

An abstract background featuring warm, textured brushstrokes in shades of yellow, orange, and cream. There are numerous small, colorful splatters (pink, red, yellow) scattered across the left side, giving it a painterly, organic feel.

Climate Planning that Meets the Moment

2026 Downtown & Historic Preservation Conference

Climate Planning that Meets the Moment

Peyton Siler Jones, Siler Climate Consulting

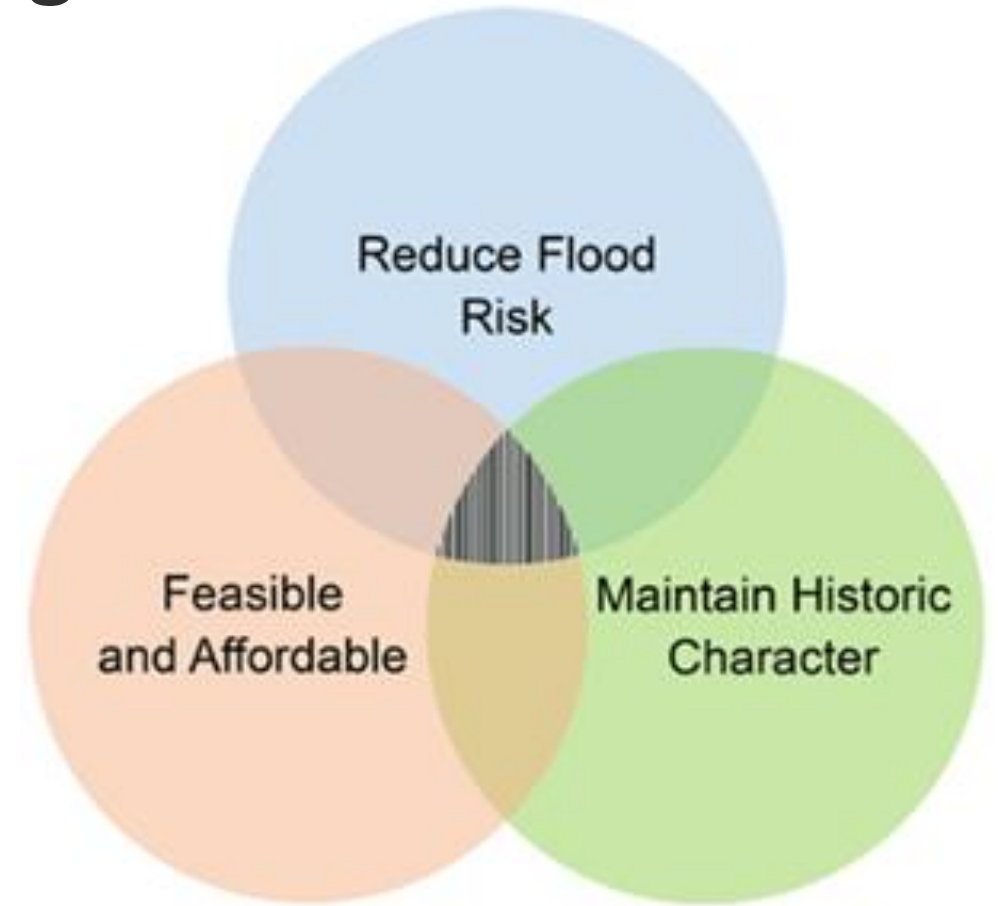
Jane Lazorchak, VT Agency of Natural Resources

Laura V. Trieschmann, State Historic Preservation Officer

Flood Adaptation for Historic Buildings



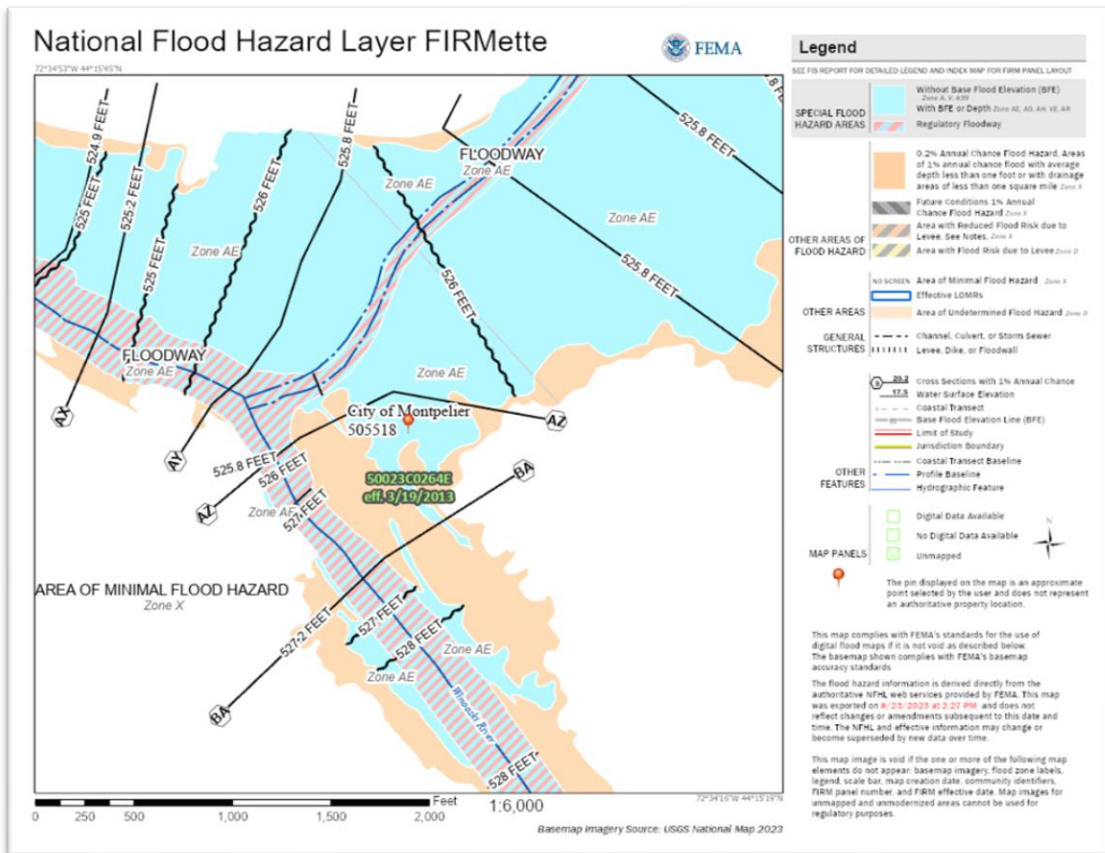
Mill Street, Hardwick, Flood of 1927



National Park Service (NPS) Guidelines on Flood Adaptation for Rehabilitating Historic Buildings

Assessing Risk & Historic Character Before Acting

- Identify specific local flood risks and frequencies.
- Document all character-defining architectural features.
- Balance local floodplain codes with preservation rules.



FEMA Flood Insurance Rate Map of Montpelier, 2023



Inspection at high-water point of the Lamoille River along Route 15 after Hurricane Beryl caused flooding, on July 11, 2024, in Cambridge, Vermont. At rear is the Gates Farm Covered Bridge.

Exterior Care: The First Line of Flood Defense

- Evaluate building materials and site for water vulnerability.



Wet roof and clogged gutters



Disconnected downspout & undermined foundation



Damp & deteriorated masonry foundation

Feasible & Affordable Sites and Systems Defenses

- **Temporary Barriers:** Deploy sandbags and gates before storms.
- **Site Defenses:** Use minor berms and landscaping walls.
- **System Security:** Elevate HVAC, electrical panels, and utilities.



Elevated mechanicals on rear of building



Inflated flood tubes as temporary barriers

Structural Methods to Reduce Flood Risk

- **Dry Proofing:** Seal the exterior to keep water out entirely.
- **Wet Proofing:** Let water pass through low areas to protect walls.
- **Basement Filling:** Pack empty basements with sand to prevent collapse.



Dry: Water Barrier *Temporary barriers with permanent stanchions installed to prevent water from entering*



Wet: Pressure Equalization *Engineered vents allow flood waters to move in and out of the building at a controlled rate*

Balancing High-Impact Changes with Historic Character

- **Building Elevation:** Raise the foundation to clear the flood level.
- **District Context:** Keep the new height visually matched to the street.
- **Interior Elevation:** Lift floors inside without raising the roof.
- **Relocation:** Physically move the building as an absolute last resort.



Elevation: Vertical Defense 195 State Street, Montpelier, Before (right) After 2026 (above)



Relocation: Managed Distance Johnson Public Library relocation 2025

Summary of Adaptation Options

- **The Core Rule:** Always choose the least invasive option that solves the risk.

BUILDING ADAPTATION OPTIONS: A COMPARATIVE FRAMEWORK

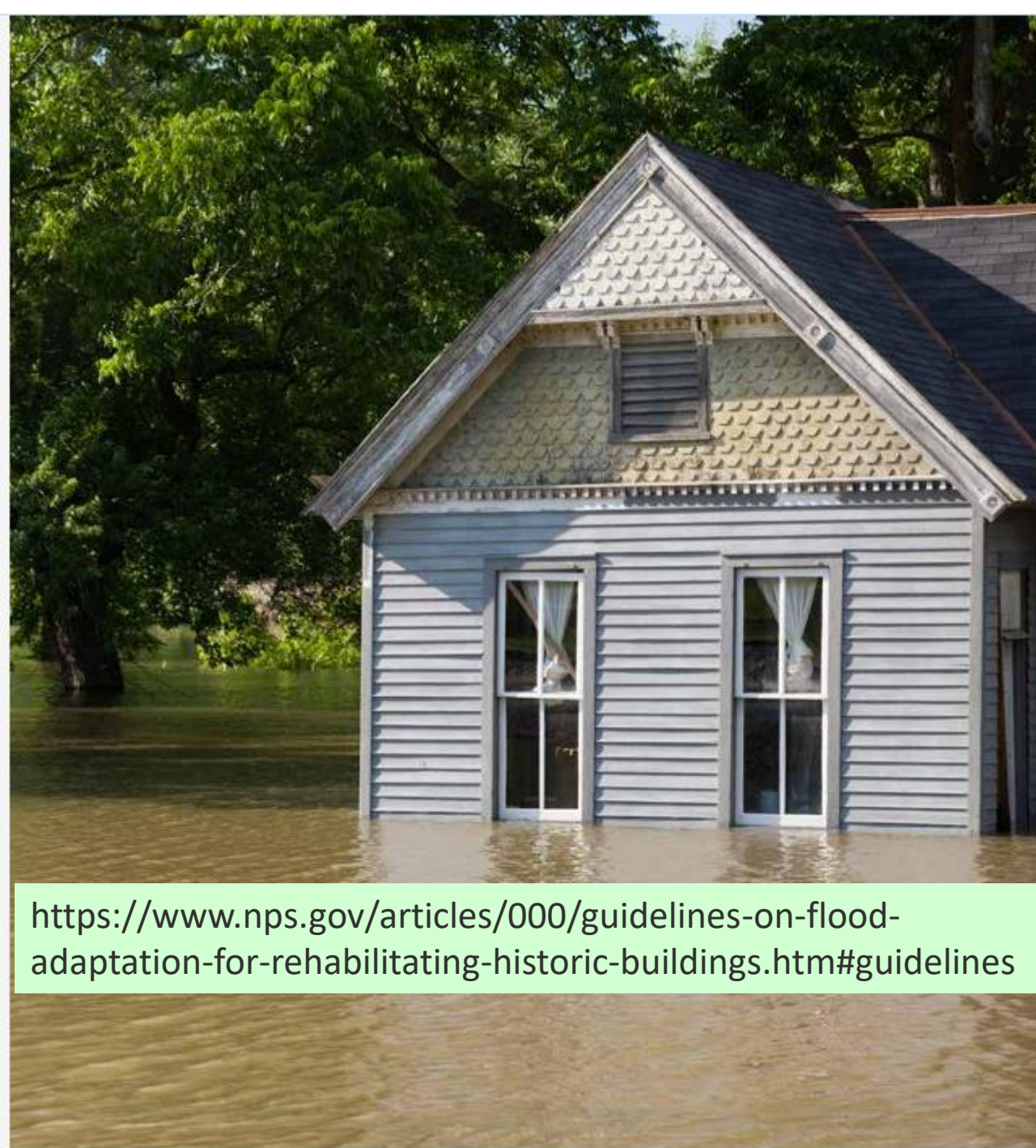
BUILT ENVIRONMENT	[1] Cost/Investment Level	[2] Implementation Difficulty	[3] Flood Protection Level	[4] Building/ Neighborhood Impact
1. SITE & SYSTEMS Utility box/raised machinery 	Low	Simple	Lower Protection Permanent/High	Minor Impact Aesthetic Shift
2. DRY PROOFING Sealed facade/ flood barrier 	Moderate Cost/Difficulty	Moderate Cost/Difficulty	Good for minor floods	Minor Aesthetic Aesthetic Impact
3. WET PROOFING Wall vents/flow illustration 	Moderate Cost/Difficulty	Moderate Cost/Difficulty	Equalizes Pressure	Moderate Internal/ Aesthetic Impact
4. ELEVATION RELOCATION 	High Cost	Very Complex	Maximum Flood Protection (Above BFE)	High Physical/ Aesthetic Impact

Community Buyouts & Managed Retreat

- **Permanent Safety:** Eliminates risk by converting flood-prone land back into natural open space.
- **Fiscal Benefit:** Saves significant public recovery costs by removing vulnerable structures permanently.
- **Preservation Loss:** Usually requires building demolition, resulting in the total loss of the historic asset.
- **The Ultimate Choice:** Balances the extreme economic and safety limits of a building against its historic value.



Northfield: *Water Street residential neighborhood (left, 2011) and Dog River Park (right, 2025) after buyout*



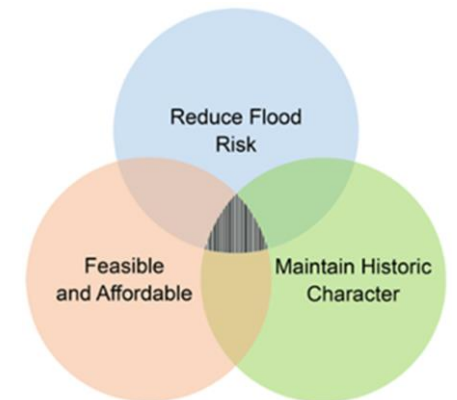
<https://www.nps.gov/articles/000/guidelines-on-flood-adaptation-for-rehabilitating-historic-buildings.htm#guidelines>

THE SECRETARY
OF THE INTERIOR'S
STANDARDS FOR
REHABILITATION &
GUIDELINES
ON **FLOOD
ADAPTATION** FOR
REHABILITATING
HISTORIC
BUILDINGS



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

- The Core Formula:** Resilience + Preservation = Successful Adaptation.
- The Main Goal:** Make the building safer without destroying the history that makes it worth saving.
- The Key Rule:** Treat flooding as a documented threat, not an excuse to over-alter a building.



Municipal Climate Planning Guides & Pilot Program



State of Vermont Municipal Climate Planning Guides

Two-year project to develop a set of guides for Vermont municipalities to support climate action in line with state requirements and opportunities.

Guides for municipal climate action

Social Resilience Process Guide

Municipal Plan Climate Guide

Capital Program Climate Guide

Social Resilience Process Guide

Provides step-by-step guidance for municipal staff and community partners to **work collaboratively** – centering the perspectives of **people who are most impacted** – to better understand social vulnerability and to identify pathways and priorities for **building social resilience**.

- **Use as a way to integrate social resilience into existing plans**
- **Develop a standalone social resilience plan**
- **Use as part of disaster recovery, as a community organizing tool**

Municipal Planning Climate Guide

Supports communities with integrating climate change considerations into their Municipal Plans; provides guidance on how land use planning, zoning and bylaws, and infrastructure upgrades can move towards more resilient and low carbon communities in conjunction with other community goals.

For use by communities that are:

- **Developing a municipal plan (start-to-finish, or just for one topic)**
- **Developing a standalone climate plan**
- **Low capacity**

Capital Program Climate Guide

Supports communities with integrating climate change considerations into their Capital Program and Budget. Provides a framework for thinking about how climate hazards impact maintenance or replacement timelines; design considerations for resilience and carbon reduction goals; and implications for capital, operations, and maintenance costs.

- Mirrors scaling up, scaling down, and regional approach as a framework for each step in the process
- Aligns with the Vermont League of Cities & Towns capital planning technical assistance

Capital Program Climate Guide

- **Framework for integrating climate into Capital Program**
 - Risk to existing assets - implications for repair, upgrades
 - Opportunities for modernization - O&M savings
 - Designing new facilities for 2050 (and beyond)
- **Steps for integrating climate into Capital Program**
 - Develop complete inventories of municipal assets
 - Map assets with climate hazards
 - Conduct energy assessments
 - Set up protocols for “good / better / best” for capital asset replacement, update, or design

Pilot Program

- **Peer-to-peer:** Cohort model for knowledge sharing and collaborative support with participating municipalities
- **Planning support from RPCs:** One pilot community will test a guide with significant TA support from an RPC (Note: all communities will receive some support from RPCs)
- **Planning support from SCC:** One pilot community that would hire a consultant will test a guide with TA support from SCC
- **Ad-hoc coaching:** RPCs and SCC will be available to provide 1:1 coaching to a community who is implementing a guide