Aesthetic Community Character and Flood Risk

SARAH KORJEFF, PRESERVATION SPECIALIST
CAPE COD COMMISSION
SHANNON HULST, FLOODPLAIN SPECIALIST
CAPE COD COOPERATIVE EXTENSION & WHOI SEA GRANT

Nantucket Coastal Conference
June 10, 2025

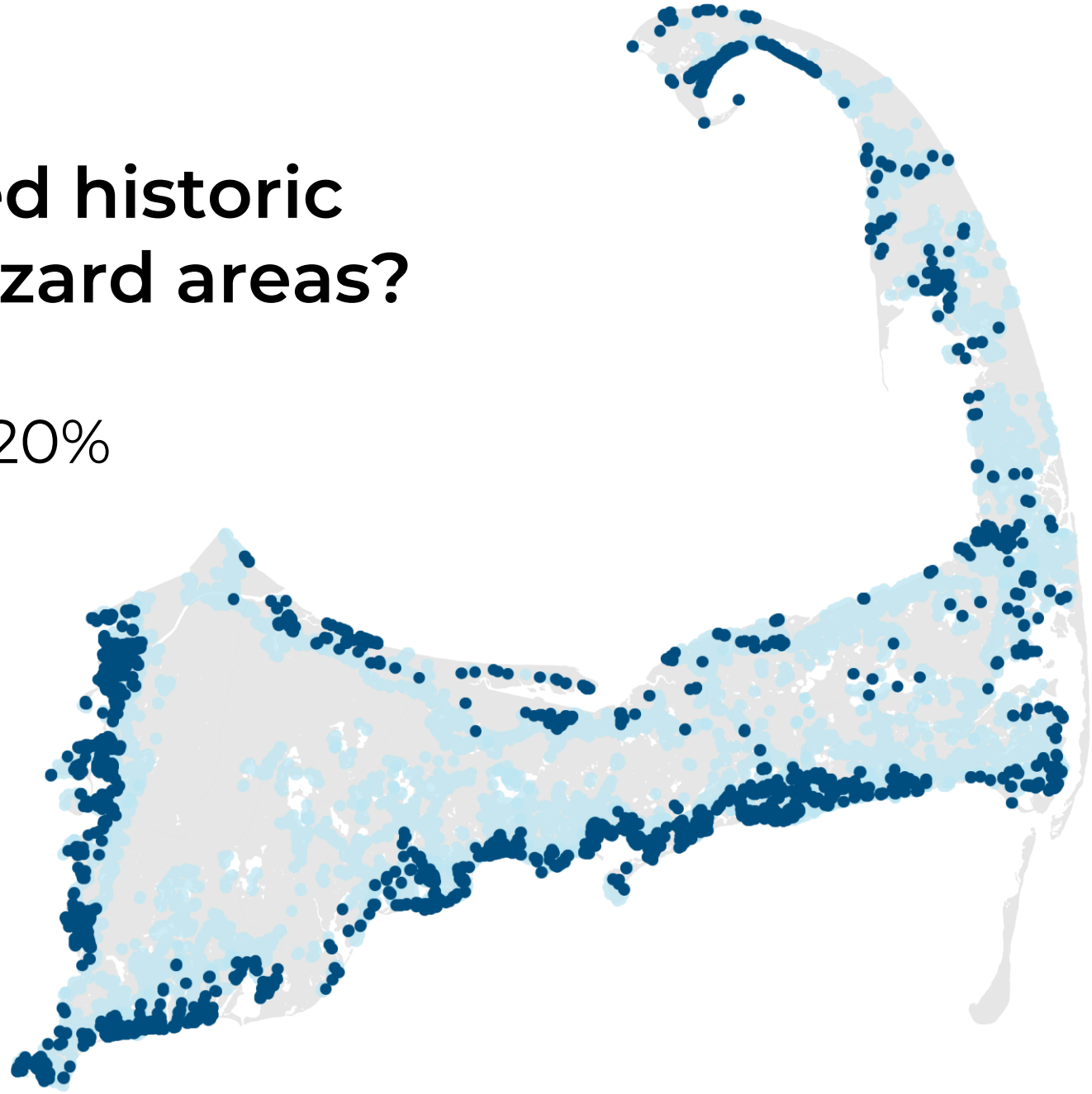
Sea Grant
WOODS HOLE OCEANOGRAPHIC INSTITUTION

CAPE COD COMMISSION

How many inventoried historic structures in flood hazard areas?

Roughly 2,300 or almost 20%

Barnstable 233
Truro 318
Falmouth 460
Provincetown 530



Historic Exemption

Exemption for Historic Structures to certain Floodplain Provisions of Federal and State Building Regulations

Substantial Improvement

Means the structure must be brought up to code

BUT…

These requirements apply differently to “historic structures.”

What Qualifies as a Historic Structure?

(a) Listed individually in the National Register of Historic Places…;

(b) Certified or preliminarily determined by the Secretary of the Interior as **contributing** to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district.

What Qualifies as a Historic Structure?

(c) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or

(d) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

(1) By an approved state program as determined by the Secretary of the Interior or

(2) Directly by the Secretary of the Interior in states without approved programs.

Intent of the Exemption

According to 44 CFR 60.6(A), this exemption may be invoked ONLY if:

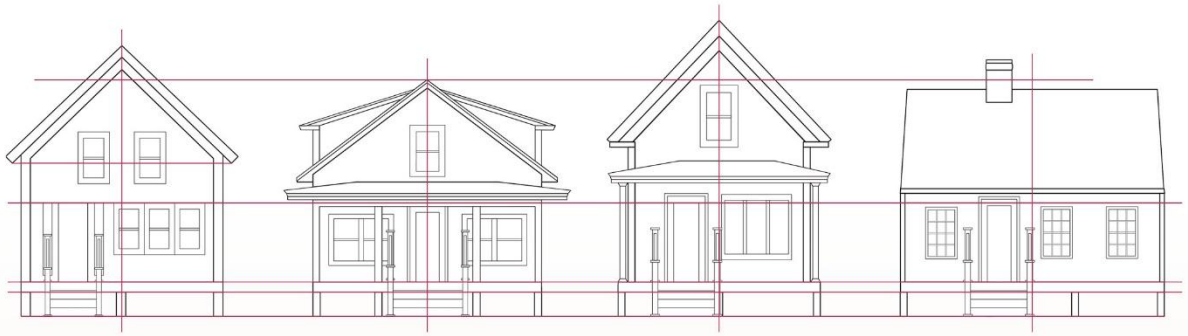
- "(i) the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and
- (ii) the **variance is the minimum necessary** to preserve the historic character and design of the structure."

So…what does that mean?

- The exemption ONLY applies to defining characteristics that are critical to the historic designation of the structure
  - If the defining characteristics are the windows or front doorway (e.g.), the exemption should not apply
- All historic structures must comply with flood safety codes to the greatest extent possible
- **Engage a historic preservation specialist to ensure designation will remain**

Design Guidelines

Preserving Aesthetic Value, Historic Character, and Flood Safety



FLOOD AREA DESIGN GUIDELINES *for* CAPE COD

CAPE COD COMMISSION

https://capecodcommission.org/resource-library/file/?url=/dept/commission/team/Website_Resources/design/Flood%20Area%20Design%20Guidelines%20for%20Cape%20Cod.pdf

Range of Possible Adaptation Strategies

STRATEGIES
Building Solutions

- RETROFIT
- RELOCATION/RETREAT
- ELEVATION

STRATEGIES
Neighborhood and Site Solutions

- TEMPORARY SITE BARRIERS
- PERMANENT SITE BARRIERS
- LANDSCAPE SOLUTIONS/GREEN INFRASTRUCTURE

Special Considerations for Historic Structures

8 KEY PRINCIPLES FOR ELEVATING BUILDINGS ON CAPE COD

1. Limit building silhouette. An elevated building will have an increased silhouette and overall massing which needs to be balanced by efforts to reduce the apparent massing to preserve the region's traditional building scale. Design narrow building additions when working with elevated structures to avoid expanding the silhouette.

2. Limit porch or deck areas. Encircling a building with porches or decks widens the building base substantially and changes the traditional proportions. New porches and decks should follow traditional conventions and proportions, placing them at the front entry and rear elevation or wrapping one corner of the building.

3. Maintain street level of interest. Buildings that are part of a neighborhood or commercial streetscape connect to and interact with pedestrians through porches, display windows, detailed entrances, or landscape elements. Elevated buildings must re-establish that connection to the streetscape through design features.

4. Leave open areas under buildings. Cape traditions show that buildings in proximity to the water were elevated with open pile foundations, allowing views to the water beneath the building. This also helps reduce the overall enclosed massing of the building, making it more consistent with the region's traditional small scale.

5. Use skirting designs that reflect the neighborhood and local traditions. Skirting is most appropriate for buildings elevated a modest height above the ground. Incorporate familiar architectural detailing that references Cape Cod vernacular wood styles. Dark colored skirting, inset several inches to distinguish it from the main building mass, will recede into the background more easily.

6. Use layers of landscape plantings and low fences. Vegetation, arbors, window boxes, and patios can distract from the building's elevation. Place landscape elements both at the building edge and at the street edge to draw the eye to pedestrian-height elements.

7. Elevate buildings in a neighborhood to a consistent base elevation height. Neighborhoods or blocks can best preserve their character if buildings are elevated to a similar height, preserving their relationships to one another. Consistent skirting designs and streetscape treatments will also help protect an area's distinctive character. The same is true if buildings are set back from the street to accommodate access or soften the change in building height.

8. Make parking and garage doors secondary to pedestrian features. Large garage doors and parking areas will become dominant features of a street-facing facade unless they are carefully designed. Any garage or parking should be screened by pedestrian-focused elements like entry stairs and seating areas, especially in areas with high pedestrian activity.

KEY ELEVATION PRINCIPLE

Limit Building Silhouette

Preserve existing building scale and relation to neighboring buildings with small building masses and additions that hug the main building mass. Balance the overall massing's increased silhouette with efforts to reduce the apparent massing.

1. Design any new additions to be narrow and compact, hugging the main part of the structure to limit the building's profile. Consider removing non-historic side ells or building features to reduce the footprint of the elevated building and to open view corridors through a site.

2. Maintain steep roof pitches on upper floors to preserve distinctive gable silhouettes and step back dormers several feet from the eaves to reduce massing at the highest parts of the structure.

3. Orient the narrow end of the building facing the street, or facing the beach if a coastal property, to present a smaller massing when elevated and allow views through the site along the sides of the building.

4. Design garage and storage areas as hidden spaces or as separate, rather than attached, structures to limit the overall building mass.

A small addition can accommodate utilities moved from basement level.

A steep gable roof silhouette on elevated buildings helps to balance their increased height and anchor them to the ground. Roof dormers stepped well back from the roof edge keep the gable form prominent.

An open area beneath the elevated building (left) provides room for parking without increasing the overall scale of the original structure. An outbuilding can provide additional space without adding bulk to the main building.

Limit building silhouette. An elevated building will have an increased silhouette and overall massing which needs to be balanced by efforts to reduce the apparent massing to preserve the region's traditional building scale. Design narrow building additions when working with elevated structures to avoid expanding the silhouette.

KEY ELEVATION PRINCIPLE

Limit Porch or Deck Areas

Avoid wrapping decks or porches around all sides of the building because it adds substantial width and creates an overly large base when buildings are elevated more than several feet. Traditionally, most porches are located on the front facade, along a side ell, or at a corner of the building. New porches and decks should follow traditional conventions and proportions.

1. Limit porches and decks primarily to front and rear facades of a structure or to corners of the building to reduce the elevated massing. If the facade is wide, limit decks or porches to half of the front facade width.

2. Design a front porch that covers only a portion of the facade to help break down the larger massing of an elevated structure.

3. Use streamlined or thin railings on long decks and porches to limit their bulk.

A traditional one-story porch (left) helps reduce the apparent size of the building behind it. Inset porches (center and right) create a space that breaks up a larger building mass.

A narrow wood railing with metal rods or cabling has a very small visual profile that can help to reduce the bulk of railings.

Limit porch or deck areas. Encircling a building with porches or decks widens the building base substantially and changes the traditional proportions. New porches and decks should follow traditional conventions and proportions, placing them at the front entry and rear elevation or wrapping one corner of the building.

KEY ELEVATION PRINCIPLE

Maintain Street Level of Interest

Elevated buildings must re-establish the connection to the street and the neighborhood through design features such as a prominent main entry.

1. Design extended entry stairs facing the street wherever possible or turn stairs 90 degrees to run parallel to the front facade if space is limited.

Left: Falmouth home with extended stairs that face the street and keep the entry prominent. Right: Provincetown home with stairs turned 90 degrees due to narrow setback from street.

2. For buildings without a front porch, a narrow open deck or stair landing can animate the elevated building front with pedestrian features. This may be appropriate especially in densely developed areas.

Left: Example of narrow front deck that invites pedestrian activity in Chatham. Right: Another way to provide pedestrian access is with a central deck structure that provides elevated access to several buildings arranged around a courtyard as in this Chatham example.

Maintain street level of interest. Buildings that are part of a neighborhood or commercial streetscape connect to and interact with pedestrians through porches, display windows, detailed entrances, or landscape elements. Elevated buildings must re-establish that connection to the streetscape through design features.

KEY ELEVATION PRINCIPLE

Leave Open Areas Under Buildings

Cape buildings close to the water were traditionally elevated on open pile foundations, allowing views beneath the building. When solid foundations were used, they were typically limited to the main body of the house, while porches and other additions remained open underneath or lightly screened with landscaping or lattice.

1. Limit solid foundation walls to areas beneath the core of a structure and leave open areas beneath porches, decks, and additions. For buildings elevated more than several feet, open areas under all or part of the building will reduce the overall enclosed area and make the building appear more consistent with the traditionally small-scale buildings of the region.

2. Define areas under porches, decks, and additions with overhangs and detailed posts or columns to add interest without adding mass.

3. In larger structures, leave some areas beneath the core of the structure open to reduce the overall massing. Use lattice or similar open screening materials to define small areas such as the core of the street-facing building facade or to enclose small storage or central stair areas. Leave areas underneath ells and other features open to light.

Open spaces under porches, ells, or the entire structure help to reduce the overall scale of an elevated building.

Architectural detailing with lots of space between elements can define the area under a deck without blocking views through the space.

Use skirting designs that reflect the neighborhood and local traditions

Incorporate familiar architectural detailing that references Cape Cod vernacular wood styles.

1. Screen elevated foundation materials with architectural detailing that differentiates between the main body of the building and the extended foundation wall to add interest while preserving proportions.

2. Use skirting styles that follow neighborhood traditions of wooden horizontal louvers, vertical slats, and lattice patterns, or that echo traditional brick or stone foundation materials or a combination of wood and masonry. White skirting provides contrast to weathered shingle buildings above, while natural wood tones and dark colors are a good alternative for buildings that are a lighter color.

3. Inset skirting several inches from the building mass to further distinguish it from the mass of the elevated building.

Extended foundations with traditional masonry, wood lattice screening, and vertical boards provide contrast with the primary exterior siding material while expressing neighborhood traditions.

KEY ELEVATION PRINCIPLE

Use layers of landscape plantings and low fences

Traditional picket fences placed close to the street and paired with landscape plantings of different heights add pedestrian elements that help distract from dramatic increases in building elevation.

1. Low fences and arbors, window boxes and layers of plantings of different heights can help to distract from the building's elevation.

2. Animate the street edge with gardens, low fences, hedges, arbors, pergolas, and seating areas to reinforce neighborhood streetscape characteristics. Elements at the street edge are most important where pedestrian activity is high.

These elevated buildings maintain open patios beneath and incorporate landscaping at the building edge and the streetscape edge to provide some pedestrian scale.

Use layers of landscape plantings and low fences. Vegetation, arbors, window boxes, and patios can distract from the building's elevation. Place landscape elements both at the building edge and at the street edge to draw the eye to pedestrian-height elements.

KEY ELEVATION PRINCIPLE

Elevate buildings in a neighborhood to a consistent height

Preserve the character of distinctive neighborhoods with consistent building elevation heights and similar streetscape treatments. This is particularly important in densely developed areas and historic neighborhoods where the relationships between buildings are the product of hundred-year-old traditions.

1. Follow consistent elevation heights for logical subsections of a neighborhood, such as along street or block frontages, or adjacent to key landscape features such as parks or coastlines, to help protect an area's distinctive character. When considering the appropriate height to elevate, recognize that BFEs and freeboard requirements will likely increase in the future.

2. If specific site characteristics would require a small number of buildings to be elevated higher than most other structures in a neighborhood, consider ways to address the presumed increased elevation needed through other means, such as shifting or removing a portion of the building in a more hazardous flood zone or using temporary flood barriers to protect some portions of the property, if permitted.

3. Use a similar palette of design features on elevated buildings including designs for extended entry stairs, open porch forms, containment walls, fencing, and other landscape elements.

Neighborhood with consistent elevation height.

Fencing, plantings, porch details, and trim should refl established neighborhood character.

Elevate buildings in a neighborhood to a consistent base elevation height. Neighborhoods or blocks can best preserve their character if buildings are elevated to a similar height, preserving their relationships to one another. Consistent skirting designs and streetscape treatments will also help protect an area's distinctive character. The same is true if buildings are set back from the street to accommodate access or soften the change in building height.

KEY ELEVATION PRINCIPLE

Make parking and garage doors secondary to pedestrian features

Garage doors and parking areas will become dominant features of a street-facing facade unless they are carefully designed.

1. Limit garage doors, driveways and parking access to side elevations, especially where buildings are an important element of the streetscape.

2. Allow parking or garaging on the front elevation only when no alternatives exist and when it spans less than 40% of the building facade to prevent parking from dominating the streetscape. Recess the garage access and extend pedestrian-focused features such as entry stairs or porches closer to the street so they are more prominent.

Garage access should be limited to the side of a building or to a small portion of the front so pedestrian-focused features remain prominent.

Make parking and garage doors secondary to pedestrian features. Large garage doors and parking areas will become dominant features of a street-facing facade unless they are carefully designed. Any garage or parking should be screened by pedestrian-focused elements like entry stairs and seating areas, especially in areas with high pedestrian activity.

Thank you!

Shannon Hulst, Floodplain Specialist

shannon.hulst@capecod.gov

Sarah Korjeff, Preservation Specialist

skorjeff@capecodcommission.org

Nantucket Coastal Conference

June 10, 2025

COUNTY OF BARNSTABLE MASSACHUSETTS

Sea Grant
WOODS HOLE OCEANOGRAPHIC INSTITUTION

CAPE COD COMMISSION

Recommendations

- Recommendations:
  - Start with fully compliant proposal, back off only if historic designation would be nullified
  - Proposal should include proposed height of structure above ground, not just increase in height or in NAVD88
  - Consider 8 Elevation Principles in the Design Guidelines
  - Is there a consistent height (based on the highest required elevation) to which all structures in a neighborhood should be elevated?

Blue line to Blue line = Proposed change in building height
Green line to Blue line = Proposed height above ground