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REPORT ON A LOG HOUSE FRANKLIN, NEW HAMPSHIRE

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This report summarizes observations made during a brief inspection of a log house standing near Webster Lake in Franklin, New Hampshire, on the afternoon of December 1, 2009. The inspection was carried out at the request of the building's owner, who has conducted considerable research on the property but was seeking an independent evaluation of the significance of the log house. Present at the meeting were Todd M. Workman, the owner, and Peter Michaud and James Garvin of the New Hampshire Division of Historical Resources, the State Historic Preservation Office. The following report represents an initial summary of observations made on December 1, 2009, together with recommendations for further research and evaluation.

Summary:

The log house was built in that part of Andover, New Hampshire, that became part of the Town (later City) of Franklin when that entity was incorporated in 1828. Apart from a small and much-studied group of sawn-log buildings that survive in the coastal region of New Hampshire and adjacent Maine, this house is currently the only known log dwelling to survive in New Hampshire. As such, the building represents the sole example of a building tradition that was once predominant on the New England frontier. Except for its roof sheathing, the building is entirely of hewn fabrication, differentiating it significantly from the sawn-log buildings of the seacoast. While the building is largely constructed of horizontal logs in a manner that was traditional in New Hampshire, it also incorporates panels of vertical logs in the middle zones of its front and rear walls, apparently to ease the framing of window openings. There is no other known American example of a log building that incorporates such zones of vertical log fabrication within a carcass that is predominantly of horizontal log construction. Because of its uniqueness as an inland survivor and its retention of a largely unrecorded combination of log building techniques, the house is of paramount significance in recovering and defining an important inland log

building tradition that has hitherto been known almost entirely through documentary records.

Description:

The house is a story-and-a-half dwelling that stands at the western end of Webster Lake, facing east along the major axis of the body of water. It measures 36 by 32 feet,¹ with an added rear wing or ell that extends from the northwestern corner of its rear or western wall. This wing is not placed precisely at right angles to the major axis of the log house. The wing was not studied closely, but its construction is of sawn scantling. Where the ell roof overlaps that of the old house, the latter is covered with circular-sawn wooden shingles; thus, the ell must date after the mid-1800s, if not later.

Both the log house and the portion of the wing closest to it stand on dry-laid foundations of glacially rounded fieldstones that include some stones that were apparently split by impact. No evidence of splitting by wedges was observed. The northern half of the log house and the first section of the wing have fully excavated cellars; the southern half of the log house has a crawl space. The center of the cellar retains traces of a stone chimney foundation. The original chimney stack has been replaced by a single-flue brick chimney, but the northern chimney girder retains a cut for a former fireplace hearth. Framing in the northern portion of the cellar is composed of rounded sleepers; the framing from the center of the log house to its southern wall is modern and sawn.

Because of repeated remodeling, the house is of nondescript exterior appearance, as seen below.



Photograph by Peter Michaud

¹ Not measured in the field; data supplied by the owner.

While the house is clapboarded on the exterior, the interior walls have mostly been stripped of plaster to reveal the log construction, as has the façade of the house beneath its glazed porch (below).



Photograph by Peter Michaud

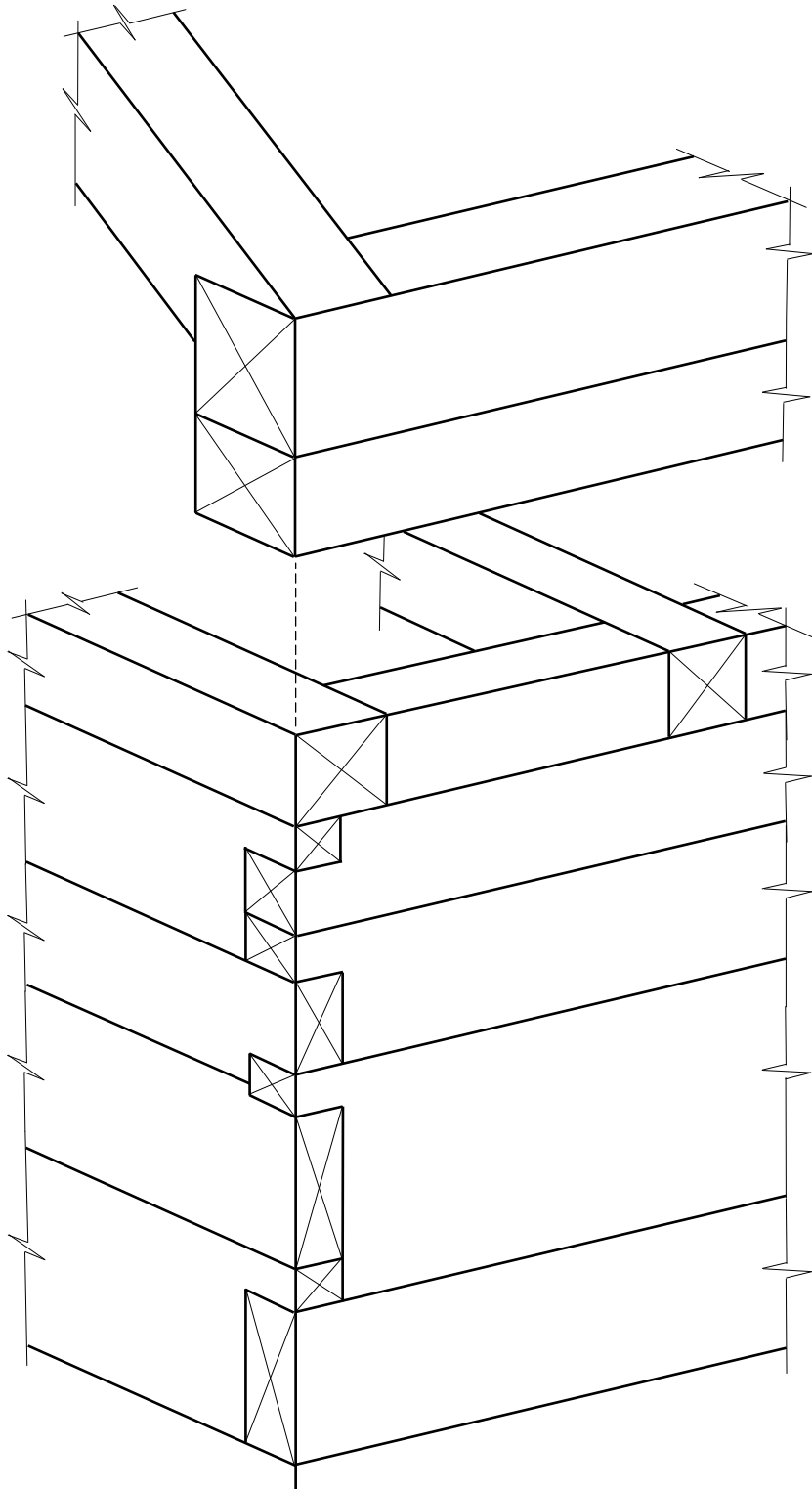
The logs of the walls were hewn with a broadaxe. While the hewing is somewhat rough, the workmanship reveals the hands of experienced axmen who were working quickly and effectively to reduce very large trees to relatively thin logs, averaging perhaps six inches in thickness, that would fit closely together to form tight walls. While the logs were hewn with straight upper and lower edges to produce close joints, they were left with much of the taper of the original trees, so their vertical dimensions are greater at the butt ends. To compensate for this taper, the logs are laid with their butts at alternate ends of the walls, bringing the tops of the walls to an even height at the wall plate level.

Because the logs are of uneven heights at the building's corners, their corner notching is quite irregular. Seen from the interior, the notching is difficult to discern (below).



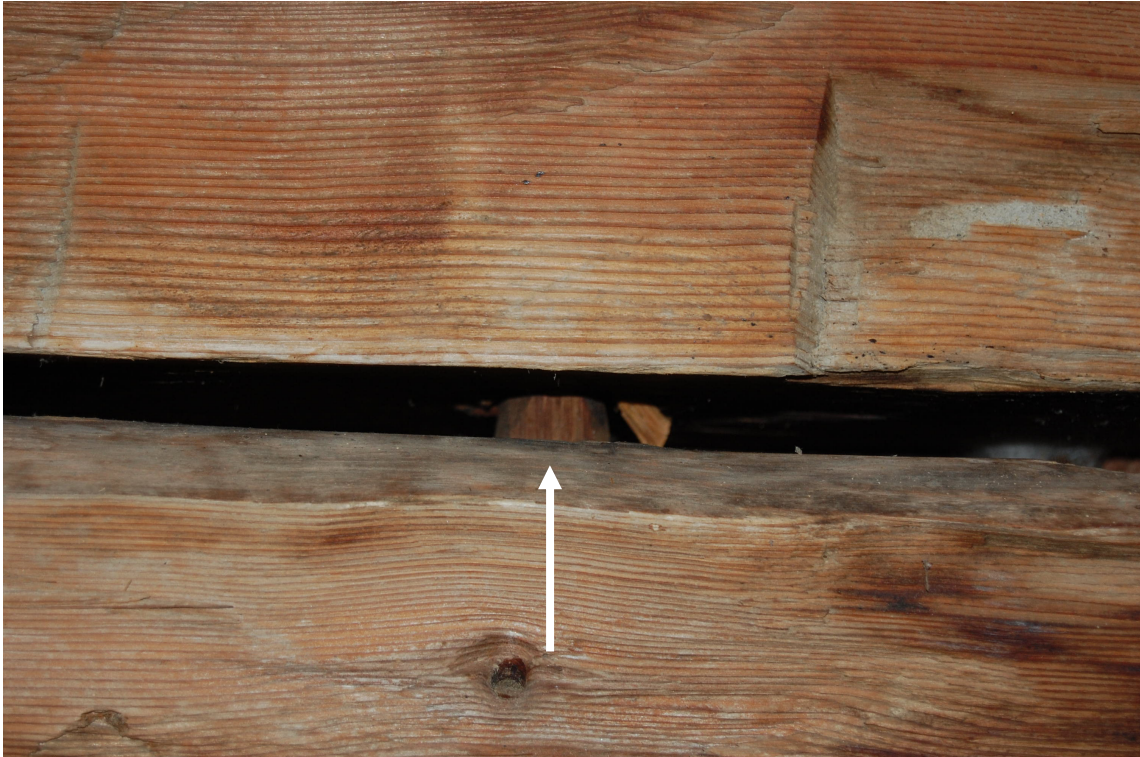
Photograph by Peter Michaud

As imagined from the exterior, however, the corner notching appears to resemble this:



*Presumed corner notching, southeast corner of house
Drawing by James L. Garvin*

A number of wooden pins are inserted into adjacent logs at irregular intervals, penetrating part-way into the log above and the log below, as seen in this photograph:



Photograph by Peter Michaud

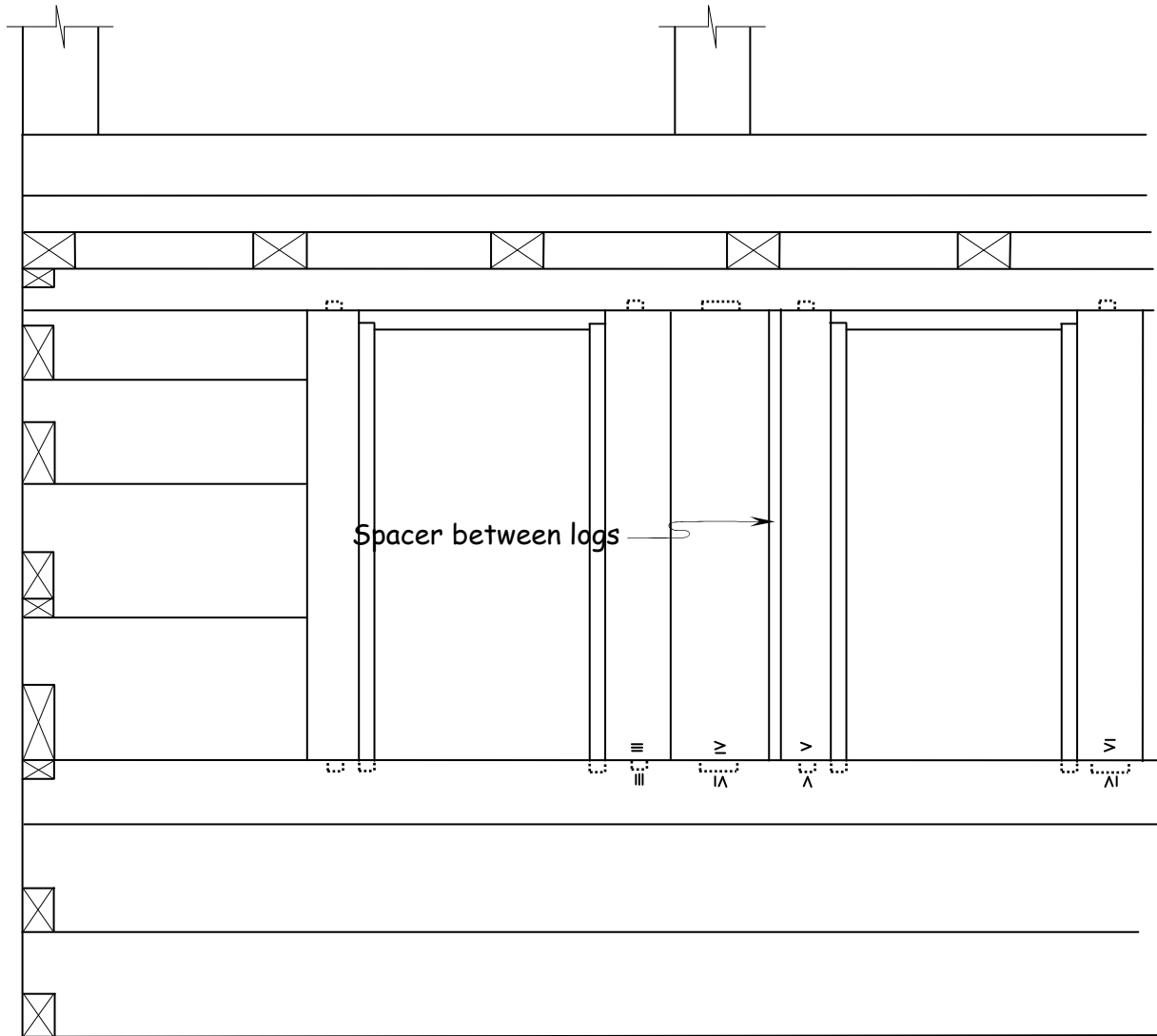
The drawing on the previous page shows the apparent method of linking the front and rear walls of the house through a series of tie beams. These beams rest on the tops of upper logs in the front and rear walls, with short spacer logs filling the intervals between them. As will be seen below (“Context for the Log House”), the only other inland log house that has been recorded in New Hampshire employed a slightly different method of placing the tie beams, half-lapping them into upper logs rather than simply resting them on top of the logs.

The drawing shows the method by which the feet of the rafters are attached to the walls below by simple bird’s-mouth joints. Such joints seldom appear in traditional New Hampshire roof systems of the eighteenth century, where the feet of rafters are normally tenoned into the tops of tie beams that extend across the building from front to back. A similar method of setting the rafters was employed in another log house in Campton, New Hampshire (see below). This suggests that carpenters devised nontraditional means of framing log houses, discarding some of the practices that they had long employed for framed houses.

The placement of two logs atop the tie beams of the Franklin house as a seat for the rafter feet creates a very low knee wall, another feature not seen in ordinary New Hampshire framed houses of the eighteenth century. Such knee walls are susceptible to outward pressure from the rafter feet—especially, as here, where the rafters are not tied together by a collar tie at their mid-height. These upper logs are pinned with vertical wooden pins

that are visible at intervals; it is impossible to tell whether these pins penetrate through both of the upper logs, but the pinning must serve to tie the knee wall to the walls below, resisting the spreading tendency of the rafters.

One of the extraordinary features of the Franklin house is the fact that, while it is essentially a building of horizontal log construction, following a tradition that had been established in the seventeenth century in the coastal region of New Hampshire and Maine, this particular building departs in areas from that tradition. This departure is unique among the small group of known log buildings in New Hampshire. As may be seen in the photograph of the building's façade (above), and the drawing below, the central portion of the façade has a panel of vertical logs within the zone occupied by the original windows.



*Conjectural reconstruction of the window arrangement of the southern side of the facade
Drawing by James L. Garvin*

The only comparable instances seen thus far of a zone of vertical logs in buildings of horizontal log construction are a few mid-nineteenth-century houses in Ontario; in these

buildings, the ends of the horizontal logs are notched into grooved corner posts.² After studying an early draft of this report, preservation consultant Christopher Closs has suggested that these vertical timbers may have served to prevent the compression of glazed windows by shrinkage across the grain of the deep, stacked horizontal logs of the remainder of the walls. Wood shrinks far less along its grain than across the grain.

As may be seen in the drawing and in the photograph below, the abutting portions of the horizontal logs below, and the vertical logs in the window-area panel, were incised with numerals. This indicates that there are mortise and tenon joints in these locations, and undoubtedly at the top of each vertical log as well.



Photograph by Peter Michaud

The insertion of vertical logs in these wall panels, utilizing tenons to hold the logs in place, suggests another building technology that appeared later in New Hampshire, after sawmills became commonplace: the plank-walled house. In one variation of the plank house, the walls are composed entirely of vertical three-inch sawn planks, tenoned into sills at the bottom and wall plates at the top. While there is a marked difference between a building constructed entirely of sawn planks placed vertically and a log house that includes panels of hewn vertical logs inserted in walls of horizontal logs, a common construction principle links the two technologies. The appearance of vertical logs in a hewn log building suggests a carpentry practice that could easily have evolved into the plank-walled building when sawn planks became readily available at a later date.

² John I. Rempel, *Building With Wood and Other Aspects of Nineteenth-Century Building in Central Canada*, rev. ed. (Toronto: University of Toronto Press, 1980), pp. 159-172.

While the bird's-mouth joints at the feet of the rafters in the Franklin house are unusual in an eighteenth-century New Hampshire context, the remainder of the roof frame is typical of the period. The frame is of rafter-and-purlin construction, with four purlins on each slope, and a ridgepole. (The front or east slope of the roof has been largely destroyed by the addition of a shed dormer.)

The sheathing boards that cover the roof frame are sawn in a reciprocating sawmill. Without examining the nails that hold these boards, it is impossible to determine whether these boards are likely to be original, or are replacements of the original roof covering. As will be seen below ("Context for the Log House"), the earliest log buildings in New Breton or Andover are said to have been constructed entirely of hewn or split material in the absence of nearby sawmills. Such houses employed closely-spaced logs or poles for their floors, and split or riven boards for the roof covering. The earliest house to employ sawn roof boards appears to have postdated the erection of Ebenezer Webster's sawmill on Punch Brook in Stevenstown or Salisbury in 1761.

The fact that the Franklin house has sawn boards for flooring on the first floor and attic, as well as sawn roof sheathing, points strongly to a date for this dwelling after the construction of sawmills in the vicinity, closer than the Webster mill in Salisbury. The Franklin house is clearly a technological hybrid, using sawn boards where convenient but retaining the tradition of hewing for the heavier elements of the building.

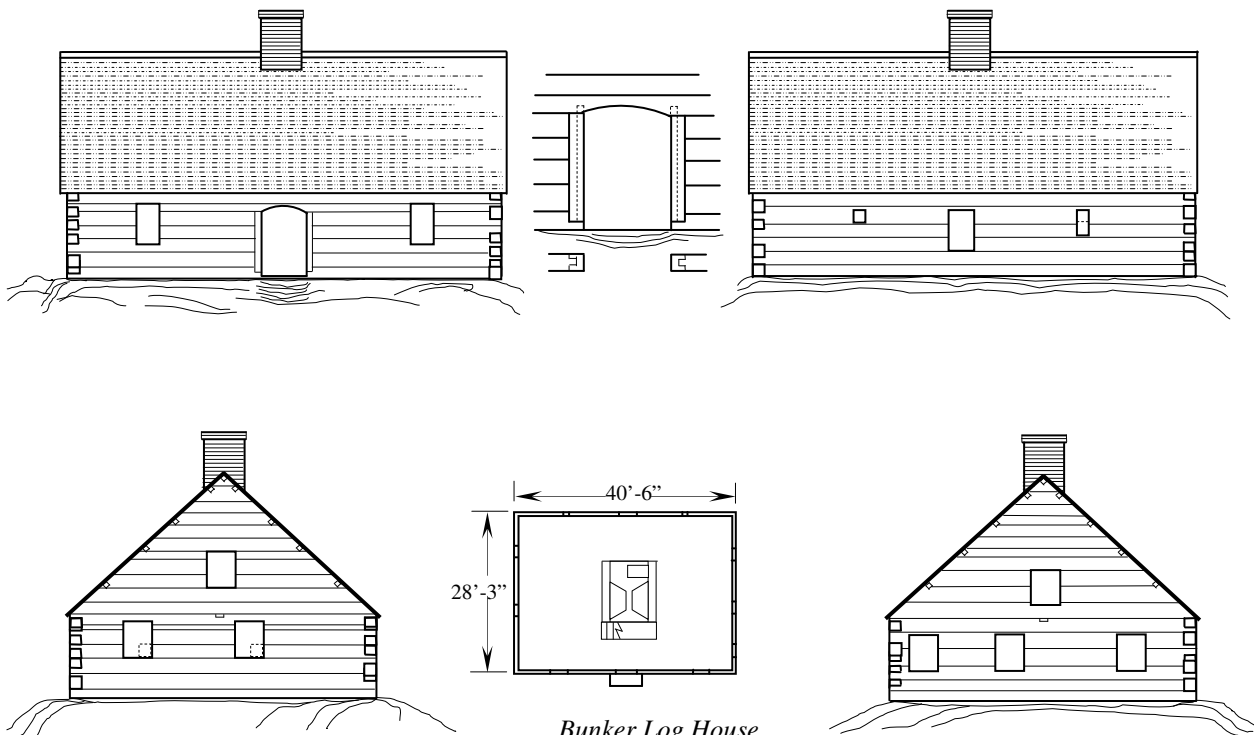
Context for the Log House:

The first settlers of New England in the seventeenth century were ignorant of the log house. Possibly a few settlers had seen such structures in travels to the Baltic regions before their departure for the New World. Most, however, would have known nothing of such construction, and all evidence of the first wooden houses to be built in New England confirms that most of these structures were framed buildings, possibly accompanied in the earliest years of settlement by forms of "earth-fast" houses having the feet of their walls buried in the soil.

The false image of the log cabin as the home of the first settlers of New England had become so pervasive by the early twentieth century that Harold R. Shurtleff, a researcher at Colonial Williamsburg and a graduate student at Harvard, devoted the last years of his life to an extensive study to disprove the supposed connection between log structures and early seventeenth-century settlement in the Northeast. Shurtleff agreed that log construction had been brought to New Sweden (centered on the Delaware River) by the first settlers there in 1638. But he marshaled strong arguments to show that no such buildings had been constructed in New England before the mid-1600s, and then mostly as specialized structures, often as fortified places of refuge or defense. Shurtleff died before finishing his work, but his book was published posthumously in 1939 under the title *The Log Cabin Myth*.³

³ Harold R. Shurtleff, *The Log Cabin Myth*, edited with an introduction by Samuel Eliot Morison (Cambridge: Harvard University Press, 1939).

The earliest recorded log building in northern New England was a meeting house in Portsmouth, New Hampshire, built in 1659. A number of log structures are documented in coastal New Hampshire and Maine from the 1660s onward, many of them apparently serving as garrisoned houses or places of refuge during the recurring hostilities with Indian raiders from the north. Several log garrison houses survive in this region. Dr. Richard M. Candee has documented the fact that many of these structures were built of logs or thick planks sawn in water-powered sawmills, not hewn. Never more than a small minority of the structures standing in the coastal communities, these sawn log buildings were the product of an advanced technology. They represented an exploitation of the same industry that was rapidly reducing the forests of the coastal region to merchantable timber and lumber through a plethora of water-powered sawmills that stood on most streams in the coastal region.⁴ By 1718, almost a million board feet of pine boards and planks were being shipped from the Port of Piscataqua each year.



Bunker Log House

Durham, New Hampshire

After drawings by Charles R. Wait, December 1910

Although this house is said to have had an original second story that was removed in 1874, it illustrates the general appearance of the sawn-log dwellings of the New Hampshire seacoast

Drawing by James L. Garvin, after Wait

⁴ Richard McAlpin Candee, "Wooden Buildings in Early Maine and New Hampshire: A Technological and Cultural History, 1600-1720," Ph.D. dissertation, University of Pennsylvania, 1976. Estimates of the number of sawmills operating in the coastal region vary. Candee states that by 1700 more than sixty sawmills had been built between Hampton, New Hampshire and Casco, Maine (*Ibid.*, p. 115; Candee, "Merchant and Millwright: The Water-Powered Sawmills of the Piscataqua," *Old-Time New England* 60 [April-June 1970]: 131-149). Jonathan Bridger, Surveyor-General of the King's Woods between 1705 and 1718, stated that his inquiries revealed more than seventy sawmills within a day's ride from Portsmouth in 1706 (Joseph J. Malone, *Pine Trees and Politics: The Naval Stores and Forest Policy in Colonial New England, 1691-1775* [Seattle, Washington: University of Washington Press, 1964], p. 57).

But while log buildings in the coastal region were usually erected for specialized purposes at a relatively early time period and remained uncommon, the log building became the predominant house type in settlements made in forested country after the mid-1700s. The emergence of the log house as a preferred building type in new settlements apparently occurred as the New Hampshire and Massachusetts governments granted the first inland townships in the 1720s. Early records of Londonderry, New Hampshire, settled by Scotch-Irish immigrants in 1719, make several references to log houses. While settlers in the new townships undoubtedly used sawn logs when they could obtain them, sawmills in new townships were often absent in the first years of settlement. Building contracts from the 1730s, and later, reveal that a number of these log structures were built of hewn timber.

By the 1760s, when the first partial listings of house types were compiled in New Hampshire, the majority of buildings in frontier settlements were “logg” or “poll” houses and barns, with framed houses in the minority. Many of the surviving inventories of frontier houses in New Hampshire were compiled by or for the Masonian Proprietors, a group of wealthy Portsmouth merchants who in 1746, with two British partners, purchased the proprietary claim to New Hampshire lands that had descended to the heirs of Captain John Mason, the original grantee of New Hampshire in the early seventeenth century. Mason’s heirs claimed ownership of all lands in New Hampshire within a great arc with a radius of sixty miles from the sea.

The Masonian Proprietors began to grant townships within their holdings in December, 1748. As land speculators, the Proprietors were eager to encourage settlement. The Proprietors retained some lands in each township in their own rights, knowing that the efforts of pioneering settlers to clear farmsteads and build roads would add value to the lands they reserved for themselves.

The Proprietors laid out townships that averaged six miles on each side, or 36 square miles in area. They granted all the territory in each township at once, laying out ranges of lots of perfectly regular size, separated by range roads, from border to border within each grant. Near the center of each township, they typically carved out a six- or ten-acre tract for a meeting house, a burying ground, and a training field for the militia. To encourage settlement and qualify the grant to apply for a town charter, the Proprietors required that shareholders build a small house within a specified time, clear a certain amount of land on an annual basis, construct a meeting house, and employ or “settle” a minister. If water power was available, the Proprietors encouraged construction of a sawmill through a grant of land to a millwright. In the township of Andover (originally New Breton), for example, the 1751 grant of the Masonian Proprietors required that

. . . fifteen Families be Settled upon said Tract of Land each having an house of Sixteen foot Square at Least or Equal thereto & four acres of Land Cleared & fitted for Tillage or mowing upon their Respective Shares within four years next after the Granting hereof & fifteen Families more so Settled within Six years from the Granting & thirty Families more within

ten years from the Granting hereof[.] That within eight years from the Granting hereof a meeting house be Built . . .⁵

In order to monitor the fulfillment of these and other terms of their grants, the Proprietors inventoried the progress of settlement within a few years of each grant. Insofar as they survive, these inventories often list the types of houses and barns that had been built and the number of acres that each settler had cleared. These inventories provide the best available indication of the proportion of framed and log houses in the frontier towns.

In 1769, for example, the Masonian township of Middleton was inventoried as having three “small frame” houses, one pole house, one log house, and three dwellings described as “Part of Logg House.”⁶ It is likely that “log” houses were built of squared timbers, while “pole” houses were built of natural tree boles. In 1770, the town of Wolfeborough, just north of Middleton, had seven framed houses (including Royal Governor John Wentworth’s forty by one hundred foot mansion) and nineteen log houses.⁷ In the same year, the township of Moultonborough, a few miles northwest of Wolfeborough, had six framed houses and twelve log dwellings, several of them apparently built for tenants by Colonel Jonathan Moulton, the chief proprietor of the township.⁸ In 1771, the town of Limerick (later Stoddard), New Hampshire, contained fourteen log houses, twenty pole houses, three “camps,” and six framed houses.⁹ In the same year, Washington, New Hampshire, had thirteen log houses, one pole house, and seven framed houses.¹⁰ Records from Maine suggest that some sixty percent of the dwellings in new settlements at the same period were log structures.

Writing in 1792, New Hampshire historian Jeremy Belknap described the common house in new settlements as “a square building of poles, notched at the ends to keep them fast together. The crevices are plaistered with clay or the stiffest earth which can be had, mixed with moss or straw. The roof is either bark or split boards. The chimney a pile of stones; within which a fire is made on the ground, and a hole is left in the roof for the smoke to pass out. Another hole is made in the side of the house for a window, which is occasionally closed with a wooden shutter. . . . Many of these first essays in housekeeping, are to be met with in the new plantations, which serve to lodge whole families, till their industry can furnish them with materials for a more regular and comfortable house.”¹¹

Clearly, these structures were regarded as temporary in nature. They were supplanted by larger and more permanent framed houses as soon as possible, and their replacement was regarded as proof of progress in any settlement. Inspecting the improvements that had

⁵ Albert Stillman Batchellor, ed., *Township Grants of Lands in New Hampshire included in the Mason Patent Issued Subsequent to 1746 by the Masonian Proprietary*, Vol. 27 of the New Hampshire Provincial and State Papers (Concord, N. H.: Edward N. Pearson, 1896), pp. 81-85.

⁶ *Ibid.*, p. 501.

⁷ *Ibid.*, Vol. 28, p. 477.

⁸ *Ibid.*, Vol. 29, pp. 392-393.

⁹ *Ibid.*, Vol. 28, pp. 291-292.

¹⁰ *Ibid.*, p. 407.

¹¹ G. T. Lord, ed., *Belknap’s New Hampshire: An Account of the State in 1792* (Hampton, N. H.: Peter E. Randall, 1973), p. 195.

been made in New Boston, New Hampshire, in 1759, one observer noted a family living in a house of round logs. Nearby, however, was the “frame of a house . . . with 4000 feet of boards lying at said frame . . . and a Cellar under the same,” promising a more comfortable future for the family.¹² In visiting General Henry Knox’s Boston-inspired mansion at Thomaston, Maine, in 1796, the Duke de la Rochefoucault Liancourt remarked approvingly that “the dwelling houses around are frequent; and out of a hundred that may be seen at the General’s residence, there are hardly half a dozen log-houses.”

The authors of several nineteenth-century New Hampshire town histories noted the quick disappearance of the log houses of the first settlers. In his *History of Sanbornton*, the Rev. M. T. Runnells quoted earlier comments to the effect that

The primitive log cabin—dark, dirty, and dismal—rarely outlived its first occupant. With the progress of society in a new town it would look like premeditated poverty for the son to be content with the first shelter that his parents reared in the wilderness.¹³

For this reason, few early log houses are to be found in northern New England. A number were mentioned, and even photographed, in the late nineteenth century, but most have since disappeared. Like the Franklin house, those that survived into the late nineteenth century were often covered with clapboards and plastered inside, hiding their identity from the casual observer. The last log house in Weare, New Hampshire, for example,

. . . was taken down a few years ago [before 1888]. . . . It stood half a mile east of the Center Square, and was built by Amos Stoning more than a hundred years before of hewn logs. The partitions were also of hewn timbers. Long ago it was sealed up on the timbers and plastered overhead, clapboarded with split clapboards on the outside, and made to resemble a modern built house. No one passing suspected it was an ancient log cabin, the only one [remaining] in town.¹⁴

Surviving log houses, including several in Maine and a number in Vermont’s Champlain Valley and on the islands of Lake Champlain, provide rare glimpses of once-dominant building traditions and technologies that have nearly vanished from the landscape. One such house survived in a remote location on Bald Mountain in Campton, New Hampshire (now close to the boundaries of the White Mountain National Forest) until the early 1940s. It was recorded by photographs and measured drawings by the Historic American Buildings Survey in 1936-7. No trace of the house remains except for its stone underpinning and fireplaces, but the HABS records show that its walls were ten logs in

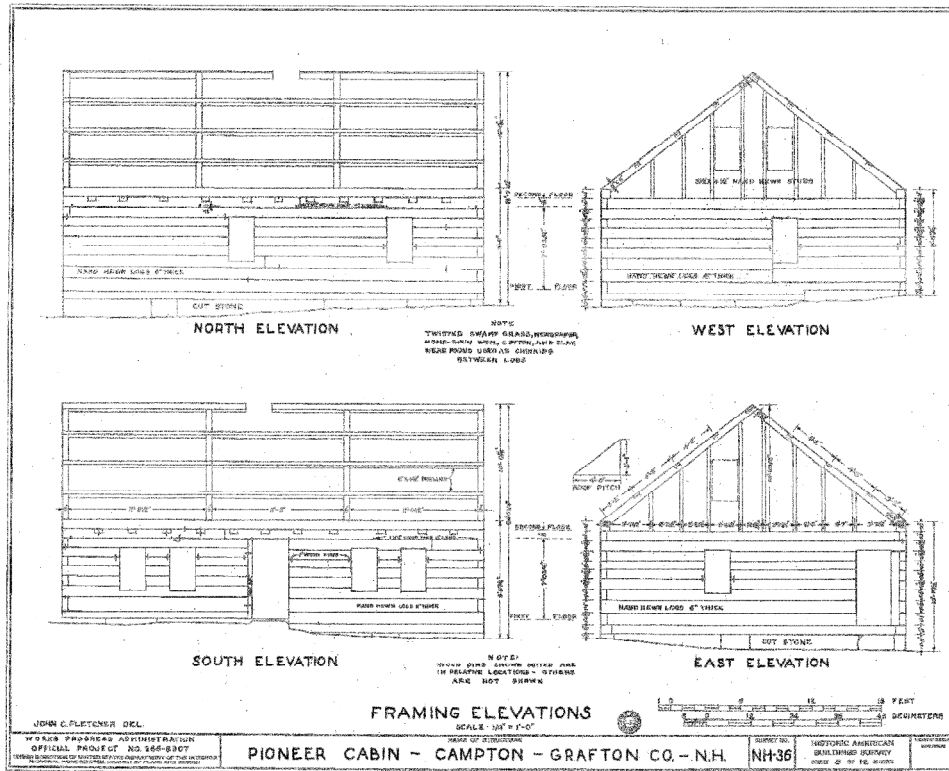
¹² Albert Stillman Batchellor, ed., *Township Grants of Lands in New Hampshire included in the Mason Patent Issued Subsequent to 1746 by the Masonian Proprietary*, Vol. 28 of the New Hampshire Provincial and State Papers (Concord, N. H.: Edward N. Pearson, 1896), p. 65.

¹³ Rev. M. T. Runnells, *The History of Sanbornton, New Hampshire*, 2 vols. (Boston: Alfred Mudge, 1881-2), p. 58, quoting Edwin David Sanborn, *History of New Hampshire from its First Discovery to the Year 1830* (Manchester, N. H.: John B. Clarke, 1875).

¹⁴ William Little, *History of Weare, New Hampshire* (Lowell, Mass.: S. W. Huse, 1888), p. 648.

height, with an additional 10-inch-high wall plate log set atop the front and rear walls to receive the feet of the rafters. This design provided a wall height of somewhat over eight feet between the top of the foundation and the bottom of the wall plate.

The house measured 26 feet deep by 36 feet long, and had a half cellar. Its roof was framed with rafters and purlins in a manner characteristic of all of New Hampshire roof framing in the eighteenth century except for the Connecticut River Valley, as shown in the drawing below.



*Pioneer Cabin—Campton—Grafton County, N. H.
Historic American Buildings Survey, 1936-7
HABS NH-36 (HABS, NH,5-CAMP.V)*

As may be seen in the drawing, the courses of wall logs in this building were generally matched in height around the perimeter. The ends of the logs therefore intersected at even elevations, unlike the irregular intersections seen in the Franklin building. The HABS surveyors determined that some logs were pinned at their end joints, as well as at points near window openings where the logs would need vertical connections to avoid instability.

There are clear similarities between the now-lost Campton dwelling and the house at Webster Lake. These include the use of hewn (rather than sawn) wall logs, although photographs reveal that the Campton logs were smoothed with an adze, at least on their exterior faces. In both houses, the joints between the logs are tight, with those in the Campton building giving the impression almost of sawn surfaces like those seen in earlier

log buildings in the seacoast. The method of supporting the ends of the attic joists is similar in both houses, although the joists in Campton were half-lapped into front and rear wall logs rather than resting on top of these logs. The application of a pinned wall plate above the attic joists, and the use of bird's-mouth joints at the rafter feet, is similar in the two buildings. Neither building has/had collar ties between the rafters; both relied on the stiffness of the front and rear walls, tied together by the attic floor joists, to resist the spreading tendency of the rafter pairs. Both buildings have/had studded gable ends above the log walls.

While these two samples are too small to allow valid generalizations, the Campton and Franklin houses suggest that the many log dwellings known to have stood on the New Hampshire frontier shared many features. While standing or thoroughly documented examples are extraordinarily rare, many nineteenth-century town histories attest to the commonplace occurrence of such buildings in new settlements. Log houses were undoubtedly most prevalent in areas where no sawmill had yet been built to supply sawn boards or timbers.

Andover, where the present log house stands, seems to have been a paradigm of the log-building tradition on the New Hampshire frontier. Although the published records of the Masonian Proprietors do not enumerate the number of log houses in Andover, the 1910 town history asserts that

All of the houses of those who settled in Andover before 1770 are believed to have been constructed of pine, hemlock, or spruce logs. The first cabin of Joseph Fellows was built chiefly of hemlock logs and the roof was made of spruce poles and large sheets of hemlock bark. The ground floor of the earliest houses was made of logs hewn on three sides. The best and widest side was laid uppermost and the other two sides were hewn straight to make the floor as tight as possible. The floors of the small attics or garrets of those houses were made of small straight spruce poles laid close together. . . . The very last of the old series of log houses in Andover was built by Moses Brown at the south side of Chance Pond [Webster Lake] before that part of the town was made part of Franklin. Some persons now living [in 1910] may remember the picturesque appearance of the cabin by the brook near Aiken's beach.¹⁵

As noted previously, the New Breton or Andover houses that were built before the completion of nearby sawmills relied on hand tools for the fabrication of any boards they incorporated. Among the first sawmills in the area were two on Punch Brook in Stevenstown, later Salisbury: one built by Steven Chase circa 1743, and another built by Ebenezer Webster in 1761.¹⁶ In general, these mills were too distant from the settlements near Chance Pond (Webster Lake) in the eastern part of Andover to provide sawn boards for the houses erected there. For that reason, the earliest houses in Andover used riven

¹⁵ John R. Eastman, *History of the Town of Andover, New Hampshire, 1751-1906* (Concord, N. H.: Rumford Printing Company, 1910), pp. 40-41.

¹⁶ Alice M. Shepard, *The History of Franklin* (Tilton, N. H.: Sant Bani Press, 1996), pp. 27-28; 63-64.

boards instead of sawn boards to cover their roof frames and gable ends. The *History of Andover* describes these houses:

“Clove” or “riven” boards, that is, boards split from the log and hewn with axe or adze, or shaved with drawknife, were used for many years to cover the roofs of log houses; and to a period considerably later than 1800 they were used for the roofs of sheds and barns. The last construction of this character in Andover, so far as now known, was on a barn built by Elijah Hilton on the farm now owned by Henry W. Kilburn. In 1850 this roof was as sound and substantial as it was rare and interesting.¹⁷

The *History of Andover* states that the first house in Andover to utilize sawn boards, rather than riven, as a roof covering was that of Edward Ladd, who

. . . built his first house on a spot about eight rods south of the barn owned in 1902 by Napoleon B. Bryant. In one respect this house was more pretentious than any other building in town. While the walls were made of logs, the roof was covered with *sawed* boards which Mr. Ladd hauled on a hand sled, three at a load, from the sawmill of Col. Ebenezer Webster on Salisbury “North Road.”¹⁸

Because Webster did not erect his sawmill until 1761, the Edward Ladd house must have been built after that year.

Possible Tools for Dating the Log House:

Because of extensive remodeling over the years, followed by more recent removal of datable material in order to expose the log walls on the house interior, the Franklin building displays little visible physical dating evidence. A more thorough search of the building will undoubtedly disclose some dating aids, including nails and perhaps architectural fragments. But the principal remaining artifact is the house carcass itself, including its log walls, its sleeper-framed floor system, and its rafter-and-purlin roof system, covered with boards sawn in an upright or reciprocating sawmill. The predominant character of the roughly but expertly hewn timbers of the house suggests an eighteenth-century date, but this approximation could be refined considerably by other physical evidence, if found.

Despite the apparent limitations of currently visible physical evidence, the house offers one potential dating aid of importance. A number of its wall logs and attic floor joists retain bark. Depending on the tree species from which these members were hewn, there is a potential for dating the house by dendrochronology. Utilizing the fact that seasonal fluctuations in rain, sun, and temperature produce variations in tree growth that are more or less uniform for all trees of a given species in a given region, dendrochronology utilizes the annual variations in tree ring spacing or width for certain tree species to date the wooden member. If the member includes the tree’s bark or the cambium layer

¹⁷ John R. Eastman, *History of the Town of Andover, New Hampshire, 1751-1906*, p. 41.

¹⁸ *Ibid.*

(composed of formerly living cells) immediately beneath the bark, the range of years through which the tree grew can be correlated with already-determined tree-ring sequences. The year in which the tree was cut (and the building presumably erected) can be told from the presence of the cambium, representing the last year of the tree's life.

A limitation of dendrochronology in New Hampshire has been the previous lack of tree-ring sequences for this region. A second limitation has been the concentration of researchers on tree-ring sequences of hardwood, particularly oak, rather than softwood species. The species represented in the log house have not yet been identified, but their appearance suggests a combination of eastern white pine (*Pinus strobus*) and red or Norway pine (*Pinus rigida*), with the likely presence of eastern hemlock (*Tsuga canadensis*).

Until the wood species in the house are identified, we will not know whether the science of dendrochronology has been developed to the point where it may help to date this building. Recent research has reportedly begun to develop master tree-ring chronologies for eastern white pine and eastern hemlock, so it is possible that dendrochronology may permit the accurate dating of the log building.

A second and more traditional means of potentially dating the log house is deed research. While such research has been initiated, more painstaking efforts will be required to produce a full understanding of the initial and subsequent ownership of the tract upon which the house stands. The owner of the property has been told that the house was moved to its current location, so deed research will need to encompass any other parcels of land on which the house stood at an earlier date.

To judge by a plan drawn in 1753 and published in the Masonian Papers, the Franklin house appears to stand close to the boundary between two of the original 1751 New Breton proprietors' lots: Lot 16 in the Second Division, originally granted to Edward Brown, and Lot 65 in the same division, granted to Jesse Prescott.¹⁹ This will be irrelevant if the house was, in fact, moved from a different location, but would be an important part of the building's history if it has always stood on this site.

¹⁹ Albert Stillman Batchellor, ed., *Township Grants of Lands in New Hampshire included in the Mason Patent Issued Subsequent to 1746 by the Masonian Proprietary*, Vol. 27 of the New Hampshire Provincial and State Papers (Concord, N. H.: Edward N. Pearson, 1896), plan following page 86.