# Historic Commercial Building Styles

John Goodenberger

Selected pages from *Anatomy of a Main Street Building*

Developed by Michael Houser, State Architectural Historian,

Washington State Department of Archaeology & Historic Preservation (2011)

http://www.dahp.wa.gov/sites/default/files/Anatomy_of_MainStreet_0.pdf

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Selected pages from *Commercial Architecture: Styles and Types*

Georgia Department of Natural Resources, Historic Preservation Division

Georgia Alliance of Preservation Commissions

http://www.georgiashpo.org/sites/uploads/hpd/pdf/Commercial%20Architecture.pdf

# ANATOMY OF A MAIN STREET BUILDING

Terry Building; Port Townsend

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

**Cornice**
The projecting elements at the top of the exterior wall.

**Upper Floor(s)**
The non-retail volume above the ground floor.

**Storefront**
The front exterior wall of a commercial space, typically with large area of glass.

**Bracket**
A support for a projection, typically constructed of wood, press metal or cast stone.

**Window Hood**
A projecting member above a window that is both structural and decorative; typically made of stone, metal or wood.

**Sash**
Operable frame filled with glass.

**Sill**
Horizontal member immediately below the window assembly.

**Lintel**
Structural member above a storefront that support the upper wall.

**Pilaster**
An attached rectangular column.

**Bulkhead**
The area between the sidewalk and the display windows: can be of wood, tile, or metal, or can be glazed.

**Display Window**
The main areas of clear glass on a storefront behind which goods are arranged. Usually of polished plate glass.

**Transom**
Upper windows of a storefront; can be operable or fixed, clear or divided.

# ANATOMY OF A MAIN STREET BUILDING

Stoller Building; Camas

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

**Window Pattern(s)**
Rhythm or grouping of windows (ie A, B, B, pattern)

**Cornice**
The projecting elements at the top of the exterior wall.

**Upper Floor(s)**
The non-retail volume above the ground floor.

**Storefront**
The front exterior wall of a commercial space, typically with large area of glass.

**Coping**
Water resistant covering of the top of a wall.

**String Course**
A projecting member that is both structural and decorative; typically made of stone, metal or wood.

**Sash**
Operable frame filled with glass.

**Sill**
Horizontal member immediately below the window assembly.

**Lintel**
Structural member above a storefront tha support the upper wall.

**Pilaster**
An attached rectangular column.

**Bulkhead**
The area between the sidewalk and the display windows: can be of wood, tile, or metal, or can be glazed.

**Display Window**
The main areas of clear glass on a storefront behind which goods are arranged. Usually of polished plate glass.

**Transom**
Upper windows of a storefront; can be operable or fixed, clear or divided.

# ANATOMY OF A MAIN STREET BUILDING

Baker – Boyer National Bank Building; Walla Walla

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

**Cornice**
The projecting elements at the top of the exterior wall.

**Upper Floor(s)**
The non-retail volume above the ground floor.

**Storefront**
The front exterior wall of a commercial space, typically with large area of glass.

**Modillions**
A series of scroll-shaped brackets supporting the corona of a cornice.

**String Course**
A projecting member that is both structural and decorative; typically made of stone, metal or wood.

**Bay(s)**
Grouping of windows (example has four bays).

**Mullion**
A vertical member separating windows, or panels set in a series.

**Capitol**
Top portion of a column or pilaster crowing the shaft

**Pilaster(s)**
An attached rectangular column.

**Bulkhead**
The area between the sidewalk and the display windows: can be of wood, tile, or metal, or can be glazed.

**Display Window**
The main areas of clear glass on a storefront behind which goods are arranged. Usually of polished plate glass.

**Transom**
Upper windows of a storefront; can be operable or fixed, clear or divided.

# ANATOMY OF A MAIN STREET BUILDING

McGregor's Store; Hooper

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

**Cornice**
The projecting elements at the top of the exterior wall.

**Storefront**
The front exterior wall of a commercial space, typically with large area of glass.

**Parapet**
A low, solid, protective wall at the edge of a roof.

**String Course**
A projecting member above a window that is both structural and decorative; typically made of stone, metal or wood.

**Exterior Finish**
Exterior surfacing material.

**Pilaster**
An attached rectangular column.

**Recessed Entry**
An entrance door which is set back from the main façade of the building.

**Bulkhead**
The area between the sidewalk and the display windows: can be of wood, tile, or metal, or can be glazed.

**Display Window**
The main areas of clear glass on a storefront behind which goods are arranged. Usually of polished plate glass.

**Transom**
Upper windows of a storefront; can be operable or fixed, clear or divided.

# ANATOMY OF A MAIN STREET BUILDING

Bank of Starbuck; Starbuck

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

**Cornice**
The projecting elements at the top of the exterior wall.

**Storefront**
The front exterior wall of a commercial space, typically with large area of glass.

**Bracket**
A support for a projection, typically shaped link and inverted "L".

**String Course**
A projecting member above a window that is both structural and decorative; typically mad of stone, metal or wood.

**Sash**
Operable frame filled with glass.

**Sill**
Horizontal member immediately below the window assembly.

**Pilaster**
An attached rectangular column.

**Bulkhead**
The area between the sidewalk and the display windows: can be of wood, tile, or metal, or can be glazed.

**Display Window**
The main areas of clear glass on a storefront behind which goods are arranged. Usually of polished plate glass.

**Transom**
Upper windows of a storefront; can be operable or fixed, clear or divided.

# ANATOMY OF A MAIN STREET BUILDING

Pay n' Takit Store; Spokane

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

**Cornice**
The projecting elements at the top of the exterior wall.

**Storefront**
The front exterior wall of a commercial space, typically with large area of glass.

**Parapet**
A low, solid, protective wall used to obscure a low-pitched roof.

**Spandrel Panel**
A section of wall, defined as an ornamental panel, typically between two vertical windows or arches.

**Awning**
Fabric or rigid metal projection offering protection from the weather.

**Bulkhead**
The area between the sidewalk and the display windows: can be of wood, tile, or metal, or can be glazed.

**Corner Entry**
Double entry at chamfered corner of building.

**Display Window**
The main areas of clear glass on a storefront behind which goods are arranged. Usually of polished plate glass.

**Transom**
Upper windows of a storefront; can be operable or fixed, clear or divided.

# Illustrated Survey Manual and Guide to Architectural Styles

A Publication of the Preservation Alliance for Greater Philadelphia

Prepared by the Preservation Design Partnership

2009

## Quick Reference Contact Information

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This handbook is available online at www.preservationalliance.com/publications
For additional information or assistance call 215-546-1146 ext 5

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The Preservation Alliance for Greater Philadelphia is a non-profit organization whose mission is to actively promote the appreciation, protection and revitalization of the Philadelphia region's historic buildings, communities and landscapes. For more information on the Preservation Alliance visit our web site at www.preservationalliance.com.

| Style | |
|---|---|
| **Art Deco**<br>*Modern Movement*<br>Smooth wall surface, usually of stucco; zigzags, chevrons, and other stylized and geometric motifs occur as decorative elements on a façade; towers and other vertical projections above the roof line give a vertical emphasis. – *McAlester* | |
| **Beaux Arts**<br>*Late 19th & 20th Century Revivals; Beaux Arts Classicism*<br>Wall surfaces with decorative garlands, floral patterns, or shields; façade with quoins, pilasters, or columns (usually paired Ionic or Corinthian capitals); walls of masonry (usually smooth-light colored stone); first floor typically rusticated (stonework joints exaggerated); façade symmetrical. – *McAlester* | |
| **Bungalow/Craftsman**<br>*Late 19th & Early 20th Century Revivals;*<br>Low pitched, gabled roof (occasionally hipped) with wide, unenclosed eave overhang; roof rafters usually exposed; decorative (false) beams or braces commonly added under gables; porches, either full- or partial width, with roof supported by tapered square columns or pedestals frequently extending to the ground level (without a break at level of porch floor). – *McAlester* | |

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| **Chicago**<br>*Late 19th & Early 20th Century American Movements*<br>A commercial building in the Chicago School style was typically tall in comparison to its predecessors – usually more than 6 stories but fewer than 20. It was rectangular with a flat roof and terminating cornice. Ornamentation was usually minimal and subordinated to the functional expression of the internal skeleton that appeared as a grid of intersecting piers and horizontal spandrels.... Two types of windows were particularly characteristic of the commercial style. One was the projecting bay or oriel that ran the full height of the building, emphasizing the verticality. The other was the so called Chicago window composed of a large fixed central pane flanked by two narrow casements that provided ventilation. – *Poppeliers* | |
| **Classical Revival**<br>*Late 19th & Early 20th Century Revivals; Neoclassical Revival*<br>Façade dominated by full-height porch with roof supported by classical columns; columns typically have Ionic or Corinthian capitals; façade shows symmetrically balanced windows and center door. – *McAlester* | |
| **Colonial**<br>*Does not clearly fit into the subcategories of: French Colonial; Spanish Colonial; Dutch Colonial; Postmedieval English; Georgian* | |

| | |
|---|---|
| **Early Classical Revival**<br>*Early Republic; Jeffersonian Classicism; Roman Republican; Roman Revival; Roman Villa; Monumental Classicism; Regency*<br>**Classical Revival** – Entry porch (portico) dominating the front façade and normally equaling it in height; porch roof usually supported by four simple columns (Roman Doric or Tuscan types) each with a shallow square base (plinth); the columns support a prominent centered gable; a semi-circular or elliptical fanlight normally occurs above the paneled front door; windows aligned horizontally and vertically in symmetrical rows, usually five-ranked on front façade, less commonly three-ranked or seven-ranked. – *McAlester* | |
| **Early Republic**<br>*Does not clearly fit into the subcategories of: Early Classical Revival; Federal* | |
| **Exotic Revival**<br>*Mid-19th Century; Egyptian Revival; Moorish Revival*<br>Three principal types of exotic decorative ornament were used on romantic era houses: Egyptian, Oriental, and Swiss Chalet. The Egyptian and Oriental revivals were patterned after similar movements taking place in 19th-century Europe. The Swiss Chalet style, in contrast, was a romantic borrowing of contemporary Swiss domestic practice. – *McAlester* | |

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|---|---|
| **Federal**<br>*Early Republic; Adams or Adamesque*<br>Semi-circular or elliptical fanlight over front door (with or without sidelights); fanlight often incorporated into more decorative elaborate door surround, which may include a decorative crown or small entry porch; cornice usually emphasized by decorative moldings, most commonly with tooth-like dentils; windows with double-hung sashes usually having six panes per sash and separated by thin wood supports (muntins); windows aligned horizontally and vertically in symmetrical rows, usually five-ranked on front façade; less commonly three-ranked or seven-ranked; windows never in adjacent pairs, although three-part Palladian-style windows are common. – *McAlester* | |
| **French Colonial**<br>*Colonial*<br>One story with many narrow door and window openings having paired shutters (these openings originally had paired French doors and paired casement windows which have commonly been altered to single doors and double-hung sash windows); steeply pitched roof, either hipped or side-gabled; walls of stucco, usually over half timber frame. – *McAlester* | *No known examples in Philadelphia.* |
| **French Renaissance**<br>*Late 19th & Early 20th Century Revivals*<br>**Chateauesque** – Steeply pitch hipped roof; busy roof line with many vertical elements (spires, pinnacles, turrets, gables, and shaped chimneys); multiple dormers, usually wall dormers extending through cornice line; walls of masonry (usually stone). – *McAlester* | |

**Georgian**
*Colonial*

Paneled front door, usually centered and capped by an elaborate decorative crown (entablature) supported by decorative pilasters (flattened columns); usually with a row of small rectangular panes of glass beneath the crown, either within the door or in a transom just above; cornice usually emphasized by decorative moldings, most commonly with tooth-like dentils; windows with double-hung sashes having many small panes (most commonly nine or twelve panes per sash) separated by thick wooden muntins; windows aligned horizontally and vertically in symmetrical rows, never in adjacent pairs, usually five-ranked on front façade, less commonly three- or seven-ranked. – *McAlester*

**Gothic**
*Late Victorian*

Steeply pitched roof, usually with steep cross gables (roof normally side gabled, less commonly front gabled or hipped; rarely flat with castellated parapet); gables commonly have decorated vergeboards; wall surface extending into gable without break (eave or trim normally lacking beneath gable); windows commonly extended into gables, frequently having pointed-arch (Gothic) shape; one-story porch (either entry or full-width) usually present, commonly supported by flattened Gothic arches. – *McAlester*

**Gothic Revival**
*Mid-19th Century – Early Gothic Revival*

Steeply pitched roof, usually with steep cross gables (roof normally side gabled, less commonly front gabled or hipped; rarely flat with castellated parapet); gables commonly have decorated vergeboards; wall surface extending into gable without break (eave or trim normally lacking beneath gable); windows commonly extended into gables, frequently having pointed-arch (Gothic) shape; one-story porch (either entry or full-width) usually present, commonly supported by flattened Gothic arches. – *McAlester*

| | |
|---|---|
| **Greek Revival**<br>*Mid-19th Century*<br>Gable or hipped roof of low pitch; cornice line of main roof and porch roofs emphasized with wide band of trim (this represents the classical entablature and is usually divided into two parts; the frieze and the architrave below) most have porches (either entry or full-width) supported by prominent square or round columns, typically of Doric style; front door surrounded by narrow sidelights and rectangular line of transom lights above, door and lights usually incorporated into more elaborate door surround. – *McAlester* | |
| **International Style**<br>*Modern Movement – Miesian*<br>Flat roof, usually without ledge (coping) at roof line; windows (usually metal casements) set flush with outer wall; smooth, unornamented wall surface with no decorative detailing at doors or windows; façade asymmetrical. In many high-style International houses, walls are not used for structural support; instead the exterior walls are curtains hung over a structural steel skeleton. Freeing exterior walls from structural demands allowed façade treatments that had not been feasible earlier; long ribbon windows, sometimes wrapping around building corners are common. Large, floor-to-ceiling plate glass windows are also used. Cantilevered projections are much favored; sections of roof, balcony, or second stories may jut dramatically over the wall below, thus dramatizing the non-supporting nature of the walls. – *McAlester* | |
| **Italian Renaissance**<br>*Late 19th & 20th Century Revivals* | |

| | |
|---|---|
| **Mid-19th Century**<br>*Does not clearly fit into the subcategories of: Greek Revival; Gothic Revival; Italian Villa; Exotic Revival; Octagon Mode* | |
| **Mission/Spanish Colonial Revival**<br>*Late 19th & 20th Century Revivals – Spanish Revival; Mediterranean Revival*<br>**Mission** – Mission shaped dormer or roof parapet (these may be either main roof or porch roof); commonly with red tile covering; widely overhanging eaves, usually open; porch roofs supported by large, square piers, commonly arched above; wall surfaces usually smooth stucco. – *McAlester*<br>**Spanish Eclectic** – Low-pitched roof, usually with little or no eave overhang; red tile roof covering; typically with one or more prominent arches placed above door or principal window or beneath porch roof; wall surface usually stucco; façade normally asymmetrical. – *McAlester* | |

| | |
|---|---|
| **Mixed** – For a building only<br>*More than three styles from different periods* | |
| **Modern Movement**<br>*Modern Movement – New Formalism; Neo-Expressionism; Brutalism; California Style or Ranch Style; Post-Modern; Wrightian*<br>*Does not clearly fit into the subcategories of: Moderne; International Style; Art Deco* | |
| **Moderne**<br>*Modern Movement – Modernistic; Streamlined Moderne; Art Moderne*<br>Smooth wall surface, usually of stucco; flat roof, usually with small ledge (coping) at roof line; horizontal grooves or lines in walls and horizontal balustrade elements give a horizontal emphasis; façade usually asymmetrical. One or more corners of the building may be curved; frequently windows are continuous around corners glass block often used in windows, or entire sections of wall; small round windows are common. – *McAlester* | |

| | |
|---|---|
| **Skyscraper**<br>*Late 19th & Early 20th Century Revivals* | |
| **Spanish Colonial**<br>*Colonial – Mexican Baroque*<br>One story (less commonly two stories) with low-pitched or flat roof; thick masonry walls of adobe brick or rubble stone (usually covered with protective stucco); originally with multiple external doorways and a few small window openings lacking glass (bars or grilles of wood or wrought iron covered the exterior openings which were closed from the interior by solid shutters; except in reconstructions, most such early windows have been altered to accommodate double-hung, glazed sashes and trim.) – *McAlester* | *No known examples in Philadelphia.* |

## American Architectural Styles

| Eighteenth Century | Nineteenth Century | Twentieth Century |
|---|---|---|
| English Postmedieval<br>Spanish Colonial<br>Dutch Colonial<br>French Colonial<br>Georgian | Federal<br>Early Classical Revival<br>Greek Revival<br>Gothic Revival & Carpenter Gothic<br>Italianate<br>Egyptian Revival<br>Second Empire<br>Stick Style/Eastlake<br>Shingle Style<br>Queen Anne<br>Romanesque Revival<br>Richardsonian Romanesque<br>High Victorian Gothic<br>Italian Renaissance Revival<br>Chateauesque<br>Beaux Arts | Arts & Crafts<br>Prairie<br>Craftsman<br>Colonial Revivals:<br>• Georgian/Federal Revival<br>• Dutch Colonial Revival<br>• Spanish Colonial Revival/Mission<br>Neoclassical Revival<br>Neo-Gothic & Collegiate Gothic<br>Mediterranean Revival<br>Tudor/English Vernacular Revival<br>French Vernacular Revival<br>Minimal Traditional<br>Art Deco<br>Modernist/International Style<br>Googies/Roadside Architecture |
| There are few 18th c buildings remaining in Georgia. Those that do remain are primarily vernacular forms with simple details. | Georgia architecture began to regularly follow architectural fashion in the 19th c. As the state expanded inland, new buildings reflected the popular styles of the era | 20th c Georgia architecture reflects almost all of the nationally-popular architectural styles. |

## Georgia's Commercial Architectural Styles

| Eighteenth Century | Nineteenth Century | Twentieth Century |
|---|---|---|
| English Postmedieval<br>Spanish Colonial<br>Dutch Colonial<br>French Colonial<br>Georgian | Federal<br>Early Classical Revival<br>Greek Revival<br>Gothic Revival & Carpenter Gothic<br>Italianate<br>Egyptian Revival<br>Second Empire<br>Stick Style/Eastlake<br>Shingle Style<br>Queen Anne<br>Romanesque Revival<br>Richardsonian Romanesque<br>High Victorian Gothic<br>Italian Renaissance Revival<br>Chateauesque<br>Beaux Arts | Arts & Crafts<br>Prairie<br>Craftsman<br>Colonial Revivals:<br>• Georgian/Federal Revival<br>• Dutch Colonial Revival<br>• Spanish Colonial Revival/Mission<br>Neoclassical Revival<br>Neo-Gothic & Collegiate Gothic<br>Mediterranean Revival<br>Tudor/English Vernacular Revival<br>French Vernacular Revival<br>Minimal Traditional<br>Art Deco<br>Modernist/International Style<br>Googies/Roadside Architecture |
| There are few 18th c buildings remaining in Georgia. Those that do remain are primarily vernacular forms with simple details. | Georgia architecture began to regularly follow architectural fashion in the 19th c. As the state expanded inland, new buildings reflected the popular styles of the era | 20th c Georgia architecture reflects almost all of the nationally-popular architectural styles. |

# The Secretary of the Interior's Standards

John Goodenberger

Selected pages from

*The Secretary of the Interior's Standards for Rehabilitation*

*and Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings*

Anne E. Grimmer with Jo Ellen Hensley, Technical Preservation Services

National Park Service, U.S. Department of the Interior, 2011

https://www.nps.gov/tps/standards/rehabilitation/sustainability-guidelines.pdf

Selected pages from

*The Secretary of the Interior's Standards for the Treatment of Historic Properties*

*Standards for Rehabilitation & Guidelines for Rehabilitating Historic Buildings*

Heritage Preservation Services, Cultural Resource Stewardship and Partnerships

National Park Service, U.S. Department of the Interior, 1995

https://www.nps.gov/tps/standards/four-treatments/treatment-guidelines.pdf

*Preservation Brief 11 - Rehabilitating Historic Storefronts*

H. Ward Jandl, Heritage Preservation Services, Cultural Resources

National Park Service, U.S. Department of the Interior, 1982

https://www.nps.gov/tps/how-to-preserve/preservedocs/preservation-briefs/11Preserve-Brief-Storefronts.pdf

Interpreting the Secretary of the Interior's Standards for Rehabilitation

*ITS Bulletin Number 13 - Repair / Replacement of Missing or Altered Storefronts*

*ITS Bulletin Number 22 - Adding New Entrances to Historic Buildings*

*ITS Bulletin Number 26 - Entrance Treatments*

*ITS Bulletin Number 27 - Adding Awnings to Historic Storefronts and Entrances*

*ITS Bulletin Number 48 - Replacement of Missing or Altered Storefronts*

*ITS Bulletin Number 49 - Designing Compatible Replacement Storefronts*

*ITS Bulletin Number 51 - Installing New Systems in Historic Buildings*

Technical Preservation Services, National Park Service, U.S. Department of the Interior, 2000-2008

https://www.nps.gov/tps/standards/applying-rehabilitation/standards-bulletins.htm

## The Secretary of the Interior's Standards for Rehabilitation

The Standards (Department of the Interior regulations 36 CFR 67) pertain to all historic properties listed in or eligible for listing in the National Register of Historic Places.

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

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

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

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

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

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

5

6

[5-6] Large windows and a roof monitor provide natural illumination in a historic industrial building.

7

8

[7-9] Porches and canvas awnings provide shade and keep interiors cool in historic residential and commercial buildings.

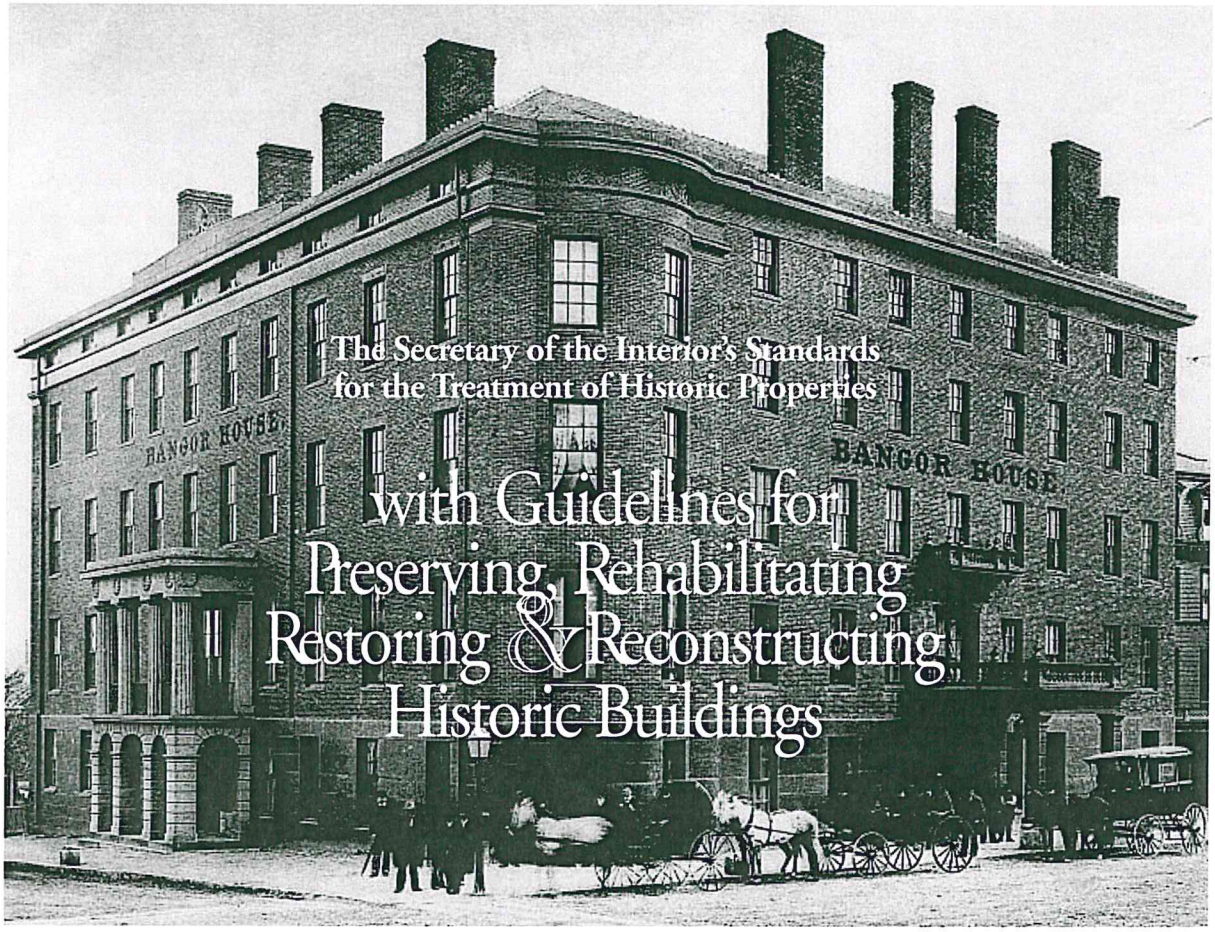
9

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.




# The Secretary of the Interior's Standards for the Treatment of Historic Properties

# with Guidelines for Preserving, Rehabilitating Restoring & Reconstructing Historic Buildings

The Secretary of the Interior is responsible for establishing professional standards and providing advice on the preservation and protection of all cultural resources listed in or eligible for listing in the National Register of Historic Places. **The Secretary of the Interior's Standards for the Treatment of Historic Properties**, apply to all proposed development grant-in-aid projects assisted through the National Historic Preservation Fund, and are intended to be applied to a wide variety of resource types, including buildings, sites, structures, objects, and districts. They address four treatments: Preservation, Rehabilitation, Restoration, and Reconstruction. The treatment Standards, developed in 1992, were codified as 36 CFR Part 68 in the July 12, 1995 *Federal Register* (Vol. 60, No. 133). They replace the 1978 and 1983 versions of 36 CFR 68 entitled, "The Secretary of the Interior's Standards for Historic Preservation Projects." The Guidelines in this book also replace the Guidelines that were published in 1979 to accompany the earlier Standards.

Please note that **The Secretary of the Interior's Standards for the Treatment of Historic Properties** are only regulatory for projects receiving federal grant-in-aid funds; otherwise, the Standards and Guidelines are intended only as general guidance for work on any historic building.

*Finally, another regulation, 36 CFR Part 67, focuses on "certified historic structures" as defined by the IRS Code of 1986. The "Standards for Rehabilitation" cited in 36 CFR 67 should always be used when property owners are seeking certification for Federal tax benefits.*

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The Secretary of the Interior's Standards
for the Treatment of Historic Properties

# with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings

Kay D. Weeks and Anne E. Grimmer

U.S. Department of the Interior
National Park Service
Cultural Resource Stewardship and Partnerships
Heritage Preservation Services
Washington, D.C.
1995

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## Photo Credits

*Front and Back Covers*

*Bangor House, Bangor, Maine*, circa 1880. Historic photo (front) and drawing (back): Courtesy, Maine State Historic Preservation Office.

*Historical Overview (Materials and Features)*

*Building Exterior: Masonry.* Jack E. Boucher, HABS.

*Building Exterior: Wood.* Jack E. Boucher, HABS.

*Building Exterior: Architectural Metals.* Cervin Robinson, HABS.

*Building Exterior: Roofs.* Jack E. Boucher, HABS.

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*Accessibility Considerations.* Department of Cultural Resources, Raleigh, North Carolina.

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**Chapter Heads**

*Preservation*
*Hale House, Los Angeles, California.* Photos: Before: National Park Service files; After: Bruce Boehner.

*Rehabilitation*
*Storefront, Painted Post, New York, after rehabilitation.* Photo: Kellogg Studio.

*Restoration*
*Camron-Stanford House, Oakland, California.* Photos: Before: National Park Service files; After: Courtesy, James B. Spaulding.

*Reconstruction*
*George Washington Memorial House at Washington Birthplace National Monument, Westmoreland County, Virginia.* Photo: Richard Frear.

*Text*

It should be noted that those photographs used to illustrate the guidelines text that are not individually credited in the captions are from National Park Service files.

## Acknowledgements

*The Standards for the Treatment of Historic Properties*, published in 1992, were reviewed by a broad cross-section of government entities and private sector organizations. *The Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* were developed in cooperation with the National Conference of State Historic Preservation Officers and reviewed by individual State Historic Preservation Offices nationwide. We wish to thank Stan Graves and Claire Adams, in particular, for their thoughtful evaluation of the new material. Dahlia Hernandez provided administrative support throughout the project.

Finally, this book is dedicated to H. Ward Jandl, whose long-term commitment to historic preservation helped define the profession as we know it today.

**The Secretary of the Interior's Standards for the Treatment of Historic Properties** may be applied to one historic resource type or a variety of historic resource types; for example, a project may include a complex of buildings such as a house, garage, and barn; the site, with a designed landscape, natural features, and archeological components; structures such as a system of roadways and paths or a bridge; and objects such as fountains and statuary.

**Historic Resource Types & Examples**

**Building:** houses, barns, stables, sheds, garages, courthouses, city halls, social halls, commercial buildings, libraries, factories, mills, train depots, hotels, theaters, stationary mobile homes, schools, stores, and churches.

**Site:** habitation sites, funerary sites, rock shelters, village sites, hunting and fishing sites, ceremonial sites, petroglyphs, rock carvings, ruins, gardens, grounds, battlefields, campsites, sites of treaty signings, trails, areas of land, shipwrecks, cemeteries, designed landscapes, and natural features, such as springs and rock formations, and land areas having cultural significance.

*Zoar Historic District, Ohio. Aerial view. Photo: National Park Service.*

*Elmendorf, Lexington, Kentucky. Photo: Charles A. Birnbaum.*

**Structure:** bridges, tunnels, gold dredges, firetowers, canals, turbines, dams, power plants, corn-cribs, silos, roadways, shot towers, windmills, grain elevators, kilns, mounds, cairns, palisade fortifications, earthworks, railroad grades, systems of roadways and paths, boats and ships, railroad locomotives and cars, telescopes, carousels, bandstands, gazebos, and aircraft.

**Object:** sculpture, monuments, boundary markers, statuary, and fountains.

**District:** college campuses, central business districts, residential areas, commercial areas, large forts, industrial complexes, civic centers, rural villages, canal systems, collections of habitation and limited activity sites, irrigation systems, large farms, ranches, estates, or plantations, transportation networks, and large landscaped parks.

*(Sidebar adapted from National Register Property and Resource Types, p. 15, National Register Bulletin 16A, How to Complete the National Register Form, published by the National Register Branch, Interagency Resources Division, National Park Service, U.S. Department of the Interior, 1991.)*



# Introduction

## Choosing an Appropriate Treatment for the Historic Building

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

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

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

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

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

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

## Using the Standards and Guidelines for a Preservation, Rehabilitation, Restoration, or Reconstruction Project

*The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* are intended to provide guidance to historic building owners and building managers, preservation consultants, architects, contractors, and project reviewers prior to treatment.

As noted, while the treatment Standards are designed to be applied to all historic resource types included in the National Register of Historic Places—buildings, sites, structures, districts, and objects—the Guidelines apply to *specific* resource types; in this case, buildings.

The Guidelines have been prepared to assist in applying the Standards to all project work; consequently, they are not meant to give case-specific advice or address exceptions or rare instances. Therefore, it is recommended that the advice of qualified historic preservation professionals be obtained early in the planning stage of the project. Such professionals may include architects, architectural historians, historians, historical engineers, archeologists, and others who have experience in working with historic buildings.

The Guidelines pertain to both exterior and interior work on historic buildings of all sizes, materials, and types. Those approaches to work treatments and techniques that are consistent with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* are listed in the "**Recommended**" column on the left; those which are inconsistent with the Standards are listed in the "**Not Recommended**" column on the right.

One chapter of this book is devoted to each of the four treatments: Preservation, Rehabilitation, Restoration, and Reconstruction. Each chapter contains one set of Standards and accompanying Guidelines that are to be used throughout the course of a project. The Standards for the first treatment, *Preservation,* require retention of the greatest amount of historic fabric, along with the building's historic form, features, and detailing as they have evolved over time. The *Rehabilitation* Standards acknowledge the need to alter or add to a historic building to meet continuing or new uses while retaining the building's historic character. The *Restoration* Standards allow for the depiction of a building at a particular time in its history by preserving materials from the period of significance and removing materials from other periods. The *Reconstruction* Standards establish a limited framework for re-creating a vanished or non-surviving building with new materials, primarily for interpretive purposes.

The Guidelines are preceded by a brief historical overview of the primary historic building materials (masonry, wood, and architectural metals) and their diverse uses over time. Next, building features comprised of these materials are discussed, beginning with the exterior, then moving to the interior. Special requirements or work that must be done to meet accessibility requirements, health and safety code requirements, or retrofitting to improve energy efficiency are also addressed here. Although usually not part of the overall process of protecting historic buildings, this work must also be assessed for its potential impact on a historic building.



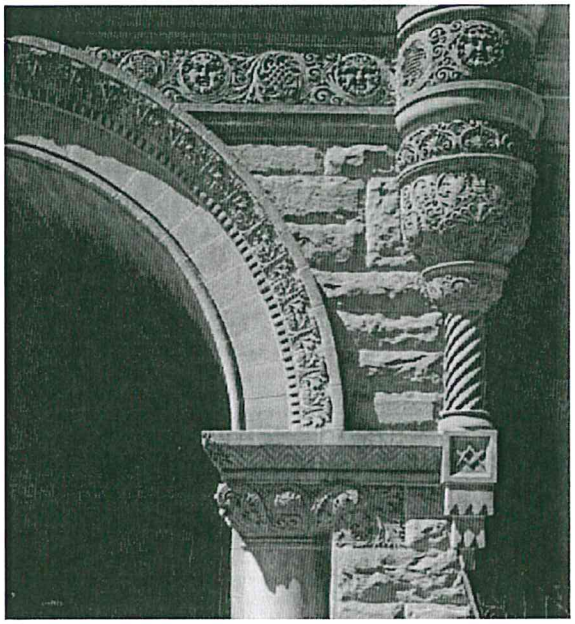
## Historical Overview
## Building Exterior *Materials*

### Masonry

*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 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. By the latter part of the 19th century, 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.



**Wood**

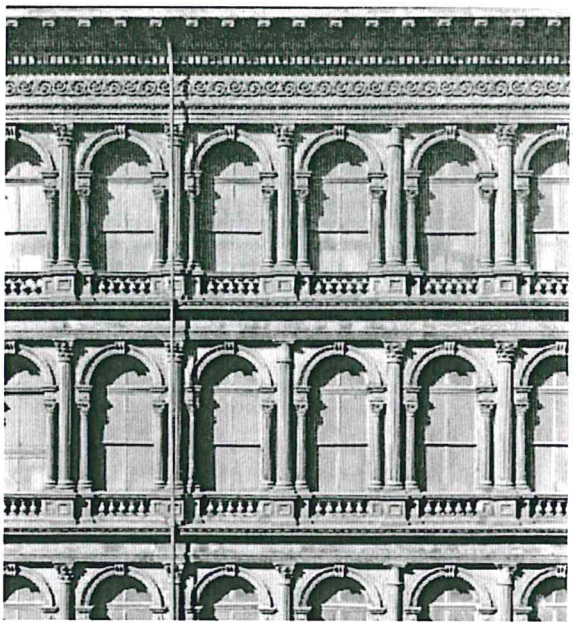
Wood has played a central role in American building during every period and in every style. Whether as structural members, exterior cladding, roofing, interior finishes, or decorative features, wood is frequently an essential component of historic buildings.

Because it can be easily shaped by sawing, sanding, 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, are often important in defining the historic character of the building.

**Architectural Metals**

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 character of historic American buildings.

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.



## Building Exterior *Features*

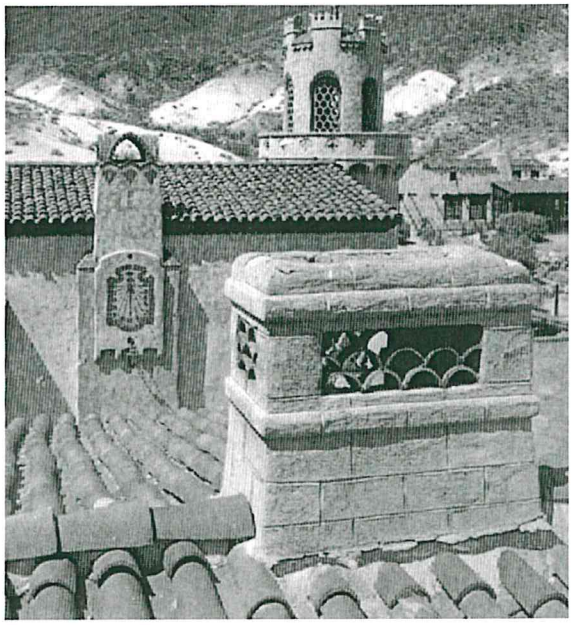
### Roofs

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 weathertight roof is essential to the longterm preservation of the entire structure. Historic roofing reflects availability of materials, levels of construction technology, weather, and cost. 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 at least as early as the mid-17th century. In some cities, such as New York and Boston, clay tiles were popularly used as a precaution against fire. The Spanish influence in the use of clay tiles 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 metal, corrugated metal, galvanized metal, tin-plate, copper, lead* and *zinc.*

New roofing materials developed in the early 20th century include built-up roll roofing, and concrete, asbestos, and asphalt shingles.



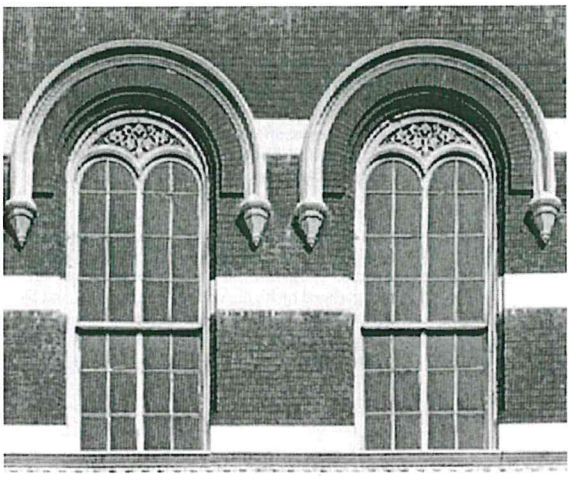


### Windows

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 century, these early wooden windows were characterized by small panes, wide muntins, and decorative trim. As the sash thickness increased, muntins took on a thinner appearance as they narrowed in width but increased in thickness.

Changes in technology led to larger panes of glass so that by the mid-19th century, two-over-two lights were common; the manufacture of plate glass in the United States allowed for 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. Early 20th century designs frequently utilized smaller lights in the upper sash and also casement windows. 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 a historic building.



### 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 in which 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.

### Storefronts

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.

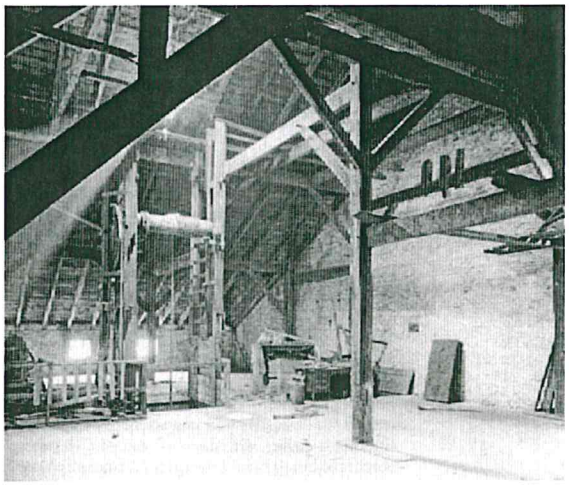
The storefront is usually the most prominent feature of a historic commercial building, playing a crucial role in a store's advertising and merchandising strategy. Although a storefront normally does not extend beyond the first story, the rest of the building is often related to it visually through a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

## Building Interior

### Structural Systems

The types of structural systems found in the United States include, but 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.).

If features of the structural system are exposed such as loadbearing 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. The structural system should always be examined and evaluated early in the project planning stage to determine its physical condition, its ability to support any proposed changes in use, and its importance to the building's historic character or historical significance.

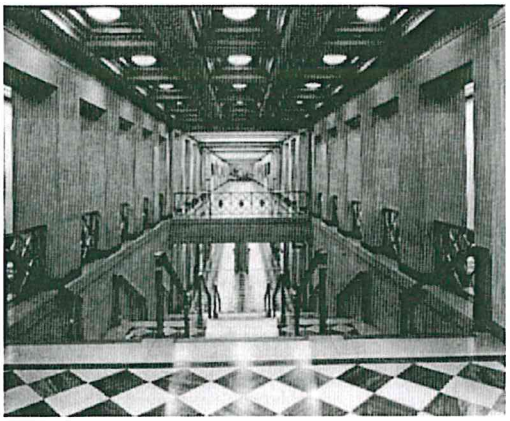




### Spaces, Features, and Finishes

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. 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 function, but also by their features, finishes, size and proportion.

Secondary spaces are often more functional than decorative, and may include kitchens, bathrooms, mail rooms, utility spaces, secondary hallways, firestairs 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.

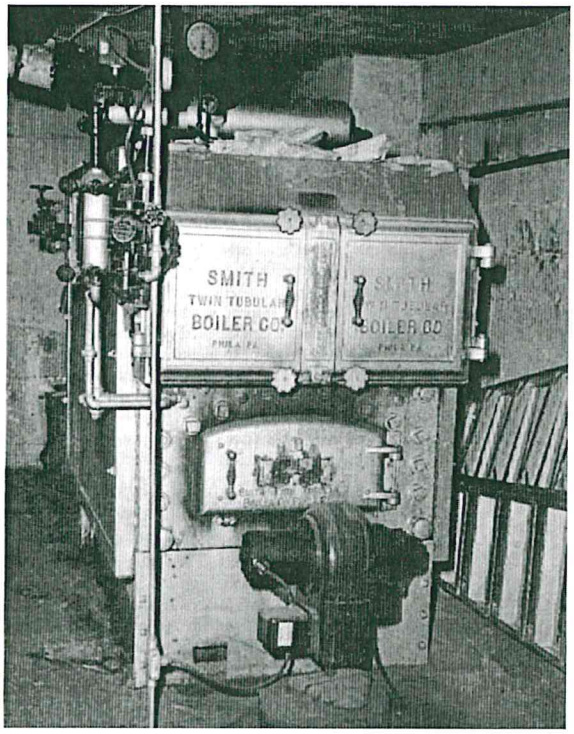


### Mechanical Systems

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

The visible decorative features of historic mechanical systems such as grilles, lighting fixtures, and ornamental switchplates may contribute to the overall historic character of the building. Their identification needs to take place, together with an evaluation of their physical condition, early in project planning. On the other hand, mechanical systems need to work efficiently so many older systems, such as compressors and their ductwork, and wiring and pipes often need to be upgraded or entirely replaced in order to meet modern requirements.






## Building Site

The building site consists of a historic building or buildings, structures, and associated landscape features within a designed or legally defined parcel of land. A site may be significant in its own right, or because of its association with the historic building or buildings. The relationship between buildings and landscape features on a site should be an integral part of planning for every work project.

## Setting (District/Neighborhood)

The setting is the larger area or environment in which a historic property is located. It may be an urban, suburban, or rural neighborhood or a natural landscape in which buildings have been constructed. 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.

## Special Requirements

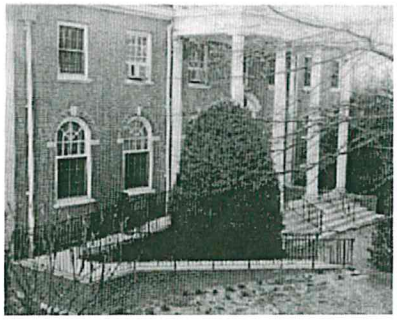
*Work that must be done to meet accessibility requirements, health and safety requirements or retrofitting to improve energy efficiency is usually not part of the overall process of protecting historic buildings; rather, this work is assessed for its potential impact on the historic building.*

## Energy Efficiency

Some features of a historic building or site such as cupolas, shutters, transoms, skylights, sun rooms, porches, and plantings can play an 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 appropriate, then such work needs to be carried out with particular care to ensure that the building's historic character is retained.

## Accessibility Considerations

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 to historic areas for people with disabilities. Work must be carefully planned and undertaken so that 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.

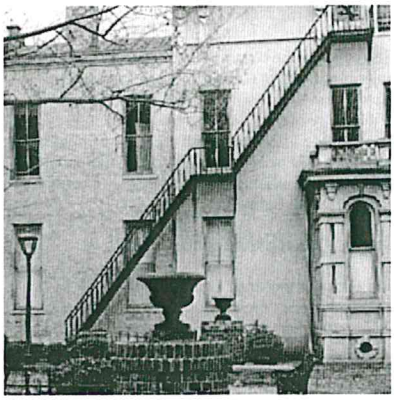




## Health and Safety Considerations

In undertaking 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, seismic, 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 alterative 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 for historic structures known to contain such materials should also be developed to include proper warnings and precautions.



# Standards for Rehabilitation & Guidelines for Rehabilitating Historic Buildings

***Rehabilitation** is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.*

Standards for Rehabilitation

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will 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 elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

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

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

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

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

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

## Guidelines for Rehabilitating Historic Buildings

### Introduction

In **Rehabilitation**, historic building materials and character-defining features are protected and maintained as they are in the treatment Preservation; however, an assumption is made prior to work that existing historic fabric has become damaged or deteriorated over time and, as a result, more repair and replacement will be required. Thus, latitude is given in the **Standards for Rehabilitation and Guidelines for Rehabilitation** to replace extensively deteriorated, damaged, or missing features using either traditional or substitute materials. Of the four treatments, only Rehabilitation includes an opportunity to make possible an efficient contemporary use through alterations and additions.

### Identify, Retain, and Preserve Historic Materials and Features

Like Preservation, guidance for the treatment **Rehabilitation** begins with recommendations to identify the form and detailing of those architectural materials and features that are important in defining the building's historic character and which must be retained in order to preserve that character. Therefore, guidance on ***identifying, retaining, and preserving*** character-defining features is always given first. The character of a historic building may be defined by the form and detailing of exterior materials, such as masonry, wood, and metal; exterior features, such as roofs, porches, and windows; interior materials, such as plaster and paint; and interior features, such as moldings and stairways, room configuration and spatial relationships, as well as structural and mechanical systems.

### Protect and Maintain Historic Materials and Features

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 coatings; the cyclical cleaning of roof gutter systems; or installation of fencing, 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 Historic Materials and Features

Next, when the physical condition of character-defining materials and features warrants additional work ***repairing*** is recommended. **Rehabilitation** 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

Note: The Guidelines for Rehabilitating Historic Buildings in this chapter have already appeared in *The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings*, published in 1992.

*Originally built as single-family, semi-detached duplexes, these houses were rehabilitated for a new use as rental apartments. While some alteration to non-significant interior features and spaces was necessary in each one, the exteriors were essentially preserved. Photos: Mistick, Inc.*

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 Deteriorated Historic Materials and Features

Following repair in the hierarchy, **Rehabilitation** 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, 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 that is extensively deteriorated, 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 the Replacement of 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. Although accepting the loss is one possibility, where an important architectural feature is missing, its replacement is always recommended in the **Rehabilitation** 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 for the New Use**

Some exterior and interior alterations to a 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 on a historic building may seem to be essential for the new use, but it is emphasized in the **Rehabilitation** 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 alterative, 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 and alterations to historic buildings are referenced within specific sections of the **Rehabilitation** guidelines such as Site, Roofs, Structural Systems, etc., but are addressed in detail in *New Additions to Historic Buildings*, found at the end of this chapter.



**Energy Efficiency/Accessibility Considerations/Health and Safety Code Considerations**

These sections of the guidance address work done to meet accessibility requirements and health and safety code requirements; or retrofitting measures to improve energy efficiency. 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 meeting code and energy requirements.

*Rehabilitation as a Treatment When repair and replacement of deteriorated features are necessary; when alterations or additions to the property are planned for a new or continued use; and when its depiction at a particular time is not appropriate, Rehabilitation may be considered as a treatment. Prior to undertaking work, a documentation plan for Rehabilitation should be developed.*

## Building Exterior

**Masonry: Brick, stone, terra cotta, concrete, adobe, stucco and mortar**

| *Recommended* | *Not 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. | 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. |
| ***Protecting and maintaining*** masonry by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved decorative features. | 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 only when necessary to halt deterioration or remove heavy soiling. | Cleaning masonry surfaces when they are not heavily soiled to create a new appearance, thus needlessly introducing chemicals or moisture into historic materials. |
| 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 without testing or without sufficient time for the testing results to be of value. |





| *Recommended* | *Not Recommended* |
|---|---|
| Cleaning masonry surfaces with the gentlest method possible, such as low pressure water and detergents, using natural bristle brushes. | 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. |
| Inspecting painted masonry surfaces to determine whether repainting is necessary. | Removing paint that is firmly adhering to, and thus protecting, masonry surfaces. |
| Removing damaged or deteriorated paint only to the next sound layer using the gentlest method possible (e.g., hand-scraping) prior to repainting. | Using methods of removing paint which are destructive to masonry, such as sandblasting, application of caustic solutions, or high pressure waterblasting. |
| Applying compatible paint coating systems following proper surface preparation. | Failing to follow manufacturers' product and application instructions when repainting masonry. |
| Repainting with colors that are historically appropriate to the building and district. | Using new paint colors that are inappropriate to the historic 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 masonry features will be necessary. | Failing to undertake adequate measures to assure the protection of masonry features. |
| ***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 nondeteriorated mortar from sound joints, then repointing the entire building to achieve a uniform appearance. |
| Removing deteriorated mortar by carefully hand-raking the joints to avoid damaging the masonry. | Using electric saws and hammers rather than hand tools to remove deteriorated mortar from joints prior to repointing. |

| *Recommended* | *Not Recommended* |
|---|---|
| Duplicating old mortar in strength, composition, color, and texture. | 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. |
| Duplicating old mortar joints in width and in joint profile. | Changing the width or joint profile when repointing. |
| Repairing stucco by removing the damaged material and patching with new stucco that duplicates the old in strength, composition, color, and texture. | Removing sound stucco; or repairing with new stucco that is stronger than the historic material or does not convey the same visual appearance. |
| Using mud plaster as a surface coating over unfired, unstabilized adobe because the mud plaster will bond to the adobe. | 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. |
| 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. | Patching concrete without removing the source of deterioration. |
| 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. | Replacing an entire masonry feature such as a cornice or balustrade when repair of the masonry 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 masonry feature or that is physically or chemically incompatible. |



## Rehabilitation

| *Recommended* | *Not Recommended* |
|---|---|
| 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. | 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. |
| ***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. | 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. |

*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* | *Not Recommended* |
|---|---|
| **Design for the Replacement of Missing Historic Features** | |
| 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. | 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

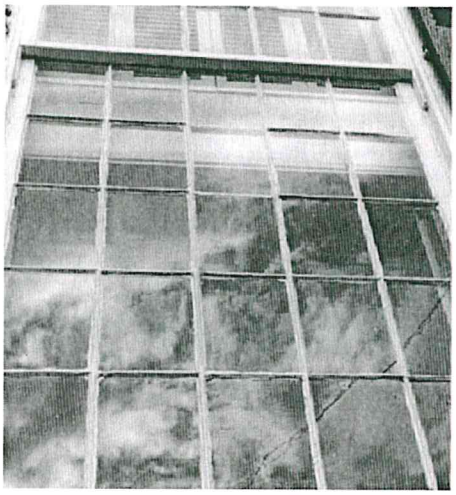
**Wood: Clapboard, weatherboard, shingles, and other wooden siding and decorative elements**

| *Recommended* | *Not 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. | 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 grained finish to an exterior wood feature such as a front door. |
| ***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. | 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. |
| Applying chemical preservatives to wood features such as beam ends or outriggers that are exposed to decay hazards and are traditionally unpainted. | Using chemical preservatives such as creosote which, unless they were used historically, can change the appearance of wood features. |
| 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. | Stripping paint or other coatings to reveal bare wood, thus exposing historically coated surfaces to the effects of accelerated weathering. |

Building Exterior *Wood* 71

## Rehabilitation

| *Recommended* | *Not Recommended* |
|---|---|
| Inspecting painted wood surfaces to determine whether repainting is necessary or if cleaning is all that is required. | Removing paint that is firmly adhering to, and thus, protecting wood surfaces. |
| Removing damaged or deteriorated paint to the next sound layer using the gentlest method possible (handscraping and handsanding), then repainting. | Using destructive paint removal methods such as propane or butane torches, sandblasting or waterblasting. These methods can irreversibly damage historic woodwork. |
| 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 thermal devices improperly so that the historic woodwork is scorched. |



*According to the Standards for Rehabilitation, existing historic materials should be protected, maintained and repaired. In an exemplary project, the windows and shutters of this historic residence were carefully preserved.*

| *Recommended* | *Not Recommended* |
|---|---|
| Using chemical strippers primarily to supplement other methods such as handscraping, handsanding and the above-recommended thermal devices. Detachable wooden elements such as shutters, doors, and columns may—with the proper safeguards—be chemically dip-stripped. | Failing to neutralize the wood thoroughly after using chemicals so that new paint does not adhere.<br>Allowing detachable wood features to soak too long in a caustic solution so that the wood grain is raised and the surface roughened. |
| Applying compatible paint coating systems following proper surface preparation. | Failing to follow manufacturers' product and application instructions when repainting exterior woodwork. |
| Repainting with colors that are appropriate to the historic building and district. | Using new colors that are inappropriate to the historic building or 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. | Failing to undertake adequate measures to assure the protection of wood features. |
| ***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. | 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.<br>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. |
| ***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. | Removing an entire wood feature that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance. |



## Rehabilitation

*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* | *Not Recommended* |
|---|---|
| **Design for the Replacement of Missing Historic Features** | |
| 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. | Creating a false historical appearance because the replaced wood feature is based on insufficient historical, pictorial, and physical documentation.<br>Introducing a new wood feature that is incompatible in size, scale, material and color. |

## Building Exterior

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

| *Recommended* | *Not 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. | 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. |
| ***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. | 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. |
| Cleaning architectural metals, when appropriate, to remove corrosion prior to repainting or applying other appropriate protective coatings. | 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. |
| 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. | 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. |





| *Recommended* | *Not Recommended* |
|---|---|
| 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. | Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with grit blasting which will abrade the surface of the metal. |
| Using the gentlest cleaning methods for cast iron, wrought iron, and steel—hard metals—in order to remove paint buildup and corrosion. If handscraping and wire brushing have proven ineffective, low pressure grit blasting may be used as long as it does not abrade or damage the surface. | Failing to employ gentler methods prior to abrasively cleaning cast iron, wrought iron or steel; or using high pressure grit blasting. |
| Applying appropriate paint or other coating systems after cleaning in order to decrease the corrosion rate of metals or alloys. | Failing to re-apply protective coating systems to metals or alloys that require them after cleaning so that accelerated corrosion occurs. |
| Repainting with colors that are appropriate to the historic building or district. | Using new colors that are inappropriate 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. | 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. |
| 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. | Failing to undertake adequate measures to assure the protection of architectural metal features. |
| ***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. | 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. |

| *Recommended* | *Not 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. | 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. |

*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* | *Not Recommended* |
|---|---|
| **Design for the Replacement of Missing Historic Features** | |
| 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. | Creating a false historical appearance because the replaced architectural metal feature is based on insufficient historical, pictorial, and physical documentation.<br><br>Introducing a new architectural metal feature that is incompatible in size, scale, material, and color. |





## Building Exterior

### Roofs

| *Recommended* | *Not 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. | 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.<br><br>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.<br><br>Changing the configuration of a roof by adding new features such as dormer windows, vents, or skylights so that the historic character is diminished.<br><br>Stripping the roof of sound historic material such as slate, clay tile, wood, and architectural metal.<br><br>Applying paint or other coatings to roofing material which has been historically uncoated. |
| ***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 ensure that materials are free from insect infestation. | 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. |
| Providing adequate anchorage for roofing material to guard against wind damage and moisture penetration. | Allowing roof fasteners, such as nails and clips to corrode so that roofing material is subject to accelerated deterioration. |
| Protecting a leaking roof with plywood and building paper until it can be properly repaired. | Permitting a leaking roof to remain unprotected so that accelerated deterioration of historic building materials—masonry, wood, plaster, paint and structural members—occurs. |

| *Recommended* | *Not 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. | 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.<br><br>Failing to reuse intact slate or tile when only the roofing substrate needs replacement.<br><br>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. |
| ***Replacing*** in kind an entire feature of the roof 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 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. | 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. |



## Rehabilitation

*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* | *Not Recommended* |
|---|---|
| **Design for the Replacement of Missing Historic Features** | |
| Designing and constructing a new feature when the historic feature is completely missing, such as 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. | Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial, and physical documentation.<br><br>Introducing a new roof feature that is incompatible in size, scale, material and color. |
| **Alterations/Additions for the New Use** | |
| 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. | Installing mechanical or service equipment so that it damages or obscures character-defining features; or is conspicuous from the public right-of-way. |
| 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. | 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. |

## Building Exterior

### Windows

| *Recommended* | *Not 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, panelled or decorated jambs and moldings, and interior and exterior shutters and blinds. | 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. |
| Conducting an indepth survey of the condition of existing windows early in rehabilitation planning so that repair and upgrading methods and possible replacement options can be fully explored. | 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. |
| ***Protecting and maintaining*** the wood and architectural metals 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. | Failing to provide adequate protection of materials on a cyclical basis so that deterioration of the window results. |
| Making windows weathertight by re-caulking and replacing or installing weatherstripping. These actions also improve thermal efficiency. | Retrofitting or replacing windows rather than maintaining the sash, frame, and glazing. |





| *Recommended* | *Not Recommended* |
|---|---|
| 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. | Failing to undertake adequate measures to assure the protection of historic windows. |
| ***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. | 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. |
| ***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. | 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. |

*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* | *Not Recommended* |
|---|---|
| **Design for the Replacement of Missing Historic Features** | |
| 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. | Creating a false historical appearance because the replaced window is based on insufficient historical, pictorial, and physical documentation.<br>Introducing a new design that is incompatible with the historic character of the building. |
| **Alterations/Additions for the New Use** | |
| 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. | 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. |
| 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. | 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. |



## Rehabilitation

*a*

*b*

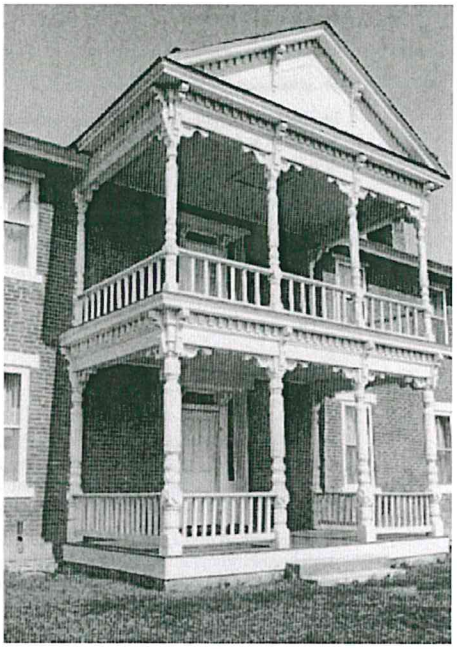
*c*

*(a) An armory complex was rehabilitated for rental housing. (b) This view of the rear elevation shows the paired, nine-over-nine wood sash windows and high sills that characterized the building. (c) After inappropriate rehabilitation work, the same rear elevation is shown with new skylights added to the roof, prefabricated panels filling the former brick areas, and new wood decks and privacy fences. Because the work changed the historic character, the project did not meet the Standards.*

## Building Exterior

### Entrances and Porches

| *Recommended* | *Not Recommended* |
|---|---|
| ***Identifying, retaining, and preserving*** entrances and porches—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. | 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, cast iron, terra cotta tile, and brick. |
| | Removing an entrance or porch because the building has been re-oriented to accommodate a new use. |
| | Cutting new entrances on a primary elevation. |
| | Altering utilitarian or service entrances so they appear to be formal entrances by adding panelled doors, fanlights, and sidelights. |
| ***Protecting and maintaining*** the masonry, wood, and architectural metals that comprise entrances and porches through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems. | Failing to provide adequate protection to materials on a cyclical basis so that deterioration of entrances and porches results. |
| 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. | Failing to undertake adequate measures to assure the protection of historic entrances and porches. |
| ***Repairing*** entrances and porches 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 where there are surviving prototypes such as balustrades, cornices, entablatures, columns, sidelights, and stairs. | 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. |



*In Rehabilitation, deteriorated features should be repaired, whenever possible, and replaced when the severity of the damage makes it necessary. Here, a two-story porch is seen prior to treatment (left). The floor boards are rotted out and the columns are in a state of collapse, supported only by crude, temporary shafts. Other components are in varying stages of decay. Appropriate work on the historic porch (right) included repairs to the porch rails; and total replacement of the extensively deteriorated columns and floor boards. Some dismantling of the porch was necessary.*

| *Recommended* | *Not Recommended* |
|---|---|
| ***Replacing*** in kind an 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. | 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. |

*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* | *Not Recommended* |
|---|---|
| **Design for the Replacement of Missing Historic Features** | |
| 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. | Creating a false historical appearance because the replaced entrance or porch is based on insufficient historical, pictorial, and physical documentation.<br><br>Introducing a new entrance or porch that is incompatible in size, scale, material, and color. |
| **Alterations/Additions for the New Use** | |
| Designing enclosures for historic porches on secondary elevations 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. | Enclosing porches in a manner that results in a diminution or loss of historic character by using materials such as wood, stucco, or masonry. |
| Designing and installing additional entrances or porches on secondary elevations 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. | 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. |





## Building Exterior

### Storefronts

| *Recommended* | *Not 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. | 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.<br><br>Changing the storefront so that it appears residential rather than commercial in character.<br><br>Removing historic material from the storefront to create a recessed arcade.<br><br>Introducing coach lanterns, mansard designs, wood shakes, nonoperable shutters, and small-paned windows if they cannot be documented historically.<br><br>Changing the location of a storefront's main entrance. |
| ***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. | Failing to provide adequate protection of materials on a cyclical basis so that deterioration of storefront features results. |
| Protecting storefronts against arson and vandalism before work begins by boarding up windows and installing alarm systems that are keyed into local protection agencies. | Permitting entry into the building through unsecured or broken windows and doors so that interior features and finishes are damaged by exposure to weather or vandalism.<br><br>Stripping storefronts of historic material such as wood, cast iron, terra cotta, carrara glass, and brick. |
| Evaluating the existing condition of storefront materials to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary. | Failing to undertake adequate measures to assure the preservation of the historic storefront. |

*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.

***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*

Replacing an entire storefront when repair of 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.

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.

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*Recommended*

**Design for the Replacement of Missing Historic Features**

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.

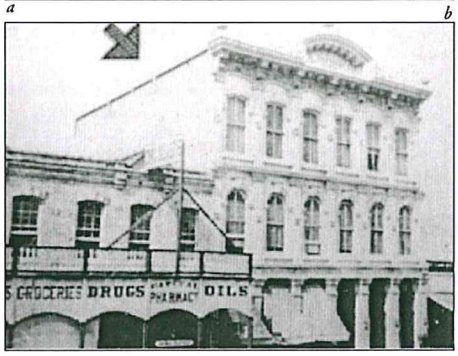
*Not Recommended*

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.

*a*




*b*

*c*

*In the treatment, Rehabilitation, one option for replacing missing historic features is to use pictorial documentation and/or physical evidence to re-create the historic feature. (a) In this example, the ornamental cornice of an 1866 limestone building was missing; and the ground level storefront had been extensively altered. (b) and (c) Based on the availability of photographic and other documentation, the owners were able to accurately restore the cornice and storefront to their historic configuration. A substitute material, fiberglass, was used to fabricate the missing pressed metal cornice, an acceptable alternative in this project. All work met the Standards.*

## Building Interior

### Structural Systems

*Recommended*

***Identifying, retaining, and preserving*** structural systems—and individual features of systems—that are important in defining the overall historic character of the 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.

***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*

Removing, covering, or radically changing visible 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 loadbearing 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.

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.





*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.

***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 loadbearing 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 loadbearing capabilities.

*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.

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 loadbearing capabilities of the historic material and design or is otherwise physically or chemically incompatible.

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| *Recommended* | *Not Recommended* |
|---|---|
| **Alterations/Additions for the New Use** | |
| Limiting any new excavations adjacent to historic foundations to avoid undermining the structural stability of the building or adjacent historic buildings. Studies should be done to ascertain potential damage to archeological resources. | 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. |
| Correcting structural deficiencies in preparation for the new use in a manner that preserves the structural system and individual character-defining features. | 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. |
| 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. | Installing new mechanical and electrical systems or equipment in a manner which results in numerous cuts, splices, or alterations to the 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. | 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. |
| 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. | 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. |



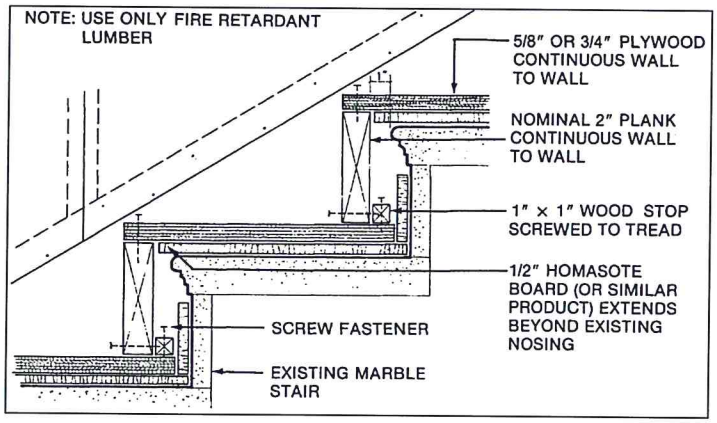


## Building Interior

### Spaces, Features, and Finishes

| *Recommended* | *Not Recommended* |
|---|---|
| **Interior Spaces** | |
| ***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. | 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 and Finishes** | |
| ***Identifying, retaining, and preserving*** interior features and finishes that are important in defining the overall historic character of the building, including columns, cornices, baseboards, fireplaces and mantels, panelling, light fixtures, hardware, and flooring; and wallpaper, plaster, paint, and finishes such as stencilling, marbling, and graining; and other decorative materials that accent interior features and provide color, texture, and patterning to walls, floors, and ceilings. | 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 panelling. |
| | Radically changing the type of finish or its color, such as painting a previously varnished wood feature. |

| *Recommended* | *Not 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 coating systems. | Failing to provide adequate protection to materials on a cyclical basis so that deterioration of interior features results. |
| 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. | 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 vandalism.<br><br>Stripping interiors of features such as woodwork, doors, windows, light fixtures, copper piping, radiators; or of decorative materials. |
| 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. | Failing to provide proper protection of interior features and finishes during work so that they are gouged, scratched, dented, or otherwise damaged. |



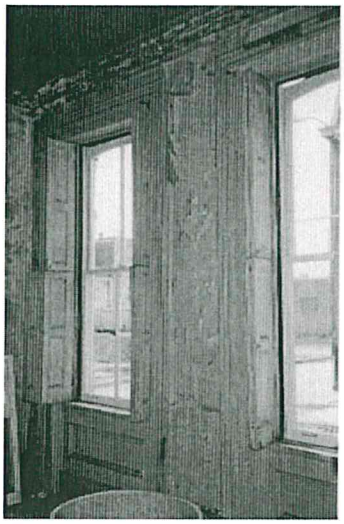

*Historic features that characterize a building should always be protected from damage during rehabilitation work. The drawing shows how a resilient, temporary stair covering was applied over the existing marble staircase. Drawing: National Park Service staff, based on material originally prepared by Emery Roth and Sons, P.C.*



## Rehabilitation

| *Recommended* | *Not Recommended* |
|---|---|
| Installing protective coverings in areas of heavy pedestrian traffic to protect historic features such as wall coverings, parquet flooring and panelling. | Failing to take new use patterns into consideration so that interior features and finishes are damaged. |
| 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. | 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. |
| Repainting with colors that are appropriate to the historic building. | Using new paint colors that are inappropriate 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. | 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. |
| Evaluating the existing 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. | Failing to undertake adequate measures to assure the protection of interior features and finishes. |
| *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 panelling, columns; or decorative wall coverings or ornamental tin or plaster ceilings. | Replacing an entire interior feature such as a staircase, panelled 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.<br><br>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. |

| *Recommended* | *Not 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. | 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. |



*a*

*b*

*Rehabilitating historic dwelling units often includes some level of lead-paint hazard abatement. Whenever lead-base paint begins to peel, chip, craze, or otherwise comes loose (a), it should be removed in a manner that protects the worker as well as the immediate environment. In this example (b), the deteriorating lead-paint was removed throughout the apartment building and a compatible primer and finish paint applied.*
*Photos: Sharon C. Park, AIA.*



## Rehabilitation

*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* | *Not Recommended* |
|---|---|
| **Design for the Replacement of Missing Historic Features** | |
| 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. | 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.<br>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** | |
| 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. | 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. |
| Reusing decorative material or features that have had to be removed during the rehabilitation work including wall and baseboard trim, door molding, panelled doors, and simple wainscoting; and relocating such material or features in areas appropriate to their historic placement. | Discarding historic material when it can be reused within the rehabilitation project or relocating it in historically inappropriate areas. |
| 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. | Installing permanent partitions that damage or obscure character-defining spaces, features, or finishes. |
| Enclosing an interior stairway where required by code so that its character is retained. In many cases, glazed fire-rated walls may be used. | Enclosing an interior stairway with fire-rated construction so that the stairwell space or any character-defining features are destroyed. |

| *Recommended* | *Not Recommended* |
|---|---|
| Placing new code-required stairways or elevators in secondary and service areas of the historic building. | Radically changing, damaging, or destroying character-defining spaces, features, or finishes when adding new code-required stairways and elevators. |
| 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. | Destroying character-defining interior spaces, features, or finishes; or damaging the structural system in order to create an atrium or light well. |
| 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. | Inserting a new 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

| *Recommended* | *Not Recommended* |
|---|---|
| ***Identifying, retaining, and preserving*** visible features of early mechanical systems that are important in defining the overall historic character of the building, such as radiators, vents, fans, grilles, plumbing fixtures, switchplates, and lights. | 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. |
| ***Protecting and maintaining*** mechanical, plumbing, and electrical systems and their features through cyclical cleaning and other appropriate measures. | Failing to provide adequate protection of materials on a cyclical basis so that deterioration of mechanical systems and their visible features results. |
| Preventing accelerated deterioration of mechanical systems by providing adequate ventilation of attics, crawlspaces, and cellars so that moisture problems are avoided. | Enclosing mechanical systems in areas that are not adequately ventilated so that deterioration of the systems results. |
| 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. | 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. |
| ***Repairing*** mechanical systems by augmenting or upgrading system parts, such as installing new pipes and ducts; rewiring; or adding new compressors or boilers. | Replacing a mechanical system or its functional parts when it could be upgraded and retained. |
| ***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, switchplates, radiators, grilles, or plumbing fixtures. | Installing a visible replacement feature that does not convey the same visual appearance. |

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| *Recommended* | *Not Recommended* |
|---|---|
| **Alterations/Additions for the New Use** | |
| 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. | Installing a new mechanical system so that character-defining structural or interior features are radically changed, damaged, or destroyed. |
| Providing adequate structural support for new mechanical equipment. | 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 the vertical runs of ducts, pipes, and cables in closets, service rooms, and wall cavities. | 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. |
| 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. | Cutting through features such as masonry walls in order to install air conditioning units. |
| 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. | Radically changing the appearance of the historic building or damaging or destroying windows by installing heating/air conditioning units in historic window frames. |





## Building Site

| *Recommended* | *Not 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; 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. | 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. |
| Retaining the historic relationship between buildings and the landscape. | 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 level of the site. 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. |
| ***Protecting and maintaining*** buildings and the site by providing proper drainage to assure that water does not erode foundation walls; drain toward the building; or damage or erode the landscape. | 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. |
| 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. | Introducing heavy machinery into areas where it may disturb or damage important landscape features or archeological resources. |

| *Recommended* | *Not Recommended* |
|---|---|
| Surveying and documenting areas where the terrain will be altered to determine the potential impact to 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. |
| Protecting, e.g., preserving in place important archeological resources. | Leaving known archeological material unprotected so that it is damaged during rehabilitation work. |
| Planning and carrying out any necessary investigation using professional archeologists and modern archeological methods when preservation in place is not feasible. | Permitting unqualified personnel to perform data recovery on archeological resources so that improper methodology results in the loss of important archeological material. |
| Preserving important landscape features, including ongoing maintenance of historic plant material. | Allowing important landscape features to be lost or damaged due to a lack of maintenance. |
| Protecting the building and landscape features against arson and vandalism before rehabilitation work begins, i.e., erecting protective fencing and installing alarm systems that are keyed into local protection agencies. | 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 building or site such as wood siding, iron fencing, masonry balustrades, or plant material. |
| Providing continued protection of historic building materials and plant features through appropriate cleaning, rust removal, limited paint removal, and re-application of protective coating systems; and pruning and vegetation management. | Failing to provide adequate protection of materials on a cyclical basis so that deterioration of building and site features results. |
| 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. | Failing to undertake adequate measures to assure the protection of building and site features. |



## Rehabilitation

| *Recommended* | *Not Recommended* |
|---|---|
| ***Repairing*** features of the building and site by reinforcing historic materials. | 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. |
| ***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. | Removing a feature of the building or site that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance. |
| Replacing deteriorated or damaged landscape features in kind. | Adding conjectural landscape features to the site such as period reproduction lamps, fences, fountains, or vegetation that are historically inappropriate, thus creating a false sense of historic development. |

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

| *Recommended* | *Not Recommended* |
|---|---|
| **Design for the Replacement of Missing Historic Features** | |
| 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. | 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** | |
| 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 the historic relationship between the building or buildings and the landscape. | Locating any new construction on the building site in a location which contains important landscape features or open space, for example removing a lawn and walkway and installing a parking lot. |
| 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. | Placing parking facilities directly adjacent to historic buildings where automobiles may cause damage to the buildings or landscape features, or be intrusive to the building site. |
| | 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 non-significant buildings, additions, or site features which detract from the historic character of the site. | Removing a historic 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. |





## Setting (District/Neighborhood)

| *Recommended* | *Not 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, furnishings 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. | Removing or radically changing those features of the setting which are important in defining the historic character. |
| 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. | Destroying the relationship between the buildings and landscape features within the setting by widening existing streets, changing landscape materials or constructing inappropriately located new streets or parking. |
| | Removing or relocating historic buildings or landscape features, thus destroying their historic relationship within the setting. |
| ***Protecting and maintaining*** historic building materials and plant features through appropriate cleaning, rust removal, limited paint removal, and reapplication of protective coating systems; and pruning and vegetation management. | Failing to provide adequate protection of materials on a cyclical basis which results in the deterioration of building and landscape features. |
| Protecting building and landscape features such as lighting or trees, against arson and vandalism before rehabilitation work begins by erecting protective fencing and installing alarm systems that are keyed into local protection agencies. | 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. |
| 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. | Failing to undertake adequate measures to assure the protection of building and landscape features. |

*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.

***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*

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.

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.

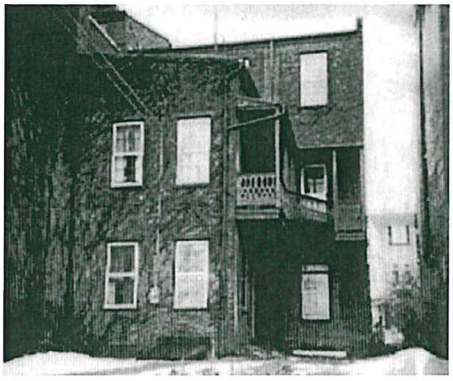




*The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of* **Rehabilitation** *projects and should only be considered after the preservation concerns listed above have been addressed.*

| *Recommended* | *Not Recommended* |
|---|---|
| **Design for the Replacement of Missing Historic Features** | |
| 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 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. | Creating a false historical appearance because the replaced feature is based on insufficient documentary or physical evidence.<br><br>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** | |
| 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 so that several businesses can utilize one parking area as opposed to introducing random, multiple lots. | Placing parking facilities directly adjacent to historic buildings which result in damage to historic landscape features, such as the removal of plant material, relocation of paths and walkways, or blocking of alleys. |
| 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. | Introducing new construction into historic districts that is visually incompatible or that destroys historic relationships within the setting. |
| Removing nonsignificant buildings, additions or landscape features which detract from the historic character of the setting. | Removing a historic building, building feature, or landscape feature that is important in defining the historic character of the setting. |

a



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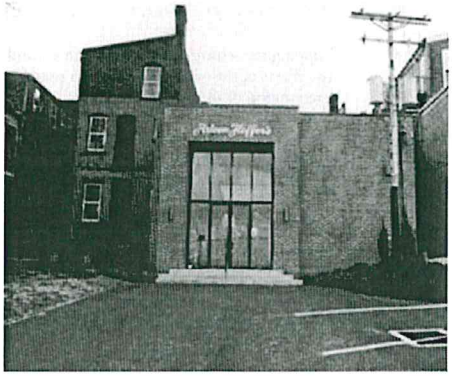


c

*If a rear elevation of a historic building is distinctive and highly visible in the neighborhood, altering it may not meet the Standards. (a and b) This 3-story brick rowhouse featured a second story gallery and brick kitchen wing characteristic of other residences in the district which backed onto a connecting roadway. (c) In the rehabilitation, the wing and gallery were demolished and a large addition constructed that severely impacted the building's historic form and character.*



## Rehabilitation

*Although the work in these sections is quite often an important aspect of rehabilitation projects, it is usually not part of the overall process of preserving character-defining features (maintenance, repair, replacement); 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.*

### Energy Efficiency

| *Recommended* | *Not Recommended* |
|---|---|
| **Masonry/Wood/Architectural Metals** | |
| Installing thermal insulation in attics and in unheated cellars and crawlspaces to increase the efficiency of the existing mechanical systems. | Applying thermal insulation with a high moisture content in wall cavities which may damage historic fabric. |
| Installing insulating material on the inside of masonry walls to increase energy efficiency where there is no character-defining interior molding around the windows or other interior architectural detailing. | Installing wall insulation without considering its effect on interior molding or other architectural detailing. |
| **Windows** | |
| Utilizing the inherent energy conserving features of a building by maintaining windows and louvered blinds in good operable condition for natural ventilation. | Removing historic shading devices rather than keeping them in an operable condition. |
| Improving thermal efficiency with weatherstripping, storm windows, caulking, interior shades, and if historically appropriate, blinds and awnings. | Replacing historic multi-paned sash with new thermal sash utilizing false muntins. |
| Installing interior storm windows with air-tight gaskets, ventilating holes, and/or removable clips to ensure proper maintenance and to avoid condensation damage to historic windows. | Installing interior storm windows that allow moisture to accumulate and damage the window. |
| Installing exterior storm windows which do not damage or obscure the windows and frames. | 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. |

| *Recommended* | *Not Recommended* |
|---|---|
| **Entrances and Porches** | |
| Maintaining porches and double vestibule entrances so that they can retain heat or block the sun and provide natural ventilation. | Changing the historic appearance of the building by enclosing porches. |
| **Interior Features** | |
| Retaining historic interior shutters and transoms for their inherent energy conserving features. | Removing historic interior features which play an energy conserving role. |
| **Mechanical Systems** | |
| Improving energy efficiency of existing mechanical systems by installing insulation in attics and basements. | Replacing existing mechanical systems that could be repaired for continued use. |
| **Building Site** | |
| Retaining plant materials, trees, and landscape features which perform passive solar energy functions such as sun shading and wind breaks. | Removing plant materials, trees, and landscape features that perform passive solar energy functions. |
| **Setting (District/Neighborhood)** | |
| 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. | 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. |
| **New Additions to Historic Buildings** | |
| Placing a new addition that may be necessary to increase energy efficiency on non-character-defining elevations. | Designing a new addition which obscures, damages, or destroys character-defining features. |





## New Additions to Historic Buildings

| *Recommended* | *Not Recommended* |
|---|---|
| Placing functions and services required for the new use in non-character-defining interior spaces rather than constructing a new addition. | 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 spaces. |
| 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. | Attaching a new addition so that the character-defining features of the historic building are obscured, damaged, or destroyed. |
| Designing a new addition in a manner that makes clear what is historic and what is new. | Duplicating the exact form, material, style, and detailing of the historic building in a new addition so that the new work appears to be part of the historic building. |
| | Imitating a historic style or period of architecture in a new addition. |

*Rehabilitation, like Preservation, acknowledges a building's change over time; the retention and repair of existing historic materials and features is thus always recommended. However, unlike Preservation, the dual goal of Rehabilitation is to—respectfully—add to or alter a building in order to meet new use requirements. This downtown Chicago library was expanded in 1981 when additional space was required with light and humidity control for the rare book collection. The compatible 10-story wing was linked to the historic block on side and rear elevations. Its simple design is compatible with the historic form, features, and detailing; old and new are clearly differentiated. Photo: Dave Clifton.*

*Recommended*

Considering the design for an attached exterior addition in terms of its relationship to the historic building as well as 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.

Placing a new addition on a non-character-defining elevation and limiting the size and scale in relationship to the historic building.

Designing a rooftop addition when required for the new use, that is set back from the wall plane and as inconspicuous as possible when viewed from the street.

*Not Recommended*

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.

Designing a new addition that obscures, damages, or destroys character-defining features of the historic building.

Constructing a rooftop addition so that the historic appearance of the building is radically changed.





## 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*

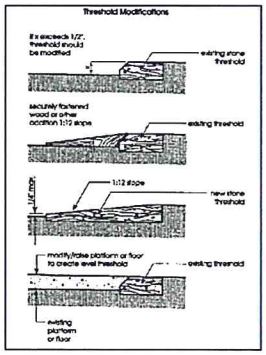
Undertaking code-required alterations before identifying those spaces, features, or finishes which are character-defining and must therefore be preserved.

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 building and its setting.




*Making a building accessible to the public is a requirement under the Americans with Disabilities Act of 1990, whatever the treatment. Full, partial, or alternative approaches to accessibility depends upon the historical significance of a building and the ability to make changes. In these examples, thresholds that exceed allowable heights were modified several ways to increase accessibility, without jeopardizing the historic character. Drawing: Uniform Federal Accessibility Standard (UFAS) Retrofit Manual.*

## Health and Safety 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.

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*

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.

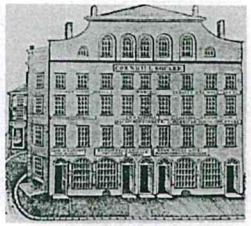
Covering character-defining wood features with fire-resistant sheathing which results in altering their visual appearance.

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.

# 11 PRESERVATION BRIEFS



## Rehabilitating Historic Storefronts

H. Ward Jandl

U.S. Department of the Interior
National Park Service
Cultural Resources
Heritage Preservation Services

The storefront is the most important architectural feature of many historic commercial buildings. It also plays a crucial role in a store's advertising and merchandising strategy to draw customers and increase business. Not surprisingly, then, the storefront has become the feature most commonly altered in a historic commercial building. In the process, these alterations may have completely changed or destroyed a building's distinguishing architectural features that make up its historic character.

As more and more people come to recognize and appreciate the architectural heritage of America's downtowns, however, a growing interest can be seen in preserving the historic character of commercial buildings. The sensitive rehabilitation of storefronts can result not only in increased business for the owner but can also provide evidence that downtown revitalization efforts are succeeding (see figure 1).

Once a decision is made to rehabilitate a historic commercial building, a series of complex decisions faces the owner, among them:

- if the original storefront has survived largely intact but is in a deteriorated condition, what repairs should be undertaken?
- if the storefront has been modernized at a later date, should the later alterations be kept or the building restored to its original appearance or an entirely new design chosen?
- if the building's original retail use is to be changed to office or residential, can the commercial appearance of the building be retained while accommodating the new use?

This Preservation Brief is intended to assist owners, architects, and planning officials in answering such questions about how to evaluate and preserve the character of historic storefronts. In so doing, it not only addresses the basic design issues associated with storefront rehabilitation, but recommends preservation treatments as well. Finally, although the Brief focuses on storefront rehabilitation, it is important to review this specific work in the broader context of preserving and maintaining the overall structure. Money spent on storefront rehabilitation may be completely wasted if repair and maintenance problems on the rest of the building are neglected.

Figure 1. *Inappropriate storefront alterations over the years—metal cladding, oversized signs and canopies—have detracted from the character of this historic district in Van Buren, Arkansas. A carefully considered rehabilitation plan for Main Street, including the removal of poorly designed signs, false fronts and the selection of an appropriate exterior paint color palette, serves to enhance the visual environment and preserves the district's sense of time and place. Photo above: Bob Dunn; Drawing, David Fitts*



### Historical Overview

Commercial establishments of the 18th and early 19th centuries were frequently located on the ground floor of buildings and, with their residentially scaled windows and doors, were often indistinguishable from surrounding houses. In some cases, however, large bay or oriel windows comprised of small panes of glass set the shops apart from their neighbors. Awnings of wood and canvas and signs over the sidewalk were other design features seen on some early commercial buildings. The ground floors of large commercial establishments, especially in the first decades of the 19th century, were distinguished by regularly spaced, heavy piers of stone or brick, infilled with paneled doors or small paned window sash. Entrances were an integral component of the facade, typically not given any particular prominence although sometimes wider than other openings.

The ready availability of architectural cast iron after the 1840's helped transform storefront design as architects and builders began to experiment using iron columns and lintels at the ground floor level. Simultaneous advances in the glass industry permitted manufacturing of large panes of glass at a reasonable cost. The combination of these two technical achievements led to the storefront as we know it today—large expanses of glass framed by thin structural elements. The advertisement of the merchant and his products in the building facade and display windows quickly became critical factors in the competitive commercial atmosphere of downtowns. In the grouping of these wide-windowed facades along major commercial streets, the image of America's cities and towns radically changed.

The first cast iron fronts were simple post-and-lintel construction with little decoration. As iron craftsmen became more adept and as more ornate architectural styles became popular, cast iron fronts were given Italianate, Venetian Gothic, and French Second Empire details. Cast iron storefronts could be selected directly from catalogs, which began to appear in the early 1850's. Standardized sills, columns, and lintels could be arranged to create fronts of all sizes, styles and configurations. In the 1870's sheet metal storefronts became popular; they were also sold in standardized sizes and configurations through manufacturers' catalogs (see figure 2).

The typical 19th century storefront consisted of single or double doors flanked by display windows (see figure 3). The entrance was frequently recessed, not only to protect the customer from inclement weather but to increase the amount of space in which to display merchandise. In some cases an additional side door provided access to the upper floors. Thin structural members of cast iron or wood, rather than masonry piers, usually framed the storefront. The windows themselves were raised off the ground by wood, cast iron or pressed metal panels or bulkheads; frequently, a transom or series of transoms (consisting of single or multiple panes of glass) were

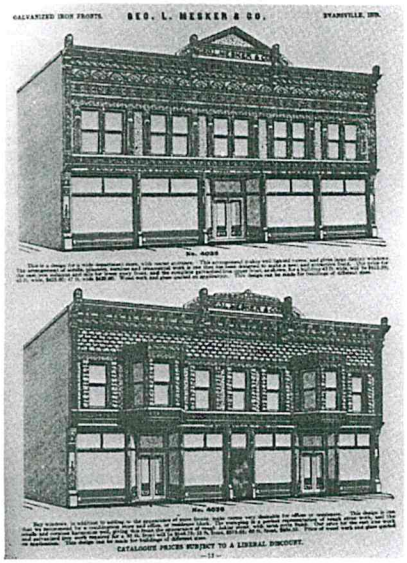



Figure 2. *These 19th century galvanized iron storefronts could be purchased from George L. Mesker & Co. in Evansville, Indiana.*

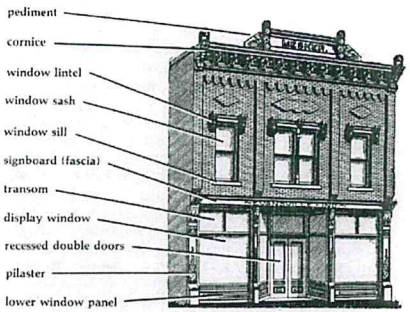



Figure 3. *Become familiar with the architectural features typical of historic commercial buildings. A close look at a storefront's construction materials, features and relationship to the upper stories will help in determining how much of the original facade remains.*

*This particular storefront is No. 4016 in the George L. Mesker and Company catalog of 1905. One of Mesker's most popular designs, it featured cast-iron sills, columns and lintels, galvanized iron lintel and main cornice, window caps and pediment.*

placed above each window and door. The signboard above the storefront (the fascia covering the structural beam) became a prominent part of the building. Canvas awnings, or in some cases tin or wooden canopies, often shaded storefronts of the late 19th century. Iron fronts were frequently put onto existing buildings as a way of giving them an up-to-date appearance. Except for expanding the display window area to the maximum extent possible and the increasing use of canvas awnings, few major technical innovations in storefront design can be detected from the 1850's through 1900.

The first decades of the 20th century saw the growing use of decorative transom lights (often using small prismatic glass panes) above display windows; in some cases, these transoms could be opened to permit air circulation into the store. Electric incandescent lights enabled storeowners to call attention to their entrance and display windows and permitted nighttime shopping. In the 1920's and 1930's a variety of new materials were introduced into the storefront, including aluminum and stainless steel framing elements, pigmented structural glass (in a wide variety of colors), tinted and mirrored glass, glass block and neon. A bewildering number of proprietary products also appeared during this period, many of which went into storefronts including Aklo, Vitrolux, Vitrolite, and Extrudalite. Highly colored and heavily patterned marble was a popular material for the more expensive storefronts of this period. Many experiments were made with recessed entries, floating display islands, and curved glass. The utilization of neon lighting further transformed store signs into elaborate flashing and blinking creations. During this period design elements were simplified and streamlined; transom and signboard were often combined. Signs utilized typefaces for the period, including such stylized lettering as "Broadway," "Fino" and "Monogram." Larger buildings of this period, such as department stores, sometimes had fixed metal canopies, with lighting and signs as an integral component of the fascia (see figure 4).

Because commercial architecture responds to a variety of factors—environmental, cultural, and economic, distinct regional variations in storefronts can be noted. Fixed metal canopies supported by guy wires, for example, were common in late 19th and early 20th century storefronts in southern states where it was advantageous to have shaded entrances all year long. Such a detail was less common in the northeast where moveable canvas awnings predominated. These awnings could be lowered in summer to keep buildings cooler and raised in winter when sunlight helps to heat the building.

## Evaluating the Storefront

The important key to a successful rehabilitation of a historic commercial building is planning and selecting treatments that are sensitive to the architectural character of the storefront. As a first step, it is therefore essential to identify and evaluate the existing storefront's construction materials; architectural features; and the relationship of those features to the upper stores (see figure 5). This evaluation will permit a better understanding of the storefront's role in, and significance to, the overall design of the building. A second and equally important step in planning the rehabilitation work is a careful examination of the storefront's physical conditions to determine the extent and nature of rehabilitation work needed (see figure 6). In most cases, this examination is best undertaken by a qualified professional.

Figure 4. *This storefront in New York City designed by Raymond Loewy typifies the streamlined look of the 1930's. Added to an earlier buiding, the front utilizes glass, stainless steel and neon to make a modern statement. This is a good example of a later storefront which has acquired significance and should be retained in any rehabilitation.*

Figure 5. *In some cases, as in the storefront on the extreme left, it is a simple matter to determine original appearance by looking at neighboring storefronts. Removal of the board and batten fasciaboard, pent roof, and "colonial" style door, all of which could be undertaken at minimal cost, would restore the original proportions and lines of the building. Photo: Day Johnston*

**Guidelines for Rehabilitating Existing Historic Storefronts**

1. Become familiar with the style of your building and the role of the storefront in the overall design. Don't "early up" a front. Avoid stock "lumberyard colonial" detailing such as coach lanterns, mansard overhangings, wood shakes, nonoperable shutters, and small paned windows except where they existed historically.
2. Preserve the storefront's character even though there is a new use on the interior. If less exposed window area is desirable, consider the use of interior blinds and insulating curtains rather than altering the existing historic fabric.
3. Avoid use of materials that were unavailable when the storefront was constructed; this includes vinyl and aluminum siding, anodized aluminum, mirrored or tinted glass, artificial stone, and brick veneer.
4. Choose paint colors based on the building's historical appearance. In general do not coat surfaces that have never been painted. For 19th century storefronts, contrasting colors may be appropriate, but avoid too many different colors on a single facade.



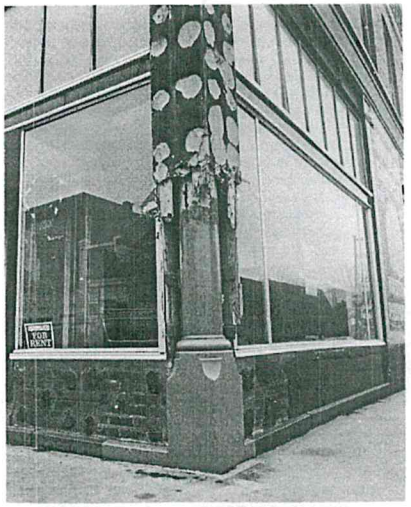



Figure 6. *Storefronts of the 1940's, 50's, and 60's were frequently installed by attaching studs or a metal grid over an early front and applying new covering materials. If the existing storefront is a relatively recent addition with little or no architectural merit, begin by removing the covering materials in several places as was done here. If this preliminary investigation reveals evidence of an earlier front, such as this cast-iron column, carefully remove the later materials to assess the overall condition of the historic storefront. The black mastic visible on the lower masonry panels was used for installing pigmented structural glass. Some attachment methods for modern facings, such as mastic or metal lath, may have seriously damaged the original fabric of the buiding, and this must be taken into account in the rehabilitation process. Photo: Bob Dunn*

The following questions should be taken into consideration in this two-part evaluation:

### Construction Materials, Features, and Design Relationships

*Storefront's Construction Materials:* What are the construction materials? Wood? Metal? Brick or other masonry? A combination?

*Storefront's Architectural Features:* What are the various architectural features comprising the storefront and how are they arranged in relationship to each other?

- Supporting Columns/Piers:
  What do the columns or piers supporting the storefront look like? Are they heavy or light in appearance? Are they flush with the windows or do they protrude? Are they all structural elements or are some columns decorative?
- Display Windows and Transoms:
  Are the display windows and transoms single panes of glass or are they subdivided? Are they flush with the facade or are they recessed? What is the proportion of area between the display windows and transom? Are there window openings in the base panels to allow natural light into the basement?
- Entrances:
  Are the entrances centered? Are they recessed? Is one entrance more prominent than the others? How is the primary retail entrance differentiated from other entrances? Is there evidence that new entrances have been added or have some been relocated? Are the doors original or are they later replacements?
- Decorative Elements:
  Are there any surviving decorative elements such as molded cornices, column capitals, fascia boards, brackets, signs, awnings or canopies? Is there a beltcourse, cornice, or fascia board between the first and second floor? Are some elements older than others indicating changes over time?

*Storefront's Relationship to Upper Stories:* Is there a difference in materials between the storefront and upper stories? Were the storefront and floors above it created as an overall design or were they very different and unrelated to each other?

It is also worthwhile to study the neighboring commercial buildings and their distinctive characteristics to look for similarities (canopies, lighting, signs) as well as differences. This can help determine whether the storefront in question is significant and unique in its own right and/or whether it is significant as part of an overall commercial streetscape.

### Physical Condition

*Mild Deterioration:* Do the surface materials need repair? Is paint flaking? Are metal components rusting? Do joints need recaulking where materials meet glass windows? Mild deterioration generally requires only maintenance level treatments.

*Moderate Deterioration:* Can rotted or rusted or broken sections of material be replaced with new material to match the old? Can solid material (such as Carrara glass) from a non-conspicuous location be used on the historic facade to repair damaged elements? Do stone or brick components need repointing? Is the storefront watertight with good flashing connections? Are there leaky gutters or air conditioner units which drip condensation on the storefront? Is caulking needed? Moderate deterioration generally requires patching or splicing of the existing elements with new pieces to match the deteriorated element.

*Severe Deterioration:* Have existing facing materials deteriorated beyond repair through vandalism, settlement, or water penetration? Is there a loss of structural integrity? Is the material rusted through, rotted, buckling, completely missing? Are structural lintels sagging? Are support columns settled or out of alignment? Severe deterioration generally requires replacement of deteriorated elements as part of the overall rehabilitaton.

In evaluating whether the existing storefront is worthy of preservation, recognize that good design can exist in any period; a storefront added in 1930 *may* have greater architectural merit than what is replaced (see figure 4). In commercial historic districts, it is often the diversity of

styles and detailing that contribute to the character; removing a storefront dating from 1910 simply because other buildings in the district have been restored to their 1860's appearance may not be the best preservation approach. If the storefront design is a good example of its period and if it has gained significance over time, it should be retained as part of the historical evolution of the building (this architectural distinctiveness could also be an economic asset as it may attract attention to the building).

## Deciding a Course of Action

The evaluation of the storefront's architectural features and physical condition will help determine the best course of action in the actual rehabilitation work. The following recommendations, adapted from the Secretary of the Interior's "Standards for Rehabilitation" and the accompanying interpretive guidelines, are designed to ensure that the historic commercial character of the building is retained in the rehabilitation process.

*If the original or significant storefront exists,* repair and retain the historic features using recommended treatments (see following sections on rehabilitating metal, wood and masonry storefronts as well as the guidelines for rehabilitating existing historic storefronts found on page 3 ).

*If the original or significant storefront no longer exists or is too deteriorated to save,* undertake a contemporary design which is compatible with the rest of the buiding in scale, design, materials, color and texture; or undertake an accurate restoration based on historical research and physical evidence (see section on "Replacement Storefronts"). Where an original or significant storefront no longer exists and *no* evidence exists to document its early appearance, it is generally preferable to undertake a contemporary design that retains the commercial "flavor" of the building. The new storefront design should not draw attention away from the historic building with its detailing but rather should respect the existing historic character of the overall building. A new design that copies traditional details or features from neighboring buildings or other structures of the period may give the building a historical appearance which blends in with its neighbors but which never, in fact, existed. For this reason, use of conjectural designs, even if based on similar buildings elsewhere in the neighborhood or the availability of different architectural elements from other buildings or structures, is generally not recommended.

## Rehabilitating Metal Storefronts

Rehabilitating metal storefronts can be a complex and time-consuming task. Before steps are taken to analyze or treat deteriorated storefronts, it is necessary to know which metal is involved, because each has unique properties and distinct preservation treatments. Storefronts were fabricated using a variety of metals, including cast iron, bronze, copper, tin, galvanized sheet iron, cast zinc, and stainless steel. Determining metallic composition can be a difficult process especially if components are encrusted with paint. Original architect's specifications (sometimes available from permit offices, town halls, or records of the original owner) can be important clues in this regard and should be checked if at all possible.

*Iron*—a magnetic, gray-white malleable metal, readily susceptible to oxidation. Cast iron, most commonly found in storefronts, is shaped by molds and can withstand great compressive loads. Rolled sheet iron, sometimes galvanized with zinc, also was used in storefront construction. Stainless steel began to appear in storefronts after 1930.

*Zinc*—a medium-hard, bluish-white metal, widely used as a protective coating for iron and steel. It is softer than iron and is nonmagnetic.

*Copper*—a nonmagnetic, corrosion-resistant, malleable metal, initially reddish-brown but when exposed to the atmosphere turns brown to black to green.

*Bronze and brass*—nonmagnetic, abrasive-resistant alloys combining copper with varying amounts of zinc, lead, or tin. These copper alloys, more commonly found in office buildings or large department stores, range in color from lemon yellow to golden brown to green depending on their composition and are well suited for casting (see figure 7).

*Aluminum*—a lightweight, nonmagnetic metal commonly found on storefronts dating from the 1920's and 30's. Its brightness and resistance to corrosion has made it a popular storefront material in the 20th century.

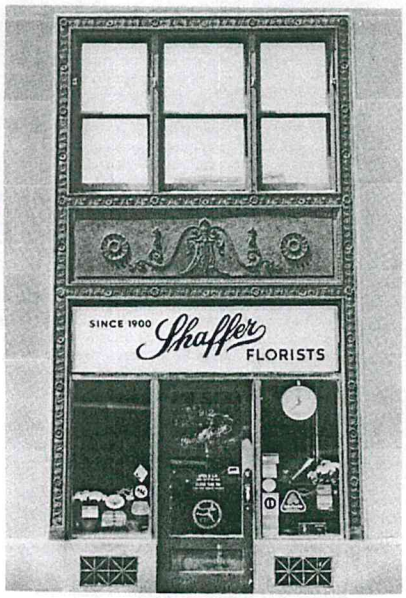



Figure 7. *Part of a large office building constructed in Washington, D.C. in 1928, this finely detailed bronze storefront is typical of many constructed during this period. It should be noted that the original grilles, spandrel panel and window above are all intact. Photo: David W. Look, AIA*



### Repair and Replacement of Metal

Simply because single components of a storefront need repair or replacement should not be justification for replacing an entire storefront. Deteriorated metal architectural elements can be repaired by a variety of means, although the nature of the repair will depend on the extent of the deterioration, the type of metal and its location, and the overall cost of such repairs. Patches can be used to mend, cover or fill a deteriorated area. Such patches should be a close match to the original material to prevent galvanic corrosion. Splicing—replacement of a small section with new material—should be undertaken on structural members only when temporary bracing has been constructed to carry the load. Reinforcing—or bracing the damaged element with additional new metal material—can relieve fatigue or overloading in some situations.

If metal components have deteriorated to a point where they have actually failed (or are missing), replacement is the only reasonable course of action. If the components are significant to the overall design of the storefront, they should be carefully removed and substituted with components that match the original in material, size and detailing (see figure 8).

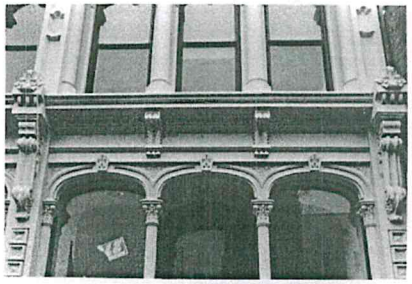


Figure 8. *When the Grand Opera House in Wilmington, Delaware, was rehabilitated, missing cast-iron columns were cast of aluminum to match the original: in this particular case, because these columns do not carry great loads, aluminum proved to be successful substitute. Photo: John G. Waite*

Before going to the expense of reproducing the original, it may be useful to check salvage yards for compatible components. Missing parts of cast iron storefronts can be replaced by new cast iron members that are reproductions of the original. New wooden patterns, however, usually need to be made if the members are large. This procedure tends to be expensive (it is usually impossible to use existing iron components as patterns to cast large elements because cast iron shrinks 1/5 inch per foot as it cools). In some situations, less expensive substitute materials such as aluminum, wood, plastics, and fiberglass, painted to match the metal, can be used without compromising the architectural character of the resource.

### Cleaning and Painting

Cast iron storefronts are usually encrusted with layers of paint which need to be removed to restore crispness to the details. Where paint build-up and rust are not severe problems, handscraping and wire-brushing are viable cleaning methods. While it is necessary to remove all rust before repainting, it is not necessary to remove all paint. For situations involving extensive paint build-up and corrosion, mechanical methods such as low-pressure gentle dry grit blasting (80-100 psi) can be effective and economical, providing a good surface for paint. Masonry and wood surfaces adjacent to the cleaning area, however, should be protected to avoid inadvertent damage from the blasting. It will be necessary to recaulk and putty the heads of screws and bolts after grit blasting to prevent moisture from entering the joints. Cleaned areas should be painted immediately after cleaning with a rust-inhibiting primer to prevent new corrosion. Before any cleaning is undertaken, local codes should be checked to ensure compliance with environmental safety requirements.

Storefronts utilizing softer metals (lead, tin), sheet metals (sheet copper), and plated metals (tin and terneplate) should not be cleaned mechanically (grit blasting) because their plating or finish can be easily abraded and damaged. It is usually preferable to clean these softer metals with a chemical (acid pickling or phosphate dipping) method. Once the surface of the metal has been cleaned of all corrosion, grease, and dirt, a rust-inhibiting primer coat should be applied. Finish coats especially formulated for metals, consisting of lacquers, varnishes, enamels or special coatings, can be applied once the primer has dried. Primer and finish coats should be selected for chemical compatibility with the particular metal in question.

Bronze storefronts, common to large commercial office buildings and major department stores of the 20th century, can be cleaned by a variety of methods; since all cleaning removes some surface metal and patina, it should be undertaken only with good reason (such as the need to remove encrusted salts, bird droppings or dirt). Excessive cleaning can remove the texture and finish of the metal. Since this patina can protect the bronze from further corrosion, it should be retained if possible. If it is desirable to remove the patina to restore the original surface of the bronze, several cleaning methods can be used: chemical compounds including rottenstone and oil, whiting and ammonia, or precipitated chalk and ammonia, can be rubbed onto bronze surfaces with a soft, clean cloth with little or no damage. A number of commercial cleaning companies successfully use a combination of 5% oxalic acid solution together with *finely* ground India pumice powder. Fine glass-bead blasting (or peening) and crushed walnut shell blasting also can be acceptable mechanical methods if carried out in controlled circumstances under low (80-100 psi) pressure. Care should be taken to protect any adjacent wood or masonry from the blasting.

The proper cleaning of metal storefronts should not be considered a "do-it-yourself" project. The nature and condition of the material should be assessed by a competent professional, and the work accomplished by a company specializing in such work.

## Rehabilitating Wooden Storefronts

The key to the successful rehabilitation of wooden storefronts is a careful evaluation of existing physical conditions. Moisture, vandalism, insect attack, and lack of maintenance can all contribute to the deterioration of wooden storefronts. Paint failure should not be mistaken-

ly interpreted as a sign that the wood is in poor condition and therefore irreparable. Wood is frequently in sound physical condition beneath unsightly paint. An ice pick or awl may be used to test wood for soundness—decayed wood that is jabbed will lift up in short irregular pieces; sound wood will separate in long fibrous splinters.

### Repair and Replacement of Wood

Storefronts showing signs of physical deterioration can often be repaired using simple methods. Partially decayed wood can be patched, built up, chemically treated or consolidated and then painted to achieve a sound condition, good appearance, and greatly extended life.

To repair wood showing signs of rot, it is advisable to dry the wood; carefully apply a fungicide such as pentachlorophenol (a highly toxic substance) to all decayed areas; then treat with 2 or 3 applications of boiled linseed oil (24 hours between applications). Afterward, fill cracks and holes with putty; caulk the joints between the various wooden members; and finally prime and paint the surface.

Partially decayed wood may also be strengthened and stabilized by consolidation, using semi-rigid epoxies which saturate porous decayed wood and then harden. The consolidated wood can then be filled with a semi-rigid epoxy patching compound, sanded and painted. More information on epoxies can be found in the publication "Epoxies for Wood Repairs in Historic Buildings," cited in the bibliography.

Where components of wood storefronts are so badly deteriorated that they cannot be stabilized, it is possible to replace the deteriorated parts with new pieces (see figure 9). These techniques all require skill and some expense, but are recommended in cases where decorative elements, such as brackets or pilasters, are involved. In some cases, missing edges can be filled and rebuilt using wood putty or epoxy compounds. When the epoxy cures, it can be sanded smooth and painted to achieve a durable and waterproof repair.

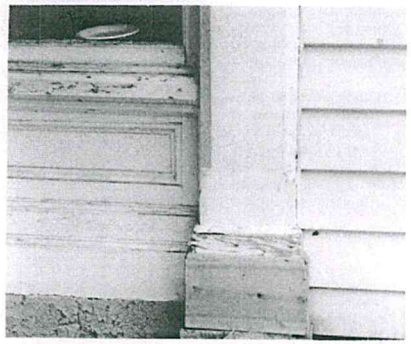


Figure 9. *Rather than replace an entire wooden storefront when there is only localized deterioration, a new wooden component can be pieced-in, as seen here in this column base. The new wood will need to be given primer and top coats of a high quality exterior paint—either an oil-base or latex system. Also wood that is flaking and peeling should be scraped and hand-sanded prior to repainting. Photo: H. Ward Jandl*

### Repainting of Wood

Wooden storefronts were historically painted to deter the harmful effects of weathering (moisture, ultraviolet rays from the sun, wind, etc.) as well as to define and accent architectural features. Repainting exterior woodwork is thus an inexpensive way to provide continued protection from weathering and to give a fresh appearance to the storefront.

Before repainting, however, a careful inspection of all painted wood surfaces needs to be conducted in order to determine the extent of surface preparation necessary, that is, whether the existing layers of paint have deteriorated to the point that they will need to be partially or totally removed prior to applying the new paint.

As a general rule, removing paint from historic exterior woodwork should be avoided unless absolutely essential. Once conditions warranting removal have been identified, however, paint can be removed to the next sound layer using the gentlest method possible, then the woodwork repainted. For example, such conditions as mildewing, excessive chalking, or staining (from the oxidization of rusting nails or metal anchorage devices) generally require only thorough surface cleaning prior to repainting. Intercoat peeling, solvent blistering, and wrinkling require removal of the affected layer using mild abrasive methods such as hand scraping and sanding. In all of these cases of limited paint deterioration, after proper surface preparation the exterior woodwork may be given one or more coats of a high quality exterior oil finish paint.

On the other hand, if painted wood surfaces display continuous patterns of deep cracks or if they are extensively blistering and peeling so that bare wood is visible, the old paint should be completely removed before repainting. (It should be emphasized that because peeling to bare wood—the most common type of paint problem—is most often caused by excess interior or exterior moisture that collects behind the paint film, the first step in treating peeling is to locate and remove the source or sources of moisture. If this is not done, the new paint will simply peel off.)

There are several acceptable methods for total paint removal, depending on the particular wooden element involved. They include such thermal devices as an electric heat plate with scraper for flat surfaces such as siding, window sills, and doors or an electric hot-air gun with profiled scraper for solid decorative elements such as gingerbread or molding. Chemical methods play a more limited, supplemental role in removing paint from historic exterior woodwork; for example, caustic or solvent-base strippers may be used to remove paint from window muntins because thermal devices can easily break the glass. Detachable wooden elements such as exterior shutters, balusters and columns, can probably best be stripped by means of immersion in commercial dip tanks because other methods are too laborious. Care must be taken in rinsing all chemical residue off the wood prior to painting or the new paint will not adhere.

Finally, if the exterior woodwork has been stripped to bare wood, priming should take place within 48 hours (unless the wood is wet, in which case it should be permitted to dry before painting). Application of a high quality oil type exterior primer will provide a surface over which either an oil or latex top coat can be successfully used.



## Rehabilitating Masonry Storefronts

Some storefronts are constructed of brick or stone, and like their metal and wooden counterparts, also may have been subjected to physical damage or alterations over time. Although mortar may have disintegrated, inappropriate surface coatings applied, and openings reduced or blocked up, careful rehabilitation will help restore the visual and physical integrity of the masonry storefront.

### Repair and Replacement of Masonry

If obvious signs of deterioration—disintegrating mortar, spalling bricks or stone—are present, the causes (ground moisture, leaky downspouts, etc.) should be identified and corrected. Some repointing may be necessary on the masonry surface, but should be limited to areas in which so much mortar is missing that water accumulates in the mortar joints, causing further deterioration. New mortar should duplicate the composition, color, texture, and hardness, as well as the joint size and profile of the original. Badly spalling bricks may have to be replaced. Deteriorated stone may be replaced in kind, or with a matching substitute material; in some cases where not visually prominent, it may be covered with stucco, possibly scored to resemble blocks of stone.

### Cleaning Masonry

Inappropriate cleaning techniques can be a major source of damage to historic masonry buildings. Historic masonry should be cleaned only when necessary to halt deterioration or to remove graffiti and stains, and always with the gentlest means possible, such as water and a mild detergent using natural bristle brushes, and/or a non-harmful chemical solution, both followed by a low-pressure water rinse.

It is important to remember that many mid-19th century brick buildings were painted immediately or soon after construction to protect poor quality brick or to imitate stone. Some historic masonry buildings not originally painted were painted at a later date to hide alterations or repairs, or to solve recurring maintenance or moisture problems. Thus, whether for reasons of historical tradition or practicality, it may be preferable to retain existing paint. If it is readily apparent that paint is not historic and is a later, perhaps unsightly or inappropriate treatment, removal may be attempted, but only if this can be carried out without damaging the historic masonry. Generally, paint removal from historic masonry may be accomplished successfully only with the use of specially formulated chemical paint removers. No abrasive techniques, such as wet or dry sandblasting should be considered. If non-historic paint cannot be removed without using abrasive methods, it is best to leave the masonry painted, although repainting in a compatible color may help visually.

Removing unsightly mastic from masonry presents a similarly serious problem. Its removal by mechanical means may result in abrading the masonry, and chemical and heat methods may prove ineffective, although solvents like acetone will aid in sofening the hardened mastic. If the mastic has become brittle, a flat chisel may be used to pop it off; but this technique, if not undertaken with care, may result in damaging the masonry. And even if total removal is possible, the mastic may have permanently stained the masonry. Replacement of these masonry sections marred by mastic application may be one option in limited situations; individual pieces of stone or bricks that have been damaged by inappropriate alterations may be cut out and replaced with new pieces that duplicate the original. However, since an exact match will be nearly impossible to achieve, it may be necessary to paint the repaired masonry in order to create a harmonious facade. Replacement of a large area with new materials may not be acceptable as it may give the building a new, non-historic appearance inappropriate to the building style and period.

## Designing Replacement Storefronts

Where an architecturally or historically significant storefront no longer exists or is too deterioriated to save, a new front should be designed which is compatible with the size, scale, color, material, and character of the building. Such a design should be undertaken based on a thorough understanding of the building's architecture and, where appropriate, the surrounding streetscape (see figure 10). For example, just because upper floor windows are arched is not sufficient justification for designing arched openings for the new storefront. The new design should "read" as a storefront; filling in the space with brick or similar solid material is inappropriate for historic buildings. Similarly the creation of an arcade or other new design element, which alters the architectural and historic character of the building and its relationship with the street, should be avoided. The guidelines on page 8 can assist in developing replacement storefront designs that respect the historic character of the building yet meet current economic and code requirements.

### Guidelines for Designing Replacement Storefronts

1. *Scale:* Respect the scale and proportion of the existing building in the new storefront design.
2. *Materials:* Select construction materials that are appropriate to the storefronts: wood, cast iron, and glass are usually more appropriate replacement materials than masonry which tends to give a massive appearance.
3. *Cornice:* Respect the horizontal separation between the storefront and the upper stories. A cornice or fascia board traditionally helped contain the store's sign.
4. *Frame:* Maintain the historic planar relationship of the storefront to the facade of the building and the streetscape (if appropriate). Most storefront frames are generally composed of horizontal and vertical elements.
5. *Entrances:* Differentiate the primary retail entrance from the secondary access to upper floors. In order to meet current code requirements, out-swinging doors generally must be recessed. Entrances should be placed where there were entrances historically, especially when echoed by architectural detailing (a pediment or projecting bay) on the upper stories.
6. *Windows:* The storefront generally should be as transparent as possible. Use of glass in doors, transoms, and display areas allows for visibility into and out of the store.
7. *Secondary Design Elements:* Keep the treatment of secondary design elements such as graphics and awnings as simple as possible in order to avoid visual clutter to the building and its streetscape.

Figure 10. *(A) This existing storefront, added in the 1950's to a late 19th century brick building, extends beyond the plane of the facade; faced with anodized aluminum and permastone, it does not contribute to the architectural and historic character of the building. (B) This replacement design uses "lumberyard colonial" detailing, such as barn-type doors, shutters, small paned windows, and a wood shake pent roof. The design, detailing, and choice of materials are clearly inappropriate to this commercial building. (C) This replacement design retains the 1950's projecting canopy but symmetrical placement of the doors relates well to the second floor windows above; this contemporary design is compatible with the scale and character of the building. (D) This replacement design accurately restores the original appearance of the building; based on historical research and physical evidence, it too is an acceptable preservation approach. Drawings: Sharon C. Park, AIA*

A restoration program requires thorough documentation of the historic development of the building prior to initiating work. If a restoration of the original storefront is contemplated, old photographs and prints, as well as physical evidence, should be used in determining the form and details of the original. Because storefronts are particularly susceptible to alteration in response to changing marketing techniques, it is worthwhile to find visual documentation from a variety of periods to have a clear understanding of the evolution of the storefront. Removal of later additions that contribute to the character of the building should not be undertaken.

## Other Considerations

### Pigmented Structural Glass

The rehabilitation of pigmented structural glass storefronts, common in the 1930's, is a delicate and often frustrating task, due to the fragility and scarcity of the material. Typically the glass was installed against masonry walls with asphaltic mastic and a system of metal shelf angles bolted to the walls on three-foot centers. Joints between the panels were filled with cork tape or an elastic joint cement to cushion movement and prevent moisture infiltration.

The decision to repair or replace damaged glass panels should be made on a case-by-case basis. In some instances, the damage may be so minor or the likelihood of finding replacement glass so small, that repairing, reanchoring and/or stabilizing the damaged glass panel may be the only prudent choice. If the panel is totally destroyed or missing, it may be possible to replace with glass salvaged from a demolition; or a substitute material, such as "spandrel glass," which approximates the appearance of the original. Although pigmented structural glass is no longer readily available, occasionally long-established glass "jobbers" will have a limited supply to repair historic storefronts.

### Awnings

Where based on historic precedent, consider the use of canvas awnings on historic storefronts (see figure 11). Awnings can help shelter passersby, reduce glare, and conserve energy by controlling the amount of sunlight hitting the store window, although buildings with northern exposures will seldom functionally require them. Today's canvas awnings have an average life expectancy of between 4 and 7 years. In many cases awnings can disguise, in an inexpensive manner, later inappropriate alterations and can provide both additional color and a strong store identification. Fixed aluminum awnings and awnings simulating mansard roofs and umbrellas are generally inappropriate for older commercial buildings. If awnings are added, choose those that are made from soft canvas or vinyl materials rather than wood or metal; be certain that they are installed without damaging the building or visually impairing distinctive architectural features and can be operable for maximum energy conservation effect.

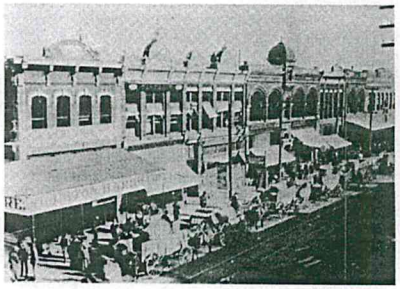


Figure 11. *Try to locate old photographs or prints to determine what alterations have been made to the storefront and when they were undertaken. Awnings were common elements of storefronts at the turn of the century. They can be equally useful today.*



### Signs

Signs were an important aspect of 19th and early 20th century storefronts and today play an important role in defining the character of a business district. In examining historic streetscape photographs, one is struck by the number of signs—in windows, over doors, painted on exterior walls, and hanging over (and sometimes across) the street. While this confusion was part of the character of 19th century cities and towns, today's approach toward signs in historic districts tends to be much more conservative. Removal of some signs can have a dramatic effect in improving the visual appearance of a building; these include modern backlit fluorescent signs, large applied signs with distinctive corporate logos, and those signs attached to a building in such a way as to obscure significant architectural detailing. For this reason, their removal is encouraged in the process of rehabilitation. If new signs are designed, they should be of a size and style compatible with the historic building and should not cover or obscure significant architectural detailing or features. For many 19th century buildings, it was common to mount signs on the lintel above the first story. Another common approach, especially at the turn of the century, was to paint signs directly on the inside of the display windows. Frequently this was done in gold leaf. New hanging signs may be appropriate for historic commercial buildings, if they are of a scale and design compatible with the historic buildings. Retention of signs and advertising painted on historic walls, if of historic or artistic interest (especially where they provide evidence of early or original occupants), is encouraged.

### Paint Color

Paint analysis can reveal the storefront's historic paint colors and may be worth undertaking if a careful restoration is desired. If not, the paint color should be, at a minimum, appropriate to the style and setting of the building. This also means that if the building is in a historic district, the color selection should complement the building in question as well as other buildings in the block. In general, color schemes for wall and major decorative trim or details should be kept simple; in most cases the color or colors chosen for a storefront should be used on other painted exterior detailing (windows, shutter, cornice, etc.) to unify upper and lower portions of the facade.

### Windows

Glass windows are generally the most prominent features in historic storefronts, and care should be taken to ensure that they are properly maintained. For smaller paned windows with wooden frames, deteriorated putty should be removed manually, taking care not to damage wood along the rabbet. To reglaze, a bead of linseed oil-based putty should be laid around the perimeter of the rabbet; the glass pane pressed into place; glazing points inserted to hold the pane; and a final seal of putty beveled around the edge of the glass. For metal framed windows, glazing compound and special glazing clips are used to secure the glass; a final seal of glazing compound then is often applied. If the glass needs replacing, the new glass should match the original in size, color and reflective qualities. Mirrored or tinted glass are generally inappropriate replacements for historic storefronts. The replacement of cracked or missing glass in large windows should be undertaken by professional glaziers.

### Code Requirements

Alterations to a storefront called for by public safety, handicapped access, and fire codes can be difficult design problems in historic buildings. Negotiations can be undertaken with appropriate officials to ensure that all applicable codes are being met while maintaining the historic character of the original construction materials and features. If, for instance, doors opening inward must be changed, rather than replace them with new doors, it may be possible to reverse the hinges and stops so that they will swing outward.

## Summary

A key to the successful rehabilitation of historic commercial buildings is the sensitive treatment of the first floor itself (see figure 12). Wherever possible, significant storefronts (be they original or later alterations), including windows, sash, doors, transoms, signs and decorative features, should be repaired in order to retain the historic character of the building. Where original or early storefronts no longer exist or are too deteriorated to save, the commercial character of the building should nonetheless be preserved—either through an accurate restoration based on historic research and physical evidence or a contemporary design which is compatible with the scale, design, materials, color and texture of the historic building. The sensitive rehabilitation of historic storefronts will not only enhance the architectural character of the overall building but will contribute to rejuvenating neighborhoods or business districts as well.

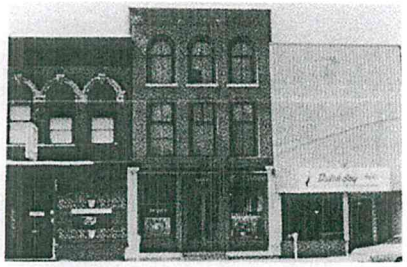


Figure 12. *This photograph of three late 19th century commercial buildings clearly shows the impact of preserving and rehabilitating storefronts. The one on the right has been totally obscured by a "modern" front added in the 1950's. Although inappropriate alterations have taken place on the left storefront, it is still possible to determine the original configuration of the doors and display windows. The storefront in the middle has remained intact. Although in need of some minor maintenance work, the appeal of the original design and materials is immediately apparent.*

## Additional Reading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This publication has been prepared pursuant to the Economic Recovery Tax Act of 1981 which directs the Secretary of the Interior to certify rehabilitations of historic buildings that are consistent with their historic character; the advice and guidance provided in this brief will assist property owners in complying with the requirements of this law.

Preservation Briefs 11 has been developed under the technical editorship of Lee H. Nelson, AIA, Chief, Preservation Assistance Division, National Park Service, U.S. Department of the Interior, Washington, D.C. 20240. Comments on the usefulness of this information are welcomed and can be sent to Mr. Nelson at the above address.



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Cover drawing: This woodcut of the Joy Building, built in 1808 in Boston, shows early storefronts with shutters; note the profusion of signs covering the facade, advertising the services of the tenants.


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National Park Service
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National Center for Cultural Resources
Technical Preservation Services

# ITS Number 13

# Interpreting The Secretary of the Interior's Standards for Rehabilitation

## Subject: Repair/Replacement of Missing or Altered Storefronts

**Applicable Standards:**

2. Retention of Historic Character
6. Repair/Replacement of Deteriorated or Missing Features Based on Evidence
9. Compatible New Additions/Alterations

**Issue:** The storefront is generally the most prominent and important feature in defining the character of a historic commercial building. The design of a historic storefront varies depending on the period, size and scale of the building, but it is usually composed of large glass display windows with transoms and a bulkhead or kick panels below. The entrance may be flush with the storefront, or recessed; it may consist of a single door or a pair of doors, centered or on one side, or it may have multiple entrances in buildings with more than one retail establishment, or with apartments or offices on the upper floors. Historic storefronts are composed of a variety of materials and, although not necessarily an integral part of the building, awnings are often an important element. Because it is so important to a merchant's livelihood that merchandise and the commercial establishment itself appear up-to-date to attract customers, storefronts are likely to have undergone more frequent remodeling over the years than some other kinds of historic buildings.

The *Guidelines for Rehabilitating Historic Buildings* provide several options for rehabilitating a historic commercial building that has an altered or missing storefront. (These are the same treatments which should be applied when rehabilitating any kind of historic building with a missing or altered feature.) The existing storefront may be retained, even if it is not historic, or a new storefront may be constructed. A new storefront may be an accurate restoration based on historic pictorial or photographic documentation; or it may be a new design that is compatible with the size, scale, material and color of the historic building.

### *Preserving and Repairing a Historic Storefront*

*Before rehabilitation (left), the storefronts and the second floor windows were covered by plywood and metal panels. Removal of the panels revealed that the historic storefronts and windows were still intact and could be preserved (right).*

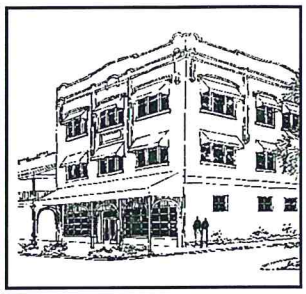
**Application 1** *(Compatible treatment)*: This two-story, brick structure was constructed c. 1876 for commercial use on the first floor and a hotel upstairs. In 1916, the corner portion of the building was "updated" and remodeled in the Craftsman style. Over the next eighty years many more changes, most of them unsympathetic, were inflicted on the building. Transoms above the storefronts, the second floor windows and the first floor windows around the corner were covered with metal cladding. Two of the original 1870s storefront bays on the left side of the building were removed to allow vehicular access into the building when it was used as a parking garage, and the other storefront bays and second story windows were blocked down with plywood. In addition, much of the exterior brick was painted.

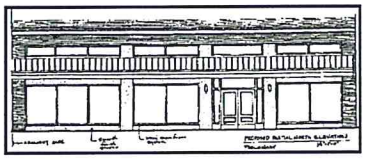
When the plywood and metal panels were removed at the start of the rehabilitation, the historic storefront and the second floor

windows with their distinctive Craftsman-style details and muntin configuration were revealed to be intact, needing only minor repairs. On the left side of the building, the 1870s windows on the second floor were also intact and repairable. Although portions of the original storefronts had been removed to create garage door openings, the historic cast-iron frame itself remained, and only the missing display windows had to be replaced to re-establish these historic storefronts.

### *Designing Compatible, New Replacement Storefronts*

**Application 2** *(Incompatible treatment later modified to meet the Standards)*: The storefront of this three-story, brick, commercial building constructed in 1923, and used as a furniture store with offices and lodge rooms on the upper floors, had also been altered, probably in the 1960s. When rehabilitating the building for offices, the owner opted for a new storefront design to highlight the building's new use. The architect initially proposed large, multipaned display windows flanking a double-door entry topped by an arched awning supported by free-standing metal posts. Neither the storefront, particularly the multipaned windows which are representative of a much earlier architectural style, nor the awning was appropriate for the historic character of this 1923 building.



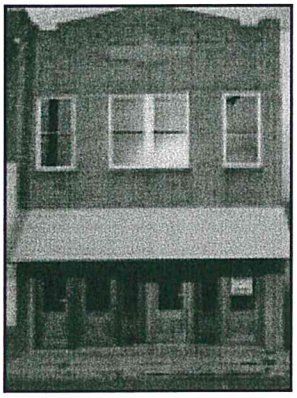


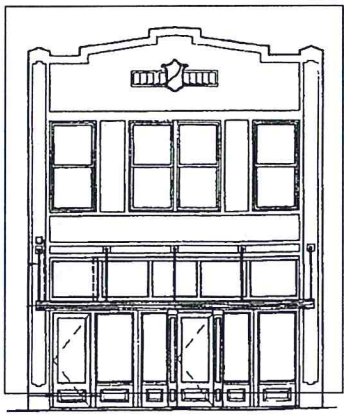
*The storefront of this 1923 building had been changed in the 1960s (top left). The initial proposal for large, multi-pane display windows and an awning supported by freestanding posts (top right) was incompatible with the building's historic haracter. The revised design which simplified both the display windows and the awning is a compatible contemporary replacement storefront (bottom right).*

The revised storefront design included replacing the multipaned windows with three large display windows and a double door entrance. The compatible new design also included a foreshortened transom that alluded to the original transom which could not be exposed in its entirety due to the existence of a later mezzanine. The awning was also redesigned to match the horizontal metal awning (visible in old photographs), which had hung from metal hooks still attached to the facade.

**Application 3** (*Incompatible treatment later modified to meet the Standards*): This small, two-story brick building, originally constructed in 1889 as a newspaper office, had been "modernized" with an aluminum storefront installed in the 1950s. Although no historic photographs were found to show the building's original appearance, the storefront still had two entrances, one on the left leading to the upstairs, and another leading to the newspaper offices on the first floor. As part of a recent project to rehabilitate the building as a sports bar with apartments upstairs, a new, varnished wood storefront had been installed along with a very large awning that concealed the still extant, historic transom above the storefront. This new storefront was incompatible in scale, proportion, color and finish with the character of the historic building.

*The storefront of this 1889 building was altered in the 1950s (left). The replacement storefront and awning were incompatible in scale, proportion, color and finish with the historic building (center). Remedial work to make the new storefront compatible will include reinstalling a horizontal metal awning, painting the wood, and increasing the glass to wood ratio of the storefront (right).*





Remedial work was proposed to bring the storefront into compliance with the Standards. The proportions of the storefront were corrected by lowering the height of the bulkhead panels and lengthening the glass in the display windows and the entrance doors. A traditional metal horizontal awning suspended from the facade would be installed which would once again reveal the transom. And, the new varnished wood of the storefront—the varnish already deteriorating rapidly on this west exposure, would be given a traditional painted finish, more appropriate to the character of the historic building and more protective of the wood.

Anne Grimmer, Technical Preservation Services, National Park Service

These bulletins are issued to explain preservation project decisions made by the U.S. Department of the Interior. The resulting determinations, based on the **Secretary of the Interior's Standards for Rehabilitation**, are not necessarily applicable beyond the unique facts and circumstances of each particular case.

**National Park Service**
**U.S. Department of the Interior**

**Technical Preservation Services**

# ITS NUMBER 22

# Interpreting The Secretary of the Interior's Standards for Rehabilitation

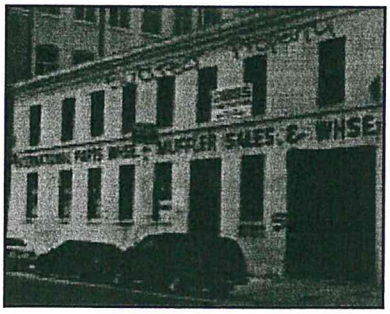
## Subject: Adding New Entrances to Historic Buildings

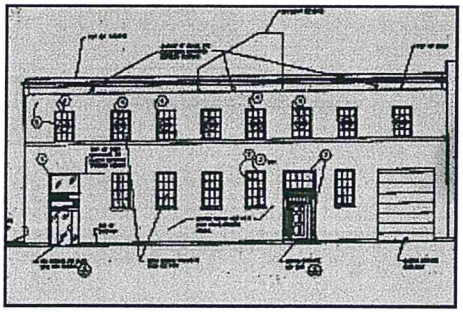
**Applicable Standards:**
2. Retention of Historic Character
9. Compatible New Additions/Alterations

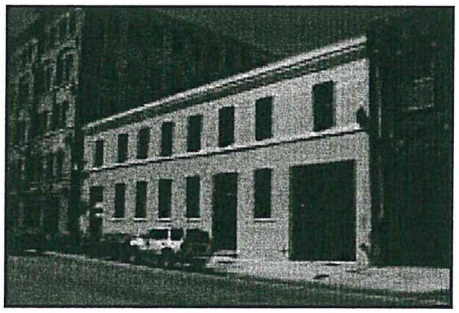
**Issue:** The rehabilitation of a historic building may sometimes require the addition of another or a second entrance on a primary facade, or the introduction of an entrance on an elevation that historically did not have one. Another entrance is most commonly needed when the building will have multiple uses after rehabilitation, for example, commercial or office use on the first floor with apartments upstairs, for which a separate entrance may be required for the residents. A new entrance may also be needed on what was originally a secondary elevation but which has assumed greater importance over time or with the new use.

Generally, to meet the Standards, a new entrance should be simple in design; it should not appear historic; it should blend in with the historic facade; and it should be unobtrusive and modestly scaled. Adding a new entryway on a secondary elevation of a building should not give that elevation excessive prominence, nor should it 'reorient' the building or detract from the historic entrance. In other words, the historic front of the building should still read clearly as the primary entrance. Although it is always preferable that a new entrance be added to a rear or side elevation, in some instances a new entrance may be added on a primary elevation in a manner that is compatible with the character of the historic building.

**Application 1** *(Compatible treatment)*: This two-story, eight-bay masonry structure was built in 1886 as an ice manufacturing plant. Originally constructed with only one entryway, a garage door had been added later when the building served as a warehouse. As part of the building's conversion into offices, a second pedestrian entrance was added to the street elevation during the rehabilitation to make it easier to get to some of the offices. The size of the new opening is the same as that of the existing historic entrance. But, the new entrance is almost entirely glazed, and consists of a simple butt-mounted glass door with sidelights, and a single-light transom. It is clearly a compatible, contemporary design that does not draw attention to itself. It cannot be confused with the historic entrance, and it does not change the character of the building. Thus, it meets the Standards.

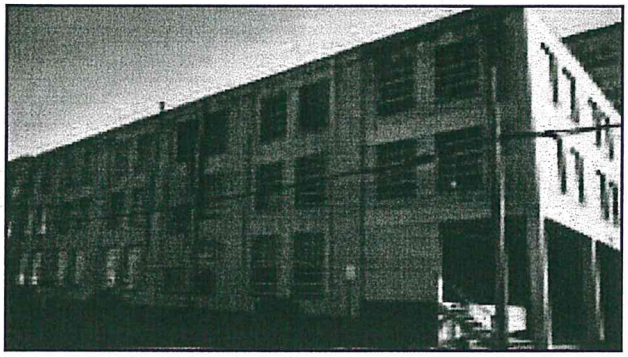




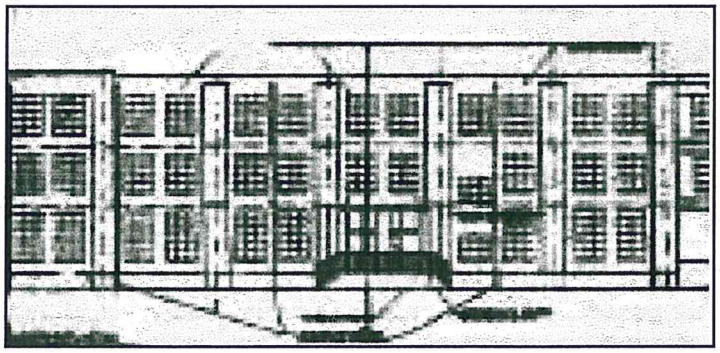


*This building was constructed with a single pedestrian entrance in 1886, and a garage door was added later (left). When the building was rehabilitated for office use, an existing window was removed from the end bay and replaced with a new glazed entryway (center and right).*

**Application 2** (*Compatible treatment*): A larger, free-standing, three-story warehouse building constructed in 1922, with a 1940s addition, was to be rehabilitated into commercial and retail spaces on the first floor with residential apartments on the upper floors. The building featured a loading dock on one side and three utilitarian, non-significant entrances on various elevations. As part of the rehabilitation a new entrance was proposed to be added on a side of the building that never had an entrance. An entrance on this elevation would improve visibility and access to the new shops and businesses, and it would also help increase security for the upstairs apartments since existing entrances could be restricted for residential tenant use. Accordingly, a new glass and steel entryway which reflects the industrial character of the building and its historic metal windows was designed for this side of the building. The new entrance is compatible with the character of the historic building. It is unobtrusive and it does not noticeably impact or change the appearance of this elevation or of the warehouse building as a whole.



*This historic warehouse had entrances on three elevations of the building prior to rehabilitation.*



*A compatible, new entrance was added to the fourth side of the building during rehabilitation.*



These bulletins are issued to explain preservation project decisions made by the U.S. Department of the Interior. The resulting determinations, based on the **Secretary of the Interior's Standards for Rehabilitation**, are not necessarily applicable beyond the unique facts and circumstances of each particular case.

National Park Service
U.S. Department of the Interior

Technical Preservation Services
National Center for Cultural Resources

# ITS Number 26

# Interpreting The Secretary of the Interior's Standards for Rehabilitation

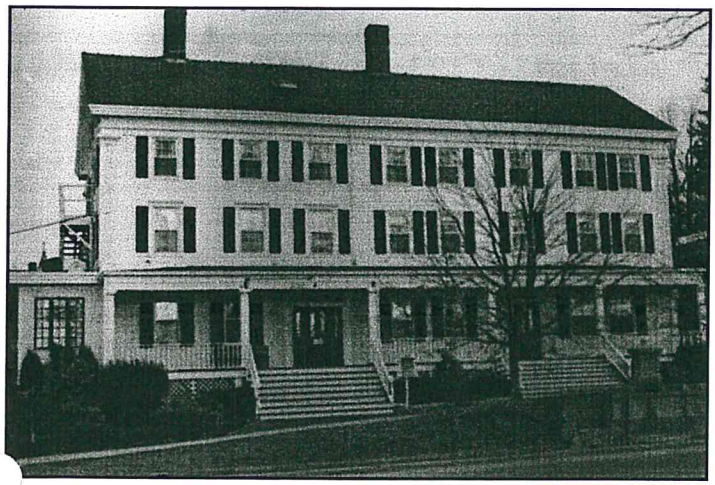
## Subject: Entrance Treatments

**Applicable Standards:**

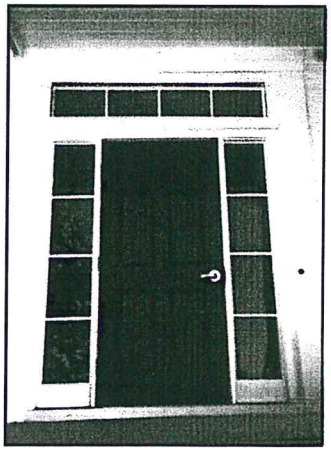
2. Retention of Historic Character
5. Preservation of Distinctive Features, Finishes and Craftsmanship
6. Repair/Replacement of Deteriorated or Missing Features Based on Evidence

**Issue:** The treatment of entrances as part of a historic rehabilitation project is important in retaining the overall architectural character of the building. The entrance is often the focal point of the façade and is an integral component of a historic building's design. It should accurately reflect the building's style, period of significance and use. The historic entrance including the door, transom or fanlight, sidelights, pilasters and entablature should always be retained and repaired if at all possible. If any of these elements is missing, the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* recommend replacing the missing element to match if physical, pictorial, or photographic evidence exists to document its appearance. The individual components should match the historic entrance in material as well as design. Because the entrance is directly encountered upon entering the building, it is unlikely that a substitute material will adequately duplicate the appearance of a missing element. If no documentation for the historic appearance of the entrance exists, an appropriate design compatible with the building's residential or commercial character must be sought.

**Application 1** (*Incompatible treatments later modified to meet the Standards*): This large three-story, frame building was in continued use as a tavern since 1820 and has now been rehabilitated as an assisted living residence. The interior of the building had undergone a great amount of alteration over the years, but the primary elevation retained its historic form and front entrances with transoms and sidelights. Ornamental steel doors with inappropriate leaded glass panels, sidelights and transom were installed. In order to bring the project into conformance with the Standards, remedial work involved replacing the doors with wood six-panel doors and reproducing the historic configuration of the sidelights and transom based on photographic documentation.

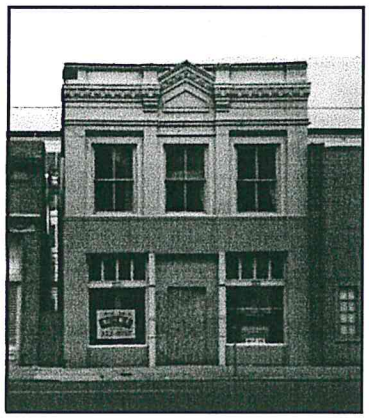


*Tavern after rehabilitation before appropriate entrance installed.*



*LEFT: Inappropriate replacement entrance.*
*RIGHT: Entrance after remedial work.*

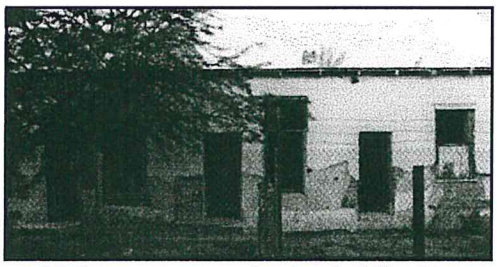
**Application 2** (*Incompatible treatment*): This two-story brick commercial building, dating from the 1890s, is being rehabilitated for use as law offices. The first floor level was covered with stucco sometime in the past and a compatible storefront, except for the entrance bay, was constructed during a previous rehabilitation. The proposed treatment for the entrance included double doors flanked by multi-paned sidelights, surmounted by a solid stucco panel covered by an awning. The sidelights are residential in design and not compatible with the commercial character of this building. In order to bring the project into conformance with the Standards, the sidelights will be removed and wider double doors installed to fill the central bay. The stucco panel above the doors will be replaced with a glass transom to match those in the adjacent bays, and the awning, which had been proposed only to conceal the stucco panel, will be eliminated.



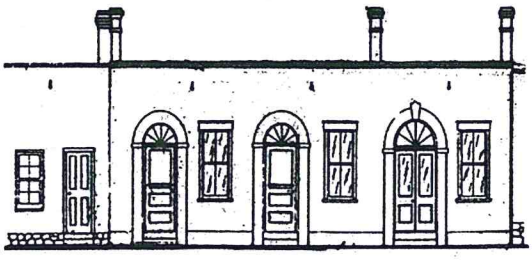
*Commercial building prior to rehabilitation.*

*Inappropriate entrance design.*

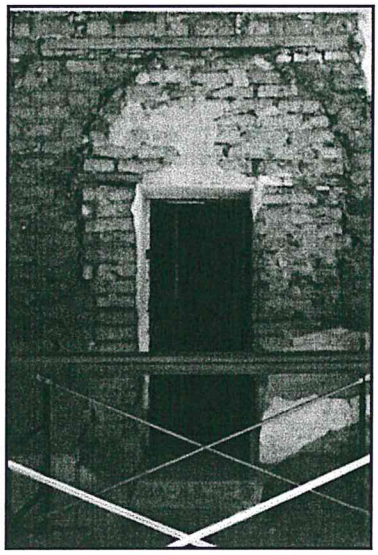
**Application 3** (*Incompatible treatment*): This one-story row of vernacular adobe apartments, built and modified prior to 1914, is being rehabilitated to return it to its original residential use. In this case, significant alterations had been made to the front elevations, including filling the arched entrances to create simple rectangular entrance openings. Other than the physical evidence documenting the outline of arched openings, revealed when the stucco coating was removed to repair the adobe structure underneath, no information was available concerning the design of the historic doors and surrounds. The project originally proposed re-establishing the arched entrances, and adding half-glazed doors with ornamental arched surrounds and fanlights. However, this treatment was determined to be too elaborate and, thus, incompatible with the simple character of this adobe building. To meet the Standards, the design for the arched entrances will be simplified and will consist of paneled wood doors surmounted by single light, semi-circular transoms within plain plaster surrounds.



*Adobe apartments prior to rehabilitation.*



*Inappropriate entrance design.*



*Outline of original arched opening.*

JoEllen Hensley, Technical Preservation Services, National Park Service

These bulletins are issued to explain preservation project decisions made by the U.S. Department of the Interior. The resulting determinations, based on the **Secretary of the Interior's Standards for Rehabilitation,** are not necessarily applicable beyond the unique facts and circumstances of each particular case.

National Park Service
U.S. Department of the Interior

Technical Preservation Services
National Center for Cultural Resources

# ITS Number 27

# Interpreting The Secretary of the Interior's Standards for Rehabilitation

## Subject: Adding Awnings to Historic Storefronts and Entrances

**Applicable Standards:**

2. Retention of Historic Character
6. Repair/Replacement of Deteriorated or Missing Features Based on Evidence
9. Compatible New Additions / Alterations
10. Reversibility of New Additions/Alterations

**Issue:** Historic awnings are found in a variety of styles, shapes and materials. Standard hanging awnings, steel rolling awnings and flat metal or wood awnings that stretch along an entire main street were both functional and decorative. They kept rooms cool and shaded and protected window shoppers from inclement weather. Awnings with solid colors, stripes or patterns complemented paint schemes, called attention to openings and provided a background for advertising.

Repair and reinstallation of awnings can be an important component of a building's rehabilitation. But an inappropriate awning treatment can diminish the building's character, or create an entirely new appearance that has no historic basis. Unless documentation exists, awnings generally should not be installed on building types that did not customarily have awnings, for example, utilitarian structures like warehouses and mills. The same goes for secondary doors and entrances that would not have historically been emphasized with an awning. New replacement awnings should be compatible with historic examples. So called "long dome" or convex awnings are usually not appropriate either in shape or, if they are vinyl, in material and appearance. Advertisements and store names should be muted rather than the central focus of the awning. If an awning treatment adversely affects the historic character of a building, the project will not meet the Secretary of the Interior's Standards, despite the fact that it may be less permanent, and more reversible, than some other rehabilitation treatments.

*Historic photo showing retractable canvas awning.*

**Application 1** (*Incompatible treatment later corrected to meet the Standards*): This relatively modest, four-story commercial structure was built in the 1890s on a corner in a small-town business district. A decorative cornice, arched window openings and wood windows and spandrel panels on the upper stories survived to the period of rehabilitation, but the main entrance and display area had been replaced with a permastone storefront. Historic photographs indicated that the storefront was originally topped by a narrow projecting roof with a large shed-shaped canvas awning below.

*Building with permastone storefront prior to rehabilitation.*

*Application 1, continued -*
As part of the rehabilitation, a compatible storefront was installed consisting of a simple glass display window with a standing-seam metal shed roof above it. The replacement awning, however, was a contemporary "long dome" awning with a glossy vinyl covering.

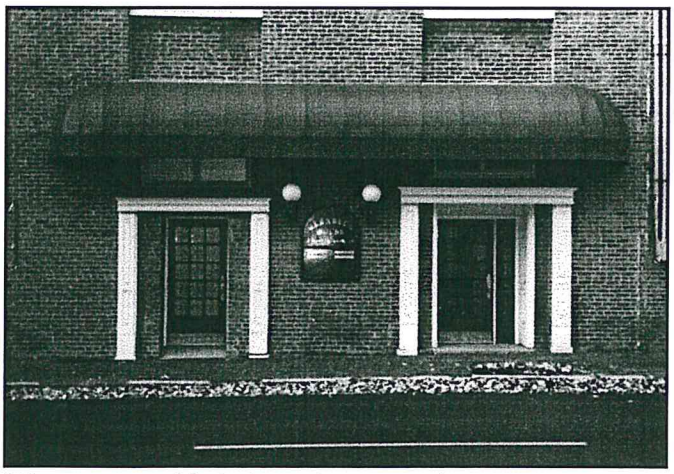
To conform with the **Secretary of the Interior's Standards for Rehabilitation**, the inappropriate awning was replaced with a type that more accurately resembled the shape and material shown in the historic documentation and known to be common among turn-of-the-century storefronts. The replacement awning is a standard, shed shape that is sold by many companies as a stock product. Although a functioning, retractable awning would have been the most appropriate solution, the fixed, shed awning was an acceptable compromise.

*Original "long-done" treatment for replacement awning.*

*Revised solution matches historic awning shape and material.*

**Application 2** (*Incompatible treatment corrected to meet the Standards*): The same rehabilitation project converted two doors on the side of the building to main entrances for upper floor tenant space. A long dome awning, like that used on the front of the building, was installed over the two doors and decorative wood surrounds were applied on the sides of both entrances. The awning was not a traditional style that would have been used historically, nor would a single awning have been placed over two separate entrances. The new surrounds were also not based upon historic documentation. These two treatments were incompatible with the historic character of the building. Together they gave this secondary facade a prominence it never had.

In order to meet the **Secretary's Standards**, the surrounds were removed and the long dome awning was replaced by two individual awnings. The revised treatment was more in keeping with traditional awning arrangement, shape and material. This approach identified the entrances but did not group them into a single arrangement that was contrary to the building's historic design and appearance.



*Side entrances with single continuous awning.*

*Revised treatment with a shed awning over each entrance.*

Chad Randl, Technical Preservation Services, National Park Service

These bulletins are issued to explain preservation project decisions made by the U.S. Department of the Interior. The resulting determinations, based on the **Secretary of the Interior's Standards for Rehabilitation**, are not necessarily applicable beyond the unique facts and circumstances of each particular case.

National Park Service
U.S. Department of the Interior

Technical Preservation Services

# ITS Number 48

# Interpreting The Secretary of the Interior's Standards for Rehabilitation

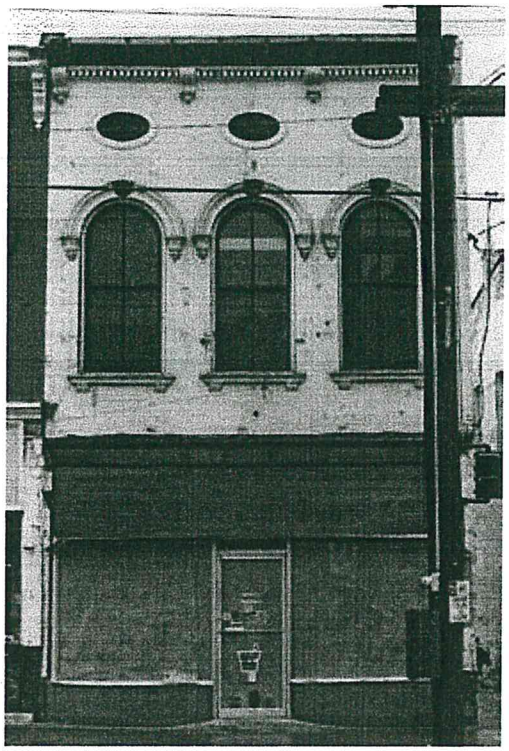
## Subject: Replacement of Missing or Altered Storefronts

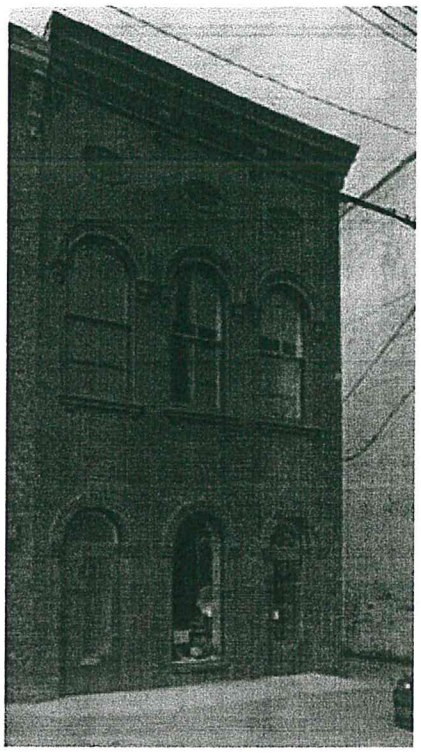
**Applicable Standards:**

2. Retention of Historic Character
3. Recognition of Historic Period
6. Repair/Replacement of Deteriorated or Missing Features Based on Evidence
9. Compatible New Additions/Alterations

**Issue:** A first floor storefront is often the primary factor in defining the character of a historic commercial building. When planning the rehabilitation of a commercial building, regardless of the new use, it is important that the commercial character of the building be retained. In cases where a storefront has been previously altered, any one of the following three treatments will meet the Secretary of the Interior's Standards for Rehabilitation: the existing, non-historic storefront may be retained; a new storefront may be designed that is compatible with the historic character of the building; or the missing storefront may be accurately recreated based on historic photographic documentation or physical evidence.

**Application 1** (*Incompatible treatment*): This late-19th century, two-story, brick commercial building was rehabilitated for office use. The existing storefront, which was not original, was in poor condition but could have been retained and repaired. The owner did not wish to keep the non-historic storefront and could find no information to document its historic appearance. Instead of designing a compatible new storefront, the owner constructed three separate arched openings that copied the arched windows on the second floor. Generally, the first floor of a historic commercial building did not reflect the design of the second floor openings, but typically featured a storefront with large glass windows to display merchandise. Replacing the storefront with residential-type openings resulted in a loss of the historic commercial character of this building. The project does not meet the Standards.

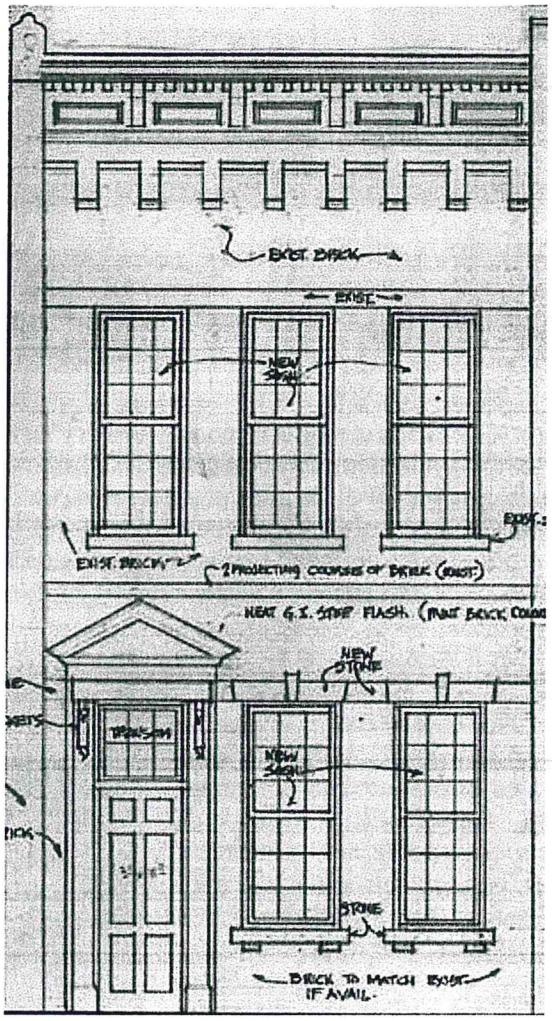




*The storefront on this Victorian building prior to rehabilitation was a later replacement (left). During rehabilitation the storefront was removed and replaced with three residential-type openings that are incompatible with the building's retail character (right).*

**Application 2** (*Incompatible treatment*): Another historic commercial building constructed c. 1900 with a 1950s storefront was to be converted into offices. This rehabilitation also proposed to replace the storefront with residential-type openings, but with nine-over-nine windows, keystone lintels and a pedimented doorway in an 18th century

"Georgian" style inappropriate for this early-20th century building. (The one-over-one sash on the second floor windows was proposed to be replaced with nine-over-nine sash to match the new first floor windows.) Not only is installing residential-type openings to replace a storefront an incompatible treatment, but removing original windows and replacing them with historically inaccurate windows is also not a compatible rehabilitation treatment. Accordingly, this proposal does not meet the Standards.




*Prior to rehabilitation this early-20th century commercial building had a 1950s storefront (left). Rehabilitation plans proposed replacing the storefront with 18th century-style residential-type openings, inappropriate for this commercial building and its period of construction (right).*

National Park Service
U.S. Department of the Interior

Technical Preservation Services

# ITS Number 49

# Interpreting The Secretary of the Interior's Standards for Rehabilitation

## Subject: Designing Compatible Replacement Storefronts

**Applicable Standards:**

2. Retention of Historic Character
6. Repair/Replacement of Deteriorated or Missing Features Based on Evidence
9. Compatible New Additions/Alterations

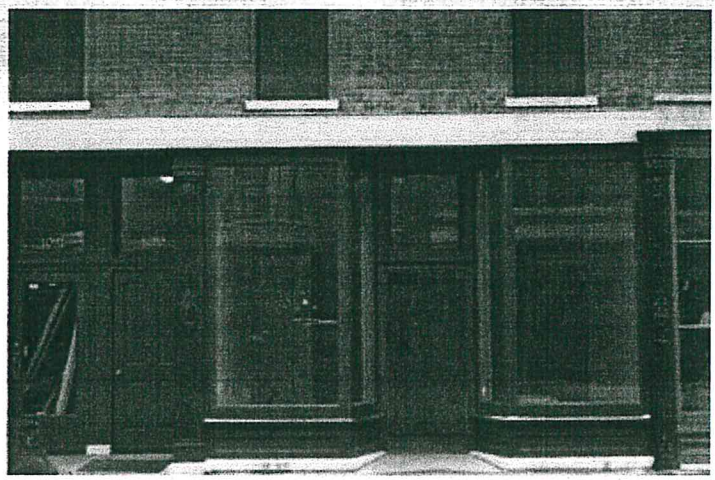
**Issue:** A storefront is often the primary factor in defining the character of a historic commercial building. When planning the rehabilitation of a commercial building, regardless of the new use, it is important that the commercial character of the building be retained. In the case of a storefront that has been altered, any one of the following three treatments will meet the Standards: the existing, non-historic storefront may be retained; a new storefront may be designed that is compatible with the historic character of the building; or the missing storefront may be accurately recreated based on historic photographic documentation or physical evidence.

*The three buildings prior to rehabilitation.*

**Application 1** (*Compatible treatment*): These three buildings constructed in 1868 are part of a three-story commercial block. The storefronts had been remodeled prior to rehabilitation, each somewhat differently, although the original cast iron pilasters that separated the storefronts remained and all the entrance doors were in their original locations.

The rehabilitation of these buildings for retail/commercial use on the first floors and residential use on the upper floors included installing compatible new storefronts. As part of the rehabilitation the original cast iron pilasters were retained and repaired. The new replacement storefronts are painted wood and consist of a lower panel and large glass display windows. The new doors are simple in design and feature transoms above. Although the original storefront windows could have included transoms, the new full height, undivided showcase windows without transoms are compatible with the historic character of these buildings. Accordingly, this rehabilitation project meets the Standards.

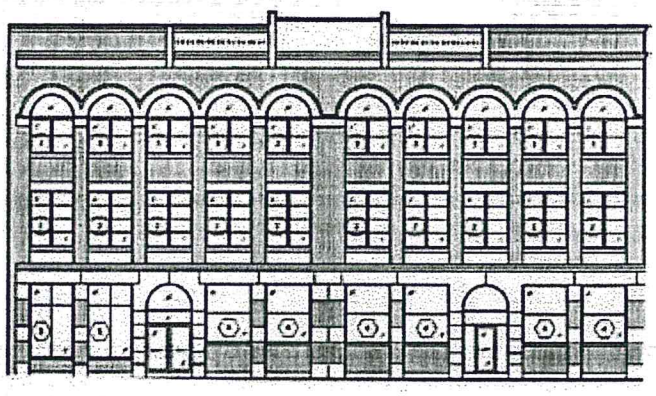
*Details of existing storefronts prior to rehabilitation.*

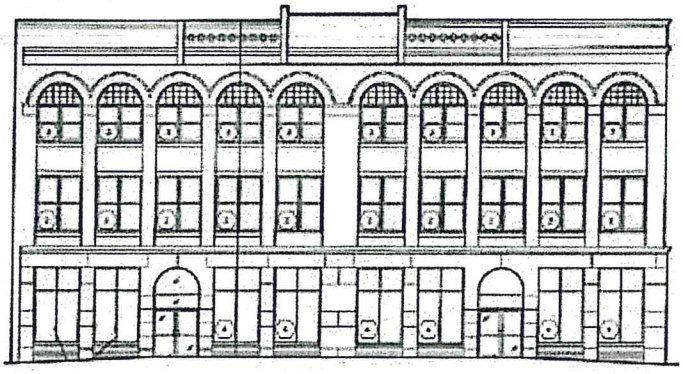


*The buildings with compatible new storefronts after rehabilitation with detail of new storefronts.*

**Application 2** (*Compatible treatment*): This 1912 hardware warehouse was rehabilitated for low-income housing. Over the years, the first floor storefront openings had been altered. A single door, surrounded by green spandrel glass sidelights and transom, filled in the entrance. Brick infill had reduced the size of the window openings, especially those on the right side of the façade. The historic storefront windows themselves had been replaced with smaller unpainted aluminum windows with green spandrel glass transoms.

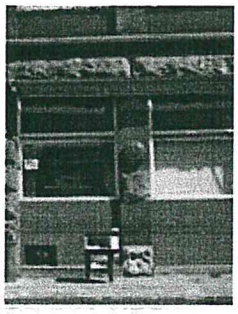
Compatible new storefronts were installed as part of the rehabilitation. Each of the storefront windows was replaced with a correctly-proportioned lower panel with a display window and a two-light transom above. Simply-designed double doors with a two-part transom were installed in the two entrances. This treatment meets the Standards.





*Above: Drawings of storefront elevation before (top) and after (center) rehabilitation.* ***Below:*** *The warehouse with compatible new storefronts after rehabilitation.*

***Above:*** *The warehouse storefronts had been changed prior to rehabilitation.*
***Right:*** *Detail of altered storefront window.*



Anne Grimmer, Technical Preservation Services, National Park Service

These bulletins are issued to explain preservation project decisions made by the U.S. Department of the Interior. The resulting determinations, based on the **Secretary of the Interior's Standards for Rehabilitation**, are not necessarily applicable beyond the unique facts and circumstances of each particular case.

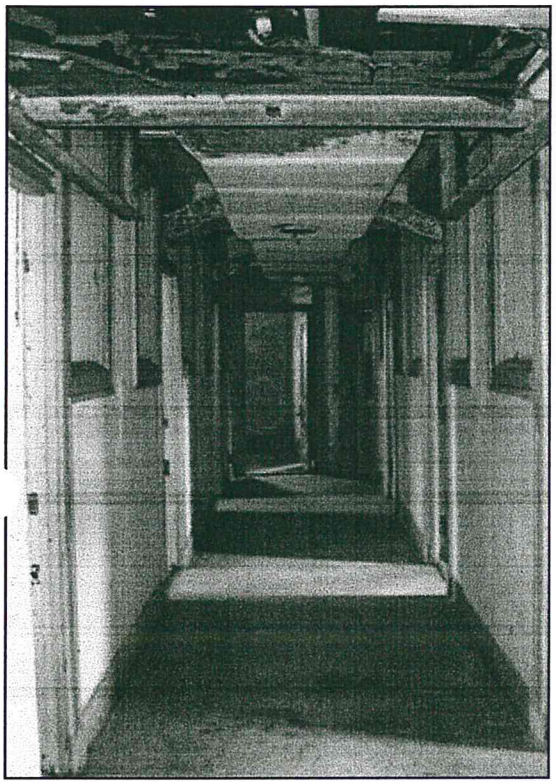
National Park Service
U.S. Department of the Interior
Technical Preservation Services

# ITS Number 51

# Interpreting The Secretary of the Interior's Standards for Rehabilitation

**Subject:** Installing New Systems in Historic Buildings

**Applicable Standards:**
2. Retention of Historic Character
5. Preservation of Distinctive Features, Finishes, and Craftsmanship
6. Repair/Replacement of Missing or Deteriorated Features

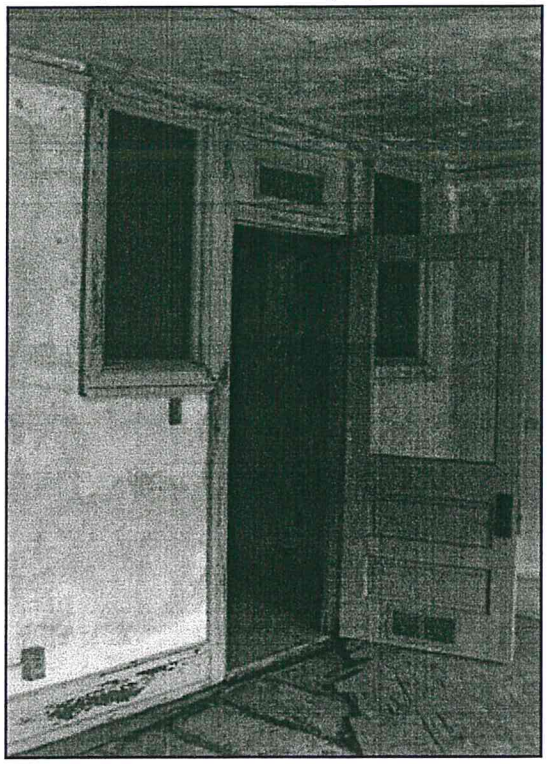


*Above: The dropped ceiling has been partially removed, revealing the old ductwork running through the center of the hallway and branching into each office. The ceiling had been lowered from its historic height of 10 feet to just 7 feet.*

**Issue:** In rehabilitating historic buildings, HVAC systems often need to be updated. In most old apartment, office, and retail buildings, such mechanical systems historically were installed so that either the distribution network was concealed or designed to appear built in. Later retrofits of forced air-handling systems typically continued in this tradition, concealing new ducts within existing walls or new chases, or placing new ductwork below existing ceilings with a dropped ceiling installed to conceal it.

A dropped ceiling can change the appearance of a historic space. It might obscure a decorative ceiling or cornice, change the proportions of a room, cover door transoms, and/or cut across windows. Such changes can alter a building's historic character and do not meet the Secretary of the Interior's Standards for Rehabilitation.

**Application** (*Compatible treatment*): Constructed in 1918, this five-story bank building retained many of its historic features and materials despite years of abandonment and water damage. Historically, the ground floor lobby contained the customer service area, while the top four floors were offices. By the early 1970s, the original steam heating system which utilized room radiators was replaced with a central forced-air HVAC system that relied upon a network of ceiling distribution ducts. As a cost-cutting measure, the main distribution ducts were run along the corridors, below the existing ceiling, and branched off into the individual offices. Rather then cutting through the walls to add the necessary room vents, the vents were installed through the transoms above the office doors. The very low suspended ceiling that was added to conceal the ductwork also obscured the transoms and cut across the windows in the corridors. This dropped ceiling dramatically and negatively impacted the historic appearance of the corridors.

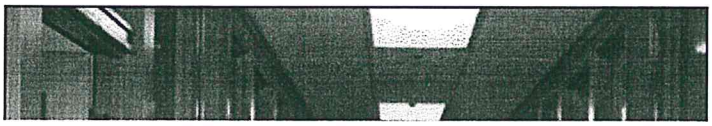


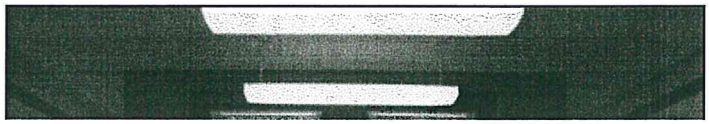
*Above: Prior to rehabilitation the offices had air supplied through vents installed in the original door transoms.*

In the current rehabilitation, the design team took an alternative and very sensitive approach to provide climate control in the office spaces. The new HVAC ductwork was routed along the building's perimeter walls at floor level

and concealed in a new built-in feature that contained not only the air supply and return, but also included new electrical service and voice and data lines. The design for the new interior built-in feature drew on the appearance of the old window seat-styled radiator covers that were common in buildings of the era and even incorporated the original, historic baseboards in its design. This design provided for an unobtrusive and aesthetically pleasing appearance for the new built-in feature.

This treatment enabled the offices to retain their historic ceiling height. And, by removing the existing ductwork from the corridors, it was possible to significantly raise the corridor ceiling height, even though the corridor ceilings could not be raised to their full original height due to the sprinkler piping and lay-in light fixtures above. Removing the ductwork and raising the ceiling in the corridors also uncovered the door transoms and fully exposed the hallway windows. This HVAC installation not only recaptured the historic character of the corridors but also retained the character of the office spaces and, therefore, meets the Standards for Rehabilitation.





# Restore Oregon Preservation Toolkit

Peggy Moretti

*Restore Oregon Preservation Toolkit*

Restore Oregon, Portland, Oregon, 2016

http://restoreoregon.org/preservation-toolkit/

RESTORE OREGON

Preservation **Toolkit**

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**00** – Process Overview: A simple flowchart illustrating the steps for a successful preservation project.

**01** – An Orientation to Preservation & Adaptive Reuse: Introductions to terminology, standards, organizations, and the National Register.

**02** – Condition Assessment Checklist: A top-to-bottom checklist for examining and documenting the current state of your property.

**03** – Creating a Viable Rehabilitation Plan: A guide to determining a feasible new use for your property, and testing the economic dollars and sense. [with corresponding economic modeling spreadsheets]

**04** – Funding Sources & Incentives: Bank loans, grants, tax credits… what is available and the associated stipulations.

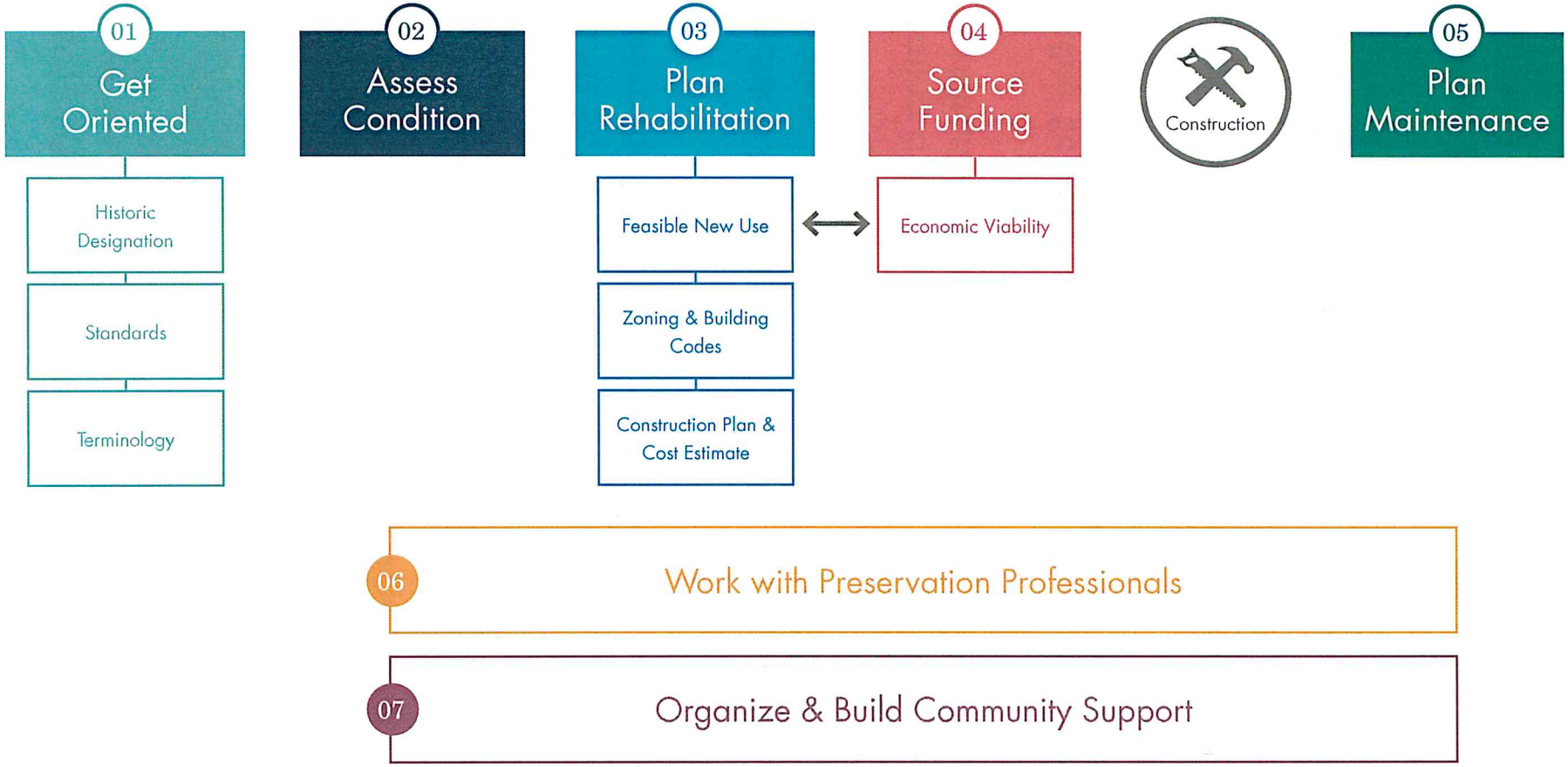
**05** – Maintenance Plan: What it should include and how to approach it.

**06** – Working With the Right Preservation Professionals: Assembling the right team and understanding the role they play can make or break your project.

**07** – Organize & Build Community Support: Tips on telling your story and getting the community on board.

Preservation Toolkit

# Process Overview




The Restore Oregon Preservation Toolkit is intended to provide a high level guide through the process and decisions one needs to make when seeking to restore and reuse a historic building. Each box along the top line of this flow chart corresponds to a document or tool providing information on that aspect of the process.

The Preservation Toolkit is oriented toward small-to-medium sized commercial properties, but portions will benefit those working on historic homes as well. It should be noted that, in reality, the process is not as linear as it is illustrated here and sometimes steps must be taken in tandem. We have not attempted to go into full detail or cover all aspects of what can be complex interdependent considerations. Every historic project is unique. But we hope these modules provide a helpful framework from which to organize and move forward.

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# Documenting Existing Conditions

Jay Raskin

*Appropriate Photo-Documentation for Rehabilitation of Historic Properties*
*Using Historic Preservation Federal and State Tax Incentives*
Georgia State Historic Preservation Office
http://georgiashpo.org/sites/uploads/hpd/pdf/Photo_Document_Rehab_Projects.pdf

*Historic Structure Assessment - State Historical Fund Annotated Scope of Work*
History Colorado, Denver, Colorado, 2014
http://www.historycolorado.org/sites/default/files/files/OAHP/crforms_edumat/pdfs/1424Scope.pdf

*Resilient Masonry Buildings:*
*Saving Lives, Livelihoods, and the Livability of Oregon's Historic Downtowns*
A Restore Oregon Special Report, Portland, Oregon, 2012
http://restoreoregon.org/wp-content/uploads/2016/03/UPDATED-RO-Special-Report-Masonry-Bldgs-Final_web.pdf

# Appropriate Photo-Documentation for Rehabilitation of Historic Properties using Historic Preservation Federal and State Tax Incentives

Photo-documentation of a historic property is one of the most important aspects of applying to the Historic Preservation Tax Incentive Programs. It consists of a series of photographs, their numbering/labeling, and a photo-key drawing. These photographs are one of two primary resources used to evaluate a project to determine if it qualifies for the tax incentives, the other being the rehabilitation work descriptions. Pre-rehabilitation photographs are used to put the project within the context of the entire historic property and for comparison with the finished work. To achieve this, sufficient photo-documentation is necessary. The entirety of the historic property needs to be photo-documented, which also includes areas or spaces of the property that are not part of the proposed rehab work so that unchanged areas are confirmed as such at project completion.

Without adequate photographs documenting the pre-rehabilitation existing conditions, a project may lack enough essential information to even meet minimal requirements for the review process. Any application with unclear, deficient, or not enough photographs of pre-rehabilitation conditions may be returned because of insufficient documentation to evaluate the project adequately. Finished project photo-documentation, though equally important, is typically less a problem because the opportunity to provide supplemental photographs, if necessary, is still available.

**Guidance on correct procedures to adequately photo-document rehabilitation projects can also be found in the instructions for the Tax Incentives applications.**

## POINTS ON PHOTOGRAPHY:

1. **35 mm color prints sized at 4 X 6 inches are the preferred format**, although other photographic formats and sizes can be acceptable, including digital and 35 mm black & white. **Avoid** sizes smaller than 3 X 5 inches. **Avoid** Polaroid photographs; they are not acceptable for Federal applications and rarely provide enough level of detail and clarity to be acceptable for State Applications. However, **ANY** photographs submitted with an application **MUST** provide obvious and comprehendible information. They must clearly show the areas or features being documented. Photographs that are out-of-focus, blurry, fuzzy, too dark, over-exposed (too light), photocopied, or low-resolution digital are unacceptable as adequate documentation. Photographs should be examined prior to submission to determine that they adequately provide the view that is intended. **Digital photos** must have an image resolution of at least **300 dpi** (dots-per-inch). All photographic formats need to be submitted as **individual, loose prints** that are printed on glossy, matte, or photo stock paper. Please **do not** submit photos printed on plain paper. Please **do not** submit photos printed together on 8 ½ X 11 (or other sized) sheets, or mounted, sleeved, or otherwise bound.
2. Photographs must be taken in sufficient quantity and clarity to adequately document the pre-rehabilitation existing conditions and subsequently, the finished project. Enough photographs of all spaces, building elevations, and specific features must be provided as the visual description of the project's scope-of-work. **At a minimum**, typically, this would include photos of all exposed building elevations, 2 photos per room, which should be oriented corner-to-corner from opposite corners, and additional photos of features and finishes being impacted by the rehabilitation work. Features and finishes may include, but are not limited to: masonry, plaster, windows, doors, trim and other millwork, stairs, ceilings, and fireplaces. If areas are too large or at a difficult angle, multiple photos need to be taken to ensure full and clear coverage of the entire area.
3. Photo-documentation of large projects with multiple, near identical spaces may not need photos of every room. In such cases, interior photographs of significant areas along with representative photos of the typical spaces may be acceptable.
4. Photographs must be labeled and keyed to a floor plan of the rehabilitation project. The position of the photographer, the direction toward which the picture was taken, and the photo number must be labeled on the drawing (a number within a circle with a directional arrow). The photographs themselves must be labeled with corresponding identification/information on their back.

***Any application with insufficient, inadequate, or otherwise unacceptable photo-documentation will be put on hold, concurrent with a Request For Information (RFI) to the applicant, until the necessary photography is furnished. Should the information not be forthcoming in a reasonable period of time, the application will be returned without review.***

## TIPS ON PHOTOGRAPHING PROJECTS & KEYING PHOTOGRAPHS TO FLOOR PLANS

1) Exterior photographs must document all facades of the building. Interior photographs must record architectural features and finishes, such as: windows, doors, fireplace mantels and surrounds, floors, walls, ceilings, stairs, mouldings, etc., as well as provide an overview of rooms throughout the building. Pay special attention to areas, which will be impacted by the proposed rehabilitation work.

2) Photo-key floor plans should be 8 ½ X 11 copies of the construction plans. If such is not available, floor plans can be hand drawn on blank or graph paper, but need to note all windows, doors, wall openings, fireplaces, stairs, etc.

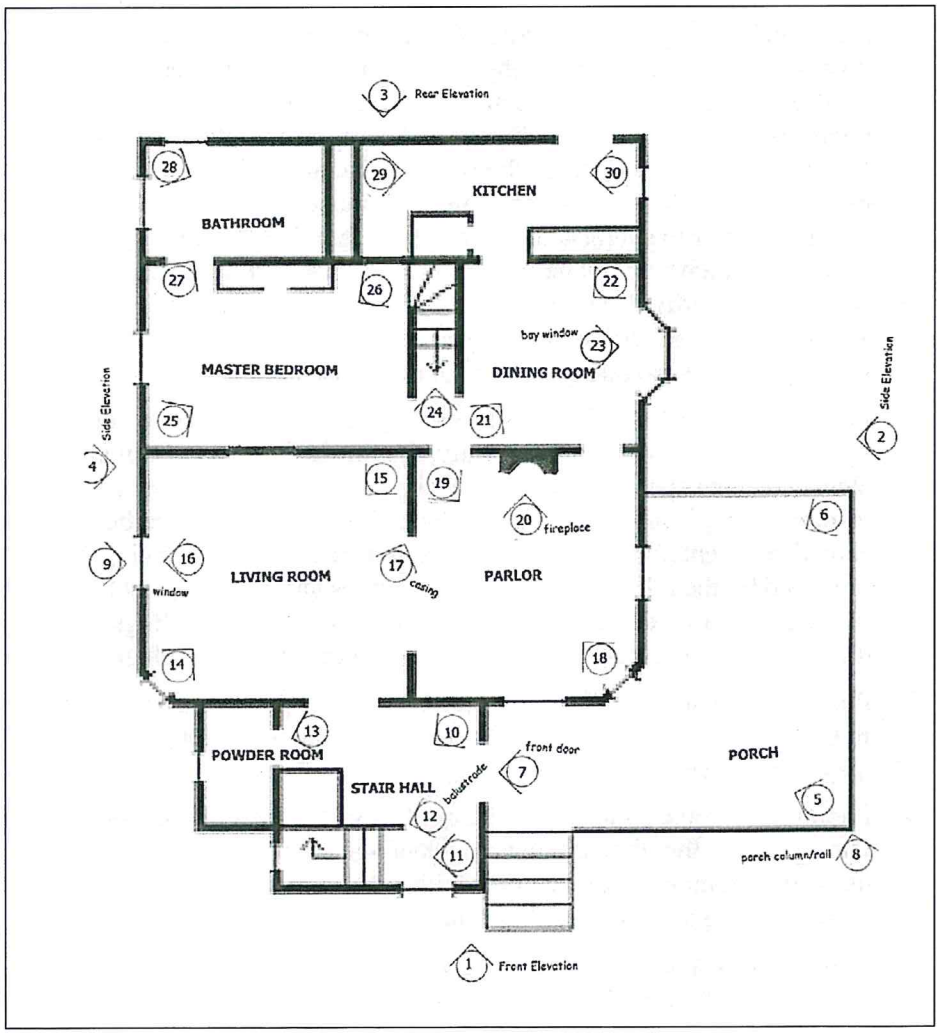
3) All interior and exterior photographs should be numbered and identified with property address.

4) A circle with the number of each photograph should denote on the floor plan the location of the photographer. The arrow identifies the direction of the photograph.

5) Please send individual 4 X 6 inch 35mm color photographs; HPD and NPS cannot accept color copied, scanned, or digital images or photos that have been mounted on paper or in plastic sleeves.

6) Keep a copy of the before-rehabilitation photo-key for reference when photo-documenting the completed project. For comparison, views of the completed work should be of and from the same locations.

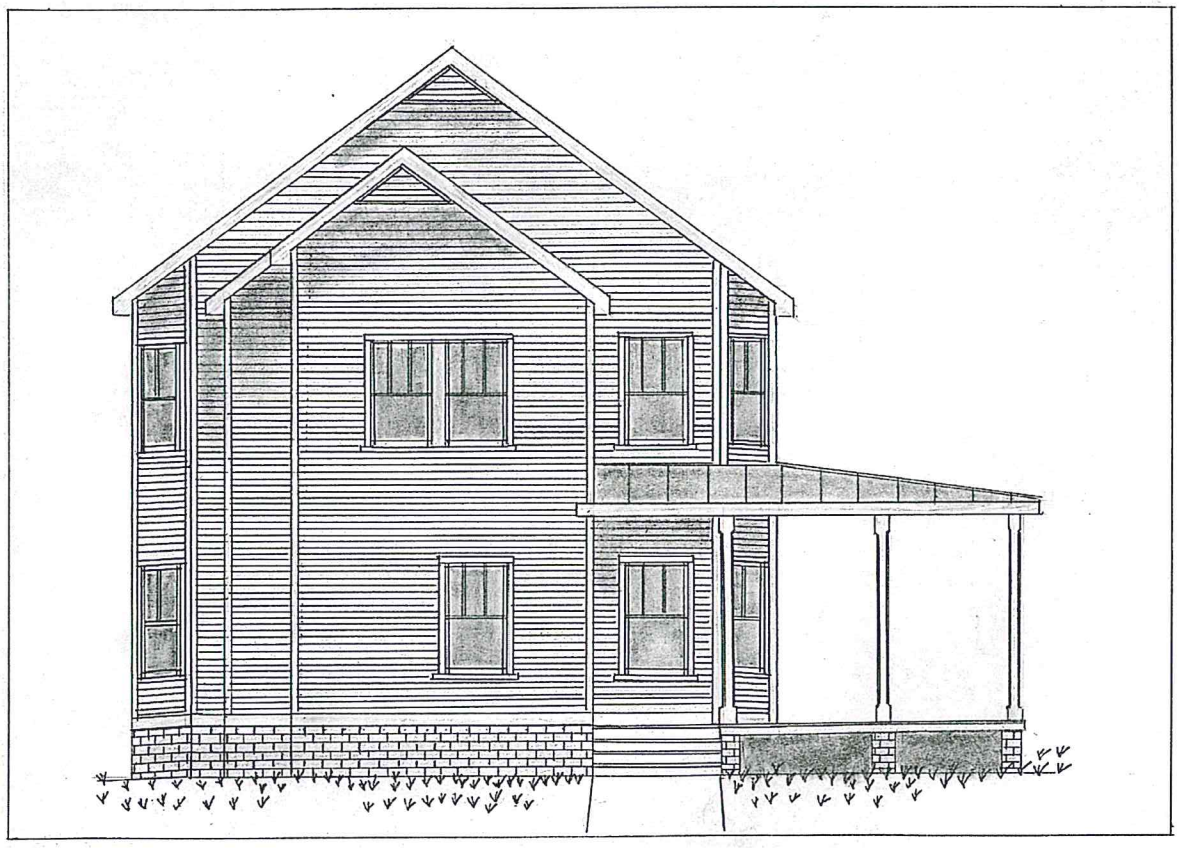
**EXAMPLE OF A KEYED FLOOR PLAN**



## Required Photo Label Information

Project Street Address
City, County, Georgia
Date _____
Photo # _____
*Drawing Reference or Detail Description (if applicable)*

## Sample Photo and Label



***(Label on Back of Photograph)***

123 North Main St.
Middleville, Smith County, Georgia
Date: March 3, 2003
Photo # 1
Front Elevation

# HISTORIC STRUCTURE ASSESSMENT
## STATE HISTORICAL FUND ANNOTATED SCOPE OF WORK
### REVISED 2014

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**THIS *ANNOTATED SCOPE OF WORK*** was developed to assist grant applicants, building owners, stewards, and consultants in collecting and organizing the information needed to develop a comprehensive assessment and plan for the preservation, rehabilitation, or restoration of a historic property. This document is intended to be used as a tool and a reference and provides specific details regarding the expectations and requirements for completing a Historic Structure Assessment funded by the State Historical Fund (SHF).

**THE PURPOSE OF A HISTORIC STRUCTURE ASSESSMENT (HSA)** is to fully document the physical condition of a historic resource. A complete assessment contains photographs, illustrations, and information in narrative form that reflects a comprehensive understanding of the condition and needs of the resource. This information will include details specific to the historic character and significance; specific materials, features, elements, and spaces; and the intended use. The existing conditions will dictate the amount of information contained within any given assessment. Ideally, a resource will be assessed during different seasonal conditions (wet, dry, hot, cold) to ensure a complete evaluation (some conditions may not be evident in one visit under one set of weather conditions). Destructive investigation is acceptable as a means of obtaining information, but it is not required. In some instances, the need for additional and (or) destructive investigation may be included in the treatment recommendations discussed in Section 3.0.

Although a HSA can provide valuable support documentation when making application for grant funding from the SHF, the assessment should not be seen as merely a prerequisite to making application for that funding. The HSA should be considered an important planning tool for future rehabilitation, restoration, and/or maintenance of a resource (regardless how the work might be funded in the future).

**SCOPE OF WORK:** In order to ensure a comprehensive assessment, the State Historical Fund has developed a standard Scope of Work for HSAs funded under the special non-competitive grant program. This Scope of Work is included in the application packet. All HSAs submitted to the SHF **must** follow this Scope of Work. Specific details on the expectations and requirements are provided in this *Annotated Scope of Work*.

**WHO CAN PREPARE A HSA?** The Historic Structure Assessment must be **prepared by an architect** or a structural engineer working under the **direct guidance of an architect**. Please consider the following when deciding who will prepare the HSA:

- Architect, and structural engineer if applicable, must be licensed in the state of Colorado.
- Architect must be the primary consultant on the project.
- Architect, and structural engineer if applicable, must be able to interpret and apply *The Secretary of the Interior's Standards for the Treatment of Historic Properties.*
- Architect, and structural engineer if applicable, is required to attend an initial on-site consultation with a State Historical Fund Historic Preservation Specialist at the commencement of the grant contract.

Other professionals including engineers, archaeologists, historic preservation consultants, contractors, historians and cost estimators may also be members of the assessment team.

Historic Structure Assessment reports are on file in the SHF office for reference. If you would like to review any of these, or if you have any questions, please contact a preservation specialist at 303.866.2825.

# ANNOTATED SCOPE OF WORK

**FORMATTING & CONTENT:** The HSA report should mirror the Scope of Work provided by SHF. Information specific to details and requirements for content is provided below. If you have any questions about how or what to include, please contact the Historic Preservation Specialist assigned to the project. **Two final copies must be submitted to SHF**; both copies must be 3-hole punched and submitted in white 3-ring binders (with clear overlay for title sheet). Please call with any questions about submitting final copies.

**MULTIPLE BUILDINGS/STRUCTURES & ADDITIONS:** For assessments that include more than one structure, or for single structures that have multiple and/or distinct additions, please address each structure or addition *individually* in the assessment. This can be accomplished in several ways. Please contact the Historic Preservation Specialist for more specific direction and/or suggestions.

**PHOTOGRAPHIC DOCUMENTATION:** Please include photographic documentation to illustrate the features and conditions described in the narrative. Always include **in-text references** to specific photos when addressing the element, feature, or space in the narrative. For specific guidelines, see Section 6.0.

## i. COVER PAGE

The Cover Page of the report must include:

1. *The State Historical Fund Project number*
2. *The name and address of the property*
3. *The date of report completion*
4. *The required acknowledgement of SHF as a funding source* ("This project was paid for by a State Historical Fund grant from History Colorado, the Colorado Historical Society")
5. *Site Number, if applicable*

## ii. TABLE OF CONTENTS

Please number pages in the report, and include the pages in the Table of Contents.

## 1.0 INTRODUCTION

### 1.1 RESEARCH BACKGROUND / PROJECT PARTICIPANTS

Discuss the purpose of the project and describe the process taken to complete the report, including:

1. *List consultants involved in preparing the report, and what their roles were.*
2. *Note weather condition(s) experienced during all field (site) visits.*
3. *List funding partners (include SHF, but full acknowledgment noted above is not required).*
4. *Include sources of information used to complete this report, including available historical documentation and interviews with building users/managers as relevant (see Section 2.0).*

### 1.2 BUILDING LOCATION

Please provide the following:

1. *Vicinity map*
2. *Site plan (Site plans should show the property lines, as well as the designated area, and display all of the improvements, features, and landscape elements within the property boundaries. Indicate a north arrow and scale or NTS. Google satellite maps are not permitted as a site plan.)*
3. *Legal description*

## 2.0 HISTORY AND USE

The research and analysis of the structure's history and use determines the basis for the preservation treatment recommendations prescribed in the assessment section. This portion of the HSA includes a history of the resource, the architectural significance and construction history, and a detailed discussion of the proposed use.

**Potential sources for information**:
*State, federal, or local register nominations of historic properties, historical photographs, historical plans/specifications, oral histories or interviews, History Colorado's Steven H. Hart Library, Denver Public Library's Western History Collection, local (county) assessor's office records, and local library history collections.*

## 2.1 ARCHITECTURAL SIGNIFICANCE & CONSTRUCTION HISTORY:

Describe the structure's architectural style, including character-defining exterior and interior materials, features, and spaces. Include a brief chronology of additions and alterations to the original structure, and discuss past and current use(s) in relation to these modifications. This information will provide the basis for recommendations for appropriate treatments and design of suitable modifications for use.

1. *Note whether or not the building is listed on the National, State or Local Register.*
2. *Include historical photographs of the structure's exterior and interior, if available.*
3. *Excerpt portions of referenced documents that are relevant to the building/ resource.*

## 2.2 FLOOR PLAN:

The structure(s) should be graphically represented in accurate proportions. The plan(s) should be drawn with measurements, but it is not required to be drawn to scale. In this section, you must:

1. *Label individual rooms for reference within the narrative of Section 3.0.*
2. *Note/ identify within the plan or illustrations significant spaces and/ or spatial relationships.*
3. *Illustrate the existing configuration vs. the historical configuration (if known).*
4. *Include copies of original drawings if they are available.*
5. *Indicate a north arrow and scale or NTS.*

## 2.3 PROPOSED USE(S):

Discuss any proposed use(s), including the functional needs and potential impact to the existing structure, and evaluate whether or not the intended use is appropriate for the structure in accordance with The Secretary of the Interior's Standards.

# 3.0 STRUCTURE CONDITION ASSESSMENT (SECTIONS 3.1-3.8)

Each section below should be addressed in a comprehensive narrative. In order to provide a more user-friendly and organized document, please include a separate sub-heading under each section for the three main components of the narrative: (1) **Description**, (2) **Condition Evaluation**, and (3) **Recommendations**. (For example, when discussing the Roof Framing System in section 3.3, you will include a Description of the system, a Condition Evaluation of the system, and a Recommendation of what to do with the system based on The Secretary of the Interior Standards and future plans/use.) The sections describing materials, features, elements, and spaces should follow the specific order listed in the Historic Structure Assessment outline provided below (e.g., 3.1 Site; 3.2 Structural System; etc.). If the resource does not have a component, simply indicate this in the narrative (e.g., "Perimeter foundation drainage: There is no perimeter foundation drainage.").

**DESCRIPTION:** Please *describe* each element, feature or space.
The intent of this subsection is to identify the elements, features, and spaces that make up the resource. The narrative should first indicate whether the element, feature, or space is original, historic or non-historic, and should then provide a detailed description of **what it is, what it looks like, the materials from which it is made, and the methods used in its construction.**

**The Description sub-heading should not include information about the condition:** Perhaps one of the most common mistakes is to include a discussion of the *condition* of each material, element, feature, or space as part of the *description* narrative—it is important to avoid this. The intent is to describe the element, feature, or space as it exists at this point in time (e.g. "Interior walls are plaster over wood lathe, with a smooth texture and painted finish [see photos #2, 3, 12 and 15]."). This serves the purpose of documenting the material, element, feature, or space as it exists now so that in the future, users of the assessment will have a clear understanding of how this looked prior to any treatment.

**Significance:** Please identify each element's, feature's, or space's relationship to the age of the structure and identify its significance as it relates to the integrity of the resource overall. It is important to remember that all materials, elements, features, and spaces of a structure impact the resource's historic integrity (contributing to or detracting from); therefore, each component should be described regardless of its historic significance. A significant element, feature, or space should be described in greater detail and include **photographic documentation** to illustrate that description.

**Windows, doors, and other repetitive elements or features:** Often an element or feature is a series of similar, repetitive items, such as windows or doors. In this case, the feature should be described as one feature and then specific discrepancies should be noted or highlighted—for example, "all nine windows on the 3rd floor are historic, the six 1st floor windows are not." Although describing as *one*, please include the total quantity of the element or feature in the description. A schedule to augment the narrative may be included. Remember to include even small repetitive elements such as hardware, lighting, and security.

**CONDITION EVALUATION:** Please *evaluate the condition* of each feature, element, or space.
Please provide a detailed discussion of the **existing condition and integrity** of each element, feature or space based on the comprehensive physical evaluation. As noted above, destructive investigation is acceptable as a means of obtaining information, but it is not required. The Condition Evaluation must include **photographic documentation** to illustrate the condition (or range of conditions for repetitive elements or features). Please use the following terms in your evaluation and discussion of the condition of each element, feature, or space: **Good Condition**, **Fair Condition**, and **Poor Condition**.
Criteria/guidelines for each are as follows:

- **GOOD CONDITION:** An element, feature, or space is evaluated in *good* condition when it is meets the following criteria:

  1. *It is intact, structurally sound, and performing its intended purpose.*
  2. *There are few or no cosmetic imperfections.*
  3. *It needs no repair and only minor or routine maintenance.*

  **Please note:** Elements, features, or spaces that are in *good* condition do not need lengthy narratives; state that they were examined and found to be in *good* condition, and why you have made that determination.

- **FAIR CONDITION:** An element, feature, or space is evaluated in *fair* condition when one or more the following are evident:

  1. *There are early signs of wear, failure, or deterioration, although the feature or element is generally structurally sound and performing its intended purpose.*
  2. *There is failure of a sub-component of the feature or element.*
  3. *Replacement of up to 25% of the feature or element is required.*
  4. *Replacement of a defective sub-component of the feature or element is required.*

  **Please note:** When an element, feature, or space is in *fair* condition, it is important to provide a comprehensive discussion of this evaluation; do not simply state that the condition is "fair" without explaining that evaluation. Also, please avoid using generic descriptors such as "weathered" or "damaged" without a more specific explanation (e.g. how/why is it weathered/damaged).

- **POOR CONDITION:** An element, feature, or space is evaluated in *poor* condition when the following is evident:

  1. *It is no longer performing its intended purpose.*
  2. *It is missing.*
  3. *It shows signs of imminent failure or breakdown.*
  4. *Deterioration/damage affects more than 25% of the feature/element and cannot be adjusted or repaired.*
  5. *It requires major repair or replacement.*

  **Please note:** When an element, feature, or space is in *poor* condition, it is important to provide a comprehensive discussion of this evaluation; do not state that the condition is "poor" without explaining that evaluation. Also, please avoid using generic descriptors without a more specific explanation.

**RECOMMENDATIONS:** Please provide a *recommendation* for each element, feature or space, based on (1) the evaluation of existing conditions and (2) the significance or importance of the building and its associated features and elements. Recommended treatments should comply with, and specifically address, *The Secretary of the Interior's Standards for the Treatment of Historic Properties* and the recommendations in the *Guidelines* (e.g., "recommendation is based on *Preservation Brief 9: The Repair of Historic Wooden Windows*…").

If an element, feature, or space has been evaluated in *good condition*, and there is no recommendation, state, "No recommendation at this time." For all others, consider the following when making a recommendation:

1. *The needs of the resource should be considered the first priority (sometimes a proposed use or treatment is contrary to the best interest of the resource).*
2. *Recommendations should discuss a specific course of action (**not**: "Repair according to the Standards").*
3. *Clearly explain and substantiate recommended treatments within the context of the selected treatment approach.*
4. *If more than one treatment is viable, discuss the pros and cons of each approach/option.*
5. *Provide sufficient information and analysis to aid in the preparation of future construction documents.*
6. *Research and provide alternative solutions when the recommendation conflicts with the guidelines for The Standards. Consult the NPS* Preservation Briefs *and* Tech Notes *for potential solutions/alternatives.*
7. *Consider the future welfare of the resource, and the practicality of maintenance, when recommending treatments.*
8. *Do not present the quickest, easiest, or most economical solution as the only recommendation.*

**3.1 SITE:**

- Associated Landscape Features
- Grading
- Parking
- Archaeology (Archaeological monitoring/mitigation is required by a number of state and federal regulations when any ground disturbance results from preservation activities where there is state and/or federal involvement.)

**3.2 STRUCTURAL SYSTEM:**

- General Structural System Description
- Foundation Systems
- Floor & Ceiling Systems
- Roof Framing System

**3.3 ENVELOPE – EXTERIOR WALLS:**

- Exterior Wall Construction
- Exterior Finishes
- Exterior Masonry
- Exterior Appendages—Porch, Stoop, Portico, etc.

**3.4 ENVELOPE – ROOFING & WATERPROOFING:**

- Roofing Systems
- Sheet Metal Flashing
- Perimeter Foundation Drainage
- Drainage System, Gutters & Downspouts
- Skylights / Cupolas

**3.5 WINDOWS & DOORS:**

- Doors (including Hardware, Casing/Trim, and Finishes)
- Windows (including Hardware, Casing/Trim, and Finishes)

**3.6 INTERIOR FINISHES:**

- Wall Finish Materials
- Ceiling Finish Materials
- Floor Finish Materials
- Trim and Built-Ins (not previously addressed in Section 3.5)

**3.7 MECHANICAL SYSTEMS:**

- Heating & Air-Conditioning
- Ventilation
- Water Service, Plumbing, & Sewer Utilities
- Fire Suppression—Sprinklers

**3.8 ELECTRICAL SYSTEMS:**

- Electrical Service & Panels
- Electrical Distribution System
- Lighting
- Fire Detection System
- Security Systems

## 4.0 ANALYSIS AND COMPLIANCE

In-depth code review and materials analyses may be completed for the structure. However, at a minimum, general observations on each of the following are required, and should be based on the information in Section 2.0, History and Use, and Section 3.0, Structure Condition Assessment.

### 4.1 HAZARDOUS MATERIALS:

- Provide observations of likely sources (e.g., lead paint, asbestos); materials testing may be recommended.

### 4.2 MATERIALS ANALYSIS:

- Suggest further testing as warranted for creation of specifications (i.e., paint, mortar, masonry, finishes).

### 4.3 ZONING CODE COMPLIANCE:

- Identify potential conflicts between zoning requirements and the proposed use(s).

### 4.4 BUILDING CODE COMPLIANCE:

- List the code(s) referenced. Consider alternate codes (UCBC, IEBC) and possible variances.
- Identify potential conflicts between applicable building codes and retention of historic elements, features, materials and spaces.

### 4.5 ACCESSIBILITY COMPLIANCE:

- Identify potential conflicts between meeting ADA Accessibility Guidelines and retaining the building's historic integrity.
- Recommendations for alterations needed to meet accessibility requirements should reflect an effort to minimize material loss and visual change to a historic building.

## 5.0 PRESERVATION PLAN

The Preservation Plan should take the recommended treatments prescribed in section 3.0 Structure Condition Assessment and **prioritize** the work into a logical order. This order should rank the most urgent work, such as deterioration, structural weakness, and/or life safety issues, over less urgent repairs. In the discussion provided for sections 5.1-5.3, please remember the following:

1. *All recommended treatments should be included in the Preservation Plan.*
2. *The first priority of the Preservation Plan should be to address the needs of the historic building/resource.*
3. *Programmatic needs of building owners and/or clients need to be represented as secondary priorities.*

### 5.1 PRIORITIZED WORK:

Recommended Treatments for elements, features, or spaces should be prioritized and identified utilizing the following terms: Critical Deficiency, Serious Deficiency, and Minor Deficiency. Criteria/guidelines for each are as follows:

- **CRITICAL DEFICIENCY:** One or more of the following indicate a critical deficiency:
  1. *Advanced deterioration has resulted in failure of the building element, feature, or space, or will result in its failure if not corrected within two years.*
  2. *Accelerated deterioration of adjacent or related building materials has occurred as a result of the feature or element's deficiency.*
  3. *The feature or element poses a threat to the health and/or safety of the user.*
  4. *The feature or element fails to meet a code/compliance requirement.*

- **SERIOUS DEFICIENCY:** One or more of the following indicate a serious deficiency:
  1. *Deterioration, if not corrected within two to five years, will result in failure of the feature or element.*
  2. *Deterioration of a feature or element, if not corrected within two to five years, may pose a threat to the health and/or safety of the user.*
  3. *Deterioration of adjacent or related building materials and/or systems will occur as a result of the deficiency of the feature or element.*

- **MINOR DEFICIENCY:** One or more of the following indicate a minor deficiency:
  1. *Standard preventive maintenance practices and building conservation methods have not been followed.*
  2. *A reduced life expectancy of affected or related building materials and/or systems will result.*
  3. *A condition exists with long-term impact beyond five years.*

### 5.2 PHASING PLAN:

If work is to be completed in more than one phase, propose a logical and sequential phasing plan.

- *Phased plans need to consider mobilization, seasons, sequencing, protection of building, and current uses.*

### 5.3 ESTIMATE OF PROBABLE COST OF CONSTRUCTION:

Dated cost estimates should reflect the current market and include a percentage cost increase to account for inflation if the project is phased or delayed. (If applicable, please include cost estimates for archaeological monitoring, hazardous materials testing, and/or abatement.)

## 6.0 PHOTOGRAPHS AND ILLUSTRATIONS

Historic and current photographs and illustrations should be included with the assessment to illustrate and support the information provided in the narrative. Where the photographs and illustrations are located in the report is optional (in each section, after each section, at the end of the report, etc.). Follow the guidelines below for photographs and illustrations:

1. *Provide comprehensive and "readable" (i.e., high quality and clear) photographic documentation.*
2. *Photographs and illustrations should be clearly numbered and captioned.*
3. *Provide at least one view of each elevation.*
4. *Provide clear pictures of specific conditions and deficiencies that are discussed.*
5. *In the narrative, include in-text references to the numbered photographs (for example, "Due to poor drainage, the lower portion of the column is significantly deteriorated [see photos 3, 5, and 6]").*
6. *Black and white photographs <u>may be</u> acceptable for the Draft HSA; please contact the Historic Preservation Specialist for specific direction. Color images must be used in the final HSA.*

## 7.0 BIBLIOGRAPHY

List all consulted sources. All the sources you have utilized should be listed alphabetically following a recognized bibliographic style (e.g., Chicago Manual of Style/Turabian, Modern Language Association (MLA), American Psychological Association (APA).

- Indicate if the consulted sources did, or did not, contain pertinent information.

## 8.0 APPENDICES

Drawings and other information should be included in the appendices

- Historical/original plans (if available) may be included.
- Schematic design, design development, construction drawings, or measured drawings (previously prepared, or prepared outside the scope of this HSA) may be also included in addition to the sketch plans provided under Section 2.2, but are not required.

# CHOOSING THE APPROPRIATE TREATMENT

**THE SECRETARY OF THE INTERIOR'S STANDARDS** are neither technical nor prescriptive, but are intended to promote responsible preservation practices that help protect our nation's irreplaceable cultural resources. For example, they cannot, in and of themselves, be used to make essential decisions about which features of the resource should be saved and which can be changed. But once a treatment is selected, the Standards provide consistency to the work.

## FOUR TREATMENT APPROACHES

1. **PRESERVATION** places a high premium on the retention of all historic fabric through conservation, maintenance, and repair. It reflects a building's continuum over time, through successive occupancies, and the respectful changes and alterations that are made.
2. **REHABILITATION** allows for a compatible new use for the resource but still emphasizes the retention and repair of historic materials. More latitude is provided for replacement because the treatment assumes the property has suffered more deterioration prior to work. (Both Preservation and Rehabilitation Standards focus attention on the preservation of those materials, features, finishes, spaces, and spatial relationships that, together, give a property its historic character.)
3. **RESTORATION** focuses on the retention of materials from the most significant time in a property's history, while permitting the removal of materials from other periods.
4. **RECONSTRUCTION** establishes limited opportunities to re-create a non-surviving site, landscape, building, structure, or object in all new materials.

**OTHER CONSIDERATIONS:** Choosing the most appropriate treatment for a building requires careful decision-making about a building's historical significance, as well taking into account the following:

- **Relative importance in history**. Is the building a nationally significant resource—a rare survivor or the work of a master architect or craftsman? Did an important event take place in it? National Historic Landmarks may warrant a different treatment approach than buildings that contribute to the significance of a historic district but are not individually listed on the National Register.
- **Physical condition.** What is the existing condition—or degree of material integrity—of the building prior to work? Has the original form survived largely intact or has it been altered over time? Are the alterations an important part of the building's history? Are distinctive materials, features, and spaces essentially intact and convey the building's historical significance? Are alterations or additions necessary for a new use? These key questions play a major role in determining which treatment is selected.
- **Proposed use.** Will the building be used as it was historically or will it be given a new use? Many historic buildings can be adapted for new uses without seriously damaging their historic character; special-use properties such as grain silos, forts, ice houses, or windmills may be extremely difficult to adapt to new uses without major intervention and a resulting loss of historic character and even integrity.
- **Mandated code requirements.** Code requirements will need to be taken into consideration. But if hastily or poorly designed, a series of code-required actions may jeopardize a building's materials as well as its historic character. Abatement of lead paint and asbestos within historic buildings requires particular care if important historic finishes are not to be adversely affected. Recommendations for alterations and new construction needed to meet accessibility requirements under the Americans with Disabilities Act of 1990 should reflect an effort to minimize material loss and visual change to a historic building.

# TERMS AND DEFINITIONS

**AS-BUILT DRAWINGS:** produced after completion of the structure showing how it was actually built by incorporating changes that were made as construction progressed. Alterations made to the structure in subsequent years should be clearly identified as later changes.

**CHARACTER-DEFINING FEATURE:** a prominent or distinctive aspect, quality, or characteristic of a historic property that contributes significantly to its physical character. Structures, elements, objects, vegetation, spatial relationships, views, furnishings, and decorative details and materials may be such features.

**CONSTRUCTION DOCUMENTS:** Drawings, Plans, Technical Specifications, Addenda, Supplemental Instructions and Change Orders created by an architect that set forth in detail the requirements for the construction of the project.

**DESIGN DEVELOPMENT DRAWINGS:** produced to work out details, aesthetics, dimensions, and estimated probable costs for construction or manufacture. They often include detail drawings of design features.

**ELEMENT:** may be an architectural feature, structural component, engineering system, or a functional requirement.

**EXISTING CONDITION DRAWINGS:** produced to record the configuration, physical fabric, and conditions of a structure at a given point in time. They are often produced as the first step in a project.

**IN-KIND:** in the same manner, with the same material, or with something equal in substance creating a similar or identical visual appearance or effect.

**MATERIAL:** the physical elements that were combined or deposited to form a property. Historic material or historic fabric is that from a historically significant period, as opposed to material used to maintain or restore a property following its historic period(s).

**PERIOD OF SIGNIFICANCE:** the length of time when a property was associated with important events, activities, or persons, or attained the characteristics which qualify it for historic designation.

**PRESERVATION:** the act or process of applying measures necessary to sustain the existing form, integrity, and materials of a building, site, structure, or object.

**RECONSTRUCTION:** the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location. Treatment should be based on documentary or photographic evidence.

**REHABILITATION:** the act or process of making possible a compatible new use for a property through repair, alterations, and additions while preserving those portions or features that convey its historical, cultural, or architectural values.

**RESEARCH DESIGN:** a statement of proposed activities (identification, documentation, evaluation, investigation, or other research) that identifies the project's goals, methods and techniques, expected results, and the relationship of the expected results to other proposed activities or treatments. The research design is specific to each project.

**RESTORATION:** the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.

**SCHEMATIC DESIGN DRAWINGS:** also known as conceptual drawings, they are diagrammatic drawings of the essential elements of a design; they are not used to estimate costs.

**SKETCH PLAN:** site plan or building plan drawn with measurements but often not to scale, although the structure and site features should be represented in accurate proportions.

**TREATMENT RECOMMENDATION:** based on The Secretary of the Interior's Standards. The degree of intervention recommended depends on the existing condition of the element and its significance or importance to the property.

SPECIAL RESTORE OREGON REPORT

# Resilient Masonry Buildings

## Saving Lives, Livelihoods, and the Livability of Oregon's Historic Downtowns

Recommendations from Restore Oregon based on the 2012 Preservation Roundtable



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*Cover photo: Redman's Hall, Jacksonville, OR*

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2012
Preservation Roundtable

**Research and Planning**
Winter 2012

**Regional Workshops**

Jacksonville
March 16, 2012

Astoria
May 11, 2012

Pendleton
June 22, 2012

Portland
August 16, 2012

**Online Survey**
September 2012

**Special Report Released**
October 25, 2012

## The Purpose of the Preservation Roundtable

Restore Oregon, formerly the Historic Preservation League of Oregon, launched the annual Preservation Roundtable in January 2010. The program brings together diverse stakeholders from around the state to address the challenges confronting Oregon's historic places, particularly its Main Streets. In 2010 the Roundtable proposed solutions to create *Healthy Historic Districts*, addressing the issues of economic and cultural viability for Oregon's 123 National Register Historic Districts. The 2011 Roundtable took on *Compatible Infill Design*, recommending principles for new construction in historic districts. Each Roundtable culminates in a Special Report similar to this document.

The Preservation Roundtable process includes background research, expert advice, and the convening of public workshops around the state. With assistance from dedicated volunteers, corporate sponsors, and foundation support, the participation and visibility of the Roundtable has grown steadily since it first convened in 2010. **Over 250 Oregonians participated** in 2012, providing insights and examples that have been incorporated into this document.

The purpose of the report that follows is to highlight the true value of masonry buildings in Oregon, provide an overview of the challenges of preserving this building type, and propose recommendations for making masonry buildings a more productive, more resilient, and more economically viable part of our built environment.

# Why This Matters: Lives, Livelihoods, & Livability

Some of the most important historic buildings in Oregon are also the ones most at risk of collapse in an earthquake – if they don't fall victim to hard times or demolition-by-neglect first. Oregon's collection of historic brick, stone, and block structures also happen to house thousands of families, school children, businesses, and government agencies. Officially known as unreinforced masonry buildings (URMs), there are over 5,000 of these structures across Oregon, most of which were built in the late 1800s and early 1900s.[1] While we know that rehabilitation of these buildings can be challenging, the fact is that there are just too many with too much good life left in them for wholesale replacement.

Masonry buildings were constructed to stand the test of time, resistant to fire and flood. They were handsomely crafted, using long-lasting materials with techniques refined over thousands of years. Roughly 75 years ago, building technology advanced to incorporate reinforcing steel. Today, unreinforced masonry buildings still stand as character-defining icons of Oregon's small towns and larger urban centers. The most historically significant of these must be restored, seismically upgraded, and maximized—not out of sentimental nostalgia, but to ensure that lives, livelihoods, and livability are preserved. Oregon simply cannot afford to lose them.

While comprehensive statewide data on the total number and economic value of these buildings has not been collected, we do have enough information to know this issue cannot be ignored. Here are a few reasons:

## How many families live in URM apartment buildings?

In Portland alone there are 5,200 units of apartment housing in unreinforced masonry buildings. Statewide there are at least 10,000 people living in URM buildings. Examples include the 35 low-income residents of Corvallis' historic Julian Hotel and the 25 tenants of Astoria's Franklin Apartments.[2]

## How many children attend school in URMs?

Across Oregon there are 101 URM schools housing our K-12 students. An additional 673 masonry schools have only limited structural reinforcement. Portland's URM Grant High School alone is home to 1577 students.[3]

## How many businesses are housed in URMs?

Across the state there are 81 communities participating in the Oregon Main Street Program to foster community development in older and historic downtowns. In most of these communities unreinforced masonry buildings make up the core of their downtowns, housing scores of businesses and creating a marketable sense of place.[4]

## How many fire stations and city halls are in URMs?

Statewide there are at least 21 fire and police stations housed in URM buildings, as are essential services for Benton, Crook, Sherman, Wasco and several other counties. In many cases, these buildings are the central landmarks of their communities.[5]

Oregon does have examples of resilient masonry buildings. In Portland, an 1875 Federal courthouse was upgraded using the most modern techniques to survive a major quake. In Pendleton, new elevators provide access to long-vacant upper floors along Main Street. And in Salem, new commercial uses are funding the upkeep of historic facades. But for every example of success, there are countless examples of significant historic URMs that remain at risk.

This report outlines eight policy recommendations to address this very pressing issue. Action is required so we don't wake up one morning in the not-too-distant future to find that some of the best of Oregon has been lost.



# Executive Summary

The Main Street hardware store next to the microbrew-pub, the neighborhood grade school that's seen four generations pass through its halls, the clinker brick apartment building you moved into after graduation, the polished stone courthouse with the monument honoring local war heroes…. From Klamath Falls to Astoria, Jacksonville to Portland, these historic buildings are icons that define hundreds of Oregon's communities. Most of them are built of unreinforced brick or stone that was meant to last, withstanding fire and flood, but are at serious risk of collapse in an earthquake. Many have vacant upper floors and desperately need rehabilitation, but have real economic potential.

While no complete inventory of masonry buildings has been conducted, there are estimated to be between 5,000 and 10,000 unreinforced masonry buildings (URMs) in Oregon, with 1,765 in Portland alone. Many of these structures have achieved true cultural significance over time and have been listed on or are eligible for the National Register of Historic Places. It is those approximately 2,000 historic masonry buildings we address here.[6] They come with special challenges:

- Fire/life safety codes and ADA access requirements make utilization of upper stories challenging, limiting their income potential.
- Construction financing for URMs is getting scarce, making it more difficult to invest in rehabilitation.
- The looming threat of a major earthquake in the western half of the state creates an urgency for seismic upgrades to protect lives, community character, and economic livelihoods.

For all their issues, these historic buildings are a very important component of Oregon's economy, environment, culture, and sense of community. And there are simply too many of them for wholesale replacement to be a viable option. Our goal must be to create *resilient* masonry buildings.

*The 1906 San Francisco earthquake is well-known as one of America's greatest natural disasters. While the 7.9 magnitude quake and subsequent fire destroyed an estimated 3,168 brick buildings, Oregon's risk of a 9.0 earthquake presents a similarly serious challenge for communities west of the Cascades.*

## Charting a Path to Resiliency

A building is resilient when it reflects four key characteristics:

- **Safety.** In parts of the state vulnerable to seismic events, the *resilient* building will survive an earthquake with no loss of life.
- **Durability.** The *resilient* building remains standing and is repairable after a disaster, with its historic elements intact.
- **Productivity.** The *resilient* building is well utilized, occupied, and accessible to the highest level possible.
- **Economic Viability.** While incentive dollars may be necessary for an initial upgrade, the *resilient* building should generate sufficient cash flow to support ongoing operations and maintenance.

While examples of safe, durable, productive, and viable masonry buildings can be found across Oregon, the state is woefully behind in fostering a resilient masonry building stock. The technology exists to upgrade historic buildings with minimal impact on character-defining features; what is needed are thoughtful solutions to promote the preservation of these historic assets for generations to come. Restore Oregon believes the following eight recommendations will get us there.

### 1. Educate Building Owners and Contractors on Best Practices for Historic Masonry Buildings.

Preservation Roundtable workshops revealed that whether a historic building has been in the same family for generations or was just acquired by a developer, owners typically don't understand their structural composition or requirements. The same can be said for many contractors. To remedy that, an **Oregon Masonry Building Handbook** outlining best practices in masonry treatment is needed so that typical material and condition issues can be better understood and addressed by owners and contractors. Furthermore, **training courses** on basic masonry treatment and seismic upgrade techniques should be offered around the state to raise the caliber of work being done to masonry buildings.

**2. Inventory Unreinforced Masonry Buildings so Communities Know What They Have.** Building departments and planning offices should work together to **survey and document** masonry buildings within their communities. Using this information, local jurisdictions should identify ways to encourage and finance basic **structural assessments** for masonry buildings. And every community should prepare actionable **mitigation plans** for post-disaster protection of repairable historic buildings to avoid unnecessary bulldozing.

**3. Boost Public Demand for Seismic Upgrades by Rewarding Resilience.** The public has no visible way of knowing if a building has been seismically upgraded, yet many would choose a safer building if given the option. Similar to a LEED (Leadership in Energy and Environmental Design) sustainability ranking, a standardized system should be developed to recognize those buildings that will fare well in an earthquake. **Voluntary plaques** affixed to the exterior of upgraded masonry buildings would provide a simple way for buyers, renters, and occupants to understand the relative safety of their building. This would lead to increased demand and payback for seismic upgrades.

**4. Leverage Existing Federal Programs to Foster Upgrades.** While much can be done at the state and local levels to revitalize our historic masonry buildings, the federal government has a responsibility to assist our efforts. The **Rehabilitation Tax Credit must be modernized** to allow smaller projects and "mom and pop" building owners to access this valuable incentive. Additionally, the Federal Emergency Management Agency (FEMA) should recognize the unique earthquake risk facing Western Oregon by increasing **pre-disaster funding** for basic seismic upgrades.

**5. Adopt Meaningful State Rehabilitation Incentives.** Oregon's existing incentive programs are not adequate to induce building owners and developers to voluntarily rehab historic masonry buildings. **A new or improved state incentive**, coupled with local funding sources, is a must for saving lives, protecting our heritage, and better leveraging preservation as a jobs engine.

**6. Increase Availability of Finance and Insurance Options.** The cost and availability of mortgage financing and earthquake casualty insurance are becoming problematic for many historic building owners in Oregon. Establishing a **historic properties insurance pool** or nonprofit insurance program would help secure public and private investments in historic masonry buildings and encourage lenders to provide rate reductions for upgraded buildings.

**7. Institute Changes to the State Building Code.** Building codes are intended to foster public health and safety, though the application of these codes can be confusing and subject to interpretation. Property owners and their rehab team require clear, positive direction towards a path of compliance. The State of Oregon Building Codes Division should adopt **new code language that systemizes triggers and methods for seismic upgrades**, including allowing multi-year **phased improvements**. Stipulating that a percentage of dollars for substantial rehabilitation be devoted towards incremental seismic upgrades will spur work towards the eventual goal of full upgrade.

**8. Government Agencies Must Take Care of Their Own URMs.** Government agencies across Oregon own a lot of historic buildings. From schools to courthouses, city halls to fire stations, Oregon taxpayers paid for these buildings and they should be safe and well maintained. **Preservation plans** for all public masonry buildings should be prepared by 2020. The legislature should support these plans with special funding strategies and set a timeframe for upgrades. When historic buildings must be divested, preservation easements should be put in place to ensure these resources continue to stand and serve their communities.

*Details on these recommendations can be found beginning on page 10.*



# Background & Definition of Terms

Unreinforced masonry buildings were built in Oregon for almost a hundred years, from the 1840s through the 1930s. Although masonry technology dates back thousands of years, the building type as built in Oregon was largely constructed of brick, stone, clay tile, and concrete block walls. Internal wood posts and beams are present in many larger URMs, but the bearing walls lack concrete or steel supports. While many of the state's masonry buildings can be readily identified from the exterior, stucco, wood, and other cladding occasionally obscure structural masonry walls.

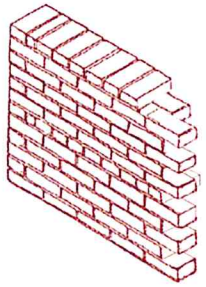
URM construction began to fall out of favor as reinforced concrete and steel buildings systems became available for larger building projects that exceeded the capabilities of unreinforced masonry construction. After the 1930s, unreinforced masonry construction became nearly extinct in Oregon, replaced by reinforced structural systems (and non-structural veneers of brick or stone). Today about 5,000 URM buildings stand in Oregon, many underutilized and vulnerable to a seismic event. It's a sad condition for such a valuable resource.

*The 1846 St. Paul Catholic Church in Marion County is the oldest known masonry building in Oregon, being constructed of bricks fired on site.*

**ADA.** *Americans with Disabilities Act.* Minimum guidelines outlining accessibility requirements for buildings.

**ASCE 31.** A widely accepted process for evaluating the seismic safety of existing buildings set by the American Society of Civil Engineers. ASCE 41 addresses standards for seismic retrofitting.

**Bond.** The orientation of bricks within an masonry wall. A common bond pattern (where a course of bricks is set sideways every 4-7 rows) is a telltale sign of unreinforced masonry construction (as illustrated here.)



**Building Code.** For existing buildings, the state follows the Oregon Structural Specialty Code (OSSC) and International Existing Building Code (IEBC).

**Cascadia.** A subduction zone off the coast of Oregon known to cause very large megathrust earthquakes and tsunamis.

**CLG.** *Certified Local Government.* Communities that have voluntarily accepted a set of rights and responsibilities to protect their historic properties.

**DOGAMI.** *Department of Geology and Mineral Industries.* State agency tasked with researching and conveying earthquake and other geologic hazard risks.

**Historic**—In this report, *historic* refers to places that are listed in or eligible for the National Register of Historic Places.

**Magnitude.** Relative measurement of energy contained in an earthquake. Geologists use the Moment Magnitude Scale, a logarithmic scale of 1 to 10 where there is a 10 fold increase in energy released at each full point on the scale.

**Main Street Program.** A popular four-point approach to revitalizing commercial districts administered by the SHPO.

**Masonry.** General term applied to buildings supported by hand-placed units of brick, stone, clay tile, and concrete block walls lacking reinforcement.

**Mortar.** Material used to bind individual masonry units together.

**PML.** *Probable Maximum Loss.* Phrase used in insurance and real estate to convey the loss that could result from a disaster.

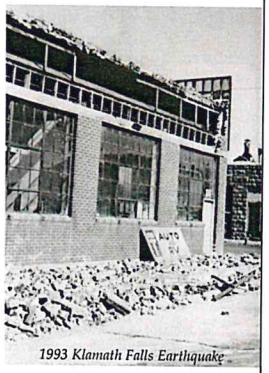
**Secretary Standards.** *Secretary of the Interior's Standards for the Treatment of Historic Properties.* Best practices for rehabilitating a historic building.

**SHPO.** *State Historic Preservation Office.* State department that manages and administers government preservation programs.

**URM.** *Unreinforced Masonry.* Brick, stone, or other masonry construction lacking structural reinforcement.

# The Seismic Imperative

Unreinforced masonry buildings, if maintained properly, are one of humanities' most long lasting and enduring building types. Its biggest threat is the force that wants to move it in a direction it was not designed to resist: sideways. The two forces that generally impose lateral force on buildings are wind and earthquake. While windstorms like 1962's Columbus Day Storm have caused minor damage to masonry buildings, by far the biggest concern is earthquakes. And, unfortunately, much of Western Oregon resides within one of North America's most seismically active zones. While we cannot predict exactly when an earthquake will occur, we know they are coming. It is imperative to prepare our URM building stock for a threat that was unanticipated by the original builders.


*1993 Klamath Falls Earthquake*

The USGS has documented sizable earthquakes occurring across much of the state since the late 1890s. Damage-causing earthquakes occurred in Portland in 1892, Milton-Freewater in 1936, and near Adel in 1968. However, two more-recent quakes are worth noting here: the 1993 Klamath Falls earthquake and the Scotts Mills Quake of the same year. The Klamath Falls earthquake damaged over 1,000 homes and commercial buildings, including the 1918 County Courthouse which was replaced following the quake. The Scotts Mills (AKA Spring Break quake) caused $28 million in damage including such significant damage to the masonry Molalla High School that the historic building needed to be demolished.[7]

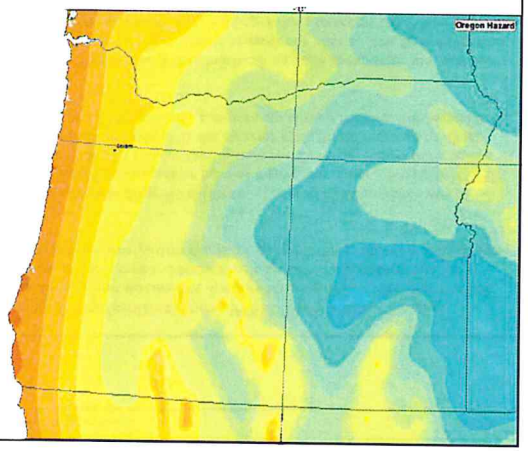
While magnitude 5 and 6 crustal earthquakes such as these can be expected in many parts of the state and are a safety concern for all masonry buildings, the entirety of Western Oregon faces an even bigger inevitability: **the Cascadia Subduction Zone**.

The Cascadia Subduction Zone is a fault off the coast of Oregon that has been documented to cause significant earthquakes in the arena of 8 to 9 in magnitude. While researchers were relatively unfamiliar with the dangers posed by the fault until the early 1990s, today Cascadia has become one of the most documented seismic zones on the planet. Research has determined that the last of these large quakes occurred on January 26, 1700, far before any masonry buildings were built in the state. The ground motion from such a quake will extend as far east as the Cascade Mountains and will impact the length of the state, though Southern Oregon is prone to more frequent ruptures. According to a recent report, Oregon faces almost a 40% chance in the next 50 years of a subduction zone quake off of the coast.[8]

Of all the dominant building types in Oregon, URMs are generally the most at-risk of collapse during an earthquake.

*Over the past 10,000 years, there have been 19 earthquakes that extended along most of the [fault], stretching from southern Vancouver Island to the Oregon-California border. These would typically be of a magnitude from about 8.7 to 9.2 – really huge earthquakes."*

- Prof. Chris Goldfinger, Oregon State University



*The Oregon Seismic Hazard Map at right indicates expected ground motion during an earthquake. Orange indicates the highest hazard; blue the lowest. Courtesy USGS.*



# Building Codes and Levels of Seismic Upgrade

Time and again we hear from building owners that they are overwhelmed by the complexity and expense of upgrading their buildings to comply with fire/life safety codes, ADA accessibility requirements, and seismic upgrades. The result is that nothing is done to a historic building for fear of "triggering" a expensive upgrade. We will not delve into fire/life safety or ADA compliance in this report other than to summarize that they boil down to the need to add means of access and egress to upper stories, sprinkler systems, wheelchair ramps, elevators, wider doors and hallways, and restroom modifications. Typically the addition of an elevator and seismic upgrades prove to be the most difficult in older buildings due to cost or lack of space for them.

*Exterior elevator on the Oregon State University campus provides ADA access and additional egress to a historic building.*

Building codes are minimum standards intended to protect health and safety. They are adopted at the state level, but administered at the local level. Building codes differ from municipal codes, which set forth local issues like zoning, aesthetics, and protection of historic places. In Oregon, owners of historic buildings have the option of choosing between two sets of building codes: the Oregon Structural Specialty Code (OSSC), or the International Existing Building Code (IEBC). While both codes stipulate minimum standards for repairs, alterations, and additions to existing buildings, they do not mandate that existing buildings be upgraded unless there is a change of use. They do require that any new work meet existing code. As demonstrated in the case study on page 16, local communities may adopt additional triggers that mandate upgrade. Examples include rehab construction dollars spent or the replacement of structural elements such as a new roof.

Meeting the minimum code helps ensure that people in a building are safe, but does not ensure that the building itself is preserved following a disaster. Higher levels are required by code for buildings considered essential for public safety—such as hospitals and fire stations—where buildings must remain standing and usable.

The American Society of Civil Engineers' Standard Number 41 presents four levels of seismic upgrade options for existing buildings.

- **Collapse Prevention**—Occupants may be able to exit, but building is near collapse
- **Life Safety**—Occupants are able to exit, but building has considerable damage

*Current building code addresses collapse prevention, but does not ensure the building or the businesses and residences inside it can be saved. Illustration courtesy American Society of Civil Engineers.*

- **Immediate Occupancy**—Building is safe to occupy, but minor damage is present
- **Operational**—Building suffers very little damage and can be used for its essential functions

While very few masonry buildings warrant the expenditure required to achieve Operational status, there is technology for a range of seismic upgrades that will not harm the character-defining features of historic buildings. Simple solutions such as stabilizing parapets, tying-in the roof and floor joists to exterior walls, and joining exterior walls to the foundation provide significant advancement towards Collapse Prevention.

Achieving a Life Safety standard while protecting historic character-defining features should be a goal of all historic buildings. For the most significant buildings and districts, higher level upgrades should be pursued to ensure these important landmarks are passed forward to future generations.

# Obstacles to Achieving Resilience

A common scenario for a historic URM involves vacant upper stories due to lack of code compliance and ADA access, resulting in insufficient cash flow for maintenance or upgrades, which can lead to "demolition-by-neglect." When participants at the 2012 Preservation Roundtable workshops were asked to identify the biggest challenges to revitalizing masonry buildings, four themes emerged: knowledge, economics, regulations, and expertise.

### Property owners and community leaders don't have sufficient knowledge to address the issues.

- People are overwhelmed by seismic issues and avoid understanding or addressing them.
- Many property owners assume there's only one level of building rehabilitation: the complex and unaffordable kind.
- There exists a need to better understand the volume and value of each community's masonry buildings stock.
- Often absentee owners are not invested in the community.

### The economics of rehabilitation when coupled with seismic upgrades don't pencil out.

- Complete rehabilitation of buildings including fire/life safety, ADA, and seismic retrofit is often prohibitively expensive.
- Smaller footprints typical in historic buildings make it hard to fit in upgrades and still have enough rentable space.
- Current financial incentives are insufficient for private owners and public funding is not available for governmental owners.
- Merely assessing the condition of a building and developing a plan for rehabilitation is expensive.
- Earthquake insurance is becoming more expensive and harder to get.

### Codes and regulations are overwhelming, inconsistent, and not digestible to the general public.

- Current standards primarily focus on saving *lives*, not saving *buildings* and their vital functions within the community.
- There exists in some jurisdictions a lack of consistency and clarity in building code enforcement resulting in higher costs, complexity, and miscommunication between owners and officials.
- The public doesn't know which buildings have been upgraded to be seismically safer.

### Design and construction professionals often lack expertise in this building type.

- Only a small pool of contractors understand the complexities involved with historic masonry buildings.
- Some regulators lack training in historic structures, resulting in over-engineered remedies and unnecessary loss of historic elements.
- Small town property owners need assistance developing a roadmap for rehabilitation and upgrades.
- New technologies and approaches are continually becoming available, though many professionals don't know about them.

*Recommendations on the following pages strive to address these issues and are coupled with examples to illustrate key points.*

## Pendleton's LaDow Block—the Challenge of Cash Flow

With its grand Italianate façade, Pendleton's LaDow Block is one of Eastern Oregon's most prominent historic landmarks. Built between 1884 and 1890 by an early female entrepreneur, this National Register-listed building is one of the oldest and most intact buildings in Umatilla County. The LaDow serves as a prime example of the challenges addressed in this report. While the ground floor has been continuously occupied since 1890, the 19 apartments on the second floor have been vacant since 1957.[9]

To comply with modern codes, new stairs and an elevator will be needed to get the 16,000 square foot upper floor back in use. Because of decades of deferred maintenance, exterior brick is failing in numerous areas and presents a safety issue for passersby on the street. There is a desire by all parties to preserve and occupy the building, but the cost and expertise needed to overcome a half-century of neglect exceed the capacity of the owner and the available urban renewal dollars. Luckily, the successes of nearby businesses, like the Prodigal Son Brewpub across the street, demonstrate that economic viability can be achieved in Pendleton's historic buildings if the right plan and financial incentives are in place.



# Findings and Recommendations

*While Oregon is fortunate to have an abundant and diverse stock of historic masonry buildings, a great many of them are underutilized, suffer from decades of deferred maintenance, and at risk of collapse in an earthquake. To owners of URMs and the communities in which they stand as cultural icons, the complex challenge of upgrading them can be daunting. Restore Oregon believes these buildings are important to our state and they need to be made resilient – safe, durable, productive, and economically viable. The following recommendations will get us there.*

## 1. Educate Building Owners & Contractors

There exists a pressing need in Oregon's smaller communities for building owners and contractors to have greater access to educational resources concerning historic masonry buildings. While the National Park Service and other organizations have prepared general guidelines and best practices, accessible and place-specific solutions are needed here in Oregon. As Restore Oregon clearly heard at the Jacksonville and Pendleton Roundtables, local contractors need training and familiarity with masonry treatment. Oftentimes owners are unaware of how to address minor condition issues and, without ready access to good literature, have a tendency to let critical deficiencies go unaddressed.

Furthermore, owners are overwhelmed by seismic upgrades and think there is only one kind–the kind they can't afford. Simple and understandable workshops that spell out the options and cost-effective solutions are much needed in the state's seismically active regions. While not all owners have the means or desire to implement the higher upgrade levels, educating owners on relatively simple solutions such as parapet stabilization, chimney buttressing, and floor tie-downs can go a long way to boost public safety.

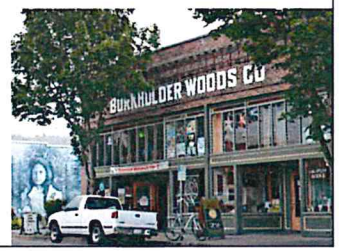
*The bottom line*: An **Oregon Masonry Building Handbook** is needed to educate owners and contractors on typical materials and condition issues. The Handbook should be available online and presented to local landmarks commissioners and preservation planners. A parallel training program addressing seismic options should be offered in earthquake-prone communities.

*How we get there:* SHPO should work with the University of Oregon and Clatsop Community College historic preservation programs to compile an illustrative handbook outlining condition and treatment options for the range of masonry materials across the state. They could partner with DOGAMI and the Structural Engineers Association of Oregon to develop an educational workshop on seismic upgrades. Certified Local Governments could allocate a

## An Owner's Manual for Cottage Grove's Historic Masonry Buildings

In the spring of 2012, students from the University of Oregon Historic Preservation Program descended upon the Lane County community of Cottage Grove to get a crash course in masonry treatment. With support from nationally recognized masonry expert Lauren Allsopp, PhD., the team of graduate students prepared a 100-page handbook addressing construction history and condition issues typical in this community.

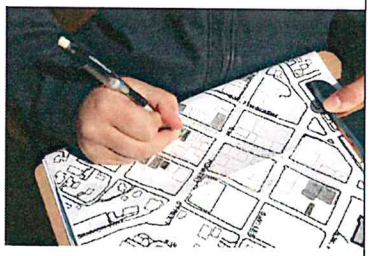
According to City Planner Amanda Ferguson, "There is a clear need for focused education on building maintenance and masonry repair in Cottage Grove. Property owners need help determining the best techniques to preserve their buildings and how to find good contractors to work with. The **Masonry Handbook** is a great start to providing this type of assistance."




The final version of the Handbook will be available in print and online in late 2012. The Handbook will serve as a starting point for other local communities that want to prepare place-specific guides for addressing masonry treatment issues.

# 2. Inventory URMs and Encourage Building Assessments

You can't develop a plan when you don't know what you have. There is no comprehensive database of Oregon's older and historic masonry buildings. While fragmented data exists in historic resource inventories and National Register nominations, and a few communities (such as Portland and Medford) have done windshield surveys of masonry buildings, local communities and the state need to do a better job documenting what we have. The state should require local communities to inventory masonry buildings.



This isn't unheard of. A 1986 California law required local governments in active seismic zones to inventory unreinforced masonry buildings and present progress reports to the state. Oregon should follow this lead.

Using this baseline data, communities in active seismic zones should encourage and sponsor ASCE 31 structural evaluations for public and private masonry buildings. While every community has different political and financial resources, finding avenues to cost-effectively help owners understand their building needs and potential seismic risks will lead to better planning and eventual rehabilitation.

Finally, every community should prepare mitigation plans for how designated historic buildings are treated following a disaster. When inspectors sweep through a region to tag buildings they deem "too far gone," they'll be able to identify buildings of historic importance to give them additional consideration and avoid wholesale demolition.

*The bottom line:* Every unreinforced masonry building in Oregon should be identified and documented in an accessible database, wholesale ASCE 31 evaluations should be a goal for seismically vulnerable communities, and every community should have action-oriented mitigation plans to protect historic buildings following a disaster.

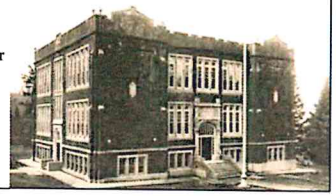
*How we get there:* State and local agencies should work together to prepare templates for URM databases and mitigation plans that could be used at the local level. Local planning and building departments, Main Street Programs, and/or Urban Renewal Agencies should work closely with policy-makers to identify mechanisms to encourage, fund, or require ASCE 31 Tier 1 or Tier 2 evaluations of identified URMs. While these evaluations typically run $2,000 to $10,000 per property, cost savings could be achieved by evaluating a district or group of properties at one time.

## Portland Public Schools Commission Historic Structural Assessment

In 2009, Portland Public Schools (PPS) commissioned an intensive study of 12 representative facilities to determine the cost and scope of work necessary to seismically upgrade the district's portfolio of schools. Of the 12 schools studied, two were URM and five were minimally reinforced masonry. The study was based on two widely-accepted documents by the American Society of Civic Engineers that could readily serve as baselines for other community studies:

- ASCE 31, *Seismic Evaluation of Existing Buildings*
- ASCE 41, *Seismic Rehabilitation of Existing Buildings*

*Ainsworth Elementary School, Portland*



In parallel with the seismic study, the district conducted a Historic Building Assessment, which included eligibility for National Register and a list of character-defining historic features for each school as a tool to plan for rehab and renovation.

According to the study, seismic work for the district's masonry schools would run between $35 and $66 dollars per square foot. With this information, the school board has the data to seek voter support of a bond measure to finance the upgrades and rehabilitation.[10]



# 3. Boost Public Demand with a Seismic Rating System

Oregonians don't know which masonry buildings have been retrofitted and which ones are still in need of upgrades. When renting an apartment, signing a lease for commercial space, or picking a favorite coffeehouse, there currently is no system for weighing the safety of the building you might be occupying. A mechanism needs to be developed to give the marketplace the information it deserves, educating non-engineers and incentivizing owners to invest dollars into seismic upgrades when they are needed. Oregon needs an understandable and **visible ranking system** for buildings that will fare well during an earthquake, perhaps a plaque with two, three, or four stars indicating the level of seismic upgrade.

The idea isn't so different from the Leadership in Energy and Environmental Design (LEED) ranking system that was developed in 1998 to recognize different benchmarks of green building. Without this type of information being available, the commercial market and public at large have no idea how their apartment, office, or school will perform during an earthquake.

*Seismic upgrades can comprise a significant cost for adaptive reuse projects. We've seen these upgrades run more than $35/sf or 25% of the rehab budget. The challenge is that your typical commercial tenant does not have 'seismic upgrade' on their list when out shopping for office or retail space. As a developer, this makes it difficult to charge a premium for your upgraded building and get a return on your investment. With increased public awareness of the benefits of seismically upgraded buildings would likely come greater demand from the market.*

– Jessica Engeman, Venerable Properties

*The bottom line:* A voluntary, yet standardized, ranking system for seismically upgraded buildings based on measurable performance standards should be implemented. Recognizable plaques placed on the exterior of qualifying buildings would boost public awareness, activate market demand, and generate better pay-back for investments in retrofitting.

*Steps to get us there:* The engineering community, in collaboration with the Structural Engineers Association of Oregon and State Building Codes Division, should assemble a ranking and certification system for buildings that will perform well in an earthquake. A new or subsidiary nonprofit should be tasked with certifying qualifying projects and managing the success of the system for encouraging upgrades.

*Hypothetical example of a seismic rating plaque.*

## California Develops Seismic Rating Similar to LEED Certification

Northern California is working to recognize building-by-building seismic safety. The Structural Engineers Association of Northern California has drafted a five star system for spotlighting seismic safety dubbed the Earthquake Performance Rating System (EPRS). The five stars are allocated in three categories: safety, repair cost, and time to regain function. To be rated 4 or 5 stars, a building must not only demonstrate structural safety, but also show that non-structural elements would be secure during an earthquake. According to a 2011 report, "The audience for the rating system includes anyone who makes decisions about buildings, regardless of their engineering expertise. This includes occupants, buyers, sellers, and tenants of a building, as well as insurers and lenders."[11]

While the proposed system doesn't profess to assign a precise gradation to the five stars, it is intended to convey technical values to the public at large. Using ASCE 31 standards as a basis for the rankings, the EPRS is intended to be a standardized, yet voluntary, system managed by a non-profit similar to the US Green Building Council's administration of LEED.

# 4. Leverage Federal Programs for Upgrades

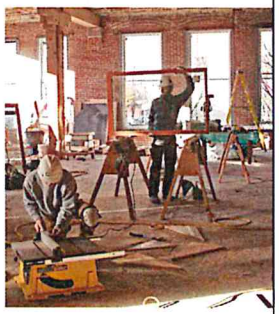
There are two ways the Federal government can make a smart investment in the resiliency of historic buildings: by expanding the Federal Rehabilitation Tax Credit so it applies to smaller scale projects typical along Main Streets, and by proactively allocating Federal Emergency Management Agency (FEMA) funds for upgrades *before* disaster strikes.

The numbers prove that preservation incentives work! Across the U.S. from 1978–2011, **Rehabilitation Tax Credit** projects totaled $116.5 billion, generated 2,216,000 jobs, and over 42,000 historic buildings were rehabbed. Those projects received $19.2 billion in Federal tax credits, but generated $24.4 billion in new Federal tax receipts: a 27% return on the government's investment. An estimated $9.1 billion in state and local tax revenues were also generated by these projects.[12]

Clearly, the program has been effective and profitable, but it generally only works for large-scale commercial projects. Why? The IRS allows two types of tax credits for older, income-producing (depreciable) properties: A 10% credit for rehabilitations on buildings constructed before 1936 but not listed on the National Register; and a 20% tax credit for properties listed on the National Register that adhere to the Secretary of the Interior's *Standards*. To qualify, the project must exceed the greater of $5,000 or the adjusted gross basis (purchase price plus improvements, minus land cost and depreciation).

Often times, small scale projects simply cannot meet this equation. The threshold needs to be lowered and Congressmen Aaron Schock (R-IL) and Earl Blumenauer (D-OR) have proposed **updates to the tax credit to better support Main Street property owners**. But broad public support is needed to move the legislation out of committee.[13]

FEMA is actively helping Western Oregon prepare and mitigate for the inevitable Cascadia Subduction Zone earthquake. FEMA's Pre-Disaster Mitigation Grant Program allows agencies and local governments to request funding for structural retrofitting of existing buildings, but funding has been decreasing in recent years. A coalition of the states in the Cascadia Subduction Zone (Oregon, Washington and California) should actively lobby for increased **FEMA funding for pre-disaster grant allocations** for upgrades, which could be matched by state and local funding.



***The bottom line:*** Rehabilitation is an excellent investment for the government and Congress should modernize the Federal Rehabilitation Tax Credit for the benefit of smaller projects. Further, it will be less expensive for FEMA to fund seismic upgrades now through pre-disaster mitigation grants, instead of rebuilding after an earthquake.

***How we get there:*** Changes to the Federal Rehabilitation Tax Credit require congressional approval and Oregon needs to get firmly behind Congressman Blumenauer's effort update it. Also, a coalition of Cascadia states should lobby for increased funding for FEMA Pre-Disaster Mitigation Grants.

## Rehabilitation Tax Credits as Effective Incentives for Oregon

From 2001 to 2011, a total of 77 Federal Rehabilitation Tax Credit projects in Oregon generated 8,510 jobs totaling over $298 million in household income. Twenty-six of these redevelopment projects took place in smaller communities around the state from Lakeview to Astoria.[14]

In 2011 alone, historic rehabilitation projects aided by the Rehabilitation Tax Credit generated 948 jobs in Oregon, supporting over $38 million in household income. These projects generated over $3 million in taxes for Oregon's local and state coffers, plus a $9.3 million bump in federal tax revenues.[15]

*Pictured here is the Post & King Building in Lakeview. Rehabilitated at a cost of $926,331, South Valley Bank accessed $185,000 in Federal Rehabilitation Tax Credits to bring this 1901 saloon back to life as a bank. It is one of only 25 tax credit projects valued at less than a million dollars that occurred in Oregon during the period 2001-2011. According to project architect Pari Pedersen, "The tax credit was crucial. There was a great deal of local pride when the project was completed."*



# 5. Adopt Meaningful State and Local Incentives

Preservation of our historic buildings provides public benefits to our economy, culture, and environment. While the Federal government provides important incentives, many smaller commercial projects don't presently qualify for them. We need cost-effective state and local-level incentives to jumpstart this effort.

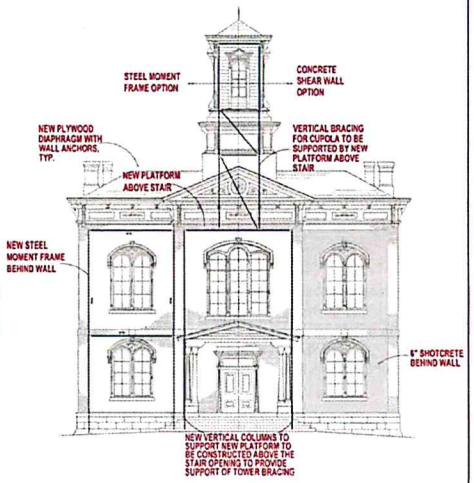
Oregon's primary financial incentive for rehabilitating historic buildings is the Special Assessment program. It freezes the assessed value of a qualified historic property for ten years in exchange for the owner's commitment to execute a rehabilitation plan that adheres to the Secretary of Interior's Standards. In decades past, Special Assessment worked pretty well. However, the property tax limitation measures of the 1990s, coupled with expectations for fire and building code compliance, weakened its impact considerably. Today very few property owners bother to apply for the program.

It's time for something better. Thirty states in the U.S. have implemented a **state rehabilitation tax credit** which, when coupled with the Federal Historic Rehabilitation Tax Credit, provides meaningful stimulus for the redevelopment of historic commercial properties.[16]

Locally, governments like Salem, Medford, and over 50 other communities have adopted **urban renewal** as a tool for improving "blighted" areas and their tax base. The urban renewal tool effectively borrows the incremental increase in tax revenue to fund improvements during the lifetime of the Urban Renewal Area designation (typically 15 years). The government's "investment" in the district is paid back with the increased tax revenues from the revitalized district. To ensure urban renewal leaves a truly lasting investment (that won't turn to rubble in areas vulnerable to a Cascadia earthquake), local governments would be wise to require that a percent of urban renewal dollars be set-aside for historic rehab.

***The bottom line:*** While Oregon was a pioneer in incentivizing historic preservation with its Special Assessment program, today the program is largely ineffective. Owners of historic masonry buildings need better help to mitigate the up-front costs of rehab.

***How we get there:*** Urban renewal agencies should direct an appropriate amount of funding toward historic building rehabilitations. Furthermore, Restore Oregon plans to bring Oregon's historic preservation community together in 2013 to identify a new-and-improved state incentive program, encouraging rehabs in every corner of Oregon while benefiting government coffers.




## Jackson County Courthouse

The landmark 1884 Jackson County Courthouse is no longer in use and may eventually transfer to private ownership. So Restore Oregon asked KPFF Consulting Engineers to develop conceptual estimates for a seismic upgrade, which would be triggered by the change of use.

KPFF presented options for two levels of seismic upgrade. A Life Safety upgrade would cost $25-35 per square foot, for a total upgrade price of around $332,500. A higher level Immediate Occupancy upgrade would cost $31-44/sf for a total upgrade price of $415,625. (These numbers only account for seismic work, not systems or other improvements.)

One option utilizes concrete shearwalls placed against the inside face of exterior, and some interior, walls. The second option uses a steel moment frame, placed on the inside face of exterior and some interior walls. Both options would require the second floor and roof to have a new plywood diaphragm overlay and the floors anchored to the walls. Bracing and a new steel trussed tower would be required to hold up the character-defining cupola. A hybrid of the two options is shown in the elevation drawing above.

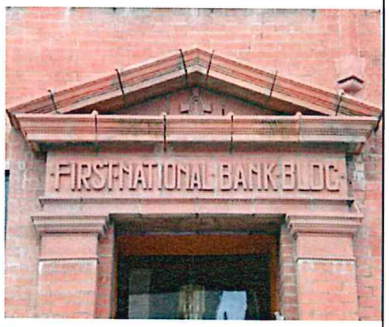
# 6. Increase Availability of Finance and Insurance Options

There is a trend suggesting insurance and finance options are becoming more limited and more costly for owners of historic masonry buildings here in Oregon. Although most owners are still able to access insurance and conventional financing, this California example provides a warning for what may lie ahead for Oregon's historic property owners:

Following the January 1994 Northridge Quake in Los Angeles, insurance companies paid out $15 billion in claims. It amounted to the costliest earthquake in U.S. history. Within a year of the event, 90% of insurers severely restricted and/or refused to write earthquake insurance. In 1995, the California Legislature created a state supported, but privately funded, earthquake insurance pool. Oregon shouldn't wait for a disaster to get the right support in place for insuring at-risk historic buildings.[17]

Already, many Oregon insurers have raised policy deductibles, excluded some items from coverage, and have altogether withdrawn from the earthquake insurance market. This is coupled by the fact that commercial lenders are increasingly cautious about financing for URM buildings. As evidenced by the popular Fannie Mae Delegated Underwriting and Servicing loan program, 100% full replacement cost earthquake insurance and a favorable Probable Maximum Loss (PML) risk assessment are needed to access this commonly used multifamily lending option.[18]

While subsidized or more flexible financing options should be explored, the greater need is for an insurance pool for historic properties. To support owners of historic buildings, government or a nonprofit should develop a program to ensure that public and private investments are protected by appropriate coverage.




*The bottom line:* A new insurance pool for historic properties that includes high-risk items like flood, landslide, and earthquake, would give lenders greater confidence while also rewarding owners who take on the responsibility of stewarding a historic property.

*How we get there:* In 2001 Oregon Congresswoman Darlene Hooley introduced a bill that would have incentivized private sector efforts to reduce potential earthquake losses. Although the bill was never passed, it helped get Congress thinking about the risk posed by earthquakes.[19] State and national leaders should once again pick up the torch and assemble a government or nonprofit supported insurance pool for historic properties.

## Rehab of Rich Hotel for Workforce Housing Includes Voluntary Seismic Upgrade

In 2012 a turn-of-the-century URM in Portland's Skidmore/Old Town National Historic Landmark District was rehabilitated to create 34 units of workforce housing. The project's nonprofit developer, Innovative Housing Inc., sought to bring affordable market rate apartments to a neighborhood that primarily housed very low-income people. The developer's choice not to seek public subsidies and to use conventional financing made a full seismic upgrade unfeasible for their $2.6 million budget.

That said, a voluntary upgrade—including parapet bracing, roof tie-downs, and a concrete "core" in the center of the building—proved sufficient to meet the expectations of Portland's building department, the project's lender, and the building's insurer (enough so that a significant rate reduction was achieved). The developer preserved historic elements and layout, added ADA-accessible units to the ground floor, and revitalized retail spaces along the street-facing elevations.

Project Manager Julie Garver notes, "The project team was critical to making the Rich Building work. You make hard choices about where and how to spend money, and a lot of discipline is required to stay on budget."



# 7. Add Clarity and Flexibility to State Building Code

The *Oregon Structural Specialty Code* – the formal building code for the state – treats the upgrade of existing buildings with a rather narrow understanding and somewhat vague language. Often the path towards code compliancy is left to the local building official, resulting in inconsistencies statewide. During Roundtable workshops, property owners expressed frustration about that the lack of clarity and flexibility. Building officials as well wanted more cohesive instructions on how to properly encourage structural upgrades.

To help address these issues, Oregon recently adopted the *International Existing Building Code* as an alternative method to the base code. This was a step in the right direction, but further steps are needed to both clarify the application of code requirements and encourage building upgrades to the highest possible level of compliance.

Portland and Medford have taken their own local approaches to add clarity and flexibility to building code requirements, while at the same time expecting a higher level of seismic upgrade work. Both cities spell out thresholds of rehab spending that trigger seismic upgrades. Furthermore, both cities encourage **greater communication** between development teams and building officials to allow for more appropriate and/or **phased upgrades**. The Building Codes Division should adopt new code language that applies the best of Medford and Portland's examples to all parts of the state in active seismic areas.

Mandating seismic upgrades would be the most effective method of preparing our URMs for future earthquakes. California has done exactly this, but here in Oregon this approach is considered too aggressive for many of the state's smaller communities, and could lead to disinvestment and demolition of historic buildings whose owners could not afford to comply. A better means to increase private investment and public safety would be to pair clear direction for seismic upgrade expectations with state and local incentives, as proposed on page 14 of this report.

*The bottom line:* The building code needs to be a comprehensible tool to encourage, not dissuade, the upgrade of historic URMs. Incentives and clarity, more than mandates, will increase applicability statewide.

*How we get there:* The State of Oregon Building Codes Division should apply lessons from Portland and Medford and adopt systemized triggers and a process for multi-year phased upgrades in all seismically vulnerable communities. While an act of the legislature may be necessary, it is critical to get all communities on the path to upgrading their buildings through a set of reasonable and action-oriented building code expectations.

## Chapter 24.85: Portland's Local Amendment Governing Seismic Rehab and Repair

With a greater understanding of earthquake risks and rehabilitation costs, in 1997 the City of Portland adopted Seismic Design Requirements for Existing Buildings, also referred to as "Chapter 24.85" in the city's building regulations. The goal was to improve the level of seismic safety in Portland's existing buildings by setting triggers for upgrades, while providing increased flexibility to owners.

The provisions of Chapter 24.85 apply when a building permit has been pulled to change the occupancy classification, add square footage, alter, or repair an existing building. It allows for ***phased seismic improvements over a 10 year period***, permitting owners to spread out costs. Chapter 24.85 also stipulates that an ASCE 31 ***seismic evaluation*** be done when alterations cost more than $175,000, so owners understand their building's structural condition.

Richard Rogers, Structural Program Chief with Oregon Building Codes Division, reports that "[Chapter 24.85] has a successful track record of balancing the diverse needs of building owners, historic preservationists, and public seismic safety policy."[20]

# 8. Government Agencies Must Take Care of Their Own URMs

Oregonians expect government agencies to take good care of their historic buildings: schools, courthouses, libraries, and city halls that stand as landmarks in their communities. Built with public tax dollars, they reflect civic pride in their architectural design. Unfortunately, across the state these important buildings are today in various states of repair and many are seismically vulnerable or under-functioning due to the need for systems upgrades.

City, county, and state governments needs to be better stewards of historic resources. **Preservation plans** that follow the Secretary of Interior's Standards should be commissioned for all government-owned historic properties to document the building, identify repairs and appropriate treatment of historic elements, systems upgrades, and seismic retrofitting where necessary. A reasonable timetable to accomplish this planning is by 2020.

Once plans are in place and budgets determined, local governments must pursue funding strategies to implement needed rehabilitations. In addition to drawing upon General Funds or bonds, other strategies exist. For example, Washington State offered Historic County Courthouse Rehabilitation matching grants. Another option is public-private partnerships using an IRS 63-20 financing structure. The Commodore Duchess Apartments on the University of Washington campus were rehabbed by a private developer, saving 50% of the estimated cost if the University had done the project.[21]

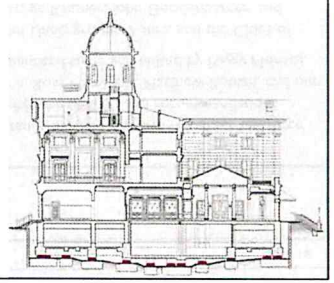
There will also be cases where government just no longer needs some of their historic buildings. In these cases, the sale into private ownership should be structured to preserve the building. The sale price should reflect the acknowledged cost of structural upgrades and a historic conservation easement should be put in place to ensure the building and its historic features are maintained for the public benefit. This would fulfill Section 106 requirements which stipulates that transfer of ownership out of government control poses a threat to historic resources.

*The bottom line:* Preservation plans should be mandated by 2020, followed by funding for rehabilitation. When historic buildings are divested into private ownership, pricing should acknowledge necessary upgrades, and conservation easements should ensure permanent protection of the most significant buildings built with public funding.

*How we get there:* This is a task for local policy makers and the state legislature which will need to draft the appropriate mandates and funding mechanisms.

## Base Isolation Retrofit Protects Portland's Pioneer Courthouse

Few buildings in Oregon are as recognizable as Portland's Pioneer Courthouse. The oldest federal building in the Pacific Northwest, the 1875 Courthouse was designated a National Historic Landmark (the crème de la crème of historic designations) in 1977 after being saved from demolition and obsolescence in the post-war years. In the late 1990s, the General Services Administration (GSA) began investigating options to rehabilitate and upgrade the stone masonry building to ensure its permanence in downtown Portland.



Tapping $20 million in funding approved by Congress, a 19-month rehab project preserved historic features while thoroughly updating systems, courtrooms, and adding underground parking. A system of 75 base isolators was installed to effectively protect the building during an earthquake.

Completed in 2005, the rehabilitated Courthouse is now one of the safest masonry buildings in Oregon.



# The Cost of Doing Nothing

In February 2011, Christchurch, New Zealand, was hit with a magnitude 6.3 earthquake. The earthquake caused widespread damage, especially to the historic masonry buildings that sprinkled the central business district. Following the earthquake, 500 historic buildings were deemed unsafe and many have since been leveled. Almost 200 people died in the earthquake and rebuilding estimates hover around $30 billion in US dollars. Its downtown district is still closed over 18 months later, and both people and businesses have moved away. Christchurch will never be the same.[22]

To put it in perspective, with a population of 367,000 Christchurch is a little over half the size of Portland. Both communities are similar in that they were founded in the 1840s, retained a large number of historic masonry buildings with no mandated upgrades, and are located along local fault lines known to cause moderate to severe earthquakes.

Imagine what a similar event could mean for the Rose City. Take for example, masonry apartment buildings. With the exception of a small handful of buildings that have received some level of seismic upgrade, there are approximately 200 masonry apartment buildings in Portland valued at over $350 million, comprising over 3.8 million square feet, and 5,200 apartment units.[23]

If Western Oregon were to suffer a Cascadia Subduction Zone earthquake in our current state of un-preparedness, there would be tragic loss of life, not to mention:

- Billions in real estate value and property tax base lost.
- Tens of thousands of people without housing.
- Schools, courthouses, police stations, and city halls closed.
- Thousands of businesses and entire business districts shut down for an indefinite period of time.
- A devastating loss of history and cultural identity. Oregon would never be the same.

We hope this Special Report gets Oregonians talking about how we regard and pass-forward our venerable masonry buildings. We know that resiliency is possible, but we also know creative thinking and firm resolve are needed to get us there.

The time to take action is NOW.

## Yes, We Can Have Safety AND Preserve Our Historic Assets!

By no means must resilience come at the expense of preservation. Our historic buildings can be dynamic, adapting to changing needs while preserving historic fabric to the highest degree possible.

In Oregon, most preservation occurs at the local level. Certified Local Governments like Bend, Portland, and 39 other cities have implemented ordinances to protect designated historic properties, but many communities have no such framework in place. The Secretary of the Interior's Standards are a good starting point and the National Park Service offers these basic principles for seismic retrofits:

- Historic materials should be preserved and retained to the greatest extent possible and not replaced wholesale in the process of seismic strengthening.
- New seismic retrofit systems, whether hidden or exposed, should respect the character and integrity of the historic building and be visually compatible with it in design.
- Seismic work should be "reversible" to the greatest extent possible to allow removal for future use of improved systems and traditional repair of remaining historic materials.[24]

# Acknowledgements

The 2012 Preservation Roundtable was made possible by the dedicated assistance of a six-member volunteer taskforce which helped organize workshops, conduct research, vet information, and assemble the findings and recommendations included in this report. Thank you Paul Falsetto, Walter McMonies, Natalie Perrin, Ross Plambeck, Matthew Roman, and our Taskforce chairman Jay Raskin. The Special Report was authored by Brandon Spencer-Hartle and edited by Peggy Moretti.

Special thanks are owed to the Portland Development Commission, Pendleton Underground Tours, and the Cities of Astoria and Jacksonville for their generous sponsorship of workshop venues. George Kramer, John Goodenberger, and Keith May deserve thanks for leading walking tours of host communities. Recognition is also due to Blake Patsy who offered the time and talent of KPFF Consulting Engineers for the Jackson County Courthouse case study.

We particularly appreciate funding support provided by a grant from the Oregon Heritage Commission and Oregon Parks & Recreation Department, and corporate sponsorships from Foundation Engineering, Versatile Wood Products, and Arciform LLC. This allowed Restore Oregon to travel around the state to host four workshops, conduct numerous site visits, dedicate the time necessary to assemble this special report, and cover publishing costs.

Finally, thanks to all who participated online, at a workshop, and through a site visit or interview. We couldn't have arrived at these practical solutions without you!

## Notes:

1. Given limited availability of data, Restore Oregon believes there are no fewer than 4,896 unreinforced masonry buildings in Oregon. This number was determined through information from three inventories: 2001 data from City of Portland, 2004 data from City of Medford, and 2012 data from the SHPO Historic Sites Database. Given incomplete data and a design tendency to obscure masonry construction with stucco, paneling, and other forms of cladding, the number of URMs is likely between 5,000 and 10,000.
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RESTORE OREGON

## About Restore Oregon

The mission of Restore Oregon is to ***Preserve, Reuse, and Pass Forward Oregon's Historic Resources to Ensure Livable, Sustainable Communities.*** Founded in 1977 as the Historic Preservation League of Oregon, Restore Oregon is a 501(c)(3) non-profit that provides education programs, advocacy, technical assistance, and stewardship of over 40 conservation easements on historic properties across the state, protecting them from demolition in perpetuity. Our programs include:

- Previous Preservation Roundtable sessions on *Healthy Historic Districts* and *Compatible Infill Design*
- Education programs on *Preservation 101*, *How to Save an Endangered Building*, and *Adaptive Reuse of Historic Schools*
- Historic home tours in Eugene and Portland
- Legislative testimony at the local, state, and national levels
- Providing technical assistance, advocacy, and preservation seed grants to save Oregon's Most Endangered Places.

The Restore Oregon office is located in the historic White Stag Block in Portland's Skidmore Old Town National Historic Landmark District. Programming is delivered across the state.

## For Membership Information or to make a Donation

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SPECIAL RESTORE OREGON REPORT

# Revitalizing Main Street

## Economic Development & Job Creation Through a Rehabilitation Tax Credit

Recommendations from the 2013 Preservation Roundtable

*Executive Summary:*

# A Rehabilitation Tax Credit is a Proven Strategy to

*Many of Oregon's traditional downtowns are at a tipping point, half-empty, their historic facades in decay. Since 2010 Restore Oregon has hosted workshops across the state seeking solutions to revitalize these economic and cultural centers.*

*There is a small army of intrepid citizens eager to buttress foundations, re-shingle roofs, re-point brick, restore marques, re-glaze windows, and open businesses. They see the potential to remodel upper floors into housing, transform warehouses into office lofts, convert shuttered movie theaters into arts centers, and open restaurants that showcase local produce and microbrews.*

*These entrepreneurs of Main Street lack just one thing: a complete financial toolset. A State Rehabilitation Tax Credit is the missing piece.*

*It's time we seize the opportunity to invest in the economic future of our historic downtowns.*

Peggy Moretti

*Executive Director, Restore Oregon*

From Astoria to Burns, Oregon's traditional downtowns have been the commercial heart and cultural soul of our communities. But big box stores, strip malls, and sprawl have drawn customers away, leaving buildings in a downward spiral of disinvestment and demolition-by-neglect. Too often the price tag of restoration, code upgrades, and seismic reinforcement creates a development gap, placing restoration financially out of reach.

Across the country there is a growing movement to turn this around. Thirty-four states are attracting investment in their Main Streets. They are leveraging charming storefronts, affordable rent, a central location, and unique sense of Place by providing State Rehabilitation Tax Credits. This has opened up a new frontier of opportunity for redevelopment of historic downtowns as centers of business incubation, housing, shopping, and heritage tourism.

It's time Oregon did the same. Preservation and adaptive reuse has been a state priority since the1960s, but the current tools fall short, leaving millions of dollars on the table, hundreds of restoration projects undone, and thousands of workers un-hired. In many cases, a State Rehabilitation Tax Credit would close that gap and bring historic commercial buildings back to life.

### The Challenge:

- Create jobs and boost economic development in communities across Oregon.
- Attract capital investment to revitalize historic downtowns and commercial buildings, creating desirable places to live and work.

### The Answer:

- Offer a state income tax credit for rehabilitation of Oregon's best commercial buildings, those deemed historic by virtue of their age or significance. Most are found in our traditional downtowns.
- The tax credit (a percent of rehabilitation costs) can be taken directly by the property owner or transferred to a financial partner who provides funds for the rehabilitation work.
- State tax credits can be paired with federal tax credits and local incentives to close the "development gap" that arises from the cost of refurbishing older buildings and bringing them up to code.
- The rehab must meet established standards, retain historic character, and help make the building economically viable.

### Why a Tax Credit?

- Oregon's current financial toolkit falls short.
- Rehab tax credits work. Their effectiveness is proven in 34 other states.
- Rehabbing an old building **creates more jobs** dollar-for-dollar than new construction, manufacturing, mining, or timber.[1]
- Because a State Rehab Tax Credit is often paired with Federal tax credits, Oregon will capture a larger share of Federal dollars.
- It puts muscle behind long-standing state goals for preservation and reuse.
- State incentives are the missing piece needed to close the "development gap" that prevents rehabilitation and reuse of some of Oregon's best buildings.

# Create Jobs & Revitalize Oregon's Main Streets

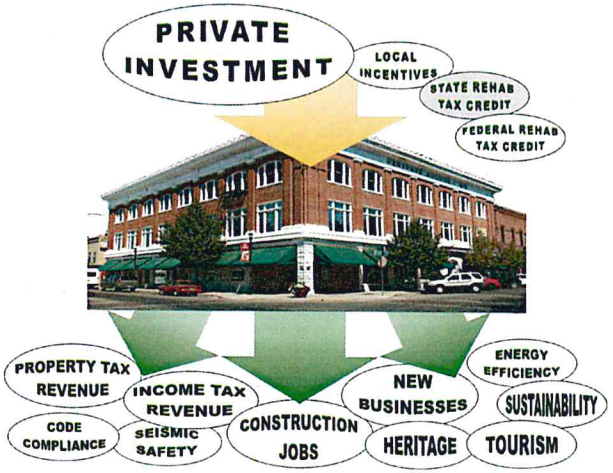
## Who Would Benefit?

- Historic downtowns seeking to reactivate buildings with new businesses, add housing, and attract heritage tourism.
- Property owners who currently can't afford to rehab their storefronts, convert upper floors, pay for seismic upgrades, or bring their buildings up to code.
- Small businesses seeking an attractive space to open up shop.
- Civic leaders who want to see property values and tax revenues rise to pay for local services.
- The State seeking economic growth and tax revenues from new jobs.

## Pertinent Statistics:

- 34 states offer a Rehabilitation Tax Credit. In 2013 Texas and Alabama joined the list, and Wisconsin quadrupled the amount of their tax credit.
- The Federal Rehabilitation Tax Credit (also known as the Historic Tax Credit) generates a net gain of over 20% in Federal tax revenues.[2]
- State Rehabilitation Tax Credits create a ripple effect in local economies. In Ohio, every dollar of state tax credit leverages $6.25 in investment. In Minnesota, every tax credit dollar creates $8.32 in economic activity. And in North Carolina, every tax credit dollar generates $12.51 in economic benefit.[3]
- Nationwide, 64% of net new jobs come from small business which often seeks out older buildings with character.[4]
- Historic buildings attract tourists. 83% of leisure travelers to Oregon visit cultural and heritage sites and Oregon's potential market of cultural and heritage travelers numbers 47.5 million – a significant economic opportunity.[5]

## A Modest State Investment With Big Returns






# What Other States Are Doing

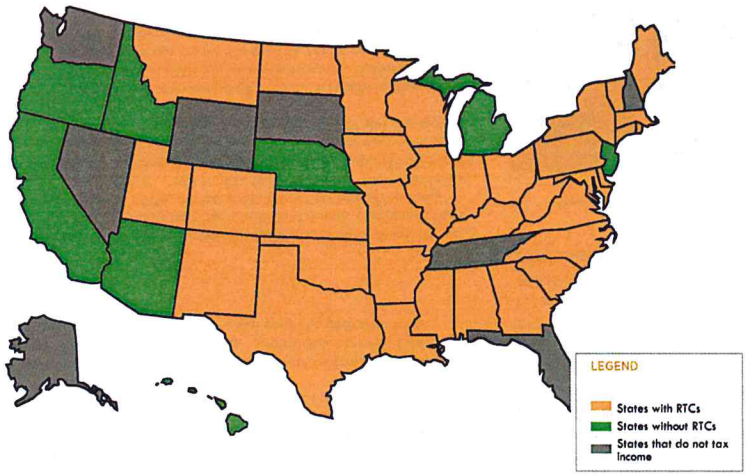
Thirty-four states have enacted tax credit programs as their primary tool for making the rehabilitation and reuse of historic buildings economically feasible. State Rehab Tax Credits allow a property owner to claim a percentage of their rehabilitation expenses against state income taxes and are usually designed to complement the Federal Rehabilitation Tax Credit. The Federal credit is 20% for buildings on the National Register of Historic Places and 10% for non-listed buildings built prior to 1936. Most State programs are administered by the State Historic Preservation Office, set a minimum expenditure, and must adhere to rehabilitation standards. The amount of the tax credit and other details vary from state to state. Here is a simple summary.[6]

| State | Year Adopted | Eligibility | Commercial Credit | Annual Program Cap (Commercial) | Project Credit Cap (Commercial) | Transferable? | Owner-Occupied Residential Credit | Other Credit |
|---|---|---|---|---|---|---|---|---|
| Alabama | 2013 | National Register | 25% | $20 million | $5 million | Yes | 25% | 25% for nonprofits; 10% for pre-1936 commercial |
| Arkansas | 2009 | National Register | 25% | $4 million | $125,000 | Yes | 25% | |
| Colorado | 1990 | National Register | 20% | No Cap | $50,000 | No | 20% | |
| Connecticut | 2008 | National Register | 25% | $16.6 million | $5 million | Yes | 30% | 30% afford. housing |
| Delaware | 2001 | National Register | 20% | $5 million | No Cap | Yes | 30% | 30% afford. housing |
| Georgia | 2002 | National Register | 25% | No Cap | $300,000 | Yes | 25% | 30% afford. housing |
| Illinois | 2012 | National Register* | 25% | No Cap | No Cap | Yes | None | |
| Indiana | 1999 | National Register | 20% | $450,000 | $100,000 | No | 20% | |
| Iowa | 2000 | National Register | 25% | $45 million | No Cap | Yes | 25% | 25% for barns |
| Kansas | 2002 | National Register | 25% | No Cap | No Cap | Yes | 25% | 30% for nonprofits |
| Kentucky | 2005 | National Register | 20% | $5 million | $400,000 | Yes | 30% | 20% for nonprofits |
| Louisiana | 2002 | Downtown District | 25% | No Cap | $5 million | Yes | 25-50% | |
| Maine | 2008 | National Register | 25% | No Cap | $5 million | Yes | None | 30% afford. housing |
| Maryland | 1996 | National Register | 20% | Varies | $3 million | Yes | 20% | 10% for pre-1936 commercial |
| Massachusetts | 2004 | National Register | 20% | $50 million | No Cap | Yes | None | 25% afford. housing |
| Minnesota | 2010 | National Register | 20% | No Cap | No Cap | Yes | None | $.9 refund option |
| Mississippi | 2005 | National Register | 25% | $60 million | No Cap | Yes | 25% | |
| Missouri | 1998 | National Register | 25% | $140 million | No Cap | Yes | 25% | |
| Montana | 1997 | National Register | 5% | No Cap | No Cap | No | None | |
| New Mexico | 1984 | National Register | 50% | No Cap | $25,000-50,000 | No | 50% | |
| New York | 2007 | National Register* | 20% | No Cap | $5 million | No | 20% | |
| North Carolina | 1998 | National Register | 20% | No Cap | No Cap | Yes | 30% | |
| North Dakota | 1999 | National Register* | 25% | No Cap | $250,000 | No | 25% | |
| Ohio | 2006 | National Register | 25% | $60 million | $5 million | Yes | 25% | |
| Oklahoma | 2005 | National Register | 20% | No Cap | No Cap | Yes | None | |
| Pennsylvania | 2012 | National Register | 25% | $3 million | $500,000 | Yes | None | |
| Rhode Island | 2013 | National Register | 20-25% | $34.5 million | $5 million | Yes | None | 20% for nonprofits |
| South Carolina | 1995 | National Register | 10% | No Cap | No Cap | Yes | 25% | |
| Texas | 2013 | National Register | 25% | No Cap | No Cap | Yes (franchise taxes) | 25% | |
| Utah | 1994 | National Register | None | N/A | N/A | No | 20% | |
| Vermont | 2006 | Downtown District | 10-50% | $1.5 million | No Cap | Yes | None | |
| Virginia | 1997 | National Register | 25% | No Cap | No Cap | Yes | 25% | |
| West Virginia | 1999 | National Register | 10% | No Cap | No Cap | Yes | 20% | |
| Wisconsin | 2013 | National Register | 20% | No Cap | No Cap | Yes | 25% | |

** with geographic restrictions*

*Note: some states also extend their tax credit to local landmark properties or targeted economic zones.*

# 34 States Have a Rehabilitation Tax Credit




## One Example of Success: Virginia

The State of Virginia passed a rehabilitation tax credit tax in 1997 allowing owners of historic commercial and owner-occupied residential buildings to claim a credit of 25% of building rehabilitation costs. The work must meet the Secretary of Interior's *Standards for Rehabilitation* and represent an amount greater than 50% of the assessed value (25% for owner-occupied residential properties). The credits may be claimed over the course of 10 years or transferred to another entity.

A 2008 study of the program concluded that in its first decade, **$355 million in tax credits:**

- Spurred the rehabilitation of more than **1,200 landmark buildings;**
- Generated an economic impact of nearly **$1.6 billion** in the state; and
- Created more than **10,700 jobs** and **$444 million in wages** and salaries.[7]

According to a study of property owners who received state tax credits, **93% of the respondents indicated that state tax credits were essential to their decision to undertake a historic rehabilitation project.**[8]

According to the National Trust for Historic Preservation, states with the most successful programs offer tax credits "typically in the range of 20 percent to 30 percent of qualified rehabilitation expenditures. Rates that are significantly lower don't provide enough incentive to make a difference in a developer's decision to undertake a historic preservation project."[9] Additionally, states with higher caps (or no caps) on project size and annual credit allocations are typically more successful in spurring rehabilitation projects and providing certainty to prospective developers.

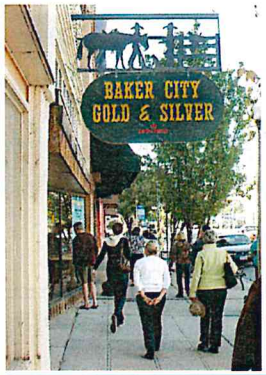
*The Stonewall Jackson Hotel in Staunton, Virginia, was rehabilitated in 2005 with local, state, and federal incentives. According to Economic Development Director Bill Hamilton, "Historic preservation is such an important part of who we are in Staunton that you can't separate it from the city's economic growth."*



# The Dollars and Sense of Rehab and Reuse

**Job Creation by Sector in Washington State**
*(per $1M invested)*[10]

| | |
|---|---|
| Health Services | 36.31 |
| Retail Trades | 33.87 |
| Historic Rehabilitation | 27.50 |
| Finance & Insurance | 26.73 |
| New Construction | 26.45 |
| Wood Prod's Manufacturing | 26.39 |
| Food Prod's Manufacturing | 21.72 |




## More Jobs

Study after study has demonstrated that building rehabilitation is an effective jobs generator, creating more jobs and better paid employees dollar-for-dollar than many traditional job programs. According to a 2013 study by Rutgers University, a "$1 million investment in historic rehabilitation yields markedly better effects on employment, income, Gross State Product, and state and local taxes than an equal investment in new construction or many other economic activities.[11] In Oregon, this $1 million generates 22 more jobs than investing in the timber industry.[12]

Because the rehabilitation of historic buildings relies more on labor than materials, the economic impact has a measurable ripple effect in local communities. In fact, 75% of the economic benefit stays within the local economy, supporting downtown businesses and sustaining jobs.[13]

In 2012 on the heels of a deep recession, 26 communities participating in the Oregon Main Street Program saw a total of $3.4 million in private investment, a net gain of 65 new businesses, and 219 new jobs in their downtowns.[14] This represents a tiny fraction of the potential of a State Rehab Tax Credit.

## Environmental Stewardship

When people think about "green" building, they usually think new construction. But upgrades to existing buildings can yield greater long-term benefits. Simple energy retrofits of older commercial buildings result in an energy savings of 27% to 59%.[15]

Existing buildings have embodied energy – the environmental costs already spent on materials and construction. If demolished and replaced by an efficient new commercial building, it takes approximately 43 years to overcome that environmental impact, making retrofits an important component of sustainability.[16]

## Heritage Tourism

One out of every eight jobs in the U.S. depends on travel and tourism.[17] While our great outdoors has long been recognized as a draw for tourists, Main Street is where travelers go to spend money and experience the culture of our state.

According to a 2012 study, 83% of leisure travelers to Oregon are cultural and heritage travelers and spend an average of $1,618 per visit—60% more than the national average. Estimates say 47.5 million cultural and heritage travelers reside in Oregon's feeder markets.[18] Revitalized historic districts will give more travelers a reason to pull off the highway to shop, eat, and explore.

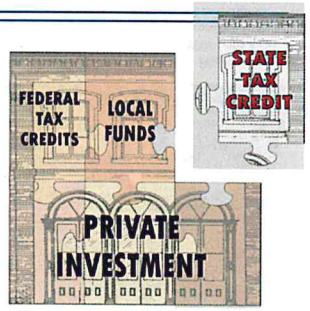
## Seismic Resilience

Western Oregon faces an almost 40% chance of a 9.0 subduction zone earthquake off the coast in the next 50 years.[19] Central and Eastern Oregon are also at a smaller but significant risk. In their current state of unpreparedness, historic downtowns are one of Oregon's most vulnerable assets in the event of a seismic event.

Oregon cannot afford to replace all the unreinforced masonry buildings lining our Main Streets. Nor can we afford to have them leveled by an earthquake, costing lives, jobs, and the commerce of entire business districts for years to come. As summarized in the Oregon Resilience Plan, "Spending on resilience today means spending less on recovery later."[20] Yet seismic reinforcement is complex and unaffordable to the average Main Street building owner without more financial support.

# Our Current Financial Toolkit

Built with high quality materials and craftsmanship, historic buildings create a sense of Place along with economic, environmental, and cultural benefits for the communities in which they stand. But many suffer from decades of deferred maintenance and the cost of bringing these buildings up to modern codes often makes their redevelopment financially infeasible. This "development gap" must be closed for the private sector to make the necessary investments. An effective financial support system requires local, state, and federal incentives working together.




## Local Incentives

Most commonly, local governments use tax increment financing to help offset the cost of rehabilitation. These property tax dollars can be used for grants and low-interest loans to private properties in designated Urban Renewal Areas (URAs). Oregon has 109 URAs in 75 cities, many of which encompass historic downtown areas.[21]

Occasionally city governments, such as Oregon City and Forest Grove, also offer grants to National Register properties. However, these programs are very limited and typically offer small amounts up to $5,000. Local Main Street Programs may offer consultative support for building rehabilitation, but rarely offer dollars. Some cities also offer zoning and regulatory flexibility for designated historic properties.

## Statewide Incentives

Since 1975 Oregon has offered a property tax incentive to private buildings listed in the National Register of Historic Places, known as the Special Assessment Program. It has undergone many changes since inception. Today the program provides a 10-year freeze of the property's assessed value when the owner implements a preservation plan that spends 10% of the property's real market value in the first five years – a significant hurdle for many owners. Though an important tool, it largely benefits operational cash flow, and Main Street property owners have told us they need more help to finance upfront rehabilitation costs. It should be noted that Special Assessment is not state-funded, but effects local property tax receipts.

Currently the only state-funded support for rehabilitation comes from lottery funds allocated by the State Historic Preservation Office. Known as Preserving Oregon Grants, they target nonprofit and government-owned projects, and are rarely awarded to private property owners.

## Federal Incentives

Several federal programs are available for the rehabilitation of downtown historic buildings, but it is the Federal Rehabilitation Tax Credit that is most applicable for Oregon's Main Streets. Enacted in 1976, this program allows owners of National Register buildings in commercial use to claim a 20% federal income tax credit on the costs incurred rehabilitating the building. To receive the credit, the rehabilitation must meet the *Secretary of the Interior's Standards for the Rehabilitation of Historic Properties* and represent an expenditure greater than the adjusted basis of the property.[22]

In Oregon in 2012, the Federal Tax Credit aided $84.5 million in rehabilitation projects, resulting in 1,496 jobs and $61.4 million in household income. Nationally, the program has been a jobs engine and has created a positive return on federal investment, not to mention boosting local and state tax revenues.[23] Although a successful aid for larger projects, in its current form it is hard for smaller Main Street rehabs to qualify, due to the federal program's high spending thresholds and other requirements, especially in states without a companion state rehabilitation tax credit.

Other Federal programs that are sometimes used for historic rehabilitation projects include the New Markets Tax Credit and Low Income Housing Tax Credit.

*"The rehabilitation of historic buildings is a challenging business, often with modest financial rewards. We have walked away from many rehab opportunities because the available economic incentives were inadequate in light of the high cost of restoration. Historic buildings in smaller towns are especially difficult because their income potential is typically less than we see in Portland. There is no doubt that a state income tax credit would make many more Main Street-scale projects economically viable."*

*Craig Kelly*
*President, Venerable Group, Inc.*

# How Oregon's Current Incentives Fall Short

*Charming Jacksonville storefronts need rehabilitation*

*"Historic buildings are some of Jacksonville's greatest economic assets; a State Tax Credit would attract much-needed private investment in their rehabilitation."*

*Paul Becker*
*Mayor, Jacksonville*

*"Historic tax credits achieve economic development with private sector funding and have been proven in state after state to generate more taxes than the cost of the credit itself."*

*Hal Fairbanks*
*Vice President, HRI Properties*

*Earthquake damage, Cadillac Hotel, Seattle, 2001*

The financial realities of rehabilitation on Oregon's Main Streets leave many property owners with a "development gap" that often makes restoration and reuse unfeasible. Historic buildings are expensive to repair, especially when they've suffered decades of deferred maintenance or disinvestment. But their preservation and reuse serves a broad public benefit culturally, environmentally, and economically.

Our current roster of incentives is missing meaningful state-level participation. We are not leveraging local, state, and federal resources to their full potential, and the vitality of our downtowns is suffering because of it.

## Underutilizing Available Federal Funds

The Federal Rehabilitation Tax Credit provides a powerful tool for Main Streets nationwide; however, the minimum spending requirement is too high for many small-scale redevelopment projects to qualify and even those that do meet the spending threshold still don't pencil out financially without additional incentives at the state and local levels.

According to Rutgers University, "states with the strongest state historic tax credit statutes regularly lead the nation in the use of the Federal Rehabilitation Tax Credit."[24] Without state-level financial support for Main Street, Oregon can expect to watch federal dollars flow faster and in greater amounts to other states.

## Disproportionate Reliance on Local Revenue

Oregon's Special Assessment Program has thwarted neglect and demolition of hundreds of historic buildings around the state. However, due to property tax limitation measures of the 1990s, changes to the program's expenditure requirements, and the incremental nature of the incentive's payback, Special Assessment alone does not sufficiently narrow the development gap that stymies rehabilitation of downtown commercial buildings.

Because Special Assessment freezes a property's assessed value, it curtails property tax revenues, directly competing with local funding sources such as urban renewal which rely on increased property values. Oregon should add state dollars to the mix to evenly spread investment among local, state, federal, and private beneficiaries of downtown revitalization.

## Sidestepping Public Safety

While storefront-scale projects that are typical of local incentive programs do help downtown businesses, historic buildings need more than paint and new awnings. Built before the establishment of modern building codes and predictions of a major earthquake in Western Oregon, these buildings need Fire & Life Safety systems and seismic reinforcement to become safer places to live, work, and shop.

Today's codes do not mandate seismic retrofits except when triggered by change of use or certain spending levels, leaving most seismic upgrades an expensive, yet voluntary, safety goal that is rarely achieved.[25] This lack of seismic resiliency leaves entire districts at risk of collapse in an earthquake, placing lives and the state economy at risk. Historic buildings can be retrofitted, but an additional incentive is needed to impel owners – many of whom acquired their buildings before seismic risks were understood – to make that investment.

## *Case Study:* Albany's St. Francis Hotel
### A Catalytic Project That Won't Happen Without a State Rehab Tax Credit

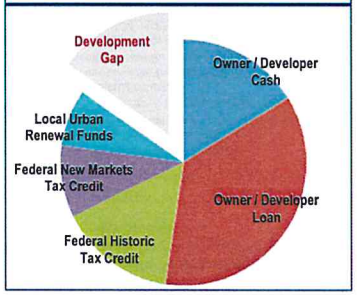
Since 1986 the City of Albany has had a goal of seeing the St. Francis Hotel brought back to life. At 34,000 square feet it is the most prominent building in Albany's historic downtown. Listed as one of Oregon's Most Endangered Places in 2012, three of its four floors sit empty and deteriorating. A conceptual reuse study commissioned by Restore Oregon demonstrated that this National Register-listed property has plenty of redevelopment potential and, if restored, would have a transformative effect on downtown by bringing needed customers to businesses and restaurants.[26]

The study identified that a mixed-use redevelopment of the St. Francis into ground floor retail, 20 hotel rooms, and 14 market-rate apartments would provide the greatest economic opportunity for the building and the downtown. The proposed rehab would include restoration of historic architectural features; a new roof; new mechanical, electrical and plumbing systems; a seismic upgrade; an elevator; ADA access; fire suppression systems; and all interior finishes. The estimated cost, including property acquisition, design, engineering, construction, and other fees, would total $10.5 million.

A financial pro forma was created to determine the financial viability of the project. The amount of private investment that historic redevelopment projects can attract directly correlates to the projected operating income. Though the projected income for the St. Francis is respectable, it is not enough to garner sufficient private investment to cover the entire cost of rehabilitation, even after utilizing all available incentives. There remains a development gap.

*Above, the St. Francis Hotel as it stands today. Below, a historic image of the St. Francis' lobby, once a popular gathering place in the heart of downtown Albany.*

**Current Rehabilitation Funding Sources**




Based on the pro forma, a 20% State Rehabilitation Tax Credit would close the gap for the St. Francis Hotel and make the project financially attractive to private investment. It assumes that tax credits are transferred to an investment partner to provide upfront project funding. (A copy of the pro forma is available for review upon request.)

Without additional incentive dollars, this cornerstone of Albany's downtown is unlikely to be redeveloped and will continue to deteriorate.



# Tailoring a Rehab Tax Credit for Oregon

*Pacific Fruit & Produce Building, La Grande*

### What Towns Would Benefit?

*Approximately 2,600 commercial buildings are listed on the National Register in Oregon and could benefit from a State Rehabilitation Tax Credit. They are found in these communities:*

***Adams, Albany, Ashland, Astoria, Aurora, Baker City, Beaverton, Bend, Brookings Brownsville, Carlton, Central Point, Coburg, Condon, Coos Bay, Corvallis, Cottage Grove, Dallas, Dayton, Dufur, Eagle Creek, Echo, Enterprise, Eugene, Florence, Forest Grove, Grants Pass, Harrisburg, Heppner, Hillsboro, Hood River, Huntington, Independence, Jacksonville, Joseph, Klamath Falls, La Grande, Lake Oswego, Lakeview, Lincoln City, McMinnville, Medford, Milwaukie, Monmouth, Monroe, Myrtle Creek, Myrtle Point, Newberg, Newport, North Bend, North Powder, Nyssa, Oakland, Oregon City, Pendleton, Portland, Prineville, Redmond, Roseburg, Salem, Sandy, Scio, Shaniko, Silverton, Springfield, St. Helens, St. Paul, Stayton, Sutherlin, The Dalles, Troutdale, Union, Vale, Weston, Wolf Creek, and Woodburn.***

Oregon is a national leader in land use planning, small business development, and enhancing quality of life. We have embraced and codified the goal of preservation and reuse. There is a clear public benefit in restoring our Main Streets and historic commercial districts, making them more productive contributors to our economy.

Restore Oregon recommends that Oregon join 34 other states and **adopt a state income tax credit for the rehabilitation of historic commercial buildings** as an effective strategy to create living wage jobs, sustain community infrastructure, and retain cultural identity. Further, we recommend that the tax credit target those income-producing buildings designated on the National Register of Historic Places so that public dollars are invested in our most important assets.

Over 10,600 buildings are National Register-listed in Oregon, either individually or as part of a district.[27] Approximately 2,600 are in commercial or income-producing use, including apartment buildings, retail stores, office buildings, warehouses, and barns. Of these, ***two-thirds are outside of Portland*** with the overwhelming majority located in our traditional downtowns.[28]

Though the specifications of a tax credit would be determined through the legislative process, a successful program would achieve these goals:

- Significantly increase the number of buildings restored and reused.
- Bring housing and businesses downtown.
- Create and sustain living-wage local jobs.
- Generate a measurable economic return.
- Result in safer buildings and downtown districts.
- Complement the Federal Rehabilitation Tax Credit and attract more Federal dollars to Oregon.
- Be simple and straightforward, accessible to smaller Main Street projects.

**A baseline State Rehabilitation Tax Credit would apply to historic income-producing properties and would be transferable to attract funding for upfront construction costs.** Oregon could enhance the program's effectiveness by including additional features to spur economic development:

- Take a two-tiered approach, offering a smaller credit to rehab older commercial buildings not listed on the National Register.
- Offer a tax credit for compatible new development in historic downtowns, to infill empty lots.
- Allow non-profit organizations to utilize the credit.

Oregonians from all walks of life and every corner of the state would benefit from a Rehabilitation Tax Credit and its impact would be felt for generations. Restore Oregon urges state leaders to seize this opportunity in the next biennium.

*The Outdoor Store in Portland represents a rehab opportunity*

# Background and Acknowledgements

Restore Oregon, originally founded in 1977 as the Historic Preservation League of Oregon, is a 501(c)(3) nonprofit whose mission is to ***preserve, reuse, and pass forward Oregon's historic resources to ensure livable, sustainable communities.*** Headquartered in Portland and operating statewide, Restore Oregon provides advocacy support, education programs, technical assistance, and stewardship of over 40 conservation easements on historic properties across Oregon. The organization also offers financial and technical assistance to save an annual list of **Oregon's Most Endangered Places®.**

In 2010 we launched the **Preservation Roundtable** as a mechanism to bring Oregonians together to address the challenges confronting Oregon's historic places, particularly the complex issues that stymie the health of our historic downtowns. Each Roundtable addresses a specific challenge, engages stakeholders in charrettes to identify solutions, and culminates in a special report. To date, approximately 500 people have participated.

Because a recurring theme in each of the previous Roundtables was a call for better financial tools for Main Street rehabilitation, in 2013 we chose the theme of *Rehabbing Oregon's Incentives for Historic Preservation.* Our thanks to the **Oregon Main Street Program** and the communities of Albany, Astoria, Bend, Coos Bay, La Grande, and McMinnville for their valuable input and for hosting our focus groups.

Many thanks to the volunteers who helped organize research, vet information, and assemble the findings and recommendations included here: **Derek Chisholm**, OTAK; **Jessica Engeman**, Venerable Properties; **Jill Sherman**, Gerding Edlen; **John Tess**, Heritage Consulting Group; **Natalie Perrin**, Historical Research Associates; **Richard De Wolf**, Arciform; **Rick Michaelson**, Inner City Properties; **Ross Plambeck**, Portland Development Commission (ret.); **Walt McMonies**, Lane Powell PC; and **Renee Kuhlman**, National Trust for Historic Preservation. Thank you for your generous service to this project.

This Special Report was authored by Peggy Moretti and Brandon Spencer-Hartle, January 2014.

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22. The adjusted basis of a building typically equals the purchase price of the property, minus the cost of the land, plus improvements made, minus depreciation.
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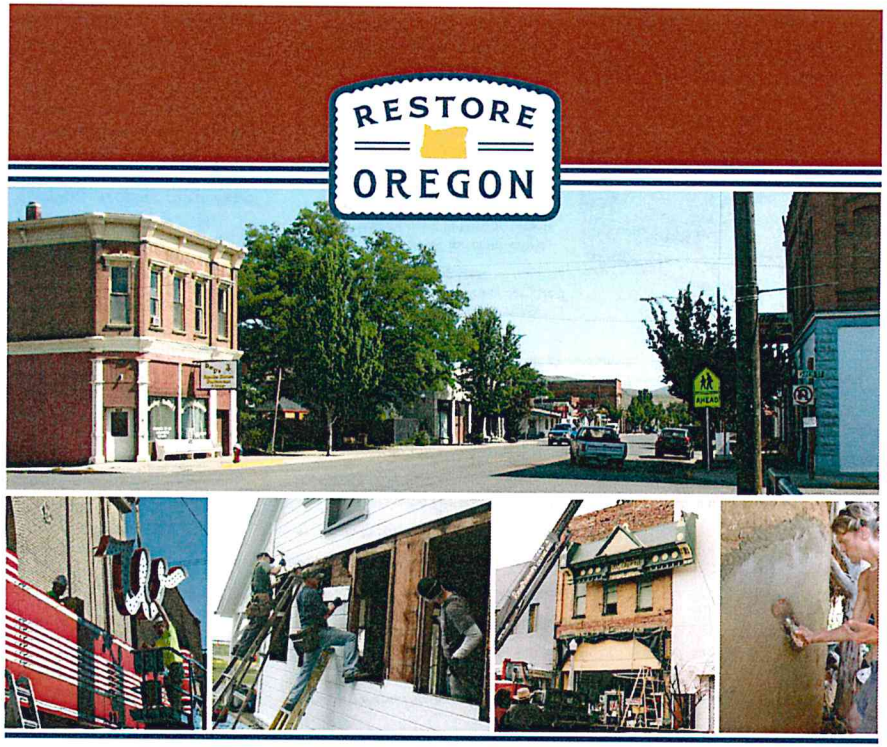
24. Rutgers University, "Annual Report" (2013), 13.
25. For further reading, see "Resilient Masonry Buildings" (Restore Oregon, 2012).
26. Paul Falsetto and Jessica Engeman, "St. Francis /Rhodes Proper ty Conceptual Reuse Report," (Restore Oregon, 2013).
27. Oregon Historic Sites Database. http://heritagedata.prd.state.or.us/historic/.
28. Current use of designated historic buildings is not tracked. A study by Restore Oregon found approx. 2,600 National Register-listed buildings are used for income producing purposes, excluding single-family rental homes.



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503 243-1923 | www.RestoreOregon.org

# Putting It All Together

Lucien Swerdloff
John Goodenberger

*Preliminary Building Evaluation Form for Historic Resources*

*Rapid Building and Site Condition Assessment*

National Center for Preservation Technology and Training

National Park Service, U.S. Department of the Interior, 2005

https://ncptt.nps.gov/wp-content/uploads/Rapid_Building_Site_Assessment.pdf

Sample Preliminary Building Evaluations

Allen Building / F. G. Meyer Building / Griffin Building

by John Goodenberger

*Conditions Assessment Report Guidelines for Historic Structures*

William Hover, Architectural Reviewer, Technical Services Unit

Georgia Department of Natural Resources - Historic Preservation Division, 2008

http://www.georgiashpo.org/sites/uploads/hpd/pdf/Conditions_Assessment_Report_Guidelines_NL.pdf

# PRELIMINARY BUILDING EVALUATION FORM
# FOR HISTORIC RESOURCES

## General Information

Name _____

Date _____

Notes _____

## Property Information

Historic Name, if known _____

Date of Construction _____

Street Address _____

City/Town _____

County _____

## Owner Information

Name/Institution _____

Contact Name _____

Mailing Address _____

City/State/Zip _____

Phone Number _____

## Exterior Description

Siding material(s). Original or replacement?

Window type(s) & material(s). Original or replacement?

## Exterior Description, Continued

General Description:

Significant Architectural Features: How does your building stand out?

Alterations and Approximate Dates:

## Interior Description

Significant features: How does your building stand out?

Alterations and Approximate Dates:

## Building History

*Please explain what events and persons are associated with this property and if the resource's architecture or construction methods used to build it are noteworthy. Use additional pages if necessary.*

# Rapid Building and Site Condition Assessment

## Inspection

Inspection date time _____ ☐ AM ☐ PM

Inspector _____

Affiliation _____

Area inspected
☐ Exterior Only
☐ Exterior and Interior

**Page 1 of ___**

**Attachments**
**Sketches** ☐ **Documents** ☐
**Photographs** ☐ **Other** ☐

## Property Description

Building name _____

Address _____

_____

Historic district name _____

Number of stories above ground _____ below ground _____

Approx footprint area (square feet) _____

Number of residential units _____

**Type of Construction**
☐ Wood Frame ☐ Brick ☐ Boat
☐ Steel Frame ☐ Stone ☐ Other
☐ Concrete ☐ Manufactured

**Primary Occupancy**
☐ Dwelling ☐ Government
☐ Other Residential ☐ Museum
☐ Public Assembly ☐ School
☐ Emergency Services ☐ Religious
☐ Commercial ☐ Cemetery
☐ Offices ☐ Other
☐ Industrial

Occupied?
☐ Yes ☐ No

Repairs begun?
☐ Yes ☐ No

Owner/Contact Info
_____
_____
_____

## Characteristics

Building age ☐ 0- 25 yr ☐ 25 - 50 yr ☐ 50 -100 yr ☐ 100+ yr ☐ Verified ☐ Reported ☐ Estimated

Foundation ☐ Pier ☐ Slab ☐ Chain Wall ☐ Basement ☐ Other _____

Roof type ☐ Hipped ☐ Gable ☐ Mansard ☐ Pyramid ☐ Flat ☐ Other _____

Roof covering ☐ Slate ☐ Metal ☐ Tile ☐ Asphalt ☐ Asbestos ☐ Other _____

Wall finish ☐ Stucco ☐ Wood ☐ Vinyl ☐ Masonry ☐ Asbestos ☐ Other _____

Landscape features ☐ Walkway ☐ Driveway ☐ Fences ☐ Sculpture/Fountains ☐ Structures ☐ Other _____

Archaeological site ☐ Yes ☐ No ☐ On SHPO List ☐ Unknown ☐ Other _____

Visible artifacts ☐ Bone ☐ Pottery ☐ Metal ☐ Stone ☐ Glass ☐ Unknown ☐ Other _____

Interior condition ☐ Structural Damage ☐ Mold/Mildew ☐ Falling Plaster ☐ Other _____

Interior contents ☐ Antiques ☐ Archives ☐ Art Work ☐ Other _____

Appears historic? ☐ Yes ☐ No ☐ Don't know Is there a sign or plaque? ☐ Yes ☐ No _____

Historic designation ☐ Nat'l Hist. Landmark ☐ Nat'l Reg/District ☐ State/Local ☐ Eligible ☐ Other _____

## Flood Data

Nature of water ☐ Standing ☐ Flowing ☐ Seepage ☐ Water Marks ☐ Other _____

Space where water entered ☐ Basement/Crawl ☐ First Floor ☐ Second Floor

Depth of water measured from main floor (+/-) _____

Sediment deposited ☐ On Site ☐ In Structure Site erosion ☐ Yes ☐ No ☐ Don't know

## Evaluation

*Investigate the building for the conditions and check the appropriate column.*

| | | | |
|---|---|---|---|
| Collapsed or off foundation | ☐ Minor/None | ☐ Moderate | ☐ Severe |
| Leaning, other structural damage | ☐ Minor/None | ☐ Moderate | ☐ Severe |
| Damage to windows, doors | ☐ Minor/None | ☐ Moderate | ☐ Severe |
| Chimney, parapet, or other falling hazard | ☐ Minor/None | ☐ Moderate | ☐ Severe |
| Roof damage | ☐ Minor/None | ☐ Moderate | ☐ Severe |
| Foundation damage | ☐ Minor/None | ☐ Moderate | ☐ Severe |
| Siding damage | ☐ Minor/None | ☐ Moderate | ☐ Severe |
| Damage to electrical, mechanical, AC systems | ☐ Minor/None | ☐ Moderate | ☐ Severe |
| Landscape damage | ☐ Minor/None | ☐ Moderate | ☐ Severe |

Potential Hazards ☐ Electrical ☐ Lead ☐ Asbestos ☐ Mold ☐ Other _____

**Estimated Building Damage**
☐ None
☐ 1-10%
☐ 10-30%
☐ 30-60%
☐ 60-90%
☐ 90-100%

## Further Actions

Recommendations ☐ Add Temporary Roof Covering ☐ Board ☐ Shore ☐ Other _____

Detailed evaluation recommended ☐ Structural ☐ Environmental ☐ Archaeological ☐ Historic Significance ☐ Collections

Other recommendations _____

Barricades needed in the following areas _____

## Posting

☐ Inspected ☐ Restricted Use ☐ Unsafe ☐ Historic Designation ☐ Detailed Evaluation Needed

Heritage Emergency National Task Force

Developed for FEMA by the NPS National Center for Preservation Technology and Training in collaboration with the Heritage Emergency National Task Force, 9/2005.

NCPTT www.ncptt.nps.gov

# Rapid Building and Site Condition Assessment Instructions

## *Introduction*

This form was developed for use by FEMA by the National Center for Preservation Technology and Training, an office of the National Park Service, in collaboration with the Heritage Emergency National Task Force. The form is intended to provide public officials with a tool to rapidly assess the condition of buildings and sites within a disaster area.

Several assumptions informed the design of this form:

- the built environment is the focus of the assessment effort;
- inspectors may have minimal preservation skills;
- teams will include a local building inspector;
- assessments may be conducted from the street, and access to interior inspection may be limited;
- a second tier of inspection may follow at a later date based upon the initial rapid inspection; and
- a second level review will be performed before the structure is destroyed or modified.

The ***Rapid Building and Site Condition Assessment*** was developed using Filemaker Pro database software version 6.0. The form is available as a database file or as an Adobe PDF file on-line at www.ncptt.nps.gov.

## *Step 1 -- Preparation:*

Before using this condition assessment form, inspectors should gather existing data. A large amount of information exists that can be used to identify many historic properties and cultural resources before inspectors ever enter the field:

- State Historic Preservation Office maps:
  - National Historic Landmarks, National Register Individual Listings, National Register Districts, Eligible Properties, including:
    - historic buildings
    - archaeological sites
- Landmark/Historic Commission maps:
  - Locally regulated historic Properties and Districts

Inspectors should be briefed on each section of the Assessment Form and associated definitions (see attached Definitions Page). Safety issues must be addressed, including appropriate gear and supplies needed to ensure personal safety.

## *Step 2 -- How to use this form:*

The condition assessment form is designed to be completed by inspectors with limited training in historic preservation. Ideally, an assessment team should draw on historical architects, conservators, archaeologists, engineers, and others. If a limited number of trained personnel is available, especially historical architects, their assessment efforts

should be targeted at the known historic resources. Inspectors should make every attempt to fill out the form in its entirety to the best of their ability. When in doubt, a second more detailed evaluation should be recommended.

The form is divided into seven major sections:

- **Inspection** – basic information about the inspection team, any attachments available, photographs, documents, sketches, etc.;
- **Property description** – basic information on location of the site, type of construction, primary occupancy, and ownership;
- **Characteristics** – information needed to assess the historic significance of the structure or site;
- **Flood data** – information specific to water or flood damage;
- **Evaluation** – information on the structural soundness of the structure or site;
- **Further actions** – recommendations on further actions including detailed evaluations, emergency stabilization, or barricades; and
- **Posting** – documentation and instructions for safety and further actions.

### *Step 3—Archive Data:*

Data may be collected manually using printed versions of the form. Alternately, electronic data can be captured by installing Filemaker Pro ver. 6 or higher software on a PC-based device such as a tablet, laptop, or palmtop and using the programmed version of the form. If forms are completed manually, data should be inputted into a database file regularly for further analysis at a later date.

### *Step 4—Action Recommendations:*

Inspectors will make strategic recommendations in the further actions section of the form. Issues of public health and safety are the first priority. Saving structures are a high, but second priority. Further recommendations may include stabilization. Simple tarps, shoring, and boarding up of the site might make the difference in saving a structure. Recovery and conservation of collections are a third priority. When possible to observe interior conditions, note any visible signs of collections.

Each site or structure should be posted upon completion of inspection. This posting serves as notice to the public regarding the safety of the structure or site. In addition, postings that reflect "historic designation" or "detailed evaluation needed" will assist in further inspection of the property by specialist teams including professionals with expertise in health and safety, structural engineering, archeology, historic preservation or collections care.

### *For More Information:*

National Center for Preservation Technology and Training
645 University Parkway
Natchitoches, LA 71457
318/356-7444
Email: ncptt@nps.gov
On the web: www.ncptt.nps.gov

# ALLEN BUILDING

*1004 – 1008 Commercial, Astoria, Oregon*

*The Allen Building as seen today.*

The activity that is the subject of this report has been financed with Federal funds from the National Park Service, U. S. Department of the Interior. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the department of the Interior.

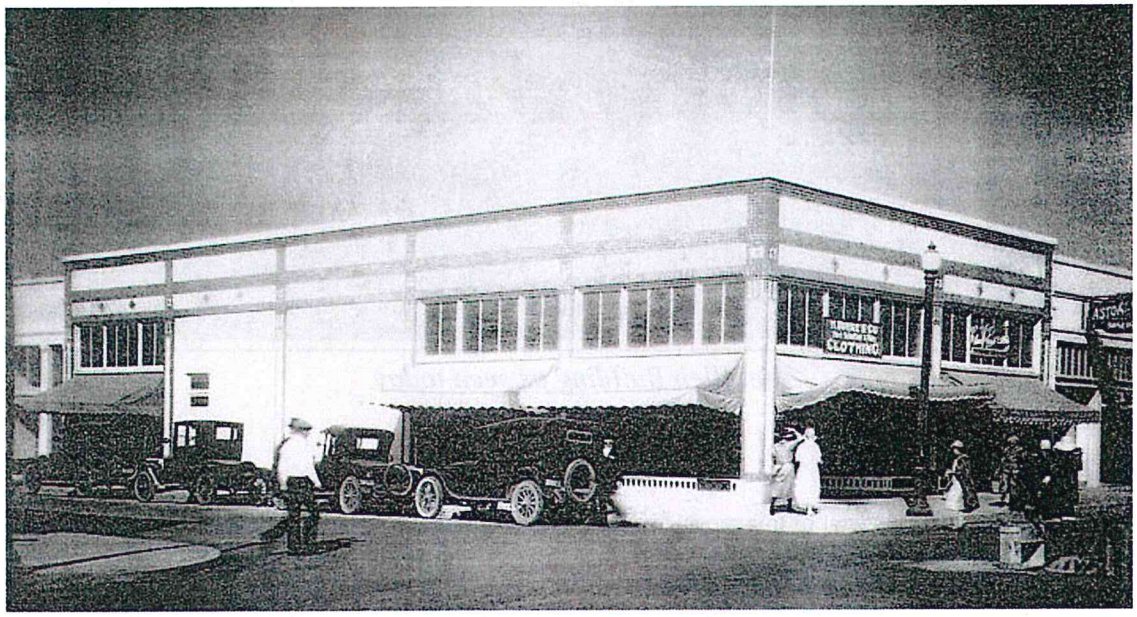
**Owner:**

Jeff Martin
Laurie Ann Enterprises LLC
1105 Commercial Avenue
Astoria, Oregon 97103

## Early Building History

The pile driver of the Gilpin Construction Company began the work of installing the piling and footings for the foundation of this building June 6, 1923. Charles T. Diamond was the architect; Rohaut & Gearhart were the contactors and the Allen estate, the owners.

The building was completed in December and on Saturday, January 12, 1924, H. Burke & Company, a men's furnishing store, opened for business and this store remained at this location until 1934. On February 1, 1924, the occupant of the second storefront, the Charles V. Brown Shoe Store, held a formal opening. This business was here until 1929. Astoria Hardware Company was a tenant from 1934 through 1952. Clatsop Coin and Co-Me-D-N Collectibles currently occupy the building.



*The Allen Building as seen circa. 1925*

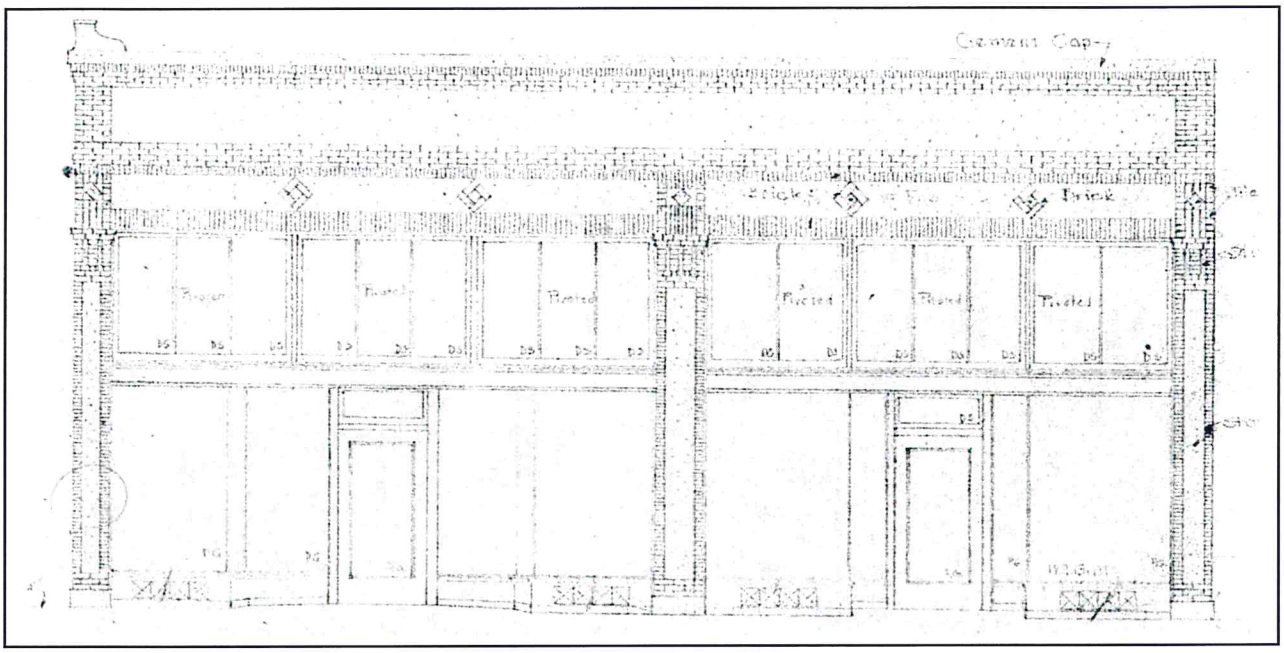
## Alterations to Building

Alterations include vertical wood paneling applied over original brick façade. The frieze, transom and display windows on the SW corner are all obscured. The storefront on the SW corner of the building has been recessed, exposing a structural column. All storefront windows and kickplates have been replaced, south elevation.

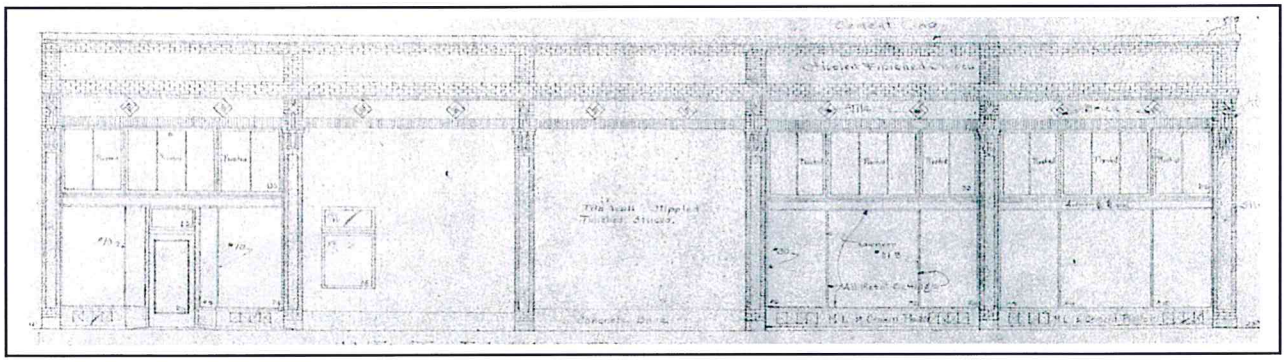
*The Allen Building in 2002.*

*A view contrasting the historic Commercial Street façade with the current, remodeled 10th Street elevation.*

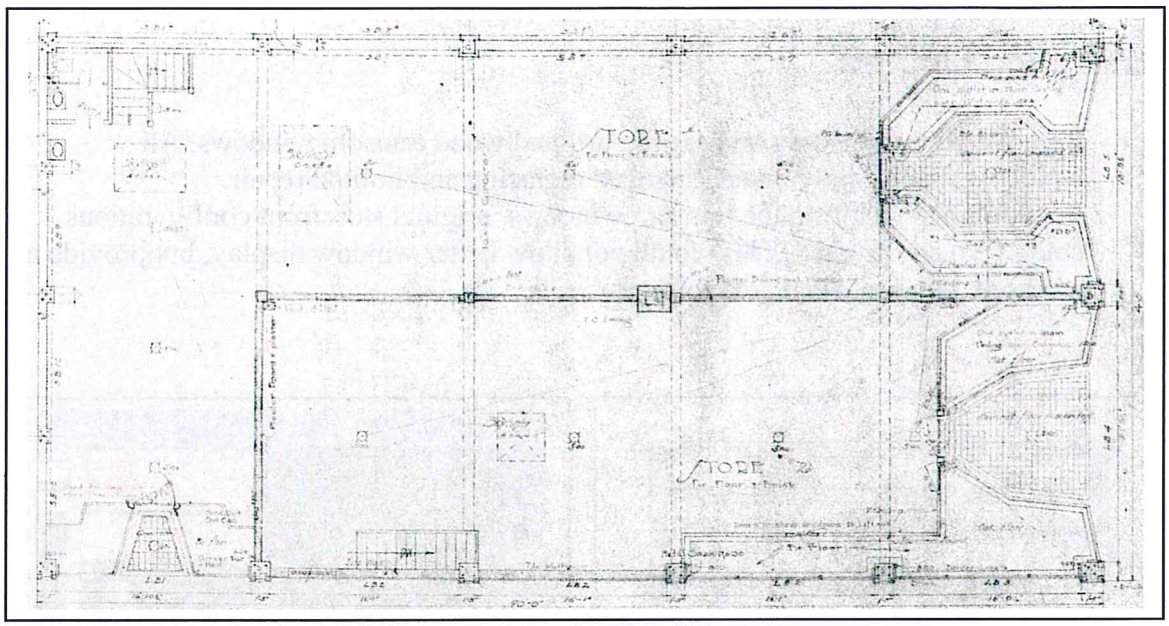
# Original Drawings



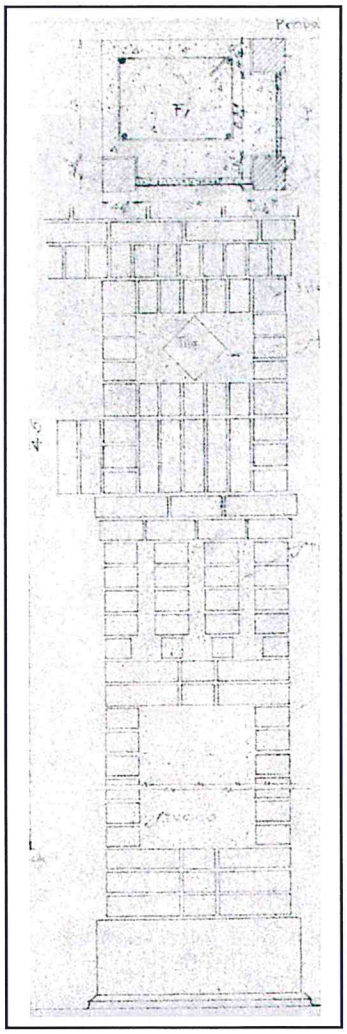
*Commercial Street Elevation*



*10th Street Elevation*



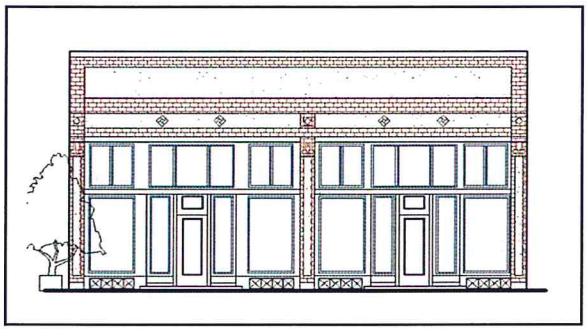

*Original Floor Plan*

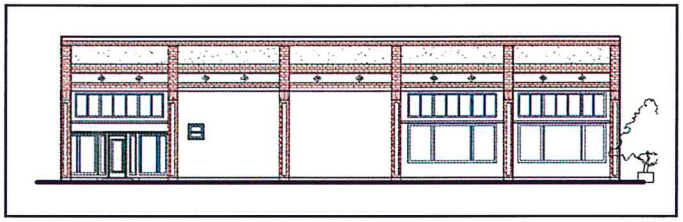


*Original Brickwork on Corner Pilaster*

# Renovation Options

1) Remove all wood siding and expose original wood transom windows. All windows are currently intact, but need reglazing and limited repair.
2) In addition to restoring the transom windows, original storefront configurations could be reconstructed. This would not allow better window display, but provide a recessed, rain protected area for entry.





*Renovation of the Allen Building can make a dramatic difference to its façade.*

# F.G. MEYER BUILDING

*1161 Commercial, Astoria, Oregon*

The F. G. Meyer Building as seen circa 1940.

The activity that is the subject of this report has been financed with Federal funds from the National Park Service, U. S. Department of the Interior. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the department of the Interior.

**Owner:**

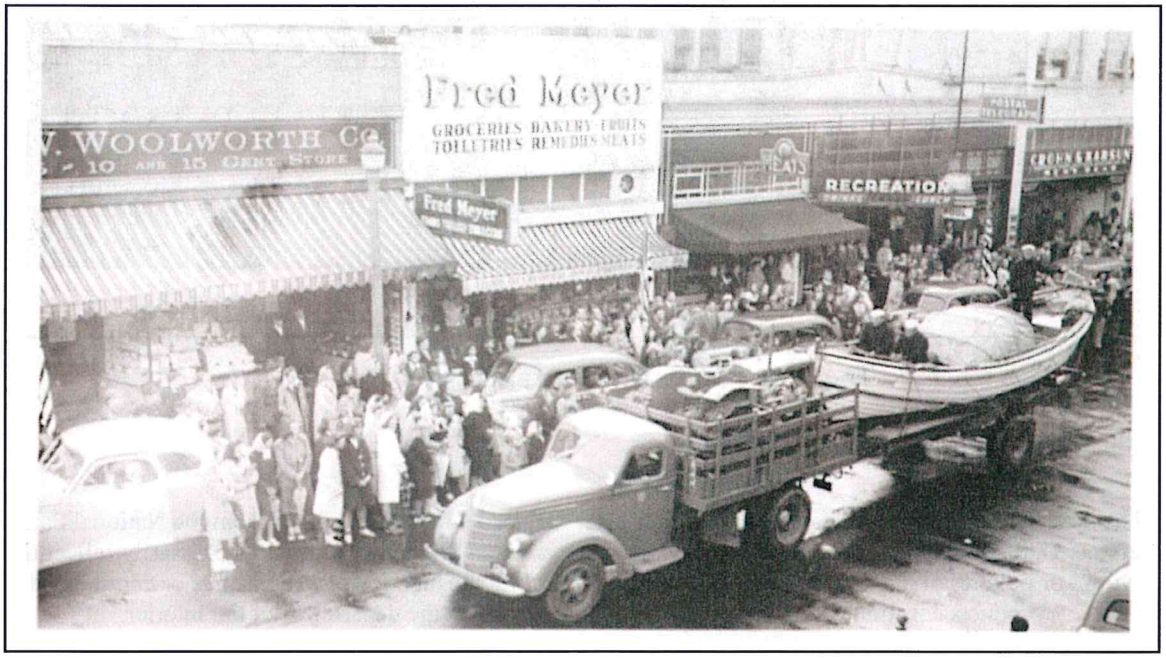
Donald Sloan
P.O. Box 69094
Portland, Oregon 97201

## Early Building History

Plans for the erection of a modern one-story building to house a local branch of the Piggly-Wiggly chain store system were announced November 8, 1924. Claussen & Claussen, Inc. of Portland designed the building.

Fred G. Meyer, state head of the chain store organization, purchased the site for $26,000 from Joseph Strauss and Simon Danz, local theater men. The F.W. Woolworth 5, 10, & 15 cent store held a grand opening on August 29, 1925. This business occupied the east half of the building until 1962.

The Piggly-Wiggly grocery store opened on September 26, 1925, and remained in the building until it moved to a new location on Commercial Street in September 1927. Another grocery concern, Astoria Public Market occupied the vacated space from 1928 through 1932. The Fred Meyer Grocery Store opened in 1933, remodeled and enlarged n 1940 and remained in business until 1944. Sears Roebuck and Co. later occupied the space. Joanne's Fabric Store is the current occupant.

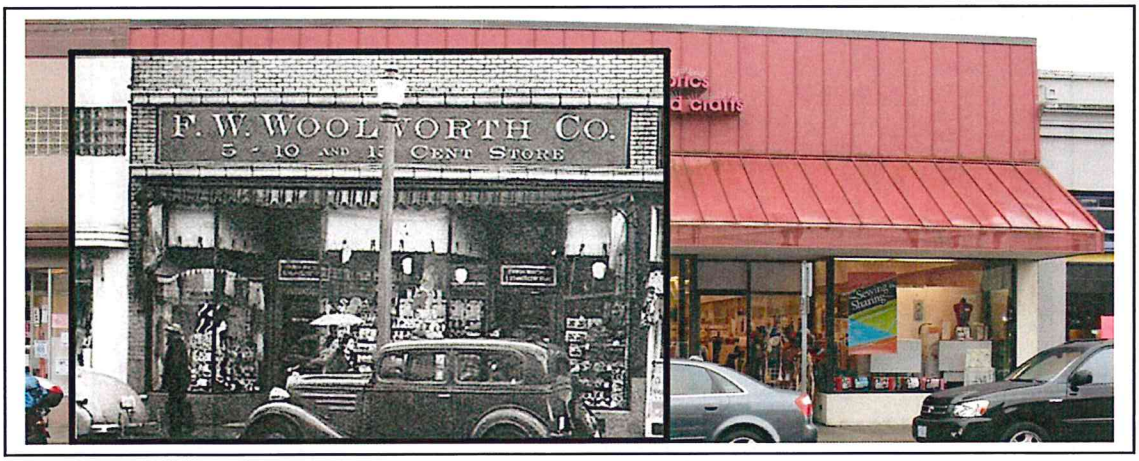



*The F. G. Meyer Building as seen circa 1950.*

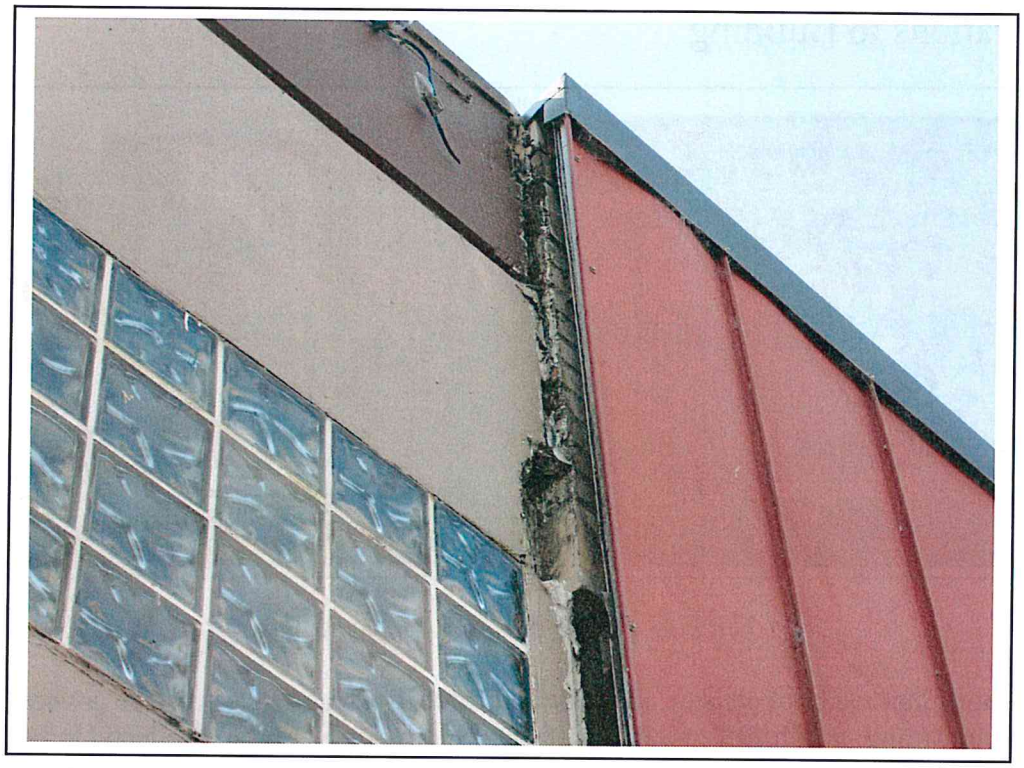
## Alterations to Building

*The F.G. Meyer building as seen today.*

Alterations include brick veneer, terra cotta cornice, decorative brick frieze covered by aluminum siding, north; full-height storefront windows replaced and reduced in height, north; granite kickplates replaced with or covered by masonite, north; three entries reduced to two entries, north; display and transom windows and kickplates replaced by small windows and with stucco finish surround, south; three entries reduced to two entries, south.



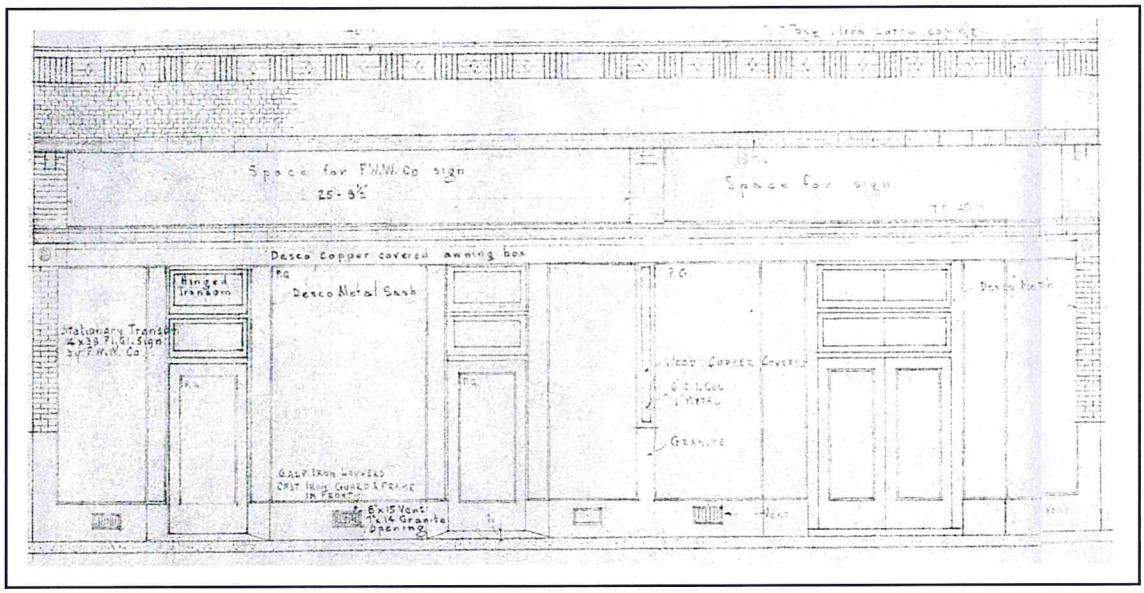

*The storefront windows were originally taller than those today. There were also three entries to the building versus the current two entries. Retractable fabric awnings were used instead of permanent metal awnings.*



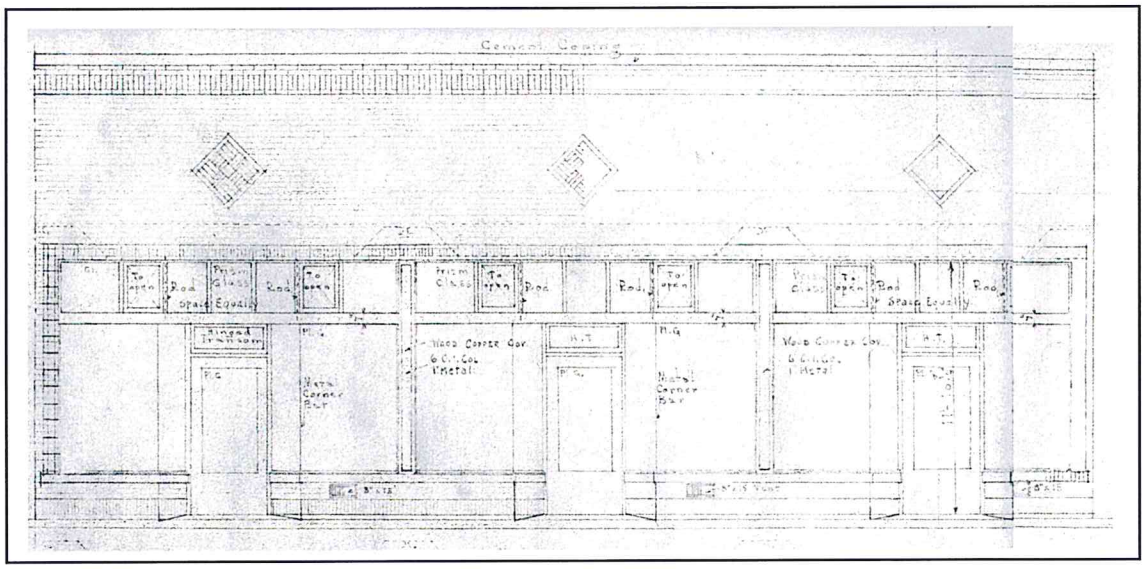
*Bricks from the original façade are still visible behind the metal awning.*

*The white plaster from the ceiling of the former storefront display is still visible. The top of the current storefront is visible at the base of the photo. Structure for the metal awning is seen in the background of the photo.*

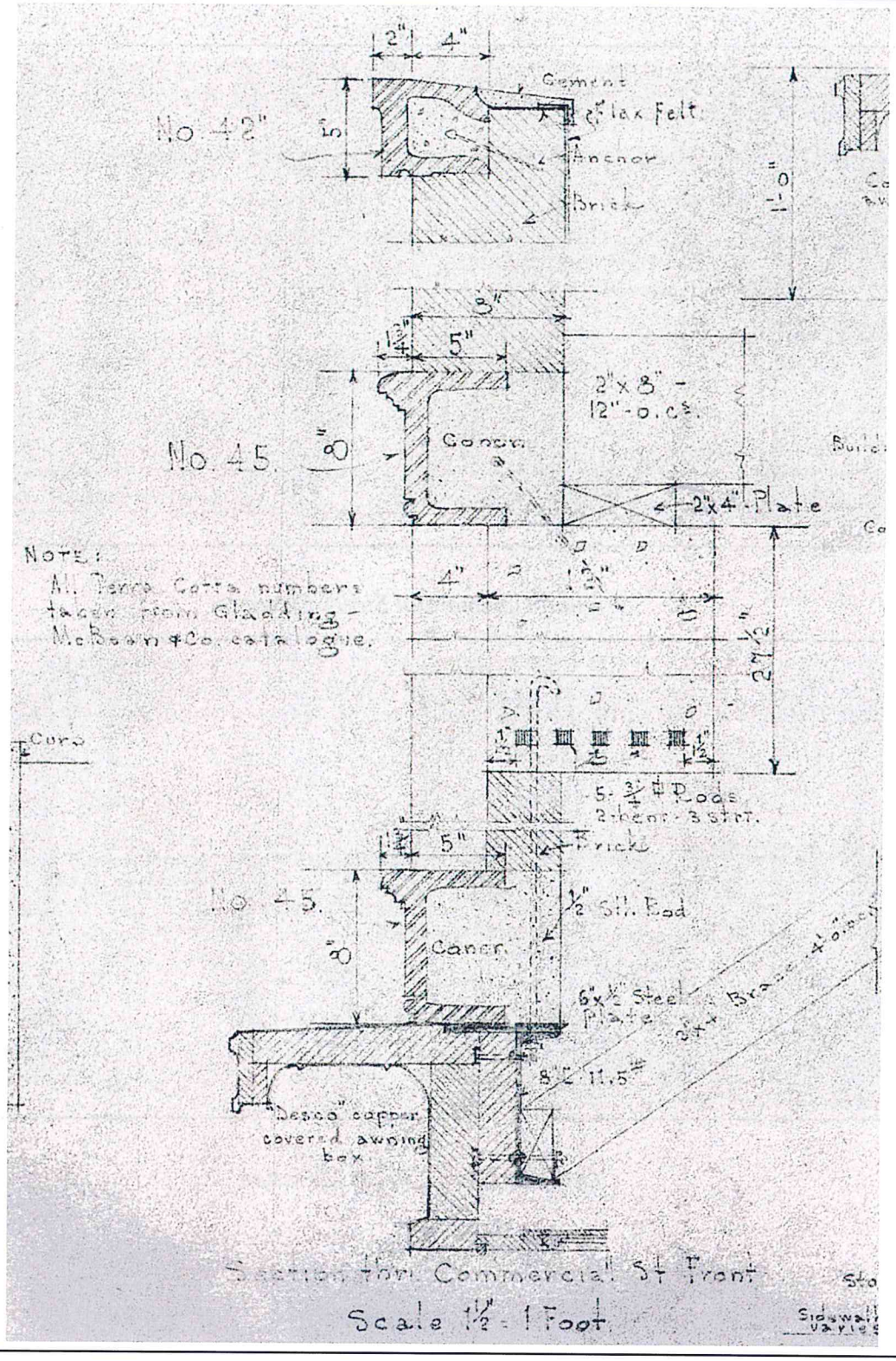
# Original Drawings




*Original Commercial Street Elevation*




*Original Duane Street Elevation*




*Cornice detail shows use of brick and terra cotta. A retractable fabric awning was fit within a box at the base.*

## Restoration Options

1) Retain the metal awning, but expose the brickwork above.
2) Remove the metal awning, construct wood transoms above the existing storefront to fill in the gap between the original and the current window opening.
3) Remove the metal awning, construct a storefront to the original opening.

# GRIFFIN BUILDING

*1254 Commercial, Astoria, Oregon*

*The Griffin Building, in the right hand corner, as seen circa 1941*

The activity that is the subject of this report has been financed with Federal funds from the National Park Service, U. S. Department of the Interior. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the department of the Interior.

**Owners:**

Kyle and Julie Johnson
1254 Commercial
Astoria, Oregon 97103

## Early Building History

On June 6, 1924, J.N. Griffin announced plans for the construction of a 50' x 90', concrete and brick-faced building to cost approximately $15,000. Designed by the architectural firm Strong & McNaughton, the building contained three storefronts.

It was completed in fall, and on October 17, 1924, the Palace Barber Shop opened its doors. This barbershop had been located on the same site prior to the fire.

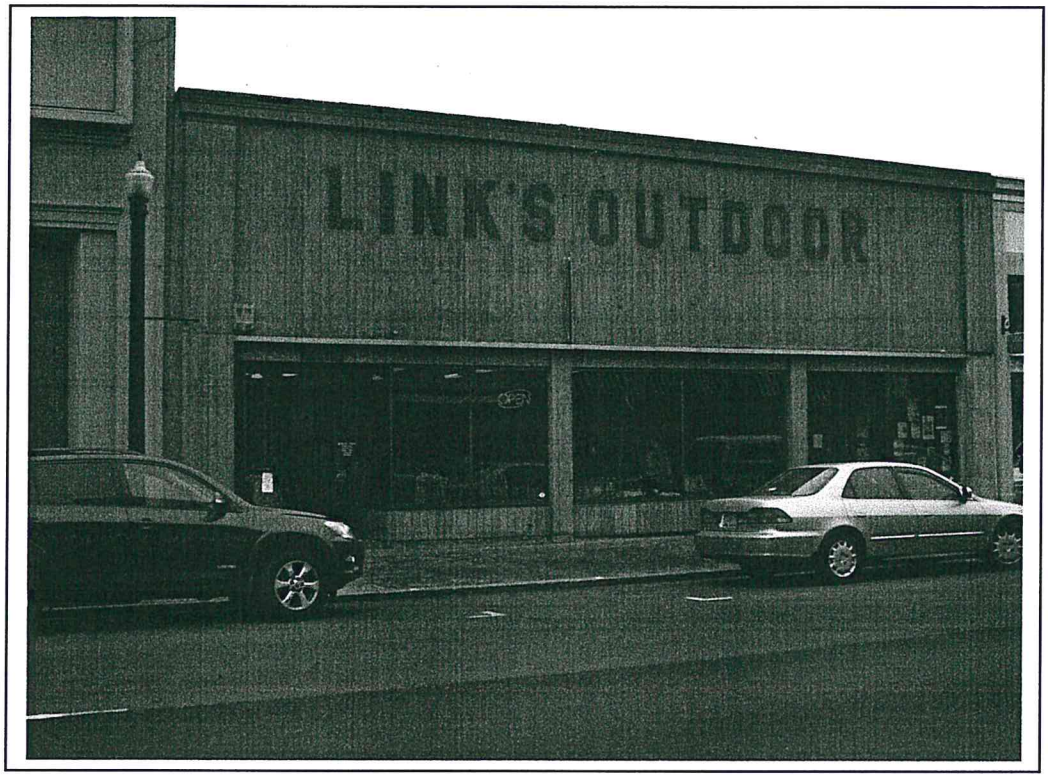
A fire of unknown origin started in the basement of the building the evening of October 23, 1934, gutting the entire structure, and destroying the fixtures and equipment of the Golden Eagle Restaurant, the Palace Barber Shop and the Len-Claire Beauty Shop. The structure was quickly rebuilt and the Palace Barber Shop continued to be a tenant until 1962.

Leon's Ladies Apparel was located in the storefront from 1935 until 1951, when it moved across the street. The Elite Cafe occupied the third storefront from 1935 through 1951. The building presently houses a sporting goods store, Link's Outdoors.

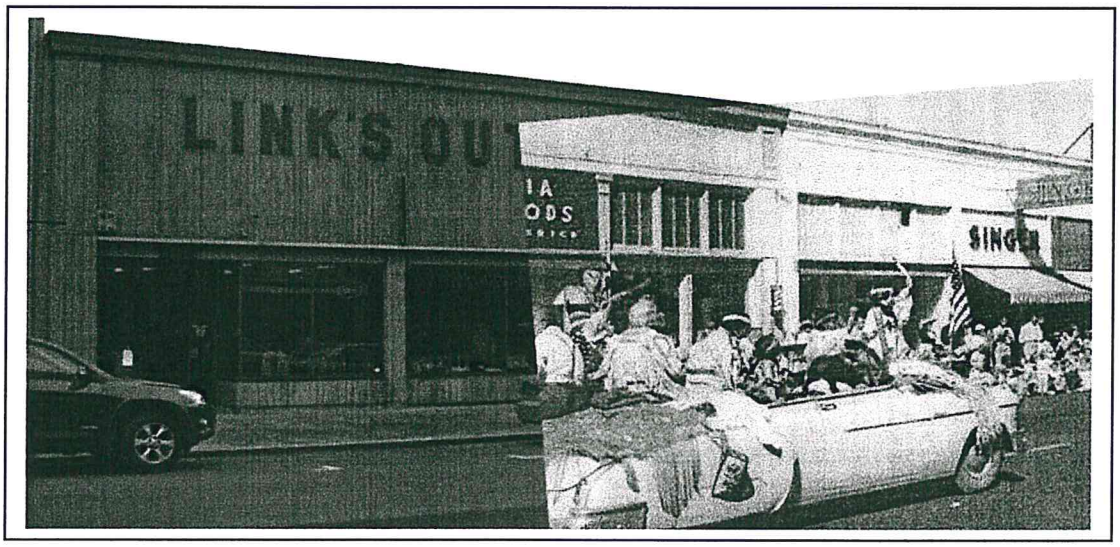
*The Griffin Building, to the left, as seen in 1961 during the Astoria Sesquicentennial Parade.*

## Alterations to Building

Exterior alterations include vertical wood siding and aggregate panels attached to original front façade. The alterations obscure the frieze, transom windows, and kickplate, south; original copper-lined storefront windows replaced with aluminum frame of like size, south; T-111 siding, north.

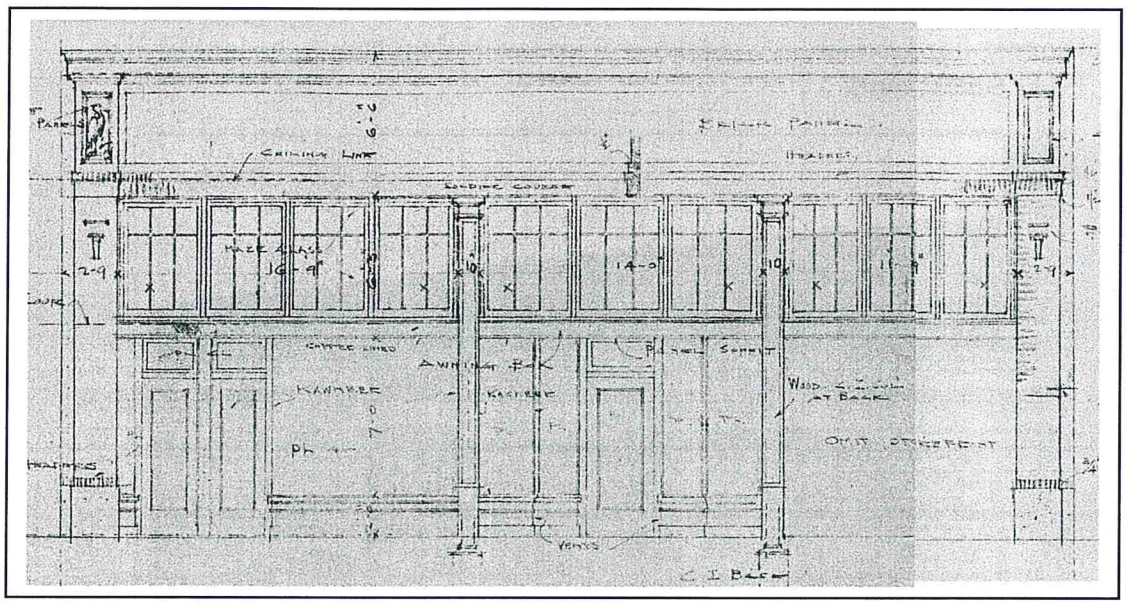



*The Griffin Building as seen today.*

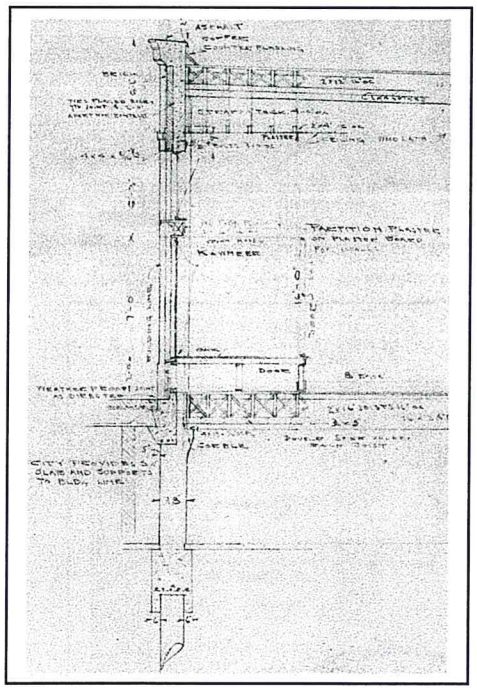



*If restored, the building would take on its 1961 appearance.*

# Original Drawings



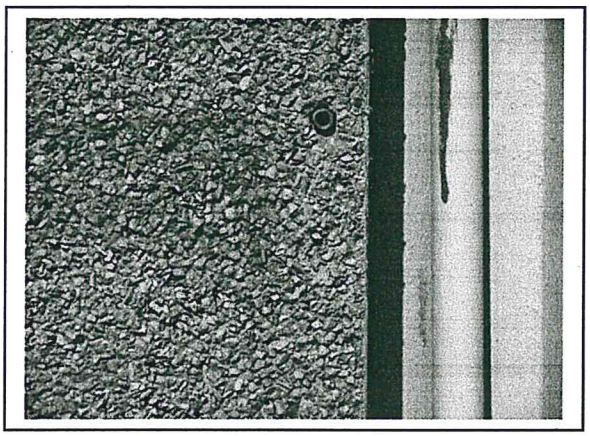
*Commercial Street Façade, note brickwork and terra cotta features.*



*Section through Commercial Street façade*

## Renovation Options

1) Remove wood siding from front (Commercial St.) façade and expose original wood transoms. All transoms still exist, but are in need of reglazing and minor repair. Existing aggregate paneling—which obscures the original brick façade—could remain, but receive a coat of plaster to make it appear as if it were finished concrete.
2) Remove both wood siding and aggregate paneling to expose original brick façade. Repair or replace brick as necessary and reglaze and repair wood transoms as needed.



*Detail of aggregate panel applied over original brick façade.*

*The Griffin Building's transoms are similar in design to those of its neighbor.*

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION
Preservation Planning Guidance

# CONDITIONS ASSESSMENT REPORT GUIDELINES for HISTORIC STRUCTURES

## What is a Conditions Assessment Report?

A Conditions Assessment Report is a preservation and rehabilitation tool that identifies, describes, and generally evaluates the existing condition of a historic structure, typically a historic building, and its associated environment. It is a detailed accounting of the material elements and components of a historic structure, including its structural system, exterior and interior finishes, architectural ornamentation and features, and building systems at the particular point in time the report is completed.

A Conditions Assessment Report may be commissioned as a stand-alone document or as part of a more comprehensive planning activity for a historic property. As a stand-alone document, a Conditions Assessment Report may be developed in order to quantify or establish the scope of work for a preservation/rehabilitation project. In the context of more extensive preservation planning, all Historic Structures Reports should include a Conditions Assessment Report as a major component and, therefore, there are certain similarities between these two types of documents.

## Considerations in Commissioning a Conditions Assessment Report

A Conditions Assessment Report should be a detailed and complete as possible recordation and evaluation of the existing conditions of a historic structure so that its content may be used to make informed decisions about remedying identified problems. However, it is primarily a visual inspection of existing conditions, including those that can be detected from the easy removal of electrical device cover plates, register covers, and access panels; and of unoccupied spaces such as roofs, attics, basements, and crawlspaces. Inspection of the latter, though, is limited by their accessibility, including safety issues and if access might result in causing damage, such as walking on clay tile roofs. Other limitations in developing a Conditions Assessment Report are the presence of floor and wall coverings, other finish treatments, or extensive furnishings. Removal of carpeting, wall coverings, furniture and cabinetry, or selective demolition to determine the condition of hidden materials is typically beyond the scope of conditions assessment activities without special arrangements and associated agreements between the parties involved.

Any limitations or obstacles to an inspection should be articulated and then addressed in the Conditions Assessment Report's recommendations as issues to be resolved. Recommendations should also be understood as providing general guidance for appropriate treatments rather than design or work specifications, which should be developed by preservation-experienced design and trades professionals.

While a comprehensive Conditions Assessment Report should always be the target document, if an adaptive or other end use for the historic structure has been determined, a preservation/rehabilitation project has already been defined, or other planning activities have occurred prior to commissioning a Conditions Assessment Report, they may influence the report's necessary level of detail. In such circumstances, a Conditions Assessment Report may be more of a documentation of existing conditions, be limited to those areas of the structure physically impacted by the preservation/rehabilitation project, or be developed to cover those issues not addressed by the other planning activities.

However, in the long term, to ensure the continued preservation and useful life of historic structures and associated resources, a Conditions Assessment Report should be one step in completing a Preservation Plan for the historic property that also includes a Historic Structures Report, property management plans, preservation project development and implementation plans, cost-of-work estimates, and funding plans. And, as with other preservation planning documents, a Conditions Assessment Report should be organized so that it provides necessary information in a manner understandable by the end user, who may not be an expert in the field.

## A comprehensive Conditions Assessment Report should include:

1. Introductory information, including a table of contents; property identification information, including address, ownership, listing on historic registries, historic names, etc.; brief summary of the property's history and description of its existing setting; an executive summary, including acknowledgements, why the report is being done and for whom, current use of the property, proposed adaptive uses (if known); a summary of the methods used to create the report, etc.

2. Summary description of the building's existing condition. This description should provide a general overview of the existing conditions as an introduction to the more detailed information to follow.

3. Detailed existing condition description of the individual exterior material components: foundation, siding, brick, windows, doors, porches, trim, cornice, roof, etc.

4. Room-by-room descriptions, including documentation of interior features, finishes, and materials and detailed identification of areas of deterioration and repair for floors, walls, ceilings, doors, windows, trim, fireplaces, stairs, and other architectural features.

5. Evaluation of the physical condition of structure's materials including: masonry, mortar, roofing, trim, exterior finish materials, plaster (flat and decorative), wood floors, other wood features, finishes and millwork, fireplaces, structural elements, etc.

6. Summary description and evaluation of the building systems: electrical, plumbing, HVAC, fire protection, etc.

7. Identification and evaluation of the causes for the deterioration, decay and loss of the material components of the building. Descriptions should include location and extent of problem areas and reference associated photo-documentation.

8. An evaluation of the problems associated with the repair or replacement of the identified deteriorated areas and historic materials. Such problems could include difficult access to repair locations, necessary companion work, potential difficulty in acquiring uncommon materials, requirements for custom produced features, continuous maintenance issues, etc.

9. Recommendations for the appropriate treatment of deteriorated historic elements. Recommendations should be consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, consider the potential impact of recommended treatments, and avoid significantly altering the property's historic character and context.

10. Existing conditions recordation information including: site plans, "as built" floor plans and elevations, detail photographs or drawings of significant features, context photo-documentation, and existing conditions detail photo-documentation.

11. Supplementary information including, as requested, applicable, and available: project scope-of-work descriptions and prioritizations, cost estimates, technical reports (including Structural Assessment Report, paint analysis, hazardous materials assessments - -lead paint, asbestos), accessibility assessment (ADA audit), summary building code issues evaluation, reference materials, archaeological investigation reports, etc.