

Suggestions for Preserving Historic Cape Cod Buildings



Dillingham House,
Brewster, Mass.

Two Different outcomes:

Crowell House
78 South Street
East Dennis, MA



2003 "Replica"

1734 Cape with additions
692 Tubman Road
Brewster, MA



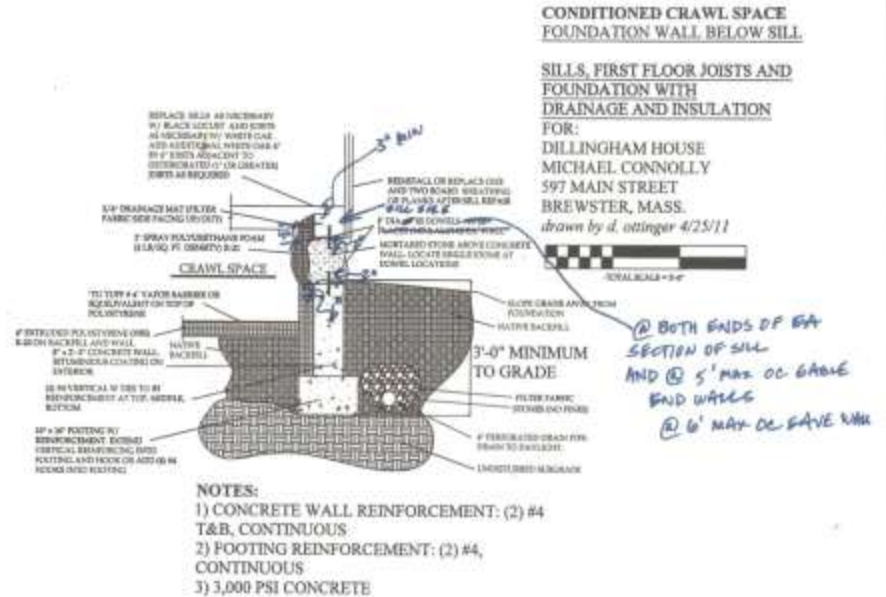
"No longer for sale as owner plans to keep and restore" - Building Salvage Listing

In the eighteenth century there were accepted “necessary”, “sufficient”, “good” and “workmanlike” practices.

There are now many additional choices.

“Good and Sufficient Language for Building”, by Catherine Bishir, pp. 43-53. Construction and especially historic preservation is an increasingly complex field with a bewildering range. “Explicit Rules, Implicit Rules, and Formal Variation in Vernacular Building”, by Howard Davis, pp. 53-63. **Perspectives in Vernacular Architecture, IV**, Edited by Thomas Carter and Bernard L. Herman, University of Missouri Press, 1991.

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



“Building with
Nantucket in Mind”

- **“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

“Believable but erroneous information”

Many repairable frames are unnecessarily demolished



“The Pillar House” Newton to Lincoln Mass. Dismantled in sections.

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



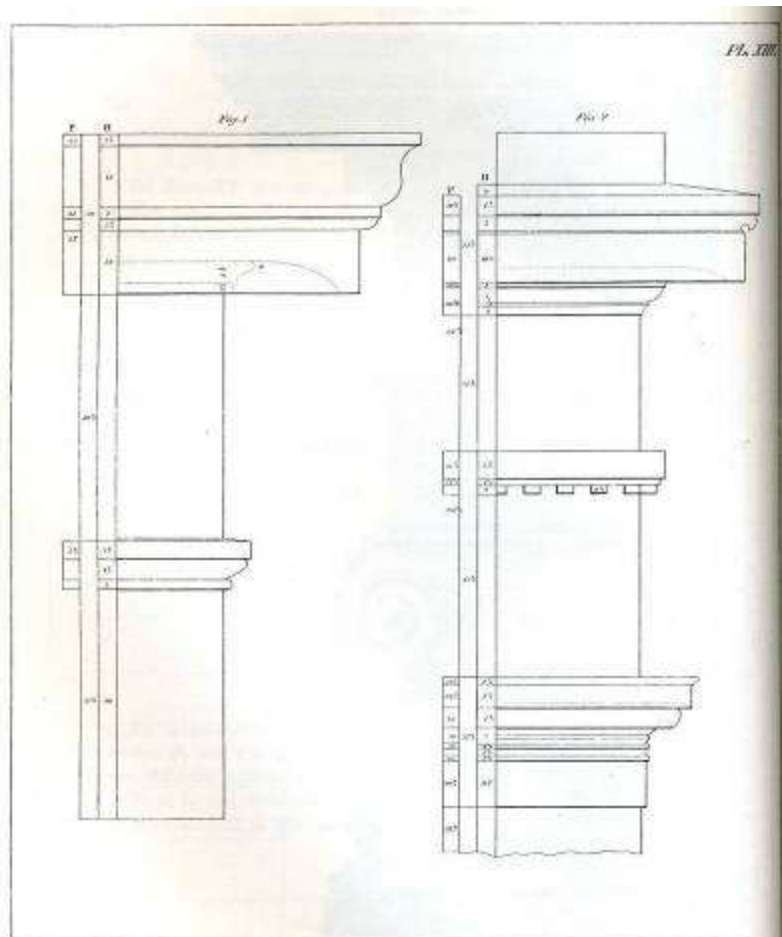


Knowledgeable Craftspeople

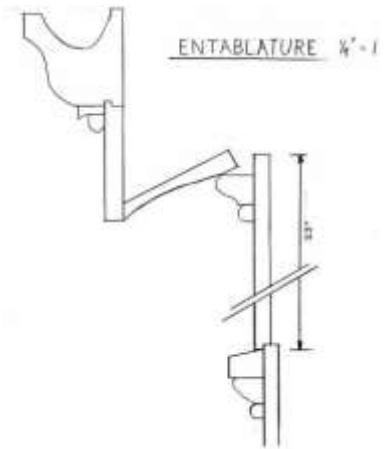


Existing Rafter Repair

Trim-Builder's Guides



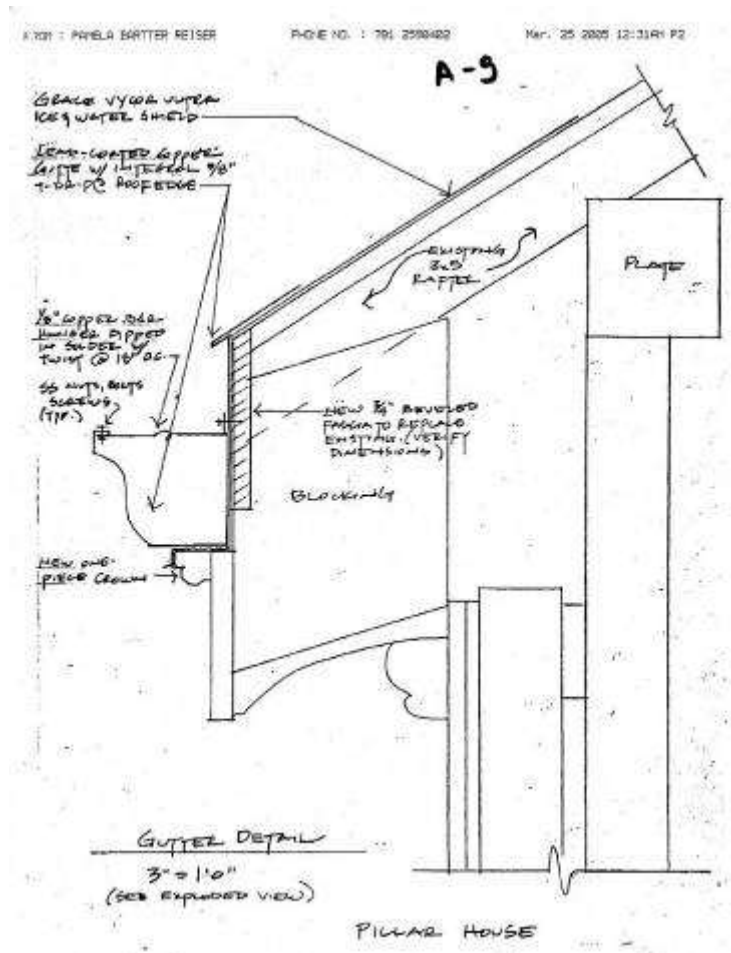
THE ARCHITECT, OR PRACTICAL HOUSE CARPENTER (1830) Asher Benjamin



Ottinger drawing



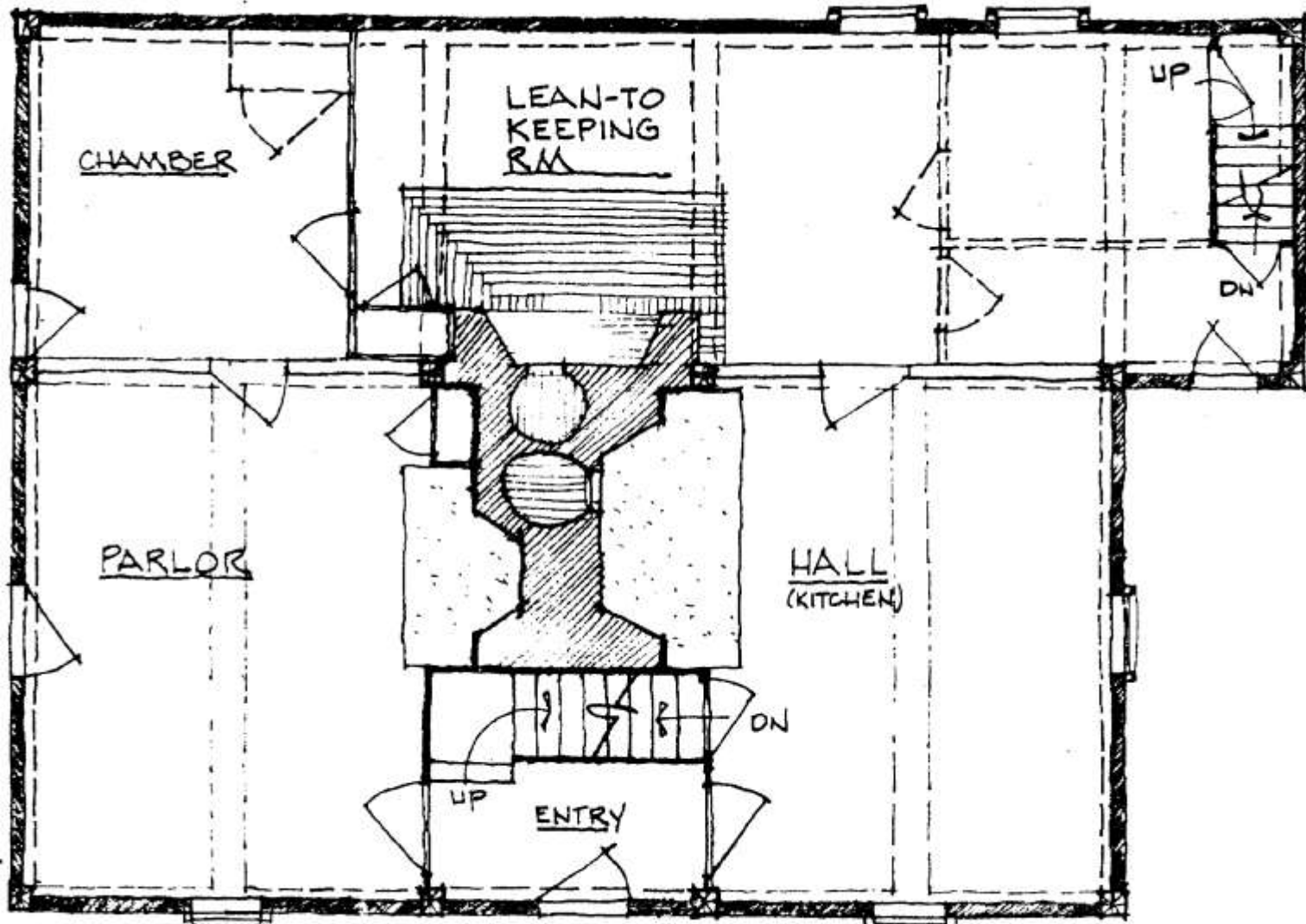
Sympathetic Architects



Pamela Bartter Architect

LAKE HILL FARM

LSBARCH 17/9/01



Workshop, stairs, addition

1ST FLOOR PLAN

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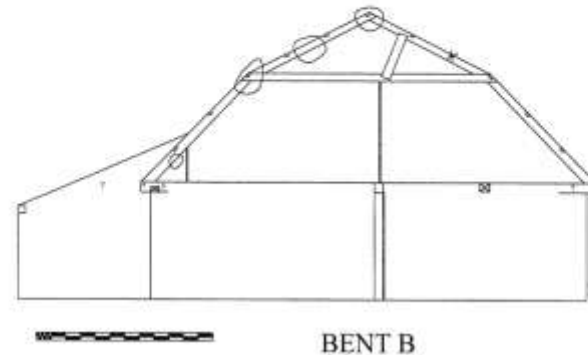
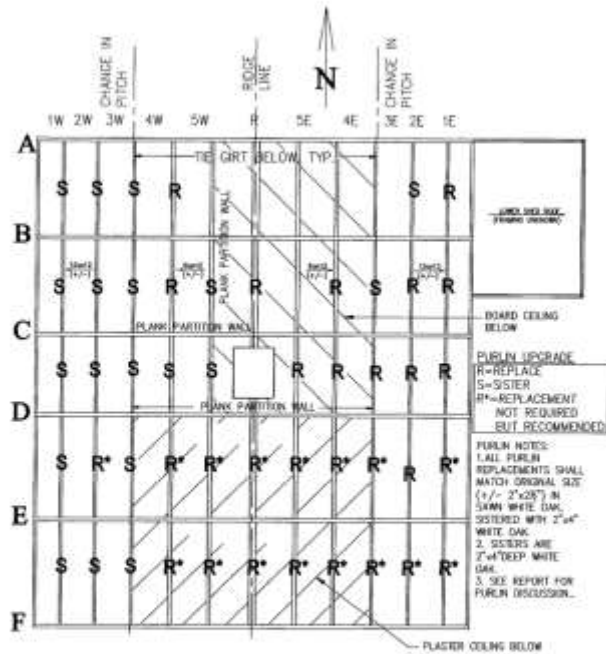
Leonard Baum, Architect

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

1839 Agreement

Agreement between A. Smalley and Prince S. Crowell

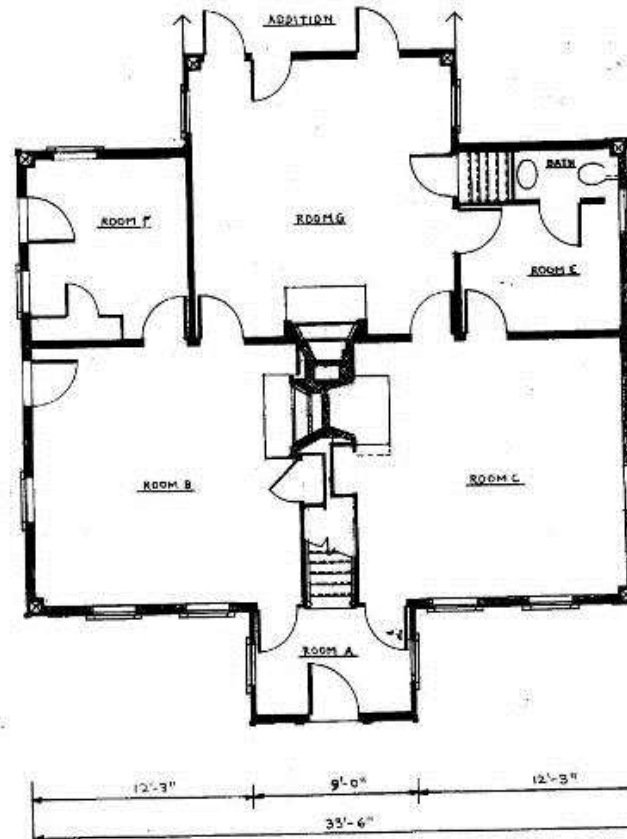
This agreement made between Anthony Smalley of Brewster and Prince S. Crowell of Dennis in the county of Barnstable In which the said A. Smalley agrees to build the said P.S. Crowell a house to adjoin the house of David Crowells to be flush with the north part of D. Crowell's house to be twenty seven feet long & fifteen feet wide or thereabouts the lower storey to be as high as the lower storey of the old house the other to be as high as the south part of the back room of the old house to be double boarded shingled and lathed two rooms and one buttrey on the lower floor Three windows & four doors in the east room according to the plan four doors and two windows in the second room one window in the buttrey cellar window cellar & chamber stairs & sink one bedroom in second storey also one window in the west end of the house and also two or more side lights. The aforementioned A. Smalley also agrees to shift two windows which are in the west side of the old house to the north side of the same also to move the stairway that is in the kitchen & put it up in the back room to repair all breakage in putting it up and taking it away also to make a clothes room in the lower Bedroom & also to make a bedroom up stairs in the old house with a clothes room in it he whole to be done in a workman like manner in consideration of which the aforementioned P.S. Crowell agrees to pay the said A. Smalley the sum of ninety five dollars and board the carpenter.

Dennis December 5th 1839

Prince S. Crowell

“...in a workmanlike manner...”

Existing Plan



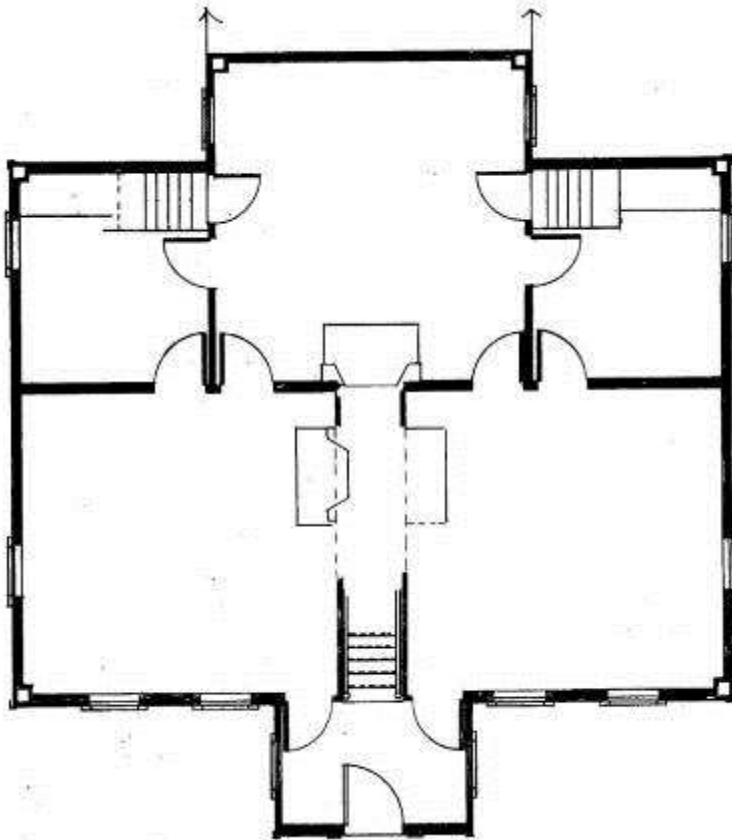
Wall Removed for Bath



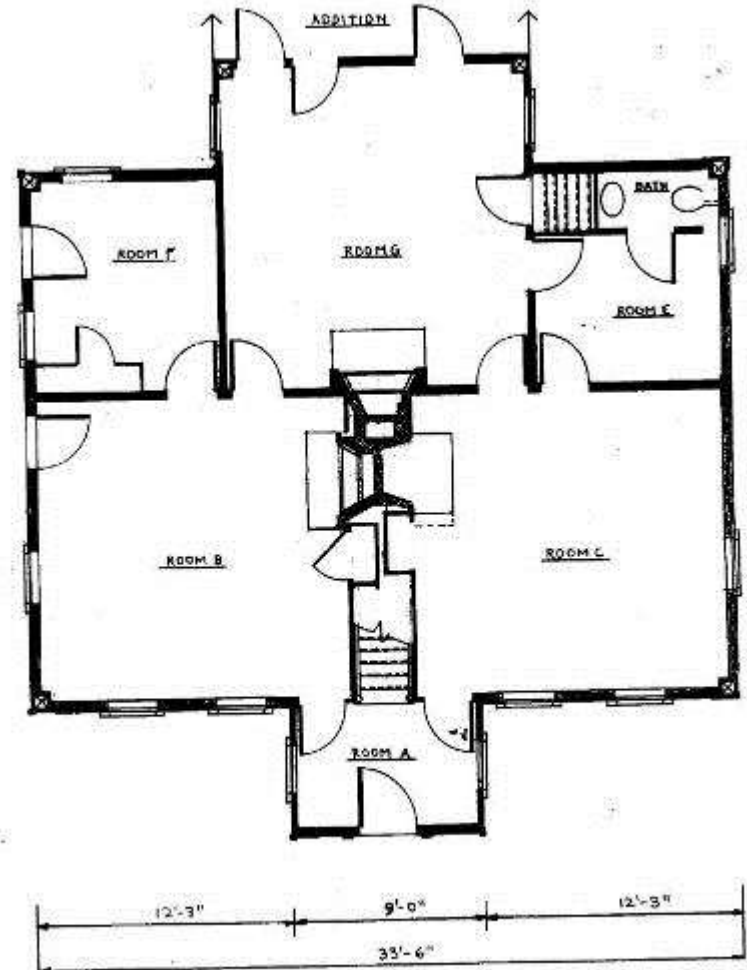
Original Doors and Stair



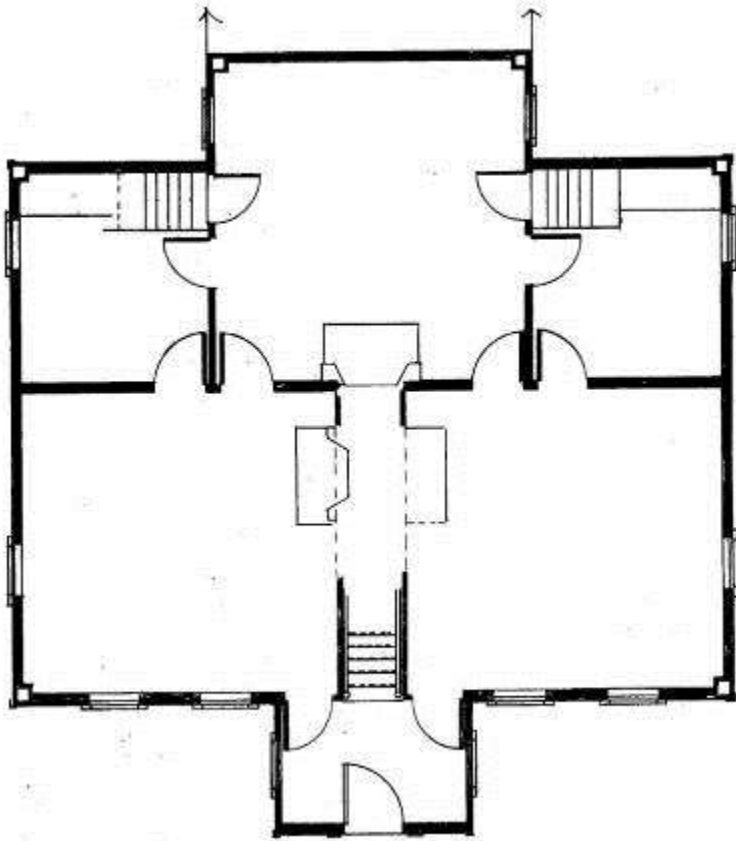
Plans



Symmetrical Original Plan

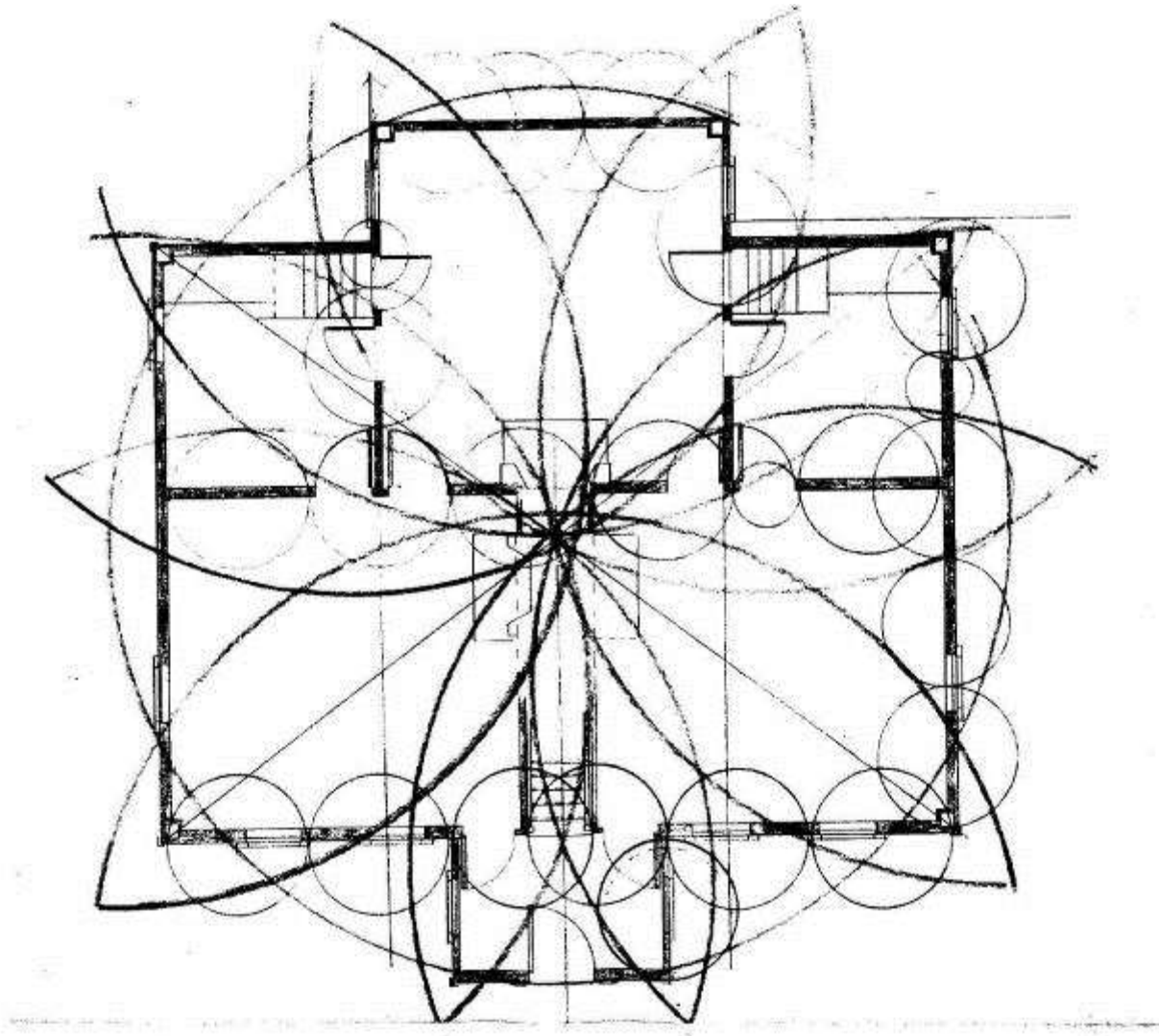


Projecting Porch or Vestibule

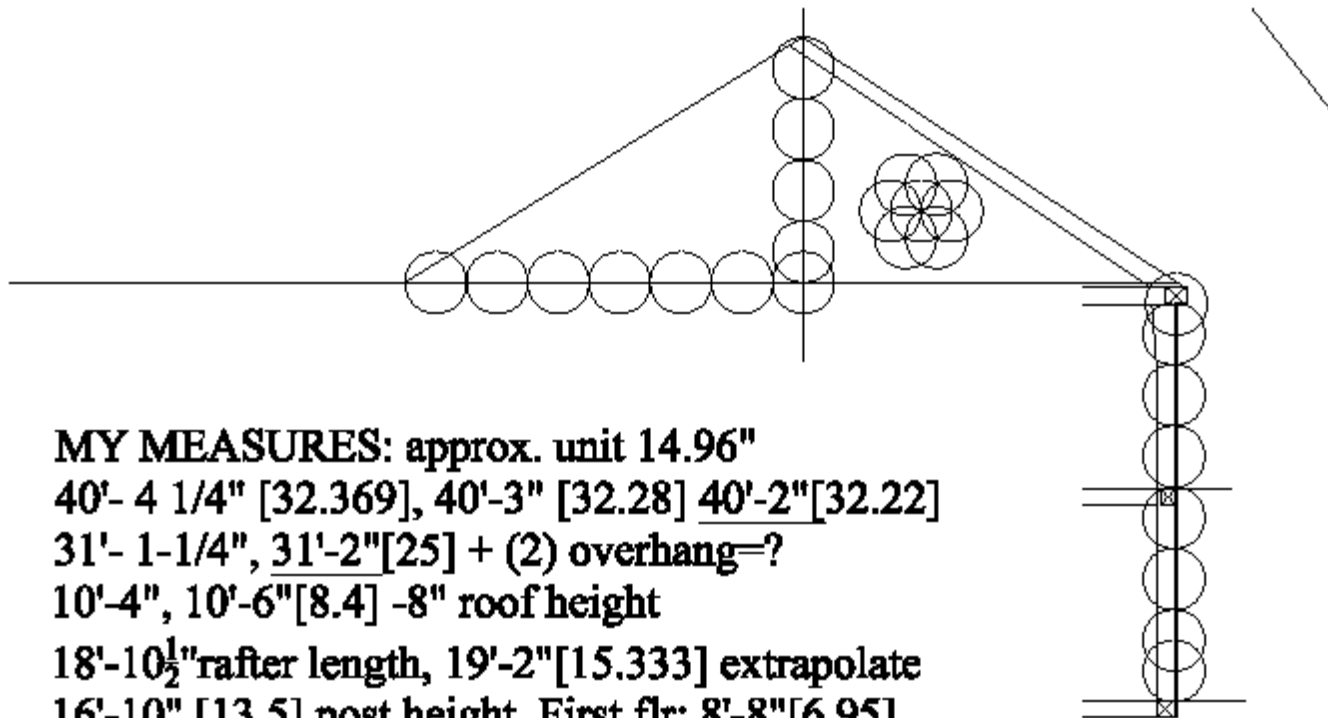


1809 Yarmouth Quaker Meetinghouse





Daisy Wheel, proportions, ratios



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'-10¹/₂"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



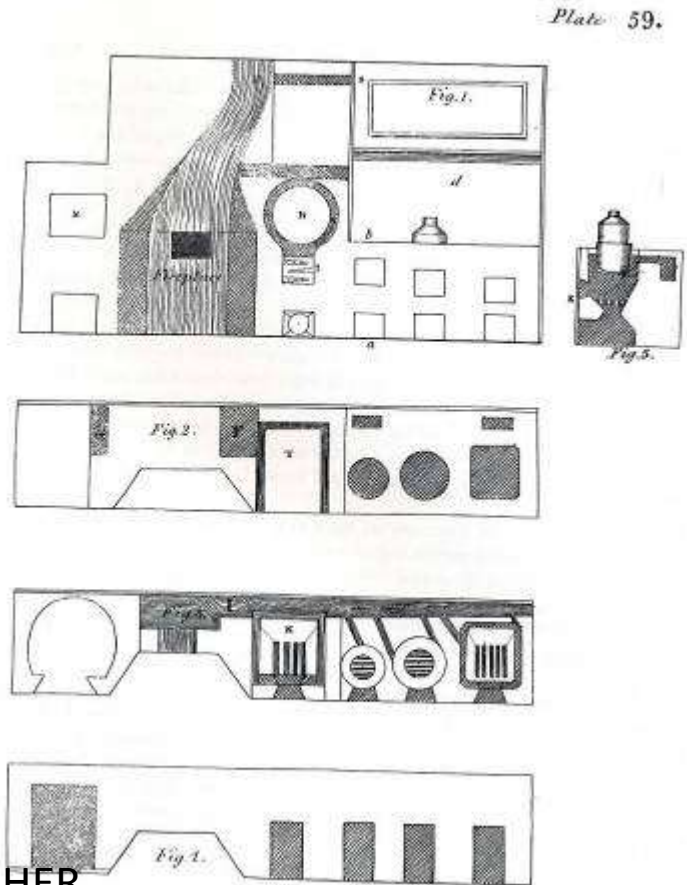
- Typical brick Cape Cod fireplaces



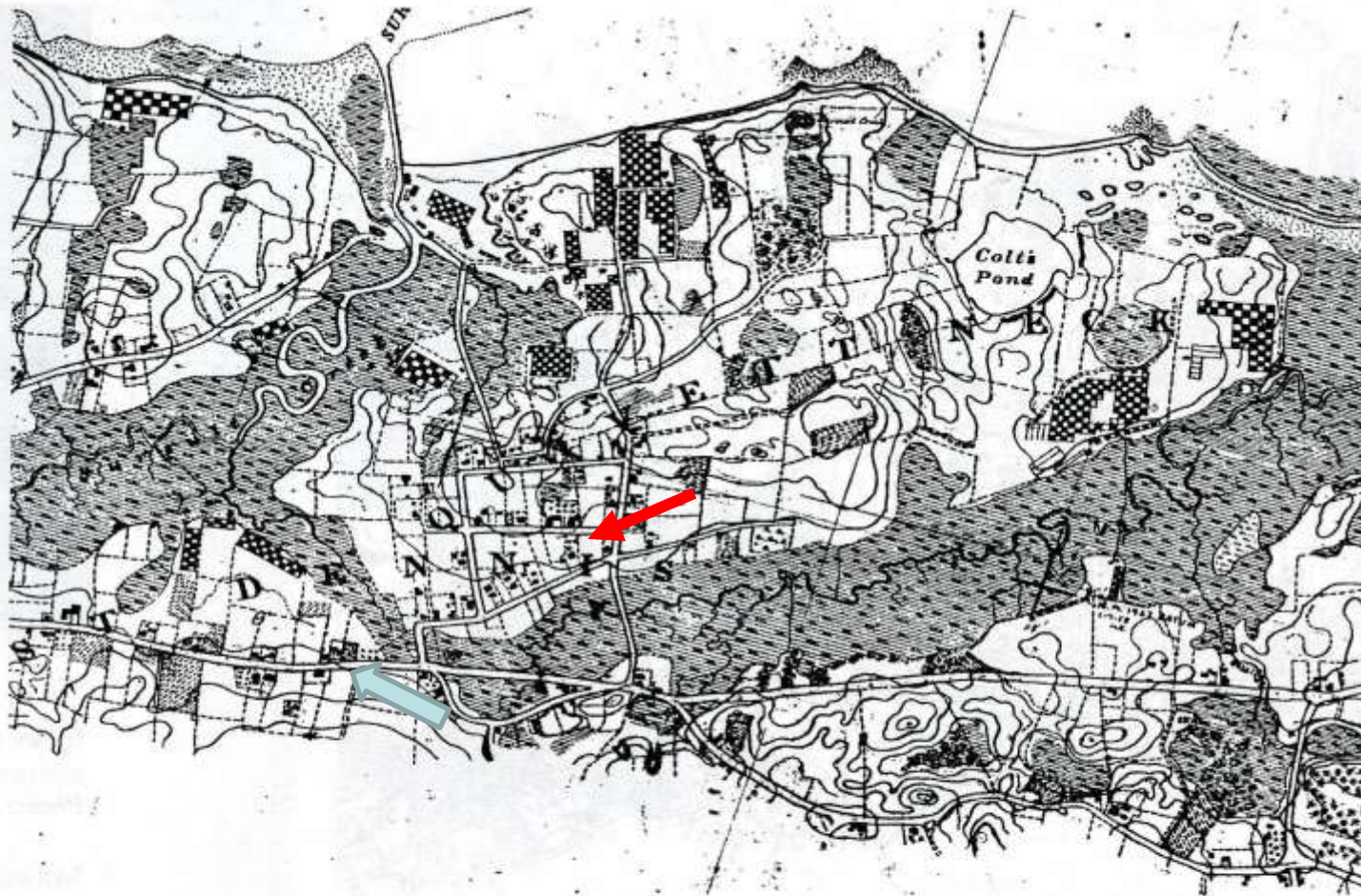
Repaired fireplace and oven



Firebox Changed



The American BUILDER'S COMPANION (1827) –ASHER
BENJAMIN



From: The Saltworks of Historic Cape Cod A Record of the Nineteenth Century Economic Boom in Barnstable County, By William P. Quinn

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 evaporators. 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



Simple Quaker inspired door,
smaller glass size

1798 Homer House



Evidence or Original Colors



Parged or rendered chimneys



Extensively nailed mustard clapboards



Red roof



Incised and decorated foundation parging



PRESERV
AND DOC

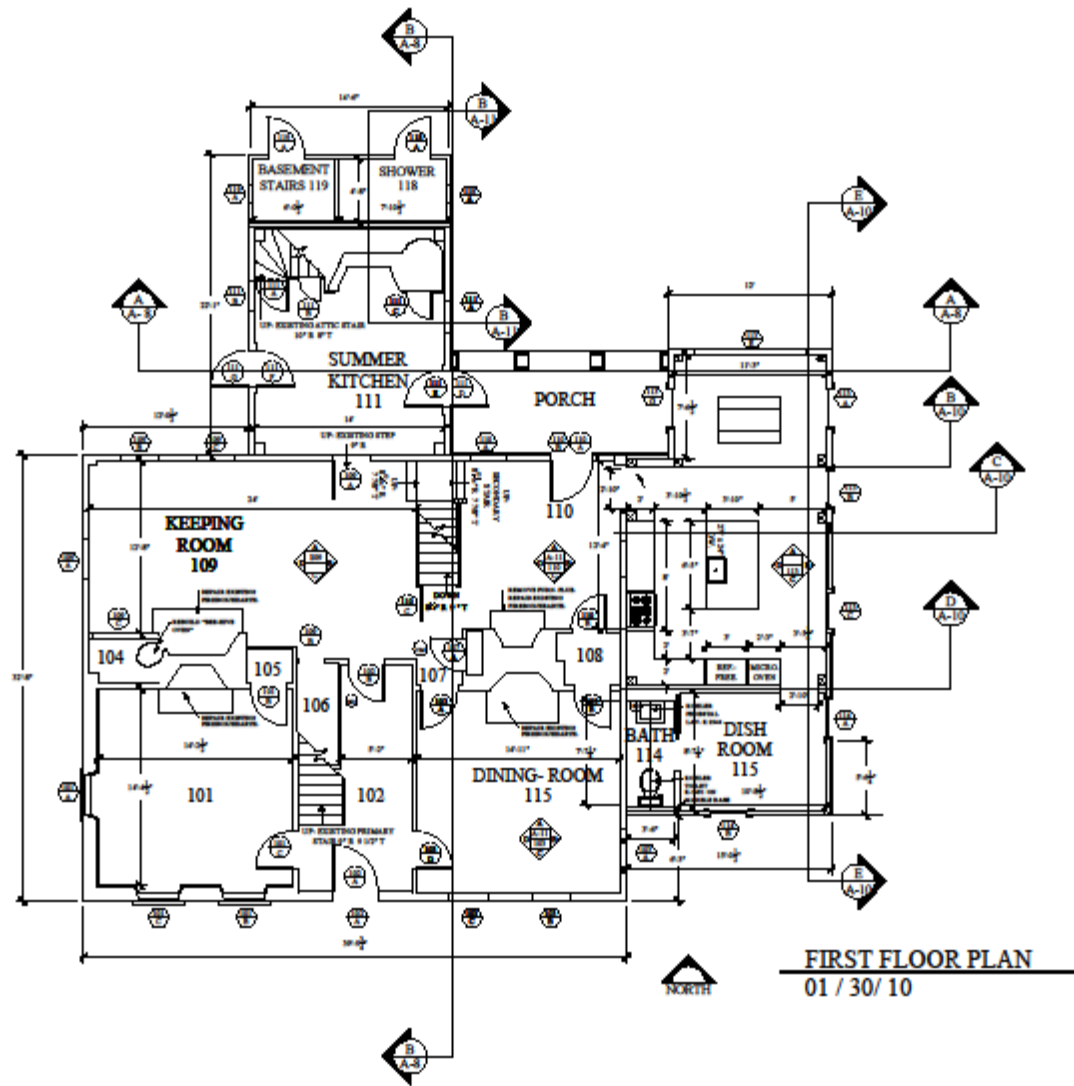
Homer then



Now



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



- Twin chimney center hall Georgian

Attic Stair



“”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





Dated
repair
materials



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.



SOUTH WEST VIEW THROUGH DOOR

Joists supported with LVL and Simpson hangers



Masonry



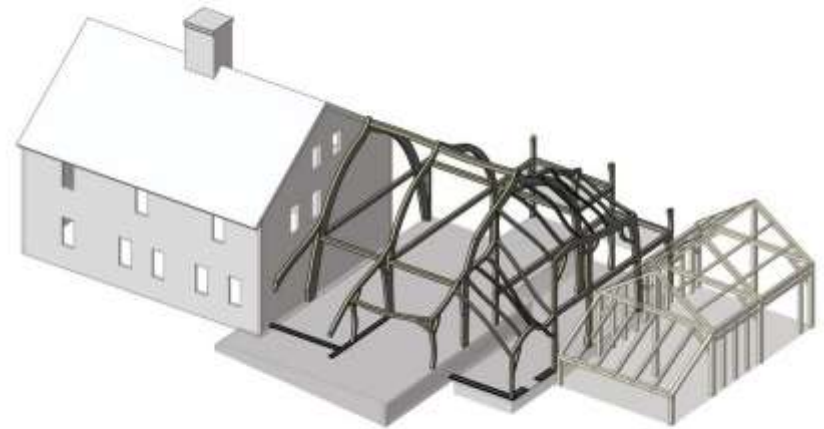
Suggestions



Require or develop a coherent, “holistic” plan



Atwood House Roof Structural Survey
Chatham Historical Society
347 Stage Harbor Road
Chatham, Massachusetts



“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 (LABELED "CW")	63	1694	1756	Y	PIRI	PRINCIPAL RAFTER
CA-02	55	1701	1755	Y	PIRI	PRINCIPAL RAFTER
CA-03 (LABELED "BE")	65	936	1000	N	PIRI	PRINCIPAL RAFTER
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

- 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.



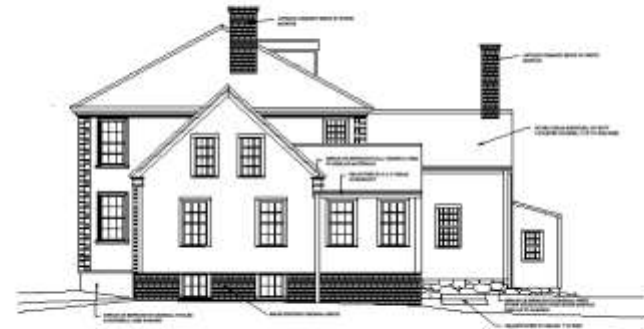


Norton House Wall Paintings moved to Rufus Porter Museum Bridgeton, Maine



Jonathan D. Poor, 1840

Use of additions or preservation of a building as a part of the larger design



A EAST ELEVATION - BARN SIDE
A-6 Accepted by OKRHDC: 3/11/09



“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



Kitchen Addition



Repaired and reassembled frame with antique post and beam addition from Rhode Island in Roxbury, Conn. for John B. Maurer-builder and designer.

A duplex replaced this early 18th century Londonderry, N.H. gambrel.

- David Ottinger
- David Ottinger
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