



FEMA

OFFICE OF ENVIRONMENTAL PLANNING AND HISTORIC PRESERVATION  
PARTNERS IN SHAPING RESILIENT COMMUNITIES



## Environmental and Historic Preservation (EHP) Fact Sheet: Structural and Non-Structural Retrofitting of Existing Buildings and Facilities

Environmental resources, cultural institutions, and historic assets define communities and contribute to their well-being and unique character. The Federal Emergency Management Agency (FEMA) plays a critical role in helping communities incorporate environmental stewardship and historic preservation into emergency management decisions. As disasters continue to challenge our nation and communities grapple with issues of preparedness and sustainability, FEMA offers expertise to ensure both legal compliance and informed local, State, Tribal and national planning.

### Structural and Non-Structural Retrofitting of Existing Buildings and Facilities and EHP Review

FEMA's Hazard Mitigation Assistance (HMA) and Public Assistance (PA) programs provide funds to eligible applicants for structural and non-structural retrofitting of existing buildings. PA's Section 406 Hazard Mitigation and HMA's Section 404 Hazard Mitigation Grant Program (HMGP) funds are available only following a Presidential major disaster declaration. Retrofits are primarily defined as modifications to the elements of a building to reduce or eliminate the risk of future damage. Structural retrofits are designed to protect elements such as foundations, load-bearing walls, beams, columns, building envelopes, windows, structural floors, roofs, and the connections between these elements. Non-structural retrofitting involves the modification of a building or facility's non-structural elements and may include bracing building contents to prevent earthquake damage or elevation of heating and ventilation systems to minimize or prevent flood damage.

### Considering EHP Impacts

While retrofit projects generally have only minor impacts on the natural environment, they have significant potential to adversely affect historic properties. Buildings that are to be retrofitted may be individually eligible for or listed in the National Register of Historic Places (NRHP), and modifying important structural elements can drastically alter the fabric or integrity of the historic building. Notable environmental concerns related to retrofit projects include the potential presence of hazardous materials that may be exposed during construction activities. Before grant funding can be approved, FEMA must review projects to ensure that they meet all relevant environmental laws, policies and executive orders, such as the Endangered Species Act, National Historic Preservation Act (NHPA), Clean Water Act, Clean Air Act, and Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands).

#### EHP Considerations for Retrofitting Buildings/Facilities:

When planning the retrofit of hazard-prone facilities, FEMA advises applicants to:

- Take steps to ensure that all properties are free of hazardous materials at the time of retrofit. For residential properties, this generally means lead, asbestos, and fuel tanks. Commercial properties may require more in-depth evaluation and site remediation.
- Ensure no physical actions occur before historic buildings and archaeological resources are identified and environmental compliance review is complete.

If buildings are listed in or eligible for the NRHP:

- Ensure that historic materials are preserved and retained to the greatest extent possible.
- Utilize retrofit systems that respect the character and integrity of the historic building and are visually compatible with it.
- Work should be "reversible" to the greatest extent possible to allow removal for future installation of improved systems and traditional repair of remaining historic materials.

## Retrofit of Existing Buildings: Grant Application EHP Checklist

The checklist below describes project information that FEMA requires in order to complete EHP review of a retrofit project.

<input checked="" type="checkbox"/>	<b>Location</b>	State the location of the project, including both the site address and latitude/longitude in decimal degrees (e.g., 38.5342° N, -77.0212° W). Provide maps (including a Flood Insurance Rate Map) with the project site clearly marked, aerial imagery, or drawings showing the location of the property to be retrofitted. Be sure to include the location of each building or structure that will be retrofitted.
<input checked="" type="checkbox"/>	<b>Description of Project Scope of Work</b>	Provide a scope of work for the project, including preliminary engineering drawings, any applicable interior or exterior demolition plans, photos or illustrations of proposed replacement materials (such as windows), and ground disturbance activities, if any.
<input checked="" type="checkbox"/>	<b>Age of Existing Buildings</b>	Provide the original date of construction for all buildings or structures to be retrofitted.
<input checked="" type="checkbox"/>	<b>Photographs</b>	Provide clear, color photographs of each of the buildings to be retrofitted, including one photo for each side of the building. Also provide color photographs of the surrounding neighborhood taken from the retrofit site. Label photographs with the location and orientation of the camera relative to the properties being retrofitted.
<input checked="" type="checkbox"/>	<b>Agency Coordination</b>	Coordinating with applicable resource agencies prior to submitting your application to FEMA can help streamline EHP review. For example, early coordination with the State Historic Preservation Officer (SHPO) may allow for project modification that will avoid adverse effects to character-defining features, which will greatly reduce delays. Note any communications with resource agencies and provide copies of all correspondence and permits.
<input checked="" type="checkbox"/>	<b>Additional Information</b>	Include copies of other relevant information, such as environmental site assessments and remediation reports, historic property designations or surveys, including archaeological surveys.

### Timeframes for EHP Review

Timeframes for EHP review vary depending on a project's potential impacts and complexity. For projects that do not affect historic properties (which are defined as buildings, sites, or districts listed in or eligible for the NRHP), the review process generally takes 30 days after FEMA has received a complete project application with supporting documentation. If FEMA determines that the proposed retrofit will have an adverse effect on historic properties, FEMA is required to consult with the State Historic Preservation Office (SHPO), the Advisory Council on Historic Preservation, and other interested parties to develop a Memorandum of Agreement (MOA) in order to resolve adverse effects under Section 106 of the NHPA. Development of this MOA will generally extend the review period a minimum of 60 to 90 days as it involves outside resource agencies and other stakeholders.

### EHP Best Practice: Pasadena, CA City Hall Seismic Retrofitting

Seismic retrofitting of historic buildings requires balancing design constraints, costs, and safety issues with Federal compliance requirements. In 2007, the City of Pasadena completed an \$80 million seismic retrofit/restoration of their historic city hall, built in 1927, that avoided adverse effects under Section 106 of the NHPA— even though the 170,000 square-foot building had been separated from the ground with 240 rubber structures in a rare earthquake-proofing process known as base isolation. In order to offset construction costs, the City pursued all grant opportunities, including HMGP funding. This award-winning project demonstrated how successful planning and coordination can effectively balance seismic safety, Federal historic compliance, and historic preservation goals. It illustrates the importance of working closely with the SHPO and other interested stakeholders, utilizing knowledgeable engineers, and leveraging funding that specifically supports the retrofit of a historic building.

**Additional Resources:** For more information on EHP review and FEMA grant assistance, contact your State Emergency Management Agency or Tribal Office or visit <http://www.fema.gov/environmental-planning-and-historic-preservation-program>.