



# Restoration Standards for Historic Buildings

An Online Continuing Education Course for Engineers

**Course Number: BD-4005**

**Credit: 4 Hours / 4 PDH / 4 CPD**

# Restoration Standards for Historic Buildings

## Foreword

The **Guidelines for Rehabilitating Historic Buildings** were initially developed in 1977 to help property owners and developers apply the Secretary of the Interior's **Standards for Rehabilitation** during the project planning stage by providing general design and technical recommendations. Unlike the Standards, the Guidelines are not codified as together with the Standards for Rehabilitation they provide a model process for owners and developers to follow.

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

The Guidelines pertain to historic buildings of all sizes, materials, occupancy, and construction types; and apply to interior and exterior work as well as new exterior additions. This course is part of a series of courses covering the four treatments covered by the Guidelines: Preservation, Rehabilitation, Restoration and Reconstruction.

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

**Rehabilitation** 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.

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

**Reconstruction** is defined as 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

## **Introduction**

Rather than maintaining and preserving a building as it has evolved over time, the expressed goal of the Standards for Restoration and Guidelines for Restoring Historic Buildings is to make the building appear as it did at a particular—and most significant—time in its history. First, those materials and features from the “restoration period” are identified, based on thorough historical research. Next, features from the restoration period are maintained, protected, repaired (i.e., stabilized, consolidated, and conserved), and replaced, if necessary. As opposed to other treatments, the scope of work in Restoration can include removal of features from other periods; missing features from the restoration period may be replaced, based on documentary and physical evidence, using traditional materials or compatible substitute materials. The final guidance emphasizes that only those designs that can be documented as having been built should be re-created in a restoration project.

## **Standards for Restoration**

1. A property will be used as it was historically or be given a new use which reflects the property’s restoration period.
2. Materials and features from the restoration period will be retained and preserved. The removal of materials or alteration of features, spaces, and spatial relationships that characterize the period will not be undertaken.
3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate and conserve materials and features from the restoration period will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
4. Materials, features, spaces, and finishes that characterize other historical periods will be documented prior to their alteration or removal.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize the restoration period will be preserved.
6. Deteriorated features from the restoration period 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.
7. Replacement of missing features from the restoration period will be substantiated by documentary and physical evidence. A false sense of history will not be created by adding conjectural features, features from other properties, or by combining features that never existed together historically.
8. 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.

9. Archeological resources affected by a project will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
10. Designs that were never executed historically will not be constructed.

### **Identify, Retain, and Preserve Materials and Features from the Restoration Period**

The guidance for the treatment Restoration begins with recommendations to identify the form and detailing of those existing architectural materials and features that are significant to the restoration period as established by historical research and documentation. Thus, guidance on identifying, retaining, and preserving features from the restoration period is always given first. The historic building's appearance may be defined by the form and detailing of its 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; and the building's site and setting.

### **Protect and Maintain Materials and Features from the Restoration Period**

After identifying those existing materials and features from the restoration period that must be retained in the process of Restoration work, then protecting and maintaining them is 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.

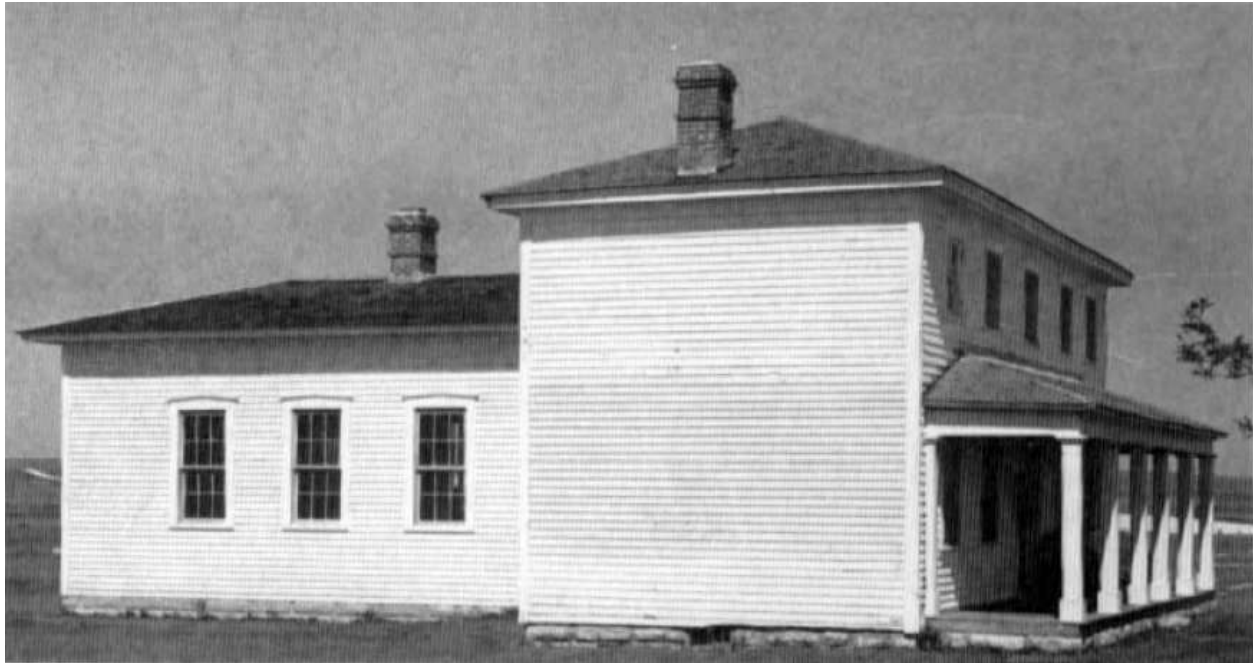
### **Repair (Stabilize, Consolidate, and Conserve) Materials and Features from the Restoration Period**

Next, when the physical condition of restoration period features requires additional work, repairing by stabilizing, consolidating, and conserving is recommended. Restoration guidance focuses upon the preservation of those materials and features that are significant to the period. Consequently, guidance for repairing a historic material, such as masonry, again begins with the least degree of intervention possible, such as strengthening fragile materials through consolidation, when appropriate, and repointing with mortar of an appropriate strength.

Repairing masonry as well as wood and architectural metals includes patching, splicing, or otherwise reinforcing them using recognized preservation methods. Similarly, portions of a historic structural system could be reinforced using contemporary material such as steel rods. In Restoration, repair may also include the limited replacement in kind—or with compatible substitute material—of extensively deteriorated or missing parts of existing features when there are surviving prototypes to use as a model. Examples could include terra-cotta brackets, wood balusters, or cast iron fencing.

## Replace Extensively Deteriorated Features from the Restoration Period

In Restoration, replacing an entire feature from the restoration period (i.e., a cornice, balustrade, column, or stairway) that is too deteriorated to repair may be appropriate. Together with documentary evidence, the form and detailing of the historic feature should be used as a model for the replacement. Using the same kind of material is preferred; however, compatible substitute material may be considered. All new work should be unobtrusively dated to guide future research and treatment.



*In a project at Fort Hays, Kansas, the wood frame officers' quarters were restored to the late 1860s—their period of significance. This included replacing a missing kitchen ell, chimneys, porch columns, and cornice, and closing a later window opening in the main block. The building and others in the museum complex is used to interpret frontier history.*

If documentary and physical evidence are not available to provide an accurate re-creation of missing features, the treatment Rehabilitation might be a better overall approach to project work.

## Remove Existing Features from Other Historic Periods

Most buildings represent continuing occupancies and change over time, but in Restoration, the goal is to depict the building as it appeared at the most significant time in its history. Thus, work is included to remove or alter existing historic features that do not represent the restoration period. This could include features such as windows, entrances and doors, roof dormers, or landscape features. Prior to altering or removing materials, features, spaces, and finishes that characterize other historical periods, they should be documented to guide future research and treatment.

## Re-Create Missing Features from the Restoration Period

Most Restoration projects involve re-creating features that were significant to the building at a particular time, but are now missing. Examples could include a stone balustrade, a porch, or cast iron storefront.

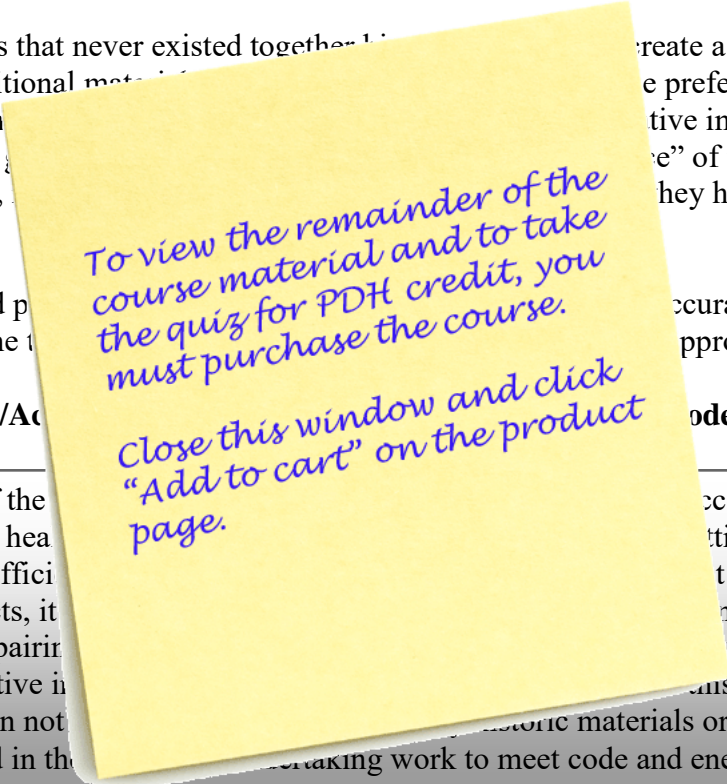
Each missing feature should be substantiated by documentary and physical evidence. Without sufficient documentation for these “re-creations,” an accurate depiction cannot be achieved.

Combining features that never existed together can create a false sense of history. Using traditional materials is the preferred approach; however, using contemporary materials is acceptable in Restoration because, as emphasized, the goal is to restore the “character” of the historic building at a particular time, not to replicate it exactly as they have evolved over time.

If documentary and physical evidence is insufficient to support an accurate re-creation of a missing feature, the project should use a more conservative approach to project work.

## Energy Efficiency/Air Quality and Accessibility Code Considerations

These sections of the code address energy efficiency, accessibility, and health and safety requirements and health and safety measures to improve energy efficiency and accessibility in restoration projects, it is important to consider the impact of conserving, or repairing, historic materials. Work is assessed for its potential negative impact on historic materials. For this reason, particular care must be taken not to remove or alter historic materials or features from the restoration period in the process of making work to meet code and energy requirements.



**Restoration as a Treatment.** *When the property’s design, architectural, or historical significance during a particular period of time outweighs the potential loss of extant materials, features, spaces, and finishes that characterize other historical periods; when there is substantial physical and documentary evidence for the work; and when contemporary alterations and additions are not planned, Restoration may be considered as a treatment. Prior to undertaking work, a particular period of time, i.e., the restoration period, should be selected and justified, and a documentation plan for Restoration developed.*