

The Secretary of the Interior's

Standards for Rehabilitation

and Guidelines for
Rehabilitating Historic Buildings

U.S. Department of the Interior
National Park Service
Preservation Assistance Division
Washington, D.C.

The Secretary of the Interior's Standards for Historic Preservation Projects with Guidelines for Applying the Standards were initially written in 1976 by W. Brown Morton III and Gary L. Hume. The Guidelines for Rehabilitating Historic Buildings were revised and expanded in 1983 by Gary L. Hume and Kay D. Weeks. The Standards for Rehabilitation were revised in 1990 following a public comment period. It should be noted that the minor revisions to the Standards for Rehabilitation will not affect their application so that a project which was previously acceptable would continue to be acceptable.

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The Secretary of the Interior's Standards for Rehabilitation

Introduction to the Standards

The Secretary of the Interior is responsible for establishing standards for all programs under Departmental authority and for advising Federal agencies on the preservation of historic properties listed in or eligible for listing in the National Register of Historic Places.

The Standards for Rehabilitation (codified in 36 CFR 67 for use in the Federal Historic Preservation Tax Incentives program) address the most prevalent treatment. "Rehabilitation" is defined as "the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values."

Initially developed by the Secretary of the Interior to determine the appropriateness of proposed project work on registered properties within the Historic Preservation Fund grant-in-aid program, the **Standards for Rehabilitation** have been widely used over the years--particularly to determine if a rehabilitation qualifies as a Certified Rehabilitation for Federal tax purposes. In addition, the Standards have guided Federal agencies in carrying out their historic preservation responsibilities for properties in Federal ownership or control; and State and local officials in reviewing both Federal and nonfederal rehabilitation proposals. They have also been adopted by historic district and planning commissions across the country.

The intent of the Standards is to assist the long-term preservation of a property's significance through the preservation of historic materials and features. The Standards pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and interior of the buildings. They also encompass related landscape features and the building's site and environment, as well as attached, adjacent, or related new construction. To be certified for Federal tax purposes, a rehabilitation project must be determined by the Secretary to be consistent with the historic character of the structure(s), and where applicable, the district in which it is located.

As stated in the definition, the treatment "rehabilitation" assumes that at least some repair or alteration of the historic building will be needed in order to provide for an efficient contemporary use; however, these repairs and alterations must not damage or destroy materials, features or finishes that are important in defining the building's historic character. For example, certain treatments--if improperly applied--may cause or accelerate physical deterioration of the historic building. This can include using improper repointing or exterior masonry cleaning techniques, or introducing insulation that damages historic fabric. In almost all of these situations, use of these materials and treatments will result in a project that does not meet the Standards. Similarly, exterior additions that duplicate the form, material, and detailing of the structure to the extent that they compromise the historic character of the structure will fail to meet the Standards.

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The Secretary of the Interior's Standards for Rehabilitation

The Standards (Department of Interior regulations, 36 CFR 67) pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and the interior, related landscape features and the building's site and environment as well as attached, adjacent, or related new construction.

The Standards are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility.

- 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 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 archeological 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.**

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Guidelines for Rehabilitating Historic Buildings

Introduction to the Guidelines

The **Guidelines for Rehabilitating Historic Buildings** were initially developed in 1977 to help property owners, developers, and Federal managers apply the Secretary of the Interior's **Standards for Rehabilitation** during the project planning stage by providing general design and technical recommendations. Unlike the Standards, the Guidelines are *not* codified as program requirements.

Together with the Standards for Rehabilitation they provide a model process for owners, developers, and Federal agency managers to follow.

The Guidelines are intended to assist in applying the Standards to projects generally; consequently, they are not meant to give case-specific advice or address exceptions or rare instances. For example, they cannot tell owners or developers which features of their own historic building are important in defining the historic character and must be preserved--although examples are provided in each section--or which features could be altered, if necessary, for the new use. This kind of careful case-by-case decision-making is best accomplished by seeking assistance from qualified historic preservation professionals in the planning stage of the project. Such professionals include architects, architectural historians, historians, archeologists, and others who are skilled in the preservation, rehabilitation, and restoration of the historic properties.

The Guidelines pertain to historic buildings of all sizes, materials, occupancy, and construction types; and apply to interior and exterior work as well as new exterior additions. Those approaches, treatments, and techniques that are consistent with the Secretary of the Interior's "Standards for Rehabilitation" are listed in **bold-face type** under the "**Recommended**" section in each topic area; those approaches, treatments, and techniques which could adversely affect a building's historic character are listed in the "**Not Recommended**" section in each topic area.

To provide clear and consistent guidance for owners, developers, and Federal agency managers to follow, the "Recommended" courses of action in each section are listed in order of historic preservation concerns so that a rehabilitation project may be successfully planned and completed--one that, first, assures the preservation of a building's important or "character-defining" architectural materials and features and, second, makes possible an efficient contemporary use. Rehabilitation guidance in each section begins with protection and maintenance, that work which should be maximized in every project to enhance overall preservation goals. Next, where some deterioration is present, repair of the building's historic materials and features is recommended. Finally, when deterioration is so extensive that repair is not possible, the most problematic area of work is considered: replacement of historic materials and features with new materials.

To further guide the owner and developer in planning a successful rehabilitation project, those complex design issues dealing with new use requirements such as alterations and additions are highlighted at the end of each section to underscore the need for particular sensitivity in these areas.

How to Use The Guidelines

Identify, Retain, and Preserve

The guidance that is basic to the treatment of all historic buildings--**identifying, retaining, and preserving** the form and detailing of those architectural materials and features that are important in defining the historic character--is always listed first in the "Recommended" area. The parallel "Not Recommended" area lists the types of actions that are most apt to cause the diminution or even loss of the buildings' historic character. It should be remembered, however, that such loss of character is just as often caused by the cumulative effect of a series of actions that would seem to be minor interventions. Thus, the guidance in *all* of the "Not Recommended" areas must be viewed in that larger context, e.g., for the total impact on a historic building.

Protect and Maintain

After identifying those materials and features that are important and must be retained in the process of rehabilitation work, then **protecting and maintaining** them are addressed. Protection generally involves the least degree of intervention and is preparatory to other work. For example, protection includes the maintenance of historic material through treatments such as rust removal, caulking, limited paint removal, and re-application of protective coating; the cyclical cleaning of roof gutter systems; or installation of fencing, protective plywood, alarm systems and other temporary protective measures. Although a historic building will usually require more extensive work, an overall evaluation of its physical condition should always begin at this level.

Repair

Next, when the physical condition of character-defining materials and features warrants additional work **repairing** is recommended. Guidance for the repair of historic materials such as masonry, wood, and architectural metals again begins with the least degree of intervention possible such as patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading them according to recognized preservation methods. Repairing also includes the limited replacement in kind--or with compatible substitute material--of extensively deteriorated or missing parts of features when there are surviving prototypes (for example, brackets, dentils, steps, plaster, or portions of slate or tile roofing). Although using the same kind of material is always the preferred option, substitute material is acceptable if the form and design as well as the substitute material itself convey the visual appearance of the remaining parts of the feature and finish.

Replace

Following repair in the hierarchy, guidance is provided for **replacing** an entire character-defining feature with new material because the level of deterioration or damage of materials precludes repair (for example, an exterior cornice; an interior staircase; or a complete porch or storefront). If the essential form and detailing are still evident so that the physical evidence can be used to re-establish the feature as an integral part of the rehabilitation project, then its replacement is appropriate. Like the guidance for repair, the preferred option is always replacement of the entire feature in kind, that is, with the same material. Because this approach may not always be technically or economically feasible, provisions are made to consider the use of a compatible substitute material.

It should be noted that, while the National Park Service guidelines recommend the replacement of an entire character-defining feature under certain well-defined circumstances, they never recommend removal and replacement with new material of a feature that--although damaged or deteriorated--could reasonably be repaired and thus preserved.

Design for Missing Historic Features

When an entire interior or exterior feature is missing (for example, an entrance, or cast iron facade; or a principal staircase), it no longer plays a role in physically defining the historic character of the building unless it can be accurately recovered in form and detailing through the process of carefully documenting the historical appearance. Where an important architectural feature is missing, its recovery is always recommended in the guidelines as the *first* or preferred, course of action. Thus, if adequate historical, pictorial, and physical documentation exists so that the feature may be accurately reproduced, and if it is desirable to re-establish the feature as part of the building's historical appearance, then designing and constructing a new feature based on such information is appropriate. However, a second acceptable option for the replacement feature is a new design that is compatible with the remaining character-defining features of the historic building. The new design should always take into account the size, scale, and material of the historic building itself and, most importantly, should be clearly differentiated so that a false historical appearance is not created.

Alterations/Additions to Historic Buildings

Some exterior and interior alterations to historic building are generally needed to assure its continued use, but it is most important that such alterations do not radically change, obscure, or destroy character-defining spaces, materials, features, or finishes.

Alterations may include providing additional parking space on an existing historic building site; cutting new entrances or windows on secondary elevations; inserting an additional floor; installing an entirely new mechanical system; or creating an atrium or light well. Alteration may also include the selective removal of buildings or other features of the environment or building site that are intrusive and therefore detract from the overall historic character.

The construction of an exterior addition to a historic building may seem to be essential for the new use, but it is emphasized in the guidelines that such new additions should be avoided, if possible, and considered only after it is determined that those needs cannot be met by altering secondary, i.e., non character-defining interior spaces. If, after a thorough evaluation of interior solutions, an exterior addition is still judged to be the only viable alternative, it should be designed and constructed to be clearly differentiated from the historic building and so that the character-defining features are not radically changed, obscured, damaged, or destroyed.

Additions to historic buildings are referenced within specific sections of the guidelines such as Site, Roof, Structural Systems, etc., but are also considered in more detail in a separate section, New Additions to Historic Buildings.

Energy Efficiency/Accessibility Considerations/Health and Safety Considerations

These sections of the rehabilitation guidance address work done to meet accessibility requirements and health and safety code requirements; or retrofitting measures to conserve energy. Although this work is quite often an important aspect of rehabilitation projects, it is usually not a part of the overall process of protecting or repairing character-defining features; rather, such work is assessed for its potential negative impact on the building's historic character. For this reason, particular care must be taken not to radically change, obscure, damage, or destroy character-defining materials or features in the process of rehabilitation work to meet code and energy requirements.

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BUILDING EXTERIOR

Masonry: brick, stone, terra cotta, concrete, adobe, stucco, and mortar

The longevity and appearance of a masonry wall is dependent upon the size of the individual units and the mortar.

Stone is one of the more lasting of masonry building materials and has been used throughout the history of American building construction. The kinds of stone most commonly encountered on historic buildings in the U.S. include various types of sandstone, limestone, marble, granite, slate and fieldstone. **Brick** varied considerably in size and quality. Before 1870, brick clays were pressed into molds and were often unevenly fired. The quality of brick depended on the type of clay available and the brick-making techniques; by the 1870s—with the perfection of an extrusion process—bricks became more uniform and durable. **Terra cotta** is also a kiln-dried clay product popular from the late 19th century until the 1930s. The development of the steel-frame office buildings in the early 20th century contributed to the widespread use of architectural terra cotta. **Adobe**, which consists of sun-dried earthen bricks, was one of the earliest permanent building materials used in the U.S., primarily in the Southwest where it is still popular.

Mortar is used to bond together masonry units. Historic mortar was generally quite soft, consisting primarily of lime and sand with other additives. After 1880, Portland cement was usually added resulting in a more rigid and non-absorbing mortar. Like historic mortar, early **stucco** coatings were also heavily lime-based, increasing in hardness with the addition of Portland cement in the late 19th century. **Concrete** has a long history, being variously made of tabby, volcanic ash and, later, of natural hydraulic cements, before the introduction of Portland cement in the 1870s. Since then, concrete has also been used in its precast form.

While masonry is among the most durable of historic building materials, it is also very susceptible to damage by improper maintenance or repair techniques and harsh or abrasive cleaning methods.

Masonry...Identify, Retain, and Preserve

RECOMMENDED...

Identifying, retaining, and preserving masonry features that are important in defining the overall historic character of the building such as walls, brackets, railings, cornices, window architraves, door pediments, steps, and columns; and details such as tooling and bonding patterns, coatings, and color.

NOT RECOMMENDED...

Removing or radically changing masonry features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing or rebuilding a major portion of exterior masonry walls that could be repaired so that, as a result, the building is no longer historic and is essentially new construction.

Applying paint or other coatings such as stucco to masonry that has been historically unpainted or uncoated to create a new appearance.

Removing paint from historically painted masonry.

Radically changing the type of paint or coating or its color.

Masonry...Protect and Maintain

RECOMMENDED...

Protecting and maintaining masonry by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved decorative features.

Cleaning masonry only when necessary to halt deterioration or remove heavy soiling.

Carrying out masonry surface cleaning tests after it has been determined that such cleaning is appropriate. Tests should be observed over a sufficient period of time so that both the immediate and the long range effects are known to enable selection of the gentlest method possible.

Cleaning masonry surfaces with the gentlest method possible, such as low-pressure water and detergents, using natural bristle brushes.

Inspecting painted masonry surfaces to determine whether repainting is necessary.

Removing damaged or deteriorated paint only to the next sound layer using the gentlest method possible (e.g., hand scraping) prior to repainting.

Applying compatible paint coating systems following proper surface preparation.

Repainting with colors that are historically appropriate to the building and district.

Evaluating the overall condition of the masonry to determine whether more than protection and maintenance are required, that is, if repairs to the masonry features will be necessary.

NOT RECOMMENDED...

Failing to evaluate and treat the various causes of mortar joint deterioration such as leaking roofs or gutters, differential settlement of the building, capillary action, or extreme weather exposure.

Cleaning masonry surfaces when they are not heavily soiled to create a new appearance, thus needlessly introducing chemicals or moisture into historic materials.

Cleaning masonry surfaces without testing or without sufficient time for the testing results to be of value.

Sandblasting brick or stone surfaces using dry or wet grit or other abrasives. These methods of cleaning permanently erode the surface of the material and accelerate deterioration.

Using a cleaning method that involves water or liquid chemical solutions when there is any possibility of freezing temperatures.

Cleaning with chemical products that will damage masonry, such as using acid on limestone or marble, or leaving chemicals on masonry surfaces.

Applying high-pressure water cleaning methods that will damage historic masonry and the mortar joints.

Removing paint that is firmly adhering to, and thus protecting, masonry surfaces.

Using methods of removing paint which are destructive to masonry, such as sandblasting, application of caustic solutions, or high-pressure water-blasting.

Failing to follow manufacturers' product and application instructions when repainting masonry.

Using new paint colors that are inappropriate to the historic building and district.

Failing to undertake adequate measures to assure the protection of masonry features

Masonry...Repair

RECOMMENDED...

Repairing masonry walls and other masonry features by repointing the mortar joints where there is evidence of deterioration such as disintegrating mortar, cracks in mortar joints, loose bricks, damp walls, or damaged plasterwork.

Removing deteriorated mortar by carefully hand-raking the joints to avoid damaging the masonry.

Duplicating old mortar in strength, composition, color, and texture.

Duplicating old mortar joints in width and in joint profile.

Repairing stucco by removing the damaged material and patching with new stucco that duplicates the old in strength, composition, color, and texture.

Using mud plaster as a surface coating over unfired, unstabilized adobe because the mud plaster will bond to the adobe.

Cutting damaged concrete back to remove the source of deterioration (often corrosion on metal reinforcement bars). The new patch must be applied carefully so it will bond satisfactorily with, and match, the historic concrete.

Repairing masonry features by patching, piecing-in, or consolidating the masonry using recognized preservation methods. Repair may also include the limited replacement in kind--or with compatible substitute material--of those extensively deteriorated or missing parts of masonry features when there are surviving prototypes such as terra-cotta brackets or stone balusters.

Applying new or non-historic surface treatments such as water-repellent coatings to masonry only after repointing and only if masonry repairs have failed to arrest water penetration problems.

NOT RECOMMENDED...

Removing non-deteriorated mortar from sound joints, then repointing the entire building to achieve a uniform appearance.

Using electric saws and hammers rather than hand tools to remove deteriorated mortar from joints prior to repointing.

Repointing with mortar of high Portland cement content (unless it is the content of the historic mortar). This can often create a bond that is stronger than the historic material and can cause damage as a result of the differing coefficient of expansion and the differing porosity of the material and the mortar.

Repointing with a synthetic caulking compound.

Using a "scrub" coating technique to repoint instead of traditional repointing methods.

Changing the width or joint profile when repointing.

Removing sound stucco; or repairing with new stucco that is stronger than the historic material or does not convey the same visual appearance.

Applying cement stucco to unfired, unstabilized adobe. Because the cement stucco will not bond properly, moisture can become entrapped between materials, resulting in accelerated deterioration of the adobe.

Patching concrete without removing the source of deterioration.

Replacing an entire masonry feature such as a cornice or balustrade when repair of the masonry and limited replacement of deteriorated or missing parts is appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the masonry feature or that is physically or chemically incompatible.

Applying waterproof, water repellent, or non-historic coatings such as stucco to masonry as a substitute for repointing and masonry repairs. Coatings are frequently unnecessary, expensive, and may change the appearance of historic masonry as well as accelerate its deterioration.

Masonry...Replace

RECOMMENDED...

Replacing in kind an entire masonry feature that is too deteriorated to repair--if the overall form and detailing are still evident--using the physical evidence as a model to reproduce the feature. Examples can include large sections of a wall, a cornice, balustrade, column, or stairway. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

NOT RECOMMENDED...

Removing a masonry feature that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

Design for Missing Historic Features – Masonry

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Designing and installing a new masonry feature such as steps or a door pediment when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

NOT RECOMMENDED...

Creating a false historical appearance because the replaced masonry feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new masonry feature that is incompatible in size, scale, material and color.

BUILDING EXTERIOR

Wood: clapboard, weatherboard, shingles, and other wooden siding and decorative elements

Because it can be easily shaped by sawing, planing, carving, and gouging, wood is used for architectural features such as clapboard, cornices, brackets, entablatures, shutters, columns and balustrades.

These wooden features, both functional and decorative, may be important in defining the historic character of the building and thus their retention, protection, and repair are important in rehabilitation projects. Wood has played a central role in American building during every period and in every style.

Whether as structural membering, exterior cladding, roofing, interior finishes, or decorative features, wood is frequently an essential component of historic and older buildings.

Wood...Identify, Retain, and Preserve

RECOMMENDED...

Identifying, retaining, and preserving wood features that are important in defining the overall historic character of the building such as siding, cornices, brackets, window architraves, and doorway pediments; and their paints, finishes, and colors.

NOT RECOMMENDED...

Removing or radically changing wood features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Removing a major portion of the historic wood from a facade instead of repairing or replacing only the deteriorated wood, then reconstructing the facade with new material in order to achieve a uniform or "improved" appearance.

Radically changing the type of finish or its color or accent scheme so that the historic character of the exterior is diminished.

Stripping historically painted surfaces to bare wood, then applying clear finishes or stains in order to create a "natural look."

Stripping paint or varnish to bare wood rather than repairing or reapplying a special finish, i.e., a grain finish to an exterior wood feature such as a front door.

Wood...Protect and Maintain

RECOMMENDED...

Protecting and maintaining wood features by providing proper drainage so that water is not allowed to stand on flat, horizontal surfaces or accumulate in decorative features.

Applying chemical preservatives to wood features such as beam ends or outriggers that are exposed to decay hazards and are traditionally unpainted.

Retaining coatings such as paint that help protect the wood from moisture and ultraviolet light. Paint removal should be considered only where there is paint surface deterioration and as part of an overall maintenance program which involves repainting or applying other appropriate protective coatings.

Inspecting painted wood surfaces to determine whether repainting is necessary or if cleaning is all that is required.

Removing damaged or deteriorated paint to the next sound layer using the gentlest method possible (hand scraping and hand sanding), then repainting.

Using with care electric hot-air guns on decorative wood features and electric heat plates on flat wood surfaces when paint is so deteriorated that total removal is necessary prior to repainting.

Using chemical strippers primarily to supplement other methods such as hand scraping, hand sanding and the above-recommended thermal devices. Detachable wooden elements such as shutters, doors, and columns may--with the proper safeguards--be chemically dip-stripped.

Applying compatible paint coating systems following proper surface preparation.

Repainting with colors that are appropriate to the historic building and district.

Evaluating the overall condition of the wood to determine whether more than protection and maintenance are required, that is, if repairs to wood features will be necessary.

NOT RECOMMENDED...

Failing to identify, evaluate, and treat the causes of wood deterioration, including faulty flashing, leaking gutters, cracks and holes in siding, deteriorated caulking in joints and seams, plant material growing too close to wood surfaces, or insect or fungus infestation.

Using chemical preservatives such as creosote which can change the appearance of wood features unless they were used historically.

Stripping paint or other coatings to reveal bare wood, thus exposing historically coated surfaces to the effects of accelerated weathering.

Removing paint that is firmly adhering to, and thus, protecting wood surfaces.

Using destructive paint removal methods such as a propane or butane torches, sandblasting or water-blasting. These methods can irreversibly damage historic woodwork.

Using thermal devices improperly so that the historic woodwork is scorched.

Failing to neutralize the wood thoroughly after using chemicals so that new paint does not adhere.

Allowing detachable wood features to soak too long in a caustic solution so that the wood grain is raised and the surface roughened.

Failing to follow manufacturers' product and application instructions when repainting exterior woodwork.

Using new colors that are inappropriate to the historic building or district.

Failing to undertake adequate measures to assure the protection of wood features.

Wood...Repair

RECOMMENDED...

Repairing wood features by patching, piecing-in, consolidating, or otherwise reinforcing the wood using recognized preservation methods. Repair may also include the limited replacement in kind--or with compatible substitute material--of those extensively deteriorated or missing parts of features where there are surviving prototypes such as brackets, molding, or sections of siding.

NOT RECOMMENDED...

Replacing an entire wood feature such as a cornice or wall when repair of the wood and limited replacement of deteriorated or missing parts are appropriate.

Using substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the wood feature or that is physically or chemically incompatible.

Wood...Replace

RECOMMENDED...

Replacing in kind an entire wood feature that is too deteriorated to repair--if the overall form and detailing are still evident--using the physical evidence as a model to reproduce the feature. Examples of wood features include a cornice, entablature or balustrade.

If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

NOT RECOMMENDED...

Removing a feature that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

Design for Missing Historic Features – Wood

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Designing and installing a new wood feature such as a cornice or doorway when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

NOT RECOMMENDED...

Creating a false historical appearance because the replaced wood feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new wood feature that is incompatible in size, scale, material and color.

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BUILDING EXTERIOR

Architectural Metals: cast iron, steel, pressed tin, copper, aluminum, and zinc

Architectural metal features--such as cast iron facades, porches, and steps; sheet metal cornices, siding, roofs, roof cresting and storefronts; and cast or rolled metal doors, window sash, entablatures, and hardware--are often highly decorative and may be important in defining the overall historic character of the building.

Metals commonly used in historic buildings include **lead, tin, zinc, copper, bronze, brass, iron, steel**, and to a lesser extent, **nickel alloys, stainless steel** and **aluminum**.

Historic metal building components were often created by highly skilled, local artisans, and by the late 19th century, many of these components were prefabricated and readily available from catalogs in standardized sizes and designs.

Architectural Metals...Identify, Retain, and Preserve

RECOMMENDED...

Identifying, retaining, and preserving architectural metal features such as columns, capitals, window hoods, or stairways that are important in defining the overall historic character of the building; and their finishes and colors. Identification is also critical to differentiate between metals prior to work. Each metal has unique properties and thus requires different treatments.

NOT RECOMMENDED...

Removing or radically changing architectural metal features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Removing a major portion of the historic architectural metal from a facade instead of repairing or replacing only the deteriorated metal, then reconstructing the facade with new material in order to create a uniform, or "improved" appearance.

Radically changing the type of finish or its historic color or accent scheme.

Architectural Metals...Protect and Maintain

RECOMMENDED...

Protecting and maintaining architectural metals from corrosion by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved, decorative features.

Cleaning architectural metals, when appropriate, to remove corrosion prior to repainting or applying other appropriate protective coatings.

Identifying the particular type of metal prior to any cleaning procedure and then testing to assure that the gentlest cleaning method possible is selected or determining that cleaning is inappropriate for the particular metal.

Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with appropriate chemical methods because their finishes can be easily abraded by blasting methods.

Using the gentlest cleaning methods for cast iron, wrought iron, and steel--hard metals--in order to remove paint buildup and corrosion. If hand scraping and wire brushing have proven ineffective, low pressure grit blasting may be used as long as it does not abrade or damage the surface.

Applying appropriate paint or other coating systems after cleaning in order to decrease the corrosion rate of metals or alloys.

Repainting with colors that are appropriate to the historic building or district.

Applying an appropriate protective coating, such as lacquer to an architectural metal feature, such as a bronze door which is subject to heavy pedestrian use.

Evaluating the overall condition of the architectural metals to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

NOT RECOMMENDED...

Failing to identify, evaluate, and treat the causes of corrosion, such as moisture from leaking roofs or gutters.

Placing incompatible metals together without providing a reliable separation material. Such incompatibility can result in galvanic corrosion of the less noble metal, e.g., copper will corrode cast iron, steel, tin, and aluminum.

Exposing metals which were intended to be protected from the environment.

Applying paint or other coatings to metals such as copper, bronze, or stainless steel that were meant to be exposed.

Using cleaning methods which alter or damage the historic color, texture, and finish of the metal; or cleaning when it is inappropriate for the metal.

Removing the patina of historic metal. The patina may be a protective coating on some metals, such as bronze or copper, as well as a significant historic finish.

Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with grit blasting which will abrade the surface of the metal.

Failing to employ gentler methods prior to abrasively cleaning cast iron, wrought iron or steel; or using high pressure grit blasting.

Failing to re-apply protective coating systems to metals or alloys that require them after cleaning so that accelerated corrosion occurs.

Using new colors that are inappropriate to the historic building or district.

Failing to assess pedestrian use or new access patterns so that architectural metal features are subject to damage by use or inappropriate maintenance such as salting adjacent sidewalks.

Failing to undertake adequate measures to assure the protection of architectural metal features.

Architectural Metals...Repair

RECOMMENDED...

Repairing architectural metal features by patching, splicing, or otherwise reinforcing the metal following recognized preservation methods.

Repairs may also include the limited replacement in kind--or with a compatible substitute material--of those extensively deteriorated or missing parts of features when there are surviving prototypes such as porch balusters, column capitals or bases; or porch cresting.

NOT RECOMMENDED...

Replacing an entire architectural metal feature such as a column or a balustrade when repair of the metal and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the architectural metal feature or that is physically or chemically incompatible.

Architectural Metals...Replace

RECOMMENDED...

Replacing in kind an entire architectural metal feature that is too deteriorated to repair--if the overall form and detailing are still evident--using the physical evidence as a model to reproduce the feature.

Examples could include cast iron porch steps or steel sash windows.

If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

NOT RECOMMENDED...

Removing an architectural metal feature that is unrepairable and not replacing it; or replacing it with a new architectural metal feature that does not convey the same visual appearance.

Design for Missing Historic Features – Architectural Metals

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Designing and installing a new architectural metal feature such as a metal cornice or cast iron capital when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

NOT RECOMMENDED...

Creating a false historical appearance because the replaced architectural metal feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new architectural metal feature that is incompatible in size, scale, material and color.

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BUILDING EXTERIOR

Roofs

The roof--with its shape; features such as cresting, dormers, cupolas, and chimneys; and the size, color, and patterning of the roofing material--is an important design element of many historic buildings.

In addition a weather tight roof is essential to the long-term preservation of the entire structure. Historic roofing reflects availability of materials, levels of construction technology, weather, and cost.

For example, throughout the country in all periods of history, wood shingles have been used--their size, shape, and detailing differing according to regional craft practices. European settlers used clay tile for roofing as early as the mid-17th century. In some cities, such as New York and Boston, clay was popularly used as a precaution against fire. The Spanish influence in the use of clay tile is found in the southern, southwestern and western states. In the mid-19th century, tile roofs were often replaced by sheet metal, which is lighter and easier to maintain. Evidence of the use of slate for roofing dates from the mid-17th century. Slate has remained popular for its durability, fireproof qualities, and its decorative applications. The use of metals for roofing and roof features dates from the 18th century, and includes the use of sheet iron, corrugated iron, galvanized metal, tin-plate, copper, lead and zinc. Awareness of these and other traditions of roofing materials and their detailing will contribute to more sensitive treatment.

Roofs...Identify, Retain, and Preserve

RECOMMENDED...

Identifying, retaining, and preserving roofs--and their functional and decorative features--that are important in defining the overall historic character of the building.

This includes the roof's shape, such as hipped, gambrel, and mansard; decorative features, such as cupolas, cresting chimneys, and weathervanes; and roofing material such as slate, wood, clay tile, and metal, as well as its size, color, and patterning.

NOT RECOMMENDED...

Radically changing, damaging, or destroying roofs which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Removing a major portion of the roof or roofing material that is repairable, then reconstructing it with new material in order to create a uniform, or "improved" appearance.

Changing the configuration of a roof by adding new features such as dormer windows, vents, or skylights so that the historic character is diminished.

Stripping the roof of sound historic material such as slate, clay tile, wood, and architectural metal.

Applying paint or other coatings to roofing material which has been historically uncoated.

Roofs...Protect and Maintain

RECOMMENDED...

Protecting and maintaining a roof by cleaning the gutters and downspouts and replacing deteriorated flashing.

Roof sheathing should also be checked for proper venting to prevent moisture condensation and water penetration; and to insure that materials are free from insect infestation.

Providing adequate anchorage for roofing material to guard against wind damage and moisture penetration.

Protecting a leaking roof with plywood and building paper until it can be properly repaired.

NOT RECOMMENDED...

Failing to clean and maintain gutters and downspouts properly so that water and debris collect and cause damage to roof fasteners, sheathing, and the underlying structure.

Allowing roof fasteners, such as nails and clips to corrode so that roofing material is subject to accelerated deterioration.

Permitting a leaking roof to remain unprotected so that accelerated deterioration of historic building materials (masonry, wood, plaster, paint and structural members) occurs.

Roofs...Repair

RECOMMENDED...

Repairing a roof by reinforcing the historic materials which comprise roof features.

Repairs will also generally include the limited replacement in kind--or with compatible substitute material--of those extensively deteriorated or missing parts of features when there are surviving prototypes such as cupola louvers, dentils, dormer roofing; or slates, tiles, or wood shingles on a main roof.

NOT RECOMMENDED...

Replacing an entire roof feature such as a cupola or dormer when repair of the historic materials and limited replacement of deteriorated or missing parts are appropriate.

Failing to reuse intact slate or tile when only the roofing substrate needs replacement.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the roof or that is physically or chemically incompatible.

Roofs...Replace

RECOMMENDED...

Replacing in kind an entire feature of the roof that is to deteriorated to repair--if the overall form and detailing are still evident--using the physical evidence as a model to reproduce the feature.

Examples can include a large section of roofing, or a dormer or chimney.

If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

NOT RECOMMENDED...

Removing a feature of the roof that is unrepairable, such as a chimney or dormer, and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

Design for Missing Historic Features – Roofs

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Designing and constructing a new feature when the historic feature is completely missing, such as a chimney or cupola. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

NOT RECOMMENDED...

Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new roof feature that is incompatible in size, scale, material and color.

Alterations/Additions for the New Use – Roofs

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Installing mechanical and service equipment on the roof, such as air conditioning, transformers, or solar collectors when required for the new use so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining features.

Designing additions to roofs such as residential, office, or storage spaces; elevator housing; decks and terraces; or dormers or skylights when required by the new use so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining features.

NOT RECOMMENDED...

Installing mechanical or service equipment so that it damages or obscures character-defining features; or is conspicuous from the public right-of-way.

Radically changing a character-defining roof shape or damaging or destroying character-defining roofing material as a result of incompatible design or improper installation techniques.

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BUILDING EXTERIOR

Windows

Technology and prevailing architectural styles have shaped the history of windows in the United States starting in the 17th century with wooden casement windows with tiny glass panes seated in lead cames. From the transitional single-hung sash in the early 1700s to the true double-hung sash later in the same century, these early wooden windows were characterized by the small panes, wide muntins, and the way in which decorative trim was used on both the exterior and interior of the window.

As the sash thickness increased by the turn of the century, muntins took on a thinner appearance as they narrowed in width but increased in thickness according to the size of the window and design practices. Regional traditions continued to have an impact on the prevailing window design such as with the long-term use of "french windows" in areas of the deep South.

Changes in technology led to the possibility of larger glass panes so that by the mid-19th century, two-over-two lights were common; the manufacturing of plate glass in the United States allowed for dramatic use of large sheets of glass in commercial and office buildings by the late 19th century. With mass-produced windows, mail order distribution, and changing architectural styles, it was possible to obtain a wide range of window designs and light patterns in sash.

Popular versions of Arts and Crafts houses constructed in the early 20th century frequently utilized smaller lights in the upper sash set in groups or pairs and saw the re-emergence of casement windows. In the early 20th century, the desire for fireproof building construction in dense urban areas contributed to the growth of a thriving steel window industry along with a market for hollow metal and metal clad wooden windows

As one of the few parts of a building serving as both an interior and exterior feature, windows are nearly always an important part of the historic character of a building. In most buildings, windows also comprise a considerable amount of the historic fabric of the wall plane and thus are deserving of special consideration in a rehabilitation project.

Windows...Identify, Retain, and Preserve

RECOMMENDED...

Identifying, retaining, and preserving windows--and their functional and decorative features--that are important in defining the overall historic character of the building.

Such features can include frames, sash, muntins, glazing, sills, heads, hoodmolds, paneled or decorated jambs and moldings, and interior and exterior shutters and blinds.

Conducting an in-depth survey of the conditions of existing windows early in rehabilitation planning so that repair and upgrading methods and possible replacement options can be fully explored.

NOT RECOMMENDED...

Removing or radically changing windows which are important in defining the historic character of the building so that, as a result, the character is diminished.

Changing the number, location, size or glazing pattern of windows, through cutting new openings, blocking-in windows, and installing replacement sash that do not fit the historic window opening.

Changing the historic appearance of windows through the use of inappropriate designs, materials, finishes, or colors which noticeably change the sash, depth of reveal, and muntin configuration; the reflectivity and color of the glazing; or the appearance of the frame.

Obscuring historic window trim with metal or other material. Stripping windows of historic material such as wood, cast iron, and bronze.

Replacing windows solely because of peeling paint, broken glass, stuck sash, and high air infiltration. These conditions, in themselves, are no indication that windows are beyond repair.

Windows...Protect and Maintain

RECOMMENDED...

Protecting and maintaining the wood and architectural metal which comprise the window frame, sash, muntins, and surrounds through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.

Making windows weather tight by re-caulking and replacing or installing weather-stripping. These actions also improve thermal efficiency.

Evaluating the overall condition of materials to determine whether more than protection and maintenance are required, i.e. if repairs to windows and window features will be required.

NOT RECOMMENDED...

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of the window results.

Retrofitting or replacing windows rather than maintaining the sash, frame, and glazing.

Failing to undertake adequate measures to assure the protection of historic windows.

Windows...Repair

RECOMMENDED...

Repairing window frames and sash by patching, splicing, consolidating or otherwise reinforcing.

Such repair may also include replacement in kind--or with compatible substitute material--of those parts that are either extensively deteriorated or are missing when there are surviving prototypes such as architraves, hoodmolds, sash, sills, and interior or exterior shutters and blinds.

NOT RECOMMENDED...

Replacing an entire window when repair of materials and limited replacement of deteriorated or missing parts are appropriate.

Failing to reuse serviceable window hardware such as brass sash lifts and sash locks.

Using substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the window or that is physically or chemically incompatible.

Windows...Replace

RECOMMENDED...

Replacing in kind an entire window that is too deteriorated to repair using the same sash and pane configuration and other design details. If using the same kind of material is not technically or economically feasible when replacing windows deteriorated beyond repair, then a compatible substitute material may be considered.

For example, on certain types of large buildings, particularly high-rises, aluminum windows may be a suitable replacement for historic wooden sash provided wooden replacement are not practical and the design detail of the historic windows can be matched.

Historic color duplication, custom contour panning, incorporation of either an integral muntin or 5/8" deep trapezoidal exterior muntin grids, where applicable, retention of the same glass to frame ratio, matching of the historic reveal, and duplication of the frame width, depth, and such existing decorative details as arched tops should all be components in aluminum replacements for use on historic buildings.

NOT RECOMMENDED...

Removing a character-defining window that is unrepairable and blocking it in; or replacing it with a new window that does not convey the same visual appearance.

Design for Missing Historic Features – Windows

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Designing and installing new windows when the historic windows (frames, sash and glazing) are completely missing. The replacement windows may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the window openings and the historic character of the building.

NOT RECOMMENDED...

Creating a false historical appearance because the replaced window is based on insufficient historical, pictorial, and physical documentation.

Introducing a new design that is incompatible with the historic character of the building.

Alterations/Additions for the New Use – Windows

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Designing and installing additional windows on rear or other-non character-defining elevations if required by the new use. New window openings may also be cut into exposed party walls. Such design should be compatible with the overall design of the building, but not duplicate the fenestration pattern and detailing of a character-defining elevation.

Providing a setback in the design of dropped ceilings when they are required for the new use to allow for the full height of the window openings.

NOT RECOMMENDED...

Installing new windows, including frames, sash, and muntin configuration that are incompatible with the building's historic appearance or obscure, damage, or destroy character-defining features.

Inserting new floors or furred-down ceilings which cut across the glazed areas of windows so that the exterior form and appearance of the windows are changed.

BUILDING EXTERIOR

Entrances and Porches

Entrances and porches are quite often the focus of historic buildings, particularly on primary elevations. Together with their functional and decorative features such as doors, steps, balustrades, pilasters, and entablatures, they can be extremely important in defining the overall character of a building.

In many cases, porches were energy-saving devices, shading southern and western elevations. Usually entrances and porches were integral components of a historic building's design; for example, porches on Greek Revival houses, with Doric or Ionic columns and pediments, echoed the architectural elements and features of the larger building.

Central one-bay porches or arcaded porches are evident in Italianate style buildings of the 1860s. Doors of Renaissance Revival style buildings frequently supported entablatures or pediments.

Porches were particularly prominent features of Eastlake and Stick Style houses; porch posts, railings, and balusters were characterized by a massive and robust quality, with members turned on a lathe. Porches of bungalows of the early 20th century were characterized by tapered porch posts, exposed post and beams, and low pitched roofs with wide overhangs.

Art Deco commercial buildings were entered through stylized glass and stainless steel doors.

Entrances and Porches...Identify, Retain, and Preserve

RECOMMENDED...

Identifying, retaining, and preserving entrances--and their functional and decorative features--that are important in defining the overall historic character of the building such as doors, fanlights, sidelights, pilaster, entablatures, columns, balustrades, and stairs.

NOT RECOMMENDED...

- Removing or radically changing entrances and porches which are important in defining the overall historic character of the building so that, as a result, the character is diminished.
- Stripping entrances and porches of historic material such as wood, iron, cast iron, terra cotta, tile and brick.
- Removing an entrance or porch because the building has been re-oriented to accommodate a new house.
- Cutting new entrances on a primary elevation.
- Altering utilitarian or service entrances so they appear to be formal entrances by adding paneled doors, fanlights, and sidelights.

Entrances and Porches...Protect and Maintain

RECOMMENDED...

Protecting and maintaining the masonry, wood, and architectural metal that comprise entrances and porches through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.

Evaluating the overall condition of materials to determine whether more than protection and maintenance are required, that is, repairs to entrance and porch features will be necessary.

NOT RECOMMENDED...

Failing to provide adequate protection to materials on a cyclical basis so that deterioration of entrances and porches results.

Failing to undertake adequate measures to assure the protection of historic entrances and porches.

Entrances and Porches...Repair

RECOMMENDED...

Repairing entrances and porches by reinforcing the historic materials.

Repair will also generally include the limited replacement in kind--of with compatible substitute material--of those extensively deteriorated or missing parts of repeated features where there are surviving prototypes such as balustrades, cornices, entablatures, columns, sidelights, and stairs.

NOT RECOMMENDED...

Replacing an entire entrance or porch when the repair of materials and limited replacement of parts are appropriate.

Using a substitute material for the replacement parts that does not convey the visual appearance of the surviving parts of the entrance and porch or that is physically or chemically incompatible.

Entrances and Porches...Replace

RECOMMENDED...

Replacing in kind and entire entrance or porch that is too deteriorated to repair--if the form and detailing are still evident--using the physical evidence as a model to reproduce the feature. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

NOT RECOMMENDED...

Removing an entrance or porch that is unrepairable and not replacing it; or replacing it with a new entrance or porch that does not convey the same visual appearance.

Design for Missing Historic Features – Entrances and Porches

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Designing and constructing a new entrance or porch when the historic entrance or porch is completely missing. It may be a restoration based on historical, pictorial, and physical documentation; or be a new design that is compatible with the historic character building.

NOT RECOMMENDED...

Creating a false historical appearance because the replaced entrance or porch is based on insufficient historical, pictorial, and physical documentation.

Introducing a new entrance or porch that is incompatible in size, scale, material and color.

Alterations/Additions for the New Use – Entrances and Porches

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Designing enclosures for historic porches when required by the new use in a manner that preserves the historic character of the building. This can include using large sheets of glass and recessing the enclosure wall behind existing scrollwork, posts, and balustrades.

Designing and installing additional entrances or porches when required for the new use in a manner that preserves the historic character of the buildings, i.e., limiting such alteration to non-character-defining elevations.

NOT RECOMMENDED...

Enclosing porches in a manner that results in a diminution or loss of historic character by using solid materials such as wood, stucco, or masonry.

Installing secondary service entrances and porches that are incompatible in size and scale with the historic building or obscure, damage, or destroy character-defining features.

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BUILDING EXTERIOR

Storefronts

The storefront is usually the most prominent feature of a historic commercial building, playing a crucial role in a store's advertising and merchandising strategy. Although a storefront normally does not extend beyond the first story, the rest of the building is often related to it visually through a unity of form and detail. Planning should always consider the entire building; window patterns on the upper floors, cornice elements, and other decorative features should be carefully retained, in addition to the storefront itself.

The earliest extant storefronts in the U.S., dating from the late 18th and early 19th centuries, had bay or oriel windows and provided limited display space. The 19th century witnessed the progressive enlargement of display windows as plate glass became available in increasingly larger units. The use of cast iron columns and lintels at ground floor level permitted structural members to be reduced in size. Recessed entrances provided shelter for sidewalk patrons and further enlarged display areas.

In the 1920s and 1930s, aluminum, colored structural glass, stainless steel, glass block, neon, and other new materials were introduced to create Art Deco storefronts.

Storefronts...Identify, Retain, and Preserve

RECOMMENDED...

Identifying, retaining, and preserving storefronts--and their functional and decorative features--that are important in defining the overall historic character of the building such as display windows, signs, doors, transoms, kick plates, corner posts, and entablatures.

The removal of inappropriate, non-historic cladding, false mansard roofs, and other later alterations can help reveal the historic character of a storefront.

NOT RECOMMENDED...

Removing or radically changing storefronts--and their features--which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Changing the storefront so that it appears residential rather than commercial in character.

Removing historic material from the storefront to create a recessed arcade.

Introducing coach lanterns, mansard designs, wood shakes, nonoperable shutters, and small-paned windows if they cannot be documented historically.

Changing the location of a storefront's main entrance.

Storefronts...Protect and Maintain

RECOMMENDED...

Protecting and maintaining masonry, wood, and architectural metals which comprise storefronts through appropriate treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coating systems.

Protecting storefronts against arson and vandalism before work begins by boarding up windows and installing alarm systems that are keyed into local protection agencies.

Evaluating the overall condition of storefront materials to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

NOT RECOMMENDED...

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of storefront features results.

Permitting entry into the building through unsecured or broken windows and doors so that interior features and finishes are damaged through exposure to weather or through vandalism.

Stripping storefront of historic material such as wood, cast iron, terra cotta, carrara glass, and brick.

Failing to undertake adequate measures to assure the preservation of the historic storefront.

Storefronts...Repair

RECOMMENDED...

Repairing storefronts by reinforcing the historic materials.

Repairs will also generally include the limited replacement in kind--or with compatible substitute materials--of those extensively deteriorated or missing parts of storefronts where there are surviving prototypes such as transoms, kick plates pilasters, or signs.

NOT RECOMMENDED...

Replacing an entire storefront when repair or materials and limited replacement of its parts are appropriate.

Using substitute material for the replacement parts that does not convey the same visual appearance as the surviving parts of the storefront or that is physically or chemically incompatible.

Storefronts...Replace

RECOMMENDED...

Replacing in kind an entire storefront that is too deteriorated to repair--if the overall form and detailing are still evident--using the physical evidence as a model. If using the same material is not technically or economically feasible, then compatible substitute materials may be considered.

NOT RECOMMENDED...

Removing a storefront that is unrepairable and not replacing it; or replacing it with a new storefront that does not convey the same visual appearance.

Design for Missing Historic Features – Storefronts

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Designing and constructing a new storefront when the historic storefront is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

NOT RECOMMENDED...

Creating a false historical appearance because the replaced storefront is based on insufficient historical, pictorial, and physical documentation.
Introducing a new design that is incompatible in size, scale, material, and color.

Using inappropriately scaled signs and logos or other types of signs that obscure, damage, or destroy remaining character-defining features of the historic building.

BUILDING INTERIOR

Structural Systems

If features of the structural system are exposed such as load-bearing brick walls, cast iron columns, roof trusses, posts and beams, vigas, or stone foundation walls, they may be important in defining the building's overall historic character.

Unexposed structural features that are not character-defining or an entire structural system may nonetheless be significant in the history of building technology.

Therefore, the structural system should always be examined and evaluated early in the project planning stage to determine both its physical condition and its importance to the building's historic character or historical significance. The types of structural systems found in America include, but certainly are not limited to the following: wooden frame construction (17th c.), balloon frame construction (19th c.), load-bearing masonry construction (18th c.), brick cavity wall construction (19th c.), heavy timber post and beam industrial construction (19th c.), fireproof iron construction (19th c.), heavy masonry and steel construction (19th c.), skeletal steel construction (19th c.), and concrete slab and post construction (20th c.).

Structural Systems...Identify, Retain, and Preserve

RECOMMENDED...

Identifying, retaining, and preserving structural systems--and individual features of systems--that are important in defining the overall historic character of building, such as post and beam systems, trusses, summer beams, vigas, cast iron columns, above-grade stone foundation walls, or load-bearing brick or stone walls.

NOT RECOMMENDED...

Removing, covering, or radically changing features of structural systems which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Putting a new use into the building which could overload the existing structural system; or installing equipment or mechanical systems which could damage the structure.

Demolishing a load-bearing masonry wall that could be augmented and retained, and replacing it with a new wall (i.e., brick or stone), using the historic masonry only as an exterior veneer.

Leaving known structural problems untreated such as deflection of beams, cracking and bowing of walls, or racking of structural members.

Utilizing treatments or products that accelerate the deterioration of structural material such as introducing urea-formaldehyde foam insulation into frame walls.

Structural Systems...Protect and Maintain

RECOMMENDED...

Protecting and maintaining the structural system by cleaning the roof gutters and downspouts; replacing roof flashing; keeping masonry, wood, and architectural metals in a sound condition; and ensuring that structural members are free from insect infestation.

Examining and evaluating the physical condition of the structural system and its individual features using non-destructive techniques such as X-ray photography.

NOT RECOMMENDED...

Failing to provide proper building maintenance so that deterioration of the structural system results. Causes of deterioration include subsurface ground movement, vegetation growing too close to foundation walls, improper grading, fungal rot, and poor interior ventilation that results in condensation.

Utilizing destructive probing techniques that will damage or destroy structural material.

Structural Systems...Repair

RECOMMENDED...

Repairing the structural system by augmenting or upgrading individual parts or features. For example, weakened structural members such as floor framing can be paired with a new member, braced, or otherwise supplemented and reinforced.

NOT RECOMMENDED...

Upgrading the building structurally in a manner that diminishes the historic character of the exterior, such as installing strapping channels or removing a decorative cornice; or damages interior features or spaces.

Replacing a structural member or other feature of the structural system when it could be augmented and retained.

Structural Systems...Replace

RECOMMENDED...

Replacing in kind--or with substitute material--those portions or features of the structural system that are either extensively deteriorated or are missing when there are surviving prototypes such as cast iron columns, roof rafters or trusses, or sections of load bearing walls.

Substitute material should convey the same form, design, and overall visual appearance as the historic feature; and, at a minimum, be equal to its load bearing capabilities.

NOT RECOMMENDED...

Installing a visible replacement feature that does not convey the same visual appearance, e.g., replacing an exposed wood summer beam with a steel beam.

Using substitute material that does not equal the load bearing capabilities of the historic material and design or is otherwise physically or chemically incompatible.

Alterations/Additions for the New Use – Structural Systems

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Limiting any new excavations adjacent to historic foundations to avoid undermining the structural stability of the building or adjacent historic building. Studies should be done to ascertain potential damage to archeological resources.

Correcting structural deficiencies in preparation for the new use in a manner that preserves the structural system and individual character-defining features.

Designing and installing new mechanical or electrical systems, when required for the new use, which minimize the number of cutouts or holes in structural members.

Adding a new floor when required for the new use if such an alteration does not damage or destroy the structural system or obscure, damage, or destroy character-defining spaces, features, or finishes.

Creating an atrium or a light well to provide natural light when required for the new use in a manner that assures the preservation of the structural system as well as character-defining interior spaces, features, and finishes.

NOT RECOMMENDED...

Carrying out excavations or regrading adjacent to or within a historic building which could cause the historic foundation to settle, shift, or fail; could have a similar effect on adjacent historic buildings; or could destroy significant archeological resources.

Radically changing interior spaces or damaging or destroying features or finishes that are character-defining while trying to correct structural deficiencies in preparation for the new use.

Installing new mechanical and electrical systems or equipment in a manner which results in numerous cuts, splices, or alterations to the structural members.

Inserting a new floor when such a radical change damages a structural system or obscures or destroys interior spaces, features, or finishes.

Inserting new floors or furred-down ceilings which cut across the glazed areas of windows so that the exterior form and appearance of the windows are radically changed.

Damaging the structural system or individual features; or radically changing, damaging, or destroying character-defining interior spaces, features, or finishes in order to create an atrium or a light well.

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BUILDING INTERIOR

Spaces, Features & Finishes

An interior floor plan, the arrangement and sequence of spaces, and built-in features and applied finishes are individually and collectively important in defining the historic character of the building.

Their identification, retention, protection, and repair should be given prime consideration in every rehabilitation project. In evaluating historic interiors prior to rehabilitation, it should be kept in mind that interiors are comprised of a series of primary and secondary spaces. This is applicable to all buildings, from courthouses to cathedrals, to cottages and office buildings. Primary spaces, including entrance halls, parlors, or living rooms, assembly rooms and lobbies, are defined not only by their features and finishes, but by the size and proportion of the rooms themselves—purposely created to be the visual attraction or functioning "core" of the building. Care should be taken to retain the essential proportions of primary interior spaces and not to damage, obscure, or destroy distinctive features and finishes.

Secondary spaces include areas and rooms that "service" the primary spaces and may include kitchens, bathrooms, mail rooms, utility spaces, secondary hallways, fire stairs and office cubicles in a commercial or office space. Extensive changes can often be made in these less important areas without having a detrimental effect on the overall historic character.

Interior Spaces...Identify, Retain, and Preserve

RECOMMENDED...

Identifying, retaining, and preserving a floor plan or interior spaces that are important in defining the overall historic character of the building.

This includes the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves such as lobbies, reception halls, entrance halls, double parlors, theaters, auditoriums, and important industrial or commercial spaces.

NOT RECOMMENDED...

Radically changing a floor plan or interior spaces (including individual rooms) which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Altering the floor plan by demolishing principal walls and partitions to create a new appearance.

Altering or destroying interior spaces by inserting floors, cutting through floors, lowering ceilings, or adding or removing walls.

Relocating an interior feature such as a staircase so that the historic relationship between features and spaces is altered.

Interior Features & Finishes...Identify, Retain, and Preserve

RECOMMENDED...

Identifying, retaining, and preserving interior features and finishes that are important in defining the overall historic character of the building.

This includes columns, cornices, baseboards, fireplaces and mantels, paneling, light fixtures, hardware, and flooring; and wallpaper, plaster, paint, and finishes such as stenciling, marbling, and graining; and other decorative materials that accent interior features and provide color, texture, and patterning to walls, floors, and ceilings.

NOT RECOMMENDED...

Removing or radically changing features and finishes which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Installing new decorative material that obscures or damages character-defining interior features or finishes.

Removing paint, plaster, or other finishes from historically finished surfaces to create a new appearance (e.g., removing plaster to expose masonry surfaces such as brick walls or a chimney piece).

Applying paint, plaster, or other finishes to surfaces that have been historically unfinished to create a new appearance.

Stripping paint to bare wood rather than repairing or reapplying grained or marbled finishes to features such as doors and paneling.

Radically changing the type of finish or its color, such as painting a previously varnished wood feature.

Interior Spaces, Features & Finishes...Protect and Maintain

RECOMMENDED...

Protecting and maintaining masonry, wood, and architectural metals which comprise interior features through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coatings systems.

Protecting interior features and finishes against arson and vandalism before project work begins, erecting protective fencing, boarding-up windows, and installing fire alarm systems that are keyed to local protection agencies.

Protecting interior features such as a staircase, mantel, or decorative finishes and wall coverings against damage during project work by covering them with heavy canvas or plastic sheets.

Installing protective coverings in areas of heavy pedestrian traffic to protect historic features such as wall coverings, parquet flooring and paneling.

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NOT RECOMMENDED...

Failing to provide adequate protection to materials on a cyclical basis so that deterioration of interior features results.

Permitting entry into historic buildings through unsecured or broken windows and doors so that the interior features and finishes are damaged by exposure to weather or through vandalism.

Stripping interiors of features such as woodwork, doors, windows, light fixtures, copper piping, radiators; or of decorative materials.

Failing to provide proper protection of interior features and finishes during work so that they are gouged, scratched, dented, or otherwise damaged.

Failing to take new use patterns into consideration so that interior features and finishes are damaged.

RECOMMENDED...

Removing damaged or deteriorated paints and finishes to the next sound layer using the gentlest method possible, then repainting or refinishing using compatible paint or other coating systems.

Repainting with colors that are appropriate to the historic building.

Limiting abrasive cleaning methods to certain industrial warehouse buildings where the interior masonry or plaster features do not have distinguishing design, detailing, tooling, or finishes; and where wood features are not finished, molded, beaded, or worked by hand. Abrasive cleaning should only be considered after other, gentler methods have been proven ineffective.

Evaluating the overall condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to interior features and finishes will be necessary.

NOT RECOMMENDED...

Using destructive methods such as propane or butane torches or sandblasting to remove paint or other coatings. These methods can irreversibly damage the historic materials that comprise interior features.

Using new paint colors that are inappropriate to the historic building.

Changing the texture and patina of character-defining features through sandblasting or use of abrasive methods to remove paint, discoloration or plaster. This includes both exposed wood (including structural members) and masonry.

Failing to undertake adequate measures to assure the protection of interior features and finishes.

Interior Spaces, Features & Finishes...Repair

RECOMMENDED...

Repairing interior features and finishes by reinforcing the historic materials.

Repair will also generally include the limited replacement in kind--or with compatible substitute material--of those extensively deteriorated or missing parts of repeated features when there are surviving prototypes such as stairs, balustrades, wood paneling, columns; or decorative wall coverings or ornamental tin or plaster ceilings.

NOT RECOMMENDED...

Replacing an entire interior feature such as a staircase, paneled wall, parquet floor, or cornice; or finish such as a decorative wall covering or ceiling when repair of materials and limited replacement of such parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts or portions of the interior feature or finish or that is physically or chemically incompatible.

Interior Spaces, Features & Finishes...Replace

RECOMMENDED...

Replacing in kind an entire interior feature or finish that is too deteriorated to repair--if the overall form and detailing are still evident--using the physical evidence as a model for reproduction. Examples could include wainscoting, a tin ceiling, or interior stairs. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

NOT RECOMMENDED...

Removing a character-defining feature or finish that is unrepairable and not replacing it; or replacing it with a new feature or finish that does not convey the same visual appearance.

Design for Missing Historic Features – Interior Spaces, Features & Finishes

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Designing and installing a new interior feature or finish if the historic feature or finish is completely missing.

This could include missing partitions, stairs, elevators, lighting fixtures, and wall coverings; or even entire rooms if all historic spaces, features, and finishes are missing or have been destroyed by inappropriate "renovations." The design may be a restoration based on historical, pictorial, and physical documentation; or be a new design that is compatible with the historic character of the building, district, or neighborhood.

NOT RECOMMENDED...

Creating a false historical appearance because the replaced feature is based on insufficient physical, historical, and pictorial documentation or on information derived from another building.

Introducing a new interior feature or finish that is incompatible with the scale, design, materials, color, and texture of the surviving interior features and finishes.

Alterations/Additions for the New Use – Interior Spaces, Features & Finishes

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Accommodating service functions such as bathrooms, mechanical equipment, and office machines required by the building's new use in secondary spaces such as first floor service areas or on upper floors.

Reusing decorative material or features that have had to be removed during the rehabilitation work including wall and baseboard trim, door molding, paneled doors, and simple wainscoting; and relocating such material or features in areas appropriate to their historic placement.

Installing permanent partitions in secondary spaces; removable partitions that do not destroy the sense of space should be installed when the new use requires the subdivision of character-defining interior space.

Enclosing an interior stairway where required by code so that its character is retained. In many cases, glazed fire-rated walls may be used.

Placing new code-required stairways or elevators in secondary and service areas of the historic building.

Creating an atrium or a light well to provide natural light when required for the new use in a manner that preserves character-defining interior spaces, features, and finishes as well as the structural system.

Adding a new floor, if required for the new use, in a manner that preserves character-defining structural features, and interior spaces, features, and finishes.

NOT RECOMMENDED...

Dividing rooms, lowering ceilings, and damaging or obscuring character-defining features such as fireplaces, niches, stairways or alcoves, so that a new use can be accommodated in the building.

Discarding historic material when it can be reused within the rehabilitation project or relocating it in historically inappropriate areas.

Installing permanent partitions that damage or obscure character-defining spaces, features, or finishes.

Enclosing an interior stairway with fire-rated construction so that the stairwell space or any character-defining features are destroyed.

Radically changing, damaging, or destroying character-defining spaces, features, or finishes when adding new code-required stairways and elevators.

Destroying character-defining interior spaces, features, or finishes; or damaging the structural system in order to create an atrium or light well.

Inserting a floor within a building that alters or destroys the fenestration; radically changes a character-defining interior space; or obscures, damages, or destroys decorative detailing.

BUILDING INTERIOR

Mechanical Systems: Heating, Air Conditioning, Electrical, and Plumbing

Mechanical, lighting and plumbing systems improved significantly with the coming of the Industrial Revolution.

The 19th century interest in hygiene, personal comfort, and the reduction of the spread of disease were met with the development of central heating, piped water, piped gas, and network of underground cast iron sewers. Vitreous tiles in kitchens, baths and hospitals could be cleaned easily and regularly. The mass production of cast iron radiators made central heating affordable to many; some radiators were elaborate and included special warming chambers for plates or linens. Ornamental grilles and registers provided decorative covers for functional heaters in public spaces. By the turn of the 20th century, it was common to have all these modern amenities as an integral part of the building.

The greatest impact of the 20th century on mechanical systems was the use of electricity for interior lighting, forced air ventilation, elevators for tall buildings, and electric heat. The new age of technology brought an increasingly high level of design and decorative art to the functional elements of mechanical, electrical and plumbing systems.

The visible decorative features of historic mechanical systems such as grilles, lighting fixtures, and ornamental switch plates may contribute to the overall historic character of the building and should thus be retained and repaired, whenever possible. Their identification needs to take place together with an evaluation of their physical condition early in project planning. On the other hand, the functioning parts of many older systems, such as compressors and their ductwork, and wiring and pipes may often need to be upgraded or entirely replaced in order to accommodate the new use and to meet code requirements.

Mechanical Systems...Identify, Retain, and Preserve

RECOMMENDED...

Identifying, retaining, and preserving visible features of early mechanical systems that are important in defining the overall historic character of the building.

This may include radiators, vents, fans, grilles, plumbing fixtures, switch plates, and lights.

NOT RECOMMENDED...

Removing or radically changing features of mechanical systems that are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Mechanical Systems ...Protect and Maintain

RECOMMENDED...

Protecting and maintaining mechanical, plumbing, and electrical systems and their features through cyclical cleaning and other appropriate measures.

Preventing accelerated deterioration of mechanical systems by providing adequate ventilation of attics, crawlspaces, and cellars so that moisture problems are avoided.

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NOT RECOMMENDED...

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of mechanical systems and their visible features results.

Enclosing mechanical systems in areas that are not adequately ventilated so that deterioration of the systems results.

RECOMMENDED...

Improving the energy efficiency of existing mechanical systems to help reduce the need for elaborate new equipment. Consideration should be given to installing storm windows, insulating attic crawl space, or adding awnings, if appropriate.

NOT RECOMMENDED...

Installing unnecessary air conditioning or climate control systems which can add excessive moisture to the building. This additional moisture can either condense inside, damaging interior surfaces, or pass through interior walls to the exterior, potentially damaging adjacent materials as it migrates.

Mechanical Systems ...Repair

RECOMMENDED...

Repairing mechanical systems by augmenting or upgrading system parts, such as installing new pipes and ducts; rewiring; or adding new compressors or boilers.

NOT RECOMMENDED...

Replacing a mechanical system or its functional parts when it could be upgraded and retained.

Mechanical Systems ...Replace

RECOMMENDED...

Replacing in kind--or with compatible substitute material--those visible features of mechanical systems that are either extensively deteriorated or are prototypes such as ceiling fans, switch plates, radiators, grilles, or plumbing fixtures.

NOT RECOMMENDED...

Installing a replacement feature that does not convey the same visual appearance.

Alterations/Additions for the New Use – Mechanical Systems

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Installing a completely new mechanical system if required for the new use so that it causes the least alteration possible to the building's floor plan, the exterior elevations, and the least damage to the historic building material.

**Providing adequate structural support for new mechanical equipment.
Installing the vertical runs of ducts, pipes, and cables in closets, service rooms, and wall cavities.**

Installing air conditioning units if required by the new use in such a manner that historic features are not damaged or obscured and excessive moisture is not generated that will accelerate deterioration of historic materials.

Installing heating/air conditioning units in the window frames in such a manner that the sash and frames are protected. Window installations should be considered only when all other viable heating/cooling systems would result in significant damage to historic materials.

NOT RECOMMENDED...

Installing a new mechanical system so that character-defining structural or interior features are radically changed, damaged, or destroyed.

Failing to consider the weight and design of new mechanical equipment so that, as a result, historic structural members or finished surfaces are weakened or cracked.

Installing vertical runs of ducts, pipes, and cables in places where they will obscure character-defining features.

Concealing mechanical equipment in walls or ceilings in a manner that requires the removal of historic building material.

Installing a "dropped" acoustical ceiling to hide mechanical equipment when this destroys the proportions of character-defining interior spaces.

Cutting through features such as masonry walls in order to install air conditioning units.

Radically changing the appearance of the historic building or damaging or destroying windows by installing heating/air conditioning units in historic window frames.

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BUILDING SITE & SETTING

Building Site

The landscape surrounding a historic building and contained within an individual parcel of land is considered the building site. The site, including its associated features, contributes to the overall character of the historic property.

As a result, the relationship between the buildings and landscape features within the site's boundaries should be considered in the overall planning for rehabilitation project work.

Landscapes which contain historic buildings are found in rural, suburban, and urban communities and reflect environmental influences such as climate as well as the historic period in which they were created.

Landscapes created for functional purposes as well as aesthetic enjoyment have been a part of American history since European settlement. Historic American styles in landscape design developed from 17th-18th century Spanish and Colonial gardens, evolving into the pastoral and picturesque design of the 19th century. Victorian carpet bedding, popular during the late 19th century, produced profuse plantings of annuals and perennials. Later, the early 20th century yielded a return to classical traditions, with revival gardens reflecting European renaissance design.

The building site may be significant in its own right, or derive its significance simply from its association with the historic structure. The level of significance, association, integrity, and condition of the building site may influence the degree to which the existing landscape features should be retained during the rehabilitation project. In an industrial property, the site may be defined simply as the relationship between buildings or between the ground plane and open space and its associated buildings. Designed historic landscapes significant in the field of landscape architecture require a more detailed analysis of their character-defining features which may include lawns, hedges, walks, drives, fences, walls, terraces, water features, topography (grading) and furnishings.

Vegetation is an important feature in landscapes; this material, including both native species and cultivated plants creates an appearance that is constantly changing, both seasonally and annually. Since most plant material is adapted to specific environments, the character of landscapes varies dramatically in different climates, elevations and regions.

Building Site...Identify, Retain, and Preserve

RECOMMENDED...

Identifying, retaining, and preserving buildings and their features as well as features of the site that are important in defining its overall historic character.

Site features may include circulation systems such as walks, paths, roads, or parking; vegetation such as trees, shrubs, fields, or herbaceous plant material; landforms such as terracing, berms or grading; and furnishings such as lights, fences, or benches; decorative elements such as sculpture, statuary or monuments; water features including fountains, streams, pools, or lakes; and subsurface archeological features which are important in defining the history of the site.

Retaining the historic relationship between buildings and the landscape.

NOT RECOMMENDED...

Removing or radically changing buildings and their features or site features which are important in defining the overall historic character of the property so that, as a result, the character is diminished.

Removing or relocating buildings or landscape features thus destroying the historic relationship between buildings and the landscape.

Removing or relocating historic buildings on a site or in a complex of related historic structures--such as a mill complex or farm--thus diminishing the historic character of the site or complex.

Moving buildings onto the site, thus creating a false historical appearance.

Radically changing the grade on the property, or adjacent to a building. For example, changing the grade adjacent to a building to permit development of a formerly below-grade area that would drastically change the historic relationship of the building to its site.

Building Site...Protect and Maintain

RECOMMENDED...

Protecting and maintaining the building and building site by providing proper drainage to assure that water does not erode foundation walls; drain toward the building; nor damage or erode the landscape.

Minimizing disturbance of terrain around buildings or elsewhere on the site, thus reducing the possibility of destroying or damaging important landscape features or archeological resources.

Surveying and documenting areas where the terrain will be altered to determine the potential impact to important landscape features or archeological resources.

Protecting, e.g., preserving in place important archeological resources.

Planning and carrying out any necessary investigation using professional archeologists and modern archeological methods when preservation in place is not feasible.

Preserving important landscape features, including ongoing maintenance of historic plant material.

Protecting the building and landscape features against arson and vandalism before rehabilitation work begin, i.e., erecting protective fencing and installing alarm systems that are keyed into local protection agencies.

Providing continued protection of masonry, wood, and architectural metals which comprise the building and site features through appropriate cleaning, rust removal, limited paint removal, and re-application of protective coating systems.

Evaluating the overall condition of the materials and features of the property to determine whether more than protection and maintenance are required, that is, if repairs to building and site features will be necessary.

NOT RECOMMENDED...

Failing to maintain adequate site drainage so that buildings and site features are damaged or destroyed; or alternatively, changing the site grading so that water no longer drains properly.

Introducing heavy machinery into areas where they may disturb or damage important landscape features or archeological resources.

Failing to survey the building site prior to the beginning of rehabilitation work which results in damage to, or destruction of, important landscape features or archeological resources.

Leaving known archeological material unprotected so that it is damaged during rehabilitation work.

Permitting unqualified personnel to perform data recovery on archeological resources so that improper methodology results in the loss of important archeological material.

Allowing important landscape features to be lost or damaged due to a lack of maintenance.

Permitting the property to remain unprotected so that the building and landscape features or archeological resources are damaged or destroyed.

Removing or destroying features from the buildings or site such as wood siding, iron fencing, masonry balustrades, or plant material.

Failing to provide adequate protection of materials on cyclical basis so that deterioration of building and site feature results.

Failing to undertake adequate measures to assure the protection of building and site features.

Building Site...Repair

RECOMMENDED...

Repairing features of the building and site by reinforcing historic materials.

NOT RECOMMENDED...

Replacing an entire feature of the building or site such as a fence, walkway, or driveway when repair of materials and limited compatible replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the building or site feature or that is physically or chemically incompatible.

Building Site...Replace

RECOMMENDED...

Replacing in kind an entire feature of the building or site that is too deteriorated to repair if the overall form and detailing are still evident. Physical evidence from the deteriorated feature should be used as a model to guide the new work. This could include an entrance or porch, walkway, or fountain. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

Replacing deteriorated or damaged landscape features in kind.

NOT RECOMMENDED...

Removing a feature of the building or site that unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

Adding conjectural landscape features to the site such as period reproduction lamps, fences, fountains, or vegetation that is historically inappropriate, thus creating a false sense of historic development.

Design for Missing Historic Features – Building Site

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Designing and constructing a new feature of a building or site when the historic feature is completely missing, such as an outbuilding, terrace, or driveway. It may be based on historical, pictorial, and physical documentation; or be a new design that is compatible with the historic character of the building and site.

NOT RECOMMENDED...

Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new building or site feature that is out of scale or of an otherwise inappropriate design.

Introducing a new landscape feature, including plant material, that is visually incompatible with the site, or that alters or destroys the historic site patterns or vistas.

Alterations/Additions for the New Use – Building Site

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Designing new onsite parking, loading docks, or ramps when required by the new use so that they are as unobtrusive as possible and assure the preservation of historic relationship between the building or buildings and the landscape.

Designing new exterior additions to historic buildings or adjacent new construction which is compatible with the historic character of the site and which preserves the historic relationship between the building or buildings and the landscape.

Removing non-significant buildings, additions, or site features which detract from the historic character of the site.

NOT RECOMMENDED...

Locating any new construction on the building site where important landscape features will be damaged or destroyed, for example, removing a lawn and walkway and installing a parking lot.

Placing parking facilities directly adjacent to historic buildings where automobiles may cause damage to the buildings or to important landscape features.

Introducing new construction onto the building site which is visually incompatible in terms of size, scale, design, materials, color, and texture; which destroys historic relationships on the site; or which damages or destroys important landscape features.

Removing a building in a complex of buildings; or removing a building feature, or a landscape feature which is important in defining the historic character of the site.

BUILDING SITE & SETTING

District or Neighborhood Setting

The setting is the area or environment in which a historic property is found. It may be an urban or suburban neighborhood or a natural landscape in which a building has been constructed.

The elements of setting, such as the relationship of buildings to each other, setbacks, fence patterns, views, driveways and walkways, and street trees together create the character of a district or neighborhood. In some instances, many individual building sites may form a neighborhood or setting.

In rural environments, agricultural or natural landscapes may form the setting for an individual property.

District or Neighborhood Setting ...Identify, Retain, and Preserve

RECOMMENDED...

Identifying, retaining, and preserving building and landscape features which are important in defining the historic character of the setting.

Such features can include roads and streets, furnishing such as lights or benches, vegetation, gardens and yards, adjacent open space such as fields, parks, commons or woodlands, and important views or visual relationships.

Retaining the historic relationship between buildings and landscape features of the setting. For example, preserving the relationship between a town common and its adjacent historic houses, municipal buildings, historic roads, and landscape features.

NOT RECOMMENDED...

Removing or radically changing those features of the setting which are important in defining the historic character.

Destroying the relationship between the buildings and landscape features within the setting by widening existing streets, changing landscape materials or constructing inappropriately located new street or parking.

Removing or relocating historic buildings or landscape features, thus destroying their historic relationship within the setting.

District or Neighborhood Setting ...Protect and Maintain

RECOMMENDED...

Protecting and maintaining historic masonry, wood, architectural metals, stone, and plant features through appropriate treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coating systems; and pruning and vegetation management.

Protecting building and landscape features such as lighting or trees, against arson and vandalism before rehabilitation works begins by erecting protective fencing and installing alarm systems that are keyed into local preservation agencies.

Evaluating the overall condition of the building and landscape features to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

NOT RECOMMENDED...

Failing to provide adequate protection of materials on a cyclical basis which results in the deterioration of building and landscape features.

Permitting the building and setting to remain unprotected so that interior or exterior features are damaged.

Stripping or removing features from buildings or the setting such as wood siding, iron fencing, terra cotta balusters, or plant material.

Failing to undertake adequate measures to assure the protection of building and landscape features.

District or Neighborhood Setting continued next page

District or Neighborhood Setting ...Repair

RECOMMENDED...

Repairing features of the building and landscape by reinforcing the historic materials.

Repair will also generally include the replacement in kind--or with a compatible substitute material--of those extensively deteriorated or missing parts of features when there are surviving prototypes, such as porch balustrades or paving materials.

NOT RECOMMENDED...

Replacing an entire feature of the building or landscape when repair of materials and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the building or landscape, or that is physically, chemically, or ecologically incompatible.

District or Neighborhood Setting ...Replace

RECOMMENDED...

Replacing in kind an entire feature of the building or landscape that is too deteriorated to repair-- when the overall form and detailing are still evident --using the physical evidence as a model to guide the new work.

If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

NOT RECOMMENDED...

Removing a feature of the building or landscape that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

Design for Missing Historic Features – District or Neighborhood Setting

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Designing and constructing a new feature of the building or landscape when the historic feature is completely missing, such as row house steps, a porch, a streetlight, or a terrace. It may be a restoration based on documentary or physical evidence; or be a new design that is compatible with the historic character of the setting.

NOT RECOMMENDED...

Creating a false historical appearance because the replaced feature is based on insufficient documentary or physical evidence.

Introducing a new building or landscape feature that is out of scale or otherwise inappropriate to the setting's historic character, e.g., replacing picket fencing with chain link fencing.

Alterations/Additions for the New Use – District or Neighborhood Setting

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

RECOMMENDED...

Designing required new parking so that it is as unobtrusive as possible, thus minimizing the effect on the historic character of the setting. "Shared" parking should also be planned as that several businesses can utilize one parking area as opposed to introducing random, multiple lots.

Designing and constructing new additions to historic buildings when required by the new use. New work should be compatible with the historic character of the setting in terms of size, scale design, material, color, and texture.

Removing non-significant buildings, additions or landscape features which detract from the historic character of the setting.

NOT RECOMMENDED...

Placing parking facilities directly adjacent to historic buildings which cause damage to historic landscape features, including removal of plant material, relocation of paths and walkways, or blocking of alleys.

Introducing new construction into historic districts that is visually incompatible or that destroys historic relationships within the setting.

Removing a historic building, building feature or landscape feature that is important in defining the historic character of the setting.

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OTHER REHABILITATION CONSIDERATIONS

Energy Efficiency Retrofitting

Some features of a historic building or site such as cupolas, shutters, transoms, skylights, sun rooms, porches, and plantings also play a secondary energy-conserving role.

Therefore, prior to retrofitting historic buildings to make them more energy efficient, the first step should always be to identify and evaluate existing historic features to assess their inherent energy-conserving potential. If it is determined that retrofitting measures are necessary, then such work needs to be carried out with particular care to ensure that the building's historic character is retained.

Note: Although the work in this section is quite often an important aspect of rehabilitation projects, it is usually not part of the overall process of preserving character-defining features (identify, protect, repair, replace); rather, such work is assessed for its potential negative impact on the building's historic character. For this reason, particular care must be taken not to obscure, radically change, damage, or destroy character-defining features in the process of rehabilitation work to make the building more energy efficient.

Energy Efficiency Retrofitting...Masonry/Wood/Architectural Metals

RECOMMENDED...

Installing thermal insulation in attics and in unheated cellars and crawlspaces to increase the efficiency of the existing mechanical systems.

Installing insulating material on the inside of masonry walls to increase energy efficiency where there is no character-defining interior molding around the window or other interior architectural detailing.

NOT RECOMMENDED...

Applying thermal insulation with a high moisture content into wall cavities which may damage historic fabric.

Installing wall insulation without considering its effect on interior molding or other architectural detailing.

Energy Efficiency Retrofitting...Windows

RECOMMENDED...

Utilizing the inherent energy conserving features of a building by maintaining windows and louvered blinds in good operable condition for natural ventilation.

Improving thermal efficiency with weather stripping, storm windows, caulking, interior shades, and if historically appropriate, blinds and awnings.

Installing interior storm windows with air-tight gaskets, ventilating holes, and/or removable clips to insure proper maintenance and to avoid condensation damage to historic windows.

Installing exterior storm windows which do not damage or obscure the windows and frames.

NOT RECOMMENDED...

Removing historic shading devices rather than keeping them in an operable condition.

Replacing historic multi-paned sash with new thermal sash utilizing false muntins.

Installing interior storm windows that allow moisture to accumulate and damage the window.

Installing new exterior storm windows which are inappropriate in size or color.

Replacing windows or transoms with fixed thermal glazing or permitting windows and transoms to remain inoperable rather than utilizing them for their energy conserving potential.

Energy Efficiency Retrofitting...Entrances and Porches

RECOMMENDED...

Maintaining porches and double vestibule entrances so that they can retain heat or block the sun and provide natural ventilation.

NOT RECOMMENDED...

Changing the historic appearance of the building by enclosing porches.

Energy Efficiency Retrofitting...Interior Features

RECOMMENDED...

Retaining historic interior shutters and transoms for their inherent energy-conserving features.

NOT RECOMMENDED...

Removing historic interior features which play a secondary energy-conserving role.

Energy Efficiency Retrofitting...Mechanical Systems

RECOMMENDED...

Improving energy efficiency of existing mechanical systems by installing insulation in attics and basements.

NOT RECOMMENDED...

Replacing existing mechanical systems that could be repaired for continued use.

Energy Efficiency Considerations...Building Site

RECOMMENDED...

Retaining plant materials, trees, and landscape features, especially those which perform passive solar energy functions such as sun shading and wind breaks.

NOT RECOMMENDED...

Removing plant materials, trees, and landscape features that perform passive solar energy functions.

Energy Efficiency Considerations...Setting (District or Neighborhood)

RECOMMENDED...

Maintaining those existing landscape features which moderate the effects of the climate on the setting such as deciduous trees, evergreen wind-blocks, and lakes or ponds.

NOT RECOMMENDED...

Stripping the setting of landscape features and landforms so that effects of the wind, rain, and sun result in accelerated deterioration of the historic building.

Energy Efficiency Considerations...New Additions to Historic Buildings

RECOMMENDED...

Placing a new addition that may be necessary to increase energy efficiency on non-character-defining elevations.

NOT RECOMMENDED...

Designing a new addition which obscures, damages, or destroys character-defining features.

OTHER REHABILITATION CONSIDERATIONS

New Additions to Historic Buildings

An attached exterior addition to a historic building expands its "outer limits" to create a new profile.

Because such expansion has the capability to radically change the historic appearance, an exterior addition should be considered only after it has been determined that the new use cannot be successfully met by altering non-character-defining interior spaces.

If the new use cannot be met in this way, then an attached exterior addition is usually an acceptable alternative. New additions should be designed and constructed so that the character-defining features of the historic building are not radically changed, obscured, damaged, or destroyed in the process of rehabilitation. New design should always be clearly differentiated so that the addition does not appear to be part of the historic resource.

Note: Although the work in this section is quite often an important aspect of rehabilitation projects, it is usually not part of the overall process of preserving character-defining features (identify, protect, repair, replace); rather, such work is assessed for its potential negative impact on the building's historic character. For this reason, particular care must be taken not to obscure, radically change, damage, or destroy character-defining features in the process of constructing a new addition.

New Additions to Historic Buildings

RECOMMENDED...

Placing functions and services required for the new use in non-character-defining interior spaces rather than installing a new addition.

Constructing a new addition so that there is the least possible loss of historic materials and so that character-defining features are not obscured, damaged, or destroyed.

Locating the attached exterior addition at the rear or on an inconspicuous side of a historic building; and limiting its size and scale in relationship to the historic building.

Designing new additions in a manner that makes clear what is historic and what is new.

Considering the attached exterior addition both in terms of the new use and the appearance of other buildings in the historic district or neighborhood. Design for the new work may be contemporary or may reference design motifs from the historic building.

In either case, it should always be clearly differentiated from the historic building and be compatible in terms of mass, materials, relationship of solids to voids, and color.

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NOT RECOMMENDED...

Expanding the size of the historic building by constructing a new addition when the new use could be met by altering non-character-defining interior space.

Attaching a new addition so that the character-defining features of the historic building are obscured, damaged, or destroyed.

Designing a new addition so that its size and scale in relation to the historic building are out of proportion, thus diminishing the historic character.

Duplicating the exact form, material, style, and detailing of the historic building in the new addition so that the new work appears to be part of the historic building.

Imitating a historic style or period of architecture in new additions, especially for contemporary uses such as drive-in banks or garages.

Designing and constructing new additions that result in the diminution or loss of the historic character of the resource, including its design, materials, workmanship, location, or setting.

Using the same wall plane, roof line, cornice height, materials, siding lap or window type to make additions appear to be a part of the historic building.

RECOMMENDED...

Placing new additions such as balconies and greenhouses on non-character-defining elevations and limiting and size and scale in relationship to the historic building.

Designing additional stories, when required for the new use that are set back from the wall plane and are as inconspicuous as possible when viewed from the street.

NOT RECOMMENDED...

Designing new additions such as multi-story greenhouse additions that obscure, damage, or destroy character-defining features of the historic building.

Constructing additional stories so that the historic appearance of the building is radically changed.

OTHER REHABILITATION CONSIDERATIONS

Accessibility

It is often necessary to make modifications to a historic building so that it will be in compliance with current accessibility code requirements.

Accessibility to certain historic structures is required by three specific federal laws: the Architectural Barriers Act of 1968, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990. Federal rules, regulations, and standards have been developed which provide guidance on how to accomplish access in historic areas for people with disabilities. Work must be carefully planned and undertaken so it does not result in the loss of character-defining spaces, features, and finishes. The goal is to provide the highest level of access with the lowest level of impact.

Note: Although the work in this section is quite often an important aspect of rehabilitation projects, it is usually not part of the overall process of preserving character-defining features (identify, protect, repair, replace); rather, such work is assessed for its potential negative impact on the building's historic character. For this reason, particular care must be taken not to obscure, radically change, damage, or destroy character-defining features in the process of rehabilitation work to meet accessibility requirements.

Accessibility Considerations

RECOMMENDED...

Identifying the historic building's character defining spaces, features, and finishes so that accessibility code-required work will not result in their damage or loss.

Complying with barrier-free access requirements, in such a manner that character-defining spaces, features, and finishes are preserved.

Working with local disability groups, access specialists, and historic preservation specialists to determine the most appropriate solution to access problems.

Providing barrier-free access that promotes independence for the disabled person to the highest degree practicable, while preserving significant historic features.

Designing new or additional means of access that are compatible with the historic building and its setting.

NOT RECOMMENDED...

Undertaking code-required alteration before identifying those spaces, features, or finishes which are character-defining and must therefore be preserved.

Altering, damaging, or destroying character-defining features in attempting to comply with accessibility requirements.

Making changes to buildings without first seeking expert advice from access specialists and historic preservationists, to determine solutions.

Making access modifications that do not provide a reasonable balance between independent, safe access and preservation of historic features.

Designing new or additional means of access without considering the impact on the historic property and its setting.

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OTHER REHABILITATION CONSIDERATIONS

Health and Safety Codes

In undertaking rehabilitation work on historic buildings, it is necessary to consider the impact that meeting current health and safety codes (public health, occupational health, life safety, fire safety, electrical, structural and building codes) will have on character-defining spaces, features, and finishes.

Special coordination with the responsible code officials at the state, county or municipal level may be required. Securing required building permits and occupancy licenses is best accomplished early in work project planning. It is often necessary to look beyond the "letter" of code requirements to their underlying purpose; most modern codes allow for alternative approaches and reasonable variance to achieve compliance.

Some historic building materials (insulation, lead paint, etc.) contain toxic substances that are potentially hazardous to building occupants. Following careful investigation and analysis, some form of abatement may be required. All workers involved in the encapsulation, repair, or removal of known toxic materials should be adequately trained and should wear proper personal protective gear. Finally, preventive and routine maintenance programs for historic structures known to contain such materials should also be developed to include proper warnings and precautions.

Note: Although the work in this section is quite often an important aspect of rehabilitation projects, it is usually not part of the overall process of preserving character-defining features (identify, protect, repair, replace); rather, such work is assessed for its potential negative impact on the building's historic character. For this reason, particular care must be taken not to obscure, radically change, damage, or destroy character-defining features in the process of rehabilitation work to meet health and safety code requirements.

Health and Safety Code Considerations

RECOMMENDED...

Identifying the historic building's character-defining spaces, features, and finishes so that code-required work will not result in their damage or loss.

Complying with health and safety codes, including seismic code requirements, in such a manner that character-defining spaces, features, and finishes are preserved.

Removing toxic building materials only after thorough testing has been conducted and only after less invasive abatement methods have been shown to be inadequate.

Providing workers with appropriate personal protective equipment for hazards found in the worksite.

Working 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.

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NOT RECOMMENDED...

Undertaking code-required alterations to a building or site before identifying those spaces, features, or finishes which are character-defining and must therefore be preserved.

Altering, damaging, or destroying character-defining spaces, features, and finishes while making modifications to a building or site to comply with safety codes.

Destroying historic interior features and finishes without careful testing and without considering less invasive abatement methods.

Removing unhealthful building materials without regard to personal and environmental safety.

Making changes to historic buildings without first exploring equivalent health and safety systems, methods, or devices that may be less damaging to historic spaces, features, and finishes.

Damaging or obscuring historic stairways and elevators or altering adjacent spaces in the process of doing work to meet code requirements.

RECOMMENDED...

Upgrading historic stairways and elevators to meet health and safety codes in a manner that assures their preservation, i.e., so that they are not damaged or obscured.

Installing sensitively designed fire suppression systems, such as sprinkler systems that result in retention of historic features and finishes.

Applying fire-retardant coatings, such as intumescent paints, which expand during fire to add thermal protection to steel.

Adding a new stairway or elevator to meet health and safety codes in a manner that preserves adjacent character-defining features and spaces.

Placing a code-required stairway or elevator that cannot be accommodated within the historic building in a new exterior addition. Such an addition should be on an inconspicuous elevation.

NOT RECOMMENDED...

Covering character-defining wood features with fire-resistant sheathing which results in altering their visual appearance.

Using fire-retardant coatings if they damage or obscure character-defining features.

Radically changing, damaging, or destroying character-defining spaces, features, or finishes when adding a new code-required stairway or elevator.

Constructing a new addition to accommodate code-required stairs and elevators on character-defining elevations highly visible from the street; or where it obscures, damages, or destroys character-defining features.