusive in continuously diminishing federal budgets, the heavy emphasis and priority placed upon meeting the requirements of E.O. 13514, presents a unique opportunity. By reinforcing existing requirements and promoting the unique and irreplaceable qualities of historic properties, agency capital asset, facility, and project managers can be supportive of the current sustainability goals, improve compliance with the requirements of Section 110, and highlight the many desirable qualities that make historic properties so conducive to healthy living and working environments.

For more information, see http://www.achp.gov/
or geothermal energy sources, were developed and installed in newly constructed buildings. New long-lasting materials were pioneered, and traditional building materials, such as concrete and glass, were utilized in novel ways.

As existing historic buildings were demolished to make way for new buildings, the ACHP and others observed that the energy expended on demolition and new construction could be greater than the energy expended on renovation or rehabilitation of existing buildings. To illustrate and quantify this idea, the ACHP commissioned a study, “Assessing the Energy Conservation Benefits of Historic Preservation,” published in 1979. The study developed mathematical formulas and illustrative case studies, to aid federal decision makers in their efforts to determine the “embodied energy” in existing buildings. The ACHP defined embodied energy as the energy, measured in fossil fuels, that was consumed to make any product, bring it to market, put it to use, and then to dispose of the product at the end of its useful life. In the case of existing buildings, the ACHP advised that embodied energy calculations take into account the energy required to make all of the component materials, transport them to a construction site, construct them as part of a building, and deconstruct and dispose of them at the end of their useful life.

Life-Cycle Cost Analysis

Since the 1970s, planners and designers have developed a more comprehensive approach to considering the environmental impacts of buildings, the life-cycle cost analysis (LCCA). In many situations, historic properties may be the lower cost alternative. New construction will be preferable in other cases. The LCCA provides important data for the federal agency and historic preservation stakeholders to consider and discuss regarding the planning and design of federal buildings. Federal agencies should use available tools such as the Whole Building Design Guide or EPA’s Portfolio Manager to conduct this important analysis.

Approaches to Reuse

Reusing a historic building is an excellent strategy for lessening the environmental impacts of new construction as it requires considerably less energy than demolition and manufacture, transport, and installation of new materials. SSPPs should...
THE SECRETARY OF THE INTERIOR’S STANDARDS FOR REHABILITATION

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.

4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archaeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

For more information, see: http://www.nps.gov/history/hps/tps/standards/rehabilitation.htm
recognize the positive sustainable characteristics of historic building reuse.

Federal agencies should also recognize that there is a range of types of reuse available for consideration. 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, lighthouses, ice houses, or windmills may be more difficult to adapt to new uses without major interventions resulting loss of historic character and integrity. The federal agency’s decision on whether or how to reuse a historic building should be informed by consultation with historic preservation stakeholders through the Section 106 compliance process.

Once the use for the historic building is identified, the federal agency may make changes to the building to address modern needs: commissioning, space requirements, accessibility for the disabled, mechanical/electrical and information technology needs, security, and sustainability and energy efficiency improvements. The potential effects of such changes to the fabric and design of the historic building will depend on the scale of the efforts and the integrity and significance of the elements of the building that will be changed. Even if the proposed changes will adversely affect the historic building, in most cases, it is a preferable historic preservation outcome to reuse the building under these circumstances rather than to vacate, excess, surplus, or demolish the building.

The Secretary of the Interior has developed the *Standards for the Treatment of Historic Properties*, which, when applied appropriately to federal reuse planning, design, and construction, can aid federal agencies in avoiding adverse effects to historic buildings being modified to meet sustainability or other modern needs. The *Standards* are neither technical nor prescriptive but provide philosophical consistency to the work of keeping historic buildings relevant in modern society. The *Standards* describe four approaches for historic buildings: Preservation, Rehabilitation, Restoration, and Reconstruction. To determine which approach is best suited for a given project, the *Standards* advise planners and designers to consider the relative importance in history, physical condition, and proposed use of the building along with the applicable mandatory code requirements.
Typically, federal agencies apply the Standards for Rehabilitation to their programs and projects involving historic federal buildings. To comply with the Standards for Rehabilitation, all 10 individual standards should be met. To more easily understand these principles, they can be broken down into three major concepts:

- **Retain and repair rather than replace** – Historic materials should be retained and repaired rather than replaced on both the interior and exterior of a building. In terms of sustainability, it is important to note there is significant embodied energy found in traditional building materials such as brick, stone, and heavy timber.

- **Preserve the character and architectural integrity of a historic building, even if the use of the building changes** – It is these qualities, character and integrity, that should be protected if changes are made to a building to make it more sustainable or to allow a modern use.

- **Make modifications sensitively** – Any planned changes to a historic building, including ways of making it more sustainable, like a solar panel or roof garden, should not compromise its character.

More information about how to apply the Standards is provided by the National Park Service, Technical Preservation Services (see Links to More Information).

**Key Concepts for Reusing Historic Buildings:**

- Compare Life-Cycle Costs of available existing historic federal buildings with new construction
- Consider reuse of existing historic federal buildings before new construction
- Use the Secretary of the Interior’s Standards for Rehabilitation as a guide for reuse planning and design
APPLYING THE GUIDING PRINCIPLES

To apply the Guiding Principles from the MOU to historic federal buildings, agency leads should ensure that historic preservation expertise is included in the collaborative, integrated planning and design process and that the Section 106 review process is concurrent with project planning and conceptual design. The expertise and input of Section 106 stakeholders should be focused on opportunities for the program or project to meet sustainability goals while avoiding or minimizing adverse effects to historic federal buildings. As discussed in the previous section, applying the Secretary of the Interior’s Standards for the Treatment of Historic Properties to the proposed changes to a historic federal building can aid federal agencies in planning and designing to avoid such adverse effects.

With each type of sustainable improvement proposed for a historic federal building, there are potential historic preservation concerns and opportunities to resolve those concerns with stakeholders. A range of improvement types, organized by the Guiding Principles, are discussed below. This list, however, is not exhaustive. More detailed guidance is available from a variety of other sources, listed in the Links to More Information section of this guidance.

Optimize Energy Performance

Energy Efficiency

The term “weatherization” involves the design and implementation of cost-effective measures to make a building’s envelope more energy efficient. Weatherizing a historic building is possible and should be considered in federal projects. Before undertaking any treatments, an overall plan for reducing energy consumption should be developed so that the most effective and least adversely affecting strategies can be identified and implemented. This plan should be tailored specifically to an individual building, its site, climate, and occupancy. In addition, a building’s systems, appliances, and lighting should also be considered.

A common weatherization strategy is window replacement. Window replacements are likely to adversely affect the historic building, because original windows are often character-defining features. Before committing to a window replacement approach,
be sure to evaluate whether the existing windows are character-defining features and retain integrity. The evaluation should also identify the best strategy to achieve the energy efficiency goals for the building: alternatives to replacement such as caulking, replacement glazing, the addition of storm windows, and other approaches should be considered. If replacement is determined to be the best course of action, the federal agency should consider replicating historic windows – size, configuration, profiles, materials, and trim. Consultation with historic preservation stakeholders early in the planning process is important to reduce the potential for schedule and design impacts to project delivery.

Energy efficiency can also be addressed through passive design solutions including shading and thermal massing. These solutions may be applied to federal historic building rehabilitations and new construction buildings and additions in a federal historic complex or historic community. In some cases, historic buildings were constructed with historic energy efficiency features, which should be maintained or restored if no longer operational.

**On-Site Renewable Energy**

A common trend is the addition of active systems to conserve and capture energy. Examples of active systems include the incorporation of solar panels, photovoltaic cells, wind turbines, green roofs, and geothermal systems, some of which may be combined heat and power (cogeneration/CHP) systems. Although there is much to gain through their installation, these treatments may not meet the Standards if they are too prominently placed on a historic building, if they require the removal of significant amounts of architectural fabric for their installation, or if they alter important spaces or the historic setting. Architects should be discouraged from designing unnecessarily conspicuous alterations in prominent exterior locations or significant spaces. Any changes to those areas should be reversible, as less visible solutions may be available in the future.

**Solar panels** tend to have the least visual impact on historic buildings with flat roofs and parapets, when compared to other on-site renewable energy applications. The angle at which a panel is installed is important, and the more horizontal the orientation, the less visible and conspicuous it becomes. There are also other products such as solar “laminates” on the market that lay flat on a roof top and are less visually intrusive.
Energy can be captured through the use of wind turbines which take many forms. Wind turbines prominently attached to the sides or roofs of historic buildings may be problematic for the historic building or a historic district setting. Freestanding wind turbines can adversely affect the setting of a historic property. Viewshed studies and other research should be conducted to understand potential effects on historic properties and to inform compatible design solutions. Consultation with historic preservation stakeholders early in the planning process is an important strategy to reduce the potential for controversy and the resulting schedule and design impacts to project delivery.

Geothermal heat pump systems capture heat stored in the earth. They are extremely efficient, last a long time and are not visually intrusive. They do, however, require the drilling and placement of wells deep below grade. This is a costly undertaking and should be discouraged if significant archaeological resources or cultural landscapes would be disturbed in the process.

Due to their visibility, green roofs are most appropriate on flat-roofed historic buildings. These new features should be set back from the perimeter walls and should have plantings and furnishings that are low in profile to minimize visibility from a public right of way. A historic building must accommodate the additional load of soil and plants and be able to handle the introduction of new sources of water. Landscaping on a roof should be sustainable in its own right. Native, drought-resistant species with low maintenance and water requirements should be specified.

Protect and Conserve Indoor and Outdoor Water

Indoor Water

Indoor water systems are generally not considered character-defining features of a historic federal building. The potential for indoor water conservation improvements, such as low-flow toilets and on-demand hot water, to adversely affect historic federal buildings usually occurs when access through existing and intact walls, floors, or ceilings is necessary. Combining access for indoor water conservation improvements with other necessary access – for example, wiring, heating/air conditioning, or ventilation – and reducing the number of overall access points
necessary may minimize adverse effects to character-defining features.

**Outdoor Water**

Outdoor water systems, in and of themselves, are often not considered character-defining features of a historic federal building or complex. However, the integrity of the historic designed landscape of the building or complex may be dependent on the availability of irrigation or other outdoor water features such as fountains or storm water management ponds. Similarly, installing new landscape elements to improve outdoor water conservation, such as rain gardens, bio-swales, and permeable pavement surfaces, has the potential to adversely affect significant historic landscapes or settings of federal buildings and complexes. When considering outdoor water conservation improvements, be sure to include expertise in the identification and preservation of historic landscapes in the integrated planning and design team. This is another scenario where consultation with historic preservation stakeholders early in the planning process is an important strategy to reduce the potential for schedule and design impacts to project delivery.

**Enhance Indoor Environmental Quality**

Many historic federal buildings were designed with large, operable windows which may be an important consideration in meeting ventilation and daylighting goals. The size and operation of these windows, however, should be balanced with the potential for air infiltration and solar gain.

To compensate for potential solar gain, some historic federal buildings were designed with porticos, porches, or other sun shading. Such original design elements are likely, if intact, to be character-defining features of historic federal buildings. Maintenance of the function of these features is an ideal opportunity for federal agencies to meet historic preservation and sustainability goals together.

The interior design of many historic federal buildings also aided in ventilation and thermal comfort. A common historic design element is the operable transom window above interior doors. Transoms, when intact, are likely to be character-defining features of historic federal buildings, but many have been made inoperable, filled in, or replaced with electric fans. The
opportunity to restore these beneficial features should be considered in interior renovation projects.

Common remedies for persistent moisture control problems include the addition of moisture barriers at the ground or basement levels. The application of moisture barriers to historic foundation materials may adversely affect the materials, design, or workmanship of the historic building. Similarly, roof repairs are another strategy for moisture control that may adversely affect historic federal buildings. Historic roofing materials should be repaired if possible or, if too deteriorated, replaced in kind to match the historic materials.

When considering moisture control improvements, be sure to include expertise in the identification and preservation of historic buildings features and finishes in the integrated planning and design team. This is another scenario where consultation with historic preservation stakeholders early in the planning process is an important strategy to reduce the potential for schedule and design impacts to project delivery.

In many situations it may be appropriate to specify low-emitting materials for interior renovations of historic federal buildings. However, in some situations the federal agency may choose to replicate the original historic materials, design, and workmanship for key character-defining features of a historic federal building. Consideration of materials should take into account the scale of the effort, the significance of the character-defining feature, public access, and other factors. If the improvement extends throughout a large building, the feature is of limited significance to the historic building, and the public will not see or be aware of the substitution, it may be appropriate for the federal agency to specify low-emitting materials for necessary replacements or new construction.
Reduce Environmental Impact of Materials

Once the decision is made to rehabilitate an existing historic building rather than to construct a new building, the federal agency has already greatly reduced the environmental impact of the materials. Historic materials should only be replaced if they are too deteriorated to repair. Historic materials should not be replaced just to put a “greener” material in their place.

Similar to the considerations discussed above regarding low-emitting materials, the specification of recycled content, biobased content, and environmentally preferable products for renovations to historic federal buildings may be appropriate for necessary replacements or new construction. However, in some situations the federal agency may choose to replicate the original historic materials, design, and workmanship for key character-defining features of a historic federal building. Consideration of materials should take into account the scale of the effort, the significance of the character-defining feature, public access, and other factors. If the improvement extends throughout a large building, the feature is of limited significance to the historic building, and the public will not see or be aware of the substitution, it may be appropriate for the federal agency to specify recycled content, biobased content, and environmentally preferable products instead of replicated materials.

Some recent federal projects have identified opportunities for “deconstruction,” that is, architectural salvage from demolition or renovation projects. This approach does not meet the Standards and should be considered only after other alternatives have been identified, evaluated, and found to be infeasible. When this approach is selected, character-defining elements such as windows, doors, decorative exterior trim, interior trim, stairs, balustrades, floorboards, and wood siding should be made available to historic preservation organizations or others that may be able to appropriately recycle or reuse them. Federal agencies are encouraged to seek out these opportunities to meet historic preservation and sustainability goals together through consultation with stakeholders in the Section 106 review process.
As discussed previously in this guidance, the Sustainability Order urges federal agencies to favor the reuse of existing historic buildings or buildings in historic districts. When reuse is not reasonable or feasible, federal agencies should also consider the potential for new construction in a historic district. The following is a more detailed discussion of some historic preservation issues for federal agencies to consider when developing federal facility siting proposals for new construction.

In 1996, President Clinton issued E.O. 13006, “Locating Federal Facilities on Historic Properties in Our Nation’s Central Cities.” Building on the preference for locating federal facilities in city centers, established in the 1978 E.O. 12072, “Federal Space Management,” the more recent E.O. seeks not only to revitalize historic city centers but also to take advantage of the energy efficiency of utilizing existing utilities and public transportation infrastructure and proximity to existing low and moderate income housing. Many of our nation’s city and rural town centers are also historic districts. Accordingly, after an appropriate consideration of reuse of existing historic buildings and structures, federal agencies may determine that new construction within a historic district is the most viable option to meet federal needs, mission, environmental, sustainability, and historic preservation goals.

Section 10 of the Sustainability Order directed the DOT, DoD, Department of Housing and Urban Development (HUD), Environmental Protection Agency (EPA), General Services Administration (GSA), and Department of Homeland Security (DHS) to prepare recommendations for sustainable locations for federal facilities. These agencies fulfilled this direction in publishing their recommendations on April 5, 2010.

Local Government and Public Involvement in Decision-Making

Federal construction, while subject to the requirements of Section 106, is not generally subject to local historic preservation ordinances or design review. However, the recommendations for sustainable siting underscore the need for federal decision makers to work with local governments and communities. Federal
agencies are encouraged to maximize their interactions with these parties by addressing historic preservation concerns with sustainability concurrently. In addition, federal agencies should be aware that many local governments may be delegated as the “Responsible Entity” to act as a federal agency for certain HUD programs like the Community Development Block Grant (CDBG) program. As a result, the historic preservation and/or planning staff of these delegated local governments have experience with the Section 106 review process and knowledge of the local individuals and organizations with historic preservation concerns in the community from which another federal agency could benefit. Federal agencies should work closely with these local governments to improve their Section 106 consultation regarding siting decisions.

New Construction in Historic Districts

When new construction is added to a historic district, federal decision makers should consider designs which seek compatibility with the existing historic materials, design, and other contributing elements of the historic district. As in the renovation of an individual historic federal building, discussed earlier in this guidance, the Secretary of the Interior’s Standards for Rehabilitation serve as the basis for understanding “compatibility” with a historic district. If the Standards cannot be met for new construction in a historic district, then the proposed undertaking may be found to have an adverse effect. Appropriate minimization and/or mitigation considerations may be negotiated through the Section 106 process, and the undertaking may proceed.

Recent federal new construction projects in historic districts have illustrated the tension that can occur between historic preservation and sustainability concerns. Federal agencies and environmentally minded stakeholders have shown an interest in new construction that clearly and obviously shows its energy efficiency and sustainability features to the public in a way that is not always compatible with the surrounding historic district. Federal planners and designers should understand that a boldly modern “green-looking” new building or addition may not be a compatible addition to a historic district. Federal agencies should consider local design guidelines and consult with local historic preservation commissions and planners when working in a historic district. Through the Section 106 review process, federal
decision makers should seek design solutions that balance stakeholder interests in historic preservation and sustainability.

Key Concepts for Reinvesting in Historic Districts:

- Consider siting federal facilities in historic districts, either federally owned or in local communities
- Involve local governments, stakeholders, and the public in decision making through the Section 106 review process
- Design new construction to be compatible with the surrounding historic district
Another requirement for federal agencies in the Sustainability Order is “...identifying opportunities to consolidate and dispose of existing assets...” This obligation is echoed in E.O. 13327, “Federal Real Property Asset Management,” which establishes policy and procedure for promoting efficient and economical use and management of federal real property assets, including active disposal of excess and surplus assets. Disposal methods include transfer, donation, or sale but may be related to decisions regarding demolition, deconstruction, and off-site removal of assets.

Every land-managing federal agency has an asset business plan to effectively manage its real property assets. The foundation of an agency asset management plan is to maintain a minimum portfolio of real property assets necessary to effectively support and deliver the agency’s mission. It also guides the disposal of assets that are not suitable for mission execution or are no longer cost effective to maintain or recapitalize. Asset business plans should identify historic federal buildings and discuss appropriate considerations for disposal candidates. Building or facility-specific studies assessing retention and disposal options should recommend alternatives for minimizing adverse effects to the historic property.

The National Historic Preservation Act requires agencies to give first consideration to using available historic properties (See sidebar on Section 110 of the NHPA on page 12). Accordingly, asset reduction plans should consider opportunities to consolidate in federal historic buildings and rehabilitate them appropriately if necessary to meet current needs. When retention of historic buildings is not possible, the choice of disposal authorities and transfer approaches should maximize the potential for sympathetic reuse and, where appropriate, continued public access to public spaces important to the community. Federal agencies should remember to consider leasing historic properties in accordance with Section 111 of the National Historic Preservation Act, the proceeds of which can benefit the leased property or other historic properties in the agency’s portfolio.

This chapter presents the primary steps involved in the disposal of historic properties, discusses the appropriate disposal procedures as they relate to the National Historic Preservation Act.
Act, and considers key issues associated with disposing historic buildings.

**Determining Excess or Surplus Real Property**

The first step toward disposal is to determine if a property is excess. Excess property has no further program use, is no longer mission critical, is not cost effective to maintain and keep, and is uneconomically or economically under-utilized by the federal agency which controls it.

Another important, but sometimes unrecognized factor is the historic, cultural, or archaeological significance of the property. All agencies annually report their real property assets on the Federal Real Property Profile (FRPP). One of the FRPP required fields is Historic Status, which identifies if an asset has been listed or determined eligible for listing in the National Register of Historic Places. Therefore, it is critical that the Historic Status field is accurate for all building assets being considered for disposal.

Federal agencies should recognize, however, that the FRPP alone does not provide adequate information regarding whether an individual federal building is located in a historic district such as a historic federal complex or a downtown historic district. Agencies should consider not only the individual significance of the building but also its potential contribution to the significance of a surrounding historic district.

Federal agencies should consider options and alternatives for the reuse of underutilized or vacant historic buildings, as was discussed previously in this guidance. If a federal agency determines that a particular building is excess, then the property is made available to other federal agencies. The opportunity for one federal agency to utilize historic buildings that may be excess for another federal agency is an opportunity to meet historic preservation and sustainability goals concurrently. While many federal agencies have excess buildings available, federal agencies should work with the US Postal Service in particular, to make use of approximately 400 excess post office buildings, many historic or located in historic districts in urban or town centers.

Once a historic building is made available to other federal agencies, and no opportunities for reuse are identified, the

**SECTION 111 OF THE NATIONAL HISTORIC PRESERVATION ACT**

Federal agencies shall establish and implement alternatives including adaptive use for historic properties that are not needed for current or projected agency purposes. Federal agencies may lease or exchange a historic federal property to any person or organization if the lease or exchange will adequately insure the preservation of historic property. Also, the proceeds of any lease may be retained by the federal agency and used to defray the costs of administration, maintenance, repair, and related expenses with respect to the historic property or other historic properties under the ownership or control of the federal agency.

For more information, see: [http://www.achp.gov/](http://www.achp.gov/)
property is classified as surplus. GSA is responsible for the utilization and disposal of excess and surplus federal property in the most economic and efficient manner under the provisions of the Federal Property and Administrative Services Act of 1949. Agencies must work with GSA to dispose of properties unless Congress has issued agency-specific disposal authority. Other laws and regulations may be applicable to disposal decision making, and each agency should be aware of the statutes that are relevant to them.

Planning and Executing Disposal of Historic Buildings

Whether a monument conveyance, public benefit, negotiated sale, public sale, Base Realignment and Closure (BRAC) or other process is used, each disposal authority involves considerations when dealing with historic buildings. Federal agencies are encouraged to consider disposal methods which preserve the historic integrity and character-defining features of the building to the greatest extent possible. The federal agency’s decisions regarding disposal should be informed by the considerations included in Section 110 of the National Historic Preservation Act and also by historic preservation stakeholders through the Section 106 review process.

Historic properties may be disposed of by transfer within the federal government or outside of federal ownership through the National Park Service’s (NPS) Historic Surplus Property Program, administered in partnership with GSA. Federal historic buildings may also be transferred under monument conveyance authority (40 U.S.C. 550(h)), public sale, or other public benefit authorities including for educational use (40 U.S.C. 550(d)). Agency staff responsible for surplus property determination and the Section 106 review process should be familiar with disposal methods and should collaborate with property conveyance personnel to ensure that stewardship goals are adequately addressed. When a historic building is conveyed out of federal ownership, federal agencies define transfer provisions and processes specific to the property and its preservation needs, including those that protect its character-defining features through the Section 106 review process. Properties may be adapted for new uses, and often the associated rehabilitation may meet the Secretary of the Interior’s Standards for Rehabilitation. Private

THE NPS HISTORIC SUPLUS PROPERTY PROGRAM

The Historic Surplus Property Program enables state, county, and local governments to obtain historic buildings once used by the federal government at no cost and adapt them for new uses.

Through the NPS program, which is administered in partnership with GSA, historic buildings once used for federal purposes can be transferred at no cost to state and local governments or other eligible political subdivisions. Under this program, historic properties—whether they contain one building or a complex of functionally related buildings—have been adapted and preserved in cities, suburbs, and rural areas nationwide.

These historic properties are physical reminders of our nation’s diverse heritage and reflect our federal history—from fortifications for national defense and facilities used to mint currency, to structures that aided seafarers in navigation. They are often in prime locations, such as downtowns, waterfront, or scenic areas.

For more information, see:
http://www.nps.gov/hps/tps/hssp_p.htm
owners may be eligible for very attractive federal and/or state tax credits for rehabilitations meeting the Standards. Public benefit transfer provisions, preservation covenants, provisions for third-party design reviews after transfer, and an assortment of other options are available to help federal agencies ensure the long-term preservation of a historic property transferred out of federal control. If adaptive use is reasonably foreseeable, covenants, agreements, solicitations, and other documents should reference the Standards to avoid or minimize adverse effects.

For assets lacking a viable reuse and where demolition is anticipated, agencies may consider deconstruction and architectural salvage and should consult with stakeholders through the Section 106 process to determine if salvage is in the public interest.

**Key Concepts for Considering Disposal:**

- Determine if the building is historic or contributing to a historic district, eligible or listed in the National Register of Historic Places
- Identify, negotiate, and resolve historic preservation issues (complete the Section 106 review process) prior to transferring property out of federal control

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**THE FEDERAL HISTORIC PRESERVATION TAX INCENTIVES PROGRAM**

The Federal Historic Preservation Tax Incentives program is one of the federal government’s most successful and cost-effective community revitalization programs. The NPS administers the program with the Internal Revenue Service in partnership with State Historic Preservation Offices.

It preserves historic buildings, stimulates private investment, creates jobs, and revitalizes communities. It has leveraged over $58 billion in private investment to preserve and reuse 37,000 historic properties since 1976.

Current tax incentives for preservation, established by the Tax Reform Act of 1986 (PL 99-514; Internal Revenue Code Section 47 [formerly Section 48(g)]) include:

- a 20% tax credit for the certified rehabilitation of certified historic structures
- a 10% tax credit for the rehabilitation of nonhistoric, non-residential buildings built before 1936

For more information, see: [http://www.nps.gov/hps/tps/tax/index.htm](http://www.nps.gov/hps/tps/tax/index.htm)
LINKS TO MORE INFORMATION

Advisory Council on Historic Preservation

http://www.achp.gov/

- The National Historic Preservation Act of 1966
- “Protection of Historic Properties” (36 CFR Part 800)
- Embodied Energy Guidance, 1979

Department of Energy

http://www.energy.gov/

- Building Technologies Program – http://www1.eere.energy.gov/buildings/

General Services Administration

http://www.gsa.gov/

- Real Property Disposal Program – http://www.gsa.gov/portal/content/105035
- Sustainable Design Program – http://www.gsa.gov/portal/content/104462
- Urban Development/Good Neighbor Program – http://www.gsa.gov/portal/category/21088

National Park Service

http://www.nps.gov/

Technical Preservation Services
http://www.nps.gov/history/hps/tps/

Sample relevant titles:

- Weatherizing and Improving the Energy Efficiency of Historic Buildings
- Preservation Brief #3: Conserving Energy in Historic Buildings (not available and under revision by NPS as of publication)
- Preservation Brief #16: The Use of Substitute Materials on Historic Building Exteriors
- Preservation Brief #17: Architectural Character – Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character
- Preservation Brief #18: Rehabilitating Interiors in Historic Buildings – Identifying and Preserving Character-Defining Elements
- Preservation Brief #36: Protecting Cultural Landscapes: Planning, Treatment, and Management of Historic Landscapes


Interpreting the Standards Bulletin Series –
http://www.nps.gov/history/hps/tps/tax/ITS/itshome.htm

- Incorporating Solar Panels in a Rehabilitation Project –
  http://www.nps.gov/history/hps/tps/tax/ITS/its52.pdf

- Installing Green Roofs on Historic Buildings –
  http://www.nps.gov/history/hps/tps/tax/ITS/its.54.pdf

National Register of Historic Places –
http://www.nps.gov/history/nr/

- Bulletin 15 - How to Apply the National Register Criteria for Evaluation –
  http://www.nps.gov/nr/publications/bulletins/nrb15/

National Trust for Historic Preservation
http://www.preservationnation.org/

- Pocantico Proclamation on Sustainability and Historic Preservation –
  http://www.preservationnation.org/issues/sustainability/additional-resources/Pocantico-Proclamation.pdf

- Sustainability by the Numbers: The Costs of Construction and Demolition, and Energy Efficiency of Historic and Older Buildings –
  http://www.preservationnation.org/issues/sustainability/sustainability-numbers.html

Whole Building Design Guide
http://www.wbdg.org/

- Case Studies in Integrated Planning and Design –
  http://www.wbdg.org/references/casestudies.php
GLOSSARY

Advisory Council on Historic Preservation (ACHP) – An independent federal agency, established by the National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.). The mission of the ACHP is to promote the preservation, enhancement, and sustainable use of the nation’s diverse historic resources, and to advise the President and Congress on national historic preservation policy.

Asset Management Plan (AMP) – A documented plan of business that addresses and articulates the requirements for effectively managing a portfolio of real property assets.

Character-Defining Features/Elements – The visual aspects and physical features that comprise the appearance of every historic building, including the overall shape of a building, its materials, craftsmanship, decorative details, interior spaces and features, as well as the various aspects of its setting.

Compatible Treatment – Any alteration or addition to the interior or exterior of a historic building that is harmonious or appropriate to the character of the building in design, scale, massing, materials, texture, and other visual qualities.

Commissioning – A quality-oriented process for achieving, verifying, and documenting that the performance of facilities, systems, and assemblies meets defined objectives and criteria.

Consultation – The process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the Section 106 review process. See the Secretary’s “Standards and Guidelines for Federal Agency Preservation Programs pursuant to the National Historic Preservation Act” for further guidance (36 CFR § 800.16(f)).

Cultural Landscape – 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.

Deconstruction – The systematic dismantling of building components in the reverse order to which they were installed and packaged for reuse, resale, or refurbishing. It maximizes the
recovery of valuable building materials for reuse and recycling and minimizes the amount of waste land filled.

**Deferred Maintenance** – Maintenance that was not performed when it should have been or was scheduled to be and which, therefore, is put off or delayed.

**Demolish or Demolition** – To tear down completely through a destruction process, and clean up and remove destroyed materials from the site.

**Disposition** – Completion of the disposal process.

**Effect** – Alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register of Historic Places (36 CFR § 800.16(i)).

**Excess Property** – Property under the control of a federal agency that is formally identified as having no further program use by the federal agency.

**Finished Spaces** – Those rooms on the interior of a building that are finished with plaster, gypsum wall board, or other covering materials. These are typically in more refined buildings, such as houses, apartment buildings, hotels, theaters, churches, office buildings, and museums. They often have millwork (trim) around windows, doors, transoms, and where horizontal and vertical walls intersect (for example, baseboards and cornices). They may or may not contain further decoration, and the underlying structural framing is generally concealed. Flooring is appropriate to the character of the interior and includes wood, carpet, tile, terrazzo, marble, etc.

**Finishes** – The architectural materials that “finish” or complete the interior of a building, such as plaster, gypsum wall board, paneling, flooring, decoration, etc.

**Federal Preservation Officer (FPO)** – The official or designee specifically responsible for coordinating an agency’s activities under the National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.). Each federal agency has a Federal Preservation Officer.

**Federal Real Property Profile (FRPP)** – An automated system under the purview of GSA that is used to capture and report on 23 mandatory data elements for each individual real property asset owned by the executive agencies of the federal government.
Historic Building – A building that is generally at least 50 years old, is significant for historical, architectural, engineering, archaeological, or cultural reasons, and is listed in or eligible for inclusion in the National Register of Historic Places either individually or as a contributing building in a historic district.

Historic District – A district that possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development and is listed in or eligible for inclusion in the National Register of Historic Places.

Historic Fabric – The architectural materials that comprise a historic building on the interior and exterior.

HVAC – Heating, ventilation, and air-conditioning.

Industrial Spaces – “Industrial” spaces are those interior rooms of a building that generally have the structure exposed for durability, ease of maintenance, and/or hygiene. These typically have industrial, manufacturing, or service-oriented purposes and are often warehouses or factories. They are characterized by exposed masonry (e.g., brick, concrete block, stone), exposed structural framing (e.g., timber or metal columns, beams and trusses), unfinished floors (e.g., unvarnished wood or concrete), and other more utilitarian components (e.g., sliding fire doors, freight elevators, riveted steel members, etc). They may or may not include trim or other forms of decoration.

Integrity – The authenticity of a building’s historic identity, evidenced by the survival of physical characteristics that existed during its historic period. It is also the extent to which a building retains its historic appearance.

Interior Finishes – The materials used on the interior of a building, such as plaster (flat, decorative), gypsum wall board, wood paneling, flooring (e.g., wood, tiling, terrazzo, and marble), wainscoting, etc.

Landscape Features – 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.

MEP – Mechanical, electrical, and plumbing.
National Historic Preservation Act of 1966 – (16 U.S.C. 470 et seq.) establishes the federal historic preservation policy through the creation of the Advisory Council on Historic Preservation, Federal Preservation Officers responsible for a historic preservation program in each federal agency, and State and Tribal Historic Preservation Officers. Section 110 (16 U.S.C. 470h-2(a)) directs federal agencies to be responsible stewards of historic properties on behalf of the American public. Section 106 of the Act (16 U.S.C. 470f) directs federal agencies to consider the effects of their undertakings on historic properties.

National Register of Historic Places – The official list of the nation’s places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service’s National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America’s historic and archaeological resources.

Preservation – The act or process of applying measures to sustain the existing form, integrity, and materials of a 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.

Preservation Professional – A person with considerable experience working with historic buildings and with knowledge of the Secretary of the Interior’s Standards. This individual should meet the Secretary of the Interior’s Professional Qualification Standards in history, archaeology, architectural history, or historic architecture, or other allied field (48 FR 44716).

Primary Spaces – Those spaces that are important in defining the historic character of a building and should be retained or only minimally altered. Generally, front areas of a building are more important than the back; lower floors are more important than upper floors; and visible and public areas are more important than obscured and private areas. Whenever possible, major alterations
should be undertaken in secondary spaces to preserve the historic character of the building.

**Private Spaces** – These spaces are traditionally set apart from the public spaces and include individual offices, bedrooms, guestrooms in a hotel, and work spaces.

**Public Benefit Conveyance** – Transfer of surplus property to a public agency or eligible nonprofit institution, including providers of homeless services, by which the fair market value of the property may be discounted up to 100 percent in consideration of the recipient’s use of the property for a particular public benefit that is specified by law for a fixed period of time.

**Public Spaces** – These spaces are those that are traditionally open to the public or are the most primary spaces in a building such as foyers, parlors, lobbies, hallways, meeting spaces, or auditoriums.

**Real Property** – Real property is land, or improvements to land such as buildings and structures owned, leased or otherwise managed by the federal government both within and outside the United States. Real property is defined as any interest in land, together with structures and fixtures, appurtenances, and improvements of any kind located thereon. The term “real” should be associated with realty, land, or something attached thereto.

**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 and in its historic location.

**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-related work to make properties functional is appropriate within a restoration project.

**Secretary of the Interior’s Standards for the Treatment of Historic Properties** – The Standards are guidance to federal agencies and others to promote responsible preservation practices that help protect our nation’s irreplaceable cultural resources. The four “Treatment Standards” are as follows and are listed in order of the least to most amount of intervention required: (1) Preservation, (2) Rehabilitation, (3) Restoration, and (4) Reconstruction. Once a treatment is selected, the Standards provide philosophical consistency to the work.

**State Historic Preservation Officer (SHPO)** – The SHPOs in each of the 50 states in the nation, as well as the US territories and the District of Columbia, were established by the National Historic Preservation Act (16 U.S.C. 470a(b)) to administer a State Historic Preservation Program. The SHPO receives federal funding to defray the costs of fulfilling its role under the Act. The SHPO’s federal responsibilities include directing, conducting, and maintaining a comprehensive statewide survey of historic properties; nominating eligible properties to the National Register; and advising and assisting federal agencies in their efforts to comply with Section 106 of the Act.

**Surplus Property** – An excess property not required for the needs and the discharge of the responsibilities of all federal agencies, as determined by the Administrator of GSA.

**Tribal Historic Preservation Officer (THPO)** – The THPOs are similar to SHPOs. Established by the National Historic Preservation Act (16 U.S.C. 470a(d)(2)), a federally recognized Indian tribe may assume all or any part of the functions of a SHPO with respect to tribal lands.

**Undertaking** – A project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; and those requiring a federal permit, license, or approval (36 CFR § 800.16(y)).

**Utilitarian or Service-Oriented Spaces** – These are generally more secondary in nature and commonly include attics, basements, crawl spaces, kitchens, bathrooms, and mechanical
rooms. They tend to be in more remote locations on the interiors of historic buildings and are often less finished than primary spaces. These areas are more likely to accept change, when compared to primary spaces, without impacting the historic integrity of the interior.
The ACHP prepared this guidance to advise federal decision makers regarding the requirements of Section 2(g) of Executive Order 13514: Federal Leadership in Environmental, Energy, and Economic Performance. That section of the Sustainability Order charges federal agencies to,

“Implement high performance sustainable federal building design, construction, operation and management, maintenance, and deconstruction including by...[among other considerations] ensuring that rehabilitation of federally owned historic buildings utilizes best practices and technologies in retrofitting to promote long-term viability of the buildings”

This guidance was prepared by a work group comprising staff representatives of the ACHP, Department of Defense, Department of the Interior, Department of Veterans Affairs, and General Services Administration. Special thanks for the contribution of staff representing the Technical Preservation Services of the National Park Service, who provided expertise in the application of the Secretary of the Interior’s Standards for the Treatment of Historic Properties and other best practices and technologies for rehabilitating federal historic buildings.

The Advisory Council on Historic Preservation, an independent federal agency, promotes the preservation, enhancement, and sustainable use of our nation’s diverse historic resources, and advises the President and the Congress on national historic preservation policy.
CHECKLIST FOR SUSTAINABILITY AND HISTORIC FEDERAL BUILDINGS

Key Concepts:
- Historic federal buildings are sustainability assets for federal agencies, not liabilities
- By considering historic preservation and sustainability concurrently, federal agencies can meet both goals

Recommended Approach to Decision Making regarding Federal Historic Buildings:
- Consider reusing a historic building before constructing a new building or leasing space in a privately owned building,
- Rehabilitate a historic building by using, reclaiming, and enhancing historic sustainable features and by adding compatible sustainability improvements when needed,
- Design compatible new green construction in existing historic communities when needed, and
- Consider disposing of a historic building only after other options are appropriately considered.

Integrated Planning and Design:
- Include historic preservation and sustainability expertise in the federal agency planning and design team
- Initiate Section 106 consultation with stakeholders early in project planning, in some cases during the feasibility phase
- Complete Section 106 prior to the construction phase
- Involve historic preservation specialists in each step of project execution from feasibility through construction

Reusing Historic Buildings:
- Compare Life-Cycle Costs of available existing historic federal buildings with new construction
- Consider reuse of existing historic federal buildings before new construction
- Use the Secretary of the Interior’s Standards for Rehabilitation as a guide for reuse planning and design

Applying the Guiding Principles of Sustainability:
- Retain and repair character-defining features when feasible, rather than replace
- Modify character-defining features sensitively and with input from historic preservation stakeholders
- Maintain or restore historic features with sustainability benefits (such as sun shades and transoms)
- Consider replicating historic materials and workmanship when necessary

Reinvesting in Historic Districts:
- Consider siting federal facilities in historic districts, either federally owned or in local communities
- Involve local governments, stakeholders, and the public in decision making through the Section 106 review process
- Design new construction to be compatible with the surrounding historic district

Considering Disposal:
- Determine if the building is historic or contributing to a historic district, eligible or listed in the National Register of Historic Places
- Identify, negotiate, and resolve historic preservation issues (complete the Section 106 review process) prior to transferring property out of federal control

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