Preserving History: HISTORICAL ROOF RENOVATIONS

The Flatiron Building was built in 1902 on a wedge-shaped property at the intersections of Fifth Avenue and Broadway in New York City. Photo by Alex Jagendorf.
Appearance and performance are often two of the most critical considerations when reviewing the needs of a historical building. The roof system helps define the building’s aesthetics. However, no matter how aesthetically pleasing the roof is, all buildings, including historical ones, will experience roof issues—some beyond simple repair.

Historical buildings are protected by federal, state, and local regulations and strict standards to ensure that the character and aesthetics of the building are preserved as renovations are carried out. For roof consultants who have not been a part of a historical renovation or who have little experience with these projects, the process of renovating the roof system on a historical building is one that requires acute attention, care, and cooperation with the appropriate government entities.

### HISTORICAL RENOVATION AND REHABILITATION STANDARDS

From the federal level down to the state and local levels, there is a nationwide system in place to preserve and protect historical buildings. Understanding these codes and standards and contacting the appropriate authorities early in the renovation project can help ensure a smooth process in the renovation of a historical roof system.

### Building Codes and Commissions

Knowing which authoritative agencies are applicable is a crucial step in getting started. The International Existing Building Code’s section about historical buildings provides directives for repair or alteration of historical buildings. Consult with city and state historical building codes and commissions before any renovation work begins.

#### U.S. General Services Administration (GSA)

Under the GSA’s Office of the Chief Architect, the Center for Historic Buildings, provides leadership and guidance for compliance with the National Historic Preservation Act. The GSA’s technical and strategic expertise applies to promoting the viability, reuse, and integrity of historical buildings that the GSA owns, leases, or may acquire. To accomplish this, the GSA develops prototype solutions and tools and promotes best-practice exchange to help GSA managers, project planners, and field operations staff maintain and upgrade historical properties.

#### National Register of Historic Places

At the federal level, The National Park Service’s National Register of Historic Places is the official list of historical places deemed worthy of preservation. As part of the National Historic Preservation Act, the National Register is included in the national program to coordinate and support public and private efforts to identify, evaluate, and protect the country’s historical and archaeological resources.

Under the National Historic Preservation Act, a state government function called the State Historic Preservation Officer (SHPO) was developed. The responsibilities of the SHPO include surveying and recognizing historical properties, reviewing nominations of properties for inclusion in the National Register, reviewing renovation or rehabilitation plans for the impact on the properties, as well as supporting federal organizations, state and local governments, and the private sector.

Each state is responsible for setting up its own SHPO, and the rules and regulations may vary from state to state. With the cooperation of local and state governments, the SHPO...
supports the Federal Historic Preservation Program. With historical roof renovation, the SHPO can provide technical assistance and consultation to ensure that the aesthetic appearance is in accordance with the original roof design and construction.

**Secretary of the Interior’s Standards for Rehabilitation**

The Secretary of the Interior’s Standards for Rehabilitation were originally developed to help determine the appropriateness of proposed work on registered historical properties. These standards assist in the long-term preservation of the properties’ historical materials and features. When using the term “rehabilitation,” the secretary’s standards assume that some repair or alteration of the historical building is required in order...
to be used today, but these repairs and alterations cannot damage or destroy materials, features, or finishes that are important to the building’s aesthetic. The standards include ten points, all in reference to respecting the historical appearance and character-defining features of the property. Qualified professionals with experience working on historical buildings will understand these codes and guidelines and will reference and apply them as necessary. All of these guidelines recommend that any historical renovation begin with a thorough investigation and assessment of the existing roof system.

**ROOF RENOVATION CONSIDERATIONS**

When a problem occurs, there are few roofing professionals who specialize in historical renovation. When conducting a thorough physical investigation of the roof and its structure, understanding the construction history and the following areas is crucial:

- Deck type and condition, as some historical decks may no longer be structurally sound
- Deck load capacity to ensure a new roof and any insulation does not exceed load capacity
- Deck uplift resistance, since older decks may rely on gravity for uplift resistance and are not always adequately attached for current uplift resistance
- Rooftop equipment supports that may be deteriorated and not adequately attached for uplift or seismic requirements
- Wall substrate condition and roof drainage characteristics

Although a physical investigation is often the most important part of the project, there may be documentation available for review, such as original building plans or prior specifications. However, even with these documents, it can be hard to match criteria that may no longer be used or meet modern-day code requirements. During the physical investigation, determine any changes to the roof’s slope, configuration, or materials that may be different from the original construction. Once the investigation is completed and a full picture of the roof system’s condition is understood, selection of materials can begin.

**Material Selection**

When the historical roofing material is not available or the cost of specially fabricated materials may be prohibitive, alternative materials can be considered. In doing so, the primary concerns should be preserving the appearance of the roof and protecting the structure from further deterioration. If needed, a suitable substitution can be selected, but these materials should match the aesthetic of the original materials as required by guidance from the SHPO, as well as meeting all codes and regulations.

**Architectural Considerations**

In addition to the aesthetics of the building, architectural considerations exist that must be accounted for. Any substitute material selection for historical renovations follows the same guidelines as used for non-historical roofing projects with features of durability, redundancy, flashing conditions, material preference, and budget. Additionally, typical roofing considerations such as color, surface texture, and finish should be considered.

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REFERENCES


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