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The Hollow: Architectural Investigation Report

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Introduction:

The following report and notes are based on a one-day investigation made on June 20, 2000 by Carl Lounsbury, Michael Bourne and Peter Sandbeck of the Colonial Williamsburg Foundation's Architectural Research Department. Also present were: Tom deButts, President of the Friends of the Hollow, and Cheryl Shepherd, historic preservation consultant. We were joined at various times by John Pearce of Mary Washington College, and "Bear" Bryant, property manager for the owner, Dr. David Collins.

The report that follows is arranged in three sections. The first section, the ***Chronology***, represents our best understanding of the evolution of the Hollow, presented in summary form. This is followed by the ***Recommendations*** section, which outlines the needed further investigation, along with recommendations for the physical restoration of the structure. A final section, ***Field Notes***, presents our narrative of the findings of our investigation and provides detailed notes on our observations.

The conclusions presented herein are necessarily of a preliminary nature, due to the limited time and scope of the site visit. More information will certainly be obtained if additional investigation can be pursued. We strongly recommend further study, accompanied by the selective removal of a few original interior sheathing boards and the wholesale removal of later elements such as replacement siding and flooring.

CHRONOLOGY:

Overview: The following outline presents our preliminary conclusions about the date of original construction and appearance, followed by our understanding of the architectural evolution and approximate sequence of major alterations. Evidence to

support these conclusions is contained within the *Field Notes* text at the end of this report. Where dates are given, they are intended to provide an approximate range of the earliest and latest possible years for such changes, based primarily on the technological and stylistic evidence visible on the various building materials, such as saw marks, nails, molding profiles, and construction techniques.

Date of Initial Construction:

Our collective reaction after viewing the entire structure was that majority of the architectural and technological evidence pointed to a construction date of the period from about 1790 to 1800 plus or minus a few years. However, we were not able to examine some critical areas that could provide additional evidence that might either confirm our initial opinion, or just as easily convince us that an earlier date is possible. Our opinion is based on our long-term observations of general trends and patterns in building construction throughout Virginia. We are open to the possibility that the Hollow may, in fact, prove to be the exception to the rule. The framing and overall form and plan of the house do not rule out a date as early as 1763/64, as established by Jack Heikkinen's dendrochronology.

We found two particular details that point to a late 18th or early 19th century date:

1. The small size of the bead that appears on what seem to be original sheathing boards in the west room. Pre-Revolutionary beads were almost always larger, more on the order of 3/8."
2. The original part of the stair construction employs the post-Colonial technique of a full stringer with sawn-out steps, rather than the earlier block or cleat method of stair building found throughout Virginia prior to the Revolution. As there are a number of exceptions, this issue about the construction is less critical than the size of the bead on the sheathing.

Questions still remain about both the sheathing and the stair, as described in more detail in our report. We cannot give a final opinion on the date of construction until we can closely examine these critical areas when revealed by the selective removal of exterior weatherboards, and some of the beaded interior sheathing in both the west and east rooms.

1st Period Appearance: ca. 1764 to ca. 1815:

The house was constructed in roughly its present form, hall-and-chamber plan (to use Upton's terminology), on a stone foundation, with the majority of the fenestration unchanged from today. A stone chimney stood at the west, and almost certainly at the east end as well. A third exterior door was located on the east end, to the north of the east chimney. The roof was wood shingle, probably oak; the shape of the butt end (round vs. square) has not been determined. The exterior was clad with beaded weatherboards secured with wrought rose-head nails, a few of which still survive on the south elevation. All windows contained small-paned sashes, most likely either 9-over-6 (or 6-over-9) at the first floor, and 4-over-4 at the attic. Our determination that there was most likely a second chimney at the east end makes it clear that the Hollow was a finer house than we had initially thought, with three heated rooms and a fully finished garret.

The first floor followed the basic plan seen today, with both rooms finished with the wide beaded sheathing boards which still survive intact in the west room, secured with wrought nails; the sheathing in the east room may be either original or an early 19th century addition; if original, it was taken down and re-nailed with cut nails during the 19th century. The stair opened into the west room. The present rear or north door was at this time located approximately 18" farther to the west, to clear the bottom steps of the stair. The attic or second floor rooms were fully plastered over split wood lath secured with wrought nails. At each end of the attic was a single small window, set off to one side to clear the chimney stacks.

Alternate scenario for 1st Period: same as above, except the interior was unfinished initially, and may have remained so for some time, perhaps five years, or possibly a generation.

2nd Period: ca. 1815-1880:

The stair is rearranged to open into the east room as it now does, and perhaps widened to make it more convenient. The partition wall between the two first floor rooms is re-worked to accommodate the revisions to the stair. The sheathing boards in the east room were either added, or taken down and re-nailed to accommodate the many changes to this room. The north door was moved slightly to the east (18") to center it with the south or front door. The east chimney may have been removed at this time, accompanied by the removal of the door in the east end wall and the rebuilding of the east wall of the cellar; the chimney and door removal and related work could also have been part of the substantial alterations made during the 3rd period. The attic window at the east end is moved to the center of the gable and enlarged to its present form.

Portions of the attic were re-plastered, probably as a result of chronic leaks in the wood-shingle roof and the move of the window.

3rd Period: ca. 1881-1920:

The south addition (now demolished) was constructed, resulting in the complete re-orientation of the house and providing the impetus for several major interior alterations. The presence of wire nails in the former south addition, now demolished, indicates a construction date of no earlier than about 1890-1900. As Upton pointed out, the addition forced the occupants of the house to re-arrange room uses to provide a newer, more logical circulation. New exterior siding was installed. The original small-paned window sashes were replaced with 2-over-2 sashes. New floorboards were installed at the first floor level, completely replacing the original floor in the hall and over the old floor in the smaller east chamber. The south window of the chamber was replaced with a door. The east chimney was removed, the east door was closed off, and the east wall of the cellar was rebuilt. If these changes to the east end had not already taken place during the 2nd period. Major repairs were also made to the original frame, including the replacement of large portions of the sills and reinforcement of the floor joists.

Recommendations for Further Investigation and Restoration:

A number of questions remain unanswered about the architectural evolution of the Hollow. We believe that one additional phase of architectural study, focused on a few key issues, will resolve most of the remaining mysteries. This work should be carried out in the near future, prior to making any firm plans for restoration, and certainly before the start of any physical work on the property. As in any investigation of an archaeological nature, valuable evidence will be lost forever once the fabric of the structure has been disturbed or removed by construction activity. It may be possible to make use of a boroscope or fiber-optic remote viewing device, which would permit the examination of some hidden details without the need for removing fragile original materials. The resolution of these questions will then make it possible to undertake a much more accurate restoration of the Hollow. Any further architectural investigation should include the study of other 18th century structures in the general vicinity, particularly the ca. 1774 Thomas Marshall House still standing nearby.

Areas for Further Investigation:

Framing Details: Remove selected replacement weatherboards on each elevation to expose original framing members. This will permit study of joinery and expose all

original and replacement timbers, helping to confirm our findings about the east chimney, the east door, the movement of the north door, and any other early changes to the framing. Other framing details thus revealed may help to resolve questions about the exact date of construction. The late 19th or early 20th century siding will ultimately be replaced during future restoration work, so its removal will not cause any harm; it can be replaced temporarily with inexpensive plywood covered by roofing felt. This is relatively unskilled work.

Interior: Wall and Ceiling Finishes and Stair Evolution: A few of the wall and ceiling sheathing boards need to be removed from the hall or west room, and from the chamber or east room, to reveal the inside or nailing faces of the ceiling joists and wall studs, and to expose key framing members associated with the stair and its alterations. This will resolve questions about whether the rooms had any finishes at all during the first period, and whether the sheathing boards in the east room were removed and re-nailed or simply added later. More importantly, this will provide firm answers to the many lingering questions about the location and possible movement of the stair. This will be a fairly delicate operation and should be undertaken by a very skilled carpenter working under the direction of an architectural historian, so that only the essential boards are removed. Any boards removed should be labeled and their exact locations recorded on plans or photos. One of the important goals of the restoration will be to preserve as much of this original sheathing as possible, in situ.

Windows and Doors: The window pane configuration must be determined through the careful study of the frames and jambs, which should provide evidence of the original sizes. We would expect to find that the sashes had the standard 8" by 10" panes that predominated during the second half of the 18th century. The actual opening size will provide some information and will help tell whether there were 9 over 6 sashes, or perhaps 6 over 6. If the physical evidence is inconclusive, then local precedent must be examined to determine the most prevalent pane configuration in the 18th century.

Historic Paint Finishes Analysis: The original exterior and interior paint finish colors should be determined in the near future, while there is still some evidence available on surviving fabric. On the exterior, the original weatherboards on the south elevation, and the fragments of the original cornice on the north or rear elevation, should all be examined, along with any remnants of original window or door trim. The early board and batten door, which was originally an exterior door, might also yield paint color information. On the interior, the wall sheathing and the few remaining original window and door surrounds should provide excellent samples for historic paint color analysis. Some evidence of an early Spanish Brown color was visible under later whitewash on the original board and batten door and on the window surrounds. We recommend using one of the regional paint research experts, such as Matthew Mosca in Baltimore, Frank Welsh in Philadelphia, or Susan Buck in Boston.

Archaeological Investigation: The site clearly merits a comprehensive archaeological investigation, which could provide valuable data about outbuildings and other site features, as well as resolve outstanding questions about the main house. There are two primary areas of focus: investigation needed to resolve questions about the architectural evolution, and the larger context of the site itself, which also deserves a full survey. It should be possible to gain further information on the approximate date of construction from an investigation of the builder's trench. Questions about the possibility of the east chimney can also be resolved by archaeological evidence. The very interesting cellar of the house should be studied to determine the original floor level and use. There are some excellent contract archaeologists in Virginia who could readily undertake this project. We suggest breaking the work up into two phases: a focused investigation of the house itself, followed by a more comprehensive investigation that includes the surrounding site to locate the outbuildings usually associated with a domestic site, such as the kitchen, smokehouse and dairy.

Recommendations for Restoration:

We recommend that the initial restoration efforts be focused on re-establishing the physical integrity of the structure, and installing a new roof and new weatherboards. The actual process of the entire restoration could be undertaken in gradual phases, in the spirit of an educational project, whereby each phase is carried out as a demonstration for the benefit of the general public and school children. We have learned that our ongoing historic building trades activities here at Williamsburg are among our most popular attractions. Craftsmen could explain and demonstrate the nature of 18th-century masonry and carpentry skills to visitors.

Exterior:

Structural: Stonework: Repair the stone foundation and chimney, using lime mortar of the appropriate strength and color to match the original mortar. A skilled restoration masonry craftsman should be employed for this work. We recommend Jack Peet of Williamsburg or Ray Cannetti of St. Mary's City, MD. The two fireplaces in the west chimney should be very carefully re-opened, taking great pains to prevent any structural collapse or damage. Each firebox should be studied to determine the original finish and shape. Reconstruct the east chimney, based on the findings of the archaeologists and further architectural investigation; most details should be copied from the west chimney.

Structural: Framing: Expose the original framing by removing the replacement weatherboards to permit final investigation. Provide temporary stabilization to prevent racking or leaning, using diagonal braces, strapping or cables, and/or temporary plywood panels attached with screws. Repair deteriorated framing members using

appropriate replacement materials. As repairs are made, the entire frame will require some jacking to return the house frame to a reasonably level condition (it does not need to be perfectly level). Where framing members will be hidden, it is acceptable to use modern pressure-treated materials. Use traditional joinery for primary replacement elements wherever possible. The perimeter sills and the ends of many of the floor joists will require extensive work; many joist ends will have to be replaced or supplemented through the use of "sistering" new joists alongside the old materials. Attach new joists by through-bolts or lag bolts to provide strength. Always retain as much of the original framing members, studs, joists, etc. as possible. Add strength or reinforce through supplemental members, rather than outright replacement.

Exterior Finishes: Obtain reproduction weatherboards and window and door frames, copying the original elements that still survive at the west end of the south elevation. Use reproduction wrought nails for weatherboards, such as the rose-head nail made by Tremont (galvanized to prevent rust). The replacement weatherboards should match the originals in all details, such as width, taper, size of the beaded edge, etc. The beading and finishing could be done by hand as a demonstration. Where feasible, use the same species as the original, such as old growth pine. New reproduction door and window frames and moldings should be made by a millwork shop to match the originals in all details; copy the backband that survives on the door for use on the window frames. Use rot-resistant materials such as heart pine, redwood, mahogany, etc. New reproduction window sashes will be required; the exact number, size and placement of panes (i.e., 9 over 6 versus 6 over 9, or perhaps 6 over 6) will be determined through additional architectural investigation, supplemented by local precedent, if any.

Cornice and Rakeboard treatment at gable ends: Replicate the cornice, copying the fragments that survive on the rear or north elevation, including boxing details and molding profiles. The ends of the cornices were formed by extensions of the corresponding weatherboards at that level, rather than with a separate pattern board. The original rakeboard treatment on the gable ends would have consisted of beaded rakeboards which tapered slightly; the width at the top or ridge might be 4" while the width at the eave or lower edge might have been 6"; most likely ¾" to 1" thick. The gable ends should be finished with the rakeboard nailed directly to the weatherboards; the shingles should overhang the rakeboard by approx. 1" to 1-1/2".

Roof: Remove the existing roof. Repair shingle laths where required, taking care to preserve all original laths where possible. Replace missing laths with new ones of rough-sawn pine of the same thickness as originals. Investigate attic area with great care to locate potential remnants of original shingles to provide information about shingle length, width, species, and whether the originals had square or round butts. Obtain new reproduction shingles of the correct size, species, and butt shape. Install

new roof using hot-dipped galvanized cut nails (Tremont makes a good nail for this). The whole process of making shingles by hand and installing them directly on the shingle laths, in the traditional manner without roofing felt or plywood underlayment, will make an excellent demonstration or educational project.

Interior Restoration: First Floor

Flooring: Carefully remove late 19th-century replacement floorboards in both rooms; this will be necessary to undertake the structural repairs outlined above. Take great care with the removal operation in the east room, as these boards are nailed over the original wide pine boards. Careless or unsupervised removal of the later boards could cause extensive damage to the originals, which should be preserved and retained if at all possible. Some original floorboards may have survived under the stair, where they have been protected from wear for a long period of time. Study the original floor in east room carefully to document pertinent details, such as nailing, type of grain, tongue-and-groove detailing, evidence of the hearth for the original east fireplace and detailing of floorboards where they meet the hearth, etc., and perhaps even clues to the mystery of the stair location. Obtain reproduction or recycled yellow pine flooring that matches the original surviving boards as closely as possible in range of widths, thickness, grain, growth ring count and knot patterns, etc. Use appropriate nails (probably wrought T-headed nails) that match the original nails and nailing pattern (face nailed or blind-nailed). A blacksmith should make the nails; if that is not possible, Tremont cut nails can be used, provided that the head is hammered flat to create the effect of a T-head nail. To achieve an appropriate period finish on the new and old boards, scrub the floors with the traditional favorite recipe: sprinkle clean fine sand over the floor, then scrub hard using box lye to clean and bleach the boards. For a somewhat safer treatment, scrub the boards repeatedly with TSP, always with hot water which releases its active ingredients.

Wall and Ceiling Sheathing: Retain all existing sheathing in place wherever possible in both rooms; the use of cut nails in the east room reflects a later 19th century alteration, but the difference is not visually significant enough to risk serious damage that might be caused by any wholesale removal of the boards in that room. Certain boards will require repair or replacement, such as those damaged by water, or those that were replaced with inappropriate circular sawn stock. In all other cases, the rule should be to leave all boards in situ. Obtain new reproduction sheathing boards to use as replacements. These can be made of new clear yellow pine, but must be finished with hand-planes on the surface facing into the room, to match the jack-plane marks seen on the original boards, along with the other key details, such as the small bead and the tongue-and-groove joint. Nailing should match the adjacent original nailing, i.e., use matching hand-wrought nails in the west room and matching cut nails in the east room.

Fireplace and Hearth: Remove the later infill from the fireplace opening with great care. It may be necessary to use temporary shoring or bracing to support the original undisturbed stonework above the firebox. Restore the arch which spanned the opening, following the clear evidence of an original brick segmental arch which can be seen in each jamb. This work must be done by a skilled mason to avoid damage to the original stonework and the loss of evidence of the original treatments. Use the correct materials, such as lime and sand mortar and hand-made reproduction bricks. The hearth should be carefully studied to determine the original stone pattern and then restored.

Door and Window Surrounds: The original front door surround is a very valuable artifact and should be preserved and used as a model to copy the door surround for the back door. Likewise, some of the original window surround moldings are intact and can be copied to replicate the molding profiles needed during the restoration. Use wrought nails to replicate the original nails; presumably the moldings and trim had T-head nails.

Interior Paint Finishes: The goal should be to preserve early finishes where possible, rather than to strip or otherwise remove early or original paint finishes. Loose whitewash should be carefully removed from the original wall and ceiling sheathing boards using plastic or wood scrapers which will not gouge or damage the original boards. Pending the results of an interior finishes analysis, we see many layers of whitewash and would expect that the walls and ceilings were originally whitewashed. If analysis shows a whitewash finish, new whitewash can be applied using one of these simple formulas: "Modern whitewash" is composed of a mixture of approximately 3 gallons of a lime and water slurry (use masonry lime, not agricultural) combined with 1 gallon of modern acrylic latex flat white paint, which provides a superior binder. "Traditional whitewash" is just that: lime and water, plus the helpful addition of an anti-mildew additive if that is a concern. Adjust the proportions of lime and water to give a thick but brushable mixture. The secret to applying whitewash is to stir the mixture frequently between every few brush applications. The trim should be painted to match the colors revealed by the finishes analysis.

Interior Restoration: Second Floor

Flooring: Nearly all of the original pine floorboards survive at this level and can be preserved, cleaned and left in place. As in most houses of this period, the floorboards on the second floor were probably wider and coarser-grained than the flooring in the more important first floor rooms, so we would not recommend copying these boards for the first floor. Carefully patch any areas where the boards are missing or damaged. Use reproduction nails to match the original nails. Clean with several applications of

the TSP treatment outlined above; lye is probably not needed since these are fairly uniform in color and wear.

Walls: The original riven oak studs survive largely intact for the partition walls and stair enclosure; replace any missing studs. Much original split plaster lath, held with wrought nails, remains. Preserve the original lath in place, and install new wood laths and re-plaster the attic rooms to match the original plaster. If wood laths are not feasible where large areas are missing, metal lath can be used to supplement the original wood, then plastered.

Doors: All of the original doors are missing at this level. Most likely, the original doors were simple board and batten doors, similar or identical to the one original door on the first floor. Construct replica doors to match the original, using yellow pine, finished with jack planes. Use hinges which conform to the hinge evidence on the door jambs.

Windows: Restore the gable end windows to their original configuration. Re-open the original east window opening located at the north end of the east gable. Do this with great care to preserve the original frame members. The surviving original framing members of the original east and west window jambs must be studied closely to determine the size and configuration of the original sashes.

Fireplace: Investigate the original firebox carefully, to determine its original size and shape. The plaster lath wall finish appears to have originally extended across the chimney breast. Re-open the firebox and restore as determined by additional research.

FIELD NOTES FROM SITE WORK ON JUNE 20, 2000

EXTERIOR

Weatherboards: Some fragments of the original beaded weatherboards survive in place on the south elevation, at the west end, secured with wrought rose-head nails. These were covered by a late 19th-century addition that linked the old house to the two-story structure built just to the south of the main house. The rest of the Hollow is now covered with plain weatherboards, square edged, held with wire nails and cut nails, and now severely weathered. Thus, the house was still clad in the original weatherboards at the time the connector was built; the replacement weatherboards came after the connector. We did not observe any evidence of the original corner board treatment, but presume that it was a beaded board. Close examination of the corner posts when exposed might reveal whether the corner boards were single boards or made up of two boards.

Framing: We examined only small portions of the original framing, leaving many questions unanswered until we can return to the site and work with a carpenter to remove other selected weatherboards to permit further study. We noted questions about some of the corner posts and corner braces, where we found that the downbraces have lost their tenons where they meet the corner posts. Each corner can be readily checked when the weatherboards are removed.

East end wall investigation: Removal of the modern weatherboards from some key points along the east end wall revealed framing of conventional 18th-century timber construction, with heavy corner posts and principal posts, and lightweight infill studs. The discovery of three original intermediate principal posts along the length of this wall, along with later circular-sawn infill studs, provided strong evidence for a chimney at the east end as well as a door which was located to the north of the chimney. The entire sill at the east end is circular sawn and hence a replacement.

East Chimney Evidence: A pair of heavy original principal studs, measuring 6" wide by 3-3/4" deep in section, placed 6'-5" apart, define the location and width of an original chimney at the east end. We do not presently know when the chimney was removed (or fell), but presume that this event took place in the late 19th or early 20th century, prior to the ca. 1916 photograph. The space in between these two heavy studs now contains circular sawn infill studs added to provide nailing support for the weatherboards that had to be added to span the former chimney opening. These infill studs probably date to the late 19th century or early 20th century in this context; circular sawn lumber was first widely available in the 1850s but we do not know when the first circular saw mill began operating in Fauquier County. The fact that the infill studs are later circular sawn material, and thus inserted into a void in the original framing at a later date, tends to indicate that the east chimney was actually built and existed at least into the mid-19th century.

Evidence of original east door: Within the short span of wall to the north of the chimney we found a third original principal stud (5-1/4" wide by 3-3/4" deep) and a heavy original header. The opening between the heavy stud and the north corner post is 3'-0", which is the correct dimension for a door opening. There is a single circular sawn infill stud in the center of the door opening to provide a nailing member for the weatherboards.

Cornice: Portions of the original cornice appear to remain on the north or rear elevation. These should be examined in greater detail to ensure that they have wrought nails and are in fact first period. The ends of the cornices were formed by extensions

of the corresponding weatherboards at that level, rather than with a separate pattern board.

Rakeboard treatment at gable ends: The present gable end detailing all dates from the period of the replacement weatherboards, or the late 19th or early 20th century. The original treatment would have consisted of beaded rakeboards which tapered slightly; the width at the top or ridge might be 4" while the width at the eave or lower edge might have been 6"; most likely ¾" to 1" thick. Study any potential local precedent for further evidence for the exact nature of the rakeboard detailing favored in this area.

Windows: Replacement 20th century sashes; exterior facings and sills appear to be replacements and are severely weathered. The east window of the south or front elevation was converted to a door during the late 19th or 20th century. The west window retains the original trim and sill—both heavily weathered.

Doors: At present, the exterior doors are either missing or late 19th/early 20th century replacements. The present board and batten door on the partition wall on the first floor appears to have been an original exterior door, judging from its severe weathering and lock evidence. It could serve as a model for the exterior door. Local precedent should be examined to determine what type of door would be appropriate. The board and batten door might also have survived from the now-removed door at the east gable end.

Question: Any possibility that the original front and rear doors could have been panel doors instead of board and batten? The double architrave suggests that a more finished or polite door might be appropriate.

West Chimney: Field stone, roughly laid, in lime and clay mortar, gives all the appearances of the first period chimney, with later cement pointing and reworking.

INTERIOR: CELLAR

Floor Framing Details: East End: We made only a cursory investigation of the cellar area, but noted some important details that help to confirm the existence of a chimney at the east end. We were struck by the original use of a summer beam for the first floor framing. It is unusual for a building this small to have a summer beam, a feature more often seen in buildings of a much wider span. It is pretty clear the summer beam originally terminated at the east end in the same manner seen at the surviving original treatment at the west end. The east end sill, and the first joist immediately west of that sill are both circular sawn replacement members, so we have lost some of the evidence for the exact details. The east-west summer beam survives intact and terminates at the east end in a half-lap/tenon as it still does at the west end. This would have originally been supported by a heavy joist, as it still is at the west end. The

summer beam is supported near the end of its length by an internal stone wall, similar to the internal wall at the west end.

Other Cellar Details: We debated the function of the apparently redundant internal walls at the east and west ends of the cellar, but could see no real purpose other than to carry the load of the heavy summer beam, which of necessity had to terminate prior to reaching the hearths at each end. Perhaps the builder was uncomfortable with the idea of supporting the large summer on only the two joists that spanned from front to back; the joists also had to carry the loads of the hearths. The internal wall at the east has a small recess or remnant of an opening, apparently original, which retains an interesting early frame, at the north end; this opens into the small cavity or space between the internal wall and the east foundation wall of the house. We would expect to find that there was some means of entering the cellar without going through a hole in the floor from the first floor rooms. The location of this one opening suggests such an outside entrance, but we will have to look further for evidence of a corresponding opening in the outer east foundation wall. However, most or all of the latter appears to have been heavily rebuilt at the time the chimney was removed.

INTERIOR: FIRST FLOOR

Stair:

Construction: The stair is carried on two stringers, sawn out of single boards in the traditional manner; these appear to be pit-sawn. This type of stair construction generally tends to date in this region from the very late 18th century or later; stringer stair construction was extremely rare or virtually unknown prior to the Revolution. The earlier form of stair construction employed separate blocks of wood or cleats for each tread, nailed to diagonal boards to form a built-up stringer. The upper portion of the stair is wrought-nailed and shows no evidence of having been disturbed or moved. The lower portion, consisting of the winders and the last steps leading to the floor, is cut nailed and crudely framed, showing that this section has been re-worked and is a second-period alteration.

The vertical boards which form the west wall of the stair enclosure are nailed with wrought nails to the east face of the "second" joist and extend upward to fit tightly under the wide cap-board at the second floor level, which is wrought-nailed in place. At the north end of this west wall of the enclosure we find three boards which are held in place with cut nails, closest to the rear door. These cut-nailed boards provide evidence that the first period stair most likely turned in the opposite direction to land in the west room or hall, rather than in the east room or chamber as at present. The vertical boards forming the east wall of the stair enclosure are nailed to the east face

of the corresponding joist, but these nails could not be examined without removing either some ceiling sheathing or some floor boards upstairs.

It may be significant to note that the wall sheathing on the north wall of the stair enclosure, which extends over to the east window of that wall, is all applied with cut nails. The stair enclosure in its present altered form covers or captures that sheathing, showing that the stair was changed after the wall sheathing was applied with cut nails. This seems to reinforce the observation that the stair was reoriented from the west room to the east room sometime during the second period changes that were made in the 19th century, either at the same time that the present wall sheathing was applied in the east room or sometime afterwards.

Questions/things to look for:

Need to examine the nails that hold the east wall of stair enclosure to the joist.

Remove one ceiling sheathing board from each of the first floor rooms to permit examination of the areas on either side of the cuts that give the appearance of indicating an earlier location of the stair.

Study movement of rear door; nails, joinery, etc. When did this take place?

West Room:

Wall Sheathing Boards: The walls are covered with wide boards, probably pine, tongue-and-groove, with a small bead along one edge, all wrought nailed. Significantly, these boards, and the use of the wrought nails, all stop at the partition wall and do not extend into the east room. The small scale of the bead (1/8" \times 3/16") is less bold and less vigorous than we would expect for the 1760s and instead suggests a date range from about the 1790s until the 1830s. If these boards prove to be original, the small bead provides serious evidence for the later date of construction. On the other hand, it is conceivable that these boards were added later as an improvement made in the 1790s or even as late as the 1810-20 period to the earlier house; wrought nails were still employed for certain applications at that later date. However, we could see no evidence to suggest any finish treatment earlier than these boards.

Question: Our recollection is that these boards are pit-sawn. Need to verify when a few are removed.

Ceiling: Wide beaded tongue-and-groove boards, similar or identical to the walls, with wrought nails. The joint between the walls and ceiling is trimmed with a small

beaded board which appears early or original. The same issues discussed for the walls apply here as to whether these are original or a later addition, with definite implications as to the date of construction. There is a clear break or joint line in the ceiling boards, running north-south or front to back, approximately 3 feet west of the stair, and about as long as the stair. Two theories emerged during the site visit. The first is that this line is the natural product of the original sawing/wood finishing operation, which produced boards for the wall sheathing that measured no longer than about 12 to 13 feet. Another theory is that the stair was moved eastward about 3 feet to its present location sometime after the date of original construction, for unknown reasons. While this is an attractive theory, it leaves several unanswered questions: What was the motivation for moving the stair? The stair enclosure at the attic level has not been moved and appears to be original first period fabric. This raises the question: could the stair have been moved at the first floor level without leaving some evidence of the move in the stair enclosure above?

Question: what type of nails are in the small beaded trim board at wall/ceiling joint?

Fireplace and Related Elements:

Firebox: The first period fireplace opening has been closed up with rough stone infill, probably at the time a stove was added to this chimney; there is a stove flue hole or thimble higher up in the chimney face. The original opening was spanned by a brick segmental arch which supported the stonework above. The entire chimney unit appears to be largely original, built of fieldstone with lime and sand and mud mortar, supplemented by later cement patches. The original fireplace opening measured approximately 3'-9" wide by 3'-0" high. This size is too small to be functional as a cooking fireplace, thus arguing for a separate kitchen structure. The hearth needs to be studied to determine its exact original treatment and pattern.

Mantel: There is no way to determine the original design or appearance of any mantel or fireplace treatment. The present mantel/shelf is a late 19th or early 20th century alteration.

Framing at fireplace opening: The two principal studs which flank the fireplace opening show a pattern of 1 inch holes, spaced approximately 7-1/2 to 8 inches apart, bored into the sides of the studs facing the firebox, for the full height of both studs, far above just the fireplace opening. We could find no firm indication of how this was used. Speculative explanations include: could these studs (and perhaps other elements), have been re-used from an earlier log building? Do these holes reflect some sort of provision for an original log chimney? Also, there are downbraces or corner braces on this wall.

Partition Wall: Vertical wide boards, tongue and groove, with a small beaded edge identical to the wall boards of the west room. We question why the partition wall runs over the east side of the south or front door architrave; there is no logical explanation for this, thus raising some question about the sequence of events and the remote possibility that the wall itself was moved at a very early date; or, was the front door opening shifted? Also, need to resolve questions about whether the stair location was ever related to the joint lines or breaks in the ceiling sheathing boards, and thus, if the partition wall had a much different configuration during the first period. There is an interesting cloak rail or coat hook board nailed to the sheathing with cut nails along most of the length of the wall at about head height. The lower edge is molded in the profile of a typical Federal-period cyma reversa with astragal. This appears to have been used as a piece of molding in another location or building prior to its installation here.

Question: Are the nails for the partition wall boards visible?

Door in partition wall: This appears to be an original or first period door, of typical board-and-batten construction, wrought-nailed, with extensive evidence of heavy weathering on the west face (side that faces west when closed) indicating that it was originally an exterior door and was later moved to this location. It has wrought H-L hinges still in place, fastened to the door itself with wrought nails with leather washers, and to the door surround and jamb, with modern wire nails. It shows a long history of many locks, as was typical for an exterior door. The height, at 5'11", is consistent with the height of the surviving original header or trimmer of the rear or north door. We noted early Spanish Brown paint under later coats of whitewash and white paint. The first period lock was probably an iron box lock; the size can probably be determined from the study of the outline, keyhole and mounting screw evidence still visible in door.

Front or South Door: This was fitted with a fine double architrave, with an applied ogee or cyma reversa backband surviving on the east side on the interior. We found that this backband was secured with wrought nails. The frame itself and the surviving trim elements appear to be original first period fabric. The east side of this architrave is now covered partly by the partition wall, which butts directly into the face of the molding. The original door itself is missing, so we do not know whether it was a board-and-batten door or a six-panel door.

Question: is there any evidence of the original door hinges on the front door frame?

Rear Door: Unlike the front door, this frame has been heavily altered and replaced with a late 19th century or 20th century plain frame and architrave. The opening itself has been moved at least once, approximately 18" to the east, so that it now comes

fairly close to being on-axis with the front door. Thus, in what we believe was its original position, it was considerable off-axis with the front door, which is not at all common. This earlier location was verified by the removal of the weatherboards from the exterior face of this wall, at the door head level and below. This removal revealed a door header that extends 18 inches to the west of the present west edge of the door; this header is notched into an original hewn and pit-sawn stud measuring 7 inches wide by 3-3/4 inches deep. There is an infill stud (5-1/2 inches wide by 2-1/2 inches deep) which forms the present west door jamb, fastened to the header by means of a bevel lap joint. Cut nails appear at the joints between the header and the infill stud and the header and the original hewn and pit-sawn stud. This clearly indicates that the header was a replacement made during the cut nail period, no earlier than the late 1790s or more likely, well after 1800. The sill under the door is a replacement and heavily deteriorated. To the east of the door is a break in the sill, where the original sill begins and extends eastward. Some additional investigation should be made here, to examine the mortises in the main plate over the door to determine the original stud spacing.

Questions:

Verify if original components remain for the rear door frame; one may be pit-sawn, the other a replacement. ?

What are the saw marks or finishing marks on the infill stud?

Windows: Both the south and north windows have their original frames, consisting of simple vertical and horizontal board architraves, with an applied backband molding arranged in a "picture frame" form with the backband on all four sides. There is no evidence that there was ever any chair board or other wainscot treatment that might have involved a separate molding or chair board under the window sill in either of the first floor rooms. The corner joints of the facing boards of all of the original window architraves are mortise-and-tenoned in the tradition of good 18th-century joinery—a surprising feature on a house of this type, suggesting the work of a traditional craftsman. We would not expect to find this detail after about 1820-30. The applied backband is a cyma reversa or ogee of the profile seen from the mid-18th century until at least the 1830s. It is secured with wrought nails. Some portions of the original beaded sash stop remain in place along the tops of the window frames; these have a full or 3/4 bead.

East Room:

Wall and Ceiling Sheathing Boards: Wide boards, probably pine, tongue-and-groove, with a narrow (1/8-3/16 inch) bead on one edge, *all fastened with cut nails*, in contrast

to the wrought nails used in the west room. As discussed in the section on the west room, above, this narrow bead is characteristic of the first quarter of the 19th century, and perhaps the 1790s, but is not usually found in earlier Georgian woodwork. There is a distinct change of level in the ceiling that runs from the front wall to the rear, where it appears that the boards of the east room are applied on top of the boards from the west room. The presence of only cut nails in these boards, as well as the ceiling, raises some questions that can be answered only by further investigation, which will require the removal of a few of the boards to permit the examination of the wall studs and ceiling joists. There are several possible theories to explain the difference between the two rooms:

Theory #1: the wall sheathing boards were removed and re-installed sometime later in the 19th century, as a result of many changes in this room, such as the re-orientation of the stair, the loss or removal of the east chimney, the closing up of the east door, and the conversion of the south window to a door.

Theory #2: the east room may not have been finished during the first period, that is, during the early years after the house was built. It was relatively common practice to raise a frame and enclose a house without having wall finishes for some period afterwards. This may make more sense in the case of a house on leased property. Thus, at the time the house was first occupied, the west room was finished but the east room was simply bare studs and weatherboards. This convenient theory is complicated by the presence of very early, or original, plaster laths with wrought lath nails in the attic rooms. Why would the attic be finished while the secondary first floor room was not? Or, to make things more complicated, was the upstairs unfinished originally as well?

Questions: Do the sheathing boards in the east room show a clear pattern of two periods of nailing, i.e., one set for the wrought nails, now empty, and the current set of cut nails?

Is it possible to verify the theory that these boards have been renailed?

Is there evidence to suggest that the partition was moved from the east side of the stair to the west side.

Trim board re-used as a nailer for ceiling boards: There is a very interesting small wood trim member that was recycled as a nailing strip for the first floor ceiling boards, presumably during the 19th century at the time these boards were installed or re-nailed. It is located at the east end of the house, nailed to the side of the end joist or girt, where ceiling boards abut the east wall. It is visible from the attic by looking into the ceiling/joist cavity from the south knee wall. (Always be on the lookout for the

resident groundhog.) This is a 5 feet long (plus or minus) piece of molded trim board, perhaps 3 inches wide, with what appeared in the dim light to be small beads along one or both of the facing edges. This may have been salvaged from elsewhere in the house re-used in its present location. It might have been one of the trim boards used to finish the joint between the boards on the walls and ceiling.

INTERIOR: ATTIC:

Attic: General Observations:

The bulk of the fabric in this space appears to be original to the first period of construction, including the rafters, collar beams, floorboards, and floor joists. Certain features were studied in more detail to resolve some key questions: the stair location; gable-end window placement at the east end; the hearth and possibility of an original fireplace; and original finishes. Our immediate assumption was that all of the evidence of the partition, plaster finishes, etc. showed an original series of finishes at this level. However, the possibility remains that the attic was left unfinished at the time the house was built, and was then fitted with the present elements at some later time, say, from 1790 to 1810 at the very latest. This might prove to be the case if we determine that the first floor sheathing boards are not original but early additions.

Rafters and collar-beams: made of oak and showing a combination of hewn and pit-sawn surfaces. The rafters are joined at the ridge in the traditional manner, open mortised and pegged. The collar-to-rafter joint is a simple one, consisting of an open lap joint secured with a wrought nail, but no effort to make a partial dovetail. The feet of the rafters rest on a pit-sawn false plate, which is in turn nailed to the tops of the joists with wrought nails. The joists themselves are notched over the plate.

Shingle laths: pit-sawn shingle laths survive in fairly large quantities on the south slope; some were found to contain wrought shingle nails which had the flattened or "spoon-tip" ends, still in place from the first period shingles.

Knee-wall studs: these short members, known as "ashlars" in the 18th century, are good examples of riven oak studs, relatively light, fastened top and bottom with wrought nails.

Floorboards: wide pine boards, 8 to 11 inches in width, tongue and groove, gauged and undercut where fitted over joists; wrought nailed. There is a cut or break in the floorboards approximately 3 feet to the west of the present west edge of the stairwell, and running north-south parallel to the run of the stair, and roughly in line with a similar break visible in the first floor ceiling below this. Our theories for this line are

presented earlier in this report, in the discussion of the first floor ceiling of the west room.

Attic: West Room

West attic window: This appears to be an original or first period window. The stud on the north side is original and of oak, with a single surviving wrought nail still in place on the south or inside face of the stud. There is a rabbet on the inside face to accommodate the head of the window. Wrought lath nails remain in place on this stud.

West chimney/fireplace: The stonework is extensively patched here and the exact size and shape of the firebox has been obscured so that there is now no clear evidence of the fireplace other than the presence of the hearth. However, the framing of the hearth makes it very likely that there had been a firebox here at the time of original construction. The floorboards run east-west and terminate here in a traditional "hearth bead" or finishing board, which is perpendicular to the run of the flooring and terminated in mitered joints into the floorboards to the immediate north and south of the hearth. The hearth is a shallow one, at about 12 inches which is appropriate for a small bed-chamber fireplace. The stonework and other details will require some additional study. The presence and location of wrought lath nails in the faces of the studs flanking the fireplace show that the laths, and the plaster wall finish, continued across the chimney breast.

Later wall/ceiling sheathing boards: there are some unbeaded tongue-and-groove sheathing boards in this space that appear to be second period, fastened with cut nails. These were probably added after the first period plaster failed.

Attic: East Room

East attic window: The present window opening has circular-sawn framing and thus dates from the second half of the 19th century or later. To the north of this is clear evidence of the original or first period attic window at the east end, located in an off-set position that suggests that there was originally a chimney stack at the east end of the house, as well as the west end. Evidence for this window consists of corresponding rabbets on the opposing inside faces of two studs in this location, with the tops of the rabbets measuring approx. 5'-1-3/4" above the finish floor level. The two studs with rabbets are wrought-nailed into the end rafter. There is a single wrought nail still in place inside the south rabbet, indicating the nailing for the original window header.

East room wall finishes: This room began with the same treatment seen in the west room, that is, plaster on split lath secured by wrought lath nails. However, the

presence of a second history of cut lath nails interspersed among the remaining wrought nails indicates that portions of the early plaster were removed or had fallen and were replaced during the nineteenth century. In some areas of the south slope of the ceiling, the rafters show whitewash, suggesting that they were whitewashed sometime after some of the ceiling plaster fell.

Attic: Stair Enclosure

Attic Stair Enclosure/passage: This is an original feature, built of the same kind of riven oak studs seen in the knee walls, with the studs secured at the tops and bottoms with wrought nails. The split lath used in the first period finish of both rooms continues under the stair partitions on the ceilings and sloping walls, the lack of plaster stains on the captured laths indicates that the partitions and lathing were contemporary and first period. The lath nails for the original plaster ceiling of the stair well survive in situ on the east side of the north slope of the roof, and extend down the rafters almost to the plate level. There is a short ashlar or knee-wall stud still in place at this point, which provided a nailing surface for the laths. It is rare to have this type of fully developed plastered passage on the attic level of a house of this size, especially if we date this construction to 1764. Such a passage gave a great deal more privacy than was then customary to both of the bed-chambers at this level. There is no evidence that these partitions were ever moved or otherwise altered.

Stair Framing and Floorboards: those portions of the framing for the stair opening that could be viewed without removing boards did not show any evidence of a change in the stair location. However, additional study is needed here to confirm this. Immediately to the west of the present stair are two joists, paired together. The westernmost of these continues unbroken the full span, from the front to back wall of the building; no notches or mortised could be seen in the west face of this when examined by flashlight. The second, or eastern of these, does not extend the full span, but terminates into the north face of the east-west header that extends across the south side of the stair opening. This header spans approximately 2 feet 8 inches from the western joist mentioned above to a corresponding joist at the east side of the stair opening and is lapped into notches in each of the flanking joists.

Evidence for Possible Stair Changes: It is significant that the present location of this clearly original passage at the attic level conforms only in a general way to the approximate present location of the stair below. Upon closer examination, it is apparent that the present west wall of the attic stair enclosure is located approximately 10 inches west of the west wall of the stair enclosure at the first floor level. This discrepancy was resolved on the floor by the installation of a wide floor board running north-south along the west edge of the stairwell, creating a wide ledge. There is no obvious explanation for this mis-alignment. Significantly, this board, like the entire

upper stair enclosure, is wrought-nailed and thus gives the appearance of an original detail. Thus, if the entire stair was moved (whether 10 inches, or 3 feet as suggested by the cuts in the ceiling boards downstairs), any such move had to have taken place within a short time after construction, or even during construction. Otherwise, why is all of the corresponding woodwork fastened with wrought nails? In its present form, the upper portion of the stair and related elements give every indication of being original or first period.

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