Suggestions for Preserving Historic Cape Cod Buildings

Dillingham House, Brewster, Mass.
Two Different outcomes:

Crowell House
78 South Street
East Dennis, MA

1734 Cape with additions
692 Tubman Road
Brewster, MA

2003 “Replica”

“No longer for sale as owner plans to keep and restore” - Building Salvage Listing
In the eighteenth century there were accepted “necessary”, “sufficient”, “good” and “workmanlike” practices. There are now many additional choices.

Replace a simple stone foundation

A rock below a sill on the ground

Engineered to code to resist 120 mph winds with insulated conditioned crawlspace based on “Building Science”
Traditional practices and modern codes

- "R311.2 Egress door. At least one egress door shall be provided for each dwelling unit. The egress door shall be side-hinged, and shall provide a minimum clear width of 32 inches (813 mm) when measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). The minimum clear height of the door opening shall not be less than 78 inches (1981 mm) in height measured from the top of the threshold to the bottom of the stop..."

2012 International Residential Code for One- and Two-Family Dwellings

"Building with Nantucket in Mind"
“Believable but erroneous information”

Many repairable frames are unnecessarily demolished.


Atwood House, Chatham, Mass. Extensive roof repair based on Structural Engineer’s recommendations about 32,000.
Approaches and Products

“Supa-Flu” chimney lining system

c. 1920 steel sash rollers
Difficulty finding appropriate materials
Knowledgeable Craftspeople
Existing Rafter Repair
Trim-Builder’s Guides

THE ARCHITECT, OR PRACTICAL HOUSE CARPENTER (1830) Asher Benjamin
Sympathetic Architects

Pamela Bartter Architect
Workshop, stairs, addition

Leonard Baum, Architect
Designers

Courtesy, Mark Williams
Structural Engineers experienced with traditional building

Repair diagram with analysis, and recommended repair
Janet Kane, Jk Structural Designs, P.C.
Captain David Crowell House circa 1820 - East Dennis, Mass.

Prince Crowell addition, 1839
East Dennis Historic District Commission agrees to demolition

- Owners attempted to sell historic house
- Owners agreed to build a “replica”
- Two experts recommended demolition due to deteriorated condition and excessive expense to repair
- “The vestibule is more than two feet too wide for the front.....By their standards and ours the proportions are not right”
- “The soapstone fireplaces in the house are also oddities and they were probably added at the end of the 19th century.”
Almost Perfect Hemlock Frame
Original Shingles, evidence of early green window frames
“...in a workmanlike manner...”
Existing Plan
Wall Removed for Bath
Original Doors and Stair
Plans

Symmetrical Original Plan
Projecting Porch or Vestibule

1809 Yarmouth Quaker Meetinghouse
Daisy Wheel, proportions, ratios
Building based on increments of 3:
33' wide, 9' - 6' - 9' facade

MY MEASURES: approx. unit 14.96"

40'- 4 1/4" [32.369], 40'-3" [32.28] 40'-2"[32.22]
31'- 1-1/4", 31'-2"[25] + (2) overhang=?
10'-4", 10'-6"[8.4] -8" roof height

18'-10\(\frac{1}{2}\)"rafter length, 19'-2"[15.333] extrapolate
16'-10" [13.5] post height. First flr: 8'-8"[6.95],
Second Flr: 8'-2" [6.5])
Soapstone Fireplaces
• Typical brick Cape Cod fireplaces

Repaired fireplace and oven
Firebox Changed

The American BUILDER’S COMPANION (1827) – ASHER BENJAMIN
An 1849 map of Quivet Neck shows the large concentration of saltworks spread out on the land. The areas marked with a checkerboard depict the locations of the saltworks. The illustration reveals that the entire surface of the neck was not covered with vats but a large acreage was used for evaporaters. To locate the landmarks, the road running east and west along the bottom of the map is the present highway designated Route 6A in East Dennis.
1820 Crowell House

1798 Homer House

Simple Quaker inspired door, smaller glass size
Evidence or Original Colors

Parged or rendered chimneys

Extensively nailed mustard clapboards

Red roof

Incised and decorated foundation parging
Homer then —

Red roof, parged chimney and foundation, mustard painted clapboards with patterns of nails, possibly blue trim, large 10” by 14” glass.

Now —
• Twin chimney center hall Georgian
"He was influential in bringing noted speakers to the Cape to urge the support of the Abolition movement. Captain Prince grew a long shaggy beard to show his abolition support, vowing not to shave until the slaves were freed" - Nancy Thatcher Reid
A Cultural Dialogue

Quaker Abolitionists

Privateers, second passage money
1734 Cape with additions
692 Tubman Road
Brewster, MA

• Contractor, structural engineer, and mason recommended demolition
  Nicole Merriman Quote
TYPICAL UNDERSIZED PURLINS
Sistered with white oak and blocks
ATWOOD HOUSE: SOUTHWEST BED CHAMBER

There is a more than 2” of deflection or sag in the ceiling. We recommend stabilizing the ceiling from above with lvls and leaving this sag or “creep”. To correct the sag will not only remove the effect of time but will probably also result in significant damage to the original seashell lime plaster.

R. Adam noted that the urn/compass point motif above the front door pilasters is also in the stenciling.
Joists supported with LVL and Simpson hangers
Masonry
Suggestions
Require or develop a coherent, “holistic” plan

“House on the Bumpy Road” cruck frame addition
Investigate different approaches - 3 contractor rule

- A portion, unit of work
- Mock-ups
- Phased work
- Appropriate materials
Complete a unit of work

Determine cost and quality
• Complete a unit - paint a wall, restore 2 windows, complete an interior room... then extrapolate total cost
Mock-ups

Courtesy, J. P. Moriarty
Phased work

Foundation, exterior......
### Materials: Dendrochronology

#### Replaced Materials

**Bill Flynt, Historic Deerfield**

- Dendro
- **ATWOOD HOUSE PROVISIONAL DENDROCHRONOLOGY DATES, CHATHAM, MA**
- **SAMPLE ID** | **AGE** | **FYOG** | **LYOG** | **WANE** | **SPECIES** | **LOCATION**
---|---|---|---|---|---|---
- CA-01 | 63 | 1694 | 1756 | Y | PIRI | PRINCIPAL RAFTER (LABELED “CW”)  
- CA-02 | 55 | 1701 | 1755 | Y | PIRI | PRINCIPAL RAFTER  
- CA-03 | 65 | 936 | 1000 | N | PIRI | PRINCIPAL RAFTER (LABELED “BE”)  
- CA-04 | 74 | 927 | 1000 | Y | PIRI | PURLIN  
- CA-05 | 53 | 1704 | 1756 | Y | PIRI | PURLIN  
- CA-06 | 58 | 1698 | 1755 | Y | PIRI | PURLIN  
- CA-07 | 53 | 948 | 1000 | Y | PIRI | PURLIN  
- CA-08 | 54 | 1703 | 1756 | Y | PIRI | PURLIN  
- CA-09 | 61 | 1691 | 1751 | N | PIRI | PURLIN

**NOTES**

- **AGE** = NUMBER OF RINGS IN SAMPLE  
- **FYOG** = FIRST YEAR OF GROWTH (AS MEASURED)  
- **LYOG** = LAST YEAR OF GROWTH  
- **WANE** = BARK EDGE  
- **PIRI** = PITCH PINE  
- **NOTES**-SAMPLES WITH LYOG OF 1000 DID NOT DATE
Mike Irons, Saco, Maine

LYMANCE TOP-SEALING DAMPER

Lime and clay mortar
Materials; use proven technologies to avoid unintended consequences

- Modern gypsum plaster repair adjacent to lime plaster. Historic lime plaster resists mold.
Norton House Wall Paintings moved to Rufus Porter Museum Bridgeton, Maine

Jonathan D. Poor, 1840
Use of additions or preservation of a building as a part of the larger design
“Half-Cape” from Route 28 in Yarmouth, Mass.

A traditional practice referred to as “flaking” on Cape Cod.
Nantucket, Mass.
Kitchen integrated into Keeping Room
A duplex replaced this early 18th century Londonderry, N.H. gambrel.

Repaired and reassembled frame with antique post and beam addition from Rhode Island in Roxbury, Conn. for John B. Maurer-builder and designer.
• David Ottinger
• David Ottinger
  Antique Buildings & Materials
• 617-721-1728
• davidottinger@hotmail.com