HISTORIC STRUCTURE REPORT

Architectural Data Section

THE ATWOOD-HIGGINS HOUSE

Cape Cod National Seashore

South Wellfleet, Massachusetts

By

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PREFACE

This historic structure report was prepared by the North Atlantic Historic Preservation Center for the North Atlantic Region of the National Park Service. The Preservation Center is part of the Division of Planning and Resource Preservation, North Atlantic Region. It contains laboratories and analytical equipment, and is staffed by historic preservation conservators and exhibit specialists who provide technical support to parks primarily within the North Atlantic Region. The report presented here was edited and prepared for publication by Preservation Center employee Sharon K. Ofenstein.

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I. INTRODUCTION

A. Administrative Background

The Atwood-Higgins House, outbuildings, and 43 acres of land were donated to the Cape Cod National Seashore (CCNS), U. S. Department of the Interior on July 5th, 1961. This Cooperative Agreement with George K. and Katherine F. Higgins was originally subject to the lifetime retention by the donors, and was amended in 1962 to become a Special Use Permit. Mrs. Higgins continued to use the property after her husband's death in 1962, but moved out in 1975. The main house was opened to the public for the first time during the summer of 1976, with a guided tour of eight visitors, twice weekly.

Measured drawings were done as part of the 1960 Cape Code Survey I by the Historic American Buildings Survey. Specific information about the house and outbuildings was provided by a journal written by George K. Higgins and compiled in 1950. The house was placed on the National Register of Historic Places on July 30, 1976.

National Park Service documents include:

- Interpretive paper, Atwood-Higgins House and Cape Cod House Tour, Nan Rickey, June 1973.
- Development Concept Plan, Atwood-Higgins Complex, approved February 1974.
- Environmental Assessment, Atwood-Higgins Complex, approved October 1974.
- Task Directive, Comprehensive Design, Atwood-Higgins Complex, approved (with comments) May 1976.
- Interpretive Prospectus, Atwood-Higgins Complex, Betsy Bradley, Harper's Ferry Center, approved 1977.

Investigative work for the historic structure report was begun in 1976 by the North Atlantic Historic Preservation Center of the North Atlantic Regional Office. A "Level B Investigation" was conducted, which is defined as "the thorough but basically nondestructive investigation of a structure utilizing all available technical and scientific means to analyze the fabric for historical development as well as its decay. Such a report is primarily used for the preservation of the building and does not envision the retrieval of all nonextant details concerning the structure's past."[1]

B. Summary Description

The Atwood-Higgins House is a 1-1/2 story structure with a gable roof and central chimney, in a traditional Cape Cod style of architecture. The ridge of the gable roof runs parallel to the south girt (or beam) of the front facade. This 35-foot-long facade has five unequal bays: the off-center doorway is flanked on either side by two window openings. This south facade is covered with clapboards, while the remaining exterior walls are shingled. The house is approximately 28 feet deep, with a small ell at the northwest end of its compact rectangular form.

The exterior appearance of the Atwood-Higgins House indicates that it was not built entirely at the same time. Differences in the spacing of the bays, and in the relationship of the windows to the cornice, are the clues. They suggest that the eastern half — including the front, south doorway and chimney — is older than the western half. It is thought that the eastern portion was erected c. 1730, and not in 1635-40, as stated in the Development Concept Plan of 1974. The later, western half looks as though it was built all at the same time, but framing and other evidence indicates that its two bays were themselves added at different times.

The interior plan of rooms and their finishing details also give a clear illustration of the growth of this house. The post-and-beam construction is exposed in an encased form in the earlier east half, while being barely visible in the west half. There are early-18th century walls of vertical boards with an irregular handplaned finish that are joined together at beveled edges. Also of the same period are doors of two panels, large handwrought hinges in HL configurations, and thumb latches forged from one main piece of iron. These features are found chiefly in East Buttery 103 and East Kitchen 104. The 19th-century elements include wooden paneling and molding details of a fine and delicate design, finished to smooth, painted surfaces; doors of six panels and butt hinges; and thumb latches with decorative back plates and separately welded handles. These features appear mostly in East Front Room 101 and West Front Room 108.

Three main spaces are grouped about the chimney — two front rooms and a kitchen to the rear. The kitchen was divided at a later date and exists today as two rooms, each with a fireplace. On either side of the kitchen area are a small bedroom and a small buttery.

The house is believed to have been built by Thomas Higgins, a fourth-generation descendant of Richard Higgins, who was a pioneer settler at Plymouth and Eastham, Massachusetts. Thomas Higgins moved to the North Precinct of Eastham (now Wellfleet) sometime between his marriage in 1727 to Abigail Paine, and his recorded emergence into civil affairs in 1747. The house and its subsequent additions remained in the Higgins family until 1805, when ownership passed to Thomas Atwood. Still later, the house reverted back to members of the Higgins family descended from the first-generation Richard Higgins, although not in a direct ancestral line from Thomas Higgins.

The history of the Atwood-Higgins House is a significant illustration of many of the typical forces that traditionally influence architectural styles. Familiar building practices, changing economic and social conditions, and local mannerisms all combined to affect the house's physical growth.

There are in evidence the English medieval traditions of building a massive post-and-beam frame of oak construction, and of planning rooms and future growth around a chimney stack. The low height of the first story and its proximity to the ground was also familiar to the English immigrant settlers. However, the inherited traditions of building construction were gradually diluted and modified to accommodate different conditions. The climate and available materials no longer required the steeply pitched roofs of 17th-century England, commonly built with a thatch or slate covering. Evolving manners of living and shifting economies created an initial simplicity of style and planning, and a subsequent refashioning with more pretentious detail. The approach to stylistic development, particularly in woodworking details, itself became an additional influence of local origin that further modified building construction.

Moreover, the history of the Atwood-Higgins House shows why an architectural style indigenous to early Cape Cod went on to become the nationally popular "Cape Cod" house type of today. The owners of the Atwood-Higgins House were able to expand and alter it to meet their changing needs, without sacrificing its basic simplicity or functional floor plan. In sum, it is the purity and adaptability of this indigenous house form that have made it such a familiar presence today.

NOTES

1. Memorandum to Associate Regional Director from Regional Historical Architect, North Atlantic Region, October 20, 1975.

II. HISTORICAL INFORMATION

A. Setting

(Note: As is customary in genealogical work, numbers are used after persons' names to denote their generation. Here, these numbers appear in parentheses, to differentiate them from note numbers.)

The Atwood-Higgins House is located in the town of Wellfleet on the peninsula called Cape Cod. This name originally described only the head of land at the northeast end of the peninsula, what is now Provincetown. Subsequently, the name came to include all of the peninsula up to the bend, and finally up to the isthmus. Today, Cape Cod has a convenient western boundary at the canal, which was built before the First World War. As the southeastern extremity of Massachusetts, Cape Cod may also be defined as the present county of Barnstable. This land mass extends easterly into the Atlantic Ocean 40 miles, before ascending northerly 35 miles to its extremity in the north latitude 42° 0 4'.

The town of Wellfleet is located midway on that portion of the Cape Cod peninsula ascending in a northerly direction, between the town of Eastham on the south and that of Truro on the north (Ill. 1). The following description of Wellfleet was written by historian Simeon Deyo in 1890:

> It is about eight miles in length from north and south, with an average of three in width, bounded south by Eastham and Wellfleet bay, east by the Atlantic Ocean, north by Truro and west by Cape Cod bay; and it is ninety-five miles from Boston by land, sixty-five by water, with a distance of thirty-one miles from the court house of the county. The ocean coast is a high bluff, presenting no indentations for harbors; but there are three on the bay side, each presenting facilities for the commerce of the town. River harbor is in the north part of Wellfleet bay, Duck Creek harbor opens into the last named bay near the center of the town, and Blackfish creek, also a harbor is in the south part - all connected with the bay, which itself furnishes a secure anchorage for vessels or larger tonnage. The creeks are small, the largest being Herring brook in the north part. This, with another creek, forms two islands - Bound Brook island in the northwestern part, surrounded by the creek bearing its name, and Griffin's surrounded by Herring brook. Two other islands of importance are Lieutenants, at the mouth of Blackfish creek, and Great island between Cape Cod and Wellfleet bays. . . The surface of the town is not only indented by ponds, but from Eastham a range of broken hills extends through into Truro, which show a Titanic wall of the elements in ages past. The soil, once more fertile than now, is light and sandy and still susceptible of profitable cultivation. The oak and pine, which, generations ago, were of heavy growth, have been cut off, leaving the soil to the ravages of wind and water. The eastern portion of the town is now fringed with a small growth of pines and a few oaks. Large bodies of salt marsh are found along the western side of the town, around the harbor and coves. [1]

Illustrations 2-6 show Bound Brook Island in the 19th century.

With but a few exceptions, the geography of the town of Wellfleet remains the same as Deyo described it at the end of the 19th century. It is significant to note that the small growth of pines and the few oaks that were found in the eastern portion of the town in 1890, are now full-grown. Indeed, it is important to attempt to visualize the undulating hills — of which Bound Brook Island is a part — as open moorland during the greater part of the 19th century and into the 20th century. An 1860 publication refers to Bound Brook Island as having been "formerly covered by a heavy growth of wood of which only a few scattered trees remain."[2] Turn-of-the-century photographs also attest to an earlier appearance.[3]

There have been alterations during the 20th century that have caused the island land mass to physically link up with the mainland of Wellfleet (Ill. 7). The tidewater meadows surrounding Bound Brook Island were diked off in 1908, in order to freshen the hay.[4] Six to ten inches of water continued to cover the meadows in 1920, and today, the rampant vegetation totally obscures the island's previous identity. The Herring River and Bound Brook Island creek are meandering streams that were dredged and straightened in 1922 and 1925.[5]

The landscape of this northwest corner of the town of Wellfleet thus has been affected as much by man-made changes as by natural evolution. The extension of the Cape Cod Central railroad from Orleans to Wellfleet in 1869[6] passed by the southeastern end of Bound Brook Island, and remained a very visible aspect until 1960,[7] when both rails and ties were removed. The 19th-century communities of the cape had generally rejoiced in "great demonstrations" when the later extensions of the railroad were made, which afforded more direct relations with the "outside world."[8]

The habitation of the lands of Wellfleet and Cape Cod in general is said to have been considered by the Pilgrims since their first visit in November of 1620.

> In 1622, and years subsequent, they resorted to this territory for means of subsistence, of which the natives had a surplus. In 1640, Mourt says, some of the Pilgrims became dissatisfied with the barrenness of the soil in the vicinity of Plymouth, which presented the seeming impossibility of building up an opulent capital, and they naturally turned their attention to Nauset, from whence had been furnished ample supplies.[9]

The territory that was later to be called the town of Eastham was purchased from the Nausett tribe of Indians and settled by seven families of the Plymouth Colony in 1644-45. Richard Higgins was one of the original pioneers who removed from Plymouth to Nausett to found this fourth town on the Cape. Subsequent physical attrition of this town yielded the towns of Wellfleet and Orleans.

"Ponanakanet," an Indian name, and the English "Billingsgate" were both early names referring to the territory of Wellfleet. A community developed in this area early in the 18th century, and by 1723 had attained a separate church-parish status. This parish was known as the north precinct of Eastham before officially assuming its "district" status in 1763. The full rights of the town of Wellfleet were granted in 1775.

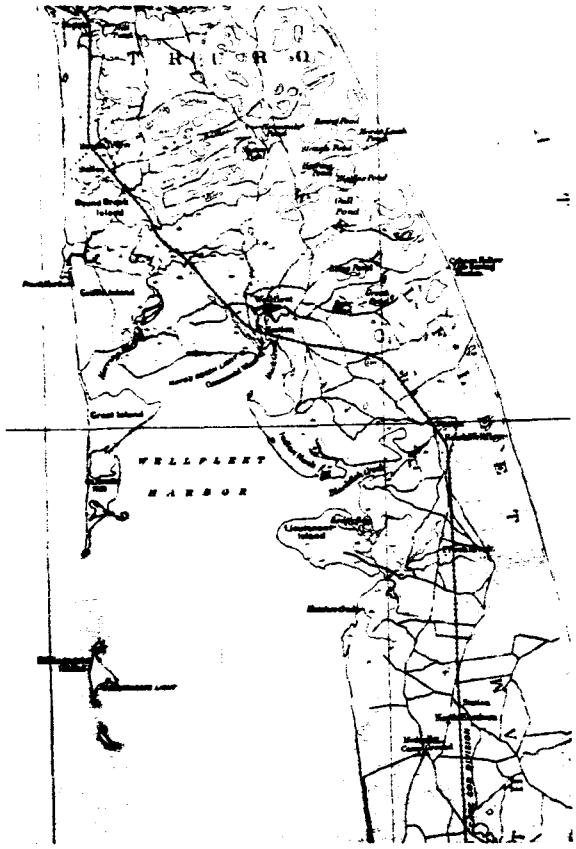


Illustration 1. Map of Wellfleet Harbor Area, Cape Cod, Mass. (1887).

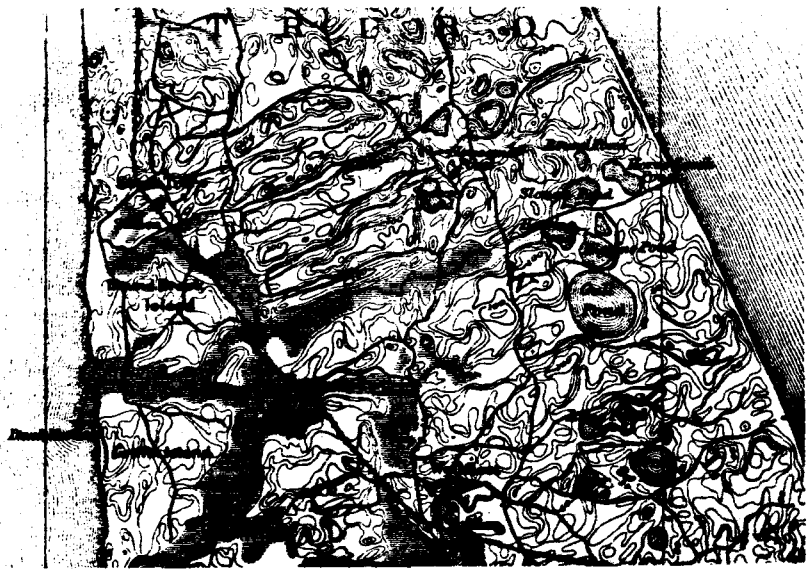


Illustration 2. Map of Bound Brook Island Area, Wellfleet (1887).

Illustration 3. Topographical Survey of Bound Brook Island (1848).

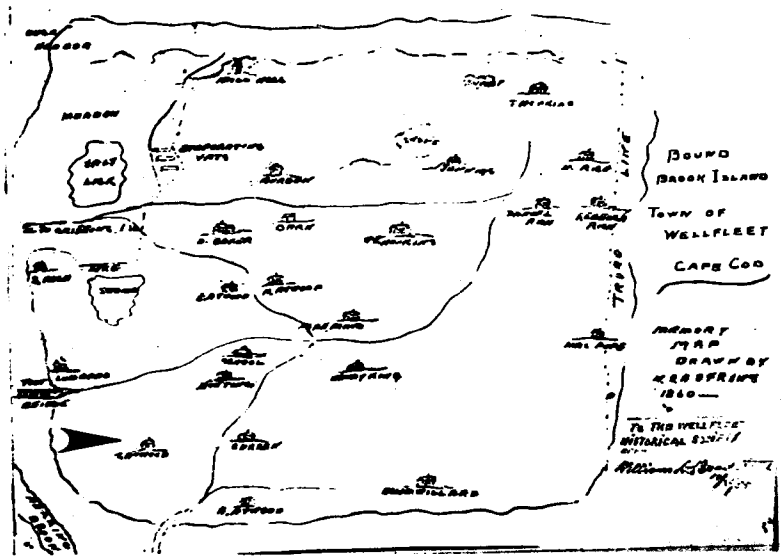


Illustration 4. Map of Bound Brook Island (1860).

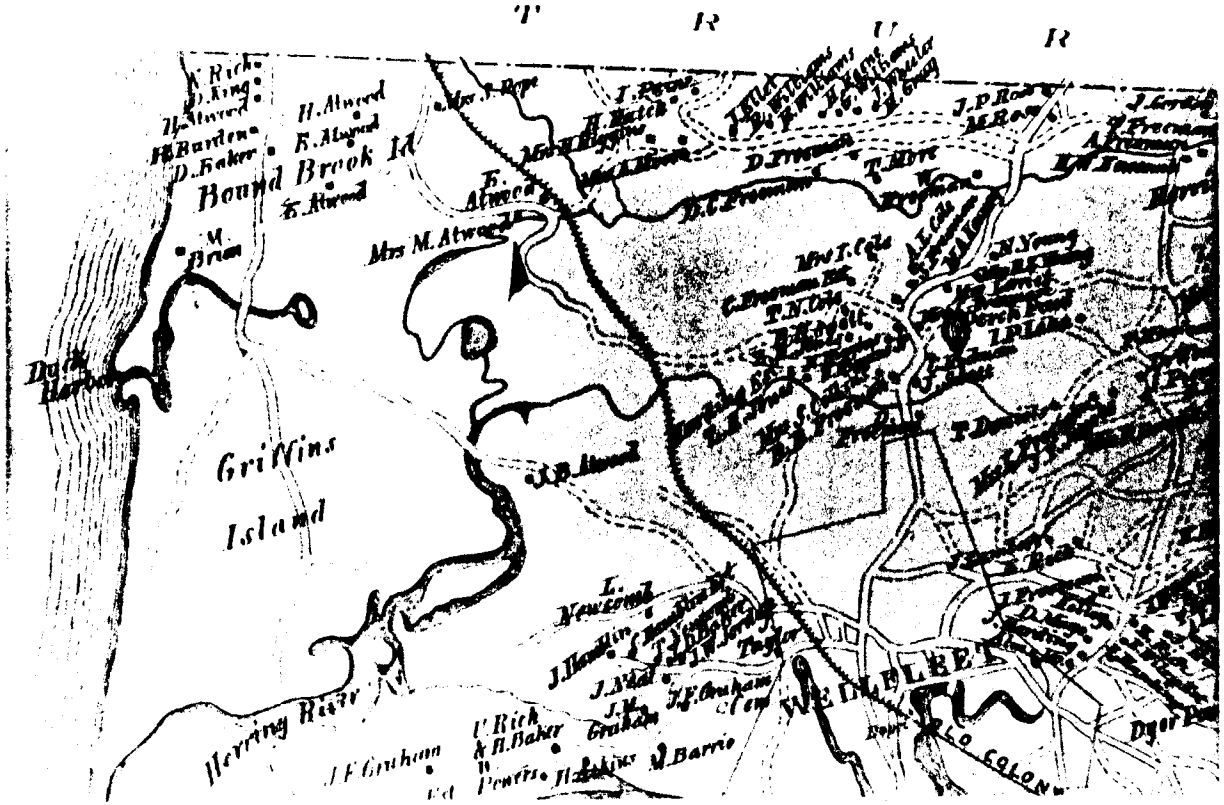


Illustration 5. Map of Bound Brook Island (1880).

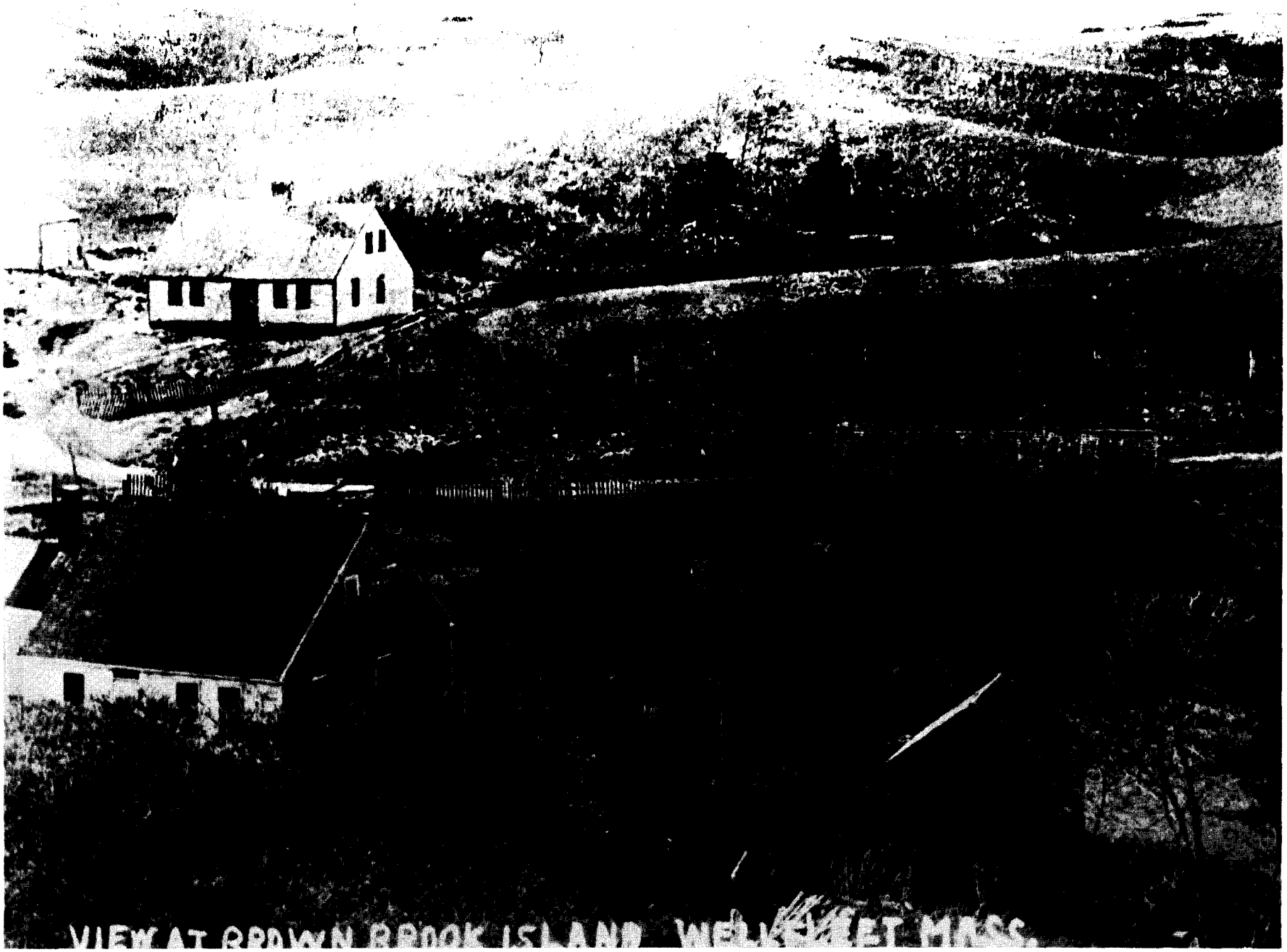


Illustration 6. View of Joel Atwood and Ebenezer Atwood Houses, Bound Brook Island (c. 1900).

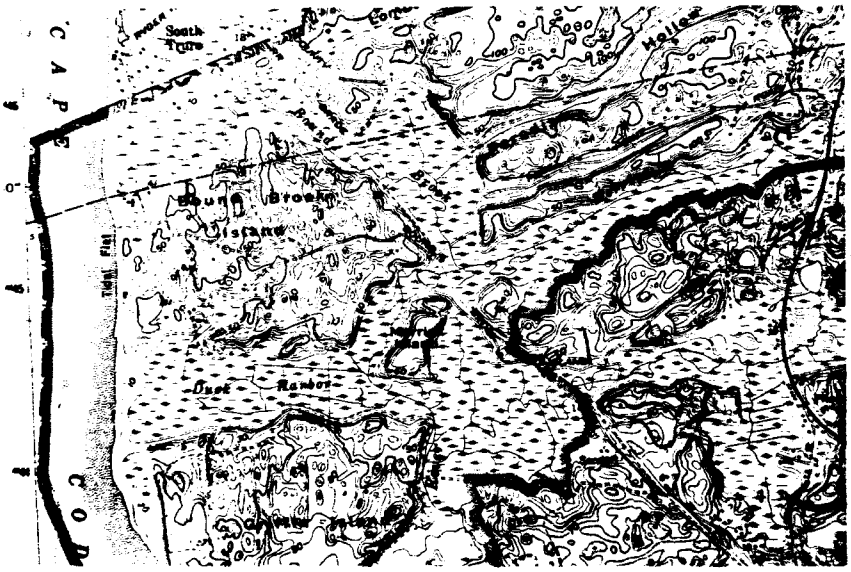


Illustration 7. Map of Bound Brook Island Area, Wellfleet (1972).

The population of the town of Wellfleet grew steadily from 600 in 1730 to 2,044 in 1830, reaching a high of 2,422 in 1850.[10] Fishing, whaling, and the oyster industry formed the livelihoods of Wellfleet's families; predominant surnames were Snow, Dyer, Freeman, Wiley, Atwood, Holbrook, Higgins, Paine, and Pierce. Farming, harvesting of hay from salt marshes, fishing, and shellfishing largely enabled self-sufficiency within individual homesteads throughout the 18th century,[11] while whaling and oystering were profitable business ventures. The growing of corn and its grinding by windmills was also a typical activity. The eighth volume of the Collections of the Massachusetts Historical Society of 1802 records that "more corn is produced than the inhabitants consume, and about a thousand bushels are annually sent to market."[12]

Education appears to have held a top priority in the early years of the town's formation. A schoolmaster was engaged to hold sessions in private homes throughout different parts of the community.[13] By 1768, the 193 families of Wellfleet were apportioning a large sum for a grammar school were Latin, Greek, and advanced subjects would be taught, in addition to the primary school subjects of reading, writing, and arithmetic.[14] By 1774, eight school districts had been established, one of which included Bound Brook Island.[15]

It is also essential to remark upon the economic constraints placed by the American Revolution on this community dependent upon ocean activity. The British blockade of all harbors brought an end to Wellfleet's prosperous whaling, oystering, and fishing ventures.[16] More than 100 Cape Cod vessels had been employed in a lucrative whaling business before the Revolutionary period.[17] The Reverend Levi Whitman wrote in 1793 that "Whale-fishing was the original business; none were more expert than the aboriginal Indians. Before the war of the Revolution, whaling was carried on to exceedingly good advantage. The inhabitants had acquired large property which was destroyed and lost during the war."[18] Understandably, there was a marked reluctance of the men to join the Continental Army, because of the very real question of survival of the town itself.

Little has been written about the early history of Bound Brook Island. Development of the area is assumed to have begun in the second quarter of the 18th century.[19] Three existing houses on Bound Brook Island — the Joel Atwood House, the Ebenezer L. Atwood House, and the Atwood-Higgins House — represent the earliest evidence of this Wellfleet settlement. The first two houses are seen in Illustration 6; all three have been surveyed by the Historic American Buildings Survey.

From the surviving deed records referring to Bound Brook Island property, a large number of inhabitants are known. The following grantors and grantees appear in the Wellfleet Book of Deeds: Thomas (4) to Thomas (5) Higgins (1769);[20] Thomas (5), Jonathan (5), and Isaac Higgins, and wives Ruth, Unis, and Thankful Freeman, to Richard Atwood, Jr. (1789);[21] Solomon (5) and Abigail Higgins to Joseph Hatch, Jr. (1790);[22] Reuben to Elisha Rich (1799);[23] Thomas Atwood, Eleazer Atwood, and Freeman Atwood (1820);[24] and Nathaniel to Joel Atwood (1823).[25] There is also a large island estate of James Atwood (1769) that appears in probate records.[26]

In these early records appear the occupational titles of "Mariner," "Yeoman," and an occasional "Housewright." It also has been written that many of the men on Bound Brook Island were whaling captains.[27] Property descriptions often include a

corn house, and occasionally a sheep house, and there is mention of a cooper's shop. Thomas Higgins, a resident of the island, is known to have been active in the affairs of this Eastham precinct from 1747 onwards. He particularly served on a committee "to Settel the Schools" after it had been "...Voated to have a School Kept In the Precinct upon the Precincts Cost...."[28]

Information about Bound Brook Island during the 19th century, though equally sparse, is more readily available. "Evaporating vats," or "try-works," used in the early 19th-century manufacture of salt by solar evaporation, were located in the southwest area of the island, according to a map drawn by N. S. Hopkins in 1860 (Ill. 4). [29] Such activity would have been part of a flourishing enterprise of Cape Cod. Historian Deyo wrote that a "Rogers" built vessels on the north side of Duck Creek harbor, which borders the south end of Bound Brook Island, and that a store established in 1835 by Joel Atwood was subsequently purchased by the River Wharf Company and kept as a branch store.

A "great revival" of the Methodist religion added greatly to the atmosphere of this island in the first half of the 19th century. The first public Methodist services were held in Wellfleet in 1797, and 10 years later, the town was made a part of the Harwich Methodist Circuit.[30] Prior to this time the Congregational religion had held predominance. So intense was this Methodist revival on Bound Brook Island that the Rev. Albert P. Palmer wrote that "scarcely an adult is left unconverted, and not a single family but some of which have found a pardoning God."[31]

Thomas Atwood, Eleazer Higgins, and Uriah Atwood were among the original members who planned the 1794 construction of the first Methodist meetinghouse on the Cape, in Truro.[32] Although research is needed to confirm the relationship, Delia Atwood — daughter of "Captain Thomas Atwood" — was the wife of the Rev. Benjamin Keith, the first minister of the new society of the South Truro M. E. Church of April 29, 1829.[33]

The first camp meetings to be held in New England added to the religious fervor on the Cape. For four years, meetings were held in South Wellfleet, and from 1823-25, they took place on Bound Brook Island. The meetings then moved to Eastham, where they continued for more than 30 years.[34]

> These were the days when the people called Methodists held to the simplicity of the Cross; when the camp-meeting at Eastham was distinguished by great, promiscuous gatherings and remarkable conversions; when men and women came to revile, returned wrought with a Divine influence, and became life-long Christians.[35]

This active Methodist community of about 20 families, a store, a schoolhouse, and "evaporating vats," gradually declined, however. It could not withstand the general exodus of inhabitants from the western range of Wellfleet's islands that occurred in the last half of the 19th century. Of these, Bound Brook Island is said to have been the last to succumb to depopulation.[36] The Atwood-Higgins House itself was left vacant from the 1870's until the end of the century. Even the transfer of the property to George K. Higgins brought only occasional use until 1931, when the house was occupied for its first complete summer season.[37] Indeed, the house has never been used as a full-time residence during this century.

The entire town of Wellfleet also declined in population, from 2,422 in 1850 to 1,973 in 1975. This most recent census, however, does not include the 12,000 to 14,000 summer residents who today form the mainstay of Wellfleet's economy.

NOTES

1. Simeon Deyo, History of Barnstable County, Massachusetts, pp. 788-89.

2. Frederick Freeman, The History of Cape Cod: The Annals of Barnstable County, Including the District of Mashpee, p. 654.

3. See Illustration 6, a view of the Joel Atwood and Ebenezer Atwood Houses on Bound Brook Island. There are also photographs of the Atwood-Higgins House in the original copy of George Higgins' journal, now in the possession of Mrs. George Higgins.

4. George K. Higgins' journal, p. 4.

5. Ibid., pp. 48, 56.

6. Shebnah Rich, Truro-Cape Cod or Land Marks and Sea Marks, p. 459.

7. Higgins' journal, p. 165.

8. Deyo, Barnstable County, p. 127.

9. Ibid., p. 720.

10. Ibid., p. 792.

11. Judy Stetson, Wellfleet. A Pictorial History, p. 14.

12. Henry D. Thoreau, Cape Cod, p. 34.

13. Stetson, Wellfleet, p. 12.

14. Ibid., pp. 13-14.

15. Deyo, Barnstable County, p. 798.

16. Ibid., p. 790.

17. Freeman, Cape Cod, p. 655.

18. Rich, Truro-Cape Cod, p. 112.

19. The historian, Shebnah Rich, describes the early history of the town of Truro, immediately north of Bound Brook Island, and states that there were earlier English settlers than the Eastham purchasers. By 1700, when the Truro proprietors formally declared their move to Pamet, the records are said to infer an established community already situated. No such early records can relate a similar situation in regards to Bound Brook Island.

20. Wellfleet Book of Deeds #1, p. 76.

21. Ibid., p. 206.

22. Wellfleet Book of Deeds #2, p. 161.

23. Wellfleet Book of Deeds #1, p. 271.

24. Wellfleet Book of Deeds #2, p. 187.

25. Ibid., p. 137.

26. Barnstable County Probate Records, Book 13, p. 525.

27. Rich, Truro-Cape Cod, p. 112.

28. George Ernest Bowman, "The Records of Wellfleet, Formerly the North Precinct of Eastham, Mass.," The Mayflower Descendant, IV, pp. 215 - 16.

29. This map is in the possession of the Wellfleet Historical Society.

30. Stetson, Wellfleet, p. 23.

31. The Rev. Albert P. Palmer, A Brief History of the Methodist Episcopal Church in Wellfleet, Massachusetts, p. 30.

32. Rich, Truro-Cape Cod, pp. 307 - 08.

33. Ibid., pp. 312 and 316. Because Delia Atwood Keith died in 1835, it is assumed that she was the daughter of a "Thomas" older than the Thomas Atwood who purchased Solomon Higgins' house in 1805 and who died c. 1872.

34. Ibid., pp. 327-28.

35. Ibid., p. 328.

36. Everett I. Nye, History of Wellfleet From Early Days to Present Time, p. 12.

37. Higgins' journal, p. 74.

B. History of Ownership

Chronology

George K. Higgins to U.S. Dept. of the Interior

Transfer Certificate of Title No. 13557 Barnstable County Registry of Deeds Book 230, p. 19, December 31, 1962 (Orig. Reg., Bk. 95, p. 97, 2-4-52):

> All boundaries located as shown on plan 15795-A dated May 1931 drawn by Arthur L. Sparrow, Engineer, as modified and approved by the Court, Barnstable Land Registration Book 16, p. 53, Title #3733 as Lots 1 and 2

Special Use Permit was effected December 23, 1962, and terminated September 24, 1975.

Bill of Sale, September 20, 1962 (located in CCNS "Track file" #25-4016c). An inventory is included, and the document states:

> for the establishment of the premises and buildings...as a historic site for the use and enjoyment of the public and to preserve the same for historic value and interest

Edward B. Atwood to George K. Higgins

Barnstable County Registry of Deeds Book 358, p. 288, September 17, 1919, "for one dollar and other valuable considerations," bounded as follows:

> on the north by the town road and land of Reuben Williams and others, on the east by land of James B. Curran, on the south by Bound Brook River and land of L. D. Baker, and on the west by land of Henry F. Atwood and others

William H. Smith (Collector of Taxes of the Town of Wellfleet) to Edward B. Atwood, Anthony Atwood, and Abbie F. Cole

Barnstable County Registry of Deeds Book 229, p. 375. December 20, 1897, for $40.00.

Mary A. Ackerman to the Town of Wellfleet

Barnstable County Registry of Deeds Book 209, p. 156, October 7, 1893; Book 205, pp. 527-9. Due to nonpayment of 1892 taxes, ownership was assumed by the town.

Jerusha A. Young to Mary A. Ackerman

Barnstable County Registry of Deeds Book 194, pp. 50-51, March 19, 1891, for $100.00, bounded as follows:

> Beginning in Richard Atwood's range by the road running westerly by the main road seventeen (17) rods to a stake and stones thence Southerly to the edge of the bank; thence down the bank to high water Mark; thence by high water mark around the bank to Richard Atwood range; thence in said bank to Richard Atwood range as the fence now stands to the first mentioned road. Being the original homestead of Thomas Atwood deceased which was conveyed to said Thomas Atwood by Thomas Atwood Senior. . .

Thomas & Abigail Atwood to Thomas Atwood, Jr.

Barnstable County Registry of Deeds, Wellfleet Book #2, p. 290, April 15, 1825, for $150.00.

> including the easterly half of the house and all the other buildings and trees standing thereupon

Solomon Higgins, Jr., to Thomas Atwood

Barnstable County Registry of Deeds, Wellfleet Book #2, p. 288, for $53.62, February 9, 1805, described as follows:

> a certain tract of land lying and being in Wellfleet aforesaid on Bound Brook Island, so called bounded as follows viz. beginning at a stump and a stone at the northeast corner of the commonage land by the southern side of the Road that leads from Richard Atwood's house to Stephen Atwoods, thence westerly be [by] said road about forty five rods to Eleazer Atwood's range, thence southeasterly by said Eleazer's range twenty five rods to a stake and stone, thence easterly by the edge of the bank forty three rods to a stone thence about north northeast to the first mentioned bound containing about three acres more or less together with my dwelling house non [now] standing on the [l]and aforesaid which is particularly described in the deed of my Father Solomon Higgins granted to me the twenty seventh Day of February, one thousand seven hundred and ninety six 1796.

Deed records documenting ownership previous to 1805 have not been located. The original deed book Volumes 1-94 (exclusive of #61) were burned in an 1827 fire at the Barnstable County Courthouse. There are survivals, however sparse and random, in addition to rerecorded deeds, probate records, and periodical publication of previously unrecorded deeds. Assumptions about ownership before 1805 are made in the following section.

Higgins Family

Solomon Higgins, Jr., and his wife Elizabeth sold their dwelling house and land on Bound Brook Island to Thomas Atwood on February 9, 1805.[1] The property was described as having been deeded to Solomon by his father, Solomon Higgins. Thus far, this is the only document found that records the first period of Higgins family ownership. It can be assumed, however — from the writings of George K. Higgins — that Solomon Higgins' ownership represented the end of a long period of family use that had begun with the establishment of the house.

Solomon Higgins, Jr., was a sixth-generation descendant of Richard Higgins, a pioneer settler at Plymouth and Eastham, Massachusetts, and at Piscataway, New Jersey. Richard Higgins, who was born on August 1, 1603, emigrated from England to Plymouth Plantation in 1623 aboard the ship Ann. He returned and was at Leydon, Holland, returning to New England on the ship Talbot in August of 1629. The Plymouth Colony records make reference to Richard Higgins as being a tailor. He married Lidia Chandler, daughter of Edmund Chandler, in Plymouth, November 23, 1634. His two sons, Jonathan and Benjamin, were both born in Plymouth during this first marriage.[2]

Together with Governor Prince and five others, Richard Higgins founded New Plymouth, or "Nausett," in 1644. This settlement, later incorporated as Eastham, became his place of residence until c. 1670, when he moved to New Jersey. While at Eastham, grants of land were received from the Colonial Court (up to 1657).[3] The records show extensive ownership of lands, including land at "little Billingsgate," which later became Wellfleet.[4] Richard lived at Pochet, on the ocean side of the peninsula. This "family mansion" was later occupied by his son Benjamin, and it remained in the family for several generations. Richard was married a second time, in October 1651, to Mary Yates, widow of John Yates. Richard was a representative from Eastham to the General Court in 1649, 1661, and 1667, and was a selectman for three years. His death is estimated between 1674-77.[5]

Benjamin(2), the second son of Richard(1), was born July 1640 in Plymouth, as already mentioned. Benjamin(2) married Lydia Bangs on December 14, 1661; resided in Eastham, "probably on his father's Pochet lands";[6] and died March 14, 1690-91. The June 24, 1691, will of Benjamin(2) Higgins left two-thirds of his house and one-third of his lands and meadow to his youngest son, Benjamin(3).[7]

Benjamin(3) had been born September 15, 1681. He married Sarah Freeman on May 22, 1701, at Eastham, and later wed Mercy (Freeman) Hopkins at Truro.[8] His will was made July 1, 1760, and his death is estimated to have occurred between July 1, 1760 and April 27, 1761. From this will it can be proven that Benjamin(3) did not reside in Wellfleet; no dwelling on Bound Brook Island could have passed within the family, since no such dwelling is mentioned. Zaccheus, Isaac, and Freeman received all of Benjamin(3)'s lands and meadows in Eastham and Harwich not otherwise allocated. Freeman received the westerly half of the dwelling house, and Zaccheus and Isaac, the easterly half, with Benjamin(3)'s stipulation "allowing my wife, Covenant fire rome so long as she lives my widow."[9]

The first son of Benjamin(3) was Thomas(4), born June 24, 1704, at Eastham. He married Abigail Paine, the daughter of Nicholas and Hannah Paine of Eastham, on October 12, 1727. Benjamin(3), in his will, gave Thomas(4) "his note of hand that he gave me for fifteen pounds lawful money and also Eight pounds lawful money to be paid out of my Real Estate."[10] There were no lands passed on to Thomas(4). Indeed, at the time of his father's death in 1760-61, Thomas(4) was well established in the North Precinct of Eastham, which became the town of Wellfleet in 1775. The first mention of his presence in this area was recorded in The Records of Wellfleet, Formerly the North Precinct of Eastham, Mass., on March 14, 1747/8, when he was voted a member of the precinct committee. Sometime within the 20-year span between 1727, when Thomas(4) married Abigail Paine, and 1747/8, when he became active in civil affairs, Thomas had settled in an area where no previous Higgins family member had settled. He would have needed a house, and — as will be shown — it seems that he responded by building the earliest part of the present Atwood-Higgins House, c. 1730.

As the first recorded descendant of Richard Higgins to settle in the-then North Precinct of Eastham, Thomas(4) led an active life in the concerns of the area. He served on the committee of assessors from March 19, 1749-50, and was so voted on March 22, 1756, and March 4, 1763. He was a member of the precinct committee from March 14, 1747-48, and was likewise voted on March 18, 1754, and March 11, 1755. In August of 1762, Thomas was placed on a committee to create a school program for the precinct.[11] It has also been written that he may have served as a juryman in 1728 and 1733, and was surveyor of highways in 1742. The same source describes Thomas(4) as a skipper or master of a porpoise voyage with Jabez Snow, Jr., in April of 1741, and as a selectman and tithingman in 1760.[12]

Abigail Paine, the wife of Thomas(4), through her mother Hannah (Higgins) Paine, was a descendant of Thomas and Joseph Rogers and of Stephen Hopkins, passengers on the Mayflower in 1620. She was also a descendant of Nicholas Snow, one of the seven founders of Eastham, together with Richard(1) Higgins.[13] It has also been stated that Nicholas Snow was a neighbor of Richard(1) Higgins in England, and that together they journeyed aboard the ship Ann to Plymouth Plantation in 1623.[14]

Thomas(4) and Abigail were the parents of eight children, born between 1727 and 1743. Two were daughters, Thankful(5) and Sarah(5). Three of the sons — Philip(5), Benjamin(5), and Jesse(5) — removed to Maine and New Jersey. Thomas(5), Jonathan(5), and Solomon(5) remained.

Solomon(5) Higgins — descended from Thomas(4), Benjamin(3), Benjamin(2), and Richard(1) — was born July 15, 1743, in the North Precinct of Eastham. He was married by the Rev. Isaiah Lewis to Margaret Holbrook, "probably the daughter of Thomas and Margaret (Doane) Holbrook"[15] — also residents of the North Precinct of Eastham — on January 24, 1760. Solomon(5)'s second wife of October 28, 1773, was Abigail Pierce, "daughter probably of Isaac Pierce, Sr., of Wellfleet."[16]

The following two records are assumed to be in reference to Solomon(5) Higgins:

> Solomon Higgins. Captain of an Eastham co., engaged July 1, 1775; discharged December 31, 1775; Service 6 months, 16 days in defense of seacoast; also list of commissioned officers of Colonel Cary's regiment, raised to reinforce the army until

> April 1, 1776. It is declared that this company served under General Washington, fortifying Dorchester Heights.
>
> Solomon Higgins. 2d Lieutenant, brigantine "Independence"; commissioned by Captain Simeon Sampson; engaged May 2, 1776; service to September 22, 1776, 4 months, 2 days; roll dated Plymouth; also 2d Lieutenant, brigantine "Independence"; commanded by Captain Sampson; list of officers of armed vessels; commissioned September 19, 1776; said Higgins reported resigned and Charles Dyer appointed in his stead.[17]

Abigail Pierce, Solomon(5)'s second wife, was the mother of all six of his children — three sons and three daughters, born between 1774 and 1789. Solomon(6) Higgins, the oldest child, was born July 21, 1774. He married Elizabeth Dyer of Wellfleet on March 29, 1794.

Thomas(4) Higgins owned a great deal of land in his lifetime, some of which was deeded to his children while he was alive,[18] and some of which was willed to them upon his death in c. 1789. The latter is inferred from three extant deeds, described below. The chore of administering Thomas(4)'s estate apparently fell to Thomas(5), a housewright,[19] Jonathan(5), and Thankful(5), who had married Isaac Freeman.[20] Soon, Thomas(4)'s heirs began to sell off at least part of what he had left them. On December 12, 1789, Thomas(5) and Jonathan(5) Higgins, and Isaac Freeman, with wives Ruth, Unis, and Thankful(5), sold to Richard Atwood, Jr.,

> a certain tract of wood, and clear land and meadow in Wellfleet on and adjoining Brown [sic] Brook Island which is a part of the Estate of our Hond. Father Thomas Higgins deceased - Father's old well...nw corner of Solomon Higgins Barn...also one half for quantity and quality of a petition fence that stands on Solomon Higgins land containing nineteen acres of clear land, four acres of wood, one and one half of meadow....[21]

This deed would imply that the youngest son, Solomon(5), had inherited the family homestead. There is no deed or will that mentions the transfer of the house from Thomas(4) to Solomon(5), but the latter had to have received the house sometime, in order for him to have been able to deed it to his son, Solomon(6), in 1796. In the deed that transfers the land and dwelling from Solomon(6) Higgins to Thomas Atwood, reference is made to the house and land being "particularly described in the deed of my Father Solomon Higgins granted to me the twenty seventh Day of February, one thousand, seven hundred and ninety six 1796."[22]

Solomon(5) also apparently received other property from his father Thomas(4). In another deed, of August 19, 1790, Solomon(5) and his wife Abigail sold to Joseph Hatch, Jr., "a piece of Salt meadow in Wellfleet on the Southeast of Brown [sic] Brook Island and is a part of the Meadow that belonged to my Honrd. Father Thomas Higgins late Deceased...."[23] In the third deed, of February 25, 1795, Solomon(5) and Abigail sold to Richard Atwood, Jr., several pieces of land, all of which were "the property of our Hond. Father Thos. Higgins decd...."[24]

Little is known of the activities of Solomon(5) after he deeded the house to his son Solomon(6) in 1796, nor of Solomon(6)'s life after he sold the house to Thomas Atwood in 1805. There is no record of either man's death, and no wills have been found.[25] Solomon(6) and his wife Elizabeth are on record as having sold a piece of land, which he had bought from his father Solomon, to Richard Atwood on January 13, 1800.[26] Another deed transferred a dwelling house and land at Pamet Point from Mary Paine to Solomon Higgins on February 20, 1805.[27] It is not known for certain which Solomon Higgins was involved here. Since the date of the deed corresponds with the date that Solomon(6) sold his house to Thomas Atwood, however, it would seem that the Pamet Point grantee was Solomon(6). It has also been stated that Solomon(6) resided in Provincetown at some point — presumably after 1805.[28]

Ancestry of Solomon Higgins, Jr. - First Documented Owner of the Atwood-Higgins House

Richard(1) Higgins [1603 - c. 1674-77], married Lidia Chandler (1634)

Benjamin(2) [1640 - c. 1690-91], married Lydia Bangs (1661)

Benjamin(3) [1681 - c. 1760-61], married 1 Sarah Freeman (1701)
2 Mercy Freeman Hopkins (1749)

Thomas(4) [1704 - 89], married Abigail Paine (1727)

Solomon(5) [1743 - ?], married 1 Margaret Holbrook (1760)
2 Abigail Pierce (1773)

Solomon(6) [1774 - ?], married Elizabeth Dyer (1794)

Ancestry of George K. Higgins - Owner of the Atwood-Higgins House 1919-62

Richard(1) Higgins, Benjamin(2), Thomas(3), Thomas(4), Thomas(5), Thomas(6)

Noah Swett(7) Higgins [1802 - 1885], married Anna Kemp Norton (1825)

Robert Emery(8) Higgins [1835 - ?], married Jerusha A. Atwood (1857)

Richard Freeman(9) Higgins [1859 - ?], married Julia A. King (1882)

George Kimball(10) Higgins [1887 - 1962], married Frances K. Christian (1922)

NOTES

1. Wellfleet Book of Deeds #2, Barnstable County Registry of Deeds, p. 288.

2. Orra Eugene Monnette, "Richard Higgins of Plymouth and Eastham, Mass. and Piscataway, N.J. and some of his Descendants," New York Genealogical and Biographical Record, Vol. 46, pp. 390-92.

3. Ibid., p. 392.

4. Katharine Chapin Higgins, Richard Higgins. A Resident and Pioneer Settler At Plymouth and Eastham, Massachusetts, and at Piscataway, New Jersey and His Descendants, pp. 37-38.

5. Monnette, "Richard Higgins," p. 392.

6. Higgins, Richard Higgins, p. 50.

7. Barnstable County Probate Records, Vol. 1 & 2, pp. 45-46.

8. Higgins, Richard Higgins, p. 50.

9. George Ernest Bowman, "The Records of Wellfleet, Formerly the North Precinct of Eastham, Mass.," The Mayflower Descendant, IV, p. 191.

10. Ibid., p. 190.

11. Monnette, "Richard Higgins," pp. 387-94.

12. Higgins, Richard Higgins, p. 58.

13. Ibid.

14. Monnette, "Richard Higgins," p. 390.

15. Higgins, Richard Higgins, p. 144.

16. Ibid.

17. Ibid.

18. Wellfleet Book of Deeds #1, Barnstable County Registry of Deeds, p. 76.

19. Deed from Elezer and Rebekah Atwood to Thomas Higgins, Jr., "Housewright." Cape Cod National Seashore Museum Collection item no. 3401 (copy of original).

20. Will of Thomas Higgins, Sr., February 10, 1787, which leaves eldest son Philip six pounds to be paid out of the estate by Thomas Higgins, Jr., Jonathan Higgins, and Thankful Freeman. Cape Cod National Seashore Museum Collection item no. 1697 (partial copy of original).

21. Wellfleet Book of Deeds #1, Barnstable County Registry of Deeds, p. 206.

22. Ibid., #2, p. 288.

23. Ibid., p. 161.

24. Ibid., p. 268.

25. The Barnstable County courthouse burned in 1827, and many records were lost at that time.

26. Wellfleet Book of Deeds #2, Barnstable County Registry of Deeds, p. 270.

27. Ibid., p. 159.

28. Higgins, Richard Higgins, p. 291.

Atwood Family

Thomas(6) Atwood, a "Mariner" residing in Wellfleet, Massachusetts, purchased three acres of land and the dwelling house belonging to Solomon Higgins, Jr., in the year 1805. The Atwood family ownership continued for nearly a century — until 1891, when the property was purchased by Mary A. Ackerman.

There are six Atwoods believed to have descended from the Atwoods of Sanderstead, England, who were among the early settlers of America. The Atwoods of Cape Cod were descended from Stephen(1) Atwood, who was in Plymouth in 1643, married Abigail Dunham on November 6, 1644, and settled in Eastham. The Atwood family is generally recognized as "a prominent one in the concerns of Wellfleet from the earliest period of its history."[1]

Without the availability of documents, it is difficult to accurately outline the ancestry of Thomas(6) Atwood. George Higgins, in his journal listed Thomas(6) as the son of Eleazer(5) and Abigail Atwood, born in September 1762, with a wife Abigail Hatch. The line of Eleazer(4) back to Stephen(1) Atwood is substantiated in a genealogy by G. F. Hall.[2] It is known that Thomas(6) Atwood, and his wife Abigail sold a portion of their Bound Brook Island real estate — together with the "easterly half of the House and all the other buildings"[3] — to Thomas(7) Atwood, Jr., "Mariner," in 1825. The deed refers to the grantor Thomas Atwood as a "Yeoman"; apparently in the years after 1805, he had given up his occupation as a "Mariner."

In 1832 a committee was appointed to set off one third of all the real estate of Thomas(6) Atwood "late of Wellfleet...Yeoman deceased, unto his widow Abigail Atwood as her dower in said real estate for her use during her natural life."[4] Thomas(6) Atwood apparently died in 1832 without leaving a will. The following appraised inventory was completed and submitted on October 30, 1832:[5]

Lot of Woodland on Pamet Point in Truro	114.00
Lot lying on Savage Road	20.00
Next Lot East	17.00
Lot East of Country road	50.00
Next Lot East of the Country	5.00
Share in scrub Lot East of the Woodland	6.00
Lot of Woodland on Brown[sic]brook Island	135.00
Tillage land West of Richard Atwood's within few trees	35.00
Barn & Barn lot	16.00
Tillage land South & West of the Barn	45.00
	Salt[?]
Salt Meadow a lot North of the Herring Creek	10.00
Gills Meadow	7.00
Old Bridge Meadow	20.00
Old Meadow	12.00
Christopher Atwood Meadow	50.00
Miricks Island Meadow	15.00
Pierces Meadow	10.00
Share in Land at Orleans	33.00
Share in Land at Brewster	16.00

Share in Mayo Pasture	25.00
Garden at old House Creek	10.00
Right in Sunken land at old house creek	3.00
Rights in Pews in Methodist Meeting house	20.00
	$686.00

Personal Estate

Horse 15/Cow 12/Sheep 7	34.00
Horse Cart 2/Saddle 3	5.00
Clock 2/Looking glass .50/Desk 1.50	4.00
1 Bed and furniture 20/2 Do ot 10 Each	40.00
Chairs .75/Crockery ware 2/Iron ware 1	3.75
Deceased's Wearing apparel	5.00
1/2 of Dory Boat	2.00
1/8 of Bass Seine	5.00
Charles Harding Note & Interest	16.28
Christopher Atwood's Note & Interest	18.58
Thomas Atwood Jr. Note	150.00
Total Personal Estate	$283.61
Real Estate	686.00
Total Real & Personal	$969.61

This inventory is significant as being the only such record relating to this property. The land holdings appear to be extensive, although the household furnishings seem rather sparse. Questions arise concerning the term "old house creek," and the absence of a dwelling house among the appraised items. One-third part of the estate is thereafter set off to the wife of the referenced "Captain" Thomas Atwood,[6] amounting to real estate valued at $229.00.[7] An additional $133.61, either taken in articles or cash, is given to Abigail.[8] Presumably the possession of the house had been legally transferred in the previous 1825 deed of Thomas(6) to his son, Thomas(7), Jr.

The 1861 Valuation List for the town of Wellfleet includes the following appraisal[9] under the name Thomas Atwood, presumably Thomas, Jr:

1/50 Total Cash Tax on Polls
1 Horse/1 Cow
(50) (25) (Value of each kind of Live stock)
Vessel (50) Value
1.23 Total tax

Dwelling House & Barn with House		250 Value
Land	6 acres	50
Salt Meadow	3 1/2 acres	100
Wood Land	2 acres	50
Salt Meadow	3 acres	90

This Thomas(7) Atwood, son of Thomas(6) and Abigail Atwood, is said to have been born on December 26, 1797. He married twice, with a son, Jesse Rich Atwood, by his first marriage, to Abigail Rich.[10] It is also written that Thomas(7) Atwood died in 1873, [11] although his will was not executed until 1880. Written in 1872, the

will mentions his wife, Mercy (presumably, his second); his sons Jesse R. Atwood and Thomas Atwood; his daughters Mary Sampson (wife of William Sampson) and Jerusha A. Higgins (wife of Robert E. Higgins); and an adopted son, Miles Atwood.

Jesse Rich(8) Atwood, the oldest son of Thomas(7) and his first wife, Abigail Rich, married Miriam Atkins Atwood, daughter of Richard and Cynthia Atwood. From them, he received a house on Pamet Point, in a will dated August 18, 1853.[12] The line of descent for Richard Atwood can be accurately traced to Stephen Atwood of Plymouth Colony and England.[13] It represents a maze of intermarriages, with several male and female lines converging to the line of Richard(4), Richard(5), and Richard(6) Atwood, who married Cynthia Gross.[14]

Jerusha(8), daughter of Thomas(7) and Mercy Atwood, and stepsister to Jesse Rich Atwood, was born August 21, 1836. She married Robert Emery Higgins on January 14, 1857, and resided in Wellfleet. Robert Higgins was an eighth-generation descendant of Richard(1) Higgins, one of the settlers of Eastham, via the line of Benjamin(2), Thomas(3), Thomas(4), Thomas(5), Thomas(6), and Noah Swett(7).[15] Through the first two generations, this line of descent was the same as that for the Solomon(5) Higgins who sold the Bound Brook Island house in 1805. However, in the third generation, the two lines diverged, via the brothers Thomas(3) and Benjamin(3), respectively.

Apparently, Jerusha and Robert Higgins did not live in the Bound Brook Island home of Thomas Atwood. It has been written that the house had been "neglected and almost abandoned since the death of Thomas Atwood in 1873."[16]

Jerusha had two children — Nellie May and Richard Freeman Higgins — from her marriage to Robert E. Higgins. Nellie May was born February 10, 1864, and married Randall D. Gardner of Cambridge, Massachusetts, on October 24, 1883; she subsequently married Russell Gardner. There were no children from either marriage. Richard Freeman(9) was born May 8, 1859; married Julia A. King on October 10, 1882; and resided in Wellfleet. Their one son, George Kimball(10) Higgins, born January 25, 1887, represents the final link between the Higgins family descended from Richard(1) and Benjamin(2), and the Thomas Atwood family.

Jerusha A. Higgins had remarried by May 18, 1880, when — under the name Jerusha A. Young — she was approved as administratrix for her father's estate.[17] The real estate was appraised for $166.65, and the personal estate at $145.66, in June of 1880. In October, Jerusha A. Young acted again as administratrix, for her mother, Mercy Atwood.[18] Real estate was appraised at $3.00, and personal estate at $405.35.

On March 10th, 1891, Jerusha Atwood Young received a license to sell property at a private sale, for the payment of debts, legacies, and charges of administration.[19] What was described as the original homestead of Thomas Atwood was thereafter conveyed for the sum of $100.00 to Mary A. Ackerman, on March 19, 1891.[20] This ended the 86-year period of Atwood family ownership.

In 1893 the town of Wellfleet became the owner of the Bound Brook Island property, due to nonpayment of 1892 taxes totaling $2.75.[21] Edward B. Atwood, his brother Anthony Atwood, and his sister Abbie F. Cole bought the land and buildings from William H. Smith — Collector of Taxes for the town of Wellfleet — on

December 20, 1897, for $40.00. Edward B. Atwood, after assuming full title, deeded "one undivided half of a certain parcel of land with the buildings thereon situated" to George K. Higgins for $1.00 and "other valuable considerations"[22] on September 17, 1919. After the 1920 death of Edward B. Atwood, his wife, Deborah, gave her remaining half-interest to George K. Higgins.

Edward Baker(9) Atwood was the son of Jesse Rich Atwood, and grandson of Thomas Atwood. Edward and his wife, Deborah C. Pratt — although referred to as "uncle" and "aunt" by George K. Higgins — were in fact only distantly related.

George K. Higgins married Frances Katharine Christian of Willard, Ohio, on May 20, 1922, and died in 1962. Excepting the 1891-97 interim ownership of Mary A. Ackerman and the town of Wellfleet, the house and land remained within the Atwood and Higgins families.

Ancestry of Thomas Atwood

Stephen(1) Atwood [c. 1620 - 94], married Abigail Dunham (1644)

Joseph(2) married Apphiah Knowles (?)

Eleazer(3) [1681 - 1729], married Joanna Stout (1709). (That Eleazer(3) was the son of Joseph(2) has not been proven)

Eleazer(4) [1713 - ?], married Rebecca Young (c. 1735 - 36)

Eleazer(5) [1739 - ?], married Abigail Higgins

Thomas(6) [1762 - c. 1832], married Abigail Hatch

Thomas(7) [1797 - c. 1873 - 80], married $\frac{1}{2}$Abigail Rich
$\frac{1}{2}$Mercy _____

Descendents of Thomas Atwood

Jesse Rich(8) Atwood married Miriam Atkins (?)
Edward Baker(9) Atwood married Deborah C. Pratt, (1882)

Jerusha(8) Atwood married $\frac{1}{2}$Robert Emery Higgins (1857)
_____ Young (?)
Richard Freeman(9) Higgins married Julia A. King
George Kimball(10) Higgins married Frances Katherine Christian (1922)

NOTES

1. Simeon Deyo, History of Barnstable County, Massachusetts, p. 813.

2. Grace Fielding Hall, "Atwood Genealogy," Library of Cape Cod History & Genealogy, No. 41 (1914).

3. Wellfleet Book of Deeds #2, Barnstable County Registry of Deeds, p. 290.

4. Barnstable County Probate Records, Book 255, p. 165.

5. Barnstable County Probate Records, Book 52, p. 378-79, copied verbatim from original.

6. Barnstable County Probate Records, Book 52, p. 378.

7. Ibid., pp. 498-99.

8. Ibid., Book 39, p. 217(2).

9. 1861 Valuation List, Assessors Office, Town Building, Wellfleet.

10. George K. Higgins' journal, genealogy listing.

11. Ibid., p. 8.

12. Higgins' journal, p. 38.

13. Hall, "Genealogy."

14. Higgins' journal.

15. Katharine Chapin Higgins, Richard Higgins. A Resident and Pioneer Settler at Plymouth and Eastham, Massachusetts, and at Piscataway, New Jersey and His Descendants, p. 513.

16. Higgins' journal, p. 8.

17. Barnstable County Probate Records, Book 123, p. 122.

18. Ibid., Book 126, p. 62; Book 122, p. 466.

19. Barnstable County Probate Records, Book 141, p. 20.

20. Barnstable County Deed Records, Book 194, pp. 50-51.

21. Ibid., Book 255, pp. 527-29; Book 209, p. 156.

22. Ibid., Book 358, p. 288.

C. Structure: The "Cape Cod" House

The earliest information about the historical house form today known as the Cape Cod house stems from travel observations and antiquarian discourses. The literary and historical works authored by Timothy Dwight, Henry David Thoreau, Frederick Freeman, Shebnah Rich, and Charles F. Swift provide delightful allusions to various aspects of this predominant architectural form. Remarking upon the arrangement of gable windows, Thoreau visualized each occupant having "punched a hole where his necessities required it, and according to his size and stature, without regard for outside effect."[1] The historians make mention of the interior arrangement and use of rooms, the whitewashed surfaces, and herringbone patterns in sand upon wooden floors.

The selective experiences of intense observation and nostalgia of these writers must be distilled to establish an accurate understanding of the original Cape Cod house form. There is a want of clarity and consensus among the historical definitions, which can be misleading. As the most accurate summary of such available information, it may be stated that:

- the Cape Cod house existed as "a type, fully mature and identifiable," by the end of the 18th century;[2]

- the plan of two south rooms, and a north kitchen flanked by two bedrooms and a buttery or pantry, was arranged aroung a central chimney;

- a house having a central front doorway with two windows on either side was termed a double house;

- exterior walls were most frequently shingled;

- the front facade was given a southern orientation; and

- two larger and two smaller windows in the gable end were often mentioned.

Unfortunately, the acknowledged truths are far less numerous than the errant remarks. Distinction is rarely made between 17th-, 18th-, and 19th-century details. For example, Shebnah Rich generalizes about the absence of interior paint, paper, and plaster, and the "open beams, girders, and walls,"[3] without dating parameters. "The first houses of our earlier ancestors,"[4] as characterized by Charles F. Swift, are 17th-century structures unknown to Lower Cape Cod. And the small eave windows described by Thoreau are a late 18th-century development, with a placement more symmetrical than the suggested randomness. The lack of consensus among 19th-century writers also increases the problem of accurate interpretation. Shebnah Rich describes an "... old fashioned double house..." with "...one low story still lower in the rear...."[5] The implication here of a lean-to form is misleading.

Early 20th-century coverage of architectural history does not address the Cape Cod house as a major architectural style, although the construction details, plans, and elevations of New England architecture in general were recorded and are often applicable.[6]

Knowledge of the original Cape Cod house type today is the offspring of all historical gleanings. Accurate, enlightening, vague, and fallacious descriptions have all been generated by the written word and passed down to us. This body of knowledge has been significantly enhanced by published articles by Ernest A. Connally[7] and Richard M. Candee.[8]

The work by Connally developed from a preliminary survey of early buildings on Lower Cape Cod for the Historic American Buildings Survey (HABS). As an introductory study to "one of the best known and most frequently imitated forms in the repertory of traditional American architecture,"[9] this work is significant for its documentation. Important aspects of plan variations and construction details are presented. The existence of the early Cape Cod house in the forms of a half-house, three-quarter house, and double-house[10] are described as a pattern of domestic, rather than stylistic, evolution. All of these forms coexisted. Generally, the eastern portions of all houses shared features of room, fireplace, stair, and window configuration. The variations that occurred to the west of the chimney mass — either as unplanned increments or as part of the intended building design — attest to the flexibility of this simple house form.

A few stylistic features of the exterior that assist in basic visual dating are described by Connally. Asymmetry of window, doorway, and chimney placement — which implies an early core structure with increments — indicates earlier date than does symmetry. The proximity of the window lintels to the eaves line shows an early structural relation with post-and-beam construction that does not persist after 1820-30. Symmetry, fanlights, sidelights, and elaborate woodwork reveal the influence of the Federal period in the early 19th century.

The contributions of Richard M. Candee[11] further enhance and correct Connally's work in areas of building construction and origins. The so-called "plank-frame" construction of the early Cape Cod house was not found to be peculiar to Cape Cod, nor did evidence support Connally's theory of its Essex County origins.[12] This method of construction involves the use of vertical planks 1-1/4 inches thick to form walls, whose exterior surfaces were usually shingled. This differs from stud construction, where the walls are formed by attaching horizontal sheathing boards to wooden studs about four inches square; again, exterior surfaces were shingled. Both methods rely upon a post-and-beam framing system: 6- to 8-inch square posts supporting like-sized beams (or girts) that were joined by pegged, mortise-and-tenon joints. Roof framing included widely spaced rafters with smaller wooden purlins set between and perpendicular to the rafters, to receive a covering of boards running parallel to the rafters. A collar tie was frequently used to add strength between rafters on opposite slopes of the gable roof.

It is Candee's well-documented assertion that the area settled by members of the Plymouth Colony — southeastern Massachusetts, including the present-day Barnstable County, and northern Rhode Island — represents a recognizable subculture of New England architecture.[13] One of the main ways in which it differs from the architecture of the Massachusetts Bay Colony (north of Boston), is its 17th- and 18th-century use of vertical plank-frame wall construction. This building technique appears to have come from Holland, where the English Separatists that settled Plymouth sojourned for 12 years before moving to New England.[14] The stud-frame

method of construction, by contrast, characterized the areas settled by members of the Massachusetts Bay Colony, who were not so greatly influenced by the Dutch.[15] It is therefore important to view the wall construction of the early Cape Cod house as a part of the building tradition of the larger Plymouth Colony.

Post-and-beam, framed construction — with its massive wooden members intricately joined — constituted a more standard aspect of transported European traditions throughout the New England colonies. Planning additional future construction around a central chimney stack was also familiar to the English immigrant settlers. Construction and plan variations did evolve regionally, however, as the inherited repertoire of building practices was modified to accommodate different conditions.

Having one story with an attic under a gable roof appears to be the prime aspect of the Cape Cod house — the one which has given this type of structure its definition. Many of the details of construction and plan development are shared with other New England colonies, except this basic form. Because of a lack of documented descriptive material about the early Cape Cod house, the following charts of structure, plan, and interior-finish information were compiled from a study of architectural drawings.[16] Appropriate supplementary data, together with noted comments, were derived from secondary sources.

STRUCTURAL ELEMENTS

	17th/early 18th c.	Mid-18th c.	Late 18th c.	Early 19th c.	Pre-1850
ONE STORY WITH ATTIC[17]	→				
CORNER POSTS, GIRTS, AND SUMMER BEAM	Exposed on interior, whitewashed, chamfered; flared post variations	(Flared posts phase out; summer beam eliminated[18])	(Cased with finish wood, often with beaded edges[19])	(Size greatly reduced; casing diminishes in size and detailing)	No interior evidence of corner posts; stud framing introduced c. 1820
RAFTERS	Few, widely spaced rafters		(Collar ties often used to provide bracing between rafters on opposite slopes of gable roof)		c. 1820: more, closely spaced rafters
PURLINS	Purlins mortised into, and running perpendicular to, rafters				Purlins eliminated
SHEATHING	Sheathing (roof boards) nailed parallel to rafters				Sheathing nailed perpendicular to rafters
ROOF FORM	Gable roof (ridge parallel to south girt)				
ROOF PITCH	45 - 50 [20]	35 - 40			
FOUNDATION	No data available for early structures[21]	Brick			
WALL CONSTRUCTION	Thick vertical boards nailed to frame				c. 1820: thin horizontal boards nailed to vertical studs

	17th/early 18th c.	Mid-18th c.	Late 18th c.	Early 19th c.	Pre-1850
EXTERIOR COVERING	Thatch[22]				
	Clapboards (feathered joints[23]) ----------	----------	----------	----------	(butt joints)?
	Shingles ----------	----------	----------	----------	----------
WINDOW FRAMES	Plank frame with mortise and tenon joints; protrude from face of exterior wall covering; located directly under cornice ----------	----------	----------	----------	c. 1830: plank frame eliminated; stud framing provides support for window casing and sash; no exterior protrusion of window casing frame; distance between lintel and cornice increases
WINDOWS	Casement windows (hinged on jamb)				
	Double-hung sash[24] ----------	----------	----------	----------	----------

PLAN

	17th/early 18th c.	Mid-18th c.	Late 18th c.	Early 19th c.	Pre-1850
ORIENTATION	Facing south ----------	----------	----------	Facing street ----------	----------
CHIMNEY STRUCTURE	Located behind south entry door (or at end wall) ----------	----------	----------	----------	----------
	Brick laid with clay mortar	Brick laid with lime mortar ----------	----------	----------	----------
FIREPLACES[25] (2) south rooms (1) north kitchen	Height, width, depth unknown	1'5" - 1'10" deep 4'6" - 6'0" wide (parlor) 5'6" - 6'6" wide (kitchen)	1'6" deep 3'0" - 4'0" wide (parlor and kitchen) ----------	----------	----------
	Jamb form unknown	Splayed jambs ----------	----------	----------	----------
	Rear bake oven ----------	----------	----------	Side bake oven ----------	----------
	Proximity of staircase ----------	----------	Secondary stair not aligned with chimney structure ----------	----------	----------
DESIGN INFLUENCE	Kent, England, and Holland	Regional materials and climate	Vernacular interpretations of late Georgian-period details	Vernacular interpretations of Federal-period details ----------	----------

	17th/early 18th c.	Mid-18th c.	Late 18th c.	Early 19th c.	Pre-1850
ROOM ARRANGEMENT	Plan remains essentially the same ----------→				
	Half-house[26]	Chimney structure located on side wall; aligned with south entry South parlor (two south-wall windows) Northwest kitchen with exterior door Northeast pantry, buttery, or bedroom (2 separate rooms) Northeast circular brick cellar Staircase (straight run) to attic from south entry 3-bay structure Overall dimensions: 22'-0" W x 28'-0" D x 21'-0" H			
	Three-quarter house	Same as above, with following exceptions (as additions or by initial design): South parlor to the west of chimney structure; with fireplace; one south window 4-bay structure Larger kitchen, possibly with west pantry, buttery, or bedroom Overall dimensions: 26'-28' W x 28' D x 21' H			
	Double house[27]	A half-house, doubled (as an addition or by initial design) Central chimney (possibly slightly off-center) South parlors, east and west North kitchen with flanking east and west bedrooms, pantries, or butteries 5-bay structure Staircase from south entry Secondary staircase, often located in northwest area Circular cellar(s) in northwest and/or northeast areas Kitchen frequently partitioned for 2-family use Overall dimensions: 35'-39' W x 29' D x 21' H 30' W x 24'-30' D x 21' H (c. 1830's)			
ROOM TERMINOLOGY[28]	Many variations:[29] Parlor, Old Parlor New Parlor, Kitchen, West Room, East Room, Outward Room or Rome, Inward Room, Chamber, East Chamber, Middle Chamber, Cellar (no "borning room")	1769 will of James Atwood, Bound Brook Island, refers to the following rooms: "East front room, East bedroom, Chamber above s[d] Rooms, Buttery in the East End, Kitchen"[30] 1761 will of Jabez Snow, Eastham, refers to the following rooms: "Great Room, Chamber, Bedroom"[31] (no "borning room")			

INTERIOR FINISH

	17th/early 18th c.	Mid-18th c.	Late 18th c.	Early 19th c.	Pre-1850
WINDOW SASH	Leaded casements[32]				
	Double hung sash, ea. approx. 7/8" thick[33] →			(Sash thickness increases to 1-3/8"[35])	
MUNTINS	Muntins are broad and shallow: 1 - 1-1/4" wide[34] →			Muntins become thin and deep[36] →	
LIGHTS	No data available on frequency of 6/6 or 9/6 lights, or exact dates for evolution of glass size from 6 x 8" to 7 x 9" to 8 x 10"				
WINDOW CASINGS	Squared casing, with sill and lintel closely related to (or part of) wainscot cap and girt casing →			Splayed jamb casing[37] →	
				Interior sliding shutters[38] →	
WALL AND CEILING FINISH	Partitions of vertical sheathing, with "shadow molding"[39]	Fireplace wall: wood paneling held in place by rails and stiles →		Fireplace-wall paneling does not persist much into the 19th century[40]	
	Clapboards on entire wall[41]				
	Wainscot on entire wall	Wainscot on lower wall	Confined to rear rooms[42] →		
		Plaster on split lath[43] →			(sawn lath)

	17th/early 18th c.	Mid-18th c.	Late 18th-c.	Early 19th c.	Pre-1850
WOODEN MOLDINGS	Semi-utilitarian joints of wainscot; board-and-batten doors	Use of ornamental moldings of classical derivation.[44] "...of rather heavy and clumsy contour."[45] Used for doorway and window casings, fireplace surrounds	→	→	Increased fineness of scale and detail; purely decorative use; regional variations impose dating problems
FIREPLACE SURROUNDS	No formal surround	Molded surround framing fireplace opening; beveled edge of panel 1-1/4", with a quarter-round bead 1/2" in width; date and frequency of painting unknown	Mantels with shelves often added to paneled walls (transitional period)	Mantels used alone against plaster wall →	→
FLOOR FINISH	Random-width floorboards; date and frequency of painting unknown →	→	→	→	→
DOORS	Board-and-batten				
	Paneled (2 raised, beveled panels with integral bead molding)	Paneled (3-4 panels)	Paneled (4-6 panels); later examples may have applied moldings and lights in the upper two of the six panels[46] →	→	→
HARDWARE	Hand-wrought iron door hinges of strap form, exterior and interior	Strap-type hinges continue to be used for exterior doors; on interior, "H" and "HL" door hinges (8-9") fastened with hand-wrought nails →	→	Butt door hinges →	→
	Wooden latches	Hand-wrought iron latches of one continuous form, secured with hand-wrought nails		Cast metal latches of separate back plate and handle (welded)	
BUILT-IN CUPBOARDS	Incidence of First-period cupboards is unknown. Nearly all existing structures, however, have cupboards adjoining the fireplace in both parlors and in the kitchen. All cupboards are divided into upper and lower portions by a counter shelf. Earlier cupboards have no molded casings or doors, while later cupboards evolve from having paneled doors to having upper doors of 12 lights.				

NOTES

1. Henry D. Thoreau, Cape Cod, I, p. 105.

2. Ernest Allen Connally, "The Cape Cod House: an Introductory Study," The Journal of the Society of Architectural Historians, XIX, No. 2 (May 1960), no pagination.

3. Shebnah Rich, Truro-Cape Cod, p. 341.

4. Charles F. Swift, Cape Cod The Right Arm of Massachusetts, An Historical Narrative, p. 69.

5. Rich, Truro-Cape Cod, p. 340.

6. See bibliographic references to the following early 20th-century authors: Isham, Kelly, Kimball, Poor.

7. Connally, "The Cape Cod House."

8. Richard M. Candee, "A Documentary History of Plymouth Colony Architecture," Old-Time New England, LIX, No. 3 (Winter 1969), pp. 59-71; LIX, No. 4 (Spring 1969), pp. 105-11; LX, No. 2 (Fall 1969), pp. 37-53.

9. Connally, "The Cape Cod House."

10. Although Connally attempts to institute the terminology of "house," "house-and-a-half," and "double house," this historic structure report will maintain the more vernacular use of "half-house," "three-quarter house," and "double house." It is recommended that all interpretation also maintain a like consistency of terms.

11. Candee, "A Documentary History."

12. Connally, "The Cape Cod House." Connally describes "plank construction" as a "seventeenth-century practice probably introduced on the Cape by early settlers from Essex County, particularly from the vicinity of Lynn," with an origin possibly in late Tudor building practice.

13. Candee, "A Documentary History," LX, p. 50.

14. Ibid., LIX, p. 60.

15. Ibid., LX, p. 40.

16. Sixteen Cape Cod houses were studied from 12 sets of Historic American Buildings Survey drawings, dating 1960 and 1962, and four sets of undated drawings completed through the Works Progress Administration, Massachusetts ERA Funds, and the Office of National Parks, Buildings, and Reservations, Branch of Plans and Designs.

Structural Elements

17. M.W. Barley, The English Farmhouse and Cottage, p. 192. Barley writes that small single-story houses were more common among coastal villages than farther inland.

18. Norman Isham and Albert Brown, Early Connecticut Houses, p. 144. The date for the abandoning of the summer beam is given as c. 1750 (in Connecticut).

19. J. Frederick Kelly, The Early Domestic Architecture of Connecticut, p. 141. Kelly writes that the casing of structural members was not to be regarded as necessarily contemporaneous with the building of the house.

20. Martin S. Briggs, The Homes of the Pilgrim Fathers in England and America (1620-1685), p. 163. The pitch of roofs in England and America averaged about 50 degrees in the 17th century. Kelly (pp. 56-59) writes that steepness was a requirement for shedding water from early thatch roofs and supporting the weight of early slate roofs.

21. Kelly (p. 71) describes the brick foundation in Connecticut as being rare before the first half of the 18th century.

22. Candee, "A Documentary History," LX, p. 47. After 1627, thatch was outlawed as a roof-covering material within the town of Plymouth.

23. Ibid. "Clapboards seem to have been used from the initial date of settlement."

24. See note reference no. 33.

Plan

25. Meaningful data is difficult to obtain because fireplaces were altered more than any other aspect of the early Cape Cod house, and measured drawings do not consistently depict the fireplace comprehensively. The general rule states that 17th-century fireplaces had straight jambs, a rear bake oven, and greater width, height, and depth than later fireplaces. Briggs lists 17th- and 18th-century fireplaces seven to eight feet wide, four feet high, and three feet deep (p. 177). Regional variations of date and form notwithstanding, the 18th-century fireplace decreased in all dimensions, the jambs were splayed, and the bake oven moved out to one side of the main fireplace opening (see Abbott Lowell Cummings, Architecture in Early New England, pp. 6 and 13, for typical plans of 17th- and 18th-century fireplaces).

26. Candee, "A Documentary History," LIX, p. 110. "The single cell 'cottage'...seems to have its English prototype."

27. Barley, The English Farmhouse, p. 266. Examples of the double house in the Highland zone of England are described as almost square in plan, with two rooms in the front and a kitchen, dairy, and staircase behind; the roof is very flat in pitch.

28. Ibid., pp. 28 and 192. Barley's observation that the changes in names for the parts of the house reveal a breakdown of traditional modes of life, may account for the variety found in a newly settled area such as Plymouth Colony. In 14th-century England, the ground-floor room became known as the "parlor" — in the medieval monastery, the place set aside for the reception of visitors from the outside world. This "parlor" remained the principal sleeping room for ordinary farmers in England until the 17th century (a practice that was most likely perpetuated for some time in the New England colonies). Kelly writes (p. 141) that "The sleeping rooms of the second floor were always designated as 'chambers,' and corresponded in name with the rooms beneath them; as, 'hall-chamber,' 'parlor-chamber.' The only sleeping room ever referred to as a 'bedroom' was that on the first floor, which was always placed on the side of the house with the warmest exposure."

29. Candee, "A Documentary History," p. 109. This random listing has been extracted from a table of 17th-century inventory room names.

30. Barnstable Registry of Probate, Book 13, pp. 525-26.

31. Ibid., Book 12, p. 153.

Interior Finish

32. Candee, "A Documentary History," LX, p. 49. "The earliest reference to leaded casements is 1641...."

33. "Leaded Glass and Sash Windows (Early References Gleaned from Boston Newspapers)," Old-Time New England (April 1924), pp. 193-94; (January 1921), pp. 143-44. Records document the existence of window sash glass to the first quarter of the 18th century. "As early as May, 1724, Thomas Chalkley of Philadelphia, advertised 'Sash-Windows ready painted, Glaz'd and Hung with the Choicest Lines and Pullies just fit to put into Buildings' (January 1921, p. 143). Kelly and Isham concur from their physical investigations.

34. Kelly, Connecticut, p. 95.

35. Ibid., p. 94.

36. Ibid., p. 95.

37. The splayed window jamb casings are often found in the later additions to an early Cape Cod house, and they may also be present in early sections, as a refashioning or updating of a room's interior finish.

38. Interior sliding shutters were found in only 2 of the 15 early Cape Cod houses studied.

39. Candee, "A Documentary History," p. 49.

40. Kelly, Connecticut, p. 164. "Mantelpieces of the pilastered type were never used in connection with panelled wainscot except as later introductions...."

41. Candee, "A Documentary History," p. 49.

42. Kelly, Connecticut, p. 146.

43. Ibid., p. 67. "...the use of plaster as a means of interior finish sounded the signal for the disappearance of the summer."

44. Ibid., p. 190.

45. Ibid., p. 191. Such characteristics of moldings were "due, at first, to the literal adaptation of Classical forms primarily designed for an architecture of stone...the English mouldings of the Jacobean period...were for the most part cut in stone, and were, therefore, very full and heavy in section." In time, the American wood craftsman became conversant with thinner edges and flatter projections.

46. Ibid., p. 137.

III. HISTORY OF PHYSICAL CHANGES

As mentioned in Chapter II, Section B, the Cape Cod-type house has traditionally appeared in three forms: that of the half-house, the three-quarter house, and the double house. It has been suggested that the Atwood-Higgins House — now a double house — began as a half-house. It also has been suggested that its two-bay expansion to the west occurred in two increments, such that it was a three-quarter house before it became a double house. The following outline helps clarify this complex evolution.

A. Circa 1730 (Ill. 8)

- three-bay, Cape Cod half-house, facing south
- post-and-beam construction: splayed posts, vertical-plank walls, plank-frame windows, nine-over-six double-hung sash
- rafter-and-purlin roof construction (roof sheathing boards parallel to rafters)
- clapboards on front, possibly painted red or blue-green; wooden shingles on remaining sides
- foundation and cellar unknown
- off-center chimney (aligned with south entry):

  two fireplaces - one in East Kitchen 104
  one in East Front Room 101

- first-floor rooms: East Front Room 101

  East Bedroom 102

  East Buttery 103

  East Kitchen 104 (original north window replaced by two windows c. 1750)

  Entry 109

- second floor: unfinished; straight, north-south stairway from Entry 109
- finishes: simple ogee moldings ("Categories A and B" in Chapter V, Section B); vertical sheathing boards with one edge beveled into a tongue, and the other grooved and molded with a quarter-round molding; three-panel interior doors (two vertical and one horizontal panel at mid-level); open-joist ceilings and exposed posts, beams, and girts; whitewashed ceilings and plaster walls; painted woodwork and floors

B. Circa 1775-1790 (Ill. 9)

- four-bay, Cape Cod three-quarter house
- continuation of post-and-beam construction, and rafter-and-purlin roof construction
- small West Front Room 108 with fireplace, and extended East Kitchen 104
- additional attic (winder) stair, built in compartment in northeast corner of small West Front Room 108; access from doorway in south wall of East Kitchen extension
- refurbishing of original East Front Room 101 and East Kitchen 104
- finishes: ogee moldings of somewhat complex profile ("Categories C and D" in Chapter V, Section B); cased framing members; possibly lath-and-plaster ceilings

C. Circa 1800 (Ill. 10)

- five-bay, Cape Cod double house
- continuation of post-and-beam construction, but posts smaller and less visible; no summer beam
- continuation of rafter-and-purlin roof construction
- enlarged West Front Room 108 with new fireplace
- new West Kitchen 105, created out of earlier East Kitchen extension and second extension, with new fireplace west of East Kitchen fireplace
- earlier north winder stair removed, because access doorway blocked by new West Kitchen fireplace
- new doorway between West Kitchen 105 and West Front Room 108 opened, because earlier doorway blocked by new West Kitchen fireplace
- finishes: "Category E" in Chapter V, Section B

D. Circa 1800-1820 (Ill. 11)

- addition of west ell, including West Buttery 106, Ell Bedroom 107, and Circular Cellar; this may have occurred in conjunction with the previous phase
- possible removal of earlier cellar
- reuse of window sash in West Buttery 106 and window casings ("Category D") in Ell Bedroom 107

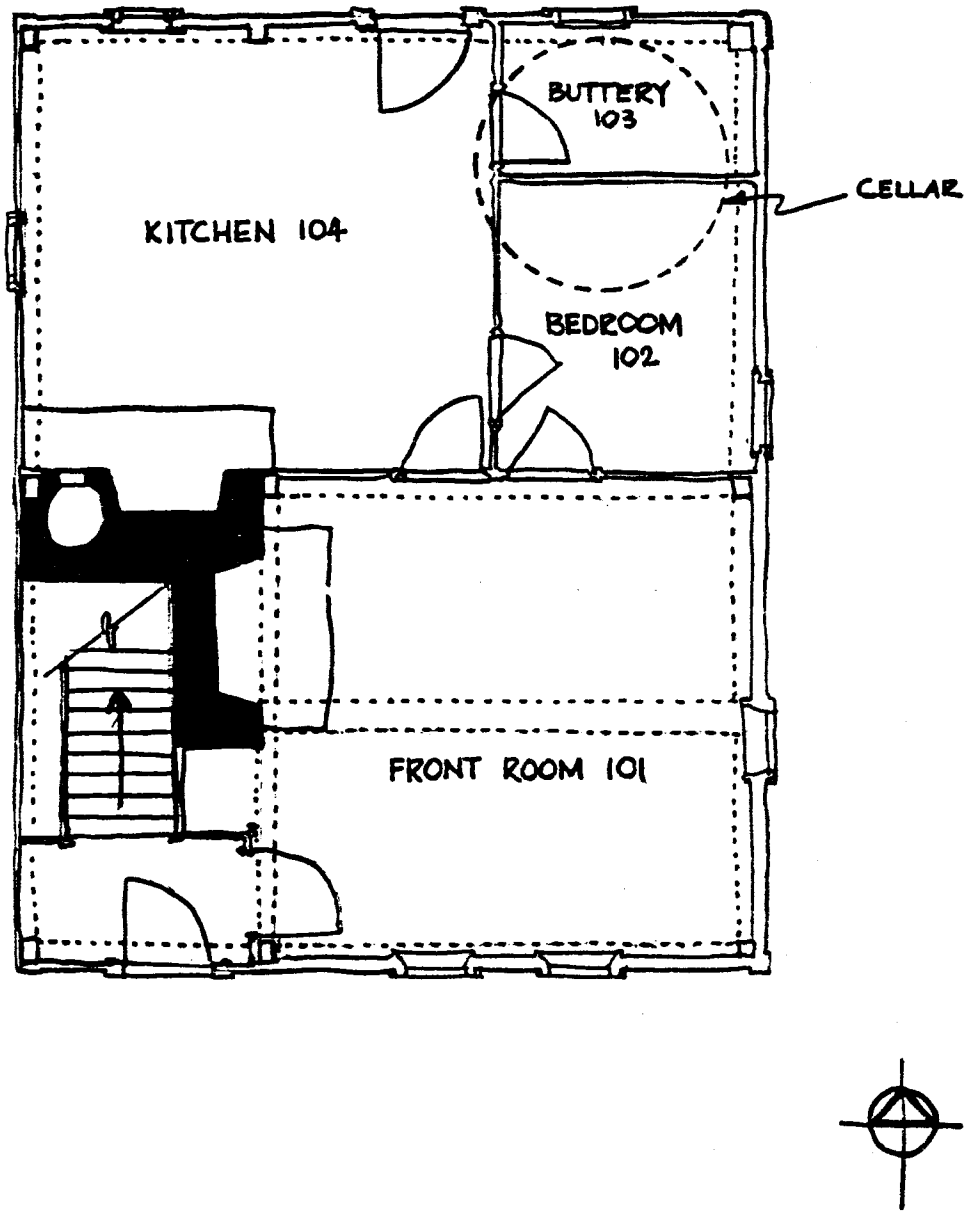


Illustration 8. Atwood-Higgins House: Conjectural First-Floor Plan, c. 1730.

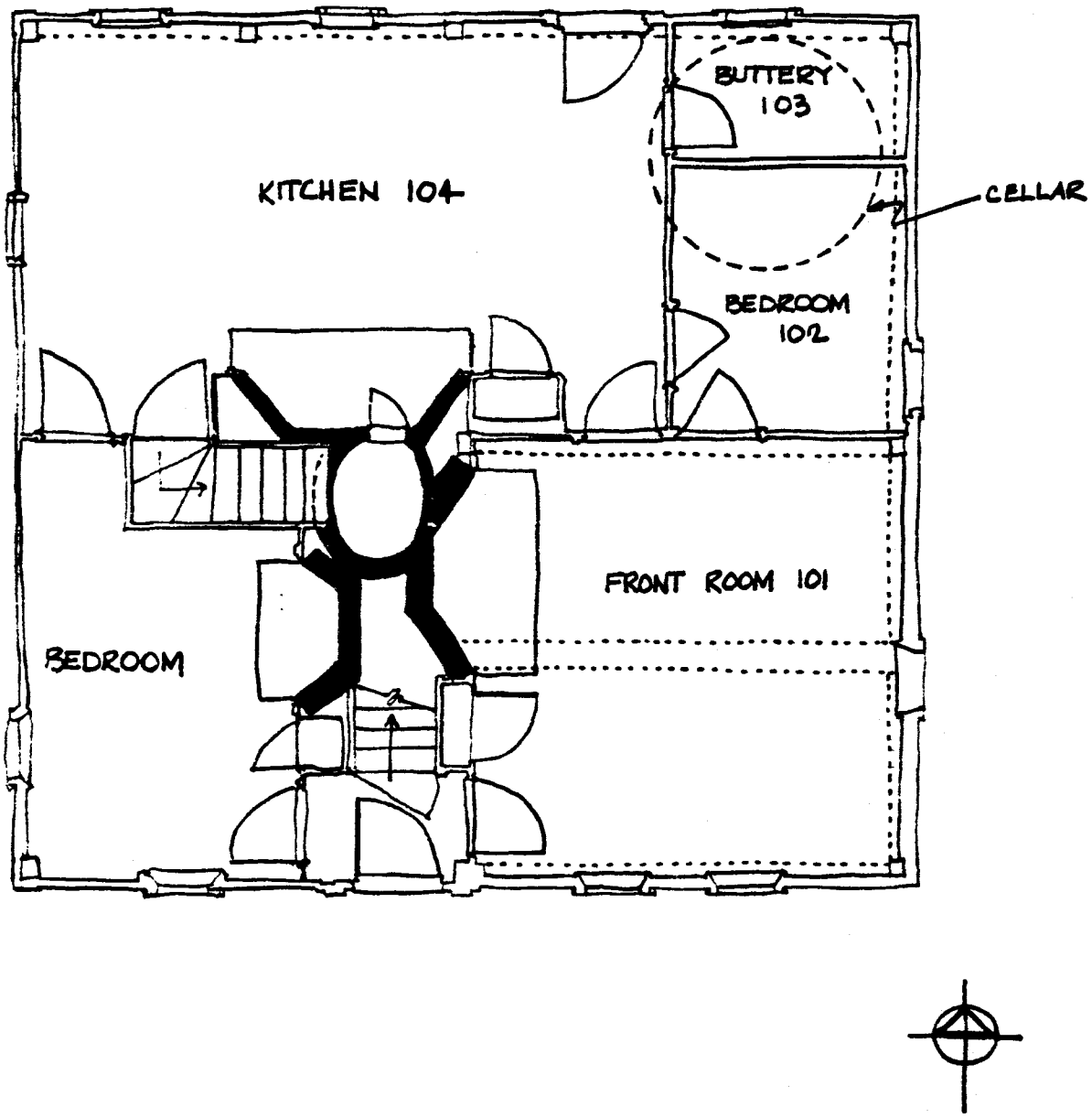


Illustration 9. Atwood-Higgins House: Conjectural First-Floor Plan, 1775-1790.

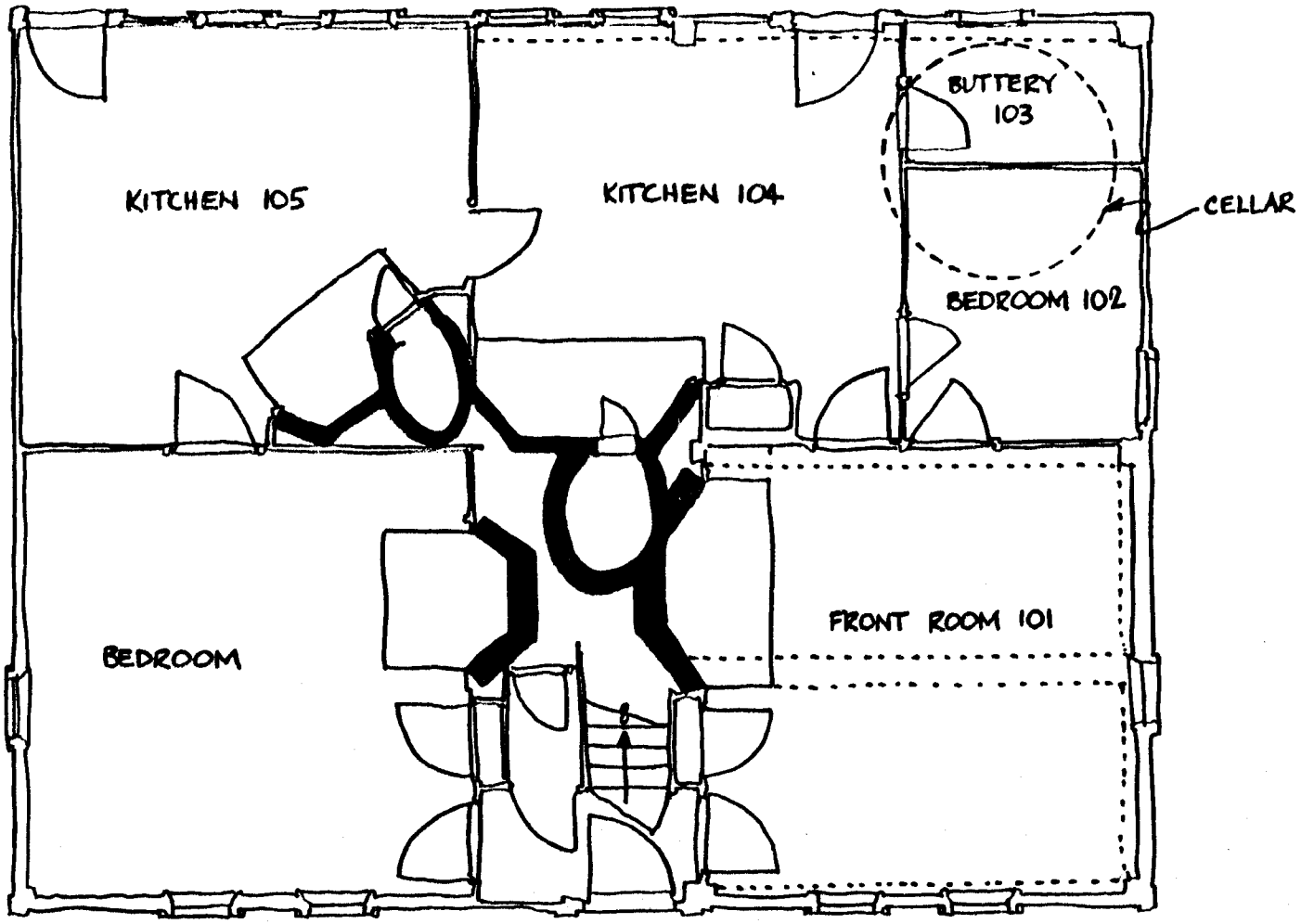


Illustration 10. Atwood-Higgins House: Conjectural First-Floor Plan, c. 1800.

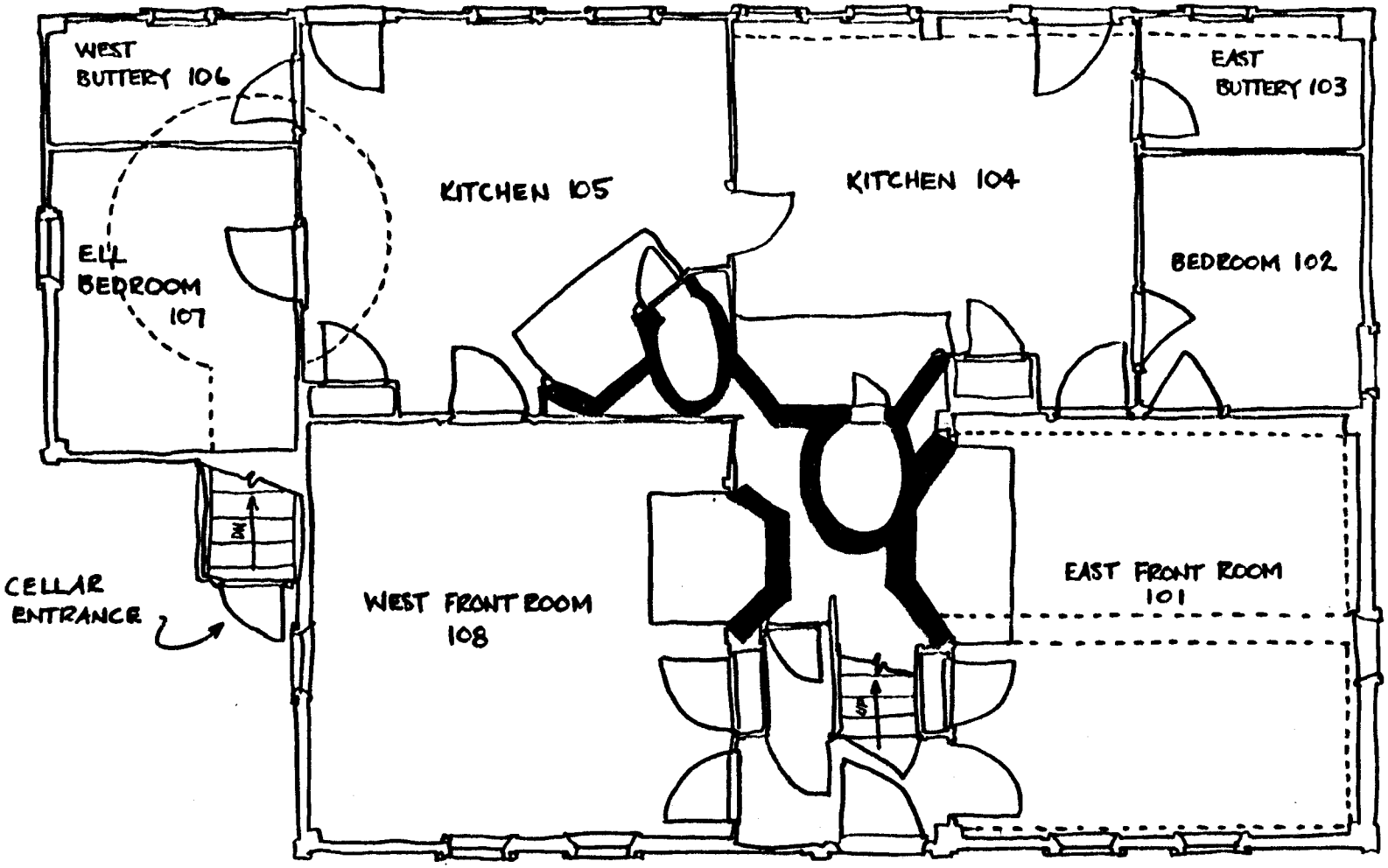


Illustration 11. Atwood-Higgins House: Conjectural First-Floor Plan, 1800-1820.

E. Circa 1820

- refurbishing of West Front Room 108, including new window and door casings and sliding shutters; addition of exterior shutters at this time, or later

F. Circa 1850

- partial refurbishing of East Front Room 101, East Bedroom 102, East Kitchen 104, and West Kitchen 105
- addition of shed-roofed entrance to cellar at this time, or earlier
- addition of north stair, located between West Buttery 106 and Ell Bedroom 107
- redesign of south stair, introducing present Entry 109 closet

G. After 1850

- installation of east-wall baseboard in Room 103; north-, south-, and west-wall wainscot changes in West Kitchen 105; and the probable introduction of doors Exterior/109 and Exterior/104

H. 1919-1974

- removal of exterior shutters
- new wooden shingles on roof and east wall
- two window openings made in west wall at attic level
- replacement of south, east, and north sills, and possibly others
- wooden gutter, leaders, downspouts, and dry wells installed along north wall
- masonry changes, including a new foundation, and redesign of flues and exterior pointing
- exterior painting; addition of trellises and millstone at south entry
- electricity, gas, and water connections installed
- paint removal in Rooms 101, 102, 103, 104, and 105
- plaster-wall replacement in Room 101
- hardware replacements (see Chapter V, Section F)
- redesign of Attic Bedroom
- wallpaper hung in Rooms 102, 105, 107, 108, 109, and Attic Bedroom

IV. ARCHITECTURAL DESCRIPTION

A. Exterior Description

Dimensions: 35 feet 1 inch by 27 feet 7 inches, with a northwest ell 14 feet 3-1/2 inches by 8 feet 1 inch

Number and height of stories: 1-1/2 stories, 20 feet 6 inches

Foundation: brick

Orientation: house faces south

Walls

The wood-framed exterior walls are typical, pre-1820, vertical-plank walls. The absence of stud framing in all portions was confirmed through the use of the X-ray camera. (See Chapter V, Section D.) Thickness of the vertical planks and construction details at sill and plate level are not known.

The south facade of the main house and of the northwest ell (Ills. 12, 13) are the only walls finished with wooden clapboards. The clapboards on the upper two-thirds of the main house are beaded on the lower edge of their exposure, which varies from 4 to 4-1/2 inches in width. They have feathered joints, and are painted light tan. The clapboards on the lower third of the main house appear to date from 20th-century sill repairs. This can be inferred from the fact that:

- they lack the accumulation of paint found on the upper clapboards;
- they are not beaded;
- their exposure measures only 3-1/2 to 4 inches wide; and
- they feature butted joints.

There is a plain, 10-inch-high skirt board, also of 20th-century date, and plain corner boards with a chromochronology similar to the clapboards.

The clapboards on the south facade of the ell differ from those of the main house in their 3-5/8-inch exposure, square-butted joints, and absence of paint layering. These clapboards probably date to the post-1920 work of George K. Higgins. There is no skirt board on this facade of the ell.

The remaining north, east, and west sides of the house are covered with wooden shingles (see Illustrations 14-16; 17; and 18-19, respectively). The exposure varies from 5-1/4 inches to 5-3/4 inches on the west side of the main house and ell, to about 7 inches on portions of the north side. The east side was shingled with "handsplit Virginia Cypress swamp shingles" in 1929, installed on top of the existing shingles. [1]

All shingles, clapboards, and trim elements are painted, with the exception of the shingles on the east side. A 1920 entry in George K. Higgins' journal states,

> We painted the house two coats of paint, an old-fashioned mustard yellow color without trimming...Samples of color were submitted to my father that the original color of the house when he was a boy might be restored. [2]

Paint analysis has revealed as many as 13 layers of varying shades of yellow, lead-based paint. Fragments of earlier, and possibly original, paint colors of red and green also were found on random samples on east, west, and ell portions of the house. Similar chromochronologies made it impossible to date architectural elements. A progression from early layers of a tan color to the more recent layers of light yellow was noticeable.

Cornices, Gutters, and Leaders

There is a simple box cornice, and plain raking boards at the gable ends. A wooden gutter along the north wall appears in Higgins' journal photographs of c. 1898. This gutter was probably replaced by Higgins when he added three metal downspouts cemented into clay piping at grade level. No downspouts were visible in the c.-1898 photograph. This system upon the north wall is the sole roof-drainage system for the house.

Roof

The ridge of the gable roof runs in an east-west direction, or parallel to the south facade. There are six rafter bays, constructed with purlins and collar ties. Wooden sheathing approximately seven-eighths of an inch thick is laid parallel to the rafters. The present wooden shingle covering dates to 1920.[3] It was the practice of George K. Higgins to apply a coat of linseed oil to the roof shingles every other year.[4]

Chimney

One brick chimney stack, slightly off-center, is located at the ridge of the roof. Although its basic form may be similar to the c.-1730 chimney, it is doubtful that this stack can be so dated. The numerous interior changes may have altered its exterior appearance. The only documented work is that of George K. Higgins in the early 1920's. The chimney was repointed at this time; raised two courses; and capped, with openings north and south. Higgins writes that, "all this topping had eventually to be removed. The back drafts continued. It was by trial and error that we finally solved this problem...The final solution was limited separate flues."[5]

The flashing is assumed to date also to the 1920 work of Higgins. Repairs have been made by the park maintenance staff in the north flashing and roof area, because of damage by squirrels.

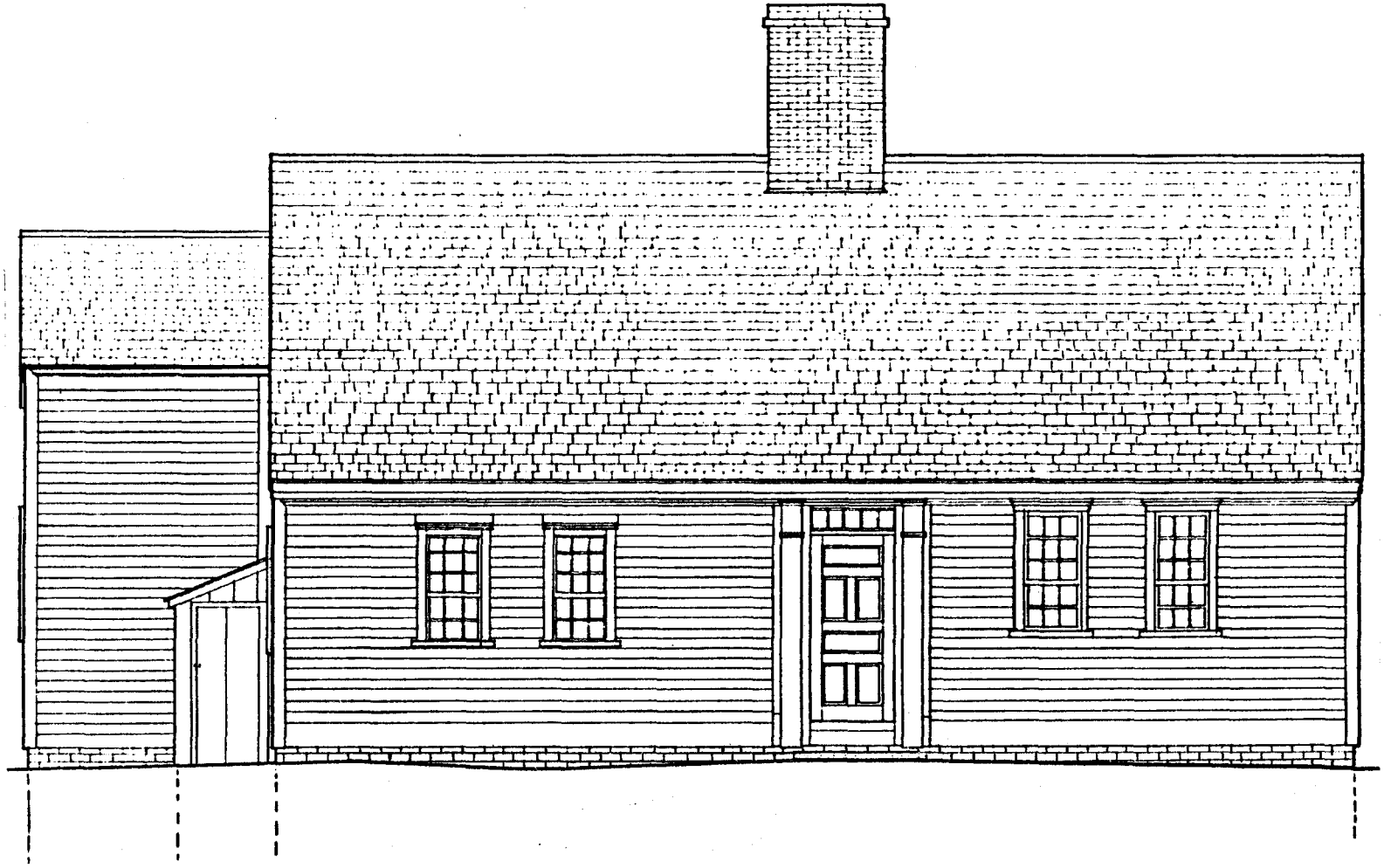


Illustration 12. Atwood-Higgins House: South (Front) Elevation.

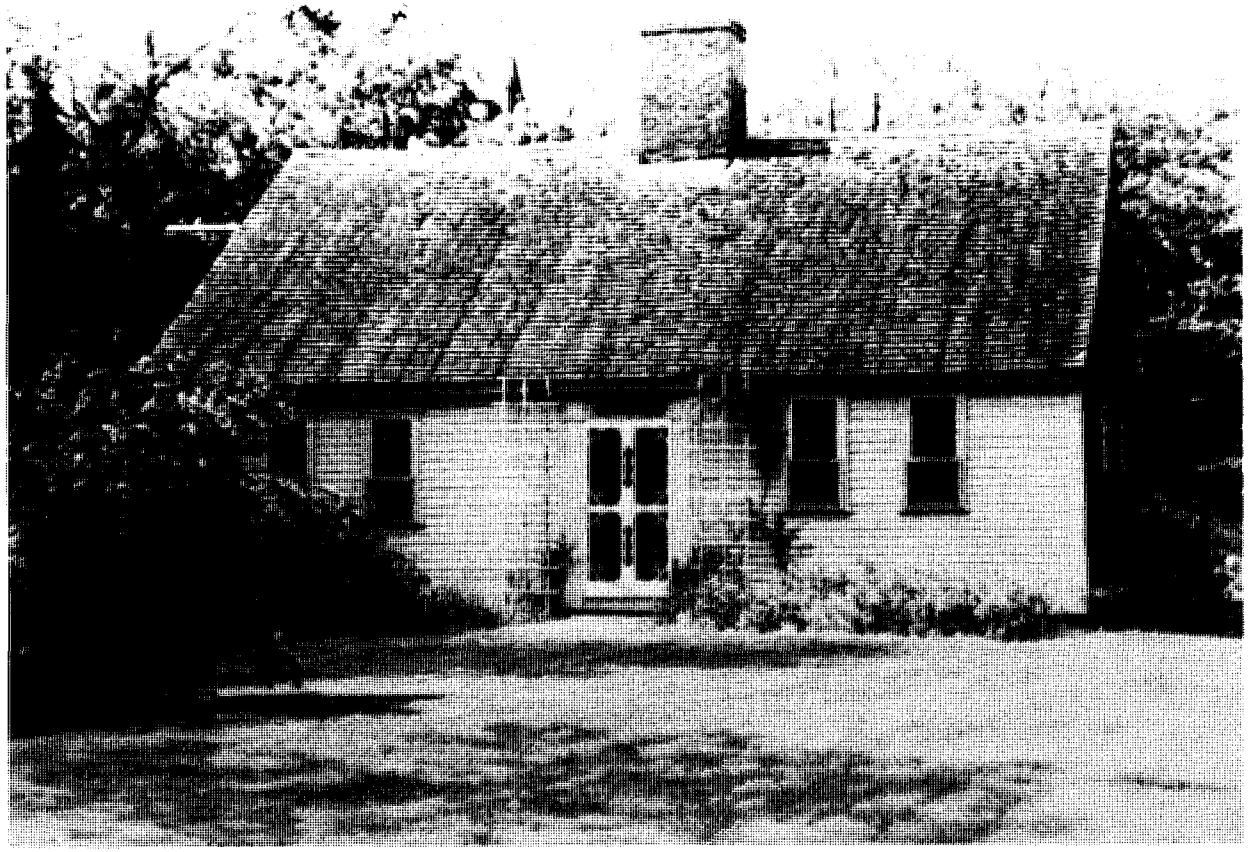


Illustration 13. Atwood-Higgins House: South Elevation.

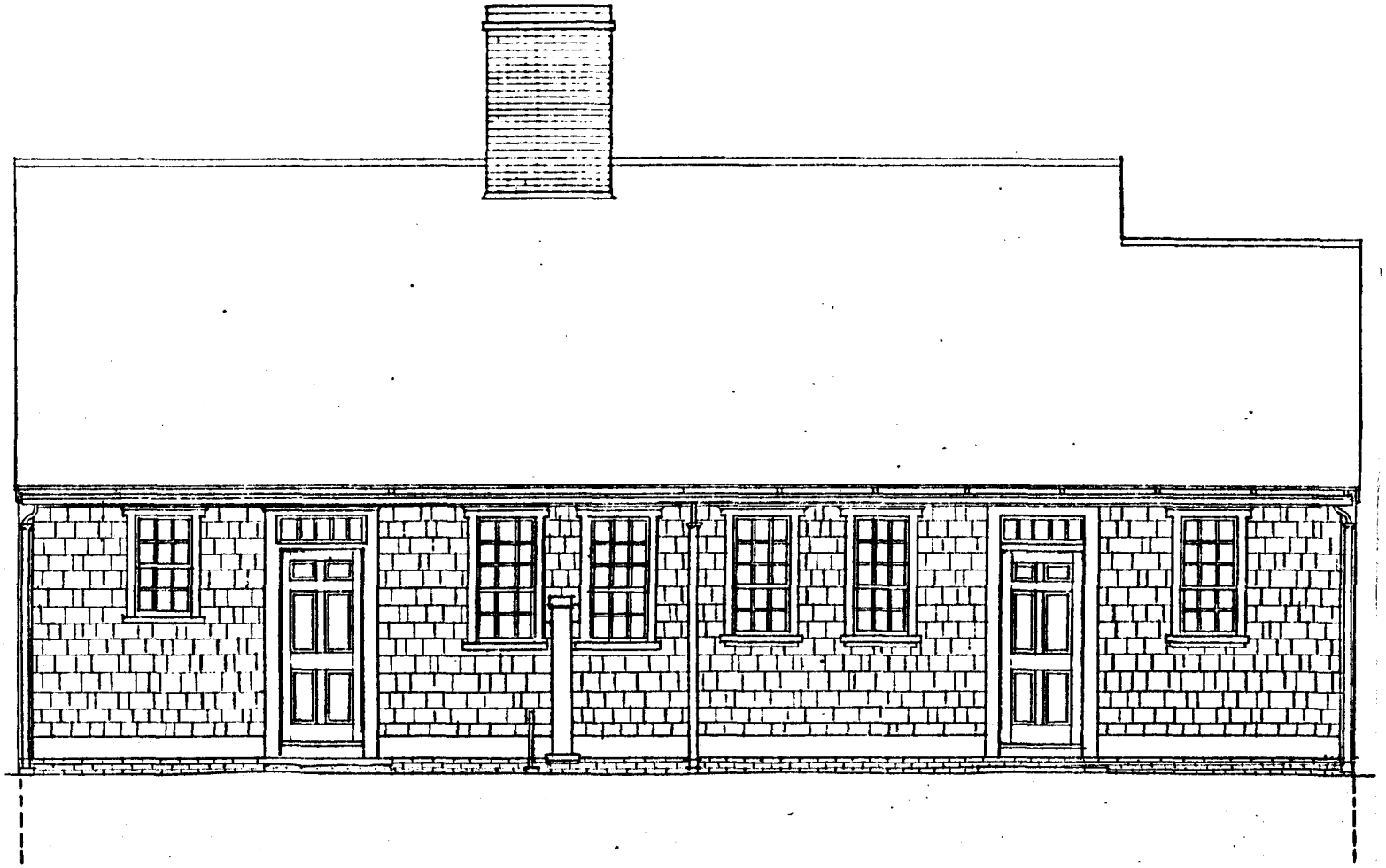


Illustration 14. Atwood-Higgins House: North (Rear) Elevation.

Illustration 15. Atwood-Higgins House: North Elevation.

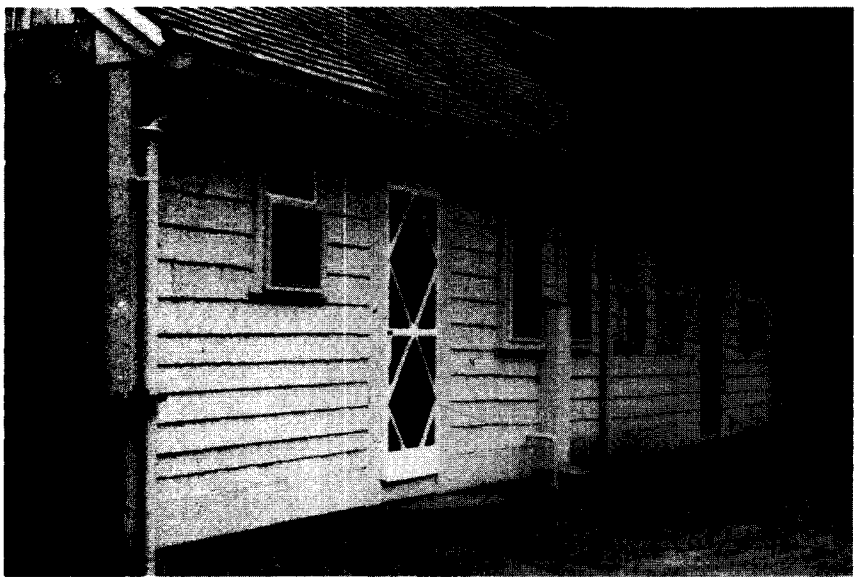


Illustration 16. Atwood-Higgins House: North Elevation, Looking West.

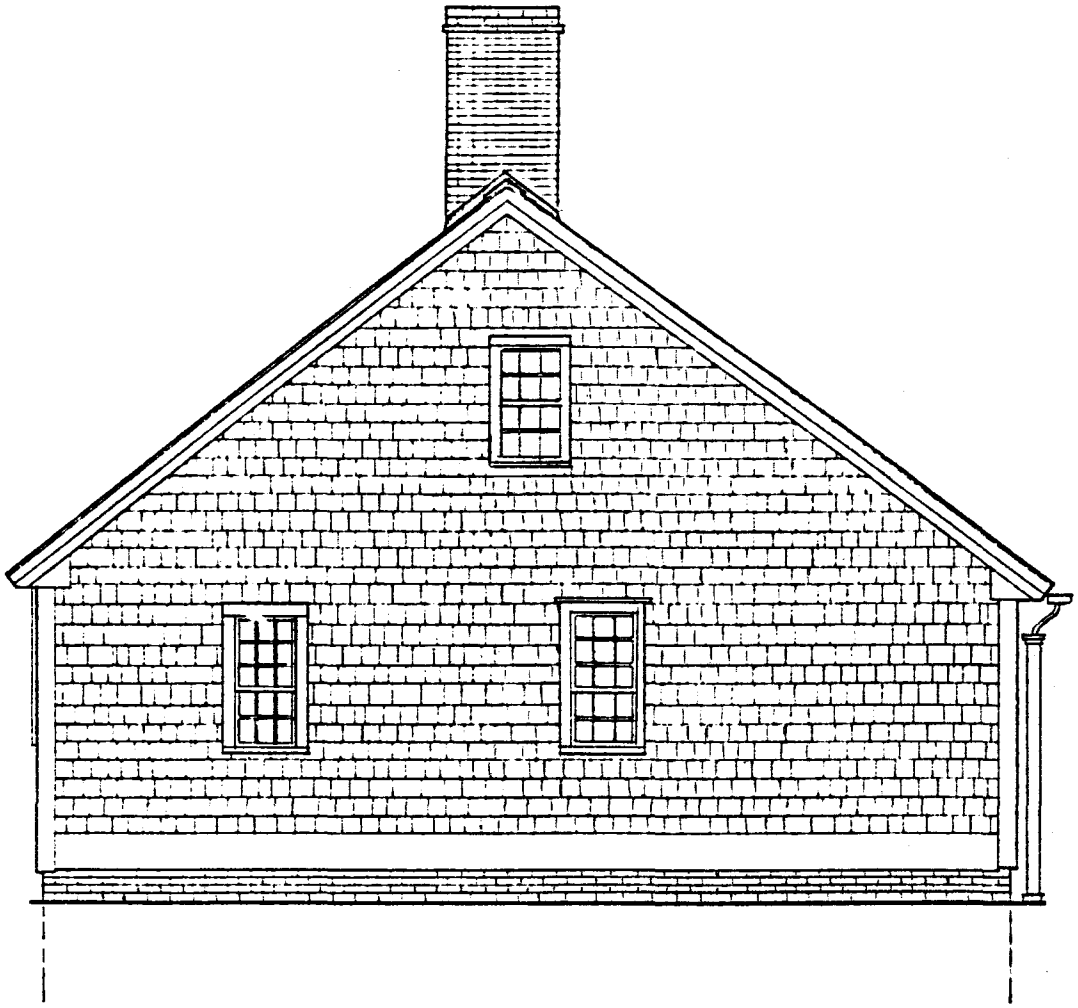


Illustration 17. Atwood-Higgins House: East Elevation.

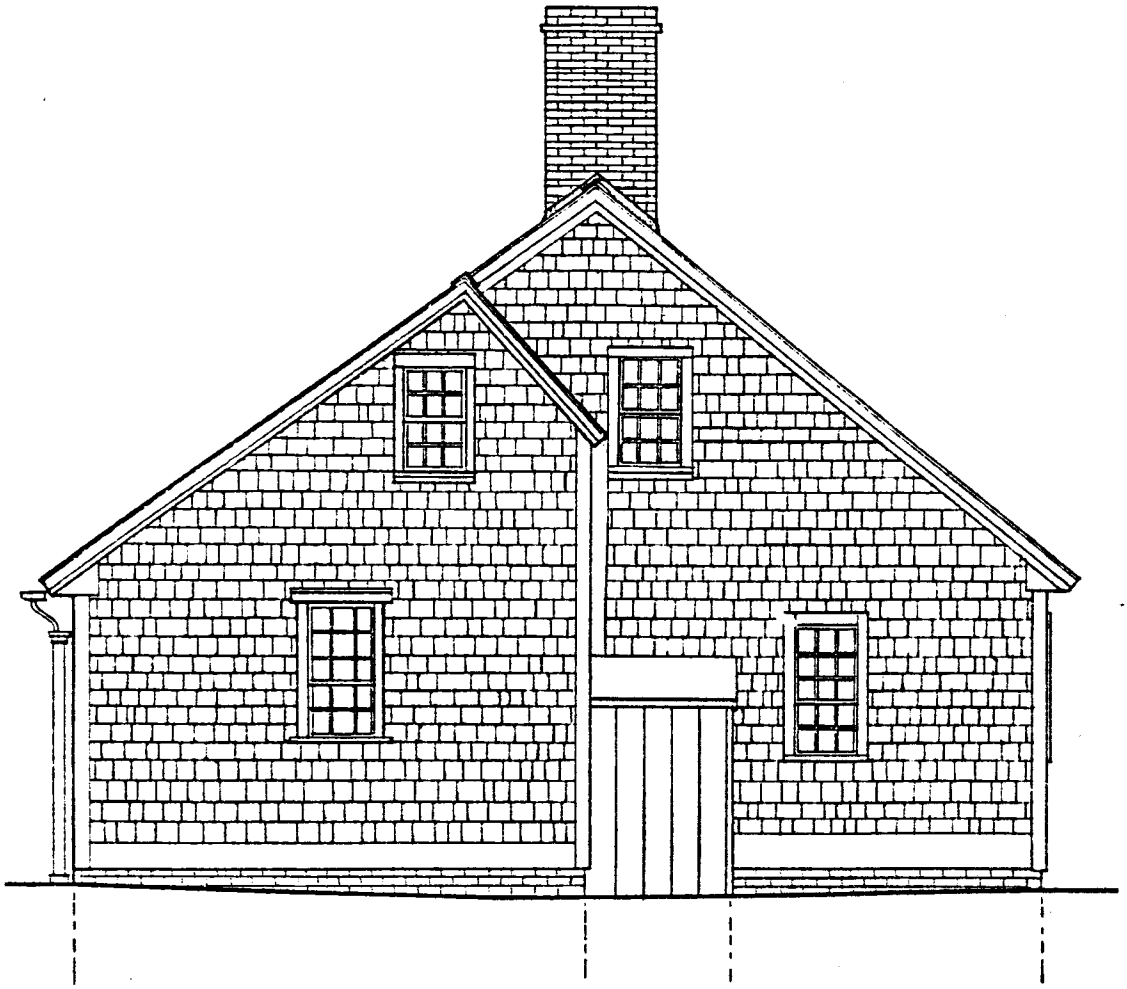


Illustration 18. Atwood-Higgins House: West Elevation.

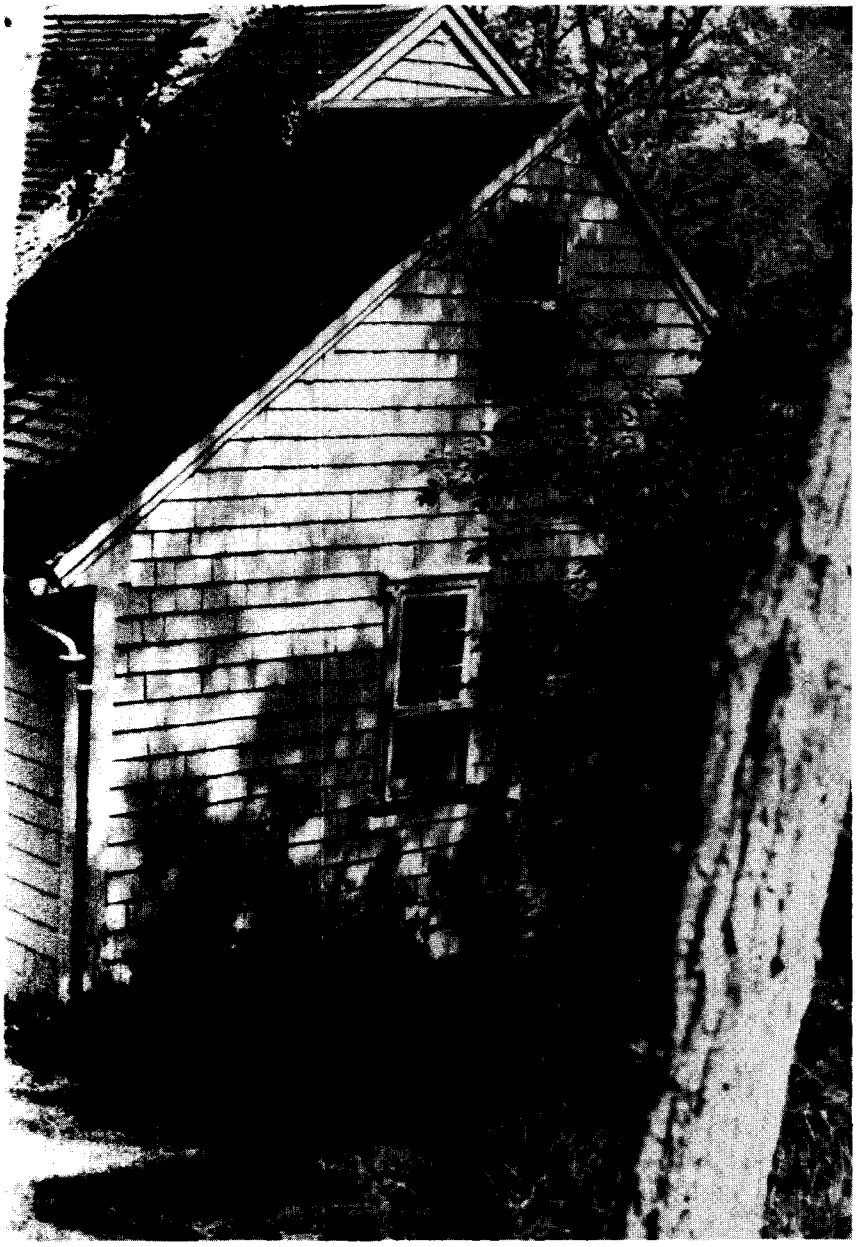


Illustration 19. Atwood-Higgins House: West Elevation of Ell.

Doorways and Doors

The off-center doorway of the south (front) facade has simple pilasters with classical entablatures. Five lights are framed above the existing six-panel door. Stylistically, the door dates to the late 19th century, but it has c.-1800 paint layers on its interior surface. (See Section C, "Entry 109.") The molding of the entablature does correspond to moldings found in the later west half of the house, which indicates that this doorway opening was embellished at a period later than the original house construction. This embellishment probably dates to the c.-1800 addition of the westernmost bay, which created a full, five-bay Cape Cod house. The pilaster treatment is similar to that found on the Justin Williams House (HABS no. MASS-703) on Pamet Point Road, and the Edmund Freeman House (HABS no. MASS-702) and the Lot Harding House (HABS no. MASS-715) in Truro. It is suspected that repairs in the sill area of the door at the Atwood-Higgins House resulted in the removal of plinths at the bases of the pilasters.

There are two doorways in the north facade: one in the c.-1730, east half, and one in the west half. Both doorway openings have plain casings flush with the exterior shingle covering, which are not original to the doorway openings. Five lights are framed above each door opening. The exterior door from the East Kitchen 104 is a five-panel door with applied molding, of post-1850 date. The exterior door from the West Kitchen 105 is a four-panel door that appears to relate stylistically to other c.-1800 doors in the same room. It has only late 19th-century paint layers on its exterior, and its interior paint has been stripped.

All three doors from the south and north locations have the same two to three uppermost layers of forest green, a middle layer of grassy green, and base layers of cream; the northern doors have a few additional layers between the grassy green and the creams. Each doorway also has a post-1850 screen door. A fourth exterior door is located in the south wall of the shed-like entrance leading to the circular brick cellar. It is a board-and-batten door, painted yellow, that probably dates to the 19th-century construction of this shed-roofed entrance.

The front (south) entry has a step consisting of a millstone obtained by George K. Higgins in 1922. Additional 20th-century work includes the trellises built by Higgins on both sides of this doorway in 1923. The millstone at the eastern north-wall entry was in place when George K. Higgins assumed ownership in 1919. The western north-wall entry has a brick paved area at grade level installed in 1921 by George K. Higgins.

Windows and Shutters

The front (south) facade of five bays is notable for its irregular spacing of window and doorway openings. With a doorway off-center toward the east windows, this facade provides unmistakable evidence of a house 20 to 21 feet wide having been expanded to its present width of 35 feet 1 inch.

The construction and detailing of window frames provides additional dating information. The two window-frame lintels of the east side fit closely up under the simple box cornice. The two west windows are positioned lower than the cornice. A molding runs under the box cornice, across the entire width of the house, forming the cornice of the doorway pilasters; it continues across the east window frames as a later addition. This molding corresponds to the cornice molding found in the West Front Room 108 of c.-1800 date. Because the west window frames are lower, their lintel moldings are separate. The two west window frames are beaded on the inner jamb edges and the lower lintel edge, whereas the east window frames are plain. All four window frames are of plank-frame construction, consisting of a frame projecting 1 to 2 inches beyond the exterior wall plane, and which is mortised, tenoned, and pegged.

The east window frames of the south facade are thought to date to the original, c.-1730 construction period, because of their alignment with the cornice. The west window frames of this facade seem to date to the c.-1800 west addition.

Dating of the north-facade window frames is not so easy. All six windows are of plank construction, which suggests a pre-1820 date.[6] The easternmost window is the smallest of the six, with only six-over-six sash, compared to nine-over-six sash elsewhere. There is no detailing of its frame. The lintel shows signs of previous wood-borer infestation. The lower 16 inches of the east jamb, the lower 11 inches of the west jamb, and the sill are replacement pieces rabbeted into the original jamb frame, which probably dates to c. 1730.

The frames of the next two windows have a lintel molding possibly added after the frames were constructed. These window openings are slightly lower than the easternmost window frame. The lower 14 inches of the east jamb and the lower 15 inches of the west jamb are replacement pieces on the easternmost of the two windows, rabbeted into the original jamb frame. These two window frames are located in the c.-1730 portion of the house, and have interior casings dated c. 1750 (Chapter V, Section B, "Category B"). These two windows seem to have replaced a single, c.-1730 window here, in the mid-18th century.

The remaining three windows of the north facade are located on the west addition and ell. The frames of all three have the same lintel molding, which appears to be original to the frames. Wooden strips have been added under the window sills. The similarity of these three windows: 1) argues against the existence of an interim, three-quarter house; and 2) suggests that the ell was built at the same time as the west addition. The first discrepancy can be resolved by postulating a standardization of windows in the West Kitchen 105 when the fifth bay was added c. 1800. (This is presuming that the three-quarter house did have a window in the fourth bay of the enlarged East Kitchen; it may not have.) The c.-1800 sash of the West Kitchen windows supports the idea of such standardization.

The west facade of the main house has one plank-frame window beaded to match the window frames on the west side of the south facade. It does not have a lintel molding, however, possibly because of its less prominent position. The same c.-1800 date would apply to this frame.

The west facade of the ell has one plank-frame window, with its inner edges molded to a quarter-round. This detailing is not found elsewhere, and differs from the ell window frame on the north facade. This window frame points to a post-1800 date of construction for the ell — contradicting the c.-1800 form of the north-facade ell window. It is certain that a window would have been needed here originally, to light the Ell Bedroom 107. The present window frame probably was in fact remodeled c. 1820, based upon its sash. (See Section C.)

The west facades of both the main house and the ell have second-floor window openings with flush frames and six-over-six sash. A similar frame is located at the second-floor level of the east facade. All three window openings and casings are probably late 19th-century in date, but may have been installed by George K. Higgins in the 20th century.

The east facade has two first-floor window frames of plank construction. The south window frame is plain, with jambs mortised into the lintel; the north window frame has the lintel mortised into the jambs. Both window frames may be of a date similar to their matching interior casings, of c. 1775-1790.

Exterior blinds and their hinges were removed by George K. Higgins in 1920; [7] all holes were puttied, and necessary repairs made. Since blinds are not known to have been typical in the 18th century, or to have been used with plank-frame window construction, they were probably added sometime in the 19th century.

NOTES

1. George K. Higgins' journal, p. 74.

2. Ibid., pp. 38-39.

3. Ibid., p. 43.

4. Ibid., p. 124.

5. Ibid., pp. 50-51, with photograph.

6. After about 1820, window frames were constructed so that they were nearly flush with the exterior wall covering.

7. Higgins' journal, p. 38.

B. Structural-System Description

The post-and-beam construction method is characterized by vertical posts carrying horizontal beams, with walls of thick, vertical wooden planks.

First-Floor Framing

The first-floor framing consists of ground sills (of unknown dimension) supported by a brick foundation built between 1928 and 1929.[1] Investigations at the west side of the south-wall foundation, and under floorboards in the East Front Room 101, did not produce evidence of an earlier foundation. The existing brick coursing is irregular in bond, mortar-joint thickness, and height of coursing (between three and seven courses, in all). This foundation appears to be one wythe thick.

Several sills were replaced in 1929, including "one sill under the east end" and "the sill in the back to the north."[2] Investigations also indicate a replacement at the east side of the south wall. Core borings in the east and west sides of the south-wall sill, the east-wall sill, and the west side of the north-wall sill do indicate a sound condition at the present time. The condition of sills at the ell is not known.

Two of the ell-floor joists, or sleepers, are exposed in a circular brick cellar eight feet in diameter. These sleepers average 4-1/4 by 8 inches in size, and run in a north-south direction. Their advanced stages of insect infestation will require replacement of both exposed sleepers.

Investigations beneath floorboards in the East Front Room 101 showed sleepers running in an east-west direction (Ills. 20-21). The sleepers are partially "in the rough," featuring bark that has been eaten by insects. A butt-cog joint was made at the hand-hewn north-south interior sill, and the upper surface was planed smooth to receive floorboards. Spacing of the sleepers averages 1 foot 9-1/2 inches. Intermediate support is randomly provided by rocks resting on the dry, sandy soil.

The central chimney mass is built directly upon grade level. Space for the first-floor framing is achieved by having the ground slope gradually away from the central chimney. This space is partially visible from the circular cellar. It is not large enough to be called, or utilized as, a crawl space.

Posts

Six vertical posts remain from c. 1730. These outline the two easternmost bays of the original house. Lettered on Illustration 22, they include:

a. a north chimney post, now in the middle of the north wall of the East Kitchen 104;

b. a northeast corner post, in the northeast corner of the East Buttery 103;

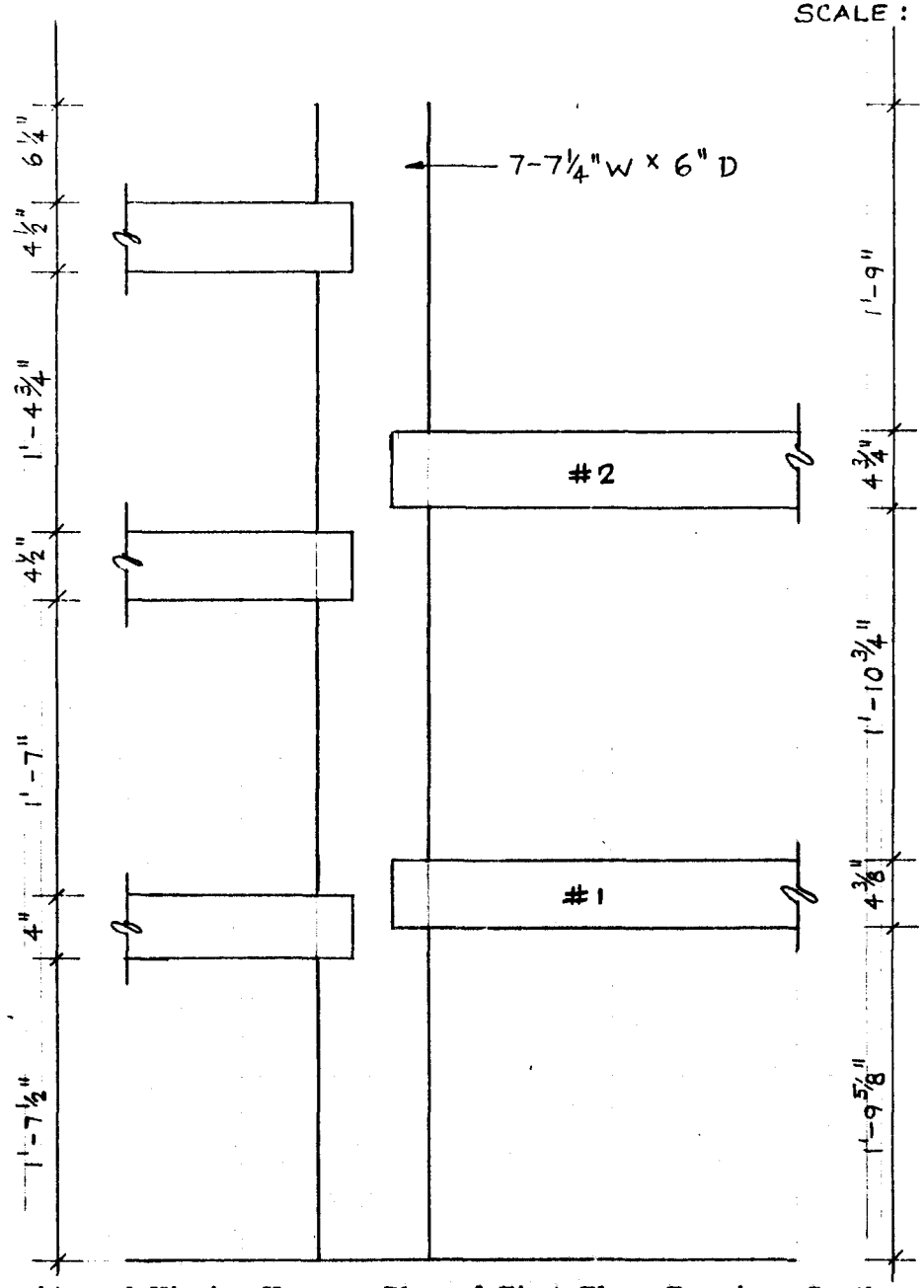
CACO 55 ATWOOD-HIGGINS HOUSE

DRAWN BY: MARSHA L. FADER

FRAMING PLAN

EAST FRONT ROOM 101 - S.W. CORNER

SCALE: 1" = 1'-0"



NOTE: ALL MEMBERS ARE HANDHEWN. VISIBLE UNDERSIDES OF #1 AND #2 ARE 'IN THE ROUGH'.

Illustration 20. Atwood-Higgins House: Plan of First-Floor Framing, Southwest Corner of East Front Room.

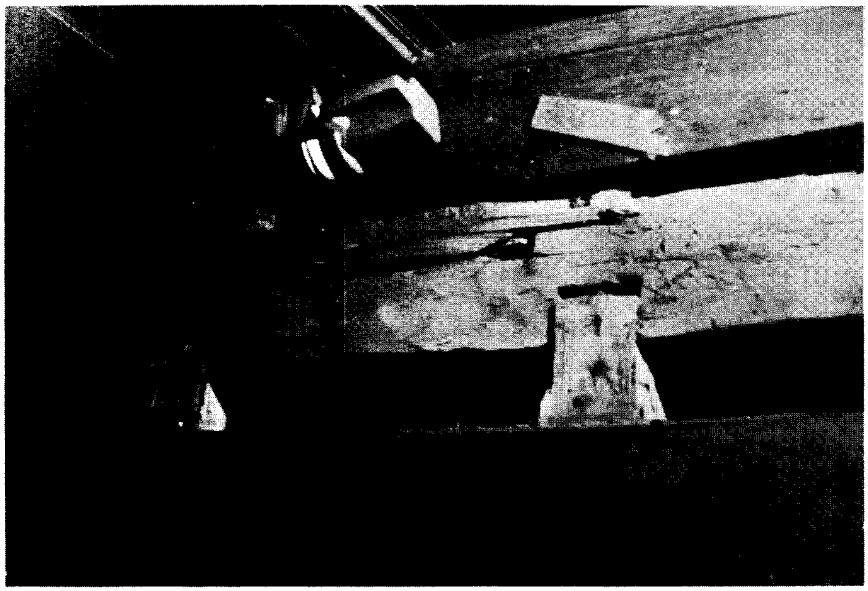


Illustration 21. Atwood-Higgins House: First-Floor Framing, Southwest Corner of East Front Room.

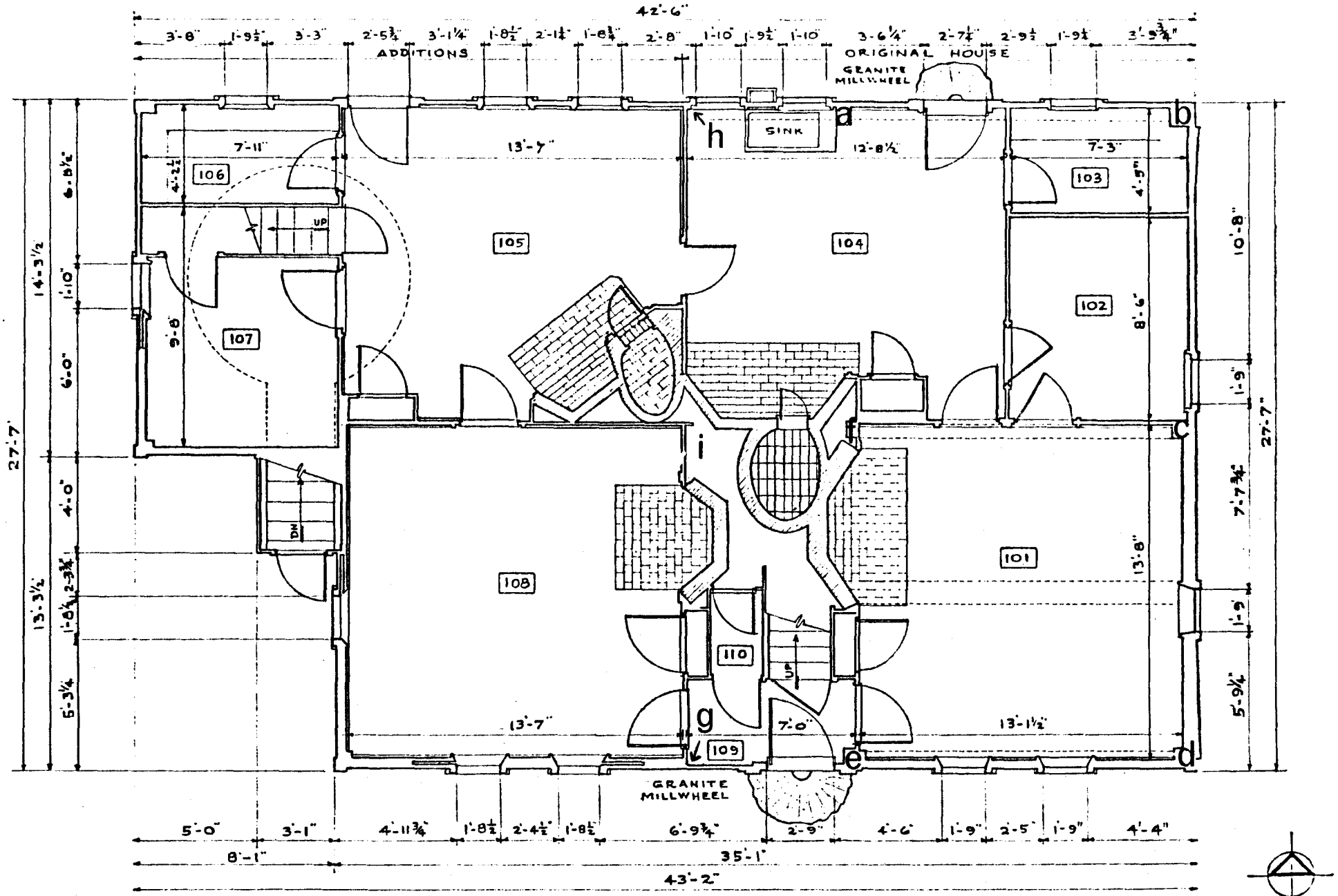
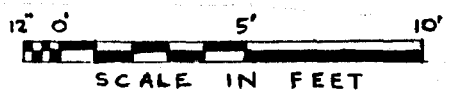


Illustration 22. Atwood-Higgins House: Plan of First Floor.



c. an east "prick post,"[3] at the east end of Room 101's north wall;

d. a southeast corner post, in the southeast corner of East Front Room 101;

e. a south chimney post, at the south end of Room 101's west wall; and

f. an interior chimney post, at the west end of Room 101's north wall.

Presumably, three additional posts would have been present in the c.-1730 house, along the west, exterior wall of the chimney bay — two corner posts (at "g" and "h"), and a prick post between them ("i"). This would have formed an original house about 21 feet long. The three missing posts apparently were removed when the structure was enlarged the first time.

Most of the surviving posts have been cased, so their forms are uncertain. It would seem, however, that all are splayed. This is the form of the only uncased post — the interior chimney post, which is located northeast of the chimney mass within an unfinished area (Ills. 23-24). The edges of this post are roughly chamfered. The northeast corner post has an incremental casing (Ill. 25), so it seems obvious that it, too, is splayed. The north chimney post has a straight casing, but X-ray investigation has shown it to be splayed within the casing. (See Chapter V, Section D.) The south chimney post and the southeast corner post also have straight casings, but are probably splayed likewise. The chief question concerns the east prick post. Cummings[4] illustrates these posts as being straight-sided. However, the east prick post carries one end of a summer beam, whose other end is supported by the splayed interior chimney post. This would suggest that the east prick post is splayed, as well.

Beams

The vertical-post structure supports a system of horizontal beams that may or may not conform to traditional practices. None of the joints made between posts, horizontal beams, and rafters are visible. Traditionally the front and rear (north and south) plates rest directly on the posts, while chimney girts and end girts (of a transverse, or north-south direction) rest on the plates and splayed posts via a dovetail joint.[5] It is not clear whether this traditional framing system exists. The east end-girt casing occurs at the same level as the summer beam, front plate casing, and east chimney girt. This evidence suggests a framing system of unknown post, plate, and rafter joinery, with plates, girts, and summer beams framed at the same level.

There are two types of summer beams with casings visible in the East Front Room 101. One is a binding summer beam, running east-west along the top of Room 101's north wall. The other is a bridging summer beam, running east-west between the east end girt and the east chimney girt, across the East Front Room 101. The sole function of the bridging summer beam is to support floor joists. Transverse floor joists are assumed to have either a tusk-tenon or butt-cog joint. The use of the summer beam was typical up until mid-18th century. The existence of this feature supports a pre-1750 date of construction for the original east portion of the house.

Attic-Floor Framing

A section of attic-floor framing in the original east half of the house, north of the binding summer beam, was exposed by pulling up a shiplapped floorboard 20 feet 3-1/2 inches long (Ills. 26-27). The original east end girt and both chimney girts were visible, as well as the five original joists. The east end girt is large (9 by 6 inches), with the two chimney girts being a little smaller (5 to 5-1/2 inches wide by 8 to 9 inches deep, spaced 43-1/2 inches apart). The underside of the eastern chimney girt, above masonry work of a later date, is whitewashed.[7] The rear side of the present-day fireplace wall paneling of the East Front Room 101 shows lath and plaster marks, indicating that it has been reused. The original west end girt has been removed (see below). The joists are 4 to 4-3/4 inches wide by 5 to 6 inches deep, hand-hewn, and whitewashed on vertical sides and the lower horizontal side. This evidence clearly recalls an original (c.-1730) period of open-joist ceilings.[6] The spacing between joists varies from 22 to 23-1/2 inches.

The floorboard that was lifted was secured to a joist that was not whitewashed. This lack of whitewash is one of the ways in which the joists added during the two western expansions can be distinguished. Another way is by examining the joists' spacing and size. West of the chimney girts are the three joists that offer the clearest evidence of the existence of a three-quarter house. These joists — which give an additional length of about 6 feet — are irregular in both spacing and size. They are not whitewashed, and are spaced 2 feet 9 inches to 3 feet apart. Their sizes, working from east to west, are 5 by 6 inches, 3 by 6-1/2 inches, and 6-1/8 by 6-1/2 inches. The first of these would have replaced the original west end girt; the latter's larger size confirms its previous role as the west end girt of the interim, three-quarter house. This house would have been about 26 feet long.

The second increment (west of the first) includes four joists that are not whitewashed. They are spaced 19 to 20 inches apart, and measure 4 to 4-1/2 by 6-1/2 inches. The regular spacing and sizing sets this framing portion apart from the first increment. The increase is approximately 8 feet.

Wall Construction

The structural system typically used for an early Cape Cod house is referred to as post-and-beam, or as a bay system consisting of posts and binding beams. However, the construction may also be referred to as plank-frame construction. Plank frame is a contemporary term that refers to an exterior sheathing of vertical boards, at least 1 inch in thickness.[8] No studs were used for intermediate support between posts in this type of construction. The absence of stud framing in all portions of the Atwood-Higgins House was confirmed through use of the X-ray camera (Chapter V, Section D). It has not been confirmed, however, whether the planks are let into the ground sills, or whether they are spiked.

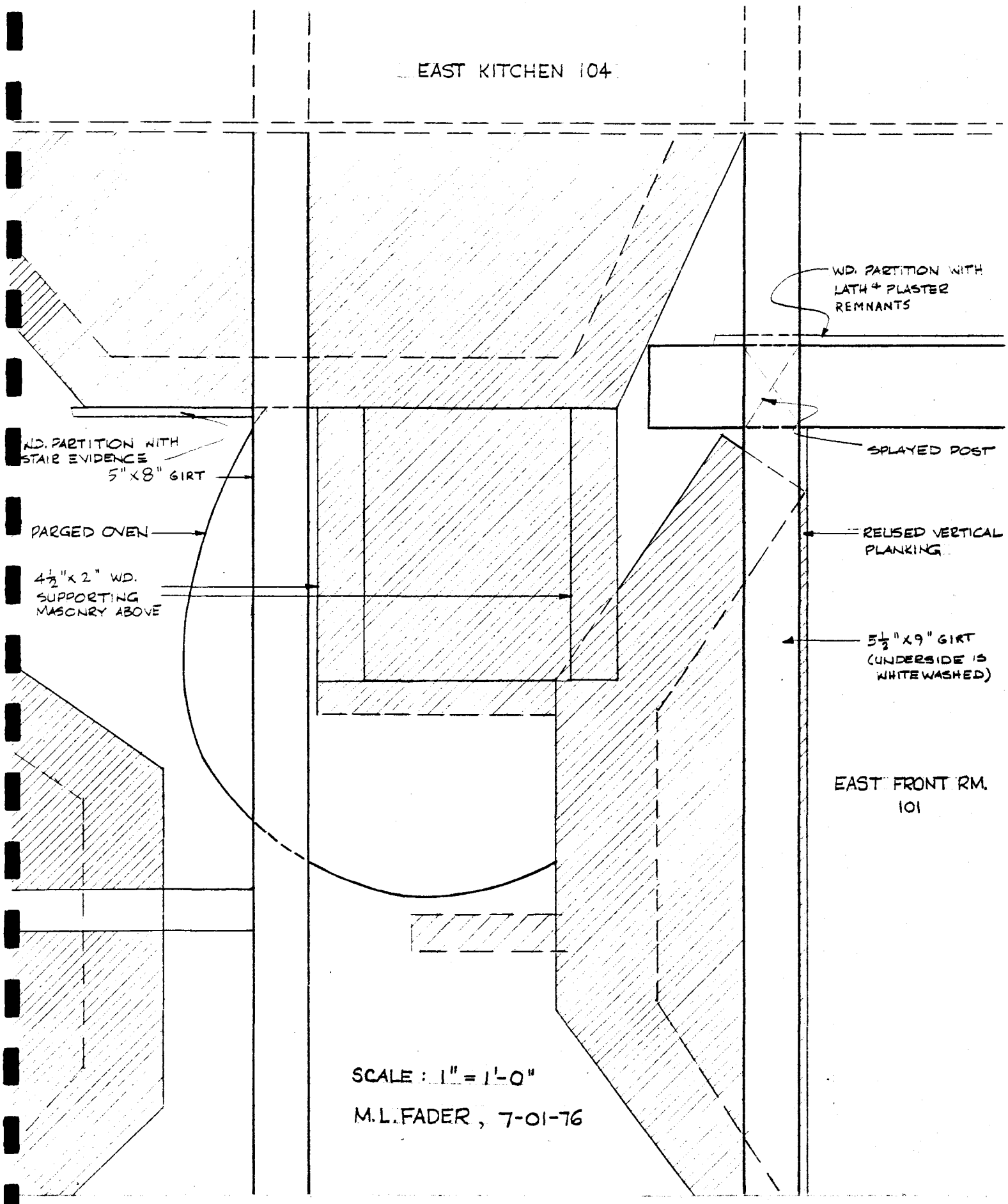


Illustration 23. Plan of Part of Chimney Mass and Framing.

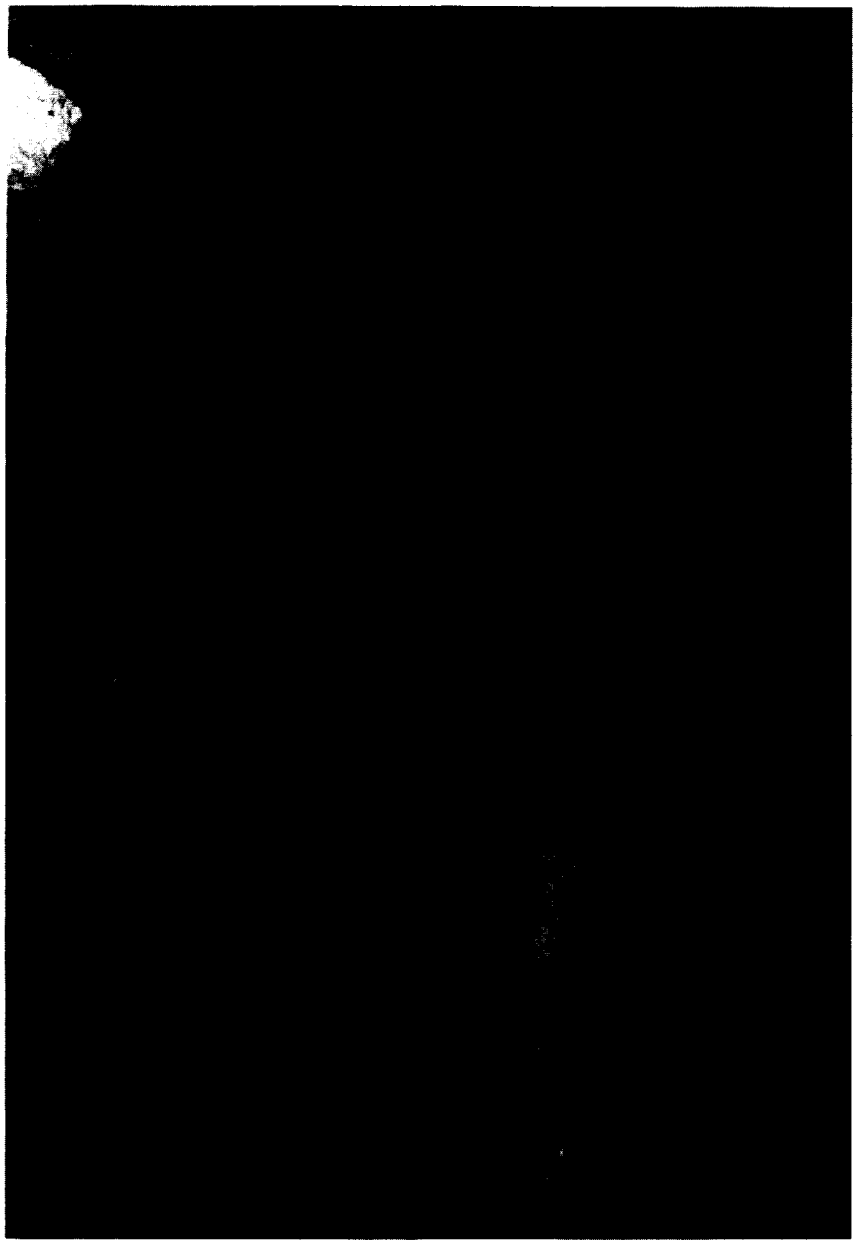


Illustration 24. Atwood-Higgins House: Interior Chimney Post Supporting a Summer Beam.

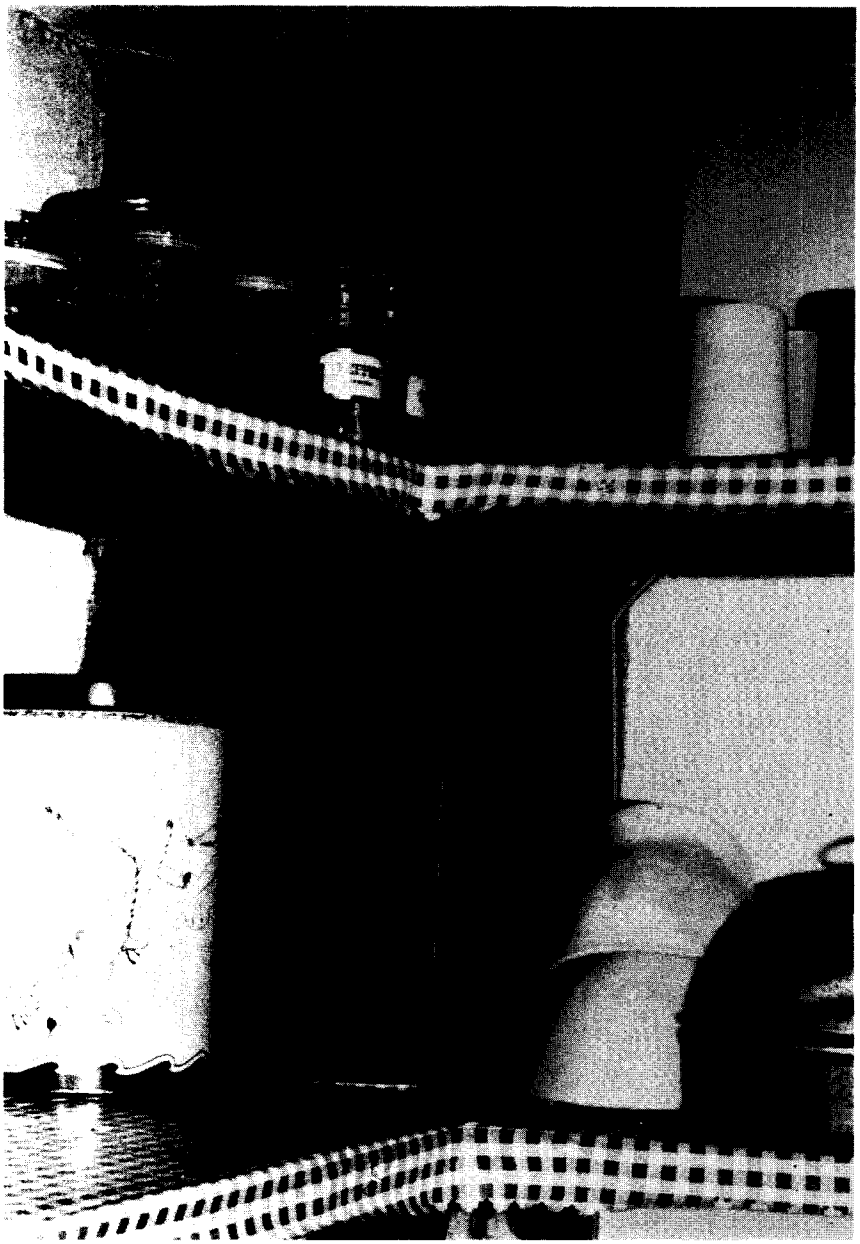


Illustration 25. Atwood-Higgins House: East Buttery, Northeast Corner Post.

CACO 55 ATWOOD-HIGGINS HOUSE

DRAWN BY: MARSHA L. FADER

SECOND FLOOR FRAMING

SCALE: $\frac{1}{4}$" = 1'-0"

NORTH SECTION ONLY

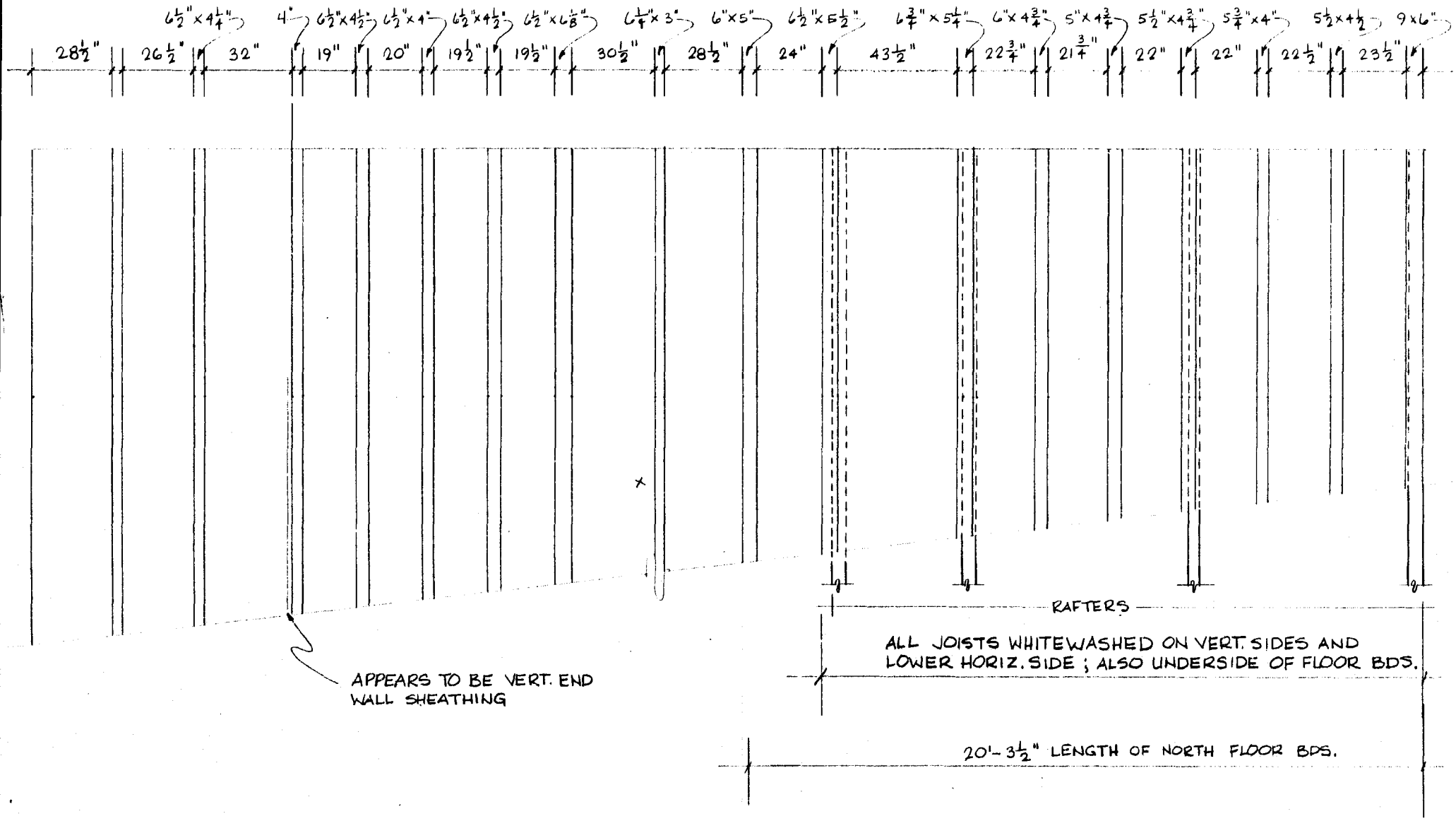


Illustration 26. Atwood-Higgins House: Plan of Attic-Floor Framing, Northern Portion.

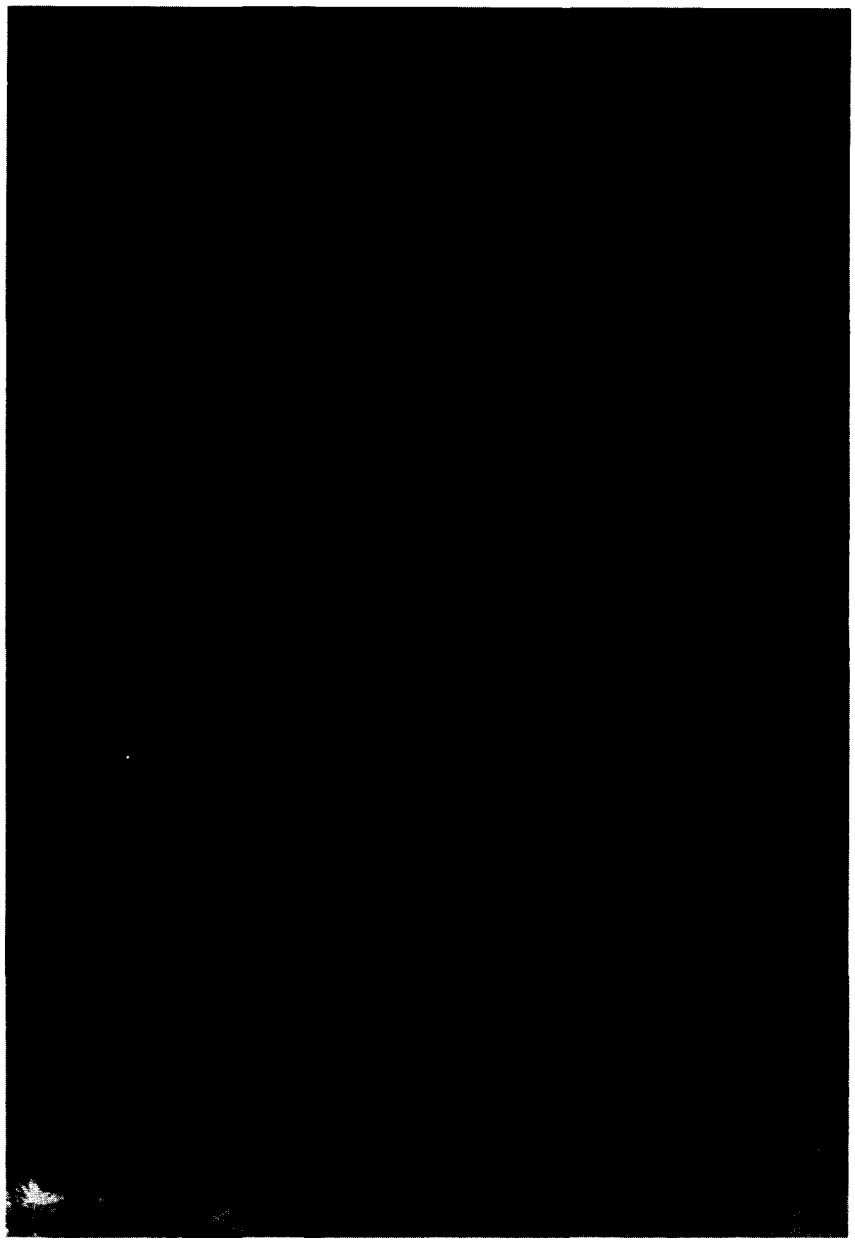


Illustration 27. Atwood-Higgins House: Attic-Floor Framing, Looking East.

Houses of plank-frame construction have been found in substantial quantity in Plymouth Colony. Although Richard Candee[9] has linked its appearance to assimilation of practices in the Netherlands by English emigrants during a 12-year stopover, Abbott Lowell Cummings has looked to southern Maine and New Hampshire for its inception and perpetuation — areas with abundant wood supplies and sawmills.[10] Cummings has also remarked upon the economy of both materials and labor in plank-frame construction.

Roof Construction

The roof construction of hand-hewn principal rafters is visible on the second floor. Spacing of the rafters provides evidence for the existence of two building parts constructed at different times. Four of the original five rafters survive on the east half, all of which appear to be of fir. The spacing appears to be approximately 6 feet 9 inches on center for the easternmost of two bays. The chimney is positioned between rafters 4 feet apart. The end rafter for the original west end of the structure may have been about 3 feet from the chimney rafter. This rafter was apparently removed when the west addition was constructed. Changes have also occurred at the west chimney rafter when additional flues were added. The uppermost portion of this rafter and a collar tie were removed, to accommodate brickwork.

The position of the next rafter — approximately 8 feet 1 inch from the west chimney rafter — corresponds with the second-floor set of joists that probably represents the first addition, and an interim-period, three-quarter-size house. Two additional rafters complete the second addition, which produced a full-size Cape Cod house.

All rafters are bridle-jointed at the apex, and all except the end rafters — and altered west chimney rafter — are pegged. Connecting collar ties (Ill. 28) are visible for several, though not all, rafters. These ties, averaging 5-1/2 by 1-3/4 inches, are mortised and tenoned and pegged. Cummings has noted that the use of such a tie joint occurs in the absence of a tie beam, and functions as a tie resisting extension.[11] This idea supports the contention (discussed above) that end girts were probably used, rather than end tie beams.

Common purlins are trenched into the upper slope of all rafters. A ridgepole functions in the same way as the purlins, in providing a nailing surface for sheathing boards. The ridgepole located in the c.-1730 section appears to be a continuous member, while the west ridgepole occurs in sections between rafters. The roof sheathing boards, averaging seven-eighths of an inch in thickness, run parallel to the rafters.[12]

Fumigation

Fumigation with Vikane using a "tenting" method was recommended in December of 1976, and carried out in June of 1977. Signs of active and inactive infestation by old-house wood borers, powder-post beetles, carpenter ants, and termites were apparent throughout the house. The most active infestation was in the circular brick cellar, where two boxed-in floor joists had been reduced to sawdust by carpenter ants. Wood dust droppings were found primarily in the east half of the house, from girts, the summer beam, and furnishings, including a firearm hanging above the fireplace in the East Kitchen 104. Powder-post beetle infestation of first-floor framing and attic rafters appeared to be inactive. Larger, emergence holes of the old-house wood borer with fresh dust were apparent in the attic. The entire scope of activity was not possible to determine, because major posts and girts are not exposed.

Considerations which determined the recommended treatment were:

- that the structure should be disturbed as little as possible, and preserved in the best manner possible.
- that the posts and girts were inaccessible.
- that first-floor framing was inaccessible because the house is essentially "on grade."
- that the exterior walls were of sheathing thickness only, without insulation.
- that the roof of wooden sheathing and shingles did not provide a tight seal.

These considerations were important in the rejection of alternate methods of treatment, including hand-spraying and fumigation by sealing windows and doors. Vikane was the specified fumigant because of its unusual penetrating power into dense material; the ability to maintain its concentration; and its tested label for control of powder post beetles, the old-house wood borer, ants, and related insects. Details of the fumigation treatment may be found in NAHPC files — "CACO 55, Atwood-Higgins, Fumigation."

Illustration 28. Atwood-Higgins House: Roof Framing, Collar Tie Joint.

NOTES

1. George K. Higgins' journal, p. 74. Harvey Moore of Eastham, Mass., was hired in December 1928, and was noted as still working in January 1929 on the "new underpinning."

2. Ibid.

3. Cummings, The Framed Houses of Massachusetts Bay, 1625-1725, p. 53.

4. Ibid.

5. Ibid., Chapter V.

6. The undersides of the floorboards are also whitewashed in the east half of the house.

7. This evidence is visible in the space behind the first-floor chimney mass, accessed through the closet door in Entry 109.

8. Cummings, Framed Houses, p. 89.

9. Richard M. Candee, "A Documentary History of Plymouth Colony Architecture," Old-Time New England, LIX, No. 3 (Winter 1969), p. 60.

10. Cummings, Framed Houses, pp. 89-90.

11. Cummings, Framed Houses, p. 59.

12. Planking nailed parallel to the ridge came about with the increase in the quantity of rafters and the omission of purlins. This change appeared on the lower Cape about 1820 (see HABS no. MASS-767, Thomas K. Small House).

C. Interior Description

Circular Cellar

The Circular Cellar is located under the ell; its only entrance is in the south exterior wall of the ell. It is approximately 8 feet in diameter, constructed of brick, with a sand floor. This cellar would necessarily date to the c. 1800-1820 addition of the ell. The existence of earlier cellars, both below the c.-1730 east half of the house and the later west additions, would have been typical. However, no physical evidence in floorboards or doorway framing has been found to support this idea.

East Front Room 101

There are no documented references to the name or function of this room, located in the c.-1730 part of the house. Cummings, describing the typical 17th-century house of the Massachusetts Bay Colony, states that,

> the ground floor parlor remained the master bedroom for the head of the family into the eighteenth and even in some cases into the nineteenth century in rural areas. [1]

It is reasonable to assume from the small size of this house and from Cummings' research (although not specific to Cape Cod or Plymouth Colony) that the East Front Room 101 would have been used as a bedroom. This use may have changed when the west addition was built, but may have reverted back in 1825 when the east half of the house was deeded to Thomas' and Abigail's son, Thomas Atwood, Jr.

The name "East Front Room" has been derived from a 1769 will of James Atwood, who lived on Bound Brook Island. [2] Although this person and his house are not specifically related to the Atwood-Higgins House, room terminology probably represents a practice that was common to a small community such as Bound Brook Island.

All that remains of the c.-1730 East Front Room is its basic form, including the doorway and window openings, structural framework, and fireplace location. Changes are found in the fireplace masonry, the casings of structural members, the plaster ceiling and walls, the moldings, and the finishes. See Illustrations 29-33.

The fireplace is located at the north end of the west wall, which is paneled. Its 6-foot width appears to be a part of the original fireplace, but everything else seems to have been altered. Evidence for this includes the lack of any clay mortar typical of the early 18th century; the shallow firebox, with widely splayed jambs; the charred, reused bricks on the back side; a chimney girt behind the fireplace paneling that is whitewashed on the underside; and plaster-and-lath marks on the back side of the fireplace paneling. The only datable features of these elements are the moldings of the fireplace paneling, and of the surround that frames the opening (Ill. 34). These moldings — when compared to other moldings — appear to date from c. 1775-1790. (See Chapter V, Section B, "Category C.")

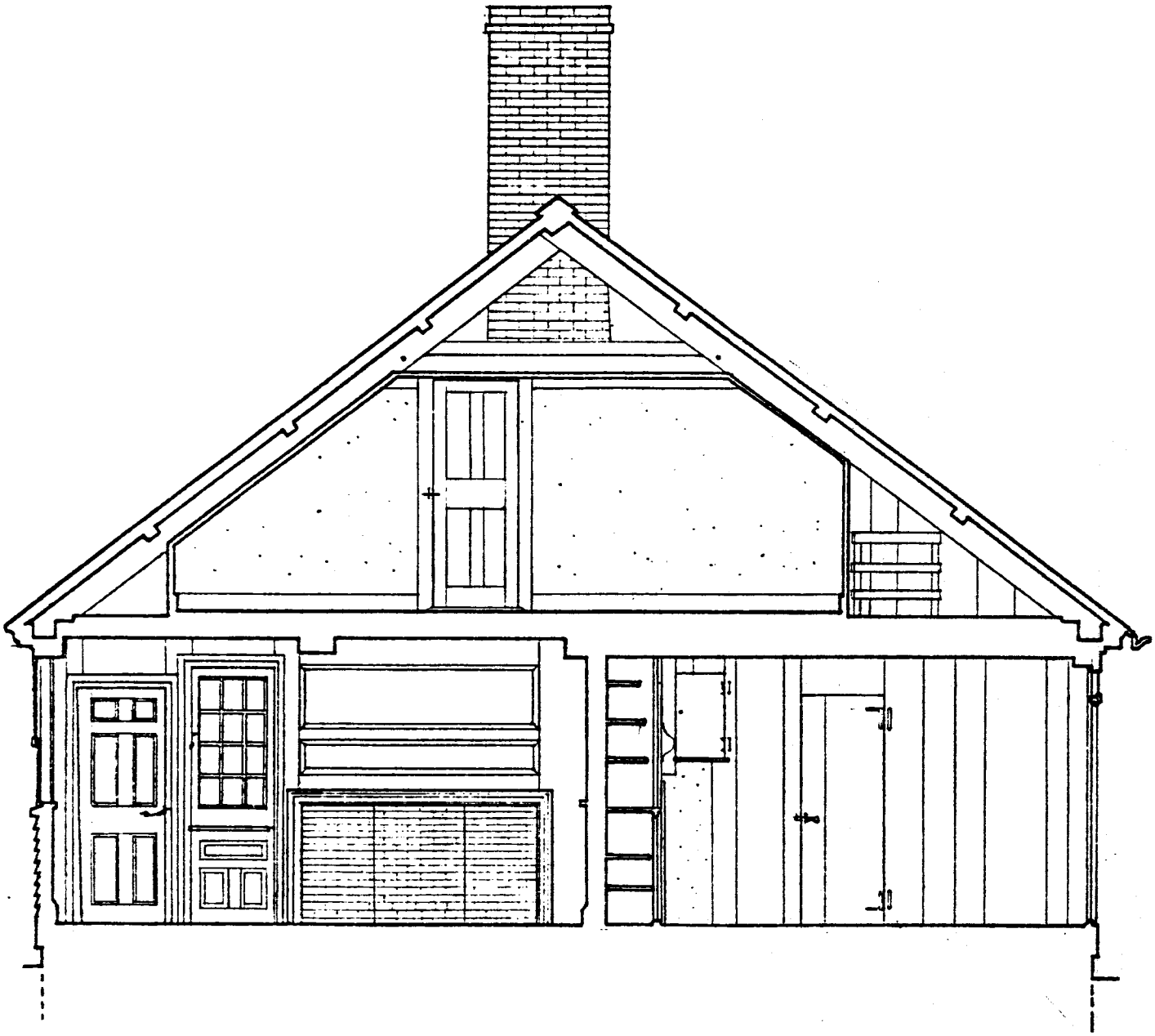


Illustration 29. Atwood-Higgins House: Transverse Section, East Front Room and East Kitchen.

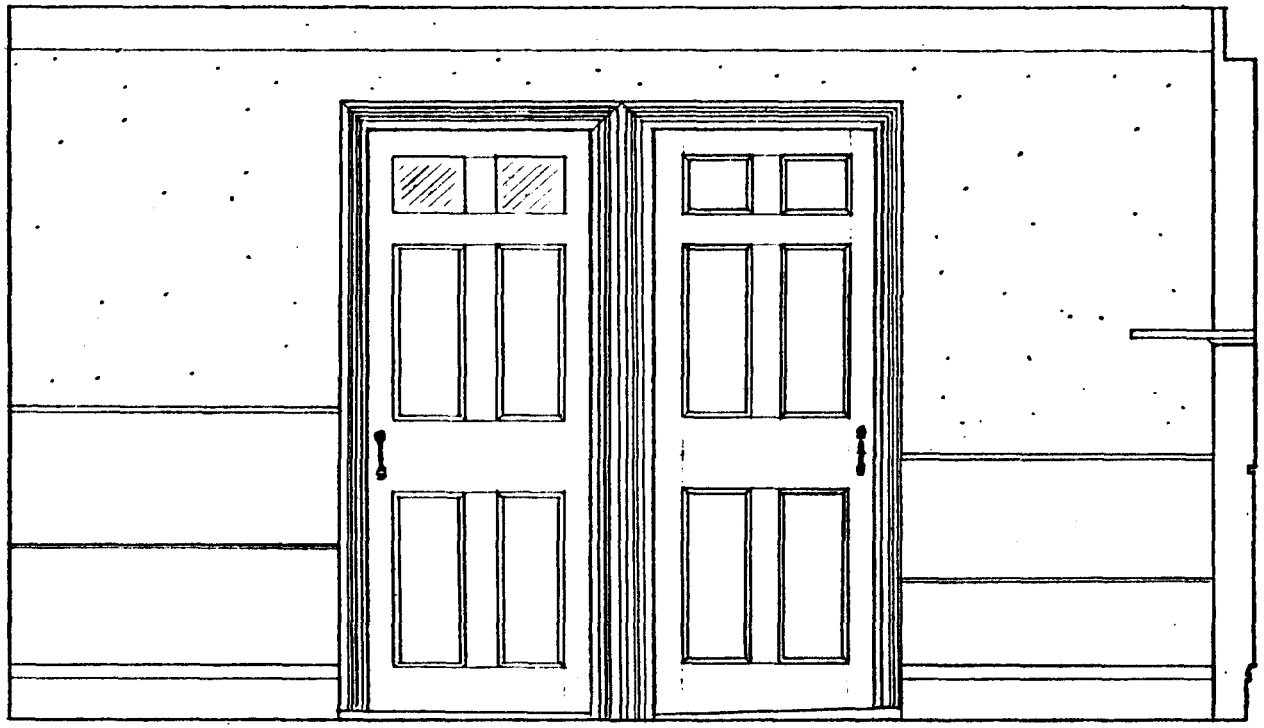


Illustration 30. Atwood-Higgins House: East Front Room, North Wall.

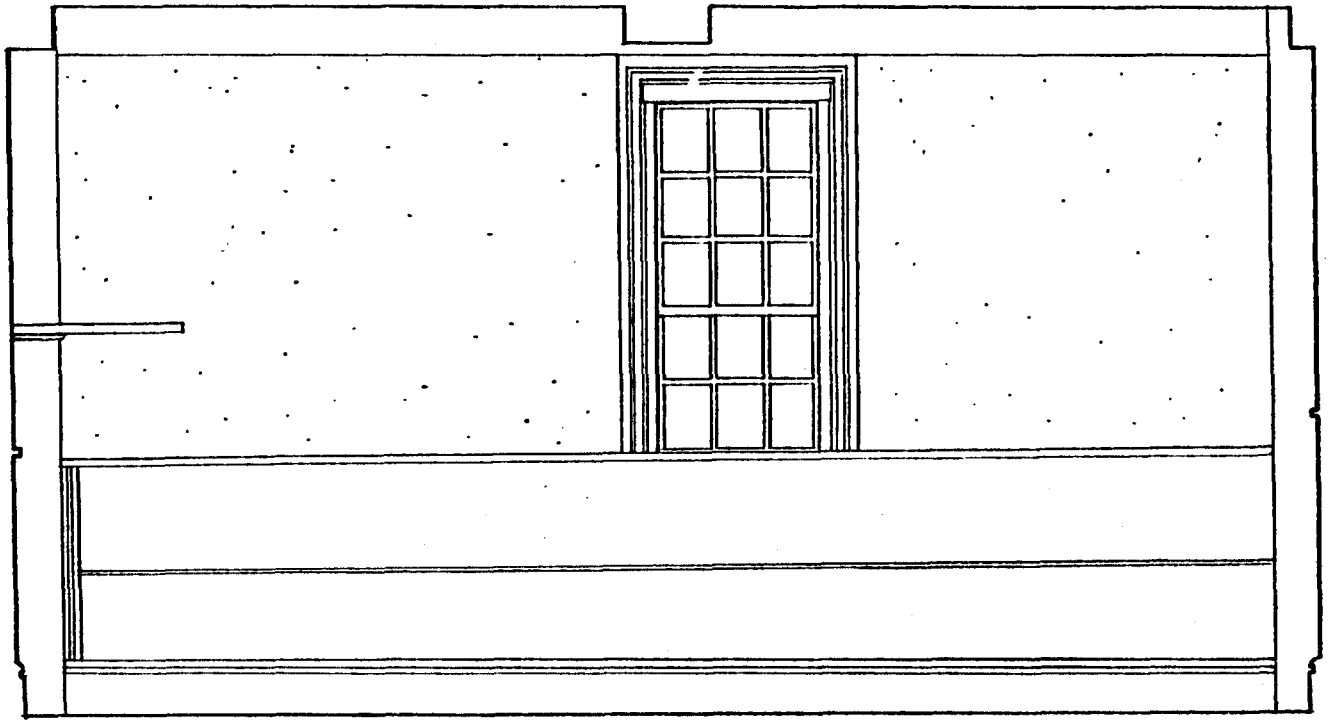


Illustration 31. Atwood-Higgins House: East Front Room, East Wall.

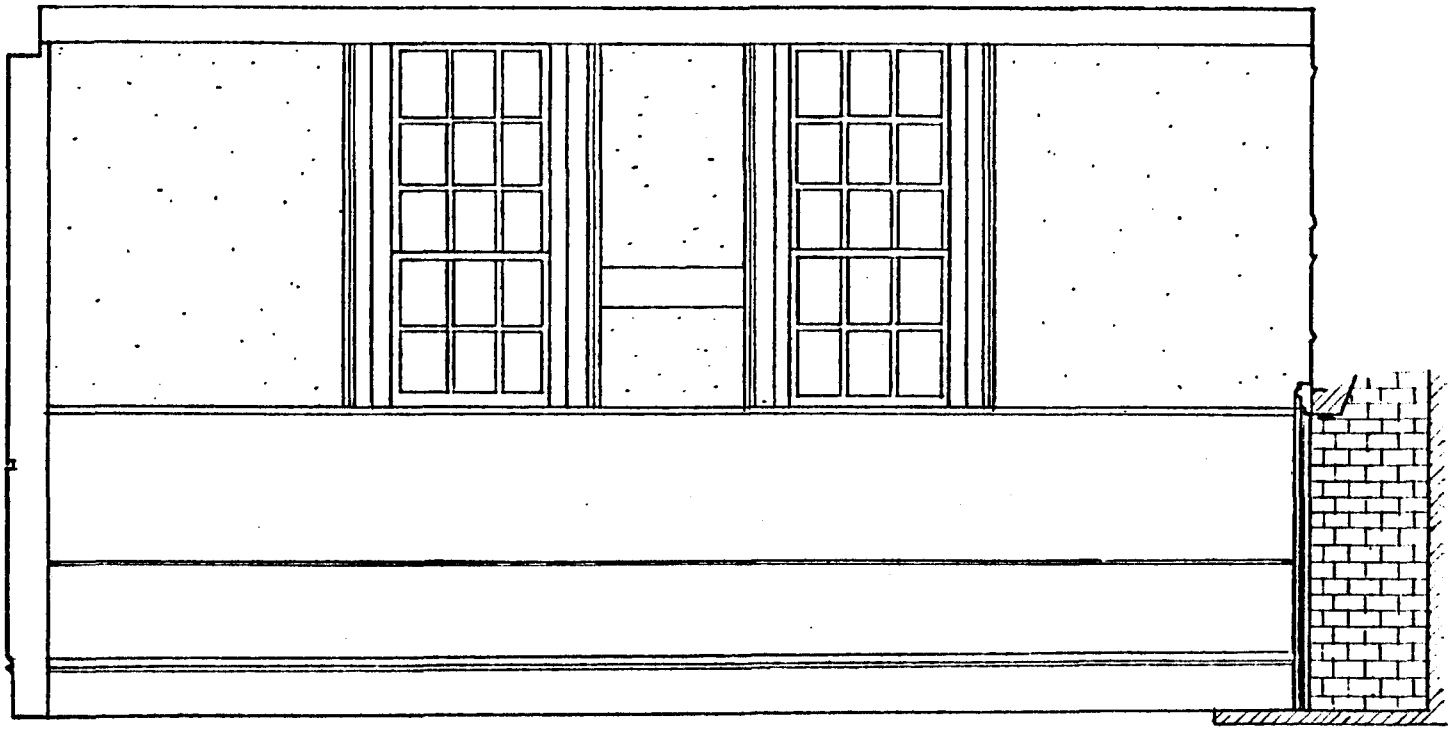


Illustration 32. Atwood-Higgins House: East Front Room, South Wall.

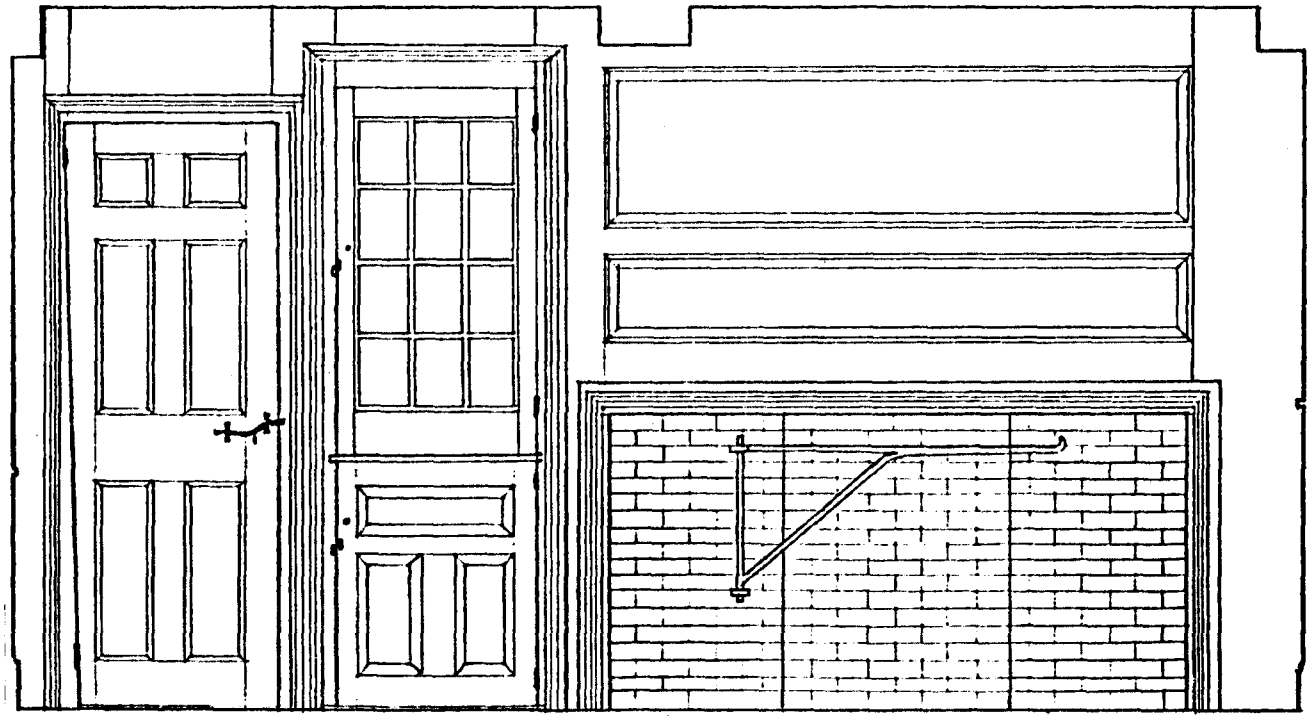


Illustration 33. Atwood-Higgins House: East Front Room, West Wall.

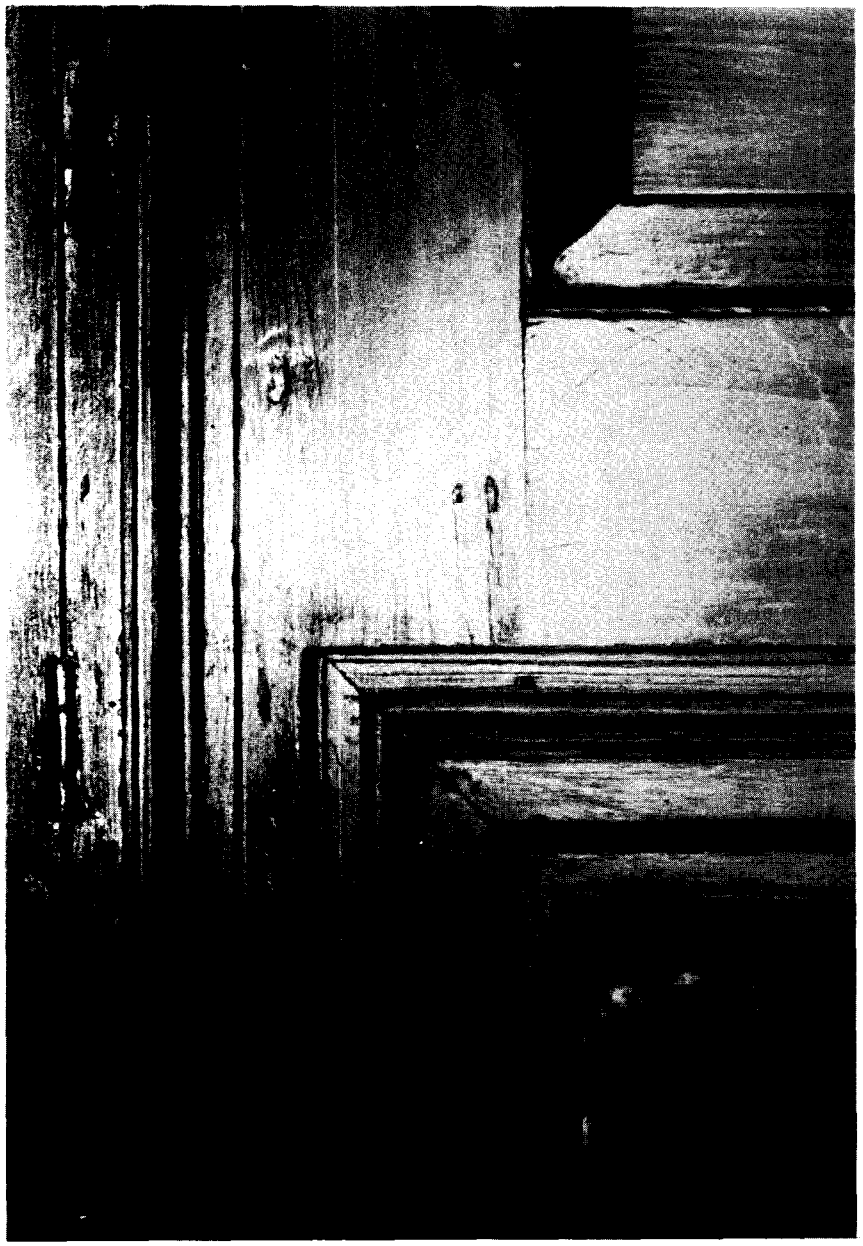


Illustration 34. Atwood-Higgins House: East Front Room, Fireplace Surround.

Another change in this room occurred when the three posts, two girts, and two summer beams were boxed in. All structural framing in the 1730 house is believed to have been exposed. This theory is based upon the whitewashed joists discovered in second-floor investigations above the East Kitchen 104 (Ill. 27), and the whitewashed chimney girt behind the present fireplace paneling. Casing the structural members probably occurred at the time of the c. 1775-1790 fireplace changes, or soon after. The beading on the casings (Ill. 35) is not all the same, but cannot be distinguished for dating purposes.

A change in the ceiling relates to the casing of the posts, girts, and beams. The north-south floor joists that frame into the summer beams were probably fully exposed in 1730. At some time in the late 18th century — possibly when structural members were boxed in — the joists were covered with wooden lath and plastered over.

Additional changes in this room relate also to finish materials, both wood and plaster. The moldings of the window casings match the moldings of the fireplace surround of c. 1775-1790, and are therefore not original to the room. The doorway casings and doors (Ills 36-38) represent a later, c.-1850 alteration. (See Chapter V, Section E, "Category G.") Changes are also evident in the horizontal-board wainscot, which may itself be original. The wainscot cap on the north wall may relate to the c.-1850 woodwork, although differences do exist in the height of the wainscot on east and west sides of the doorway openings. Wainscot caps on the east and south walls (Ill. 39) are different from one another, and from the cap on the north wall. No date has been assigned.

The north, east, and south walls all have a 7-inch-high baseboard (Ill. 36) affixed to the wainscot, with an exposure often revealed beyond the door casings. This baseboard is a later addition, possibly dating to c.-1850 changes.

The three plaster walls (north, south, and east) are unpainted plaster dating to 1938. This work, and the removal of paint from all wooden surfaces, is documented by the following entry in George K. Higgins' journal:

> In the fall of the year my old friend, Fletcher Lyford, with Silva's help, removed the paint to reveal the pine woodwork in the living room [Room 101] and small chamber [Room 102], also floors of both rooms were stripped. The period of this room antedated wall paper. When the paper was removed, the plaster surface was too poor to leave. It required some strenuous beating with saplings to knock the plaster down. Split thin sticks nailed to the wall by hundreds of small hand wrought nails were revealed. Samples of this old plaster served as a guide to the new which now without paper is so satisfactory and quite in keeping with the room.[3]

Thus, the present appearance of the East Front Room 101, with its absence of paint finishes and wallpaper, represents the 20th-century interpretation of George K. Higgins, and not the actual 18th- or 19th-century period of the room.

Portions of the built-in cupboard on the west wall south of the fireplace have not been stripped of paint finish. Paint samples from the cupboard back and shelves have 9 to 10 layers of paint that may suggest earlier finishes. However, the cupboard itself is difficult to date. It is contemporary, at least, with the fireplace paneling of c. 1775-1790, although the casing matches other doorway casings in the room of c.-1850 date. The uppermost layers of gray-white and white correspond with chromochronologies of paint samples taken from the West Kitchen 105, West Buttery 106, and Ell Bedroom 107.

In sum, the East Front Room 101 has been altered many times since it was built as part of the original, c.-1730 half of the house. The sole survivors of the early period are the structural posts, beams, and girts, which are visible only in a later, boxed-in form. The horizontal-board wainscot and south-wall mirror board also could date to the c.-1730 period. The random-width floorboards, running in a north-south direction, are of questionable date; one small area of floorboards in the northwest corner, laid in an east-west direction, suggests an earlier floor covering.

The second period represented in this room is that of the late 18th century. Elements from this time include the fireplace surround, window casings, and fireplace paneling, which is beveled, fielded, and integrally molded with quarter rounds. The muntin sash for the three, nine-over-six windows would also be appropriate for this period.

Mid-19th-century work is represented by the doorway casings and doors. The north and west doorway casings share a doubled molding at their central juncture (Ills. 37-38). Doors have six raised and beveled panels, with an applied molding on the side of the East Front Room 101. Two of the doors have lights in the upper two panels. Appropriate and matching Norfolk thumb latches and butt hinges exist on all three doors.

East Bedroom 102

Although there is a present tendency to use the term "borning room" for a room in this first-floor location, no documented references have been found to support this term.[4] The name "East Bedroom" has been derived from a 1769 will of James Atwood, who lived on Bound Brook Island.[5] Immediately adjacent to the kitchen, this bedroom would have been ideal for use during childbirth, and for the care of the elderly, the sick, and invalids.

The original, c.-1730 aspects of the East Bedroom 102 include its present size and location; wide, random-width floorboards running in an east-west direction; the west wall of vertical boards; and probably the remaining three plaster walls. The location of window and doorway openings, and the plaster ceiling, may not be original to the room.

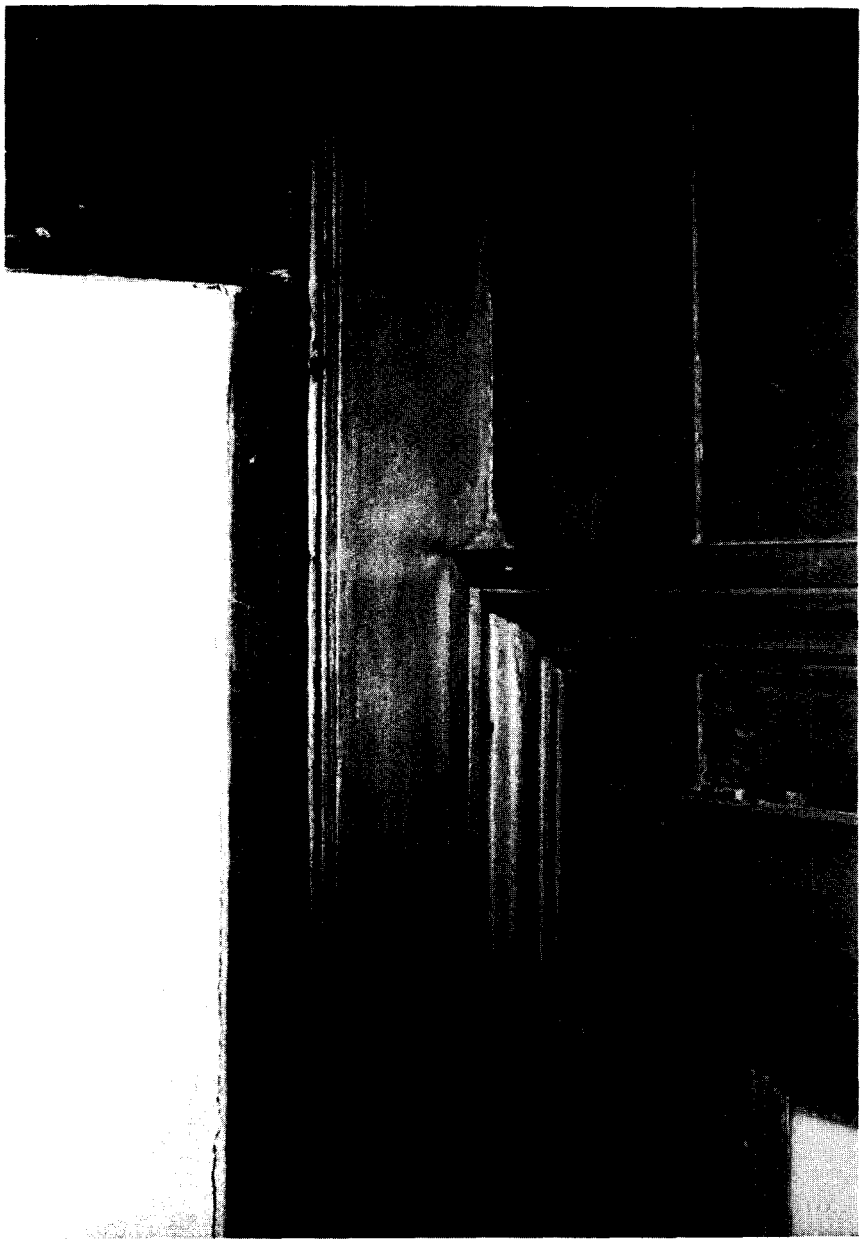


Illustration 35. Atwood-Higgins House: East Front Room, Beaded Casings of South Chimney Post and South Plate.

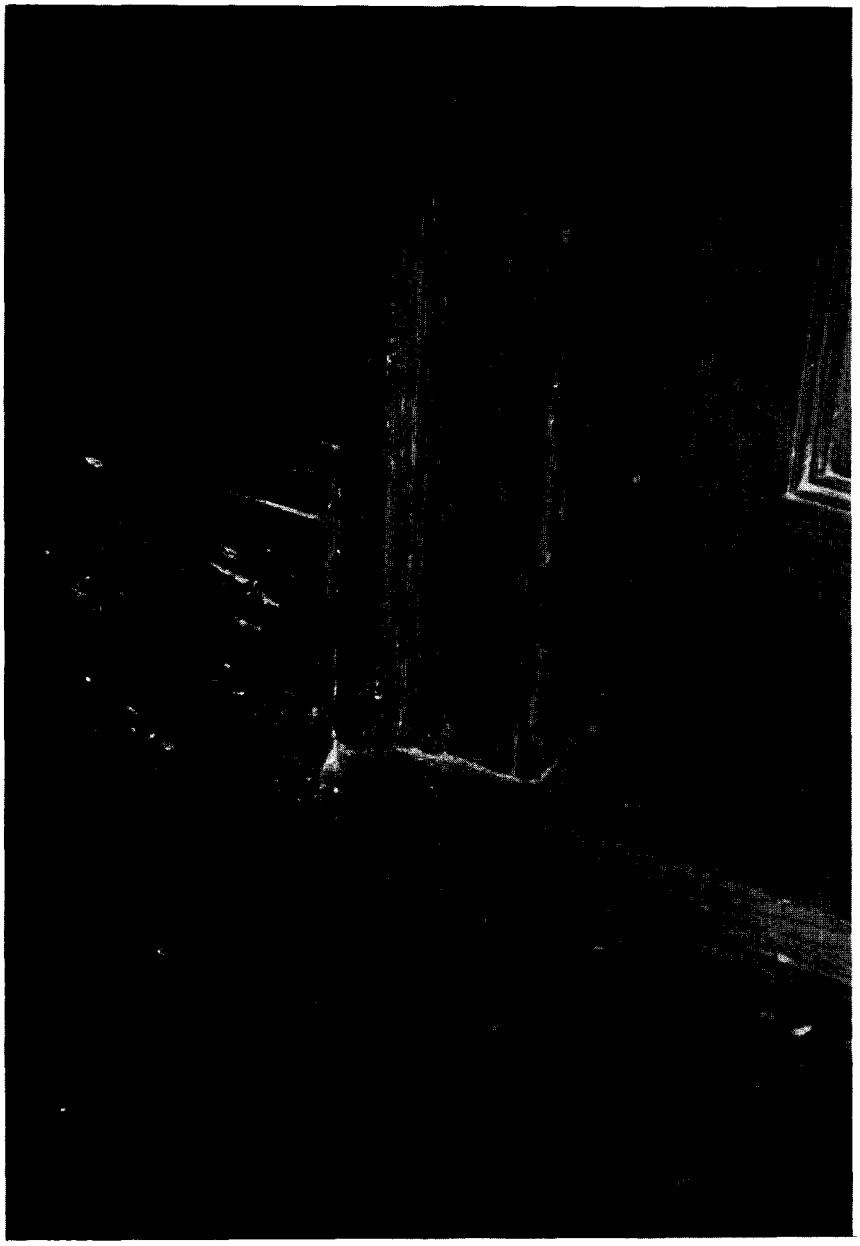


Illustration 36. Atwood-Higgins House: East Front Room, North-Wall Baseboard and Doorway Casing 101/104.

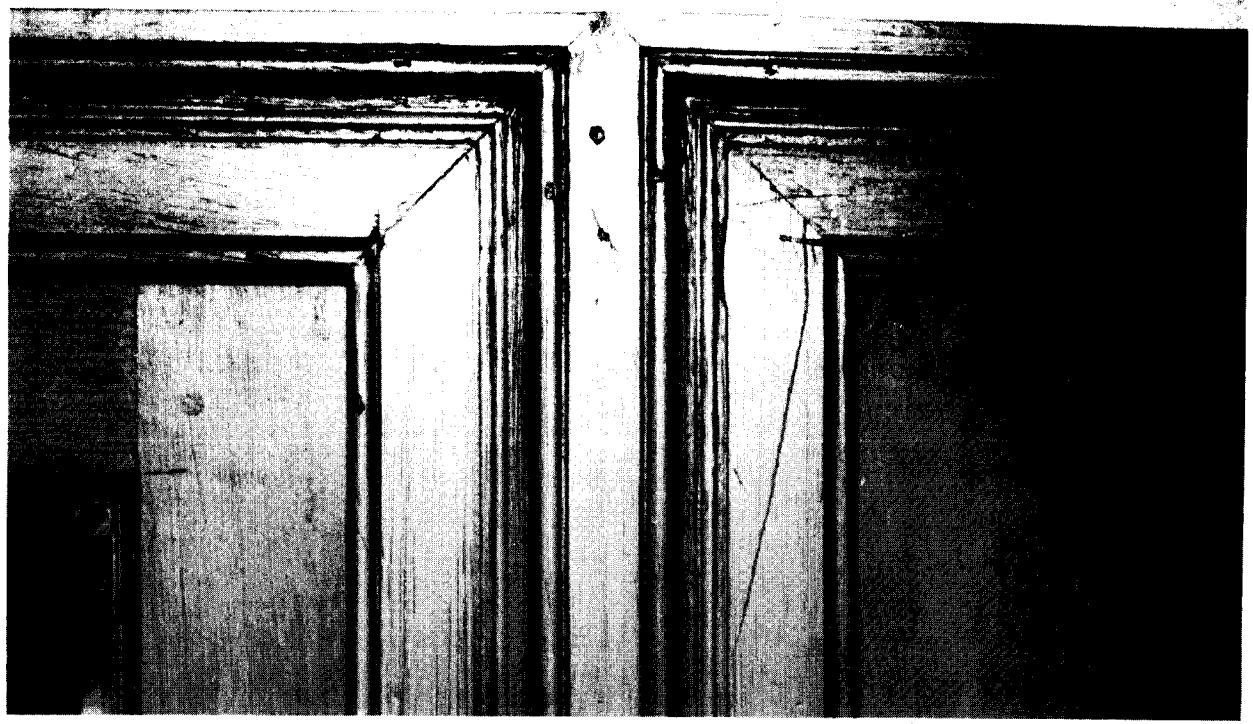


Illustration 37. Atwood-Higgins House: East Front Room, Doorway Casings 101/102 and 101/104.

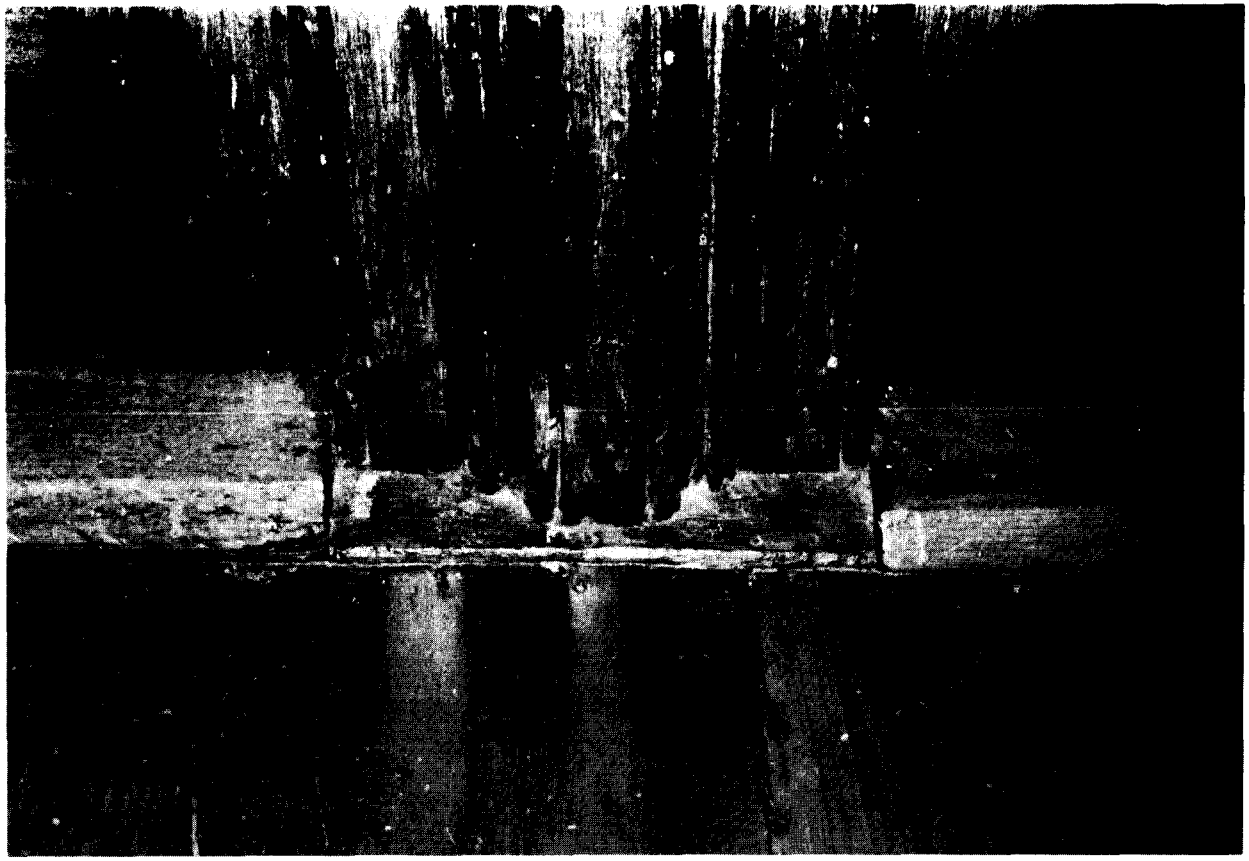


Illustration 38. Atwood-Higgins House: East Front Room, Doorway Casings 101/102 and 101/104, and Thresholds.

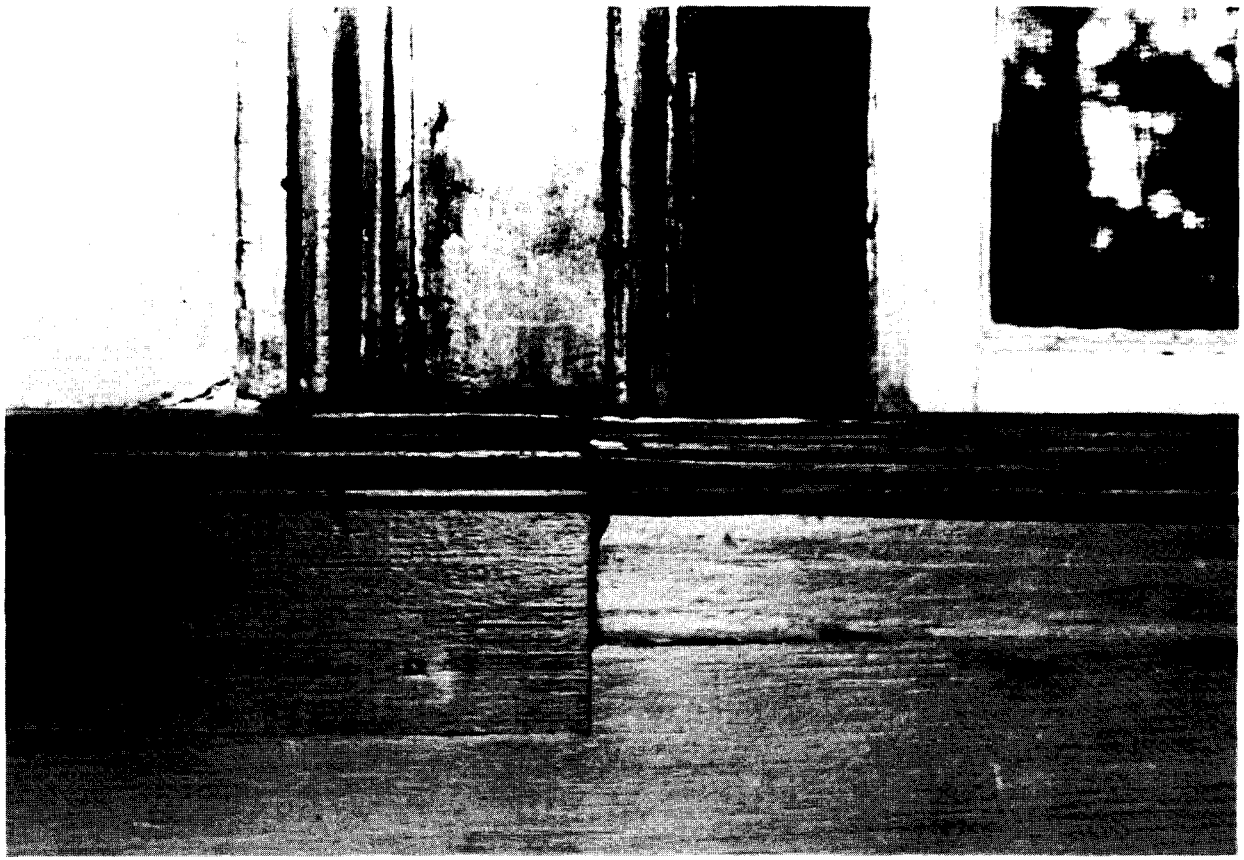


Illustration 39. Atwood-Higgins House: East Front Room, South-Wall Wainscot Cap.

Alterations from the original appearance of this room include:

- the window casing and muntins, which match the c. 1775-1790, Category-C window elements in the East Front Room 101 (Ill. 40).

- the doorway casings of c.-1850 date (Ills. 41-42), consisting of flat, 3-inch-wide boards beaded on inner edges and revealed seven-eighths of an inch beyond the wall. (See Chapter V, Section B, "Category G.") The lintel piece butts the jambs squarely, with the bead being carried across the full width. A similar bead appears on the south wall pegboard, and window sill and apron. The exposure of the full thickness of these elements out beyond the wall, and the butted construction, are indications of a c.-1850 date that is somewhat supported by the similarity of the bead to Category-G moldings. (See Chapter V, Section B.)

- the addition of north-, east-, and south-wall baseboards that are revealed out beyond the plaster. The south-wall baseboard is 10 inches high and beaded, and may relate to the c.-1850 doorway casings. The north-wall baseboard (6-3/8 inches high) and the east-wall baseboard (9-1/2 to 10 inches high) probably represent post-1850 work.

- the 1920 addition of a diamond-patterned wallpaper.[6]

East Buttery 103

The name "buttery" was typical[7] for such a room during the period in which the house was built, and may have persisted until the mid- and late-19th century, when the term "pantry" came into use. The 1769 will of James Atwood, who lived on Bound Brook Island, refers to a "Buttery in the East End."[8] As mentioned previously, room terminology probably represents a practice that was common to a small community such as Bound Brook Island. This document is the only available reference located thus far. Cummings writes that

> The contents, other than drink vessels, are almost always cooking implements, especially pots and pans and eating utensils, including pewter.[9]

The c.-1730 aspects of the East Buttery 103 include its present size and location; the south and west vertical-board walls; the north and east plaster walls, and the north wall's 6-1/4-inch-high, flush baseboard; the doorway casing; and the wide, random-width floorboards (running east-west). The corner post, girts, joists, and underside of second-floor boards would have been exposed in the original construction and whitewashed. It would have been typical for all woodwork to have been painted originally. The plaster walls were also finished with a whitewash, followed by blue calcimine (see Chapter V, Section A).

One way in which original, c.-1730 elements were identified was via molding analysis. The doorway casing in this room displays a simple ogee profile found only here and in the adjacent East Kitchen 104. This profile represents the earliest period of construction at the Atwood-Higgins House, and has been identified as the type Category A in Chapter V, Section B.

The window casing (Ill. 43) differs from the doorway casing. Its jamb pieces consist of the shelves on the north plaster wall, which continue onto the east plaster wall. The "lintel member" is simply the leading edge of the beaded board forming the soffit of the window frame. There is no way to date this casing stylistically, and all paint has been removed. Nail- and milling-mark analysis might help determine whether this casing dates to c. 1730, or if it was added later. The date of the casing is probably indicative of the age of the shelves, as well, because of their integral relationship. The shelves appear to match those in the West Buttery 106, which would suggest a c.-1800 date for both shelves and casing.

More certain changes that have taken place in the East Buttery 103 include:

- the casing of the corner post, c. 1775-1790. The casing is at floor level 7-3/4 inches deep. This depth increases to 11 inches at ceiling height, which suggests a splayed corner post. The casing consists of boards with a quarter-inch bead (Ill. 25).

- the plastering of the ceiling, possibly c. 1775-1790. Whitewashed framing joists viewed from the attic level provide evidence that original, c.-1730 ceilings were "open-joist" and whitewashed. The split lath used as a base for later plastering suggests that the open joists were "ceiled over" in the 18th (or possibly early 19th) century.

- the probable replacement of the north-window sash. This is the only six-over-six sash in the house. The muntin profile appears to be a late 18th- or early 19th-century type.

- the addition of the east-wall baseboard, after 1850. This baseboard is 9-1/4 inches high, and is revealed out beyond the plaster, in contrast to the earlier north-wall baseboard, which is flush with the plaster wall.

- the removal of paint finishes. All wooden surfaces were stripped of paint in 1928[10].

- the strip of red paint on the baseboards of the north and east walls may be regarded as 20th-century in date, since the remaining wall paint has been stripped, and chemical testing does not indicate a lead base.

Illustration 40. Atwood-Higgins House: East Bedroom, Window Casing.

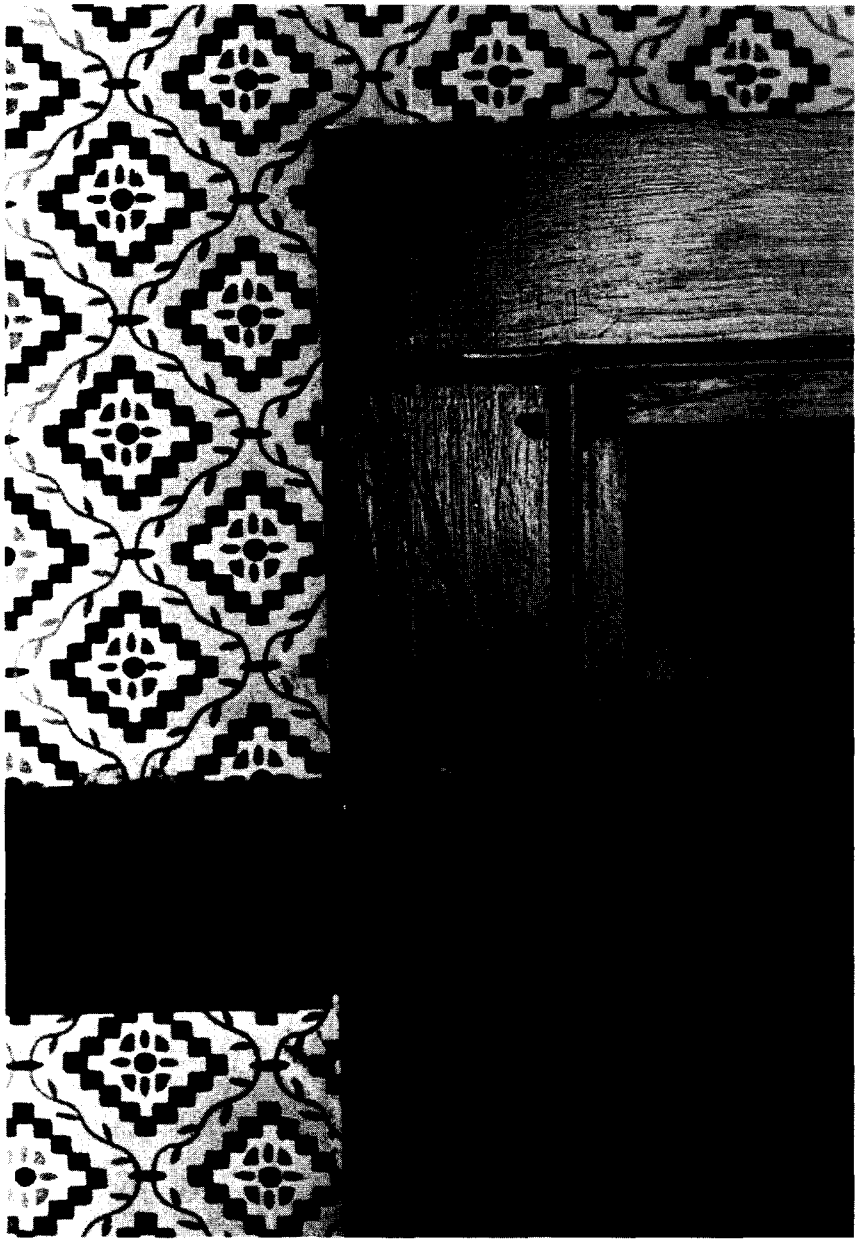


Illustration 41. Atwood-Higgins House: East Bedroom, Doorway Casing 102/101.

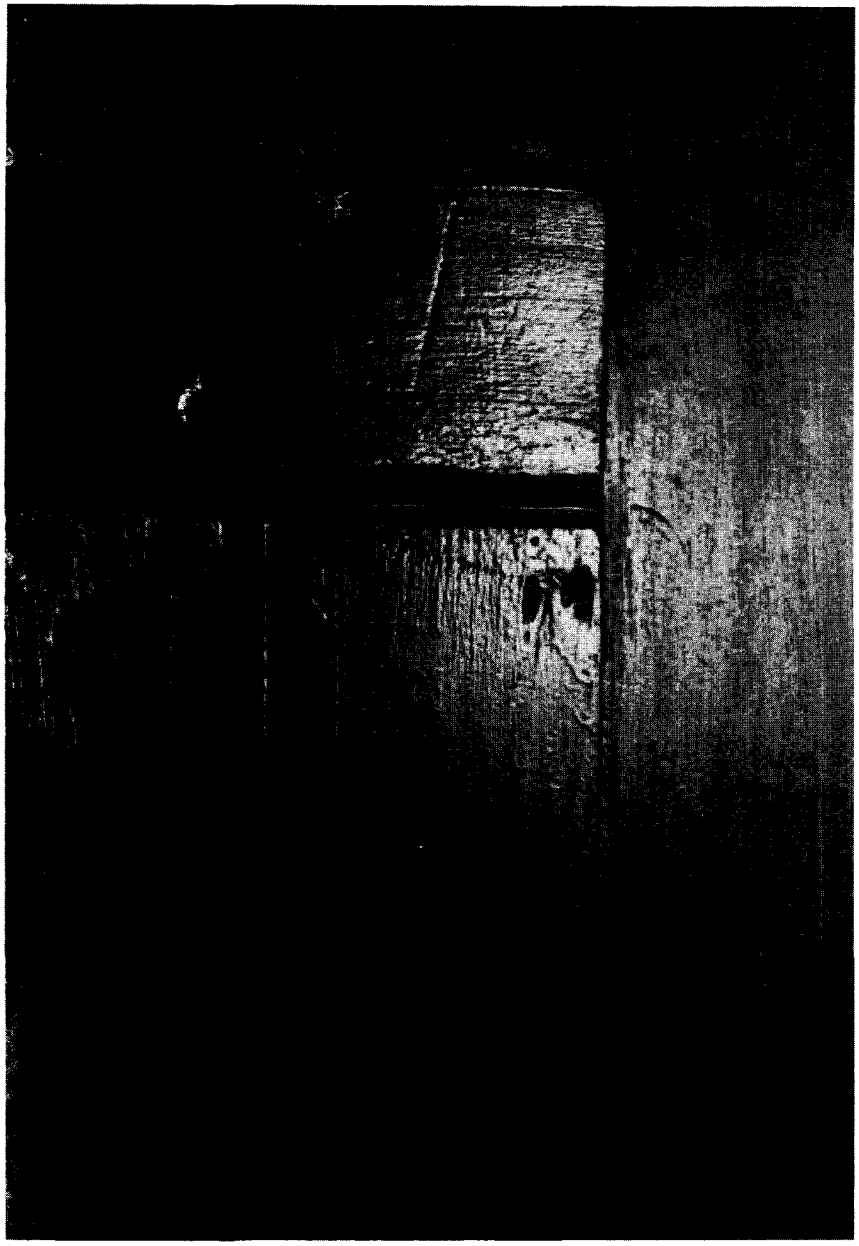


Illustration 42. Atwood-Higgins House: East Bedroom, Doorway Casing 102/104.

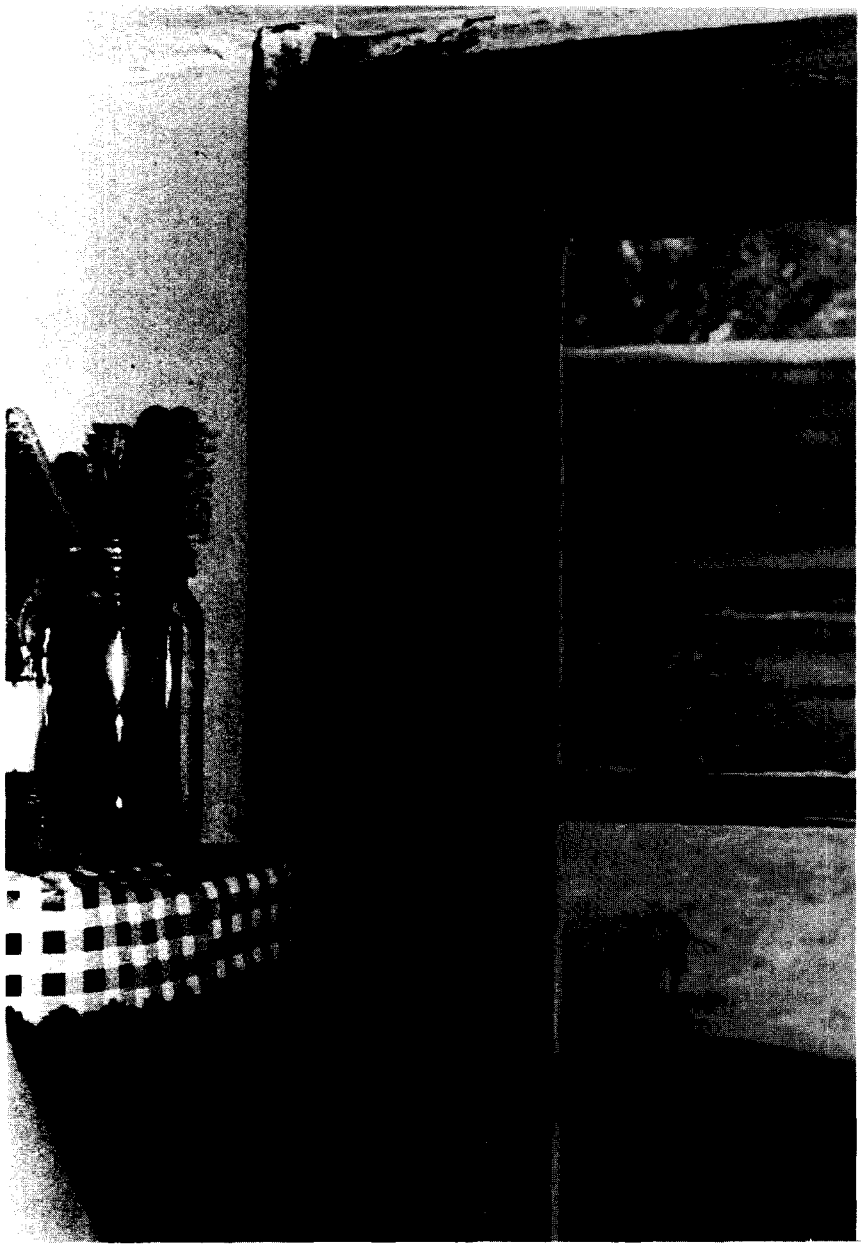


Illustration 43. Atwood-Higgins House: East Buttery, Window Casing.

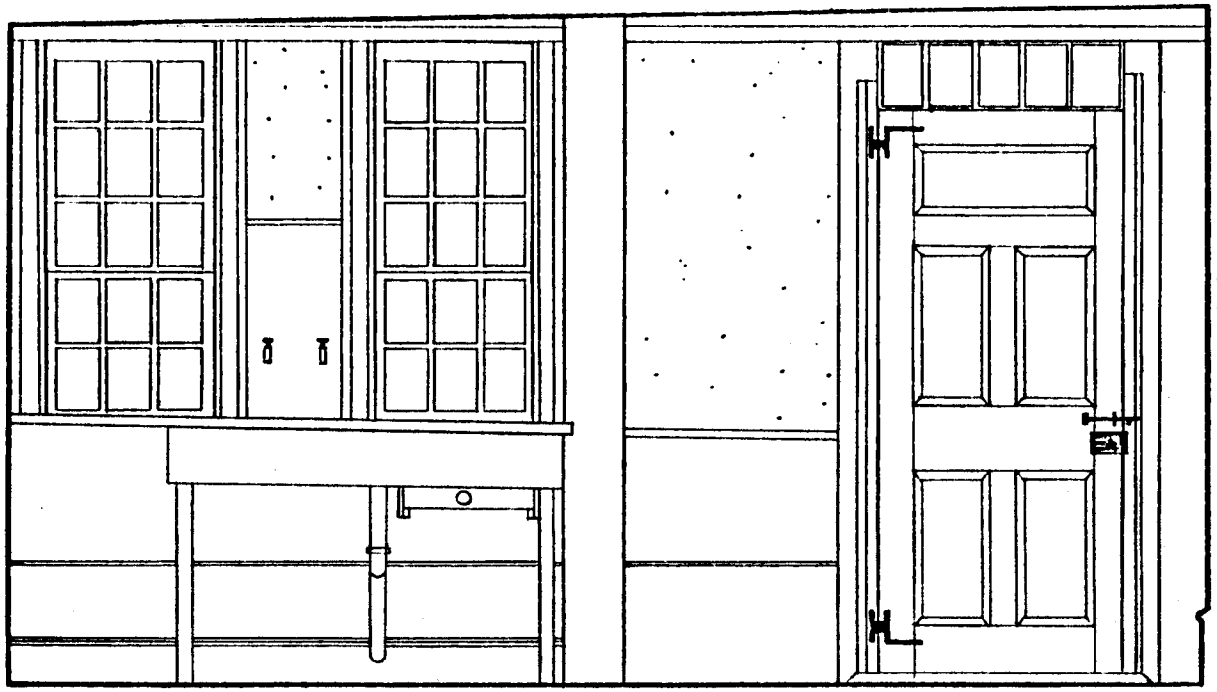


Illustration 44. Atwood-Higgins House: East Kitchen, North Wall.

East Kitchen 104

The East Kitchen 104 (Ills. 44-47) has undergone continuous alterations since its c.-1730 construction. A few aspects of this early period have survived, together with 20th-century "improvements" and a multitude of changes that are not easily dated.

It is clear from probate records[11] and inventories[12] that the existence of a separate room functioning as a center of food preparation called a "kitchen" was typical for the c.-1730 construction period of the Atwood-Higgins House. Cummings writes that

> The kitchen as an architectural entity and not merely a term, had become firmly incorporated in the house proper before the end of the 17th century.[13]

A number of elements seem to remain from the original, c.-1730 period of the house. These include the east partition wall. This wall consists of vertical, hand-planed boards having one edge beveled and the other molded with a quarter-round molding. There are two doorways in this wall. The one leading to the East Buttery 103 (Ill. 48) retains its original, Category-A casing (see Chapter V, Section B). It also retains its original door (Ill. 49). This door has three raised and beveled panels surrounded by rails and stiles with an integral quarter-round molding. The upper and lower panels are vertical, and the middle panel is horizontal. The HL-hinges on this door are contemporary with the c.-1730 date of the door. The Norfolk thumb latch, however, is of later date, verified by filled nail holes and dutchmen. A similar door with the same panel arrangement exists in the Atwood House in Chatham (Mass.). The other doorway in the east wall, leading to the East Bedroom 102, retains its original, Category-A lintel casing, but its jamb casings and door are later replacements.

Door 104/102 is not contemporaneous with the c.-1730 east wall in which it is located. This door features four fielded panels, with a thumb latch and butt hinges. It probably dates to c. 1800. It most resembles doors Attic/105 and 105/107, which have been dated to c. 1800. Its hinges match those used on the c.-1850 doors of the East Front Room 101, but there is dutchman evidence of earlier butt hinges, and the doors introduced c. 1800 were the first to have butt hinges. (See Chapter V, Section E.)

A distinction has been made between the c.-1730 molding profile and a slightly deeper profile, c. 1750, also found in the East Kitchen 104. The latter is called Category B in Chapter V, Section B. This difference in profiles suggests that the following trim elements were added sometime after the initial construction, possibly by 1750:

- the jamb pieces of doorway casing 104/102 (Ill. 50). The lintel piece — representing a Category-A molding (c. 1730) — used together with Category-B jamb moldings (c. 1750), implies that some change in the door opening has occurred.

- the two north window casings (Ill. 51). The horizontal-board wainscot on the north wall has a cap functioning also as a sill member for both windows. This relationship suggests a similar date.

- the fireplace's mantel shelf, with bed moldings (Ill. 52), and the surround of its opening (Ill. 53).

The fireplace — at the west end of the south wall — projects into the room in the manner of a chimney breast. This is not readily apparent, because the west end of the fireplace abuts the west wall, and the east end abuts a built-in cupboard. The fireplace seems to have undergone a variety of changes. As mentioned, its moldings resemble the Category-B type found elsewhere in the room and dated to c. 1750. The dimensions of the firebox — 6 feet 6 inches wide, 3 to 4 feet high, and 1 foot 9 inches deep, with splayed jambs — are appropriate for this date. They are within an acceptable comparative range with kitchen fireplaces found in the Atwood House in Chatham (Mass.) and the Justin Williams House in Wellfleet (HABS no. MASS-703). The chief question concerns the rear bake oven. Fireplaces with low openings, as at the Atwood House (3 feet 5 inches), had their bake ovens located to one side. Fireplaces with their bake ovens to the rear had to have higher openings, as at the Justin Williams House (4 feet 10 inches). The low height of the Atwood-Higgins House's kitchen fireplace is incompatible with the rear location of its bake oven. It would appear that the bake oven was altered. The brick masonry surrounding it is irregular, showing signs of repointing and patching (Ill. 54), and the back side of the wooden plank base of the oven opening shows clearly the circular-saw marks of the 19th century. If one assumes the present bake oven to be a 19th-century alteration, however, the location of the c.-1750 bake oven is unknown.

It has been stated that the house was expanded westward by one bay sometime before 1800. It is tempting to try to use the Category B-type molding to date this work. However, the use of this molding appears to have antedated the first addition. This is inferred from the two north windows in this room. Presumably, the early, half-house would have had one small window here, like that of the East Buttery (see Illustration 14). At a later time, this window was replaced with the two current, larger windows. The fact that these were placed so close together, suggests that they were installed either before the East Kitchen was first extended, or after the West Kitchen was partitioned off c. 1800. Since these windows are trimmed with Category-B casings, it seems as if they were installed c. 1750, with the first west addition coming somewhat later.

The date of the first west addition has been set tentatively at c. 1775-1790, based upon Category-D moldings in the Ell Bedroom 107 and West Front Room 108. The work may well have occurred c. 1789, the year Thomas(4) Higgins died and presumably left the house to his son, Solomon(5).

The physical evidence that a one-bay first addition did occur — lengthening the kitchen by about 6 feet — includes the following:

- second-floor joists that are distinct from the eastern, c.-1730 joists and the western, c.-1800 west-addition joists in size, spacing, and finish (see Section B, "Attic-Floor Framing ").

- charred bricks at the rear side of the East Front Room 104 fireplace (Ill. 55), suggesting an earlier flue arrangement, possibly for a fireplace in what would have been a very small West Front Room 108. The present fireplace in the West Front Room 108 is a separate construction, with a flue connection above the second-floor joists and a position west of the charred brick masonry.

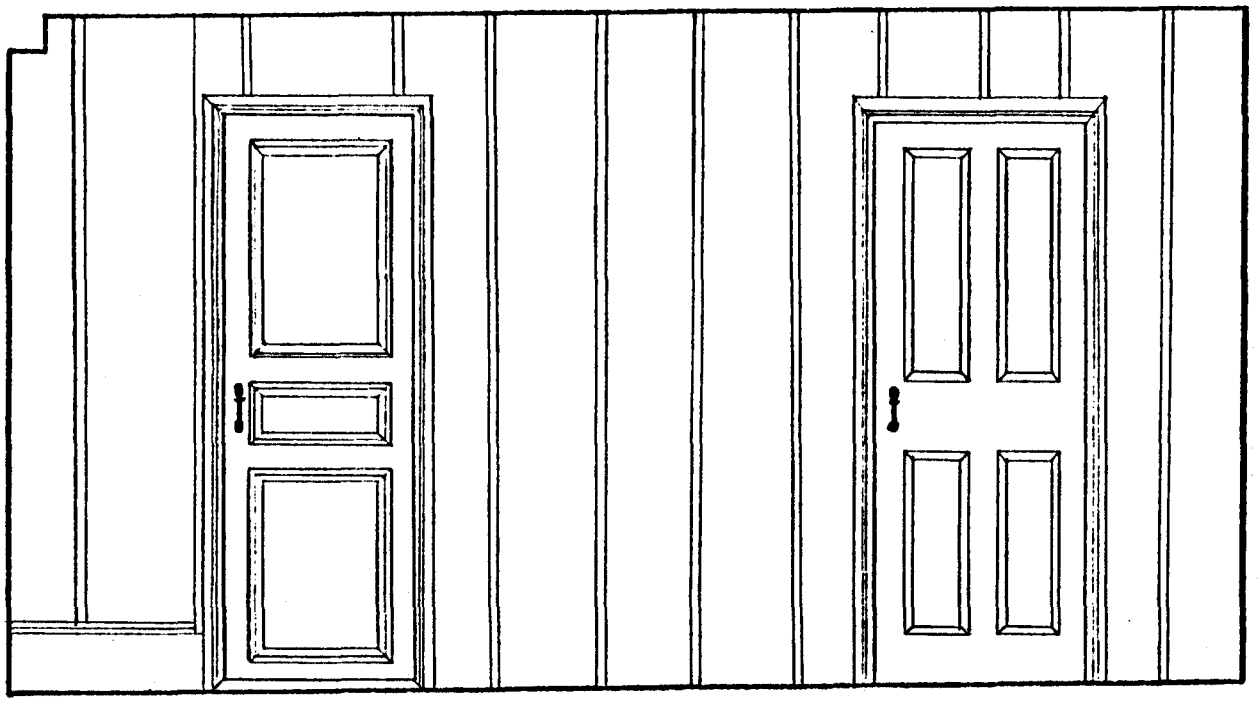


Illustration 45. Atwood-Higgins House: East Kitchen, East Wall.

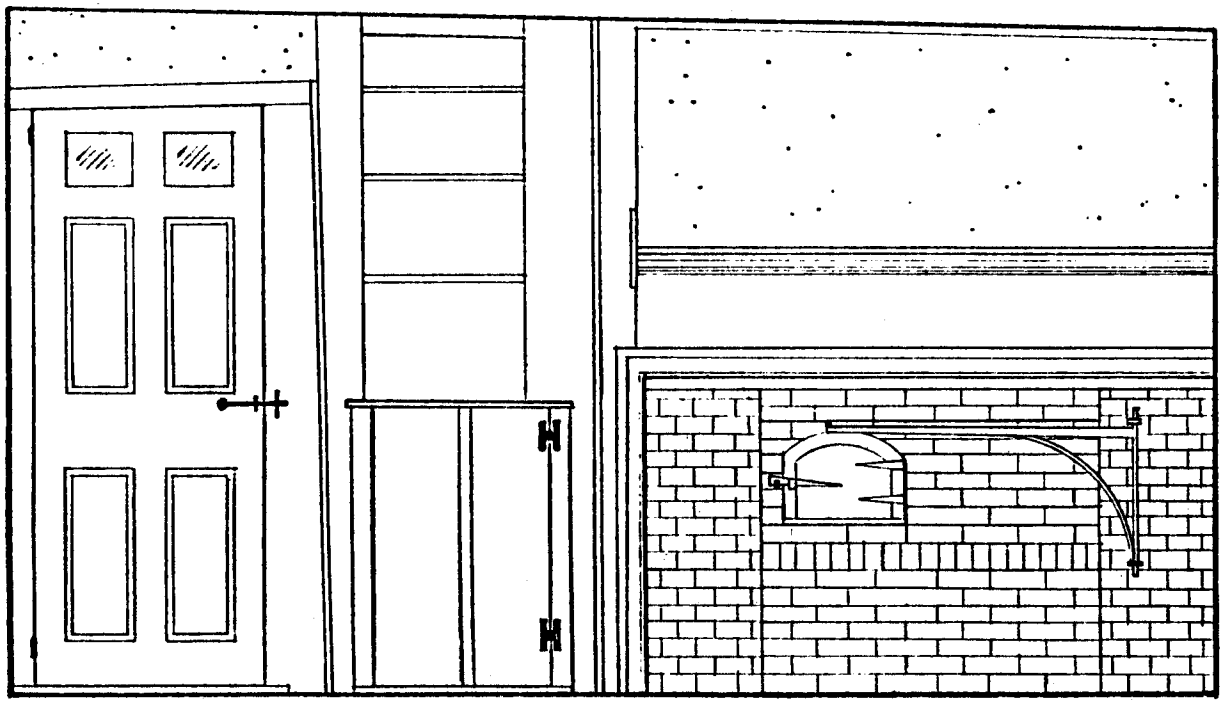


Illustration 46. Atwood-Higgins House: East Kitchen, South Wall.

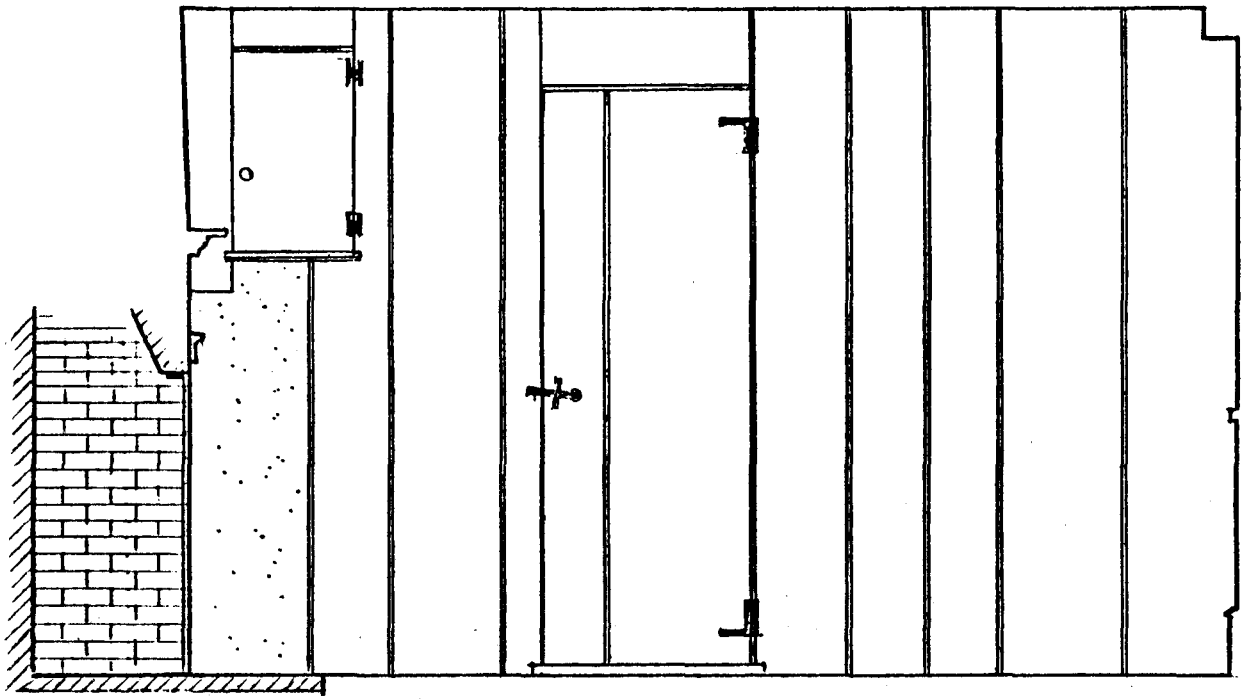


Illustration 47. Atwood-Higgins House: East Kitchen, West Wall.

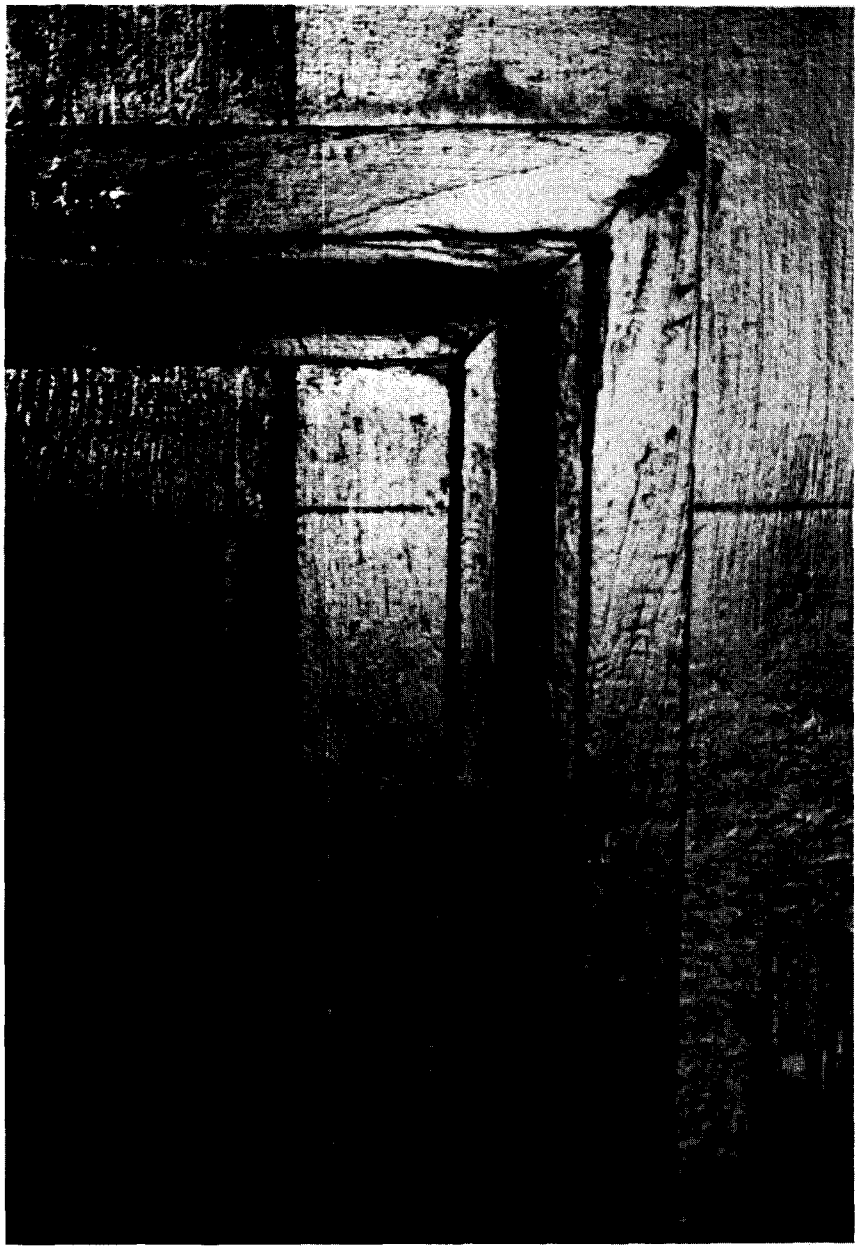


Illustration 48. Atwood-Higgins House: East Kitchen, Doorway Casing 104/103.

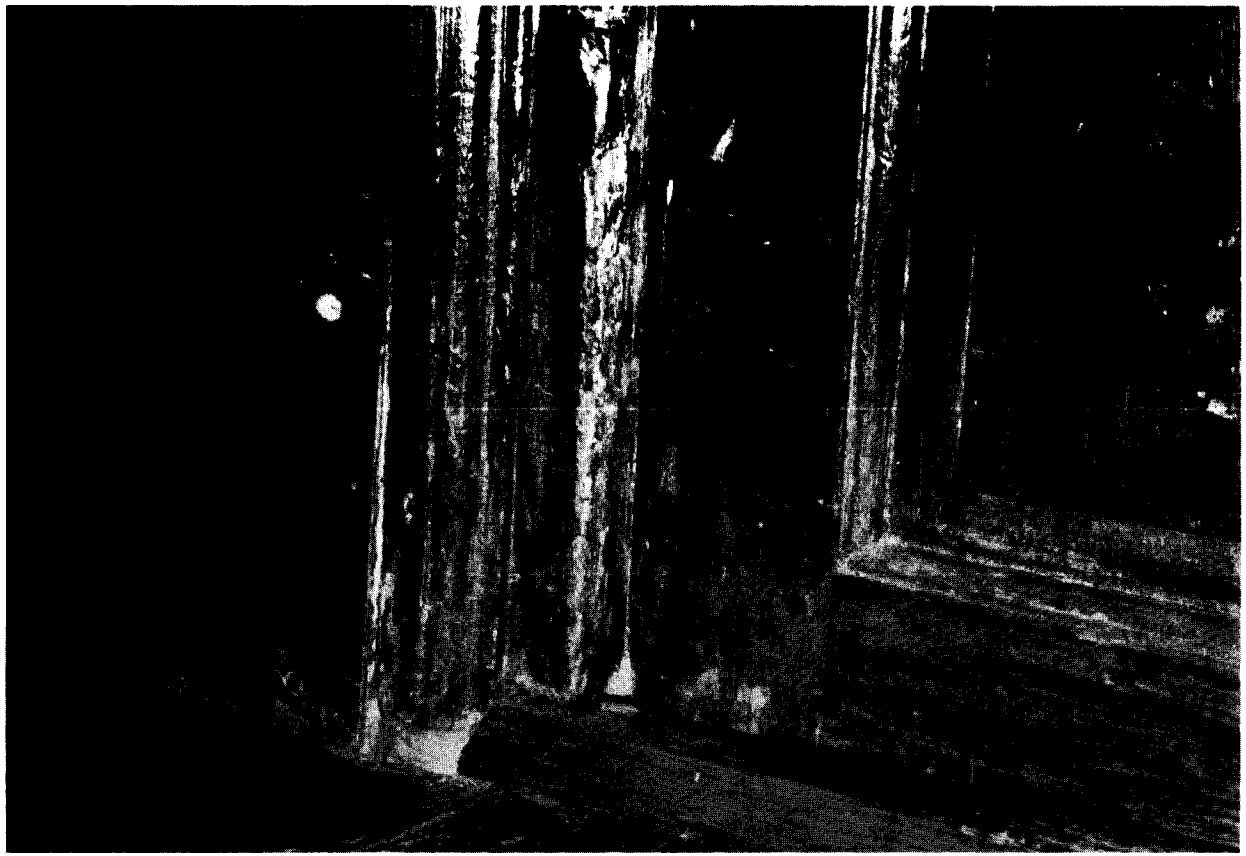


Illustration 49. Atwood-Higgins House: East Kitchen, Doorway Casing 104/103 and Door.

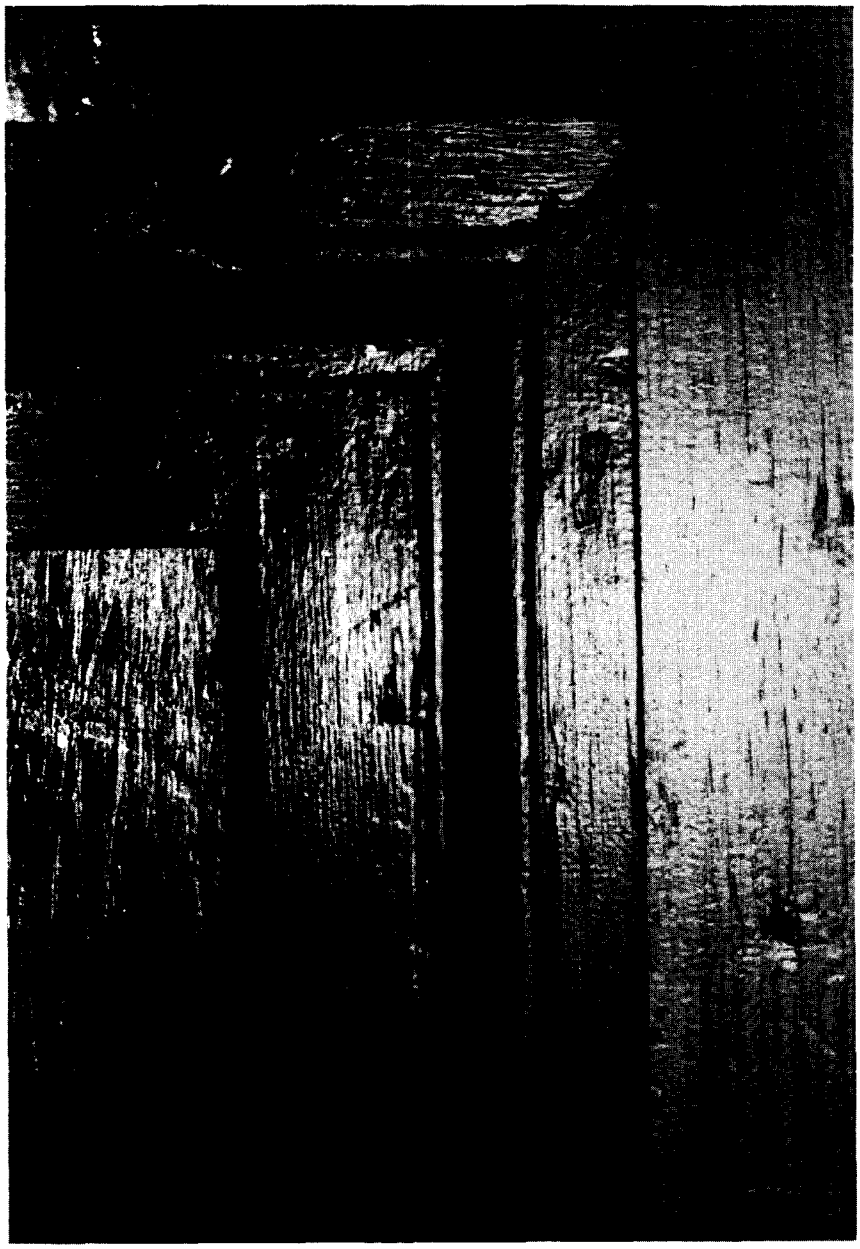


Illustration 50. Atwood-Higgins House: East Kitchen, Lintel of Doorway Casing 104/102.

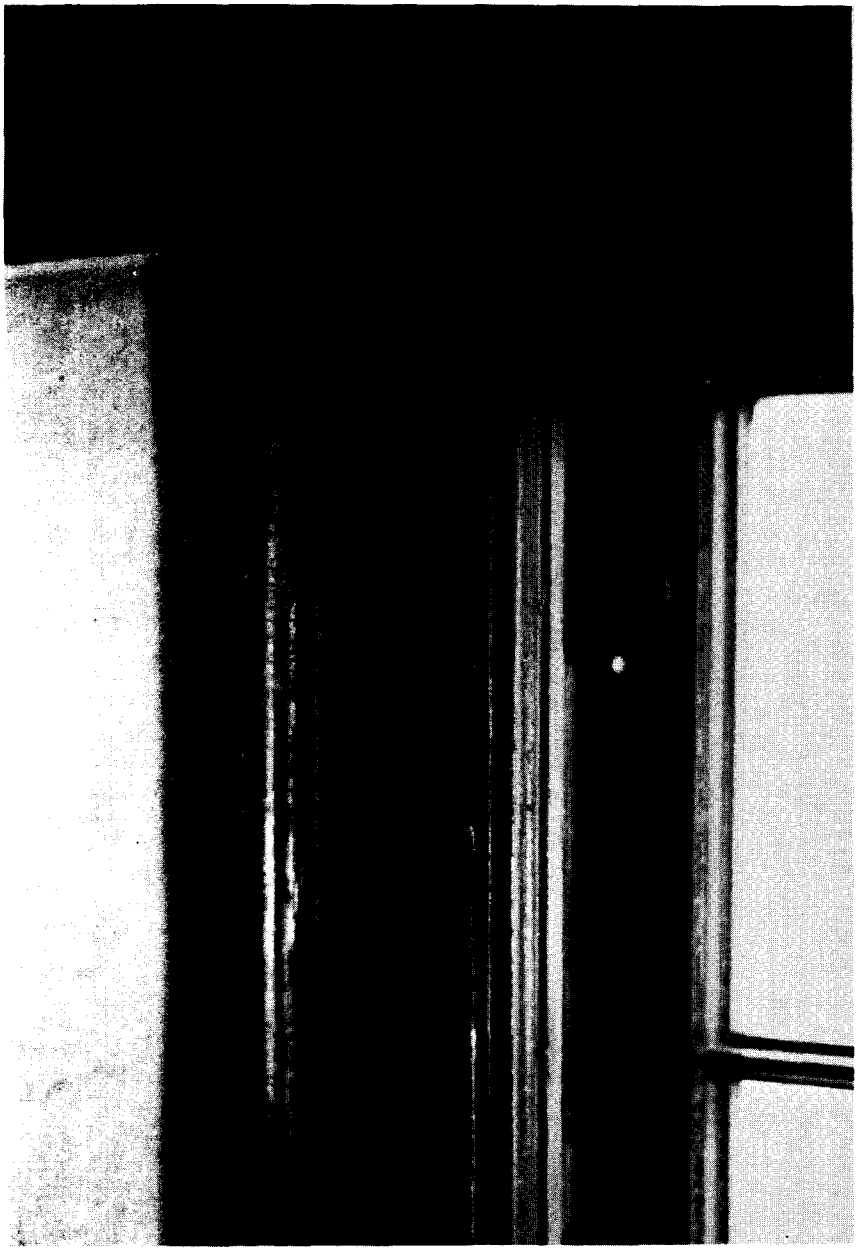


Illustration 51. Atwood-Higgins House: East Kitchen, Window Casing.

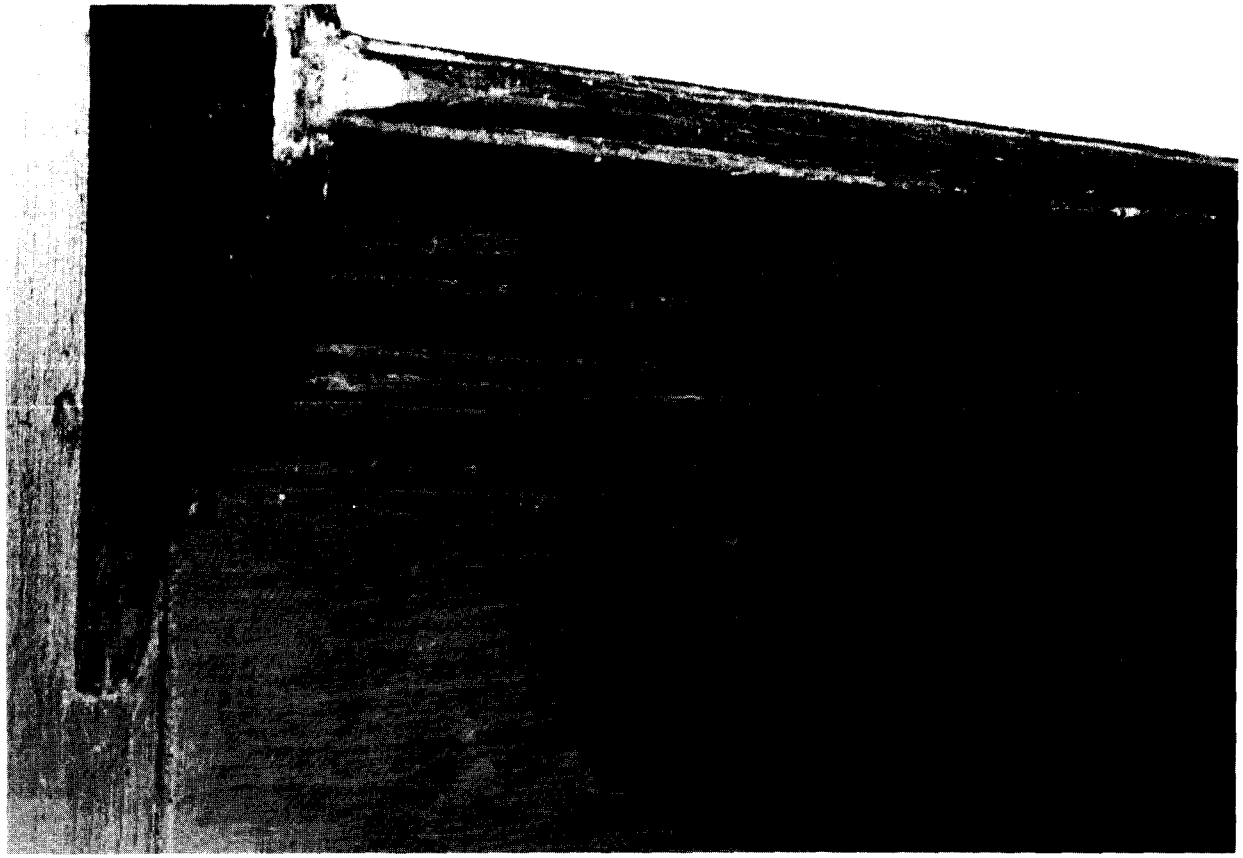


Illustration 52. Atwood-Higgins House: East Kitchen, Mantel Shelf.

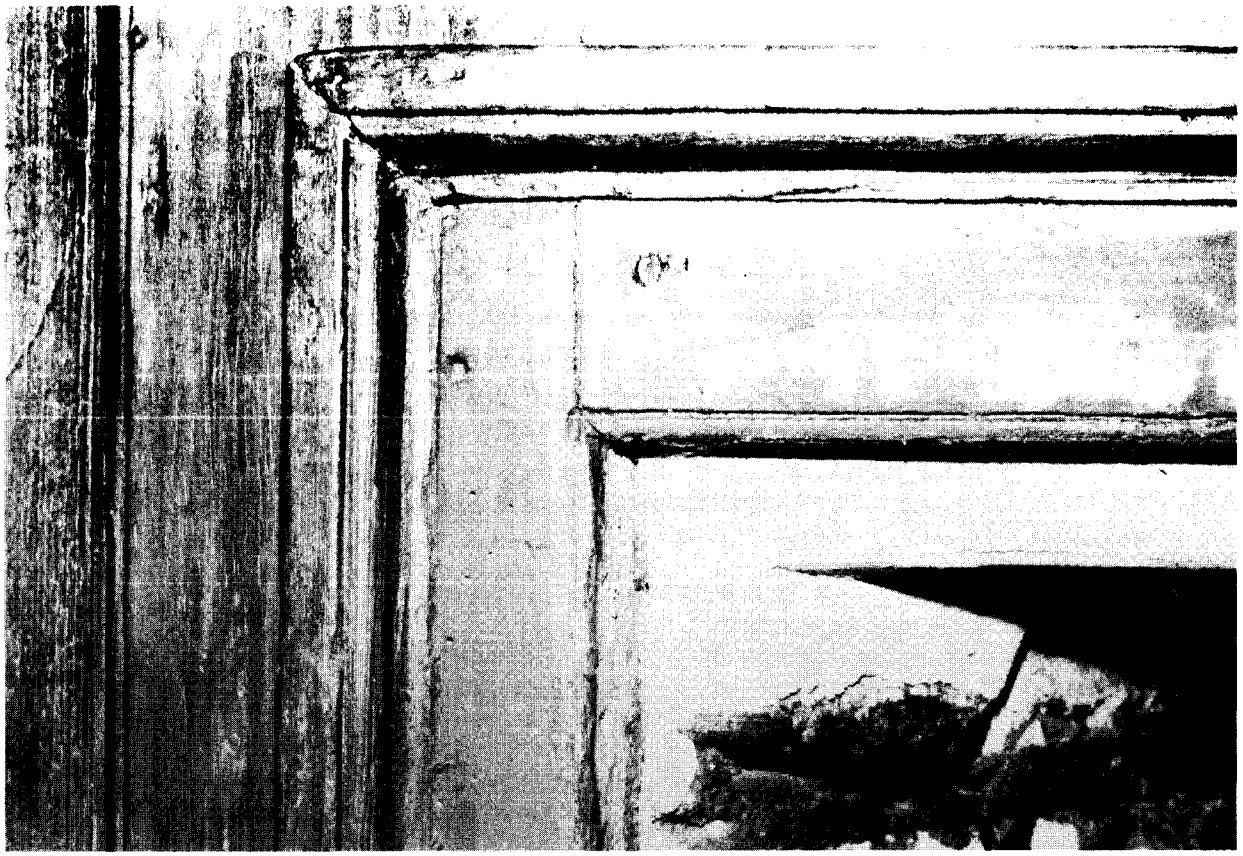


Illustration 53. Atwood-Higgins House: East Kitchen, Fireplace Surround.

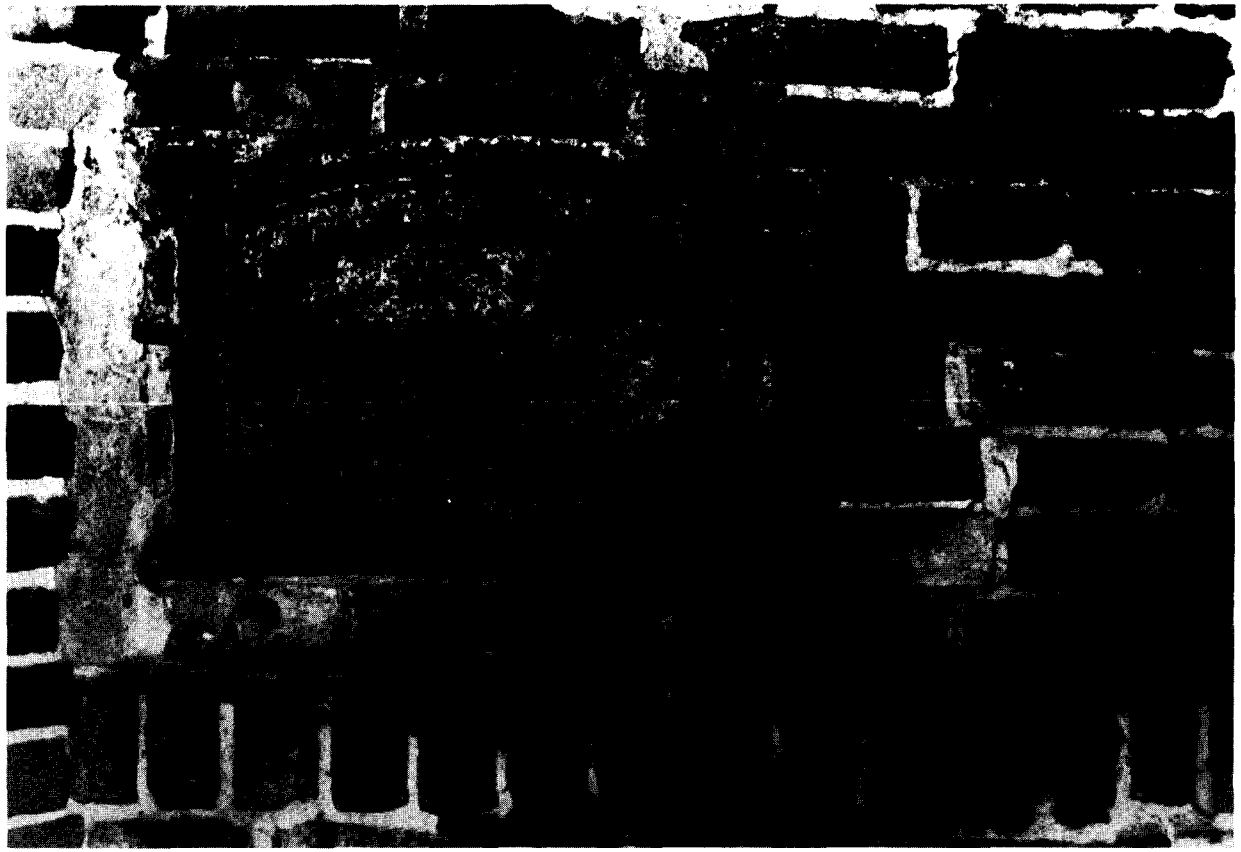
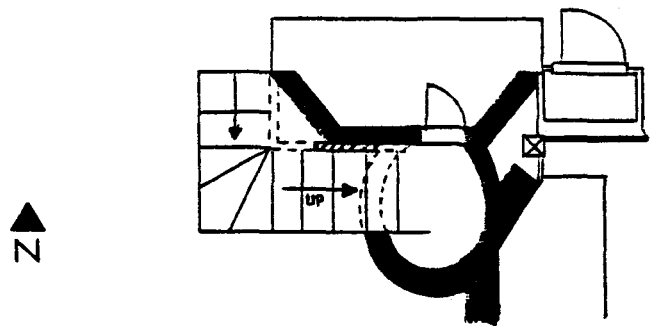


Illustration 54. Atwood-Higgins House: East Kitchen, Fireplace Bake Oven.

Illustration 55. Atwood-Higgins House: Central Chimney Void, Looking Up at Rear Surface of East Front Room's Fireplace.

- stair ghosts on a vertical-board partition to the west of the East Kitchen 104 (Ills. 56-57), viewed from behind the chimney mass. The stair ghosts appear to be from a straight run of stairs ascending in an easterly direction; it may have included winders and a lower straight run ascending in a southerly direction.

Note: Surviving vertical board partition shown as:



During this interim period (c. 1775-1790), the East Kitchen 104 would have been larger than it is today (see Illustration 9), with direct stair access to the attic level. The ceiling of open joists would have been covered with split lath and plaster at this time. This is inferred from the lack of whitewash on the attic-floor joists of the addition, and the use of the comparatively early, split type of lath.

It is likely that the exposed framing members of c.-1730 were cased at this time. Such work would have been a logical adjunct to the plastering of the ceiling, and it would have been stylistically appropriate for the casing to have been introduced during these years. A boxed and quarter-inch-beaded plate is exposed along the north wall. The original north chimney post is located between the north wall's east window and the exterior door here. Although it is boxed, giving a straight-sided appearance, X-rays have proven it to be splayed. (See Chapter V, Section D.) However, the X-rays also reveal the presence of wire nails, which suggests that 20th-century alterations may have occurred here.

There is a distinct molding category that has been associated with the interim, c. 1775-1790 period in the East Front Room 101 — Category C in Chapter V, Section B. This molding is also found in the East Kitchen 104, but in circumstances so suspicious that it cannot be used to date the element which it embellishes.

For example, a strip of this molding covers the joint (Ill. 58) between doorway casing 104/101 and the floor-to-ceiling, built-in cupboard east of the fireplace. The cupboard must postdate c. 1730, because there is lath and plaster behind it. It may also postdate c. 1750, because there is a slight change in angle between the face of the cupboard and that of the c.-1750 fireplace. It thus would seem that the c. 1775-1790 joint molding could date the construction of the cupboard. However, the cupboard's backing boards are hand-planed; there are T-headed, hand-wrought nails in

its east and west framing members, and H-hinges secured with rose-head nails. The molding strip itself looks to have been reused. And the cupboard-doorway casings are wooden members simply applied to the outside face of the cupboard frame. The threshold also appears to be of later date, because of its unworn condition. In sum, the cupboard represents a collection of elements of different dates, composed in a manner not typical for any historic period.

Strips of this Category-C molding are also found flanking the north-wall window casings, and as the casing of doorway 104/Exterior. There is no reason to think that this doorway's location is not original. The presence of the casing suggests that some type of alteration took place here c. 1775-1790. However, the transom above the doorway seems to date from c. 1800: its muntin profile is also found in Rooms 103, 105, 108, and 109, where it has been dated c. 1800.

After some years as a three-quarter house, the Atwood-Higgins House received a second extension to the west — also one bay wide, but measuring 8 feet, instead of 6 feet, like the earlier one-bay extension. Now there was enough room along the north side of the house to create two separate kitchens, and the current west partition-wall of the East Kitchen was built.

As stated previously, it is thought that the final bay of the house was added c. 1800. This is based upon the absence of stud framing (used after 1820), and upon the presence of many c.-1800 moldings found in rooms created by the final bay. The fact that the net effect of the final bay was to create a "two-family" house may be helpful in pinpointing its date. In 1794, Solomon(6) married, but he did not receive ownership of the house from Solomon(5) until 1796. This would imply that two adult families were living in the house 1794-1796, and perhaps for a time afterwards, as well. Thus, a <u>need</u> for the final bay arose c. 1794.

The west partition-wall of the East Kitchen, like the original east partition-wall, consists of vertical planks. These, however, are not hand-planed, nor finished with beveled and molded profiles. These boards are sawn and butted, with a quarter-inch bead along their edges. Doorway casing 104/105 and its board-and-batten door are also from c. 1800, as is the exterior doorway's transom sash and northwest-window sash.

Construction of the west partition appears to have caused the loss of the west jamb of the fireplace in the East Kitchen 104. The small cupboard contained within the south end of the west wall would be contemporary with the wall itself, or possibly later. The door's H-hinges secured with rose-head nails are appropriate, though perhaps earlier than a c.-1800 installation.

The next alteration to occur in this room saw the introduction of the northeast window's sash, c. 1840. Elements from the mid-19th century include the door 101/104, installed during the refurbishing of the East Front Room 101, and several baseboards. These baseboards are found on the north wall, west of the north chimney post; and on the east wall, north of doorway 104/103 (Ill. 49). These are the only wooden baseboards in the room.

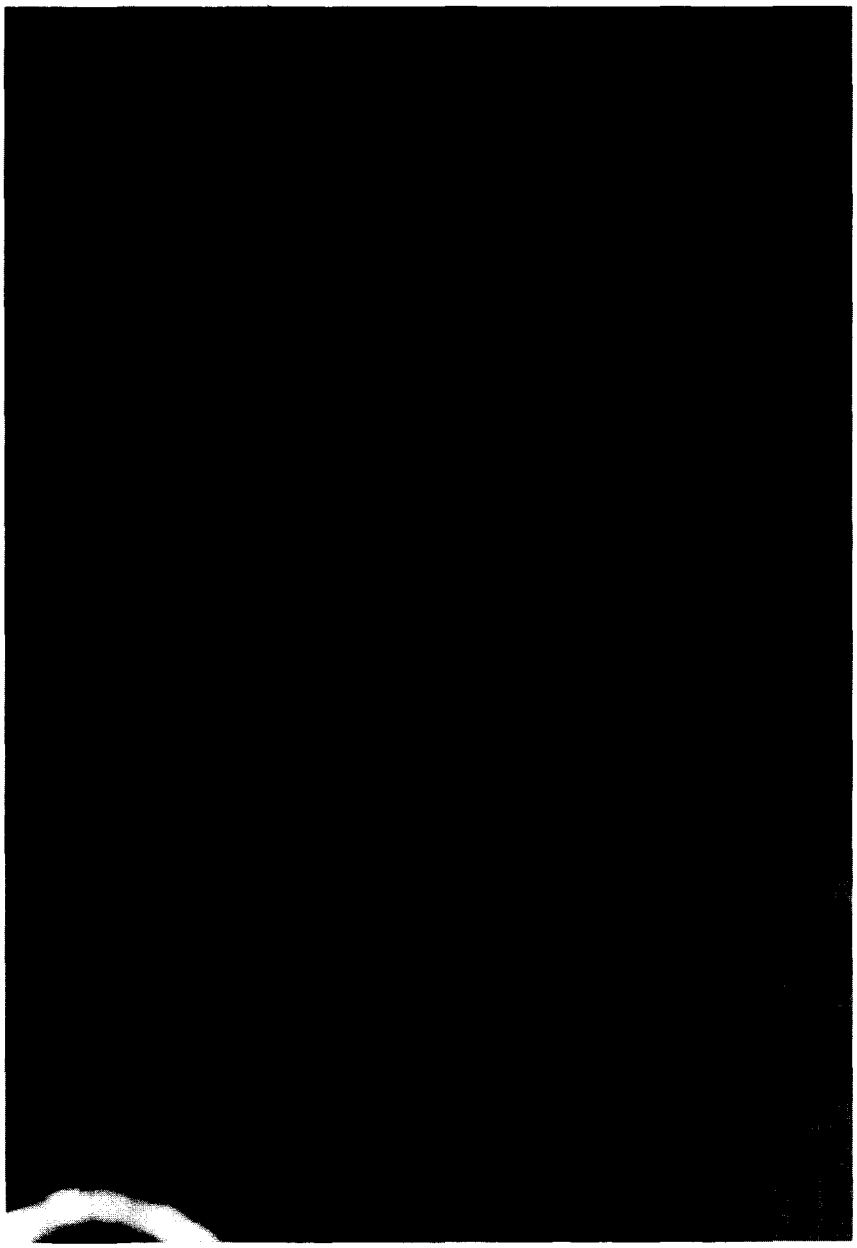


Illustration 56. Atwood-Higgins House: Central Chimney Void, Stair Ghost on Rear Surface of East Kitchen's Fireplace.

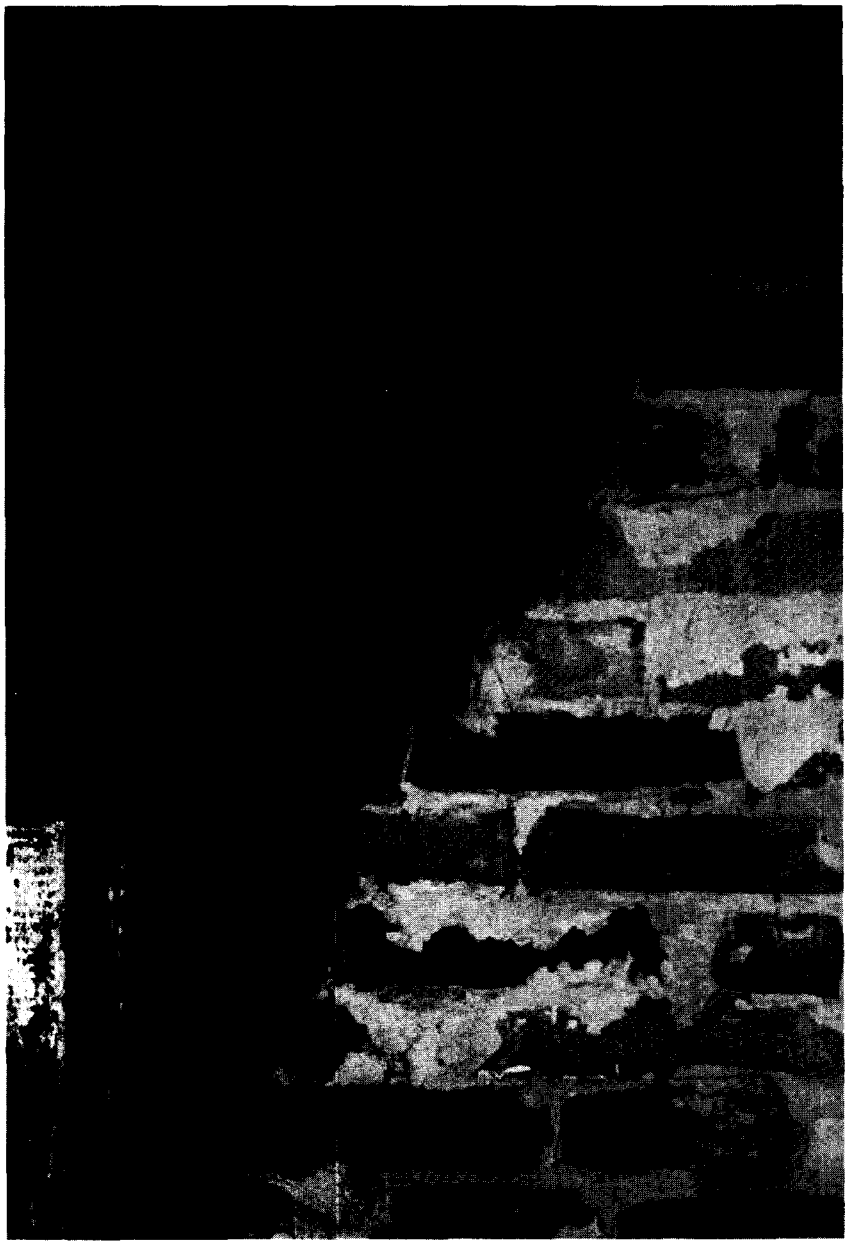


Illustration 57. Atwood-Higgins House: Central Chimney Void, Stair Ghost on Rear Surface of East Kitchen's Fireplace.

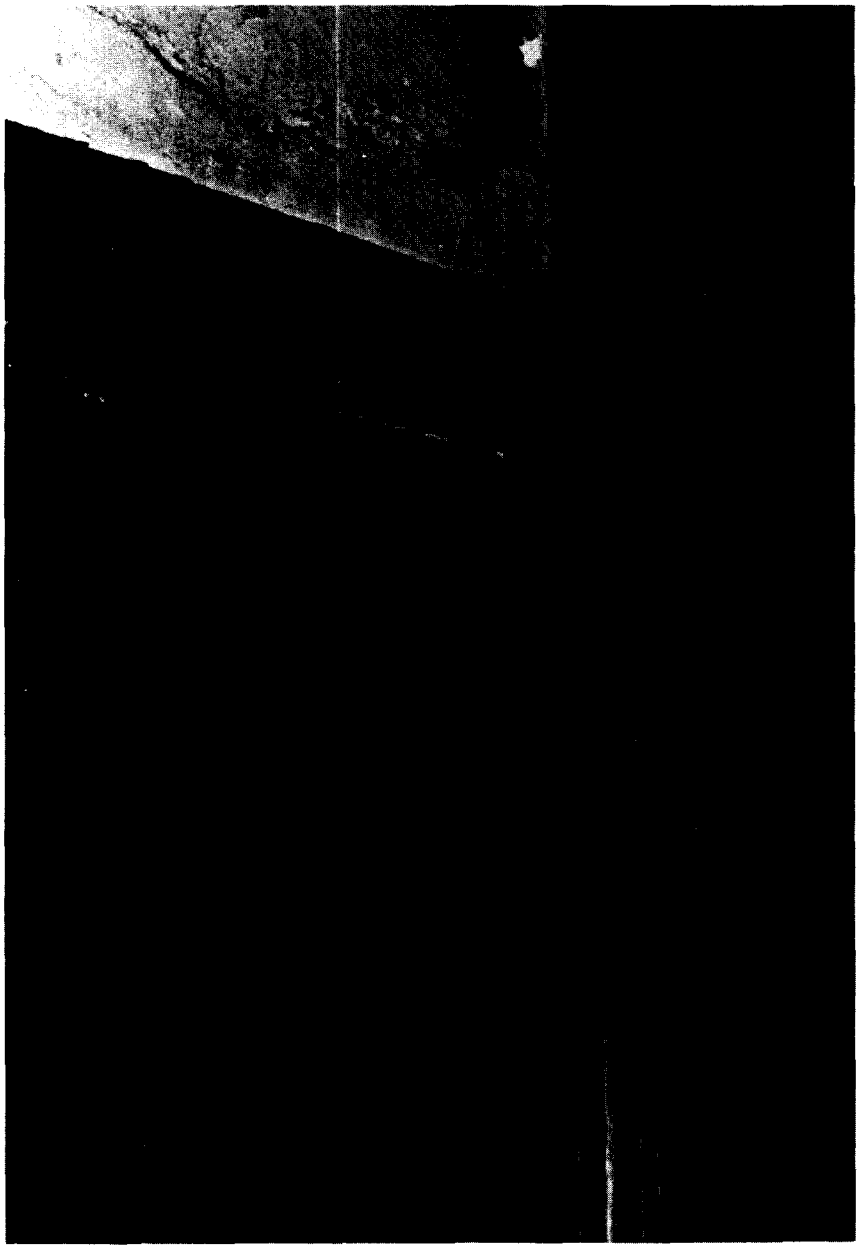


Illustration 58. Atwood-Higgins House: East Kitchen, Molding between Doorway 104/101 and South Cupboard.

Later in the 19th century, the present north-wall exterior door seems to have been introduced: it has five panels with applied moldings on the exterior. Its interior paint has been stripped; its exterior paint is inconclusive. The Suffolk thumb latch is earlier in date than the door, as are the HL-hinges secured with rose-head nails.

Twentieth-century changes include the installation of a porcelain sink in 1921, as a replacement for a dry sink; electrical wiring; and gas connections for a cooking stove. Replacements were made at the south end of the floor area, which consists of random-width boards laid in an east-west direction.

One of the most significant alterations was described by George K. Higgins in his journal:

> In November of this year [1928], Mr. Neil M. Forsyth, who had done my work in the city for many years, started stripping the kitchen [Room 104] and pantry [Room 103] woodwork of paint. Forsyth and a helper were boarded at the village. After two or three ordinary coats of paint were removed from these walls, we came upon a very hard substance which no paint remover, geared only to remove oxidized oil, would touch. After repeated efforts and the expense being so great, Forsyth recommended that we bring the small kitchen door to the painter's convention in Boston and submit it to all the paint manufacturers of the country to see if any of their products would move this paint. The only way this paint could be removed by testimony of the painters and Mr. Forsyth was to burn it off with a blow torch.[15]

The removal of the paint in this manner was completed in March of 1929.[16]

The only paint remaining in the East Kitchen today is a band of paint simulating a baseboard on the north chimney post; on the north wall, east of that post; and on the west partition wall. Paint analysis has indicated that this paint is 20th-century in origin, presumably applied after the stripping of 1929. The south wall, and the east wall south of doorway 104/103, have neither a c.-1850 wooden baseboard nor a 20th-century painted baseboard.

Higgins' journal also mentions that the ceiling of this room was "done over" in 1949.[17] Areas of surviving plaster-wall finish do exist above the fireplace opening, and to the west of the fireplace on the west wall. These contain approximately 14 layers of various shades of white calcimine. (See Chapter V, Section A.)

West Kitchen 105

As various types of evidence indicate, the Atwood-Higgins House grew from a typical Cape Cod half-house into a typical three-quarter house sometime before 1800. This occurred after c. 1750, based upon the East Kitchen 104's north-window casings. During this period, the present West Kitchen 105 would have been merely a one-bay, 6-foot-wide addition to the west side of the East Kitchen 104. As mentioned in the description of that room, the most notable part of the addition would have been a

doorway in the south wall, leading to a second stair to the attic. Another doorway west of this one would have led to a small West Front Room 108. No trim elements from this interim period seem to remain in the West Kitchen 105, based upon a stylistic analysis.

By c. 1800, the Atwood-Higgins House had been expanded a second time, into a full, five-bay, double house. The present West Kitchen 105 (Ills. 59-62) and West Front Room 108 were created, by putting together the spaces generated by the two additions. The date of c. 1800 is based upon the large number of Category-E moldings in both of those rooms. This change may have occurred as early as 1794 when Solomon Higgins, Jr., married. Although his father, Solomon, did not transfer the house to his son until 1796, a two-family use could have preceded the legal transfer. Solomon Higgins, Jr., maintained ownership until 1805.

Elements within the West Kitchen 105 that have been stylistically dated to c. 1800 include:

- the fireplace paneling. A separate fireplace was built for the West Kitchen when it was partitioned off from the East Kitchen. Its paneling features two recessed horizontal panels above the fireplace opening, and one recessed vertical panel over the bake oven. Moldings of these panels are integral to the rails and stiles. Paper was removed by George K. Higgins in 1920, revealing the then-painted paneling[18].

- the fireplace surround and oven-doorway casing (Ill. 63). The surround molding is mitered, and becomes the right jamb casing for the wooden doorway of the bake oven. The two moldings are variations of the same molding profile.

- a small cupboard located on the upper east end of the corner fireplace. Its door is a single board, with beaded edges and butt hinges.

- the north-south partition of sawn, vertical boards, whose butted edges have a quarter-inch bead. This includes the flat casing of doorway 105/104 (Ill. 64), and the board-and-batten door itself. Hardware on the door represents an inappropriate replacement.

- doors Attic/105, 105/107, 108/105, and Exterior/105. These have fielded panels beaded at the stiles. Their latches are inappropriate replacements, earlier in date than the doors themselves.

- both sash of the northwest window, and the upper sash of the northeast window. The lower sash of the northeast window appears to be a little later, and probably represents a c. 1800-1820 repair (see Chapter V, Section D).

Finally, the absence of exposed structural framing members points to a c.-1800 date.

The fact that so many trim elements date to c. 1800 does not necessarily mean that the second addition was built then; it could have been constructed a few years earlier, with finish work being postponed until c. 1800. However, there is no evidence for this theory at this time.

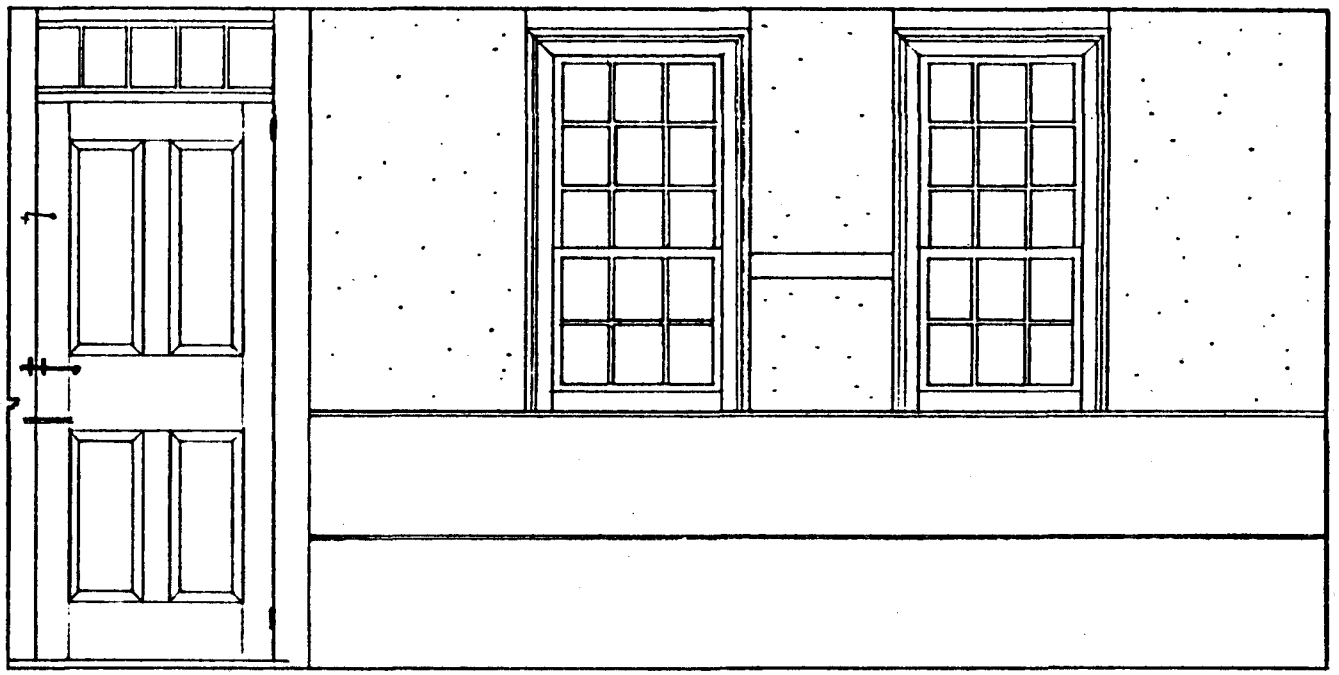


Illustration 59. Atwood-Higgins House: West Kitchen, North Wall.

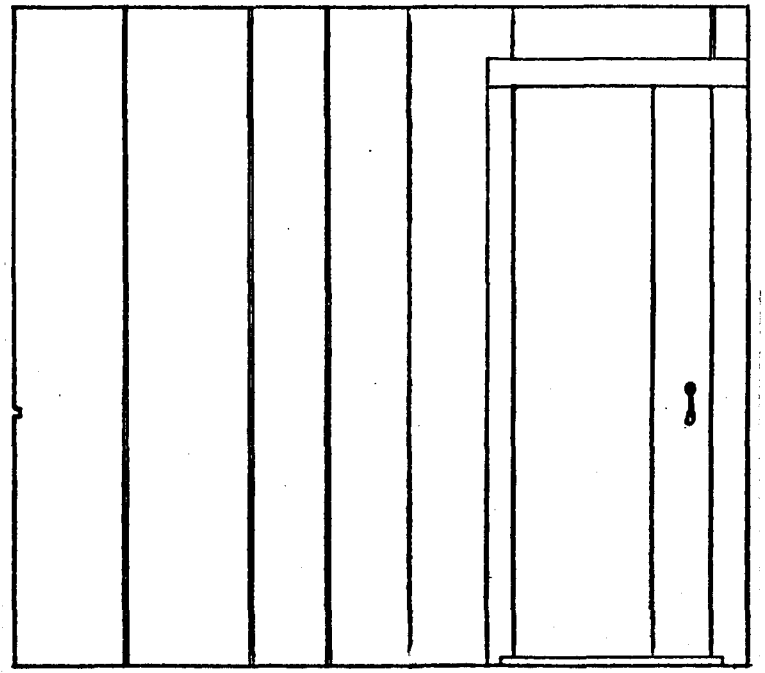


Illustration 60. Atwood-Higgins House: West Kitchen, East Wall.

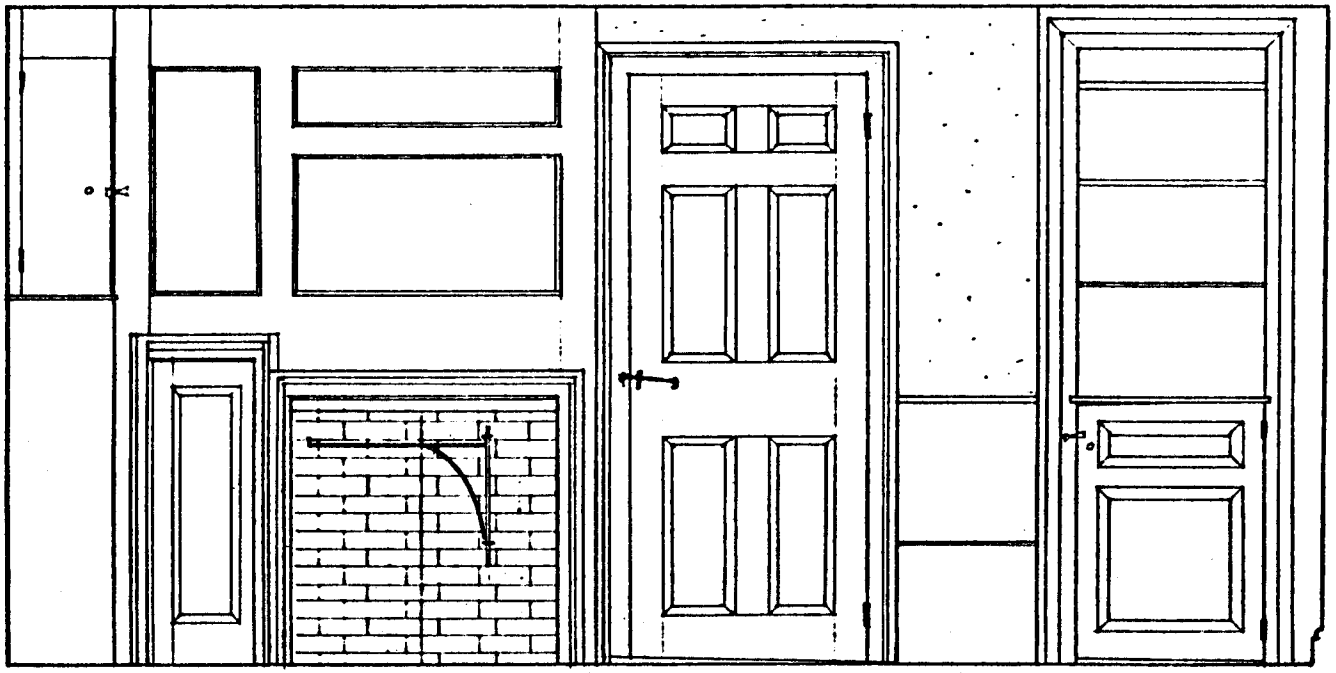


Illustration 61. Atwood-Higgins House: West Kitchen, South Wall.

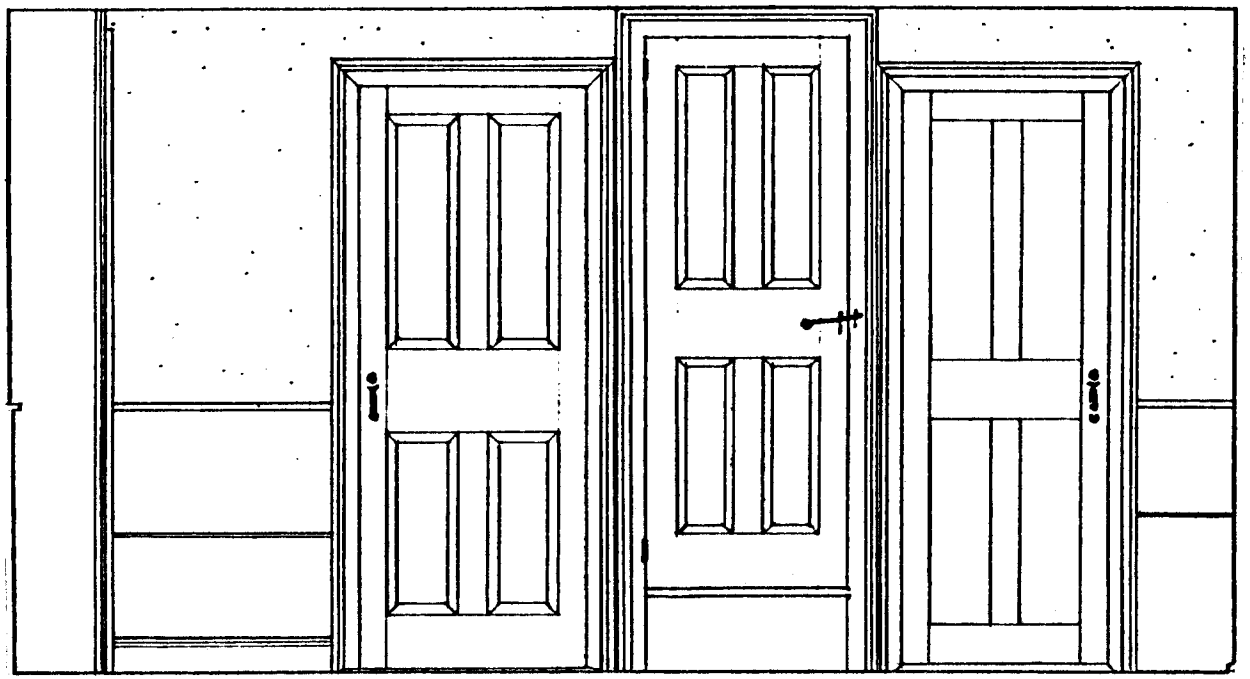


Illustration 62. Atwood-Higgins House: West Kitchen, West Wall.

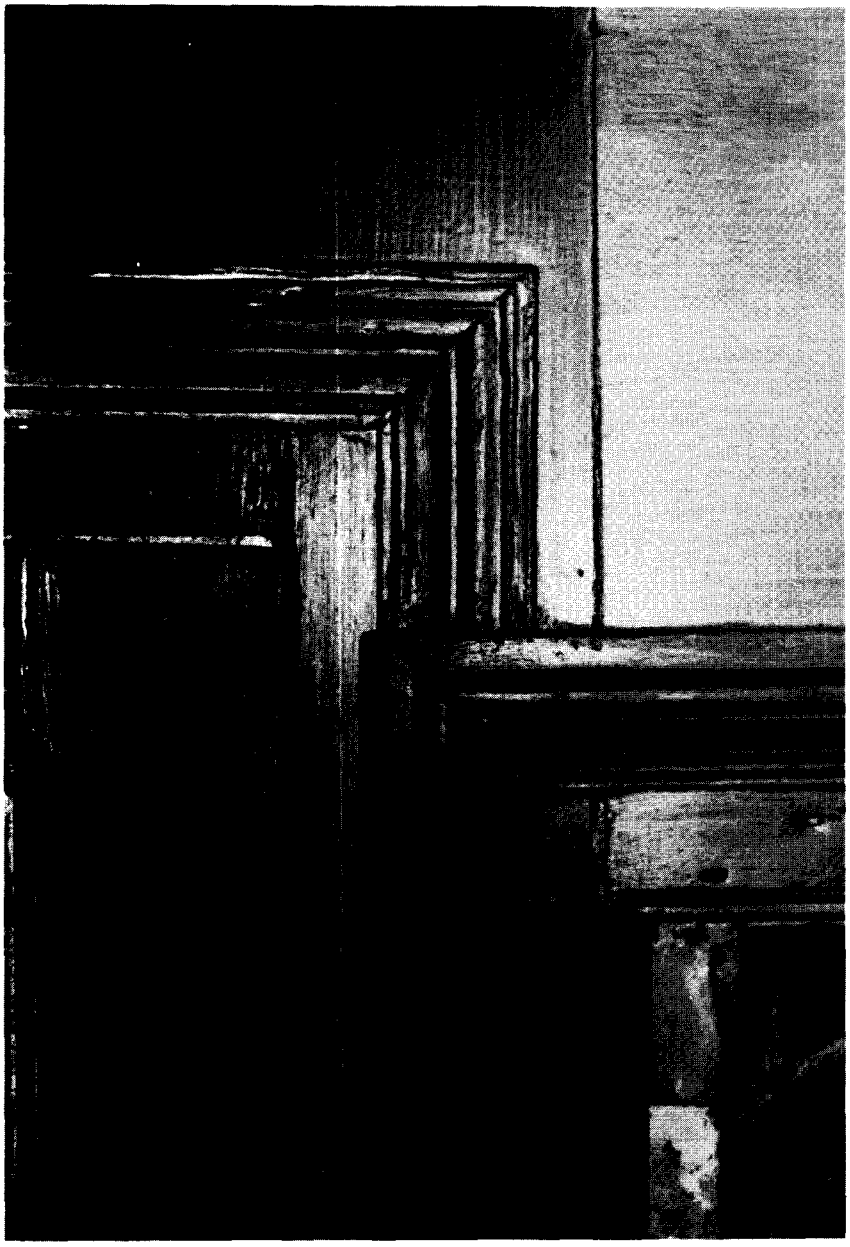


Illustration 63. Atwood-Higgins House: West Kitchen, Fireplace Surround and Oven-Doorway Casing.

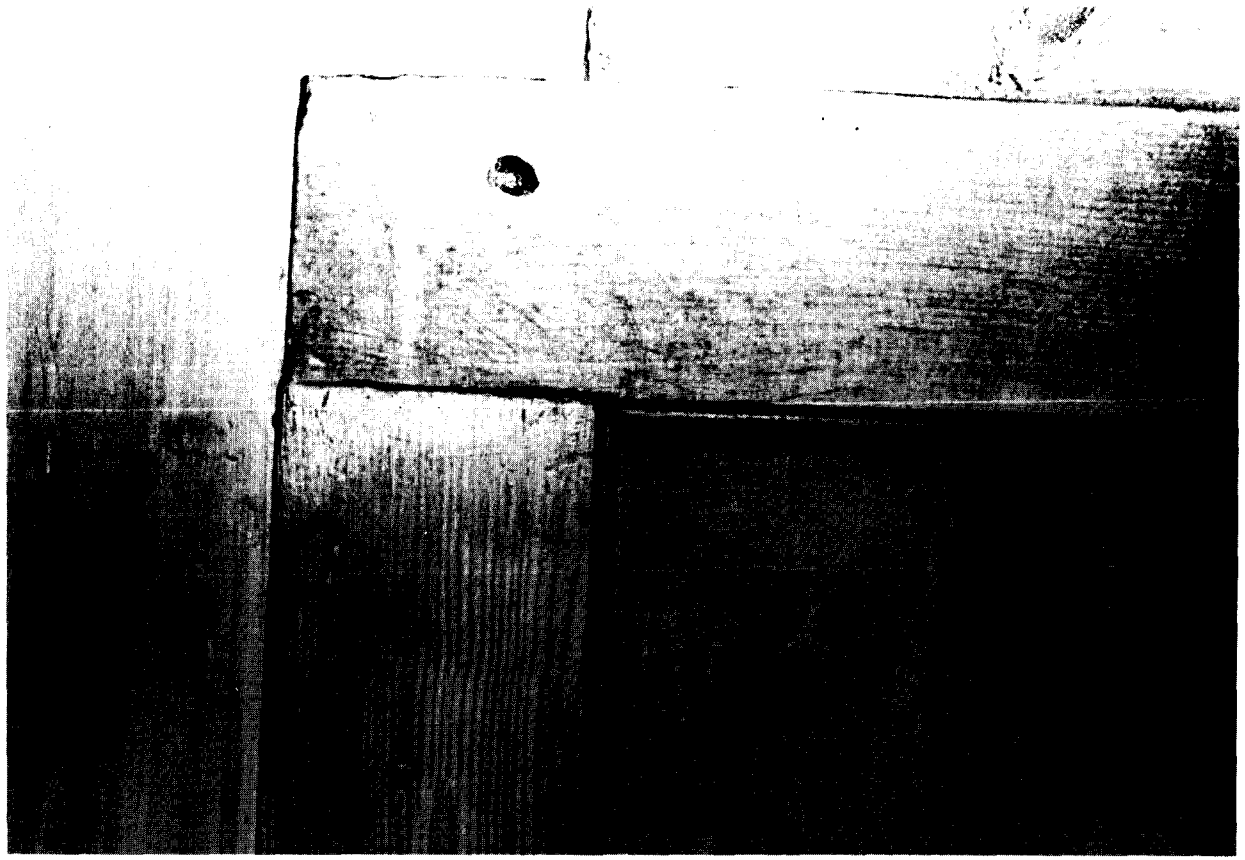


Illustration 64. Atwood-Higgins House: West Kitchen, Doorway Casing 105/104.

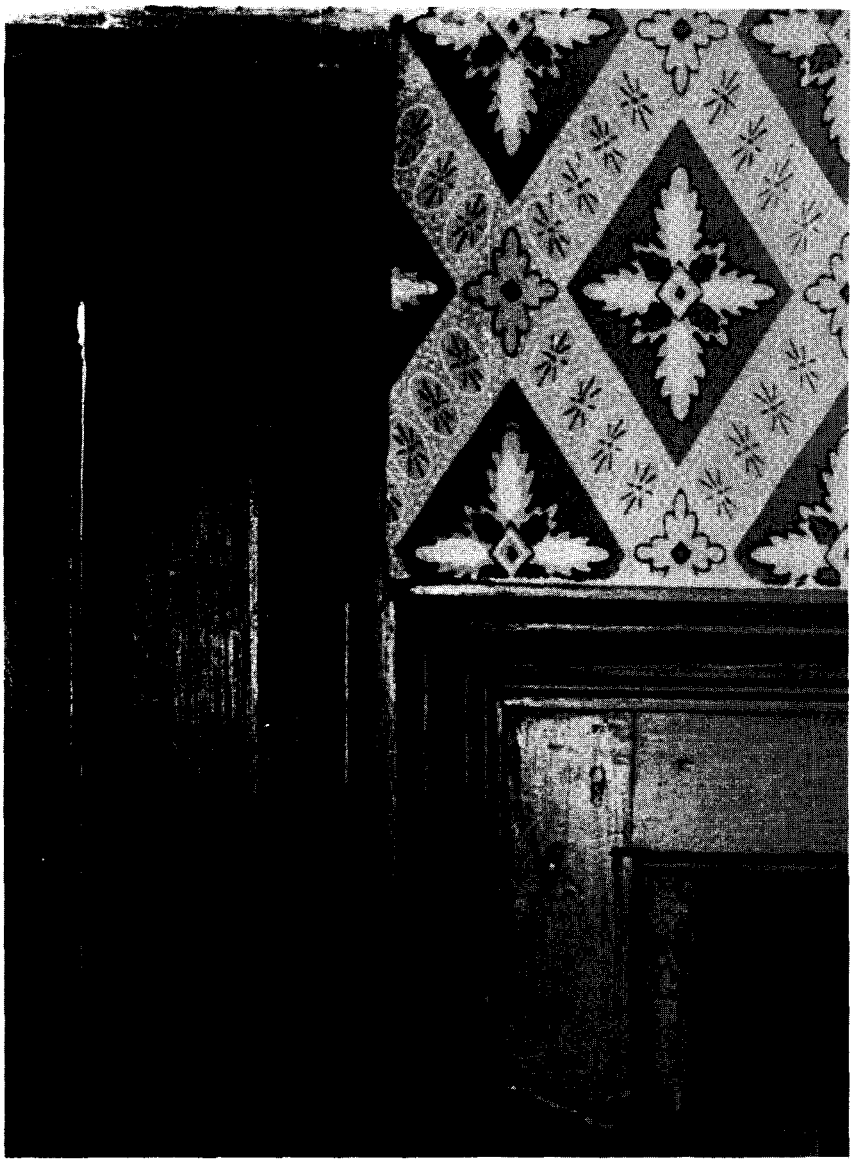


Illustration 65. Atwood-Higgins House: West Kitchen, Doorway Casings 105/106 and 105/Attic.

The arrangement of doorways in the west wall of the West Kitchen dates largely to the construction of the ell on the outside of that wall. The ell, if not constructed at the same time as the fifth bay of the house, would have been built by 1820. X-ray investigations showed an absence of stud framing in all parts of the house, including the west ell. (See Chapter V, Section D.) Vertical plank construction of exterior walls, used throughout the Atwood-Higgins House, went out of use c. 1820 on Cape Cod.

The next period of change in the West Kitchen 105 occurs around 1850. This has been determined by the large number of Category-G moldings in this room, so dated because they contain both circular and elliptical shapes. These moldings are similar to those used to refurbish the East Front Room 101 c. 1850. The moldings are found:

- as the casings of doorways 105/106 (Ill. 65), 105/Attic, 105/107 (Ill. 66), and 105/108 (Ill. 67). This means that the c.-1800 doorway 105/108, and the c. 1800-1820 doorways 105/106 and 105/107, were retrimmed during this refurbishing, and it suggests that the north stair was added at this time.

- as the casings of the two north-wall windows (Ills. 68-69). Details of the window casings include a filler board between the lintel and the ceiling, bottom sash that is raised 2-1/2 inches above the sill (also functioning as the wainscot cap), and a quarter-inch-beaded mirror board, revealed beyond the plaster wall between the two north windows.

- as the casing of the southwest cupboard's doorway. The cupboard (Ill. 70) has open shelves above, with a painted plaster backing, and a two-panel, fielded door below, with an unpainted plaster backing with partially exposed split lath.

- on the west-wall baseboard (see Illustration 66).

The west-wall doorway casings project out only one-quarter of an inch beyond the plaster walls, while the other c.-1850 casings are revealed out 1-1/8 inches.

The doors of the west-wall doorways are diverse. Those to the Ell Bedroom and the north (attic) stair date stylistically to c. 1800. The first may have been reused, if the ell was built after 1800; the second surely was reused, since the stair did not exist in 1800. The door to the West Buttery 106 appears to be older than its c. 1800-1820 doorway, and so almost must have been reused. It is hung on HL-hinges. It does not match the other doors in the West Kitchen 105, and could be earlier in date. The hand-planed door has four fielded panels with integral moldings, on the side facing the West Buttery 106. Plain, recessed panels face the West Kitchen 105. This door may date from the three-quarter house.

Additional changes have occurred in the wainscot areas of the north and west walls. The cap on the west wall differs from that used on the north wall, and the north-wall window-sill areas are earlier in date than the adjoining wainscot caps. Both north-window sills are cut at the east and west jambs, indicating new caps on the wainscot. A small, vertical section of wainscot on the south wall is also a replacement.

Above the wainscot, two walls and a portion of a third are plastered and papered with a diamond-patterned, 20th-century paper.[19] The plaster ceiling is described in Higgins' journal as having been "done over" in 1949.[20] More than half of the east-west flooring is also a 20th-century replacement (north portion, full width). Hearth bricks differ in size from the fireplace bricks and, as such, also may represent a replacement. In 1939, all paint was removed from all woodwork.[21] The room was papered in 1920.

West Buttery 106

Construction of the ell probably took place before 1820: it lacks stud framing, which came into use in this area in about 1820 (Chapter V, Section D). It could not have been built before c. 1800, when the final, fifth bay was added to the west end of the house. The fact that it is an ell, tends to suggest that it was built after the fifth bay was added. However, a few pieces of evidence support a construction date contemporaneous with the fifth bay, c. 1800. These include:

- the fact that the West Buttery's north window matches the two adjacent windows of the main house.
- the casing of the Ell Bedroom 107's west window, which seems to have been reused.
- the fact that the Ell Bedroom 107 and the West Front Room 108 share similar paint chromochronologies.
- door 105/107, which has been dated stylistically to c. 1800 (although all of the doors and casings here are of various periods).
- the fact that if the house were to be divided equally in c. 1800 — which seems to have been the intent — the new West Kitchen would have needed a buttery and bedroom of its own.

Elements surviving from the earliest period of the West Buttery 106 include the north-wall window opening with its beaded-board casing. Paint analysis has shown more, lower layers of paint on this casing than on other painted elements in the room. (See Chapter V, Section A.)

A new second stair to the attic was built c. 1850, south of the West Buttery 106. This addition provided a new south wall for the West Buttery 106. This wall consists of quarter-inch-beaded, vertical boards. Paint analysis indicates that this wall, the wooden case of the northwest corner post, and door 105/106 have fewer paint layers than the original ell elements (c. 1800-1820) described above. The plastered areas of both north and west walls contain shelves. Earlier pegboards flush with the plaster are obscured by the shelving.

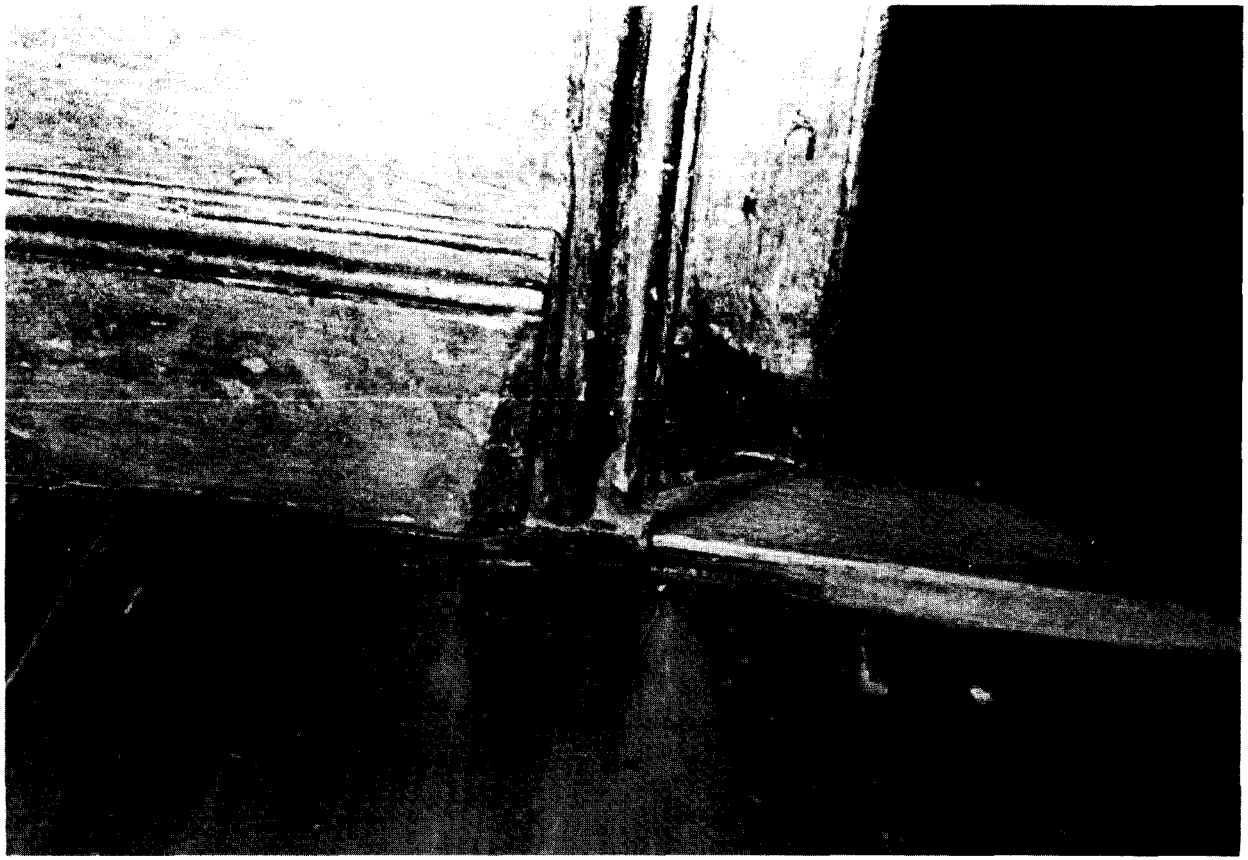


Illustration 66. Atwood-Higgins House: West Kitchen, West-Wall Baseboard and Doorway Casing 105/107.

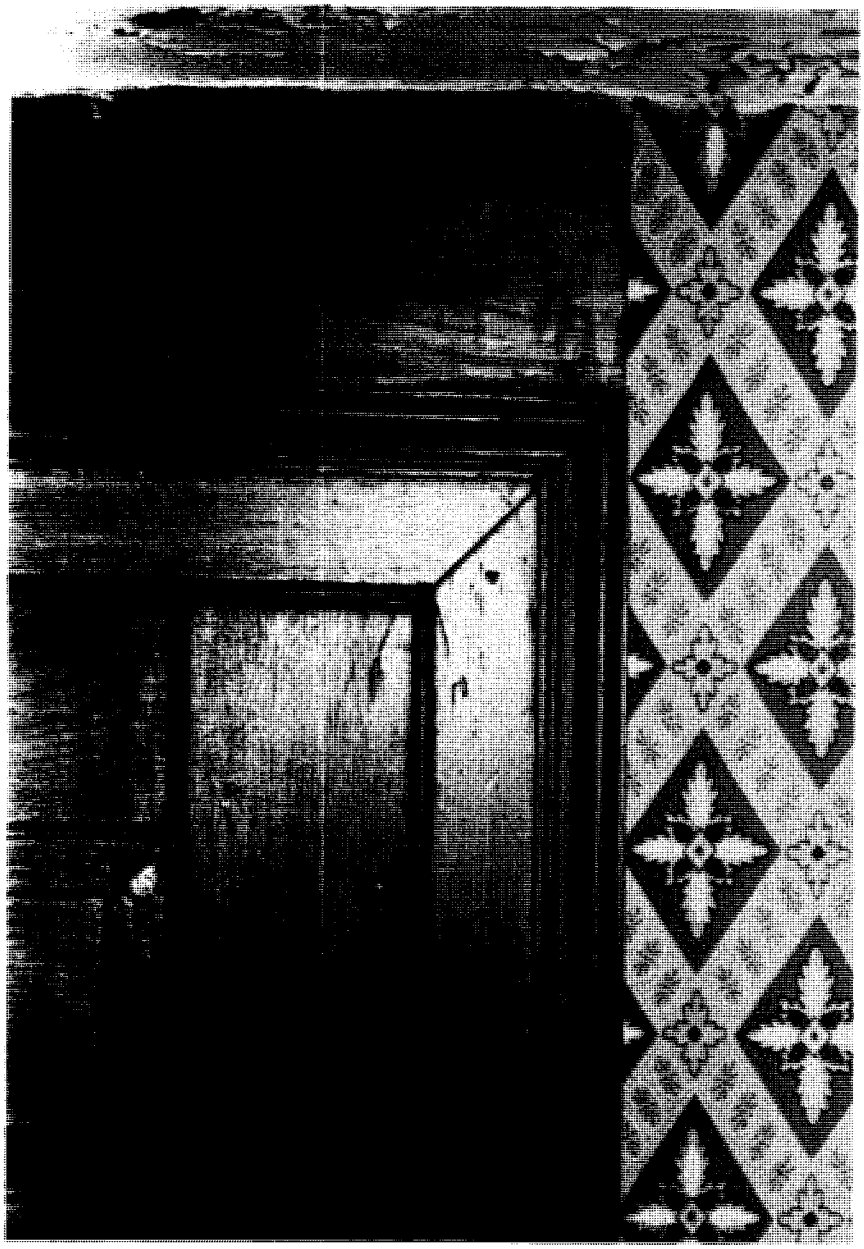


Illustration 67. Atwood-Higgins House: West Kitchen, Doorway Casing 105/108.

Illustration 69. Atwood-Higgins House: West Kitchen, Window Casing, Jamb and Wainscot Cap.

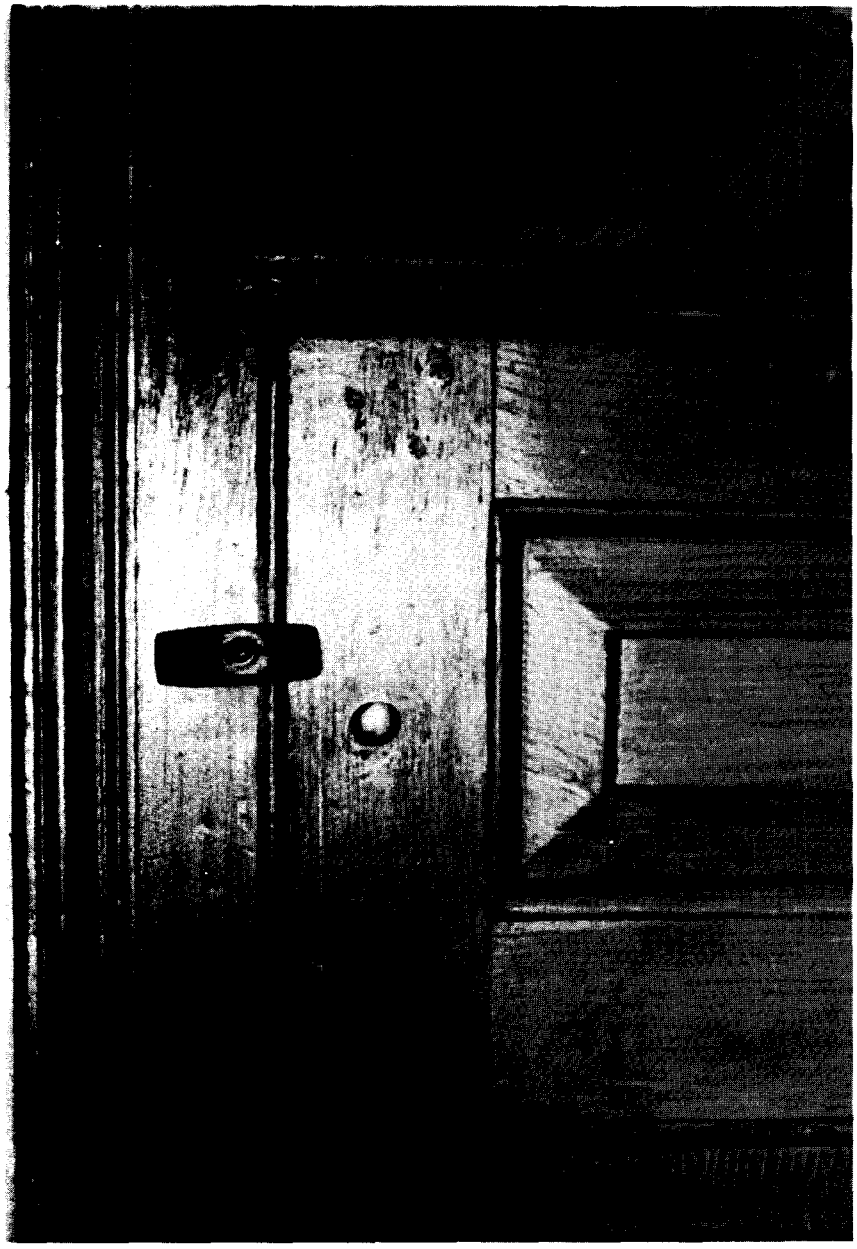


Illustration 70. Atwood-Higgins House: West Kitchen, Doorway Casing and Door of Southwest Cupboard.

The north window's sash is a mixture. The lower sash has an early 18th-century profile and approximately 13 layers of paint, so it is thought to be an old sash reused here. The upper sash has a mid 18th-century profile, but only five to six layers of paint, consonant with a c.-1850 date. (See Chapter V, Sections A and D.) Considering the other work that took place in this room c. 1850, it would seem that an old but unpainted upper sash was installed here c. 1850, as a replacement.

North Stair

The middle doorway in the west wall of the West Kitchen 105 opens into a stair leading to the attic. This stair is located in the ell, sandwiched between the West Buttery 106 on the north and the Ell Bedroom 107 on the south. It consists of a straight run of steps that ascends to the west. From the c.-1850 doorway casing, and evidence found in the West Buttery and Ell Bedroom, this stair has been dated as a c.-1850 addition. All surfaces are painted, except the wooden handrail at attic-floor level. Paint samples from the south wall of the stair and the stair side of the door show the same chromochronology as alterations in the West Buttery 106.

Ell Bedroom 107

Construction of the ell has been dated c. 1800-1820, as already mentioned. Original elements in the Ell Bedroom 107 include:

- the plaster of the south, east, and west walls, above a beaded, horizontal-board wainscot.
- the southwest corner post.
- the random-width floorboards laid in an east-west direction.

Changes occurred with the addition of the present north stair to the attic, north of the Ell Bedroom 107. This c.-1850 alteration provided a new north wall in the bedroom, and a closet space under the stair. This north wall is a vertical-board wall, painted and featuring a quarter-inch bead along the edge of each board. The closet door at the west end of the north wall is a board-and-batten door with butt hinges. North-wall paint samples do not show the early blue layer found on the original wainscot, window casing, doorway casing 107/105, and door 105/107. (See Chapter V, Section A.)

Questions do remain about the date of doorway casing 107/105 and the west-window casing. Doorway casing 107/105 is a 3-3/8-inch flat casing, mitered and beaded with a quarter-inch bead on the inside edge. This work suggests a later date (c. 1850) than the c. 1800-1820 date indicated by paint analysis. (See Chapter V, Section A.) Paint analysis also confirms a relationship between the window casing and other elements. This casing is similar to doorway casing 108/105, and has been dated stylistically to c. 1790 (Category D in Chapter V, Section B). However, it is unlikely that the ell was built before c. 1800. The ell could not have been built before

the final, fifth bay was added; it may have been constructed as late as 1820. Therefore, the west-window molding in the Ell Bedroom seems to have been reused. Perhaps it came from a window in the west wall of the small West Front Room during the three-quarter-house period — a window which was lost when the room was enlarged. The sliding interior shutter of the Ell Bedroom's window matches the c.-1820 shutters found in the present West Front Room, which probably represent an alteration.

The window-sash muntin matches other sash found in the West Front Room 108 and the East Kitchen 104. The profile suggests a c.-1840, Greek Revival style, and may be regarded as replacement sash.

Wainscoting, baseboards, window and doorway casings, and the vertical board wall are painted. The original elements (described above) have a possible eight layers of lead-based paint. The chromochronology of original blue color, followed by gray-whites, creams, and white is close to the chromochronology found in the West Front Room 108. The south, east, and west walls are presently papered with a floral paper of 20th-century date.

West Front Room 108

When the original half-house was first expanded by one bay between 1750 and 1800, a small (6-foot-wide) room apparently was created west of the central chimney mass (Ill. 9). Stair ghosts, described in the section on the East Kitchen 104, indicate that the northeast corner of this little room was partitioned off for a secondary stair to the attic, which was accessed from the enlarged East Kitchen. As mentioned in the discussion of the Ell Bedroom 107, there probably was one window in the west wall, as well as a window in the south wall that still remains. There was also a fireplace about the same size as the present one, but located a few feet southeast of the current one. (Compare Illustrations 9 and 10.) This room probably was used as a bedroom.

The only trim element that may possibly remain from this interim period is doorway casing 108/105. Stylistic analysis has determined it — and the Ell Bedroom's window casing — to be c. 1790 in date (Category D). This is a little earlier than the date assigned to the majority of moldings found in the West Kitchen and the West Front Room (Category E), which presumably date to the addition of the final bay c. 1800. However, this casing is found around a doorway that was not created until the final bay was built. (The earlier doorway linking the enlarged East Kitchen with the small West Front Room in the three-quarter house was blocked up when the West Kitchen was created c. 1800, and its fireplace was erected.) It thus would seem that the casing was saved and reused when the three-quarter house was expanded.

This meshes with the presence of a similar casing around the Ell Bedroom's west window, already mentioned. It is certain that the ell was not built before the final bay was added, which has been dated to c. 1800. Therefore, the c.-1790 window casing in the Ell Bedroom had to have been brought in from somewhere else — probably a west window in the three-quarter house's East Kitchen or West Front Room. If the latter location can be confirmed, this would suggest that the ell and the fifth bay were contemporaneous.

The West Front Room reached its present size (Ills. 71-72) when the final, fifth bay was added. The large number of trim elements that have been stylistically dated to c. 1800 (Category E in Chapter V, Section B) in both the West Kitchen and the West Front Room suggest that this was done c. 1800. It may even have occurred as late as 1805, when the house was sold to Thomas Atwood. The walls of vertical-plank construction (Chapter V, Section D) and the use of roof purlins reinforce a pre-1820 date. Interior exposure of framing members is considerably less than in the c.-1730 portion of the house. No bridging summer beam is used, as is found in the East Front Room 101.

The architectural elements in the West Front Room 108 that indicate a general construction date of c. 1800 include:

- the east-wall fireplace, with its transitional-period detail of both paneling and a mantelpiece. The mantelpiece of pilasters and a classical entablature is flanked by two recessed vertical panels on the north and a cupboard on the south. Above the mantelpiece is a recessed horizontal panel. The integral molding on the rails and stiles of the panel areas is similar to the molding of the West Kitchen 105 fireplace.

- boards seven-eighths of an inch thick, running around the room at ceiling level to simulate the appearance of cased girts. These boards are trimmed with a molded cornice piece.

- the southwest corner post, cased to measure 2-3/8 by 3-3/8 inches in size.

- the plaster of the north, south, and west walls, as well as these walls' painted wainscot, with baseboard and a cap functioning as the window sill.

- the two doors to the West Kitchen 105 and the Entry 109. These have recessed panels with integral moldings on the West Front Room side and raised, edge-beaded panels facing Rooms 105 and 109. Their butt hinges are the same age, but their Norfolk thumb latches may be replacements.

- the muntins of the southeast window, and of the two doors of the built-in cupboard in the east wall. The upper door features 20 lights and a horizontal stop at the height of the adjacent mantel shelf. The lower door has two vertical, recessed panels.

- the random-width floorboards, laid in a north-south direction and painted.

Another group of moldings found in the West Front Room present a difficult dating problem. They consist of both circular and elliptical shapes, executed with finer detail on a smaller scale than the other moldings in the room. (See Chapter V, Section B, "Category F.") They thus would appear to date from a c.-1820 remodeling. However, paint analysis does not support this distinction: all woodwork revealed similar chromochronologies, with an initial finish color of blue. The most that can be said at this point is that the West Front Room probably was redecorated c. 1820. Elements in this group include:

- three window casings, which have double architrave moldings of both circular and elliptical shapes. Casings are revealed out beyond the plaster 1 to 1-1/2 inches. Shutters, integral to the casings, are mortised and tenoned, with a quarter-inch scored bead on rails and stiles, and a fielded panel. The bottom sash is raised 2-1/2 inches from the sill.

- doorway casing 108/109 and that of the east-wall cupboard, which match the window-casing molding. The doors at these openings (described above) date to the c.-1800 period.

The muntins of the west and southwest windows' sash are the same as those used in the Ell Bedroom 107, and for the northwest window of the East Kitchen 104. As mentioned, its profile suggests a c.-1840, Greek Revival style, and so it may be regarded as replacement sash.

The wooden floor is important because it retains its 14 to 15 layers of dark yellow paint. (See Chapter V, Section A.) No other such evidence exists on the first floor.

The wallpaper on three walls of this room was installed sometime after George K. Higgins wrote his diary, but before the National Park Service acquired the property. Higgins' journal describes the wallpaper here at that time as an "old" paper obtained by Captain and Mrs. Atwood.[22] Thomas Atwood, Jr., described as a "Mariner" in an 1825 deed[23] and having died in 1873, is probably the "Captain" referred to by Higgins. Photographs of this paper, however, do not correspond with the present paper.

Entry 109

Little of the entry has survived from the c.-1730 original construction. The south chimney post, in the southeast corner, probably dates from this period, but its casing was applied c. 1800, according to paint evidence. This would have been a little later than when the part of the post visible in the adjacent East Front Room was cased, c. 1775-1790. This could explain why the two areas of casing are of different sizes. The south-wall baseboard — 1 foot, 9 inches high — also appears to be original: it has about 17 layers of paint upon it, compared to the 9 to 12 layers found on c.-1800 elements, and it does not show the first blue-green layer seen on those elements.

West and east walls consist of three vertical boards framing the respective door openings. Both walls probably date to the installation of their contiguous fireplace walls in the East and West Front Rooms 101 and 108, i.e., c. 1775-1800.

The south wall contains the exterior doorway at the east end and a plaster wall at the west end. The exterior doorway is framed with a 7-1/2-inch wide plank on the west and a 4-1/4-inch-wide plank on the east. There is a five-light transom above the door, with c.-1800 muntins. The door itself is hard to date. Stylistically, it appears to postdate 1850, with its six raised and beveled panels on the interior, and recessed panels with applied moldings on the exterior. However, it displays the gray-white primer and initial blue-green finish layer that has been associated with the c.-1800

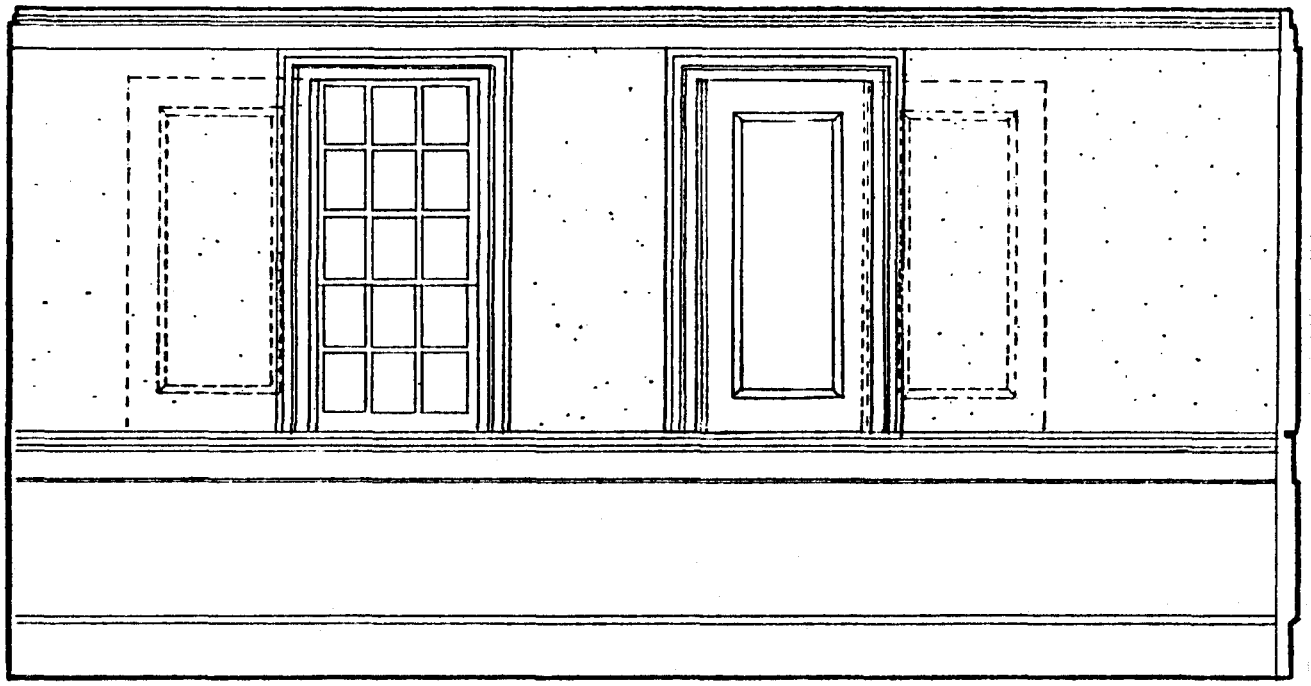


Illustration 71. Atwood-Higgins House: West Front Room, South Wall.

Illustration 72. Atwood-Higgins House: West Front Room, East Wall.

construction of the fifth bay. The door has been edge-banded on the butt-hinge side — another indication of age. The plaster of the south wall is covered with a wallpaper in a pictorial vignette pattern.

The north wall of Entry 109 evinces many changes. The door to the south attic stair dates from c. 1730 — it matches door 104/103 — although it has been edge-banded to form a larger door. Paint analysis indicates that the door was initially painted red; it was edge-banded c. 1800, and painted blue-green. This indicates either the reuse of an old door brought from another, smaller location, or the widening of the south-stair doorway at that time.

A board-and-batten door in the north wall leads to a closet; it hangs on a flat, mitered, beaded casing. There is a door at the rear (north end) of the closet, leading to the void behind the chimney mass. Paint analysis of the closet door and the adjacent west wall of the staircase supports a later date for this work — probably c. 1850. (See Chapter V, section A.)

South Stair

This stair (Ill. 73) consists of a straight run of steps ascending to the north. It is reached via the c.-1730 door described above. East and west walls are of vertical boards. All surfaces are painted. The east wall has an initial, early layer of red paint. As will be explained in Chapter V, Section A, "South Stair," this paint probably dates from c. 1775-1790. This suggests that the east wall of the stair was built when the fireplace in the East Front Room 101 was rebuilt, c. 1775-1790. The west wall does not show the early red layer, and seems to date — like the adjacent entry closet — to c. 1850. (See Chapter V, Section A.)

Attic

The attic (Ill. 74) consists of the area under the gable roof of the five-bay house and ell. Access to this open-rafter, unfinished space is from two stairs, one from Entry 109, and one in the ell, ascending from the West Kitchen 105. There is a finished bedroom in the east end; one window in the west wall of the main house and one window in the west wall of the ell; and a chimney with separate flues joining at this level. Floorboards are shiplapped and laid in an east-west direction. The structural system is described in Section B of this chapter.

Attic Bedroom

This finished room occupies the east end of the attic. Its present condition, both in form and detail, dates from 1920, when George K. Higgins combined two smaller rooms by removing an east-west partition, "raising the floor of the dark unventilated room three inches and the usual plaster work and paint work."[24] All plaster, wallpaper, and woodwork appears to date to this work of 1920. The door, however, matches the c. 1800-1820 doors 105/107 and Attic/105.

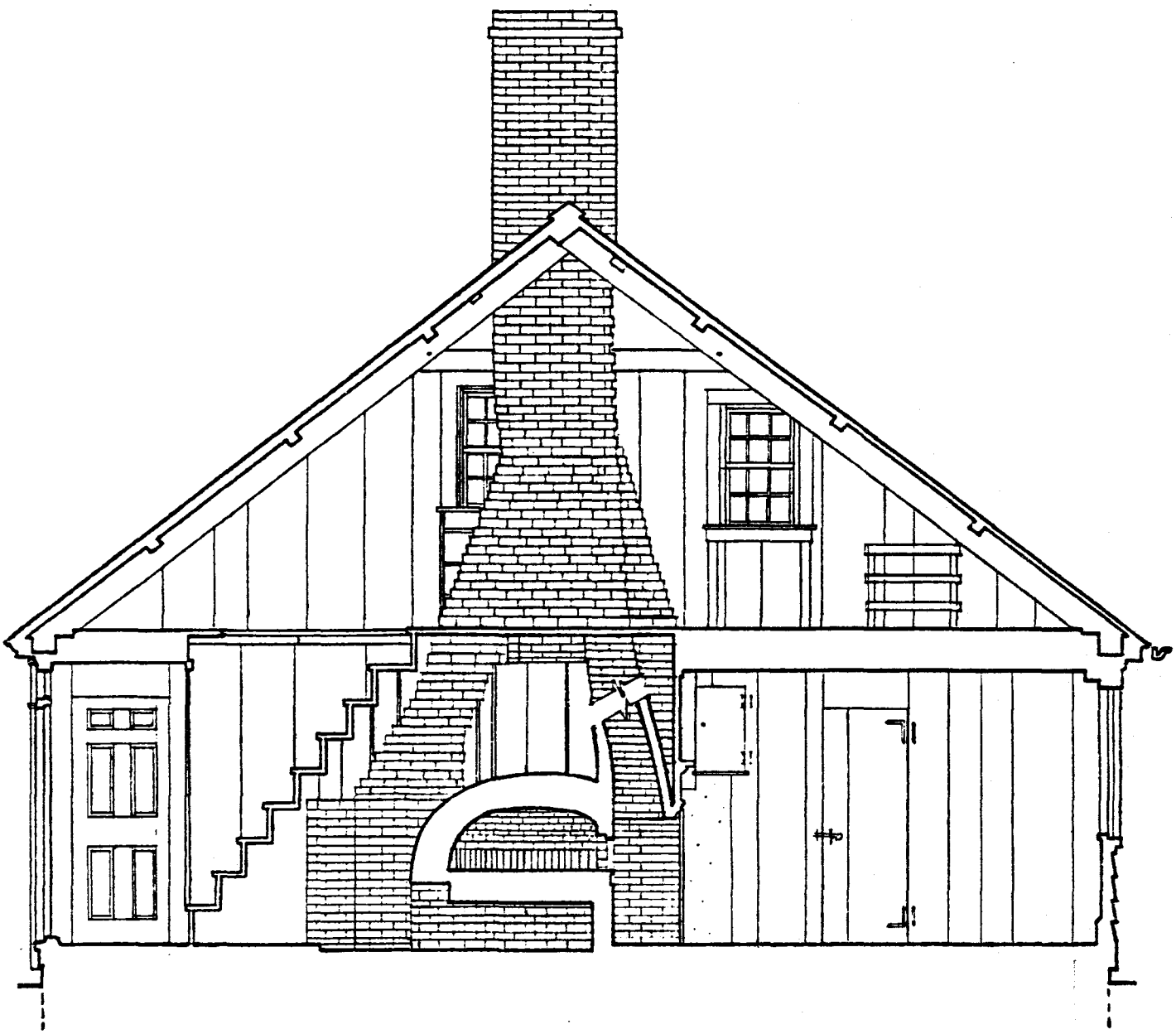


Illustration 73. Atwood-Higgins House: Transverse Section, South Attic Stair and East Kitchen.

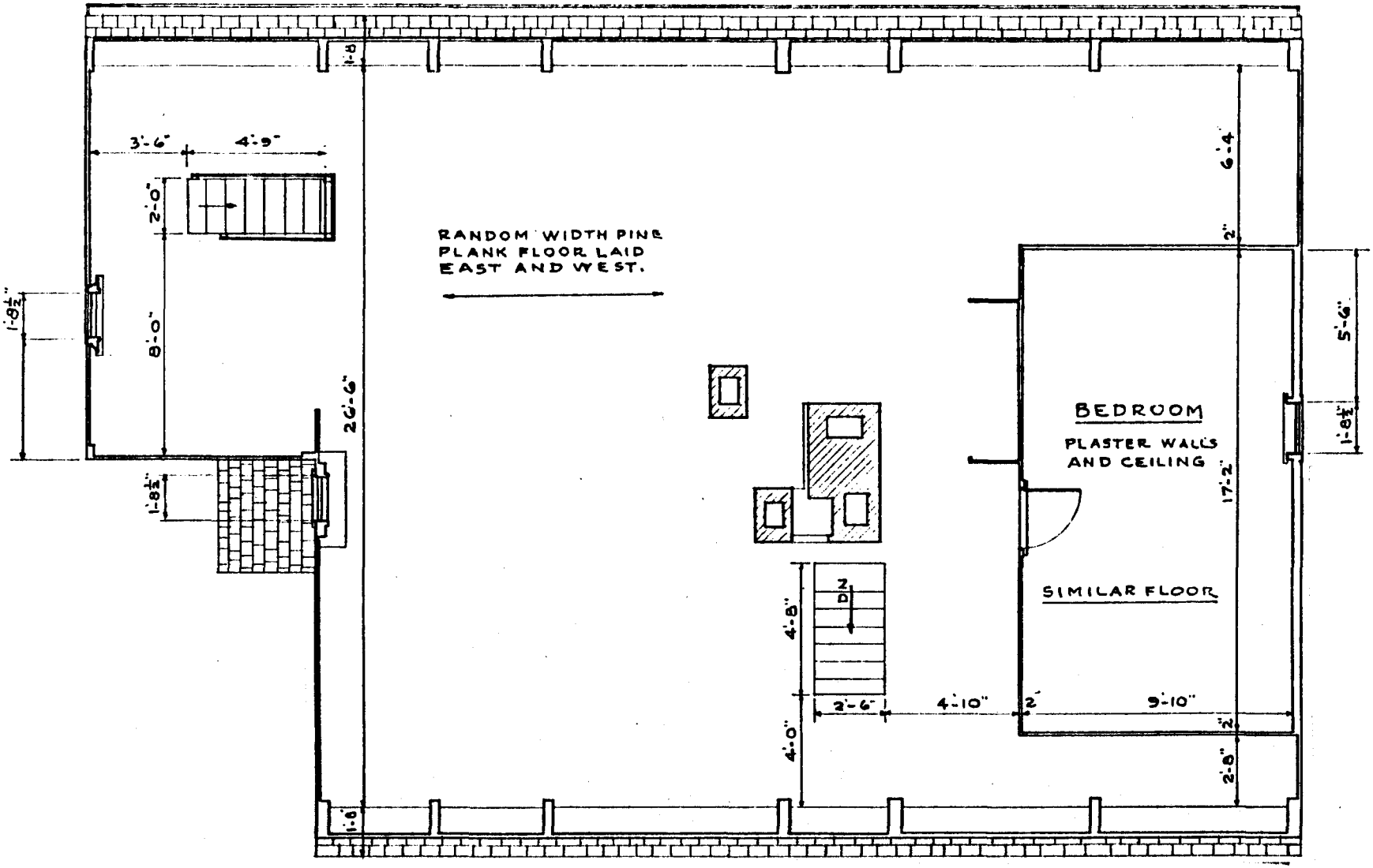


Illustration 74. Atwood-Higgins House: Plan of Attic Floor.

12" 0' 5' 10'
SCALE IN FEET

NOTES

1. Abbott Lowell Cummings, The Framed Houses of Massachusetts Bay, 1625-1725, p. 28.

2. Barnstable Registry of Probate, Book 13, pp. 525-26.

3. George K. Higgins' journal, p. 95.

4. Richard M. Candee, "A Documentary History of Plymouth Colony Architecture," Old-Time New England, LIX, No. 3 (Winter 1969); Cummings, Framed Houses, p. 33; and the Barnstable Registry of Probate (researched only partially).

5. Barnstable Registry of Probate, Book 13, pp. 525-26.

6. Higgins' journal, p. 39. Existing paper was removed, the walls were sized, and the present paper hung.

7. Cummings, Framed Houses, pp. 216-32 .

8. Barnstable Registry of Probate, Book 13, pp. 525-26.

9. Cummings, Framed Houses, p. 28.

10. Higgins' journal, pp. 72-74.

11. Barnstable Registry of Probate, Book 13, pp. 525-26.

12. Candee, "A Documentary History," p. 109.

13. Cummings, Framed Houses, p. 32.

14. Examples of similar secondary stair access to the second floor from the kitchen include the Atwood House, Chatham, MA, and the Justin Williams House, Welfleet, MA.

15. Higgins' journal, pp. 72-74.

16. Ibid., p. 74

17. Ibid., p. 119.

18. Ibid., p. 39.

19. Ibid.

20. Ibid., p. 119.

21. Ibid., p. 98.

22. Higgins' journal, p. 39.

23. Wellfleet Book of Deeds #2, Barnstable County Registry of Deeds, p. 290.

24. Higgins' journal, p. 41.

D. Outbuildings Description

The relationship of these buildings to the main house can be seen in Illustrations 75 and 76.

Woodshed

This building was part of the property acquired by George K. Higgins in 1919. Its construction date is not known.

This 1-1/2-story structure with a gable roof is located northeast of the main house. Exposed vertical-board sheathing was covered in 1920 with reused shingles from the main house's roof. A dirt floor was finished with "plank flooring laid about a foot above grade level," and a scaffold and wall ladder were built, also in 1920.[1] Additional alterations included: opening up the west wall with a sliding exterior door; adding an open-faced woodshed on the north (1923); and adding a laundry and bathrooms on the east in 1938. This later addition required that the east slope of the roof be raised and extended. A septic tank was installed northeast of the shed. In 1948, a concrete base was built for a new washing machine. In 1953, a new electric hot-water heater was installed to replace a gas hot-water heater, which in turn was replaced in 1966. In 1961, the bathroom floor was relaid, a new toilet installed, and a gas refrigerator from the main house's "pantry" was moved to the woodshed as an auxiliary.

The journal of George K. Higgins also notes that the trim was painted "Pittsburgh Barnhide Red" in 1951, 1956, and 1965; and that the woodshed was reshingled in 1958, with boiled linseed oil being applied that same year, and again in 1961 and 1964. Repairs were made in 1965. The journal page references are 42, 57, 93, 95, 115, 132, 144, 151, 155, and 168, with photographs on 43, 44, and 56. A floor plan is located on page 10 of the Development Concept Plan.

Barn

The barn was built between 1924 and 1925 by George K. Higgins. He designed it to be similar "to his great-grandfather's barn which had stood only slightly to the north and west of the present site."[2] The present site is approximately 220 feet northeast of the main house, on the north side of what used to be the "Old Town Road."

Reused lumber was used in the construction. Additions were built in 1927 and 1928. In 1931, a tool and work room was remodeled for use as a sleeping room for the summer hired hand. The barn was wired for electricity, and the south side reshingled in 1951. The main doors were rebuilt in 1955. The south side of the roof received boiled linseed oil applications in 1951, 1952, 1953, 1956, 1960, and 1964; the north side in 1954, 1956, 1960, and 1964. New shingles were put on in 1958, and repairs done in 1953 and 1964. The trim was painted "Pittsburgh Barnhide Red" in 1951, 1955, 1956, and 1964.

The journal, written by Higgins in 1950, includes the above information in greater detail, on pages 57, 60, 63, 64, 65, 70, 72, 84, 85, 130-32, 140, 145, 148-152, 155, 162, and 165, with photographs on 62, 66, 69, and 71. A floor plan is located on page 10 of the Development Concept Plan.

Guest House

This building is located southeast of the barn, north of the "Old Town Road." George K. Higgins built it in 1929 to provide accommodations for guests, and to prove that an old house could be successfully reproduced. Although some interior details and hardware may have been accurately copied, no attempt was made to reproduce the traditional Cape Cod style of architecture in form or massing.

An additional room and a bathroom were added in 1951. A partial cellar was also added to house a new heating system, and electrical wiring was done at the same time. A "pullman" kitchen was constructed in 1952 on the southwest corner. Exterior trim was painted "Pittsburgh Barnhide Red" in 1951, 1955, 1956, and 1965. A cellar window, shutters, and repairs were made between 1955 and 1956. The shingles of the roof were oiled in 1955; replaced and oiled in 1958; and oiled in 1960 and 1964.

The journal references may be found on pages 74, 76-78, 80, 123, 125, 126, 128, 130-33, 138-140, 149-151, 155, 165, and 168, with a photograph on page 77. A floor plan is located on page 10 of the Development Concept Plan.

Store

This building is located southwest of the barn, immediately north of the "Old Town Road." This structure was the last to be added to the site, between 1946 and 1947. The construction of this "Old New England Store, Post Office, and Study" was an attempt to re-create a store visited by George Higgins as a boy in Vermont. This re-creation was apparently never intended to function as a store or a post office, but to provide a type of museum setting.

An electric cable was laid from the woodshed to the store in 1948, with a bar and refrigerator installed in 1949. Changes were made in the "Dry Goods Department" in 1958. Linseed-oil applications were made in 1950, 1951, 1953, and 1954. Exterior trim was painted "Pittsburgh Barnhide Red" in 1951, 1954, 1956, and 1964.

The Higgins journal references include pages 107, 108, 110, 111, 115, 117, 119, 124, 131, 132, 140, 145, 149-151, 154, 155, 161, 165, and 168, with a photograph on page 112. A floor plan is located on page 10 of the Development Concept Plan.

Summer House

A summer house was built in 1936 by Mr. Lovesy of Dorchester and brought to the island. It was rebuilt in 1960. The location of this structure is southwest of the main house, on a hill originally overlooking a meadow.

Higgins' journal references include pages 91, 123, 131, 147, 161, and 168.

Garage

A three-bay garage was built by George K. Higgins in 1929, approximately 180 feet northwest of the main house. The journal reference is on page 78, with a photograph on page 75.

Privies

There are three wood-frame and shingled privies. One is located immediately west of the main house; one is approximately 140 feet northwest of the barn; and one is southeast of the guest house. This last privy was brought to the site by one of Higgins' local workmen, David Curran, in 1930. [3]

NOTES

1. George K. Higgins' journal, p. 43.
2. Ibid., p. 57.
3. Ibid., p. 80.

E. Utilities Description

Water

Main House. The sole plumbing fixture in the house is a porcelain sink in the East Kitchen 104, installed in 1921 as a replacement for a dry sink. Water for the house was supplied by a pump located on the downhill side of the woodshed until October 1922, when a new pump was driven immediately north of the house. A well housing was completed in April 1923.

In 1931, new waterworks were created to include an engine house (at the bottom of the hill, above creek level), a well, a one-horse gasoline engine, a "Buck Eye Pump," and lawn outlets near the woodshed and guest house. A 1,500-gallon brick reservoir was built below grade northeast of the garage. An electrically driven engine and pump replaced the 1931 pump in 1952. A hose connection for the front (south) lawn was added in 1948.

References: Higgins' journal, pages 47, 51, 55, 85, 87, 115, and 139. A copy of a "Plan of Original Water Works Laid in 1932 and Additions 1947" is Illustration 75.

Woodshed. A bathroom and laundry facilities were added in 1938. A washing machine was installed in 1948. A 1953 electric hot-water heater replaced the 1938 hot-water boiler; it in turn was replaced in 1966.

References: Higgins' journal, pages 93, 115, 144, and 168.

Guest House. In 1951, a "jet well" was driven in the basement for a separate water system. A new bathroom was also built at this time.

References: Higgins' journal, page 126. Electric water heater: Rutenber Electric Co., Marion, Indiana, Model No. 230.2/Serial No. B850-5089 RUBZ-O; upper and lower elements: 1,000 watts, 230 volts AC, 30 gals.

Country Store. The sink and bar were connected to the guest house lawn outlet in 1947. Reference: Higgins' journal, page 113.

Barn. A pump was driven in 1925 by Mr. Ryder. A "cucumber" pump was installed by G.K. Higgins in 1933. A hollowed-log watering trough (built by Augustus Philbrook of Shelburne, New Hampshire, 1942) was installed in 1944 and connected to the guest house lawn outlet in 1947.

References: Higgins' journal, pages 63, 88, 102, 105, and 113.

Sewage

An "oak hogshead" was sunk 6 inches below grade level in 1921, to act as a catch basin for the sink in the East Kitchen 104. A cesspool was built southeast of the woodshed in 1925. A septic tank with manhole cover was installed in 1938 northeast of the woodshed, to serve newly added bathroom and laundry facilities.

References: Higgins' journal, pages 47, 64, and 95.

Electricity

An agreement dated November 13, 1947, between George K. Higgins, Gardner P. Jencks, and John Hughes Hall concerns the introduction of electric and telephone service on Bound Brook Island and related aesthetic controls. Trenches were dug to the woodshed and main house.

Main House. This was wired in July 1947 by electrician Thomas Murray. G.K. Higgins writes in his journal, "Rising directly from the cellar and distributing itself from the attic downward the wiring is mostly lost. Single partitions of feather board did not make things any easier." The fuse cabinet is located in the Circular Cellar.

The electrical system consists of the following:

Room	Location - Equipment
East Front Room 101	North wall - duplex receptacle East wall - duplex receptacle South wall - duplex receptacle West wall - exposed conduit and switch box within cupboard
East Bedroom 102	North wall - duplex receptacle
East Buttery 103	North wall - exposed conduit and box under shelf South wall - exposed conduit leading to Room 102
East Kitchen 104	West wall - receptacle box attached to plank wall; wall-mounted fixture North wall - duplex receptacle within post casing; fixture mounted on post
West Kitchen 105	North wall - duplex receptacle Ceiling-mounted fixture
West Buttery 106	South wall - switch West wall - duplex receptacle

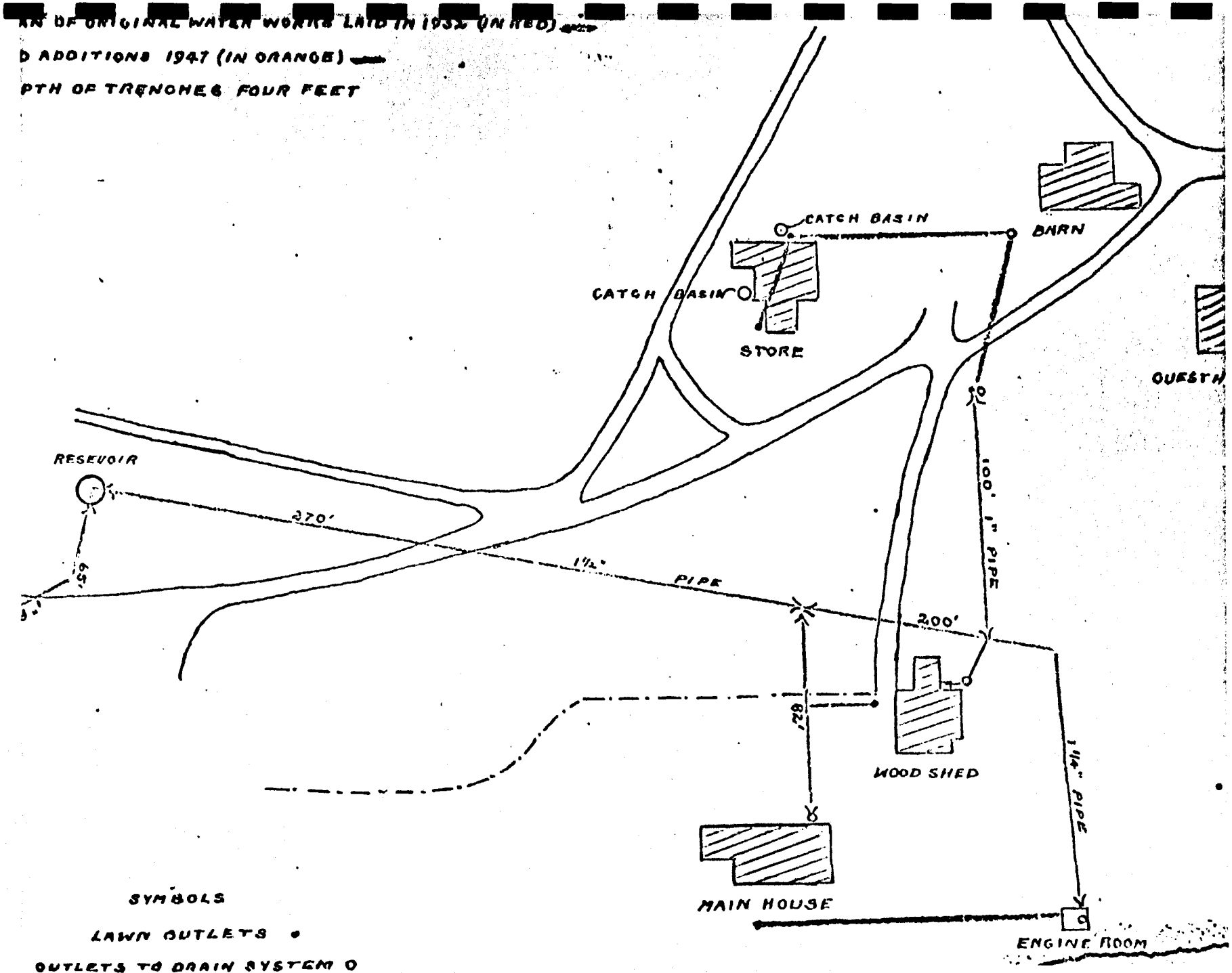


Illustration 75. Atwood-Higgins House: Plan of First Water System.

Ell Bedroom 107	West wall - duplex receptacle
West Front Room 108	West wall - duplex receptacle
Attic	South stair - switch Attic bedroom - duplex receptacle

All kerosene lamps in the main house were adapted for electricity in 1948.

References: Higgins' journal, page 111. A copy of a plan titled, "Details Underground Cable and Wiring for Electricity" is Illustration 76.

Woodshed. Electrical service was extended here in 1947. An outlet for a refrigerator was added in 1948. The gas hot-water boiler was replaced in 1953 by an electric hot-water heater.

References: Higgins' journal, pages 111, 115, and 144.

Guest House. Connections were made to the guest house from the store (by way of the barn) in 1951. Equipment existing in the present basement includes:

Bryant[2] Circuit Breaker Box (for "Pump")
BR 215 Type BR, CU 10-14, AL 8-12

Square D Fuse Cabinet Cat. No. 39411
30 Amps, 125-250 Volts, 4 Circuits:
1. Plug on Panel Htg.
2. Heater Plug
3. Refrigerator
4. South wall

Arrow-Hart & Hegeman Electric Co., Hartford, Conn.
(for water heater)
Cat. No. 27004, 30 Amps, 250 Volts, 2 poles

Federal Noark, Federal Electric Products Co., Newark, N.J.
Cat. No. 264,
1. Alarm
2. Plug East Wall Iron Clg.

References: Higgins' journal, page 126.

Store. A cable was laid between the woodshed and the store in 1948 (Higgins' journal, page 115).

Barn. Electricity was introduced in 1951 (Higgins' journal, page 126).

Garage. No electrical service exists here.

An electric outdoor lamppost was connected in 1949 (Higgins' journal, page 119).

Heating System

The guest house is the only structure with a mechanical heating system. The furnace is by Williamson, "Flo-Warm," Model 933-0813, the Williamson Heater Co., Cincinnati, Ohio. The main house has four fireplaces and the guest house has one fireplace. All other buildings lack a heat source.

Gas

Main House and Woodshed. Bottled gas was installed in 1938; tanks were located along the north wall of the shed, and pipes were run to the East Kitchen 104 in a trench — boxed, insulated, and covered with concrete. The gas was used to operate a cooking stove and refrigerator in the main house, and a bathroom radiator and hot-water boiler in the laundry of the woodshed. This gas boiler was replaced by an electric hot-water heater in 1953.

References: Higgins' journal, pages 93 and 144.

Guest House. Two tanks are located in the outshelter; gas is piped to the furnace.

Store, Barn, and Garage. No gas here.

Telephone Service

Main House. In 1953, a cable was laid underground from the northeast corner of the engine room to the northeast corner of the main house, for telephone service.

Reference: Higgins' journal, page 144.

Guest House. Telephones exist in the living room, bedroom, and basement.

Store, Barn, and Garage. No telephones are installed here.

Protection System

Two sheets of Drawing #957-69205 (located in CACO file L30 Atwood-Higgins Alarm System), dated 3/24/69, detail an electronic audio-detection system, "Detect-alarm," manufactured by Alarmtronics Engineering Inc., and installed in the main house during the summer of 1970 by General Telecom Corporation, 1368 Beacon Street, Brookline, Massachusetts.

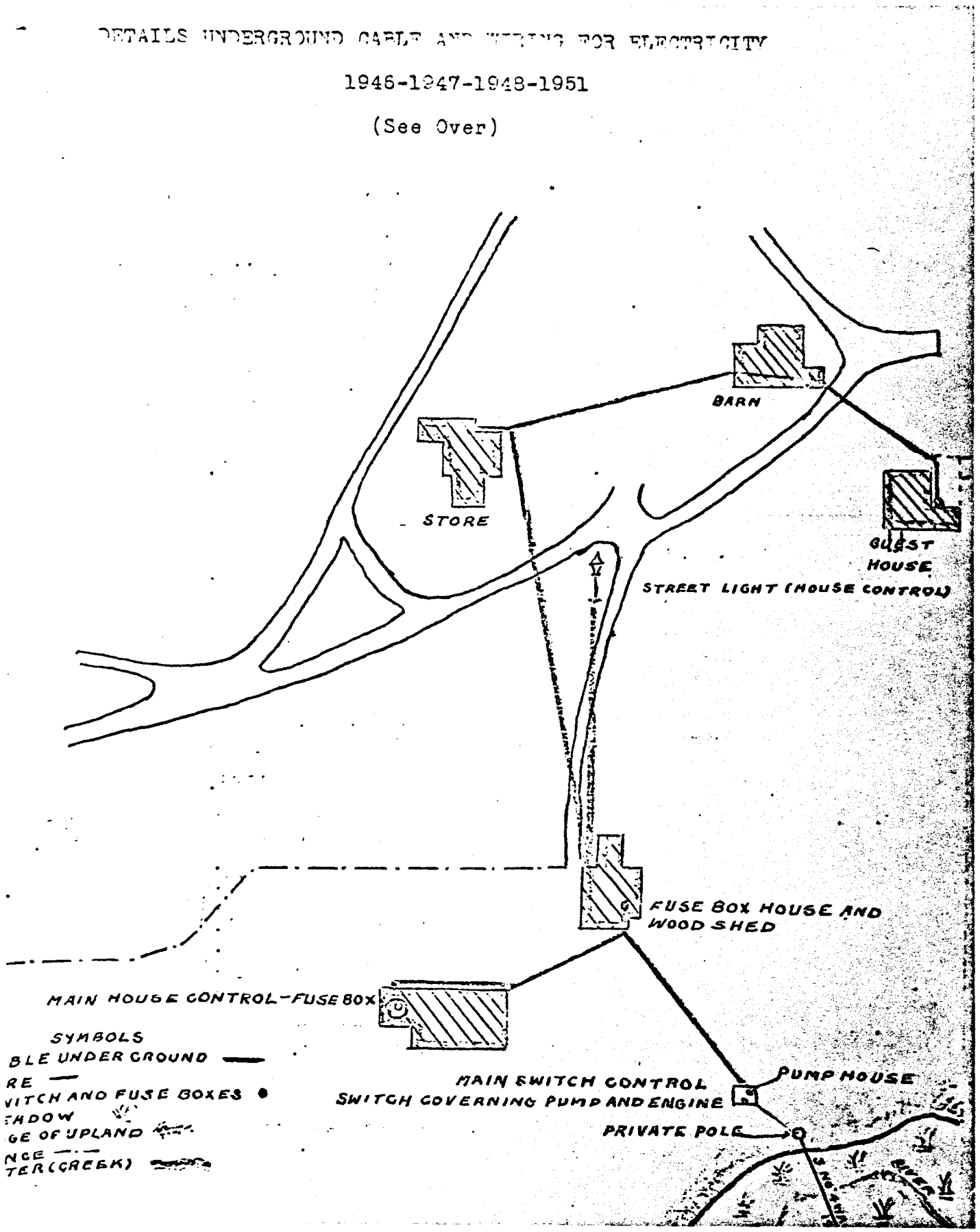


Illustration 76. Atwood-Higgins House: Plan of First Electrical Service.

An automatic electrical-mechanical installation was added to the main house and installed at the guest house and store in the fall of 1973 by Universal Alarms. Control is by key at the various entry doors.

An agreement between American District Telegraph Company and the Cape Cod National Seashore is dated 3/11/75, and authorizes the installation of an ADT-Company panel at the Wellfleet Police Department by Associated Alarm Systems, Inc., Route 28, Box 759, Hyannis 02601. The connection of the Atwood-Higgins guest house to the Wellfleet Police Department is by a "24-Hr. Police Alarm" panel, Model 1006 Deluxe Series, by Ademco (Alarm Device Manufacturing Company).

V. ANALYTICAL DATA

A. Finishes Analysis

Sampling and Laboratory Analysis

Thirty exterior samples and eighty-one interior samples were taken from representative architectural elements. All samples were mounted in wax-filled petri dishes and cataloged as CACO 55 P001 through 111. Samples were studied under an American Optic 30X microscope. Sodium sulfide and hydrochloric acid were used to distinguish the character of individual paint layers. Sodium sulfide will cause lead-based paint to turn black, while hydrochloric acid will cause carbonate finishes to effervesce.

Representative samples were studied and photographed using a Bausch & Lomb Stereozoom microscope with a photographic attachment. The color slide film used was Kodak Ektachrome for tungsten light, ASA 160. The chromochronologies of these selected samples are referred to in this section.

Chromochronology Sheets

Sheets containing the chromochronology and a photomicrograph of the most representative samples are also included as part of this section. The numbers found in the upper right corner of the sheets correspond to the sample numbers described in the narrative. The number includes, in parentheses, the slide number from which the photograph was made. Some of the sheets include notations referring to physical characteristics and chemical testing. Many of the photomicrographs show black areas resulting from testing with sodium sulfide. The absence of notations for chemical testing means that the sample was not tested.

Existing Conditions

With the exception of the east side of weathered shingles, the roof, the brick foundation, and all trim, shingles, and clapboards are painted, and at the time of sampling appeared to show full sequencing.

Four of the five spaces within the c.-1730 east portion of the structure were extensively stripped of all paint between 1928 and 1938.[1] Three of the four rooms found in the later west portion retain their full paint sequences. Paint found on the attic level is attributed to George K. Higgins' alterations, which are documented in his journal. Specific conditions are described within each individual room study.

General Conclusions

General conclusions stemming from the analysis of individual elements include the following:

- the two earliest exterior paint layers were red and blue-green. The evidence for these colors is fragmentary, and is found on both east and west portions of the building. The red may possibly be a primer for a blue-green finish coat.

- except for whitewashes, almost no interior samples indicate elements from the c.-1730 period of construction.

- the use of red as an early interior layer appears to involve elements that date to the second half of the 18th century. These elements include the East Kitchen 104 fireplace wall, door Attic/109, the East Front Room 101 cupboard interior, the West Buttery 106 lower sash, and fragments on a previous stair wall behind the East Kitchen 104 fireplace wall.

- blue was used extensively as the first interior finish coat in the parts of the house created by the second addition — the West Front Room 108 and the Ell Bedroom 107, and possibly in the West Kitchen 105 and the West Buttery 106.

- the base layer of blue on elements of the Entry 109 suggests that these are modifications that may have been simultaneous with the second west addition.

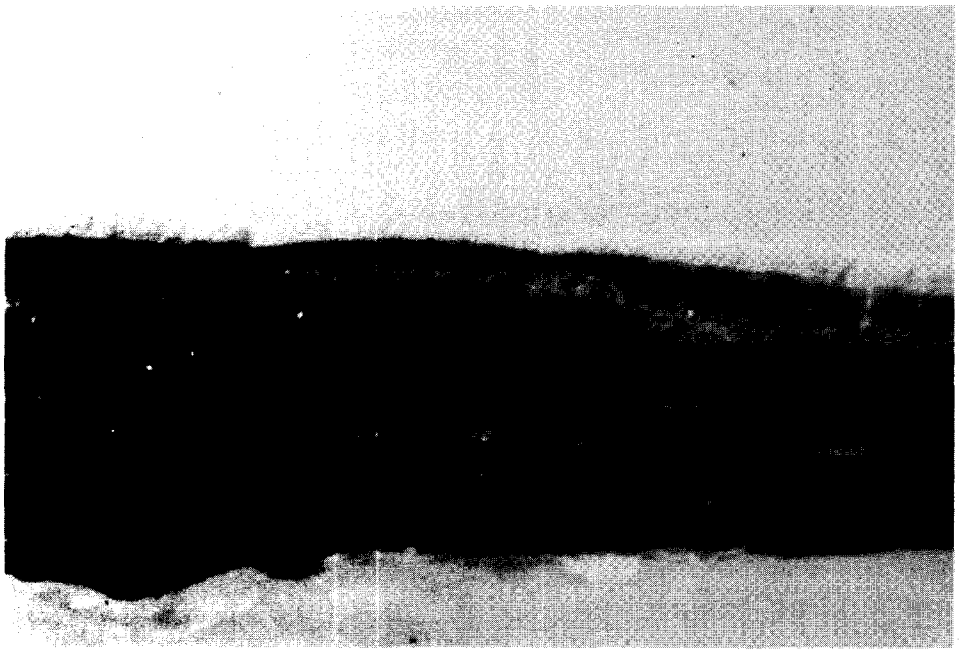
- similar chromochronologies for the north stair and parts of the south stair (west wall and adjacent closet), indicate that the north stair was built, and the south stair remodeled, at about the same time.

Exterior Walls

Condition. The house was painted a light tan color in the summer of 1979. Except for the east side of weathered shingles, all trim elements, shingles, and clapboards were painted this color. The color on the house prior to this was a similar color, put on by George K. Higgins in an attempt to reproduce the "old-fashioned mustard yellow color" remembered by his ancestors. [2]

Analysis. There are seven sheets from exterior samples 003, 100, 103, 104, 106, and 111 (Ills. 77-83). Sample 003 (Ill. 77) shows one of the infrequent remnants of early blue-green layering. Sample 100 (Ill. 78), instead of a cross-sectional view, is a flat sample, with its earliest layer of yellow being uppermost in the photograph. Sample 106 is the only exterior sample included here that shows the blackened-layer results of chemical testing for lead with sodium sulfide.

ATWOOD-HIGGINS HOUSE SAMPLE NO. CACO 55 P 003(11)



LOCATION: Exterior North Wall - East side shingles

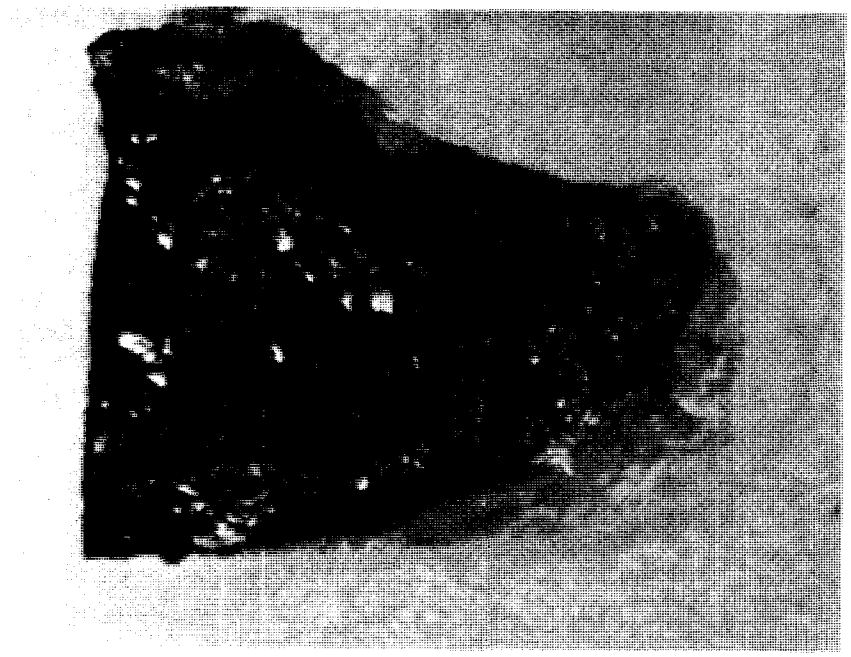
CHROMOCHRONOLOGY		COMMENTS
SUBSTRATE	Wood	
1	Red fragments	Not visible in photograph
2	Emerald Green	Varnish
3	Emerald Green	
4	Yellow	Primer
5	Light Tan	Selected restoration color
6	> Light Tan	
7	> Tan	
8	> Tan	Varnish
9	> Tan	Varnish
10	> Tan	Thin
11	Cream	
12	Cream	
13	Cream	
14		
15		
16		
17		

Illustration 77. Atwood-Higgins House: Exterior Paint Sample, North-Elevation Shingles.

LEGEND
- ● Layer turns black with Na_2S application
- X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

ATWOOD-HIGGINS HOUSE

SAMPLE NO. CACO 55 P 100(21)



LOCATION: Exterior South Wall - East side crown moulding

CHROMOCHRONOLOGY			COMMENTS
SUBSTRATE		Wood	
1	• >	Yellow	Primer
2	• >	Light Tan	Selected restoration color
3	•	Tan	
4	X	Cream	
5	X	Cream	
6		Cream	
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			

Illustration 78. Atwood-Higgins House: Exterior Paint Sample, South-Elevation Crown Molding.

LEGEND
- • Layer turns black with Na_2S application
- X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

ATWOOD-HIGGINS HOUSE

SAMPLE NO. CACO 55 P 103(22)

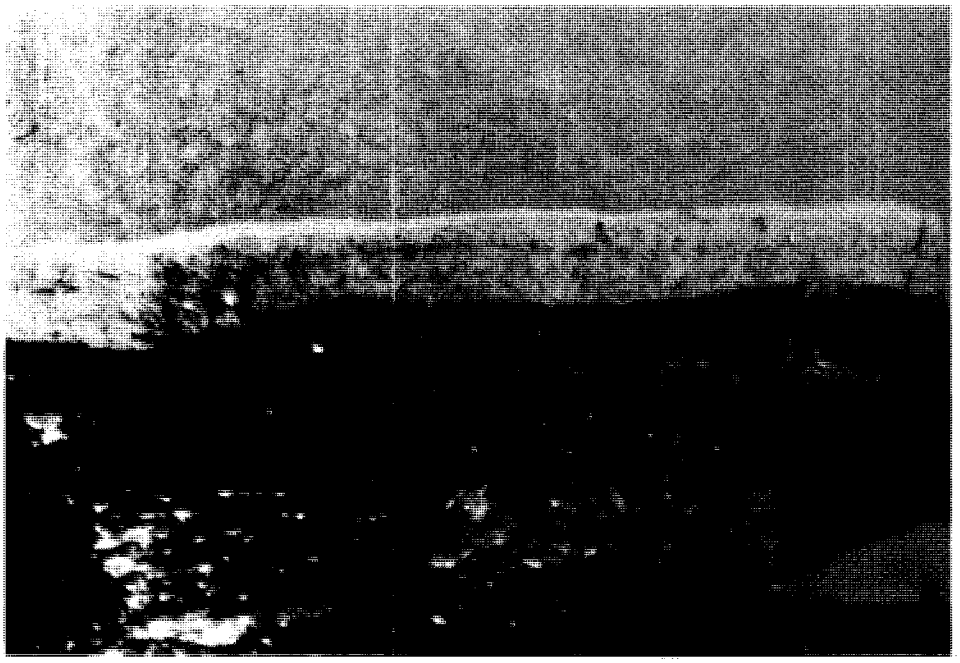
LOCATION: Exterior South Wall - West side lintel moulding

CHROMOCHRONOLOGY				COMMENTS
SUBSTRATE			Wood	
1	•		Lt. Green	Not visible in photograph
2	•		White	Not visible in photograph
3	•		Yellow	Primer
4	•	>	Lt. Tan	Selected restoration color
5	•		Lt. Tan	
6	•	>	Lt. Tan	
7	•		Tan	
8	•		Tan	Varnish
9	•		Tan	Varnish
10			Cream	
11			Cream	
12			Cream	
13				
14				
15				
16				
17				

Illustration 79. Atwood-Higgins House: Exterior Paint Sample, South-Elevation Lintel Molding.

LEGEND
- • Layer turns black with Na_2S application
- X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

ATWOOD-HIGGINS HOUSE SAMPLE NO. CACO 55 P 104(23)



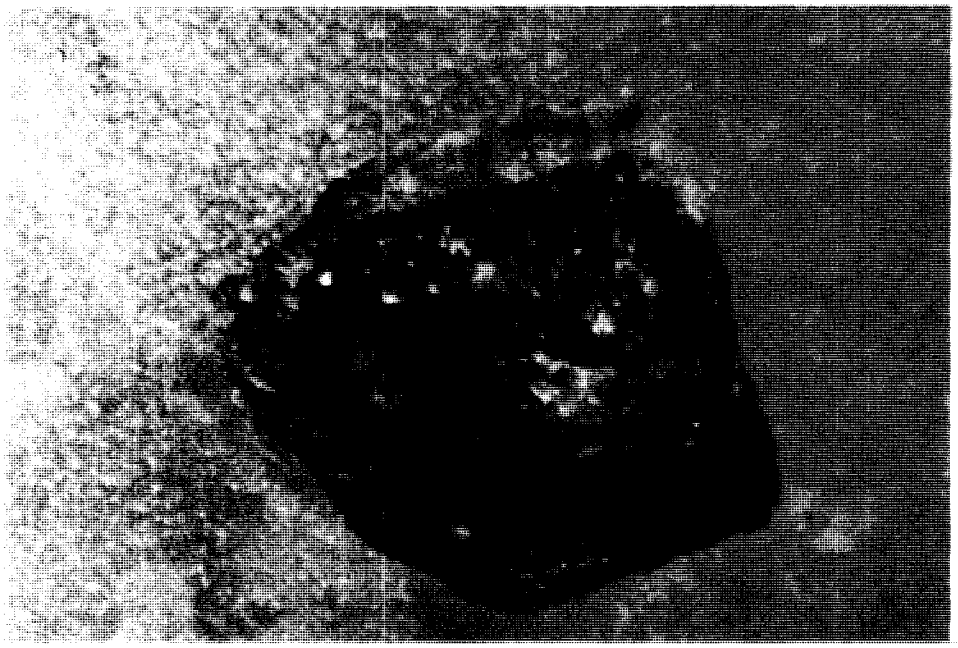
LOCATION: Exterior South Wall - West side corner trim

CHROMOCHRONOLOGY			COMMENTS
SUBSTRATE		Wood	
1	•	Yellow	Not visible in photograph
2	•	Lt. Tan	Selected restoration color
3	•	Lt. Tan	Varnish
4	•	Tan	Varnish
5	•	Tan	Varnish
6	•	Tan	
7	•	Tan	
8	X	Cream	
9	X	Cream	
10		Cream	
11			
12			
13			
14			
15			
16			
17			

Illustration 80. Atwood-Higgins House: Exterior Paint Sample, South-Elevation Corner Trim.

LEGEND
- • Layer turns black with Na_2S application
- X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

ATWOOD-HIGGINS HOUSE SAMPLE NO. CACO 55 P 106(24)



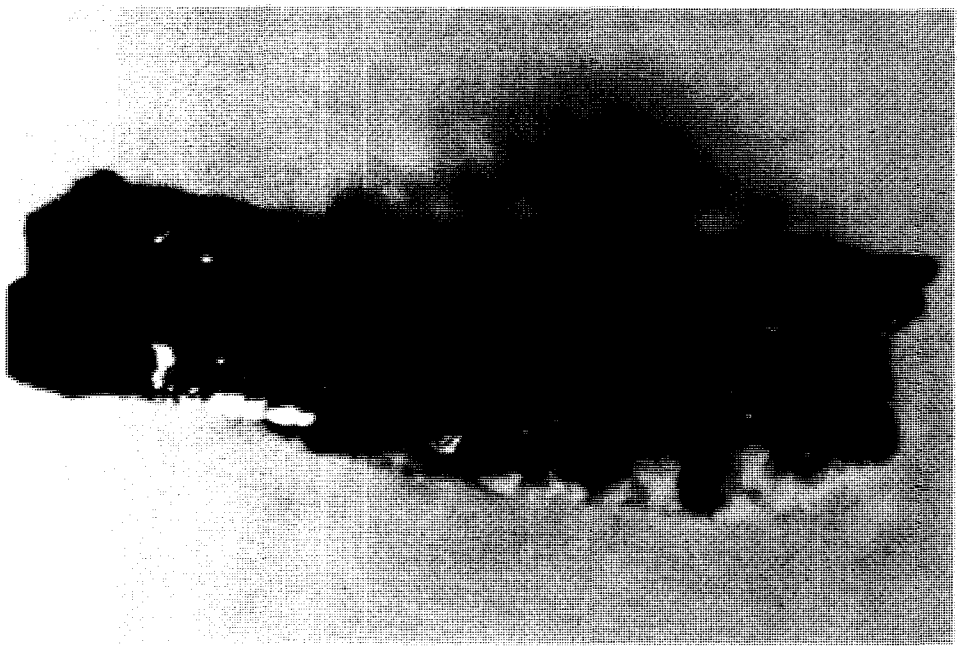
LOCATION: Exterior East Wall - North corner trim

CHROMOCHRONOLOGY			COMMENTS
SUBSTRATE		Wood	
1	•	Red	
2	•	Emerald Green	
3	•	Yellow	Primer
4	•	Lt. Tan	Selected restoration color
5	•	Lt. Tan	
6	•	Tan	
7	•	Tan	
8	•	Tan	
9	X	Cream	
10	X	Cream	
11		Cream	
12			
13			
14			
15			
16			
17			

Illustration 81. Atwood-Higgins House: Exterior Paint Sample, East-Elevation Corner Trim.

LEGEND
- • Layer turns black with Na_2S application
- X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

ATWOOD-HIGGINS HOUSE SAMPLE NO. CACO 55 P 111(08)



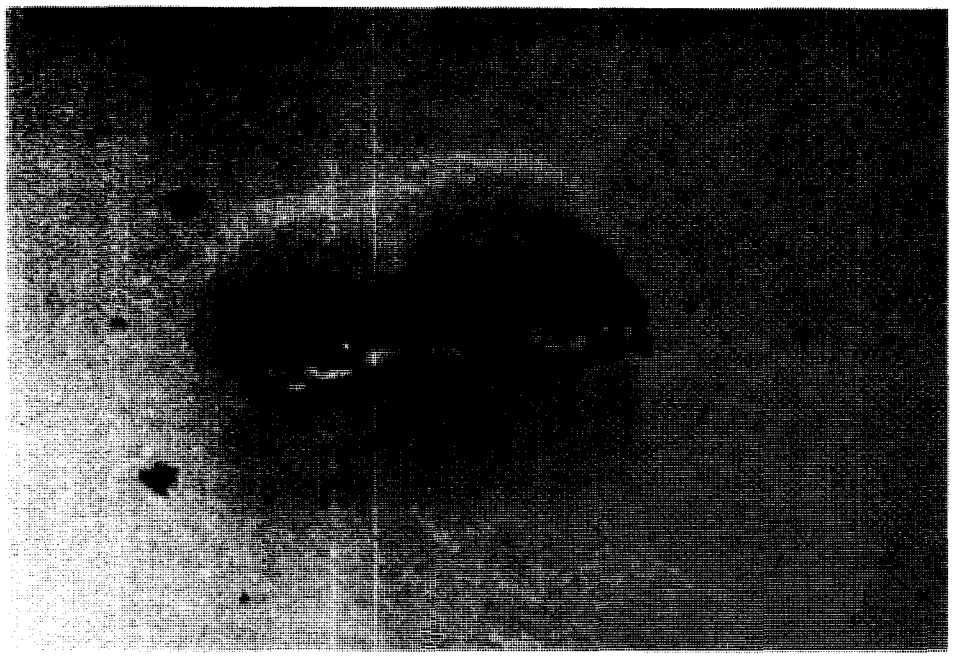
LOCATION: Exterior South Door

CHROMOCHRONOLOGY			COMMENTS
SUBSTRATE		Wood	
1	•	Cream	Primer: Varnish
2	•	Emerald Green	
3	•	Emerald Green	Varnish
4	• >	Forest Green	Varnish; selected restoration color
5	•	Forest Green	Varnish "
6	•	Forest Green	Varnish "
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			

Illustration 82. Atwood-Higgins House: Exterior Paint Sample, South-Elevation Door.

LEGEND
- • Layer turns black with Na_2S application
- X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

ATWOOD-HIGGINS HOUSE SAMPLE NO. CACO 55 P 111(35)



LOCATION: Exterior South Door

CHROMOCHRONOLOGY		COMMENTS
SUBSTRATE	Wood	
1	Cream	Primer; Varnish
2	Emerald Green	
3	Emerald Green	Varnish
4	Forest Green	Varnish; selected restoration color
5	Forest Green	Varnish "
6	Forest Green	Varnish "
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		

Illustration 83. Atwood-Higgins House: Exterior Paint Sample, South-Elevation Door.

LEGEND
- ● Layer turns black with Na_2S application
- X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

The incidence of early layers of red and blue-green appears to be random. Only 9 samples from a total of 21 show the early layers, and often only fragments of those layers. However, the nine samples came from all areas of the building — east half, west half, and ell.

After the early red and blue-green paint layers, all exterior samples share the same chromochronology, including yellow, light tans, tans, creams, and ivory. This evidence implies a similar age for many elements of the east, west, and ell portions of the house, although this is known not to be the case. It is possible that the earliest paint from the east half of the house weathered off before the west addition was added, and that the entire house was repainted. It is also possible that the original east portion was not painted.

The earliest red and blue-green layers are not referred to as layers no. 1 and 2, because of their infrequent appearance. The first layer, then, is the yellow above the red and blue-green, which is noted in all of the exterior samples. This layer was interpreted as a primer. The second layer, a light tan, was chosen as the historic color. Although this color does not represent the original, c.-1730 paint scheme, it does have the strongest and most consistent evidence; it was found on all parts of the house.

The light tan color may date to the late 18th century, and is believed to be the "old-fashioned mustard yellow color" that George K. Higgins had attempted to duplicate.

During the summer of 1979, the second, light tan layer of sample 100 was matched to Munsell no. 10YR 7/4 and Benjamin Moore no. CB-40 by Andrea M. Gilmore, Architectural Conservator, NAHPC. The exterior of the house was painted during the same summer by Scott Wall, Carpenter, CACO, under the direction of John Darcy, Exhibit Specialist, NAHPC.

Exterior Doors

Condition. There are four exterior doors. Three have the same uppermost green layer; the door leading to the Circular Cellar is painted tan, to match the exterior wall and trim color. There are three screen doors. One is unpainted and varnished, and two are painted white.

Analysis. All three doors from the south and two north doorways have two to three layers of forest green, covered with varnish, as their uppermost layers. Below these is a grassy green. The south door then has several creams, with the bottommost probably being a primer (samples 046, 058, and 111 — Ills. 78-79). The two north doors (samples 059 and 076) have several additional layers between the grassy green and their bottommost creams. These layers are salmon, another grassy green, and a lime green. All paint layers are lead-based.

The paint evidence does not particularly support the stylistic analysis of the doors. The south (front) door has an appropriate exterior sequence (about six layers) for its late 19th-century appearance, but its inner surface — as will be seen — has paint dated c. 1800. The exteriors of the north doors have about two more layers of paint than that of the south door, and so should be older. Yet the northeast door also looks to be late 19th-century, while the northwest door — with the same sequence — appears to date from c. 1800.

The south screen-door frame (sample 107) has 6 to 10 layers in the following sequence: light gray, red, white (lead-based), whites (somewhat lead-based), blue-gray, and whites. The decorative corner braces for this door have two layers: a base layer of lead-based royal blue and an uppermost layer of white (sample 108).

The frame of the northeast screen door has six to seven layers, beginning with possible yellow fragments, pale gray-green (lead-based), whites (lead-based), grassy green (two layers), white (gray reaction to sodium sulfide), and white. The corner-bracing sample (110) has 12 to 13 layers, including early lead-based white, chrome yellow, pale green, whites, followed by red, chrome yellow, pale yellow (lead-based), whites, royal blue, and white. Because of the many variations between the screen-door frame and its corner bracing, it is not possible to outline the relations between chromochronologies.

The three main doors, although seemingly from different periods, were all painted forest green for at least a major portion of George K. Higgins' residency in the house. Because the exterior body color selected for repainting was the "old-fashioned mustard yellow color" that Higgins was trying to replicate, it was thought that the door color also should be that used by Higgins. Therefore, the forest green layer was chosen for the 1979 repainting. Sample 046 was matched to Munsell no. 10GY 2/4 by Andrea M. Gilmore, Architectural Conservator, NAHPC, and applied to the three main doors. The cellar-entry door was painted the same light tan color as the exterior trim.

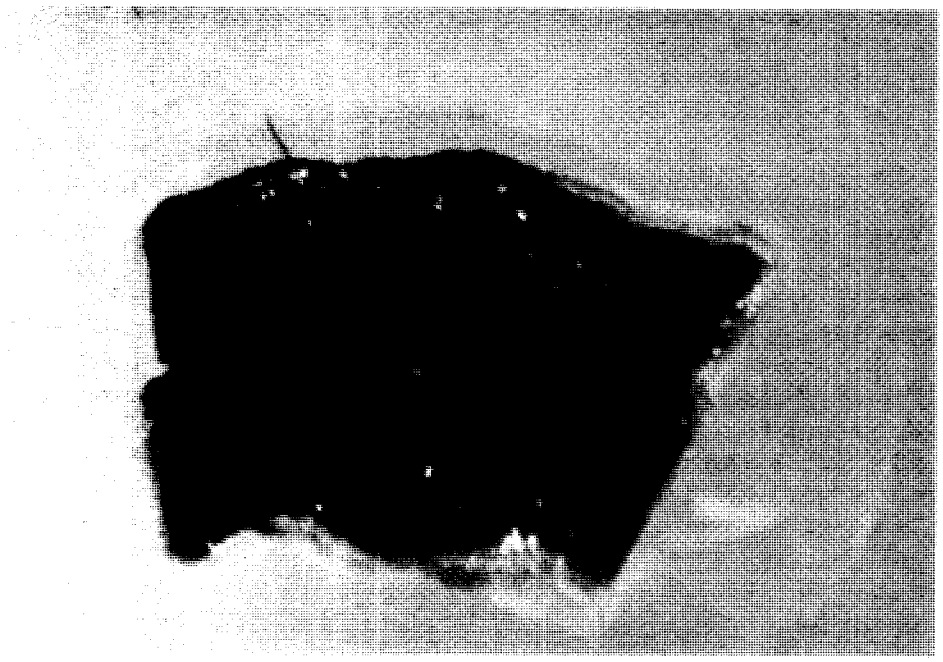
The evidence does not adequately support any scheme for painting the screen-door frames and braces different colors. Therefore, the two screen doors that are painted should be painted to match the uppermost white layer on both the frames and bracing.

East Front Room 101

Condition. The only remaining paint in this room is on the vertical-board backing and shelves of the cupboard, and the window sash. Floors and woodwork were stripped of all paint by George K. Higgins in 1938.[3]

Analysis. The cupboard samples (050-51 — Ills. 84-85) have 9 to 10 layers of paint. The layering includes a primer of reddish-brown, red (varnished), gray-whites, and whites. Yellow also appears on the shelf sample. Samples from the lower sash (088-90) indicate one to three layers of cream paint. The reaction to sodium sulfide was either very slight or totally negative.

ATWOOD-HIGGINS HOUSE SAMPLE NO. CACO 55 P 050(20)



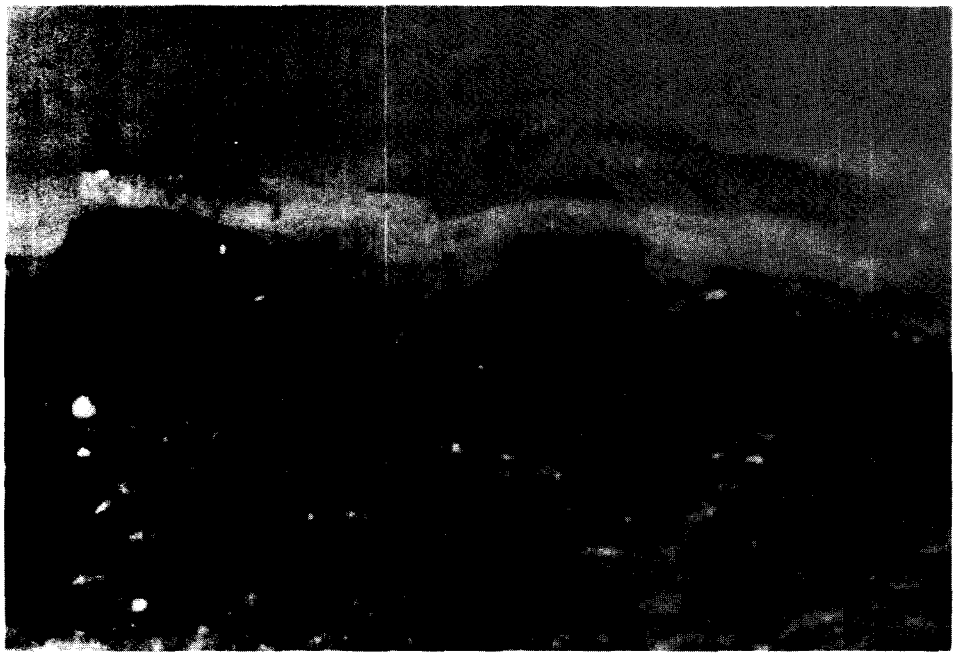
LOCATION: East Front Room 101 - Upper cupboard shelf

CHROMOCHRONOLOGY			COMMENTS
SUBSTRATE		Wood	
1	●	Reddish-brown	Varnish
2	●	Red	
3	●	Yellow	
4	X	White (s)	
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			

Illustration 84. Atwood-Higgins House: Interior Paint Sample, East Front Room, Upper Shelf of West Cupboard.

LEGEND
● Layer turns black with Na_2S application
X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
— Dirt layer > Fracture

ATWOOD-HIGGINS HOUSE SAMPLE NO. CACO 55 P 051(17)



LOCATION: East Front Room 101 - Upper cupboard backing

CHROMOCHRONOLOGY				COMMENTS
SUBSTRATE			Wood	
1	•		Reddish-brown	Varnish
2	•		Red	
3	•		White	Varnish
4	•		White	Varnish
5	•	>	White	Varnish
6	×		White	
7	×		White	
8	•		White	
9				
10				
11				
12				
13				
14				
15				
16				
17				

Illustration 85. Atwood-Higgins House: Interior Paint Sample, East Front Room, Upper Part of West-Cupboard Back.

LEGEND
- • Layer turns black with Na_2S application
- × Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

East Bedroom 102

Condition. The window sash and ceiling constitute the only painted surfaces. Elsewhere, paint removal was undertaken in 1938 when the East Front Room 101 was done.

Analysis. The sash has two layers of white (sample 087). The base layer is lead-based. The top layer turned light brown from the sodium-sulfide application.

East Buttery 103

Condition. The north and east walls of plaster, and their baseboards, are painted. All other previously painted surfaces were stripped in 1928.[4]

Analysis. The north plaster wall (sample 053) features white and three blue layers — all presumed to be calcimine. Remaining fragments from the stripped corner post (sample 054) include gray and gold-yellow (varnished).

The lower sash sample (091) shows slight evidence of a base layer of gold-yellow, followed by six to seven layers of gray-white and cream, and a top layer of red. The horizontal strip of paint on the baseboard of the north wall has a possible two layers: a lower layer of dark green or varnish, and a top layer of red. The red has a negative sodium sulfide reaction. This painting may be regarded as 20th-century in origin, since the rest of the wall has been stripped of paint.

East Kitchen 104

Condition. The plaster above the fireplace and to the right of the fireplace is painted, as is the base of the west partition-wall, of the north chimney-post casing, and of the north wall east of the north chimney post. Extensive stripping of all woodwork was done between 1928 and 1929.[5]

Analysis. There are approximately 14 layers of varying shades of white calcimine above the fireplace opening (sample 055) and to the right of the fireplace, on the west wall (sample 056).

The horizontal bands of paint simulating baseboards on the west wall, the east end of the north wall, and the north-wall post are all two layers thick (samples 078-80). The lowest layer is possibly green and/or varnish, and the top layer is red. With a negative reaction to sodium sulfide and the remaining portion of the wall surfaces having been stripped, this simulated baseboard would appear to be of 20th-century date.

The sash samples (093-94) have four layers of paint. The two base layers of cream turn slowly to black with sodium sulfide. The next cream layer quickly turns black, and the uppermost layer is red. This top layer is not lead-based.

West Kitchen 105

Condition. Paint removal in the kitchen is dated 1939.[6] The sash and ceiling are painted, and the west cupboard has a painted plaster back. All surfaces of the north stair are painted, except the railing at attic-floor level.

Analysis. The sash samples (098 99) compare favorably with the chromochronology of the West Buttery 106: gray-whites, pale yellow, white, gray-white, and creams.

The sample from the back wall of the cupboard (057 — Ill. 86) is interesting, in that it contains 15 to 16 layers, including 9 to 10 peach variations, 5 white shades, and an upper blue layer. This is more than the 10 to 12 layers usually associated with the expansion of c. 1800, which are seen on elements in the West Front Room 108. It relates better to the 17 or so layers thought to date from c. 1730 (sample 044). However, the part of the house that the cupboard is in was not built until c. 1800. The cupboard itself is constructed with c.-1850 moldings. The best conclusions that can be drawn at this time are: 1) that the earliest layers in the cupboard-back sample are c.-1800 wall colors in place before the cupboard was built; and 2) that the wall area comprising the cupboard back was painted frequently after the cupboard was built. More research should be done, to see if the earliest colors can be found on any other walls of the house.

West Buttery 106

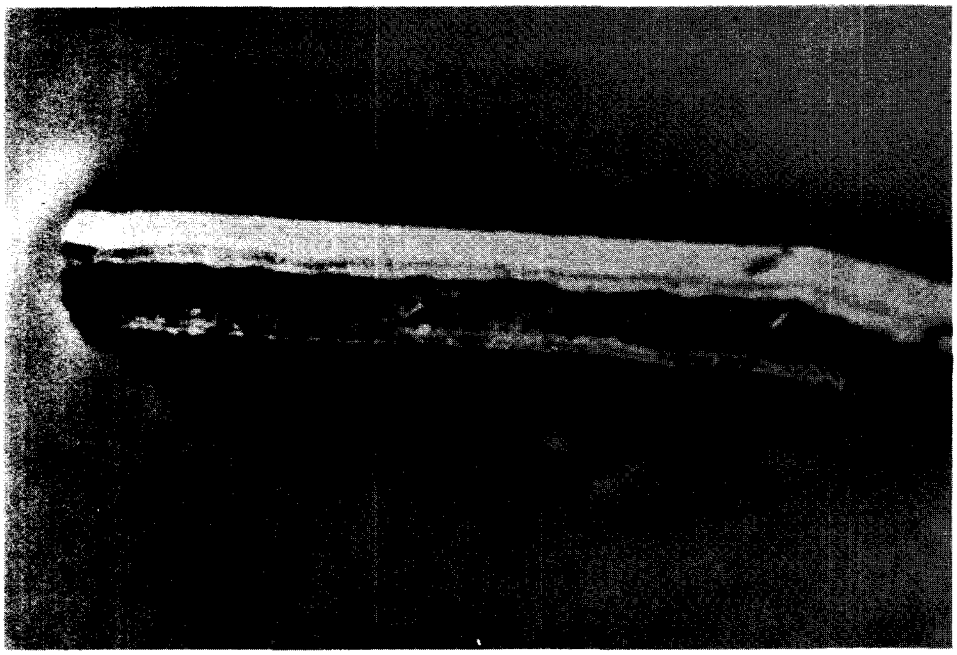
Condition. All wall surfaces are painted, including the wainscoting, the south vertical-board wall, the plaster, the window casing and sash, and the door.

Analysis. Four samples (026, 028, 031, and 032) have the same six to seven layers:

- two to three gray-whites (with a fracture in between)
- pale yellow
- white
- gray-white (yields a slow, brown-to-black sodium sulfide reaction)
- cream (lead-based)
- cream
- cream (somewhat lead-based)

Elements having this layering include the upper sash, the door, the wood-cased corner post, and the south wall. The samples from window casing (029) have several additional, lower layers of dark yellow and blue-green. The lower-sash sample (030 — Ill. 87) has some 13 layers and a different chromochronology. The north plaster-wall

ATWOOD-HIGGINS HOUSE SAMPLE NO. CACO 55 P 057(07)



LOCATION: West Kitchen 105 - West cupboard backing

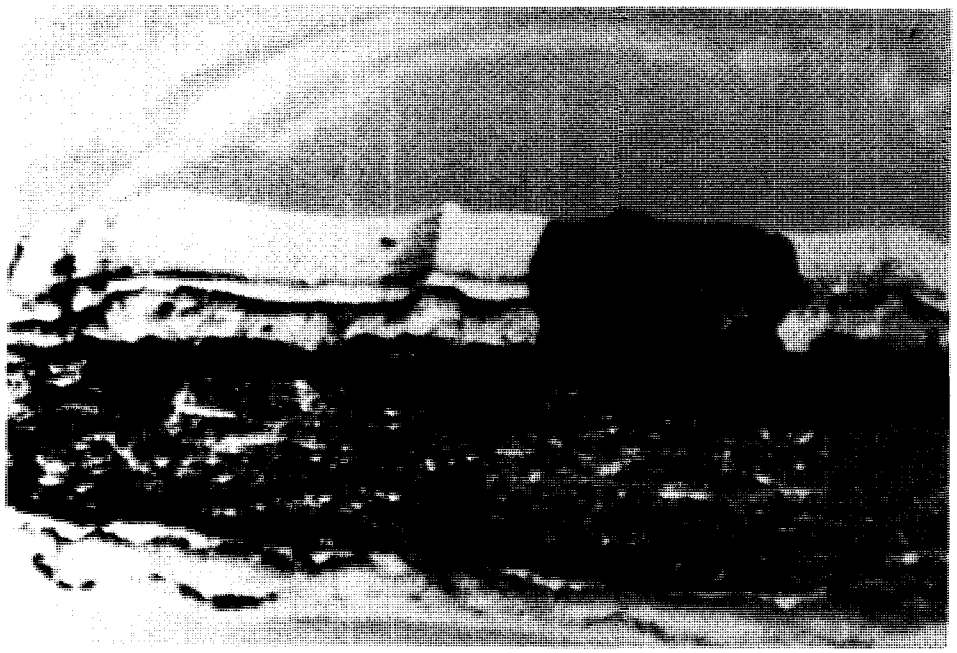
CHROMOCHRONOLOGY			COMMENTS
SUBSTRATE		Plaster	
1		Lt. Peach	Thin layers; lack of reaction to Na_2S
2		Med. Peach	suggest calcimine.
3		Lt. Peach	"
4		Med. Peach	"
5		Lt. Peach	"
6		Med. Peach	"
7	>	Dk. Peach (3-4)	"
8	•	White	Varnish
9	•	White	
10	• >	White	
11	•	White	
12	•	White	Varnish
13		Blue	
14			
15			
16			
17			

Illustration 86. Atwood-Higgins House: Interior Paint Sample, West Kitchen, Back of Southwest Cupboard.

LEGEND
- • Layer turns black with Na_2S application
- X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

ATWOOD-HIGGINS HOUSE

SAMPLE NO. CACO 55 P 030(10)



LOCATION: West Buttery 106 - lower sash

CHROMOCHRONOLOGY				COMMENTS
SUBSTRATE			Wood	
1	●		Red	
2	●		Cream	
3	●		Grey	
4	●	>	White	Varnish
5	●		Cream	Varnish
6	●		Cream	
7	●		Yellow	
8	●		Lt. Grey	
9	●		Cream	
10			Cream	
11				
12				
13				
14				
15				
16				
17				

Illustration 87. Atwood-Higgins House: Interior Paint Sample, West Buttery, Lower Sash of Window.

LEGEND

● Layer turns black with Na_2S application

X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application

— Dirt layer > Fracture

sample (027 has two to three layers of blue, probably calcimine paint. The west-wall wainscot (025) has a possible 14 layers of primarily whitewash and one upper, lead-based layer.

The evidence suggests that:

- the window casing is one of the original ell elements;
- the south wall, upper sash, wooden case of the corner post, and the door are later alterations, probably from c. 1850;
- the horizontal wainscoting and plaster walls were initially covered with whitewash and/or calcimine; and
- the lower sash is older than the ell, and likely was reused from a different location.

North Stair

Condition. All surfaces are painted, except the railing at the attic-floor level.

Analysis. Two samples from the south wall and the door (048, 49) show the same chromochronology as those elements of alteration in the West Buttery 106. This evidence indicates a period of change when the stair and its intervening partition walls were added.

Ell Bedroom 107

Condition. The wainscoting, baseboards, window and doorway casings, doors, and north vertical-board wall are painted.

Analysis. Four samples — from the wainscot (034), window casing (036), doorway casing (038), and door 105/107 (037) — have early blue, varnished layers, followed by two gray-white layers, two to three cream layers, and white, for a total of six to eight layers. There is a fracture between the gray-white layers, and a difference in their response to sodium sulfide. Another fracture precedes the cream layers, and discrepancies are found in the receptivity of the two to three cream layers to sodium sulfide. The lower-sash sample (095) does not show the initial blue layer, but does show the remaining sequence.

The north vertical-board-wall sample (035) does not have the early blue layer, which suggests that this wall was added at a later date.

West Front Room 108

Condition. All woodwork — including wainscoting, window and door casings, wall paneling, cornice, and doors — are painted "Ivory Carmote." [7] The floor is the only painted floor on the main level.

Analysis. Twenty-six samples reveal chromochronologies of 12 to 13 layers that are identical. The earliest paint scheme includes a gray-white primer with a finish coat of blue (samples 017 and 068 — Ills. 88-89). Subsequent layers include gray-white, whites, and ivory. All layers are lead-based, except for the upper two to three layers. A distinguishing fracture occurs after the fourth white layer. This white layer slowly turns from brown to black during the sodium sulfide application. The analysis suggests that all elements sampled date from the same period of construction.

The floor has 14 to 15 layers of gold paint, frequently varnished (sample 052).

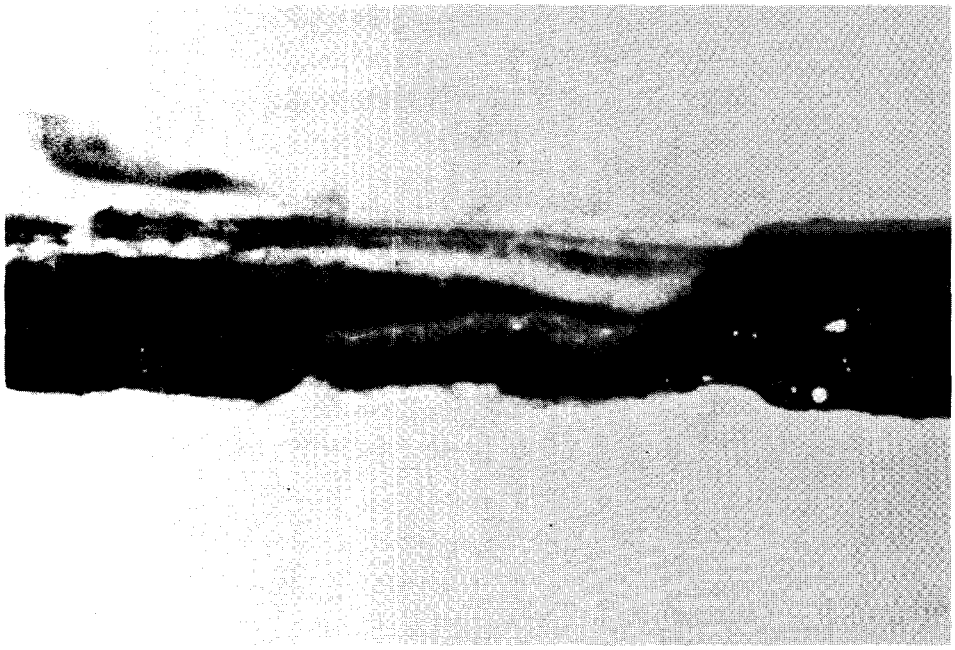
Entry 109

Five samples show a common distinctive sequence. The sequence includes 9 to 12 layers, generally beginning with a gray-white primer and a finish coat of blue-green, followed by gray-whites and whites. It is similar to the sequence seen in the West Front Room, and so has been dated c. 1800. Samples displaying this sequence come from the casing of the south chimney post (sample 047 — Ill. 90), the exterior door (sample 045 — Ill. 91), and the door to the south attic stair (039, 039B, and 039C — Ills. 92-94).

This sequence would indicate that the portion of the c.-1730 south chimney post visible in this room was cased c. 1800 — somewhat later than the casing of the portion visible in the East Front Room 101. The samples also would suggest that the exterior door, although late 19th-century in appearance — actually dates to the c.-1800 enlargement of the house and installation of the present front-doorway surround. Finally, the samples indicate that the door to the attic stair was widened to its present size c. 1800, because the edge-band has the characteristic blue-green first layer.

The paint evidence reveals that some of the entry's elements predate c. 1800. As mentioned, the south-wall baseboard's 17 layers — along with its apparent lack of an initial blue-green layer (044) — indicate that the baseboard may date to c. 1730. The samples from the original part of the south-stair door (039 and 039B) contain a layer of red beneath the c.-1800 blue-green, in lieu of the gray-white primer. It is unlikely that the red is a primer: it is found elsewhere in the house (Rooms 101 and 104), where it has been dated to the second half of the 18th century. This red does not appear in the sample from the door's edge-band (039C), which begins with the blue-green layer. Thus, it would appear that the attic door is older than c. 1800, and that it was widened c. 1800 to fill its present doorway. The main question remaining is: was the door original to this location, and widened along with the doorway c. 1800, or was the door moved here from another, narrower doorway? A plausible former location for the door is doorway 104/102, which is narrower than doorway Attic/109, and which now has a c.-1800 door.

ATWOOD-HIGGINS HOUSE SAMPLE NO. CACO 55 P 017(23)



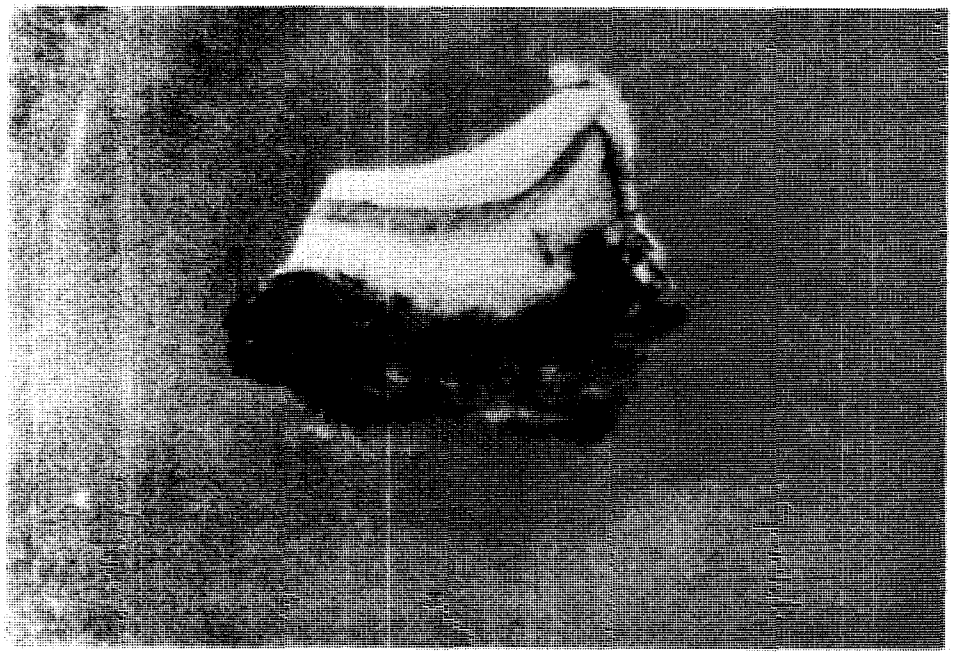
LOCATION: West Front Room 108 - fireplace wall panel

CHROMOCHRONOLOGY			COMMENTS
SUBSTRATE		Wood	
1	●	White	
2	●	White	
3	●	Blue	
4	●	Pale Grey	Varnish
5	●	Pale Grey	
6	●	White	
7	●	White	Thin
8	●	White	
9	●	Cream	
10	●	Cream	
11		Cream	
12		White	
13			
14			
15			
16			
17			

Illustration 88. Atwood-Higgins House: Interior Paint Sample, West Front Room, Panel of Fireplace Wall.

LEGEND
● Layer turns black with Na_2S application
X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
— Dirt layer > Fracture

ATWOOD-HIGGINS HOUSE SAMPLE NO. CACO 55 P 068(29)



LOCATION: West Front Room 108 - South wall, east window casing

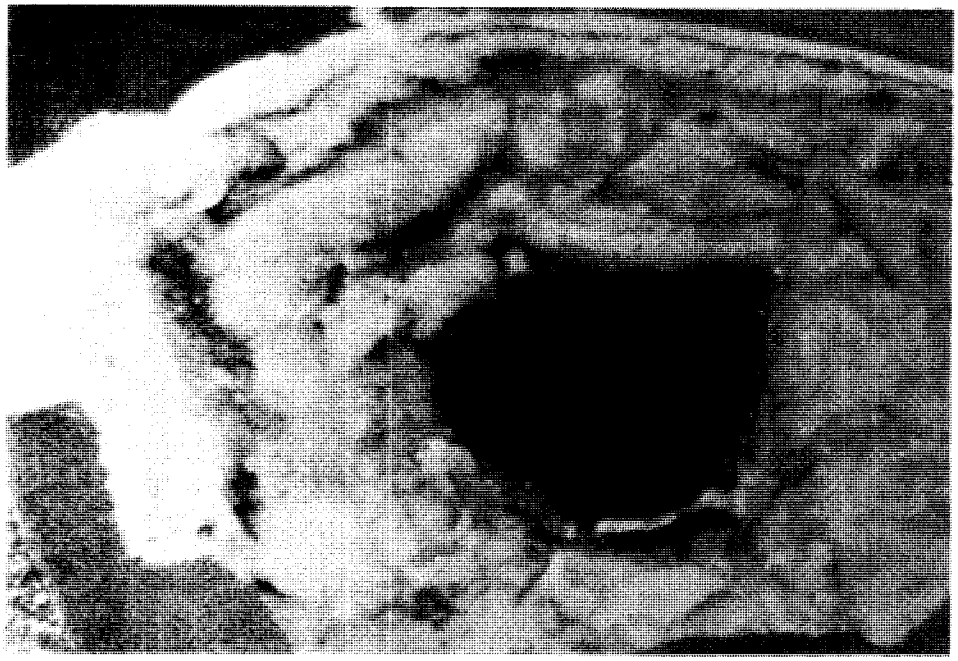
CHROMOCHRONOLOGY			COMMENTS
SUBSTRATE		Wood	
1		Varnish	
2	•	Pale Grey	
3	•	Blue	Varnish
4	•	Pale Grey	Varnish
5	•	Pale Grey	Varnish
6	•	White	
7	X	White	
8	•	White	
9	•	White	
10	•	Cream	Thin
11	•	Cream	Varnish
12	X	Cream	
13	X	White	
14			
15			
16			
17			

Illustration 89. Atwood-Higgins House: Interior Paint Sample, West Front Room, Casing of Southeast Window.

LEGEND
- • Layer turns black with Na_2S application
- X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

ATWOOD-HIGGINS HOUSE

SAMPLE NO. CACO 55 P 047(05)



LOCATION: Entry 109 - Post casing

CHROMOCHRONOLOGY			COMMENTS
SUBSTRATE		Wood	
1	●	Grey-White	Not visible in photograph
2	●	Green	Large pigment particle
3	●	Varnish	Thick
4	●	Grey-White	
5	●	Grey-White	
6	✕	Cream	
7	●	Cream	
8		Cream	
9		White	
10			
11			
12			
13			
14			
15			
16			
17			

Illustration 90. Atwood-Higgins House: Interior Paint Sample, Entry, Casing of South Chimney Post.

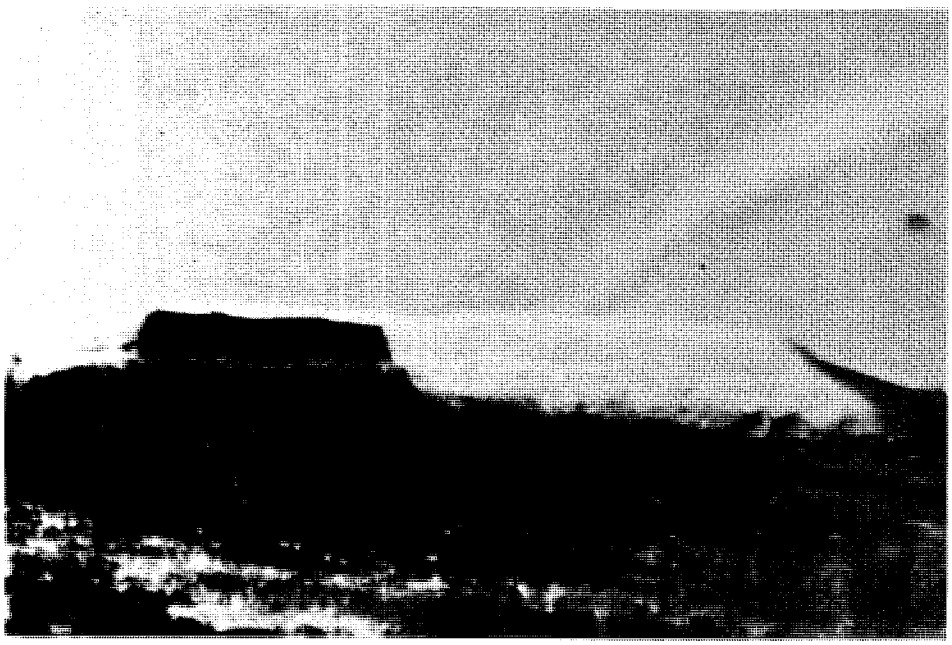
LEGEND

● Layer turns black with Na_2S application

✕ Intermediate reaction to brown, grey, or slowly turning black with Na_2S application

— Dirt layer > Fracture

ATWOOD-HIGGINS HOUSE SAMPLE NO. CACO 55 P 045(01)



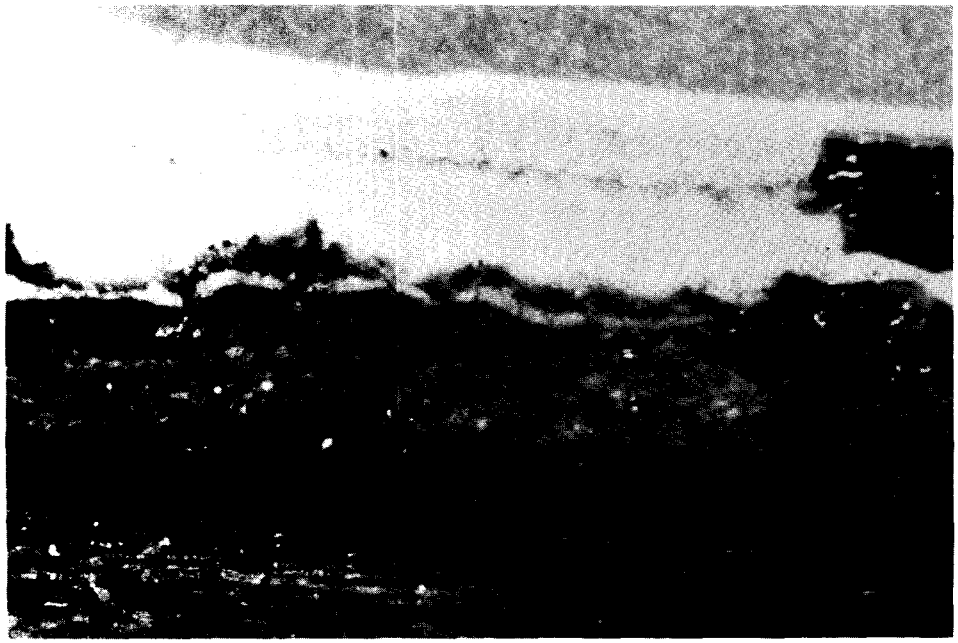
LOCATION: Entry 109 - Exterior door, interior side

CHROMOCHRONOLOGY			COMMENTS
SUBSTRATE		Wood	
1		Varnish	Not visible in photograph
2	•	Blue-green	Pigment particles; not visible
3	•	Cream	
4		Grey-White	
5	•	Grey-White	
6	•	White	Thin
7	•	Grey-White	
8	•	Cream	
9	•	Cream	
10		Cream	
11		White	
12			
13			
14			
15			
16			
17			

Illustration 91. Atwood-Higgins House: Interior Paint Sample, Entry, Interior Side of Exterior Door.

LEGEND
- • Layer turns black with Na_2S application
- X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

ATWOOD-HIGGINS HOUSE SAMPLE NO. CACO 55 P 039(12)



LOCATION: Entry 109 - Attic Door

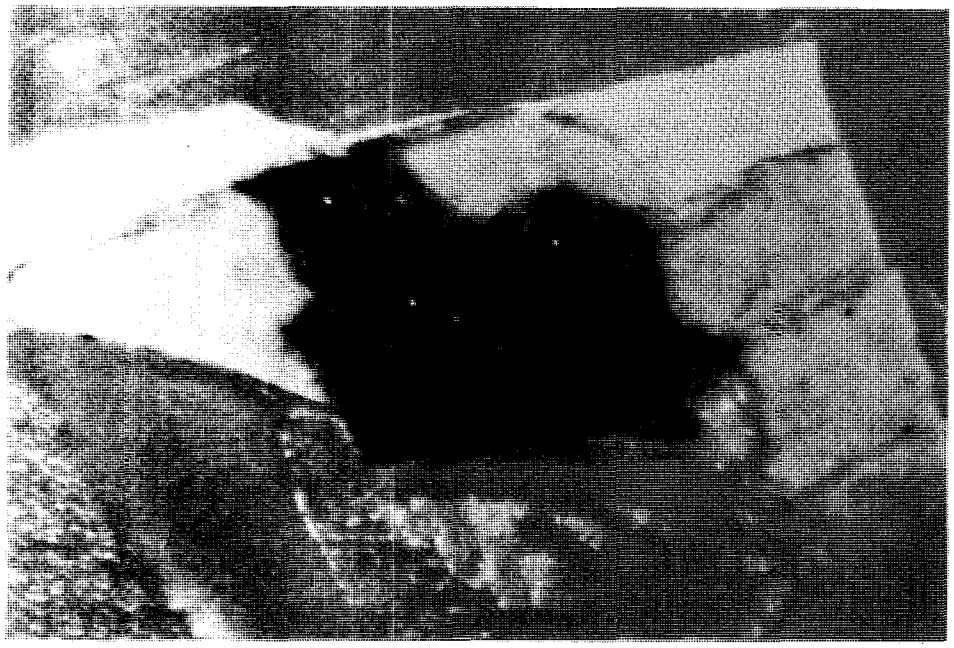
CHROMOCHRONOLOGY			COMMENTS
SUBSTRATE		Wood	
1	•	Red	Primer?
2	•	Blue	Varnish
3	•	Lime Green	Varnish; pigment particles
4	•	Yellow	Varnish
5	•	White	Varnish
6		White	
7	X	White	
8	X	White	
9	•	White	
10	X	Cream	
11		Cream	
12		White	
13			
14			
15			
16			
17			

Illustration 92. Atwood-Higgins House: Interior Paint Sample, Entry, Attic Door.

LEGEND
- • Layer turns black with Na_2S application
- X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

ATWOOD-HIGGINS HOUSE

SAMPLE NO. CACO 55 P 039B(14)



LOCATION: Entry 109 - Attic Door

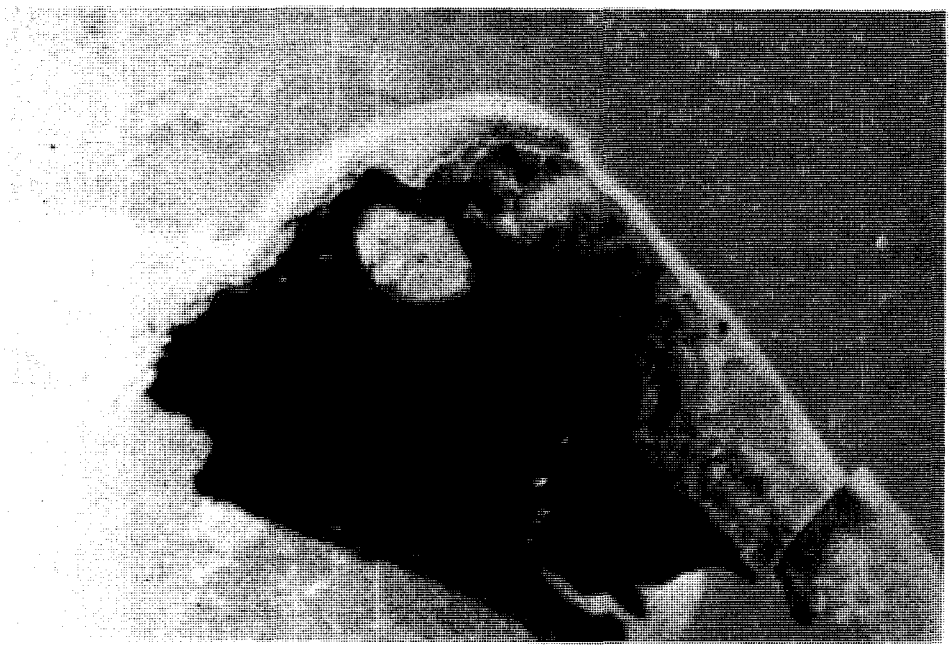
CHROMOCHRONOLOGY			COMMENTS
SUBSTRATE		Wood	
1	•	Red	
2	•	Blue	
3	•	Varnish	Thick
4	•	Grey-White	
5	•	Grey-White	
6	•	Cream	
7		White	
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			

Illustration 93. Atwood-Higgins House: Interior Paint Sample, Entry, Attic Door.

LEGEND
- • Layer turns black with Na_2S application
- X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

ATWOOD-HIGGINS HOUSE

SAMPLE NO. CACO 55 P 039C(15)



LOCATION: Entry 109 - Attic Door, batten-secured edgebanding

CHROMOCHRONOLOGY			COMMENTS
SUBSTRATE		Wood	
1	•	Green	Varnish
2	•	Grey-White	
3	•	Grey-White	
4	•	Cream	
5		White	
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			

Illustration 94. Atwood-Higgins House: Interior Paint Sample, Entry, Edge-Band of Attic Door.

LEGEND
- • Layer turns black with Na_2S application
- X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

The paint samples from the closet door (042 — Ill. 95) do not show either the red or the blue-green layers. They have approximately seven layers that begin with the gray-white layers, and follow the usual sequence thereafter. They resemble the samples from door 109/101, which has been dated stylistically to c. 1850. Thus, it would seem that the present-day entry-closet arrangement dates from c. 1850.

The sample from the closet door also relates to that from the exterior door (045 — Ill. 91), particularly in the way that both samples are affected by sodium sulfide. Layer no. 4 of sample 045 seems to correspond to layer no. 2 of sample 042, which means that the exterior door was painted at least twice before the closet door was installed. This evidence indicates that the exterior door is somewhat older than the closet door, which has been dated to c. 1850.

South Stair

Condition. All elements are painted.

Analysis. The east wall sample (040) displays a base layer of red, followed by approximately five whites. The use of red paint in this house has been dated to the second half of the 18th century. Its presence on the east wall agrees with the thought that the east wall dates to the c. 1775-1790 remodeling of Room 101's fireplace. Indeed, the relationship between the fireplace and east wall tends to suggest the more specific date of c. 1775-1790 for the use of red paint throughout the house. The blue-green paint used c. 1800 in the entry does not appear to have been used in the stair compartment.

The west-wall sample (041) does not show the red layer, but only the five to seven white layers characteristic of c.-1850 work. Again, this is consonant with the thought that the present entry closet — and the wall that separates it from the stair — date from c. 1850 .

NOTES

1. George K. Higgins' journal.

2. Ibid., pp. 38-39. The journal notes that the house was painted in 1919, using 126 pounds of white lead.

3. Ibid., p. 95.

4. Ibid., pp. 72-74.

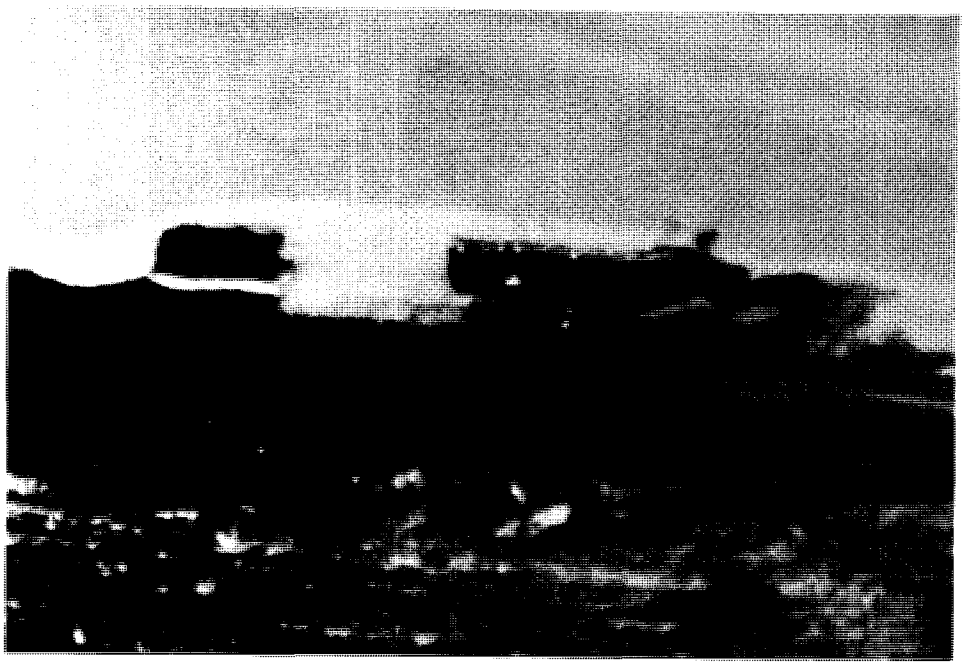
5. Ibid.

6. Ibid., p. 98.

7. Ibid.

ATWOOD-HIGGINS HOUSE

SAMPLE NO. CACO 55 P 042(04)



LOCATION: Entry 109 - Closet Door

CHROMOCHRONOLOGY			COMMENTS
SUBSTRATE		Wood	
1	•	Grey-White	
2		Grey-White	
3	•	Grey-White	
4	•	Cream	
5	•	Cream	
6		Cream	
7		White	
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			

Illustration 95. Atwood-Higgins House: Interior Paint Sample, Entry, Closet Door.

LEGEND
- • Layer turns black with Na_2S application
- X Intermediate reaction to brown, grey, or slowly turning black with Na_2S application
- — Dirt layer
- > Fracture

B. Moldings Analysis

The molded contours given to projecting wooden surfaces, such as window and doorway casings, baseboards, paneling, cornices, sash muntins, and fireplace surrounds have been measured, drawn, and organized into eight categories. Moldings within each category have the same general profile and date. This analysis presents the evolution of molding types from the time the house was built c. 1730 to the mid-19th century. The progression was generally found to be from simple, crude, and utilitarian forms to the more elaborate and ornamental forms. Pre-1800 circular shapes of Classical Roman precedent are followed by moldings of Classical Greek precedent, based on elliptical and parabolic shapes.

Category A (c. 1730)

This category includes molding profiles having simple, circular shapes without transitional elements such as quirks or beads. These profiles date from the initial period of the Atwood-Higgins House, and so are found only in the original, eastern half of the house. One of the most important profiles is a cyma recta ogee that appears in doorway casings 104/102 and 104/103. Another important profile is the quarter-round molding used on the edges of boards grooved to receive the beveled edges of other boards. This integral molding is found on the vertical-board wall of the East Kitchen 104, and on the raised-panel door 104/103. The bevel of these panels is 1-3/8 inches wide. While few other examples of Category-A moldings remain in the Atwood-Higgins House today, it can be assumed that such profiles were used throughout the house during its early years.

Category B (c. 1750)

Molding profiles in this category evince the same simple ogee form of Category-A moldings, without any transitional elements such as quirks or beads. However, they tend to be narrower in width and more deeply incised than the earlier moldings. This form is seen in the casings of the East Kitchen 104's windows, in the jamb casings of doorway 104/102, and in the trim elements of the East Kitchen's fireplace (mantel shelf, firebox surround, etc.).

Categories C and D (c. 1775-1790)

These moldings are more complex than those in "A" and "B," with more contours, beading, and greater depth. Although the general profiles are the same for "C" and "D," the proportions of depth and width vary.

The Category-C profile is primarily found in the East Front Room 101, in its fireplace surround and window casings. The double-architrave molding of the fireplace surround is composed of a quirked ogee, astragal, beading at the outer edges, and an ogee. The window casing consists of the quirked ogee and astragal, with an angled window stop finished with a quarter-round molding. The work of Category C may represent the first refurbishing of Room 101. The same window casing is found in Room 102, which suggests that this room was updated at the same time.

The Category-D profile is found only in the west half of the house, as doorway casing 108/105 and as the window casing in Room 107. The double-architrave doorway casing consists of a quirked ogee, astragal, and bead, while the window casing is a simpler form of the same. Category D may represent elements introduced as part of the first bay added to the west of the original house.

Category E (c. 1800)

Category-E moldings are used primarily in the West Front Room 108 — in its cornice, fireplace paneling, and wainscot cap — and in the West Kitchen 105, for its fireplace surround, oven-doorway casing, fireplace paneling, and doors. The cornice and fireplace-surround moldings include a quarter-round, scotia, astragal, and quirked bead. The oven-doorway casing represents a simpler variation. The fireplace paneling features an ogee profile; the doors in this category have four panels and score beads along the rails and stiles. These moldings are found throughout spaces that did not exist in their present form until the final, fifth bay of the house was built. This suggests that the second expansion took place c. 1800.

Category F (c. 1820)

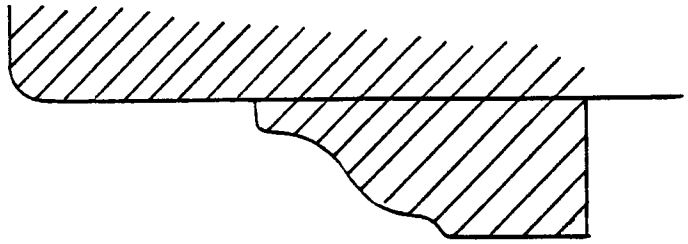
These molded elements are found in the West Front Room 108. This work is characterized by finer detail executed on a smaller scale, when compared to Categories C through E. Of particular interest are the window casings with built-in shutters. The double-architrave molding is comprised of quirked ogees with astragals, beads, and a quarter-round as a window stop. Along with the doorway casings on the fireplace wall, this work appears to be a final updating of the room's interior, c. 1820.

Category G (c. 1850)

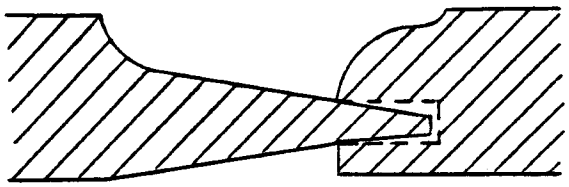
Category G includes the largest number of molded elements; it is found in all rooms except the East Buttery 103. This category includes molded window and doorway casings with quirked ogees and astragals, and a flat doorway casing with beading on the inner edge. The six-panel doors within this category have applied moldings displaying the same quirked ogee and astragal, nailed on the primary-room side of each.

CATEGORY A (c. 1730)

Doorway casing 104/103, 104/102 (lintel only)



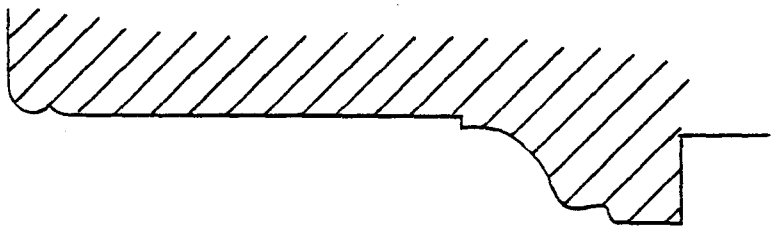
Doors 104/103, Attic/109



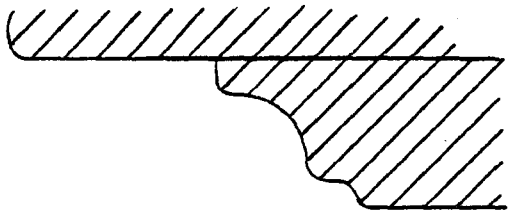
Category A also includes: vertical-board wall between Rms. 103 and 104

CATEGORY B (c. 1750)

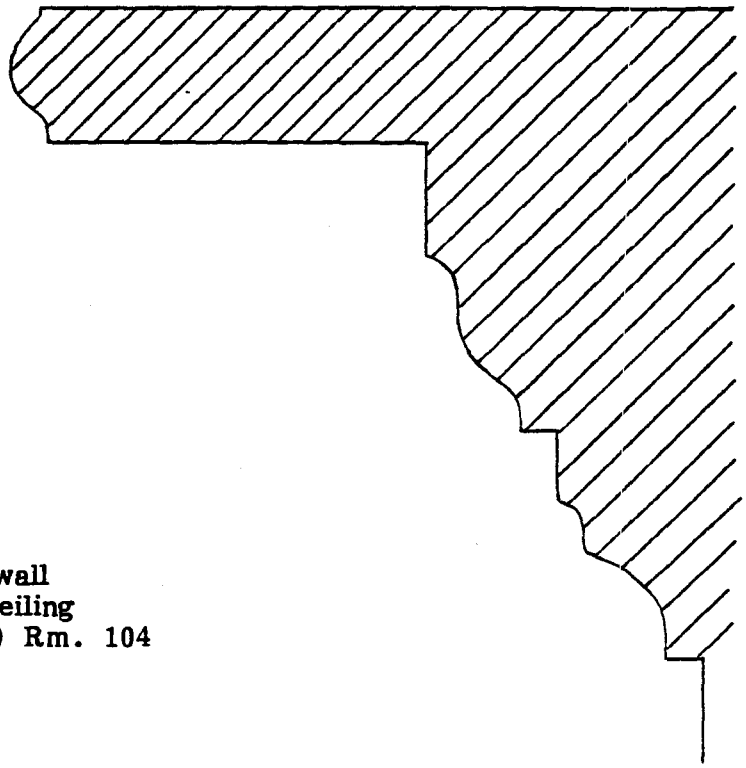
Window casing Rm. 104



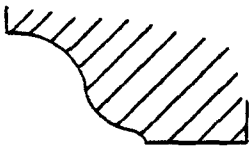
Doorway casing 104/102 (jamb only)



Mantel shelf Rm. 104



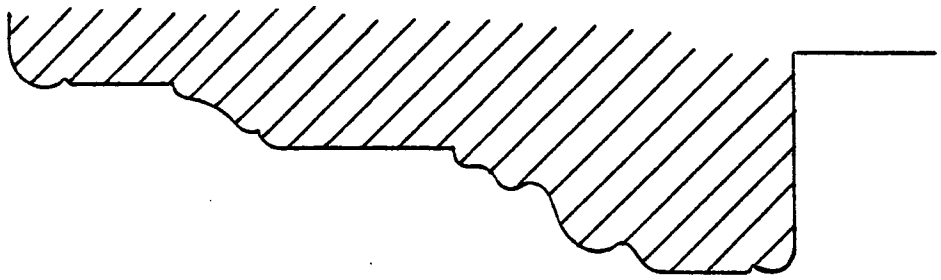
Fireplace surround
Rm. 104



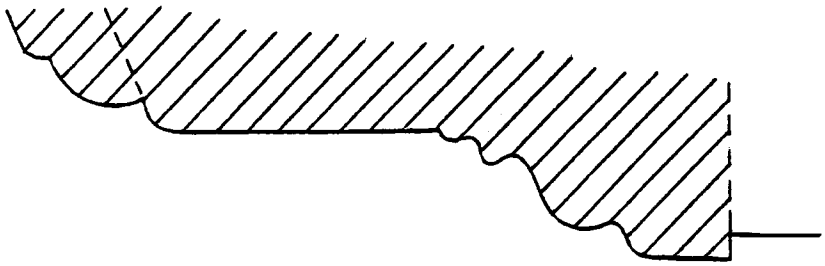
Category B also includes: north-wall wainscot cap Rm. 104; floor-to-ceiling stile (forming left fireplace jamb) Rm. 104

CATEGORY C (c. 1775-1790)

Fireplace surround Rm. 101



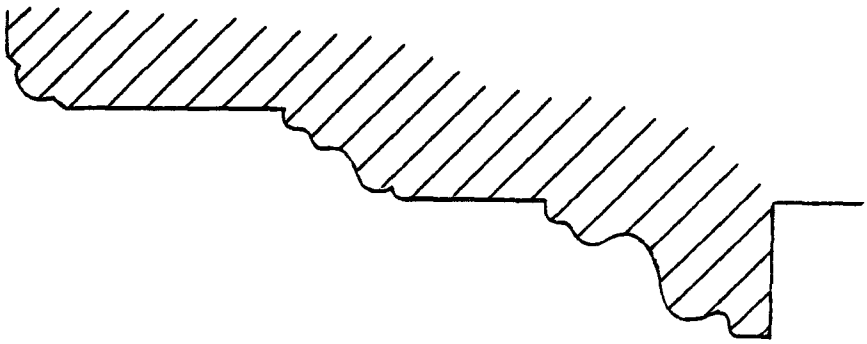
Window casing Rm. 101



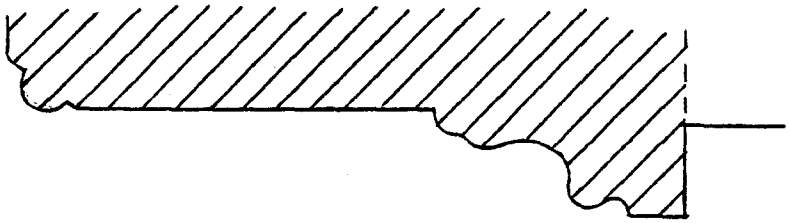
Category C also includes: fireplace paneling Rm. 101; window casing Rm. 102; reused molding sections between Rm.-104 south cupboard and doorway casing 104/101, east and west of north windows Rm. 104, doorway casing 104/Exterior

CATEGORY D (c. 1790)

Doorway casing 108/105

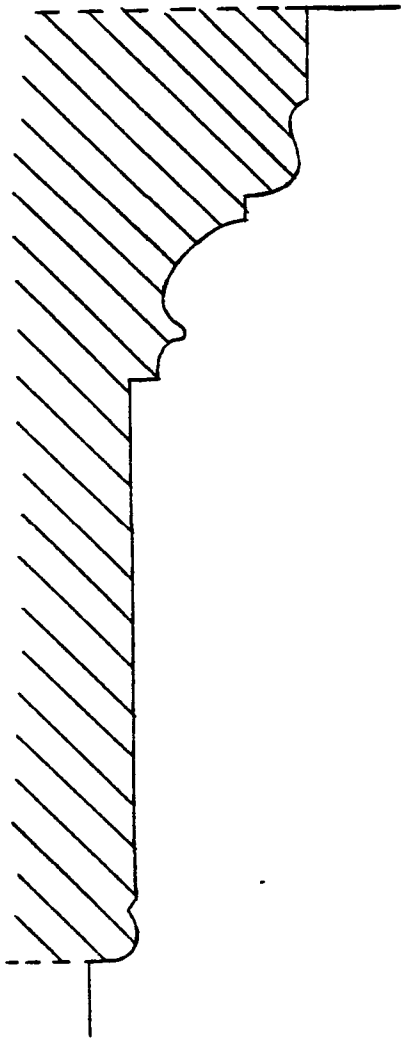


Window casing Rm. 107

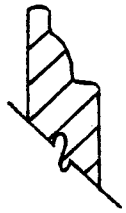


CATEGORY E (c. 1800)

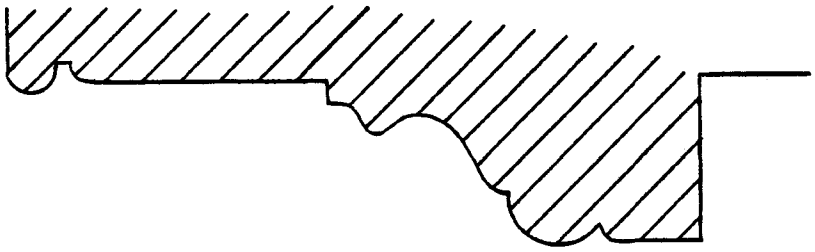
Cornice Rm. 108



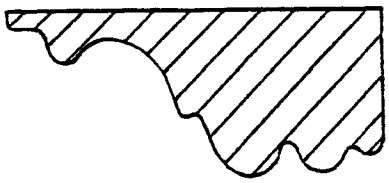
Fireplace paneling Rms. 105, 108; doorway casing 105/Exterior



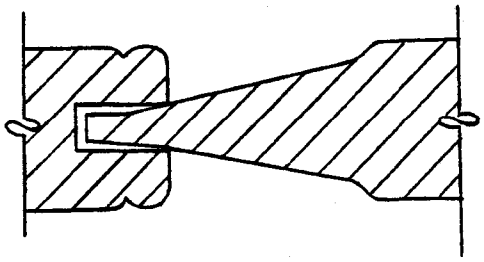
Fireplace surround Rm. 105



Oven-doorway casing Rm. 105



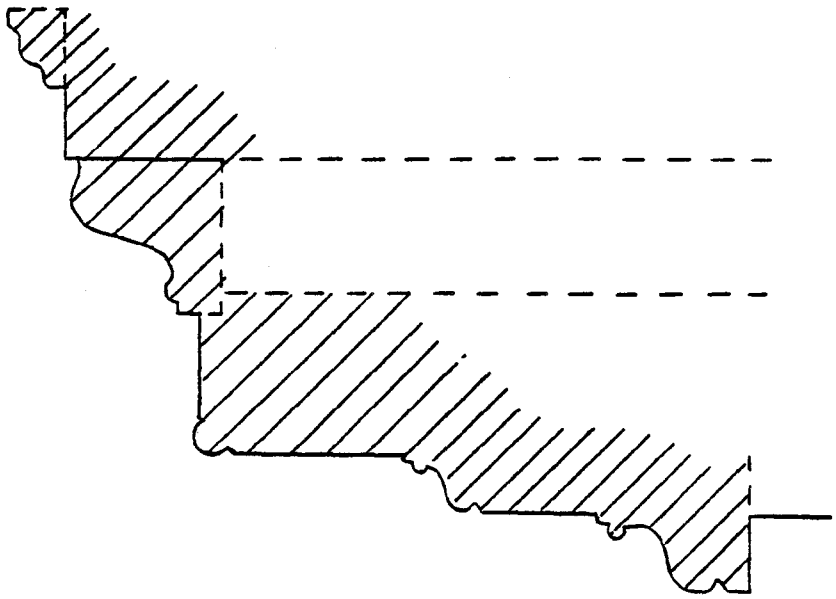
Doors Attic/105, 105/107, 108/105, Exterior/105, 109/108; oven door Rm. 105; Attic Bedrm. door



Category E also includes: bead on casings of framing members Rms. 103 and 104; vertical-board wall between Rms. 104 and 105; doorway casing 104/105; doorway casing and door 105/104; mantel shelf Rm. 108

CATEGORY F (c. 1820)

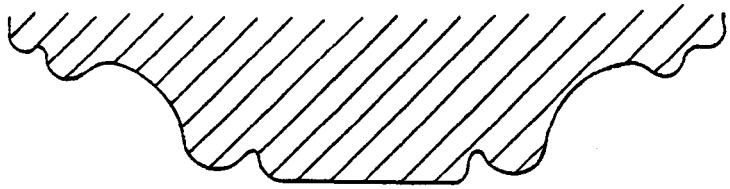
Window casings Rm. 108



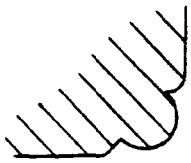
Category F also includes: interior sliding window shutters Rm. 108; cupboard-doorway casing Rm. 108; doorway casing 108/109

CATEGORY G (c. 1850)

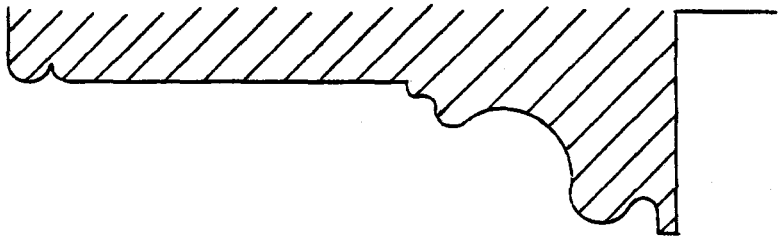
Double doorway casing Rm. 101

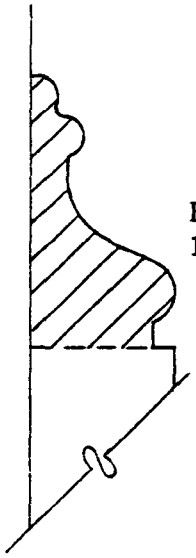


Girt-casing
bead Rm. 101



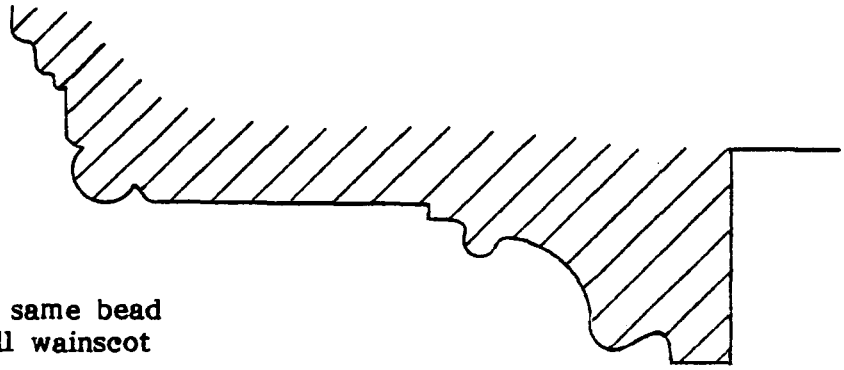
Doorway casings 105/106, 105/Attic, 105/107, 105/108; doorway casing of sw. cupboard Rm. 105



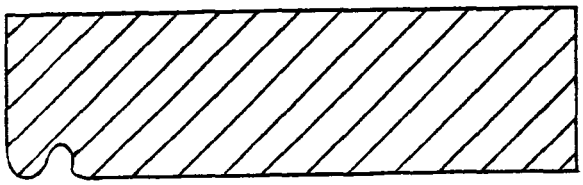


Baseboard molding Rms.
101, 104, 105

Window casing Rm. 105

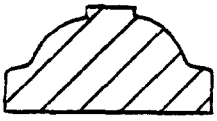


Doorway casings 102/101, 102/104; same bead on window sill Rm. 102, north-wall wainscot cap Rm. 101

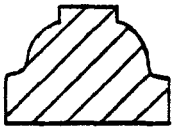


Category G also includes: doors 101/102, 101/104, 109/101, Closet/109; door of sw. cupboard Rm. 105

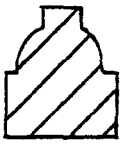
WINDOW MUNTINS



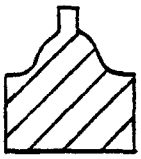
Rm. 106: lower sash. Style suggests c.-1730 date; paint analysis generally supportive (13 layers). Probably reused in present location



Rm. 106: upper sash. Style suggests c.-1750 date; paint analysis contradictory (5-6 layers). Possibly reused in present location

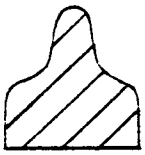


Rms. 101 and 102: all windows. Style suggests c. 1775-1790 date; paint has been stripped. Probably installed during east rooms' remodeling, concurrent with addition of first west bay



Rm. 103: all windows. Rm. 104: northwest window and exterior-doorway transom. Rm. 105: northwest window, upper sash of northeast window, and exterior-doorway transom. Rm. 108: southeast window and cupboard door. Rm. 109: exterior-doorway transom. Style and location suggest c.-1800 date; paint analysis inconclusive (8-13 layers). Unusually prominent fillet probably due to stylistic transition from ovolo to ogee muntins, rather than erosion during paint removal

Rm. 105: lower sash of northeast window. Style suggests c. 1800-1820 date. Paint analysis contradictory (6-7 layers similar to those on c.-1750 muntin of upper sash Rm. 106 — see above). Since later than upper sash, probably a replacement



Rm. 104: northeast window. Rm. 107: all windows. Rm. 108: west and southwest windows. Style suggests c.-1840 date. Paint analysis generally supportive (6-7 layers). Probably dates from c. 1800-1820 remodeling of Rm. 108, and construction/remodeling of all rooms

C. Chimney and Mortar Analysis

Chimneys

There are four fireplaces on the first floor, with flues ascending into one slightly off-center chimney stack (Ill. 96) above the attic-floor level. The fireplaces are grouped around a central void that can be entered through the closet in Entry 109.

Numerous mortar types are evident, although nothing appears as early as the house itself. Typical early 18th-century mortar contains a large proportion of clay with its own composite sand, an example of which can be found in the bake oven of the Joseph Atwood House in Chatham (HABS no. MASS-161).

The only documented work is that of George K. Higgins in the early 1920's. The exterior chimney was repointed at this time, raised two courses, and capped, with openings north and south. Higgins wrote that, "...all this topping had eventually to be removed. The back drafts continued. It was by trial and error that we finally solved this problem...The final solution was limited separate flues."[1] Details of the work that was undertaken to achieve separate flues are not given in Higgins' journal.

The four fireplaces include those in the:

- East Front Room 101. This fireplace is located in the c.-1730 portion of the house. Its 6-foot width appears to be out of proportion to its shallow depth. Wooden sleepers are a part of the masonry above the 16th brick courses of both jambs. There appears to be a deep smoke shelf. The flue ascends to the north. There are charred, reused bricks on the back side, with an upper portion that appears to have framed a previous flue (see Illustrations 55, 97).

- East Kitchen 104. This fireplace is located in the c.-1730 half of the house. The west jamb runs directly into a partition wall with no facing. The rear position of the bake oven (Ill. 54) seems to be incompatible with the comparatively low height of the fireplace opening and oven opening. The hearth bricks are of a greater size than the fireplace bricks. The back side shows many charred and apparently reused bricks. The back side of the bake oven is pargeted, and its base plank shows circular saw marks.

- West Kitchen 105. This fireplace and bake oven appear to exist as originally built. The oven is to the left side of the fireplace opening. The hearth bricks are of a greater size than the fireplace bricks. The back side of the bake oven is pargeted. No reused bricks are apparent from the back side. The flue merges with the central stack above the attic-floor level.

- West Front Room 108. This fireplace also has hearth bricks of greater size then the fireplace bricks. It features a very deep hearth, in proportion to the overall size of the fireplace. The back side consists of charred, reused bricks. The flue merges with the main chimney stack above attic-floor level.

Illustration 96. Atwood-Higgins House: Attic, West Side of Chimney.

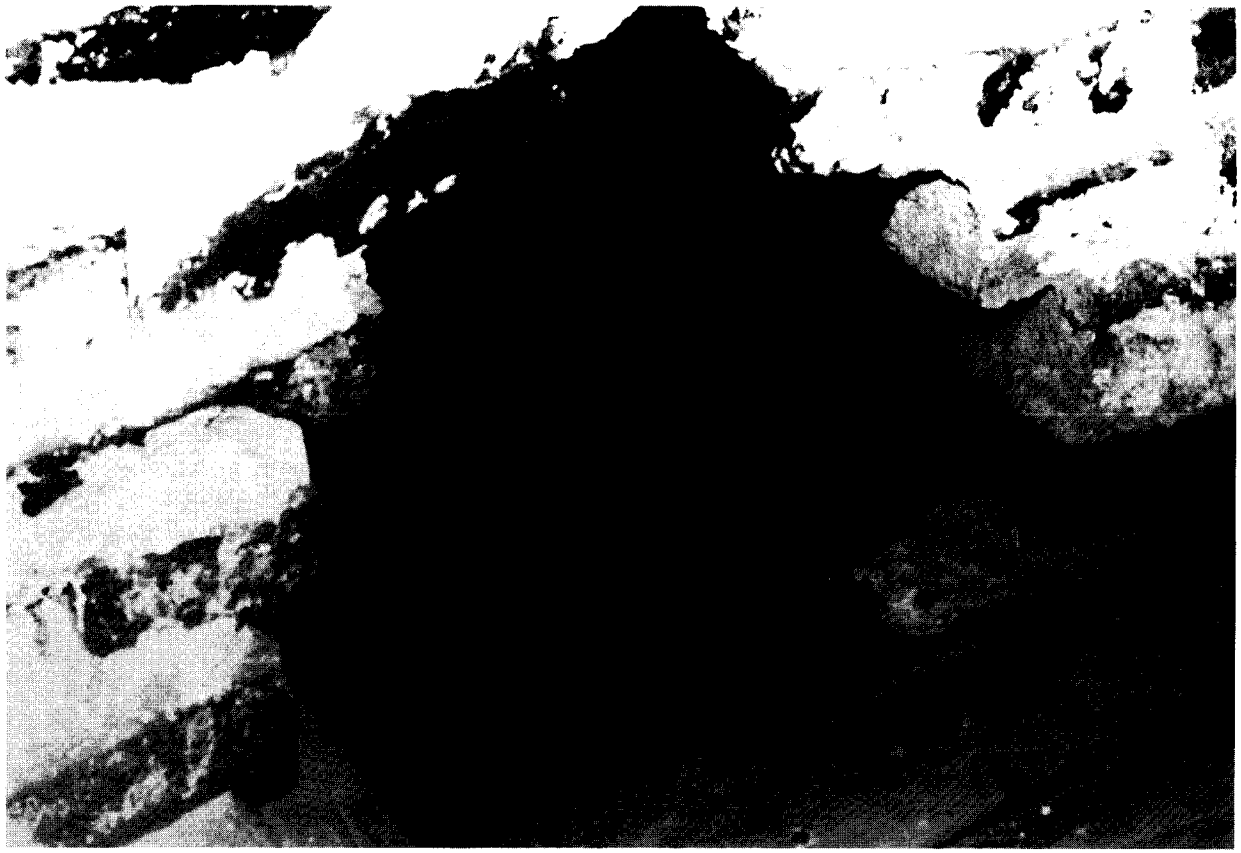


Illustration 97. Atwood-Higgins House: Central Chimney Void, Looking Down from Attic at Rear Surface of East Front Room's Fireplace.

None of the fireplaces have dampers. The brick sizes used in the jambs and rear walls are the same throughout: 7-1/4 by 1-3/4 by 3-1/2 inches. The only apparent change of brick size occurs in the hearths of Rooms 104, 105, and 108.

Mortar

Test Results. Mortar and plaster samples were tested, for the purposes of historical study, and repair and maintenance. Twenty samples were taken from four fireplaces, three ceilings, three wall areas, two exterior foundation areas, and one Circular Cellar area. Numerous desirable samples were not taken because of the stricture against visible intervention in a Level-B Investigation. No samples gave visual evidence of an early clay component or of a recent heavy Portland cement composition.

Seven groups were formed according to similarities of composition, in terms of sand, residue, and lime, and carbon-dioxide percentages. Sample no. CACO 055 M003, taken from above the wooden sleeper of the south jamb of Room 101's fireplace, contained the only Portland cement of all 20 samples. Sample CACO 055 M014 contained 94% lime, and no sand. This sample was found under an attic floorboard at the north end of the east exterior wall, and is presumed to be the earliest plaster or whitewash from the ceiling of Room 103. Sample 017 represents another single-example category, because its carbon-dioxide percentage does not relate to other samples. It was taken from the west wall of Room 107's closet.

Five samples in GROUP 1 — 001, 002, 011, 013, and 020 — show close relationships among all data, and are distinguished from other groups in their residue and carbon-dioxide percentages. The implication here is that the mortar work of Room 101's fireplace (front and back sides), Room 104's fireplace (front side), the Circular Cellar, and Room 104's ceiling all dates from the same time.

Samples 004, 005, 006, 007, and 010, comprising GROUP 2, are chiefly distinguished from GROUP 1 samples by the percentage of carbon dioxide contained. GROUP 1 samples average 31.6% of carbon dioxide, while GROUP 2 samples average 35.2%. Mortar and plaster samples of GROUP 2 came from Rooms 104 and 105, including: Room 104's bake oven (interior and back-side pargeting), the back of the fireplaces in Rooms 104 and 105, and between the north-wall windows in Room 104.

The seven GROUP 3 samples have both a smaller percentage of residue and carbon dioxide than those in either GROUP 1 or 2. Except for smaller percentages of sand, the two GROUP 4 samples relate closely to those of GROUP 3.

A summary chart of test results follows shortly.

Analysis and Conclusions. With one exception, all mortar consisted of sand and lime, in a 2-3:1 ratio. The sand used was the same throughout, with sand weight/volume factors in a range of .56-.60 and visual similarities of color and texture. The sand is presumed to have been obtained locally during all periods of mortar/plaster work.

No distinction could be made between the work of George K. Higgins and earlier work because of the close similarities in the data collected. The work referenced by Higgins in his journal includes the foundation, the plaster of Room 101's walls, the ceiling and walls of the Attic Bedroom, and chimney repointing. Either from enduring local custom or preservation awareness, Higgins came close to matching the existing mortar and plaster composition found in other areas (not mentioned in the journal). The alternative implication — that all matching work was done by Higgins — cannot be substantiated; samples found on early split lath, and in Room 105's fireplace, for example, appear to be original to those areas.

An analysis of the individual fireplaces in terms of location, paneling, and moldings is given in Chapter IV, Section C.

Notes

1. George K. Higgins' journal, pp. 50-51, with photograph.

MORTAR ANALYSIS

Location of sample	Sample no.	Sand %/pts.	Residue %/pts.	Lime %/pts.	Wt./Vol. factor	Residue color	CO_2%
GROUP 1:							
Rm. 101 fireplace, back side	001	80%/12	4%/1	15%/4	.58	10 YR 6/2	32
Rm. 101 fireplace, south jamb	002	77%/11	4%/1	19%/5	.57	10 YR 6/2	32
Circular Cellar, bedding mortar	011	81%/15	3%/1	16%/6	.56	10 YR 6/2	30
	011-B	78%/11	4%/1	17%/5	.56	10 YR 6/2	33
Rm. 104 ceiling (from keys)	013	76%/15	3%/1	20%/7	.58	10 YR 6/2	33
Rm. 104 fireplace, lower right	020	78%/15	3%/1	19%/7	.58	10 YR 5/3	30
	020-B	75%/11	4%/1	21%/6	.58	10 YR 5/3	29
GROUP 2:							
Rm. 104 bake oven	004	79%/11	4%/1	17%/5	.56	10 YR 8/5	37
Rm. 104 bake oven, back-side pargeting	005-B	79%/16	3%/1	17%/6	.59	10 YR 5/2	36
Rm. 104 fireplace, back side	006	79%/12	4%/1	17%/5	.58	10 YR 5/2	34
Rm. 105 fireplace, back side	007	82%/16	3%/1	16%/6	.58	10 YR 5/2	34
Rm. 104, between n. windows	010	78%/12	4%/1	17%/5	.60	10 YR 6/2	35
GROUP 3:							
Rm. 108 fireplace, back side	009	81%/46	1%/1	18%/20	.57	10 YR 5/2	32
Foundation wall, sw. corner	012	78%/47	1%/1	20%/22	.60	2.5 Y 6/2	30
Rm. 105 bake oven, back-side pargeting	008	79%/23	2%/1	19%/11	.58	10 YR 5/2	29
Attic-Bedroom ceiling	018-B	81%/24	2%/1	17%/9	.58	10 YR 6/3	30
S. foundation wall, w. end	019	80%/23	2%/1	18%/10	.58	10 YR 6/2	31
GROUP 4:							
Rm. 105 ceiling (from keys)	015	74%/22	2%/1	24%/13	.58	10 YR 6/2	29
Rm. 105 cupboard, backing	016-B	75%/23	2%/1	23%/13	.599	10 YR 6/2	35
Rm. 101 fireplace, south jamb	003	77%/6	19%/2 Portland cement	6%/1 Lime w/ cement	.60	5 Y 6/1	38
Attic, e. wall, n. end	014	-	6%/1	94%/17	-	10 YR 7/3	24
Rm. 107 closet, w. wall	017-B	73%/15	3%/1	25%/9	.60	10 YR 6/2	21
	017-C	70%/14	3%/1	27%/10	.59	10 YR 6/2	16

D. X-ray Investigation

Forty x-rays were taken at locations throughout the house (Ill. 98). One major objective of the x-ray investigation was to confirm the assumption that the construction of the house was of vertical plank sheathing, without any stud framing. X-rays were taken in locations throughout the main house and ell to determine if construction differed between the original east portion, the west additions, and the ell. Window jambs, areas of wall between window and doorway openings, and encased posts were examined. These x-rays confirm that no stud framing members were used in the construction of the original east portion of the house, or in the west additions or ell. This does not imply that the house was entirely constructed at one time, but that all increments were built before the advent of stud construction on Cape Cod, which occurred in approximately 1820.

Further enlightenment about the extent of 20th-century work was also achieved. The use of wire finish nails to fasten window stops and often to repair window sash was predominant throughout the house. The greatest amount of such work was noticeable in the original east half, where glazing points and flashing around window frames were found. X-ray numbers 5, 6, 7, 8, 9 and 28 show the locations of BX electrical conduit cable. All x-rays gave evidence of accumulations of lead-based paint in "alligatored" condition, beneath more recent paint layers.

X-ray numbers 5 and 6 — of a cased post in the East Kitchen 104 — confirmed a belief that the post is actually flared, despite the straight-sided casing.

Hand-wrought nails were found in the original east half of the house only. There are such nails, including a T-headed nail, in doorway casing 104/102 (Ill. 99). The lintel piece here has a molding profile dating to c. 1730. However, there is cause to further examine this evidence, because the jamb moldings do not match the lintel molding, the mitering is not exact, and the doorway opening is wider than the typical, c.-1730 doorway opening, one of which is found in the same wall as doorway 104/102. There is also a large hand-wrought nail in x-ray number 10, in the area of the East Kitchen 104's east-wall wainscot cap. X-ray number 36 has small hand-wrought nails and fragments performing an unknown function in the area of the East Kitchen's northeast-window jamb. X-ray number 37 (Ill. 100) shows hand-wrought nails and split lath in the East Kitchen's north wall.

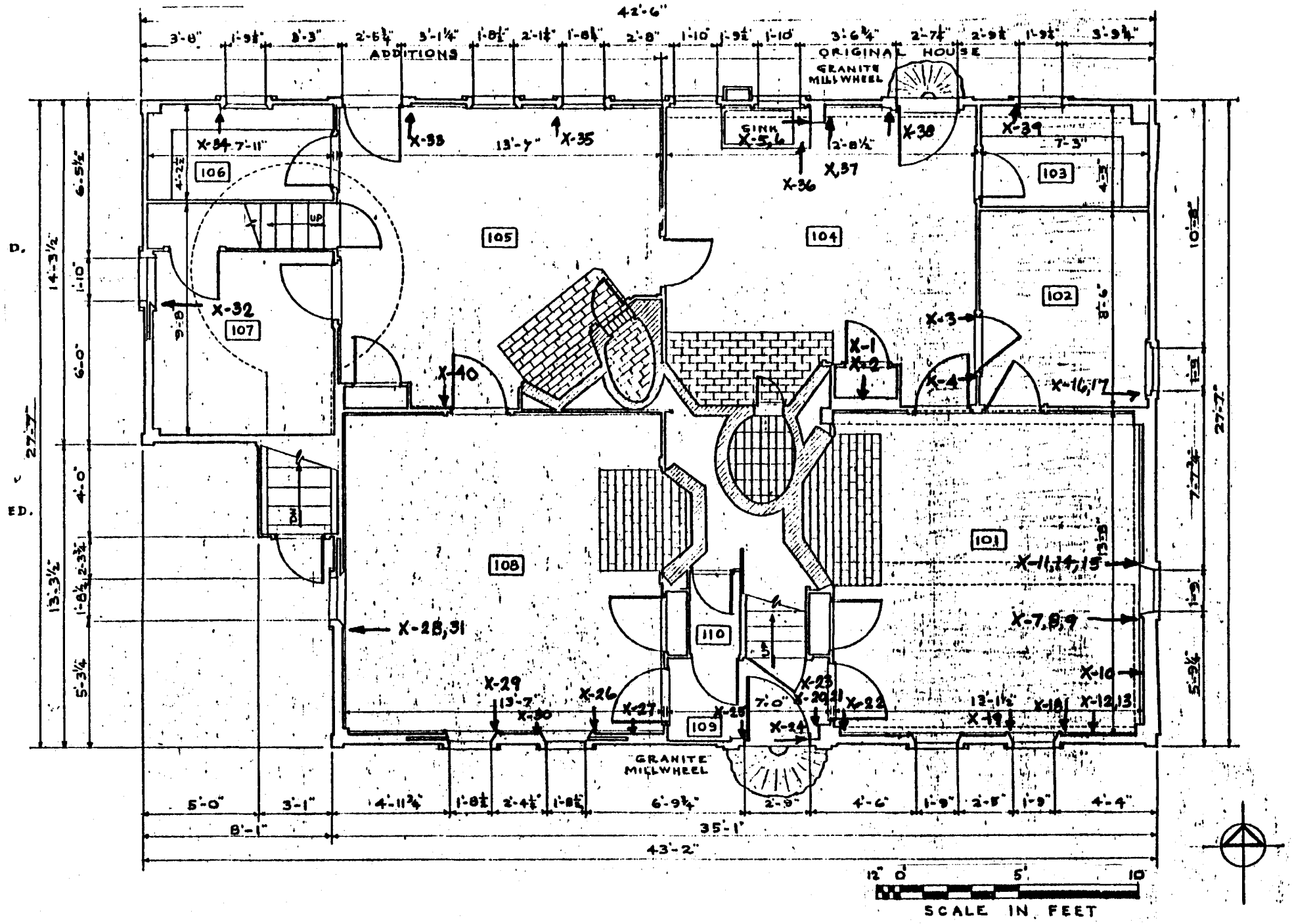


Illustration 98. Atwood-Higgins House: Locations Where X-Rays Were Taken.

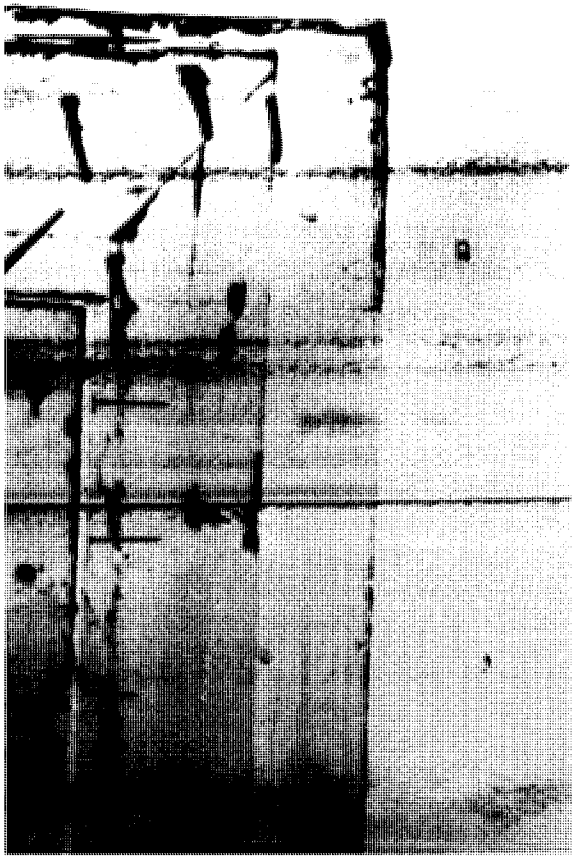


Illustration 99. Atwood-Higgins House: X-Ray through Doorway Casing 104/102, Showing Nail Variety and Dutchman.

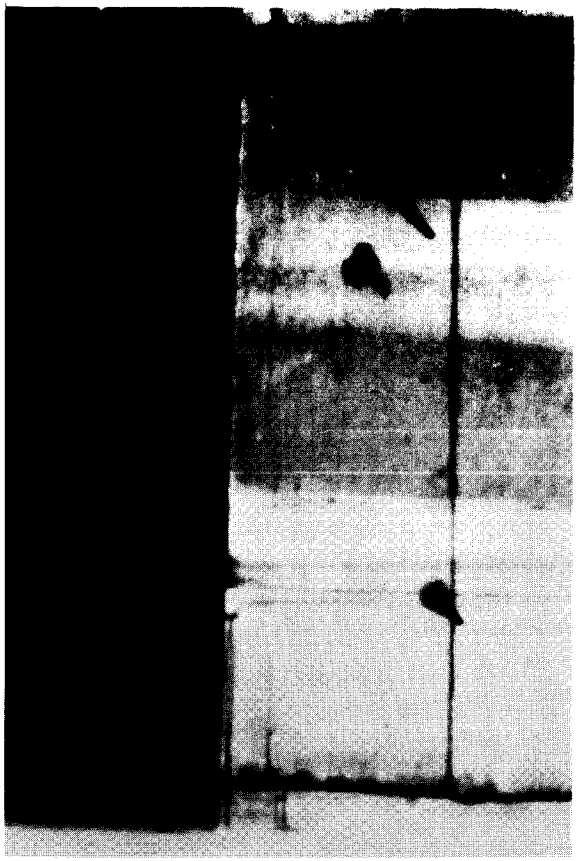


Illustration 100. Atwood-Higgins House: X-Ray through North Wall of East Kitchen, Showing Wrought Nails and Split Lath.

Index of X-Rays

No.	Location/Height	Remarks
1	Rm. 104 cupbd. 37 inches	Wire nails, sawn lath, vertical-bd. divisions, lead paint
2	Rm. 104 cupbd. at floor	Cut nails, lead paint on upper edge of baseboard
3	Doorway 104/102, n. casing 72 inches	T-headed hand-wrought nails, cut nails (incl. finish nail), lead paint
4	Doorway 104/102, s. casing 72 inches	Sm. hand-wrought nail, cut nails (incl. finish nail), wire finish nails, lead paint, dutchman repair
5	Rm. 104 post 48 inches	Looking west to east; wire finish nails, BX cable
6	Rm. 104 post 72 inches	Looking west to east; BX cable increasingly confined as post flares
7	Rm. 101, e. window, s. casing 39 inches	Cut and wire nails, BX cable, glazing points, paint chipping and possible decay of window jamb, no stud
8	Rm. 101, e. window, s. casing 33 inches	Cut and wire nails, BX cable, flashing, no stud
9	Rm. 101, e. window, s. casing 30 inches	Cut and wire nails, BX cable, flashing, no stud
10	Rm. 101, e. wall, s.-end wainscoting 33 inches	Cut nails, lg. hand-wrought nail, alarm system wires, no stud
11	Rm. 101, e. window n. casing 31 inches	Cut nails, flashing
12	Rm. 101, s. wall, e. corner 38 inches	Beaded clapboards, cut nails, "alligatoring" of lead paint, vertical-bd. divisions
13	Rm. 101, s. wall, e. corner 45 inches	Beaded clapbds., cut clapbd. nails, lead paint "alligatoring," vertical-bd. division, split lath

No.	Location/Height	Remarks
14	Rm. 101, e. window, n. casing 34 inches	Cut and wire nails, flashing, lead paint, no stud
15	Same as no. 14 30 inches	Same as no. 14
16	Rm. 102, e. window, s. casing 30 inches	Wire lath, wire and cut nails, flashing, no stud
17	Rm. 102, wall s. of e. window 30 inches	Cut nails, lath
18	Rm. 101, se. window, e. casing 36 inches	Cut and wire nails, lead paint "alligatoring," glazing point, wooden peg, no stud
19	Rm. 101, se. window, w. casing 36 inches	Same as no. 18
20	Rm. 109, post 38-1/2 inches	Looking north to south; cut nail, post and post casing
21	Rm. 109, same as no. 20, closer to doorway casing	Same as no. 20, lead paint
22	Rm. 101, post 36 inches	Looking north to south; wire nail, alarm-system wire, indeterminate post location
23	Same as no. 20, clearer and lower	Same as no. 20
24	Rm. 109, post 37-1/4 inches	Looking west to east; no clear evidence for form of post
25	Rm. 109, s. doorway, w. casing 36 inches	Cut nails within door, lead paint "alligatoring"
26	Rm. 108, se. window, e. casing 31-1/2 inches	Cut nails, lead paint, glazing point, no flashing, no stud
27	Rm. 108, wall e. of se. window 31-1/4 inches	Cut nails, lead paint, no stud

No.	Location/Height	Remarks
28	Rm. 108, w. window, s. casing 32 inches	BX cable, cut and wire nails, lead paint, vertical-bd. grain
29	Rm. 108, sw. window, e. casing 32 inches	Cut nails, lead paint, horiz. wainscot grain, no flashing or stud
30	Rm. 108, se. window, w. casing 32 inches	Cut nails, lead paint, no flashing or stud
31	Rm. 108, w. window, s. casing (lintel member)	Cut nails, vertical-bd. grain
32	Rm. 107, w. window, s. casing 34 inches	Cut and wire nails, lead paint, vertical-bd. grain, no flashing or stud
33	Rm. 105, n. doorway, e. casing 34-1/2 inches	Cut and wire nails, split lath, vertical-bd. grain, no stud
34	Rm. 106, n. window, w. casing 35 inches	Cut nails, split lath, vertical-bd. grain, no stud
35	Rm. 105, ne. window, w. casing 34-1/2 inches	Cut and wire nails, lead paint, split lath, shingle outlines
36	Rm. 104, ne. window e. casing 38 inches	Hand-wrought nails, lead paint, no flashing or stud
37	Rm. 104, n. wall e. of post 34 inches	Hand-wrought nails, split lath, lead paint outlining shingles
38	Rm. 104, n. doorway, w. casing 34-1/2 inches	Wire nails
39	Rm. 103, n. window, w. casing 49 inches	Cut and wire nails, window sash hardware, split lath, lead paint outlining frame
40	Rm. 105, doorway 105/108, w. casing 42-1/2 inches	Cut nails, two layers of lath

E. Door Schedule

The Atwood-Higgins House retains doors from most periods of its history. Doors 104/103 and Attic/109 date from c. 1730, although the latter has been made wider to serve in its present capacity. No doors have been specifically traced to the first expansion of the house c. 1775-1790, but door 105/106 may be such a one: it appears to be earlier than the other, c.-1800 doors in the West Kitchen 105, but later than the c.-1730 doors. Quite a few doors remain from the period c. 1800, particularly in the West Kitchen. All of the doors in the East Front Room 101 appear to date from a c.-1850 refurbishing of that room.

DOOR SCHEDULE

Room Location*	Size (in inches) W	H	D	Panels	Construction & Remarks
101/102	28-11/16	73-74	7/8	(6) recessed with applied molding Rm. 101, raised Rm. 102	(5) exposed tenons & pegged; unpainted
101/104	28-11/16	73-3/4	7/8	(6) recessed with applied molding Rm. 101, raised Rm. 104	(5) exposed tenons & pegged; unpainted; upper (2) panels are lights
101 west cupboard, upper door	25-7/8	46	1	(12) lights	(3) exposed tenons & pegged; painted cupboard side, unpainted room side
101 west cupboard, lower door	25-7/8	33-1/4	15/16	(3) raised	(3) exposed tenons & pegged; painted cupboard side, unpainted room side
104/102	28-1/4	71-5/8	7/8	(4) raised both sides	(4) exposed tenons & pegged; hinge dutchman; door edge unstable
104/103	25	72-1/2	1	(3) raised Rm. 104, recessed Rm. 103	(4) exposed tenons & pegged; dutchman Rm. 103
104 south cupboard, lower door	23-1/4	35-1/4	11/16	None	(2) vertical boards secured by (2) battens with clinched T-head nails
Exterior/104	31-5/8	71	1-1/2	(5) raised Rm. 104, applied moldings on exterior	(4) tenons with pegs; edge-banded on west (hinge) side; unpainted Rm. 104, painted exterior
104 west-cupboard door	14-3/4	26-1/2	11/16	None	One board
105/104	26	72	11/16	None	Board & batten; (2) beveled battens with clinched T-head nails
Exterior/105	29-3/4	72	1-1/4	(4) raised & beaded Rm. 105, recessed with molding on exterior	(4) tenons with pegs; bottom edge-banded, dutchman on interior; unpainted interior, painted exterior
105/106	26-3/8	74-1/2	7/8	(4) raised Rm. 105, recessed Rm. 106	(3) exposed tenons & pegged; unpainted Rm. 105, painted Rm. 106
Attic/105	25	71-3/4	7/8	(4) raised	(4) exposed tenons & pegged; edge-banded top & bottom; unpainted Rm. 105, painted attic side

*Door opens from first-mentioned room into second-mentioned room.

Room Location	Size (in inches) W	H	D	Panels	Construction & Remarks
105/107	29	74-1/2	7/8	(4) raised	(4) exposed tenons & pegged; edge-banded; unpainted Rm. 105, painted Rm. 107
105 southwest-cupboard door	23-1/2	32-1/2	13/16	(2) raised Rm.-105 side, beaded at rails & stiles; recessed cupboard side	(3) exposed tenons & pegged; unpainted
105 fireplace cupboard, upper door	13-5/16	27-5/8	5/8	None	Board & batten; round-headed nails; unpainted
105 fireplace cupboard, bake-oven door	17-1/8	38-3/8	13/16	(1) raised Rm.-105 side, beaded at rails & stiles; recessed & edge-beaded oven side	(2) exposed tenons & pegged; unpainted
Closet/107				None	Board & batten; painted Rm. 107, unpainted closet side
108/105	29	75-1/2	15/16	(6) raised	(5) exposed tenons & pegged; painted Rm. 108, unpainted Rm. 105
108 east cupboard, upper door	29	43	1-1/4	(20) lights	Rail & muntin tenons on top and bottom with pegs; horizontal muntin added as stop against mantel shelf; painted both sides
108 east cupboard, lower door	29	31-5/8	1	(2) recessed with moldings; edge-beaded cupboard side	(2) exposed tenons with pegs; painted Rm. 108, unpainted cupboard side
109/101	28-3/4	74	7/8	(6) recessed with applied molding Rm. 101, raised Rm. 109	(5) exposed tenons & pegged; painted Rm. 109; upper (2) panels are lights
109/108	29	76	1	(6) raised & edge-beaded Rm. 109, recessed with molding Rm. 108	(5) exposed tenons & pegged; painted both sides
Attic/109	29-1/2	73	1	(3) raised with bead Rm. 109, recessed attic side	(4) exposed tenons & pegged; painted both sides; edge-banded on east side (original width, 24-3/4 inches); hand-planed
Closet/109	24-1/4	73-1/4	7/8	None	Board & batten; (3) battens; feathered (2)-board joint; hand-planed; HL-hinges upside down; painted both sides
Exterior/109	34	72	1-5/8	(6) raised & beveled Rm. 109, applied moldings on exterior	Edge-band on hinge side; painted both sides
Attic Bedroom	26	70-7/8	1	(4) raised & edge-beaded on bedroom side, recessed on attic side	(4) exposed tenons & pegged; painted both sides

F. Hardware Analysis

The inventory of hardware includes wrought-iron bean latches,[1] Suffolk and Norfolk thumb latches, H- and HL-hinges, trammels, and miscellaneous locks, knobs, and cupboard buttons. Fasteners, materials, and evidence of changes pertaining to these items also have been recorded.

It is readily apparent that the age of a piece of hardware used on a door does not necessarily correspond with the age of the door, nor with the age of other pieces of hardware on the same door. Door 104/103, dating from the first period of construction (c. 1730), is fitted with a Norfolk thumb latch of the early 19th century. Wrought-iron bean latches found on doors 105/104 and 105/107 appear to be of an earlier fabrication date than the doors themselves. The 19th-century screws and cut nails used to secure the 18th-century wrought-iron bean latches are inappropriate (doors 105/106 and 105/107). Historically inaccurate combinations are also found in the use of latch-bar assembly parts, fasteners, and their respective latches and hinges. The use of historic hardware on a screen door of post-1850 date, and on the attic side of door Attic/105, raise further questions.

Although George K. Higgins does not record any details of restoration hardware work in his journal, the use of historic and reproduction hardware on 20th-century outbuildings built by Higgins suggests that the use of replacements at the main house would have been a possibility. Higgins' personal papers do include hardware drawings for his various outbuildings, and the name of a New York dealer in "Colonial Hardware."[2] With a few exceptions, the discrepancies in the use of historic hardware are attributed to changes made by George K. Higgins.

The matching Norfolk thumb latches and butt hinges on doors found primarily in the East Front Room 101 may be considered historically accurate for the c.-1850 doorway casings and doors. Appropriate hardware is also found on the c.-1800 doors of the West Front Room 108. However, inaccuracies of latch-bar assembly parts do exist in the latter's examples of early 19th-century latches and hinges.

Wrought-Iron Bean Latches

This category includes all wrought-iron latches mounted on cusps that are an extension of the grasp. All wrought-iron latches, including bar assemblies, are either painted black or show remnants of black paint. Bean latches are found on the following:

Door 105/104	8 inches long; fastened with five rose-head nails (one missing); flat thumb press; curved lift, clinched staple; latch bar secured with rose-head nail; two horizontal score lines on grasp
Door 105/106	7-1/4 inches long; fastened with six irregularly headed nails (mostly cut); flat thumb press; straight lift (broken); clinched keeper; nail securing bar; evidence of previous latch on West Buttery 106 side

Door 105/107	7-1/4 inches long; fastened with six screws; flat thumb press; straight lift; bar secured with one screw
Attic/109	6-5/8 inches long; fastened with six irregularly headed nails; flat thumb press; straight lift; clinched staple; latch bar secured with screw; two horizontal score lines on grasp

Suffolk Thumb Latches

This category includes all latches made of cast-metal alloy (bronze or brass) mounted on cusps that are an extension of the grasp. Suffolk latches are used upon the following:

Door 108/105	7 inches long; secured with six screws; dished thumb press; straight lift; latch-bar assembly parts mounted on sheet iron, secured with screws, brass finial; puttied nail holes
Door 109/108	7 inches long; matches latch of door 105/108, with the exception of a bronze finial; earlier rectangular mortise at location of keeper

Norfolk Thumb Latches

This category includes all latches with full-length mounting plates for the grasp. All Norfolk thumb latches, including latch-bar assemblies, are either painted black or show remnants of black paint. Norfolk latches are found upon the following:

Door 101/102	7-1/4 inches long; wrought-iron backplate with notched corners, signed "W. JACOT,"[3] fastened with four screws; full-round grasp with twisted rope design and collars; dished thumb press; curved lift; latch bar mounted on sheet iron and secured with screws; continuous angled metal piece for staple with screw fasteners; iron finial; keeper plate mortised into jamb with two screws for fastening; markings from an earlier configuration
Door 101/104	7-1/4 inches long; backplate, grasp, press, and lift match those of doors 101/102, 109/101, and 104/102; all latch-bar assembly parts mounted on sheet iron and secured with screws; keeper plate not mortised, awkwardly positioned on top of beaded board

Door 104/102	7-1/4 inches long; backplate, grasp, press, and lift match those of doors 101/102, 101/104, and 109/101, with standard latch-bar assembly (on sheet iron, secured with screws); finial missing
Door 104/103	7-1/2 inches long; wrought-iron backplate with notched corners, secured with six screws; full-round grasp with three bands; dished thumb press, curved lift; latch-bar assembly parts mounted on sheet iron and secured with screws; four vertical score lines on bar; iron finial; keeper plate secured with screws on dutchman location; previous nail holes filled, various dutchmen
Exterior/104	6-1/2 inches long; wrought-iron backplate with notched corners; full-round grasp with three bands; slightly dished thumb press; curved lift; latch-bar assembly parts mounted on sheet iron and secured with screws; iron finial; several filled and unfilled holes
Exterior/104 Screen Door	4-3/4 inches long; full-round grasp with one ring and collars; no thumb press
Exterior/105	6-1/2 inches long; matches Exterior/104
Door Attic/105	6 inches long; wrought-iron backplate with slightly curved ends, secured with four screws; thumb press missing; straight lift; collars on swelled grasp; staple not clinched; latch bar secured on plate fastened with three screws; wooden keeper
Exterior/109	8-1/2 inches long; cast bronze; dished thumb press; curved lift; flat ends on exposed screw bolts with nuts and square leather washers on interior side; round, cast finial; keeper plate secured on face of dutchman
Door 109/101	7-1/4 inches long; backplate, grasp, press, and lift match those of doors 101/102, 101/104, and 104/102; standard latch-bar assembly (on sheet iron, secured with screws); brass finial; keeper plate mortised into jamb with two screws for fastening
Attic/Attic Bedroom	Wrought-iron backplate; dished thumb press; curved lift; latch bar on plate; continuous metal piece for staple with screw fasteners; full-round grasp with three rings

H-Hinges

All of these hinges are three-part. They are employed only in the East Kitchen 104, upon the following:

Door, w.-wall cupboard	5-1/4 inches long; upper hinge secured with eight rose-head nails; bottom hinge secured with six rose-head nails
Door, s.-wall cupboard	5-1/4 inches long; secured with eight rose-head nails for each hinge
Door 104/103	5 inches long; lower hinge secured with a variety of cut nails, evidence of previous HL-hinge

HL-Hinges

All hinges of this type are also three-part. They are used upon the following:

Door 104/103	8 inches long; upper hinge secured with 10 rose-head nails, one cut nail, one nail missing
Exterior/104	7 inches long; secured with large rose-head nails
Door 105/104	6 inches long; both hinges secured with 10 rose-head nails, one cut nail, with one nail missing each
Door 105/106	6 inches long; secured with mostly round-headed, cut nails
Closet/109	6 inches long; secured with crudely headed, miscellaneous nails, some with leather washers
Attic/109	7 inches long; secured with many nail types

Butt Hinges

Unless otherwise noted, all butt hinges have welded joints and fixed pins. They are found upon the following:

Door 101/102	2-1/2 inches long
Door 101/104	2-1/2 inches long

Door, Rm.-101 w. cupboard	1-1/2 inches long
Door 104/102	2-1/2 inches long
Screen door	3 inches long, loose pin
Exterior/105	3-1/2 inches long
Door Attic/105	2-1/4 inches long
Door 105/107	2-1/4 inches long
Doors, Rm.-105 fireplace-wall cupboards	1-1/4, 2-1/2 inches long, loose pins
Door Closet/107	—
Door 108/105	2-1/4 inches long
Door, Rm.-108 cupboard	1 inch long
Door 109/101	2-1/2 inches long
Exterior/109	3-5/8 inches long
Door 109/108	2-1/4 inches long
Screen door	2-1/2 inches long

Locks

Locks are used on two of the four exterior doors, as follows:

Exterior/104	Rim lock, 4-3/4 by 3-1/2 inches
Exterior/109	Rim lock, 4-1/2 by 7 inches; 4-1/2 inch key

Fireplace Hardware

East Front Room 101	Two brass tool supports, fastened with screws to fireplace surround
	Trammel: 2 feet 7 inches wide by 1 foot 9-1/2 inches high

East Kitchen 104	Trammel: 3 feet 5 inches wide by 1 foot 8-1/2 inches high
West Kitchen 105	Two brass tool supports matching those in East Front Room 101
	Trammel: 2 feet 6 inches wide by 1 foot 8 inches high Appears to be a later insertion; upper end has caused brick to be chiseled to accommodate it, while lower end has caused brick to split in two
West Front Room 108	One brass tool support matching those in East Front Room 101
	Trammel: 2 feet 4 inches wide by 1 foot 7 inches high Similar to that of West Kitchen 105: brick at upper end appears to be repositioned, with a mortar patch variation; lower end has caused brick to spall

Miscellaneous Hardware

Brass cupbd. buttons (on plates)	East Front Room 101	Fireplace cupbd.; brass knobs
	East Kitchen 104	Fireplace cupbd.
	West Kitchen 105	Fireplace cupbd., oven door; brass knobs
	West Front Room 108	Fireplace cupbd.
Wooden catches	West Kitchen 105	Sw. cupbd.
	Entry 109	Closet door
Metal pull & knob	Ell Bedroom 107	Closet door
Barrel bolts	West Kitchen 105 West Front Room 108	Exterior door; square bolt door 108/105; of metal alloy matching thumb latch
Hook & eye (wrought, twisted)	West Kitchen 105	Exterior door
Metal door stop	Entry 109	
Rim sash fasteners (on side)	East Front Room 101 East Kitchen 104 West Kitchen 105 West Front Room 108	One on each window casing

Door knocker	Entry 109	Exterior door
Brass knobs	East Kitchen 104	W. cupbd.
	West Kitchen 105	Sw. cubpd.
	West Front Room 108	E. cupbd.

NOTES

1. Donald Streeter, "Early American Wrought Iron Hardware: Norfolk Latches," Bulletin of the Association for Preservation Technology, Vol. III, No. 4, 1971, p. 13; refers to cast-iron Suffolk latches (mounted on cusps that are an extension of the handle) as copies of the earlier "wrought iron bean latches."

2. Myron S. Teller, No. 155P Earl Street, Kingston, New York.

3. Streeter, "Hardware," p. 24. "W. JACOT" signed latches appear in this article.

VI. RECOMMENDATIONS

A. Preservation/Restoration Philosophy

Interpretive Focus

There are two documents that affect the future use and care of the Atwood-Higgins House and property. The Cooperative Agreement of July 5, 1961, between the Department of the Interior and George K. Higgins and Katherine F. Higgins, Article III. C., states,

> That when the historic site is established and exhibited for public use, visitation, and enjoyment, it shall be administered so as to faithfully depict to the public, as far as practical, the way of life existing in the vicinity of the historic site and to reflect as far as possible the past history of the house, its adjoining buildings, and surrounding area as representative of Cape Cod.

The approved Interpretive Prospectus (1977) further specifies the themes and objectives of the Atwood-Higgins House interpretation:

> The Atwood-Higgins House illustrates over 100 years in the history of the indigenous Cape Cod architectural form. The importance of this house as an example of this architecture overshadows any events, individuals, and way of life associated with it. The presence of this architectural style throughout the nation as well as its dominance of the Cape Cod landscape dictate that the Cape Cod House become the major interpretive theme at this site.
>
> Interpretation at the Atwood-Higgins complex should:
>
> 1. Acquaint the visitor with the architectural characteristics of the traditional Cape Cod house.
>
> 2. Examine the Atwood-Higgins House as an example of this style and see how it has been altered by generations of occupants.
>
> 3. Familiarize the visitor with the historic evolution of Bound Brook Island, indicative of similar trends and circumstances throughout the Lower Cape.
>
> 4. Impart a general interest in an appreciation for historic architecture.
>
> 5. Acknowledge the role of George K. Higgins in preserving the house.

It is important to realize that between the time the Cooperative Agreement was signed in 1961, and the time the current Interpretive Prospectus was approved in 1977, several changes in interpretive philosophy took place. These stemmed from much critical thinking done in the intervening years. For example, one of the Cooperative Agreement's objectives was "to reflect as far as possible the past history of the house...." However, no historic events or important individuals have been associated with this house, and little is known about the ways of life existing on Bound Brook Island (see Section H of this chapter).

Secondly, the chief interpretive theme was changed from George K. Higgins' use of the historic house, to the way in which the house illustrates the development of the indigenous "Cape Cod house" into a national architectural type. [1]

Finally, the barn, store, and guest house — initially considered to be part of the historic site — were reevaluated and determined to merit less than full historic status. The barn was thought to have insufficient historical and architectural significance to justify its restoration, while the store and guest house lacked any historic precedent whatsoever. [2]

General Statement of Proposed Treatment

"Management Policies" of the National Park Service defines three methods for the perpetuation of cultural resources: preservation, restoration, and reconstruction. Chapter V-13 describes preservation as involving "the application of measures to sustain...the existing form, integrity, and material of an object or structure." It defines restoration as "the process of recovering the general historic appearance of...the form and details of an object or structure by the removal of incompatible natural or human-caused accretions and the replacement of missing elements."

The recommended treatment for the Atwood-Higgins House combines aspects of both preservation and restoration. The recommendations were based upon architectural information gleaned via historical research and nondestructive (Level B) physical investigation. The essential findings were as follows:

1. The house plan evolved from a half-house to a full, five-bay Cape Cod house, with a probable intermediate period of a three-quarter house, and includes an ell addition.

2. The architectural elements that illustrate the house plan's evolution appear to be typical, not individually significant or unique in any way.

3. All dates for the architectural changes are <u>approximate</u> dates, based upon comparative physical evidence. No historic documents were found that would assist in dating.

4. The present appearance of the interior finishes appears to be inappropriate to all historic periods. This primarily results from the absence of paint on most woodwork and floors.

5. Architectural elements from different periods exist within the same room.

Basically, all exterior and interior elements of the main house should be stabilized and preserved as they exist today. The interpretation of the house as an architectural continuum rules out the alternative of restoring to any particular period. The main exception to this preservation approach concerns deteriorated and design-defective material, which should be replaced. Such material includes the chimney flashing, east-wall shingles, brick foundation, and insect-infested structural members.

Most of the furnishings should be removed from the house. They are of mixed origin, and their presence would impede the presentation of the main, architectural theme. The only pieces that should be retained are those that were in the house when George K. Higgins obtained it. These include the family desk, a mirror, a set of painted chairs, fireplace andirons, and some beds. [3]

Current finishes, dating to the 20th century, can be replaced in kind as needed. For example, any repainting should match the existing colors, and any wallpapering should use standard, commercially available papers similar to those hanging today.

At the present time, a few clues to the development of the house are visible. These include charred brickwork and stair ghosts inside the central chimney void. The inclusion of these sights in the interpretive program is desirable, because they can give the visitor a "feeling of discovery." [4] Consideration might thus be given to making a few more such clues visible. Specifically, a portion of the later plaster ceiling might be removed in one or more eastern rooms, to show the c.-1730 ceiling of exposed, whitewashed joists. A piece of post casing might be removed, to reveal the c.-1730 splayed post inside. Areas of paint could be scraped in situ, to expose early layering and colors. Even a portion of plaster wall could be removed, to show the split lath behind it.

Such action would remedy the false appearance now presented by the interior of the house, particularly in the realm of plaster-wall and woodwork finishes. It would also help to reinforce the main interpretive theme of architectural development. However, the action would mean the destruction of at least some historic fabric, and would create a somewhat motley appearance. These issues should be discussed thoroughly before any work is undertaken.

All of the significant outbuildings — the barn, country store, and guest house — should be stabilized and maintained, but not restored.

B. Exterior Recommendations

Walls

Preserve existing north, south, and west-wall shingles and clapboards. Remove 1929 east-wall shingles (Ill. 101) and expose earlier shingles. Such removal is justified by their method of application, on top of existing shingles; their exposure, which extends beyond the corner boards, and the fungus growth (Ill. 102). Information derived from the earlier shingling will determine the final phase of restoration work.

Renew, as needed, the light tan-color paint (Munsell no. 10 YR 7/4, Benjamin Moore CB-40) on all exterior paint surfaces. This color is believed to date to the late 18th century, and was used by the park maintenance staff in the repainting of 1979. Window-sash color should be checked to see if it is different from the light tan.

Roof

Plan for the replacement of wooden shingles within the next five years. The journal of George K. Higgins records one shingling in 1920. The application of boiled linseed oil every other year by Higgins may have prolonged the life of the wooden shingles, and should be considered by the park.

Windows

Preserve all plank window frames, in situ, making epoxy-fill repairs on lower portion of tenons that are exposed on the underside of the sills.

Chimney

Check flashing, and plan for replacement when roof shingles are replaced. Repeated damage on the north side by squirrels warrants regular inspection.

Cornices, Gutters, and Leaders

Clean drainage system on a regular schedule, including gutters, leaders, and dry wells.

Grounds

Remove four to six locust trees on north slope.

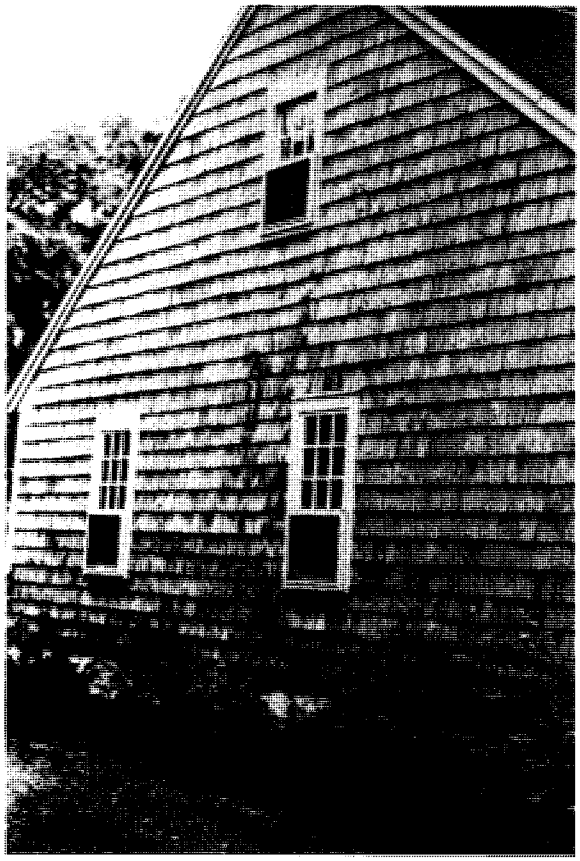


Illustration 101. Atwood-Higgins House: East-Elevation Shingles.

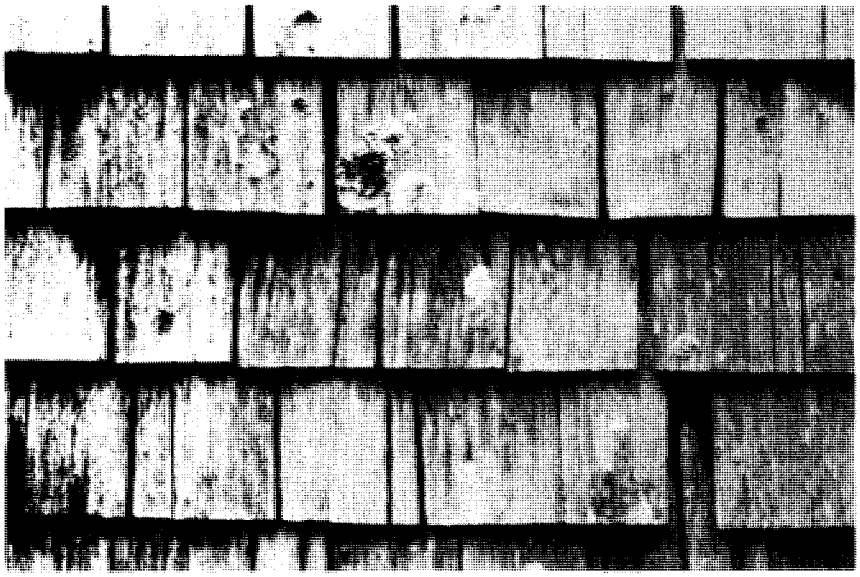


Illustration 102. Atwood-Higgins House: East-Elevation Shingles, Fungal Growth.

C. Structural-System Recommendations

Replace deteriorated framing members in the Circular Cellar, including approximately three joists and an unknown amount of the sills. Replace deteriorated rafters in the roof framing, totaling both north and south rafters of one roof frame.

Evaluate termite infestation in Circular Cellar area, and plan eradication. Termites were not covered by the 1977 Vikane fumigation.

Monitor the structure for recurrence of insect infestation and/or moisture conditions approaching 20% in wooden members.

Obtain an engineer's evaluation of the brick foundation and its loading capacity. The 1928-29 foundation is of questionable strength because of its one-wythe depth, irregular and minimal coursing height, and unknown footing support.

D. Interior Recommendations

East Front Room 101

Only stabilization and maintenance is needed here, unless a decision is made to expose additional evidence of the house's evolution. In that case, park staff could:

- expose earlier paint finishes of the cupboard backing and shelves, by scraping in situ.
- match an early layer of gray-white paint, and paint a section of wainscot, a doorway casing, and its door.
- if possible, have a loose floorboard that can be lifted up to view the structural joints and floor joists "in the rough." Such a floorboard exists in the southwest corner of the room.
- consider a loose-sand or painted floor finish.
- consider the removal of a small portion of the 1938 wall plaster to expose split lath of c. 1730.

East Bedroom 102

Again only continued preservation of the existing fabric is needed. Future work may include having the park staff:

- investigate the possibility of earlier plaster wall finishes under the existing 1920 wallpaper, later baseboards, and pegboard.

East Buttery 103

Only stabilization and maintenance is required here.

East Kitchen 104

Only continued preservation is called for in this room. However, if more architectural "clues" are to be uncovered, park staff could:

- remove a portion of the ceiling plaster and wooden lath to expose the c.-1730 ceiling of whitewashed joists.

- if possible, expose earlier paint finishes of the south plaster wall (above the fireplace), by scraping in situ.

- remove the south casing board of the north-wall post, to expose the post's original form.

West Kitchen 105

The fungal growth should be cleaned from door 105/104 with a solution of trisodium phosphate. Future plans might call for park staff to:

- expose earlier paint finishes of the southwest cupboard's backing, by scraping in situ.

- remove the southern end of the west wall's baseboard, to look for possible existence of earlier finishes.

West Buttery 106

Continued maintenance will suffice here. The exposure of additional clues may make it necessary for the park staff to:

- expose earlier paint finishes of the south wall, door 105/106, and north-window casing, by scraping in situ.

Ell Bedroom 107

Again preservation is the only immediate requirement for this room. A decision to reveal more of the house's development would encourage park staff to:

- expose earlier paint finishes of the wainscot and door 105/107, by scraping in situ.

West Front Room 108

Stabilization and maintenance are the prime goals here. Future work might involve having the park staff:

- expose earlier paint finishes of the wainscot and floor, by scraping in situ.

- investigate the possibility of earlier plaster-wall finishes under the existing wallpaper.

Entry 109

Preservation will be adequate here, unless additional architectural clues are to be unveiled. At that time, the park staff might be instructed to:

- expose earlier paint finishes of the two north-wall doors, by scraping in situ.

E. Outbuilding Recommendations

Maintenance of all outbuildings shall consist of replacement and/or renewal of materials, as needed, in kind.

Problem areas in the past have related to moisture control (Ills. 103-104). It is recommended therefore that regular inspections be established of all gutters, downspouts, flashing, cellars, crawl spaces, and nearby vegetation, to insure the successful runoff of water. Necessary repairs include the:

- replacement of worn shingles — south side of store, shed walls (Ill. 105)
- replacement of split clapboards — store (Ill. 106)
- renewal of flaking paint surfaces — store (Ill. 107)
- replacement of worn entrance steps — store (Ill. 108)
- replacement of rotted trim boards — guest house (Ill. 109)
- removal of all vegetation that traps moisture onto building surfaces —barn (Ills. 110-111)
- cleaning of grade-level drainage areas (Ill. 112). This should include the removal and resetting of stones that have become coated with a motor-oil residue reputed to have been used on roof shingles.
- removal of wood from the woodshed

It may also be necessary to maintain an infestation treatment schedule until all moisture-related problems have been controlled.

F. Archeological Recommendations

Archeological investigations of the Atwood-Higgins complex and of Bound Brook Island would greatly enhance the existing knowledge, and would increase the interpretive value of the site. See "Proposal for Preliminary Archeological Investigation, August 1, 1979, McManamon to Supt., CACO."

G. Interpretative Recommendations

The architectural interpretive theme would benefit from the addition of sample construction materials that could be handled by the visitor. Such samples might include: sawn lath and split lath; modern and historic moldings; handwrought, cut, and wire nails; H- or HL-hinges, butt hinges, thumb latches; etc. A model showing the structural system that could be disassembled to show the changes from a half-house to a full Cape Cod house would also be useful. A brochure focusing on the architectural theme might include some of the more typical details that could prove relevant to a visitor's perception of Cape Cod houses.

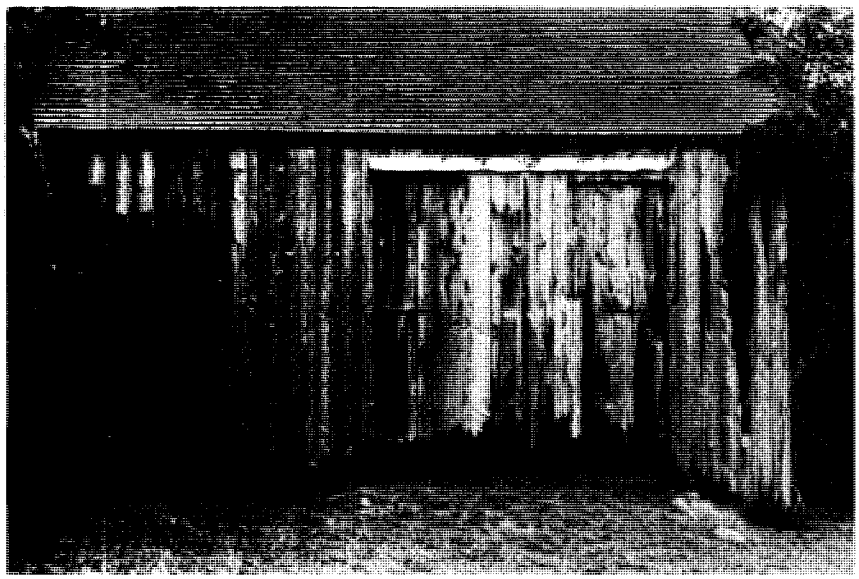


Illustration 103. Atwood-Higgins Barn: Rising Damp.

Illustration 104. Atwood-Higgins Barn: Rising Damp and Fungal Growth.

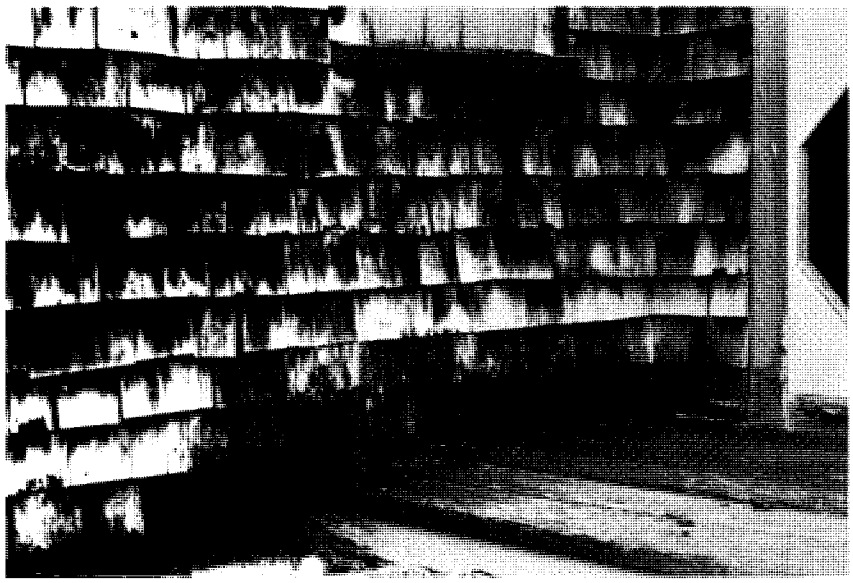


Illustration 105. Atwood-Higgins Country Store: Worn Shingles.

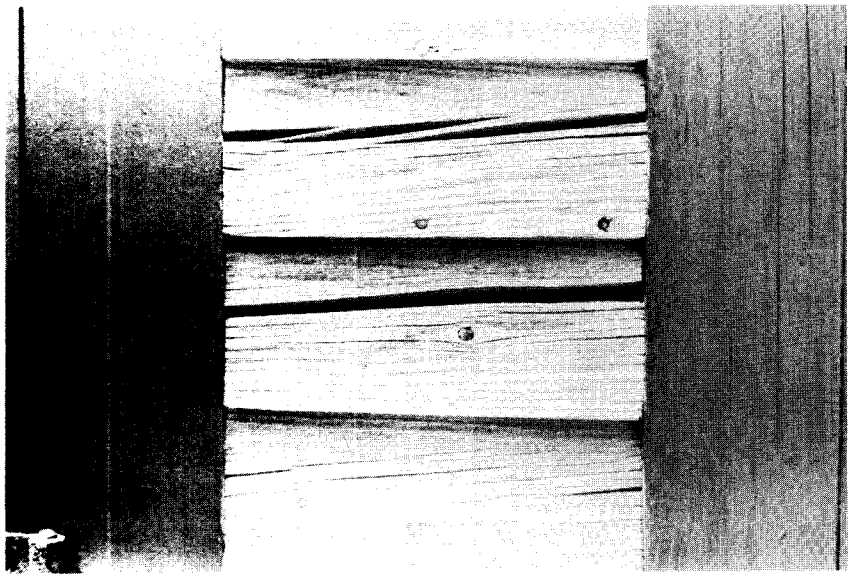


Illustration 106. Atwood-Higgins Country Store: Split Clapboards.

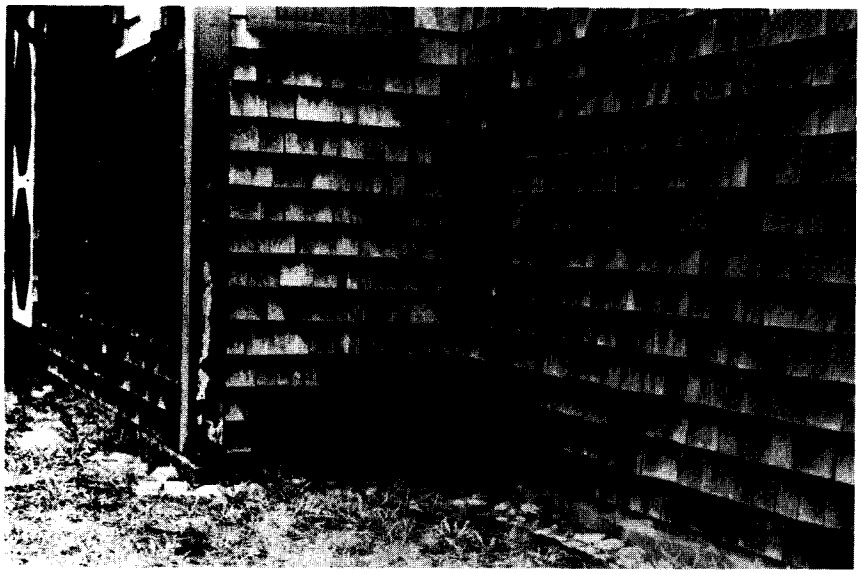


Illustration 107. Atwood-Higgins Country Store: Flaking Paint.

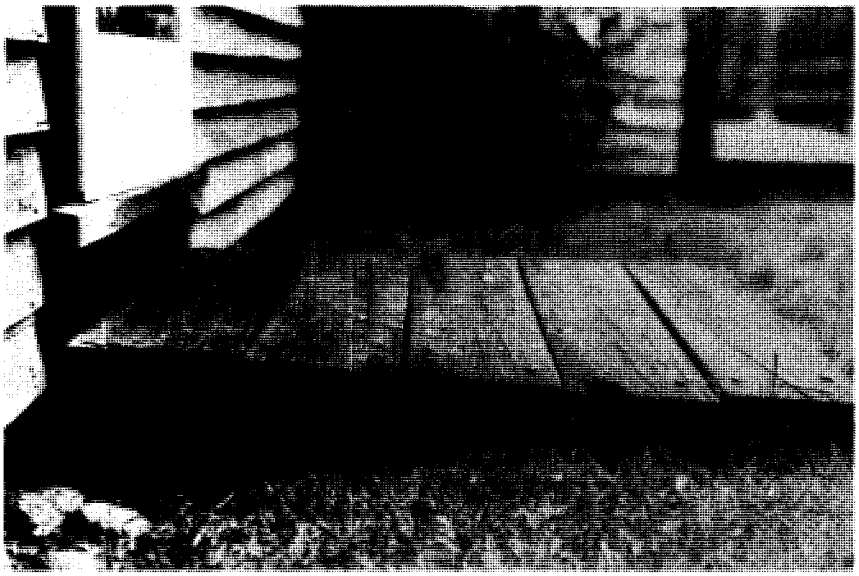


Illustration 108. Atwood-Higgins Country Store: Worn Entrance Steps.

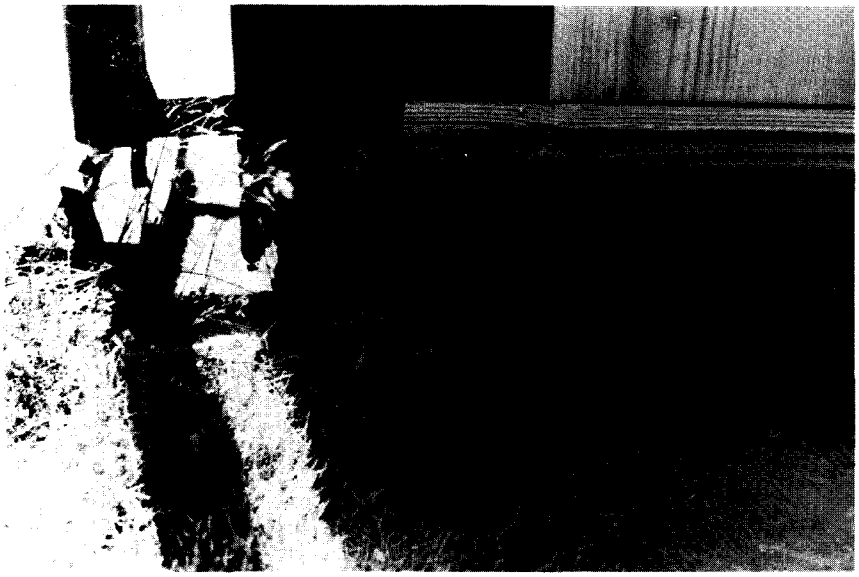


Illustration 109. Atwood-Higgins Guest House: Rotted Trim Boards.

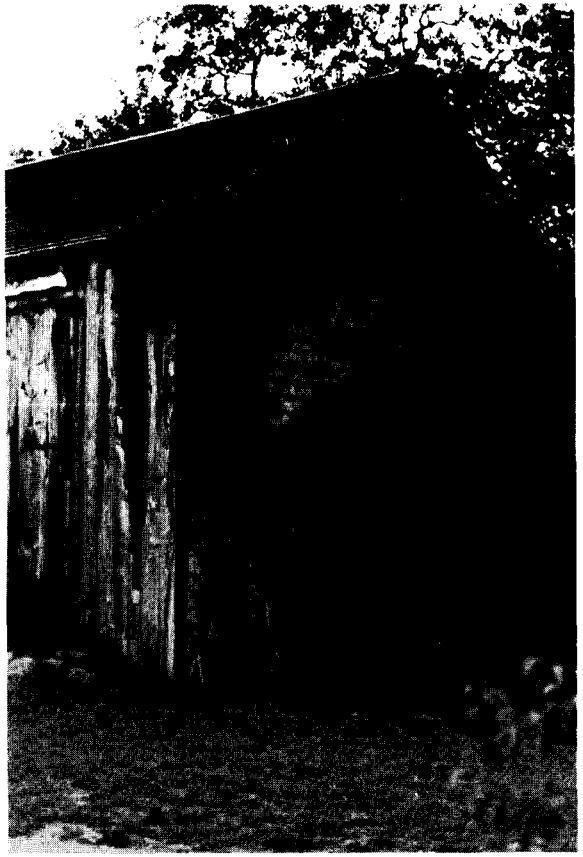


Illustration 110. Atwood-Higgins Barn: Encroaching Vegetation.

Illustration 111. Atwood-Higgins Barn: Encroaching Vegetation.

Illustration 112. Atwood-Higgins Country Store: Oil Residue from Roof Treatments.

H. Recommendations for Further Study

Comprehensive data does not exist about the Cape Cod style of architecture. The measured drawings by the U.S. Department of the Interior, about 30 years apart in their execution, represent several different approaches to the recording of historic buildings. The earlier sets of drawings include interior room elevations and molding profiles of superb and exacting detail. No historical research accompanies these drawings. The Historic American Buildings Survey drawings of the early 1960's do not generally include molding profiles, and are disappointing in their sparseness and lack of historical research. In their present state, none of the drawings are comprehensive enough to be of meaningful interpretive value to the architectural historian. It is strongly recommended that attention be given to the completion of historical and architectural information for the existing research and drawings, and to the addition of notable structures not originally included in the survey studies.

If the park wishes to expand upon the architectural interpretive theme to include more local, Bound Brook Island history, or to design area trails, the following research may be helpful:

- Barnstable County Registry of Deeds and Probate has a collection of unexplored 18th- and 19th-century records that could prove enlightening in their descriptions of land, buildings, and period occupations. The Mayflower Descendant, a publication of the Massachusetts Society of Mayflower Descendants, is also a rich source for unrecorded Barnstable County Deeds.

- Surviving historic buildings located on Bound Brook Island (such as the Joel Atwood and Ebenezer Atwood Houses) ought to have title searches and architectural surveys done in the manner of the Historic American Buildings Survey.

- A search for historic photographs of Bound Brook Island through historical societies, local libraries, and private collections may provide clues about land use, the livelihood of residents, and the structures.

Finally, there are gaps in the genealogical history of the Atwood and Higgins families. As the earliest documented owners of the Atwood-Higgins House, Solomon(5) and Solomon(6) ought to be researched more fully. Specific questions remaining to be answered involve the activities of Solomon(5) after he sold the house in 1796, and the whereabouts of Solomon(6) after he sold the house in 1805. If these facts were known, it might be possible to find wills for the two men that contained inventories of possessions they may have had during their residency on Bound Brook Island.

NOTES

1. Interpretive Prospectus, Atwood-Higgins Complex, 1977, Study Team Captain, Betsy Bradley, Museum Technician, HFC; p. 7.

2. Ibid., p. 16.

3. Ibid., p. 15.

4. Ibid., p. 9.

VII. ANNOTATED BIBLIOGRAPHY

The following list of architectural and Cape Cod historical references was compiled by the Park Chief of Interpretation, Cape Cod National Seashore. The architectural interpretive theme will require a thorough understanding of the resource. A general background may be derived from the following annotated references, while more specific information about architectural elements and development patterns of the Atwood-Higgins House will be found in Chapters III and IV of this report.

Barley, M. W. The English Farmhouse and Cottage. London: Routledge and Kegan Paul, 1967.

This book provides an implicit reinforcement of the idea that inherited traditions of English building construction were of a major consequence to colonial structures. For the person without architectural training, this book will be an ambitious undertaking, although interesting as background material.

Candee, Richard M. "A Documentary History of Plymouth Colony Architecture, 1620-1700," Old-Time New England (The Bulletin of the Society for the Preservation of New England Antiquities), LIX, No. 3 (Winter 1969), pp. 59-71; LIX, No. 4 (Spring 1969), pp. 105-111; LX, No. 2 (Fall 1969), pp. 37-53.

This serialized article represents the most comprehensive and scholarly work on the subject of Plymouth Colony architecture (prior to the establishment of a separate Barnstable County), with significant application to an understanding of the Cape Cod style of architecture.

Connally, Ernest Allen. "The Cape Cod House: an Introductory Study," Journal of the Society of Architectural Historians, XIX, No. 2 (May 1960).

The beginnings of this article came with Dr. Connally's involvement in MISSION 66, a preliminary survey of early buildings on Lower Cape Cod for the Historic American Buildings Survey. It is an excellent article, although several items are erroneous. The explanation for the 17th-century, Plymouth-cottage origin of the Cape Cod house is much too simplistic, as is the explanation for the origin of plank-frame construction. More complete and accurate information will be found in the later work of Candee, "A Documentary History of Plymouth Colony Architecture, 1620-1700." It is also incorrect to relate the protrusion of window frames to the character of wall construction.

Cummings, Abbott Lowell. The Framed Houses of Massachusetts Bay, 1625-1725. Cambridge, Massachusetts: Harvard University Press, 1979.

Although the regional and period focus of this book is not specifically related to the c. 1730-1850 history of a Cape Cod house, the understanding that may be gained about inherited traditions and the evolution of architectural form and details cannot be equaled elsewhere.

Doane, Doris. A Book of Cape Cod Houses. Riverside, Connecticut: The Chatham Press, Inc., 1970.

This book includes freehand drawings of elevations and plans, together with a text that will be most helpful to a new interpreter of architecture. It must be realized, however, that no emphasis is given to the importance of inherited English traditions as they relate to roof and wall construction or chimney placement.

Fleming, John; Honour, Hugh; Pevsner, Nikolaus. The Penguin Dictionary of Architecture. Baltimore, Maryland: Penguin Books Inc., 1966, 1972.

Recommended for clarification of architectural terminology:

Isham, Norman Morrison. Early American Houses. The Seventeenth Century. New York: American Life Foundation (Classic Guide to the Visual Arts), 1968 (originally published 1928).

This book will offer the background for understanding the architectural traditions from which the Atwood-Higgins House evolved.

———. A Glossary of Colonial Architectural Terms. New York: American Life Foundation (Classic Guidebooks to the Visual Arts), 1968 (originally published 1939); includes "The Dating of Old Houses" by Henry C. Mercer.

Both the glossary and section on dating, although superseded by more recent work, will prove useful to a person new to the field of architecture and preservation.

——— and Brown, Albert F. Early Connecticut Houses. An Historical and Architectural Study. New York: Dover Publications, Inc., 1965 (originally published 1900).

With plan, elevation, and detail drawings, this book will help to give a greater understanding of New England architecture.

Kelly, J. Frederick. The Early Domestic Architecture of Connecticut. New York: Dover Publications, Inc., 1963 (originally published by Yale University Press 1924).

An excellent book recommended for a thorough reading.

Kimball, Fiske. Domestic Architecture of the American Colonies and of the Early Republic. New York: Dover Publications, Inc., 1966 (originally published 1922).

A pioneering book in the field of American architectural history. However, it focuses upon high-style developments, rather than the more vernacular styles.

Morrison, Hugh. Early American Architecture. From the First Colonial Settlements to the National Period. New York: Oxford University Press, 1952.

A basic textbook of American architectural history.

Pierson, William H., Jr. American Buildings and Their Architects. The Colonial and Neo-Classical Styles. New York: Anchor Books, 1976.

A basic textbook of American architectural history.

Poor, Alfred Easton. Colonial Architecture of Cape Cod, Nantucket and Martha's Vineyard. New York: Dover Publications, Inc., 1970 (originally published by William Helburn, Inc. 1932).

A "picture book" with plan, elevation, and detail drawings useful for familiarity with elements, though entirely lacking in interpretation.

Saylor, Henry H. Dictionary of Architecture. New York: John Wiley & Sons, Inc., 1952.

Recommended for clarification of architectural terminology.

Cape Cod history references:

Beston, Lowe, Trayser. Eastham, Massachusetts 1651-1951. Eastham: Eastham Tercentenary Committee, 1951.

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Freeman, Frederick. The History of Cape Cod. Annals of the Thirteen Towns of Barnstable County, Including the District of Mashpee. Boston: Printed for the author by Geo. C. Rand & Avery, 1860.

Hall, Grace Fielding. "Atwood Genealogy," Library of Cape Cod History & Genealogy, No. 41 (1914). Yarmouthport, Mass.: C. W. Swift.

Higgins, Katherine Chapin. Richard Higgins. A Resident and Pioneer Settler at Plymouth and Eastham, Massachusetts, and at Piscataway, New Jersey and His Descendants. Worcester, Massachusetts: printed for the author, 1918.

Monnette, Orra Eugene. "Richard Higgins of Plymouth and Eastham, Mass. and Piscataway, N.J. and some of his Descendants," New York Genealogical and Biographical Record, Vol. 46.

Nye, Everett I. History of Wellfleet from Early Days to Present Time. Hyannis: F.B. & F.P. Goss, Printers, 1920.

Otis, Amos. Genealogical Notes of Barnstable Families. Barnstable, 1888.

Palmer, Rev. Albert P. A Brief History of the Methodist Episcopal Church in Wellfleet, Massachusetts. Boston: Rand, Avery & Company, 1877.

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Swift, Charles F. Cape Cod. The Right Arm of Massachusetts. An Historical Narrative. Yarmouth: Register Publishing Company, 1897.

Thoreau, Henry David. Cape Cod. Boston: Ticknor and Fields, 1865 (Volume I).