

The “Ancient Dwelling” on Sunset Hill

Preliminary Archaeological Investigations at the Jethro Coffin House

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The Jethro Coffin House is one of Nantucket’s (Massachusetts) important historical landmarks, representing the dwelling of a prominent early settler on the island. This historic structure, constructed in about 1686, is owned and maintained by the Nantucket Historical Association (NHA). An element of the Nantucket Historical District since 1955, the Jethro Coffin House was designated as a National Historic Landmark in 1968. In observance of the 1986 tercentennial year for the Jethro Coffin House, the NHA initiated a comprehensive study of this historic site. Located on the crest of Sunset Hill, the house is a highly visible symbol of Nantucket’s past that has been visited by tourists and photographed since the Victorian era. With its enigmatic wishbone/horseshoe design in raised brick on the chimney and association with the Coffin and Gardner families, it is an icon of early European-American settlement on Nantucket.

Initial consideration of an archaeological investigation began in 1984 when plans to construct a Colonial-period garden at the Jethro Coffin House raised the possibility of conducting an excavation in the proposed location of the garden bed. Elizabeth Little, as vice chairman of the NHA Archaeology Committee, proposed that the archaeological survey be expanded to include the entire Jethro Coffin House property. In January 1985, she prepared a draft proposal for a project with the primary goal of locating the archeological remains of outbuildings, fence lines, garden plots, or other features within the Jethro Coffin House lot to reconstruct land-use patterns and the lifeways of past occupants of

this property. The proposal reflected her interest in a multidisciplinary approach to the study of archaeological sites. A grant proposal prepared by Victoria Hawkins (NHA curator of Collections) was submitted to the Massachusetts Council on Arts and Humanities as a source of funding for the proposed archaeological study.

Innovative in its use of interdisciplinary approaches to collecting information about this historic property, the Jethro Coffin House project employed architectural history, documentary research, folklore, remote sensing, archaeological survey, and paleobotany. Research utilizing various primary and secondary sources such as deeds, probates, maps, and historic photographs was conducted by knowledgeable NHA staff. The Public Archaeology Laboratory (PAL) was among the organizations and individuals that participated in the study. It became involved in the Jethro Coffin House project through the invitation of Little, who was the head of the NHA's Archaeology Committee.

The following section of this chapter presents the general objectives and a research framework for the archaeological survey conducted by PAL. This is followed by a summary of the construction, occupation, and abandonment of the Jethro Coffin House based on architectural study and documentary research. The results of the remote sensing study, subsequent archaeological survey of the property, and paleobotanical analysis are then discussed.

Project Background

The primary goals of the archaeological survey conducted by PAL were: (1) a review of the documentary materials assembled by the NHA; (2) an intensive (locational) archaeological survey of the house lot to identify potentially important subsurface features and deposits; and (3) the analysis and synthesis of the archaeological information, incorporating what had been learned from documentary research. Recommendations for managing and protecting the archaeological component of the property were also developed. The award of a technical assistance grant to the NHA from the Massachusetts Council on Arts and Humanities in February 1986 provided funding for the archaeological survey. Fieldwork for the survey was conducted in April 1986, and a report was submitted to the NHA later that summer.

Primary components of the research design for the project were a review of documentary sources, remote sensing, and archaeological surveys of the Jethro Coffin House lot and paleobotanical analysis of soil samples collected from suspected garden plots. Completion of these

tasks was a group effort, reflecting the multidisciplinary nature of the project. The documentary information related to the Jethro Coffin House included deeds, probates, tax lists, federal census data, and other vital records. Other sources were photographs taken over the last 130 years, several architectural studies, and research on the Coffin family done by NHA members Helen Winslow Chase (1986) and Elizabeth Little (Little 1986; Little and Morrison 1986).

The remote sensing survey of the house lot was organized and conducted by members of the NHA Archaeology Committee and John Pretola from the Springfield Science Museum under the guidance of Richard Gumaer from the University of Massachusetts Amherst. The archaeological survey, artifact analysis, and flotation processing of soil samples were conducted by PAL staff. Steven Mrozowski, then archaeologist for the city of Boston, conducted the analysis and interpretation of paleobotanical material recovered from soil samples.

Research Framework

Three historic contexts provided a basic interpretive framework for the archaeological survey. They were: (1) the core-periphery relationship of Nantucket to the mainland; (2) eighteenth- and nineteenth-century land use patterns; and (3) economic decline on Nantucket circa 1840 to 1880. The contexts were based on themes recognized in the results of documentary research on both the Coffin family and the Coffin House, done as part of the tercentennial year project by the NHA (Chase 1986; Little 1986; Little and Morrison 1986).

These contexts were made more meaningful by the way Coffin family history and the Jethro Coffin House reflected larger processes on Nantucket from the late seventeenth to the late nineteenth centuries. The house was built in the period of initial European settlement and was continuously occupied through the expansion of maritime activities, including whaling, and an economic crash in the mid-nineteenth century that was followed by the decline of whaling. During the last quarter of the nineteenth century, when there was substantial population loss on Nantucket due to the general decline of maritime commerce on the island, the Jethro Coffin House was abandoned. Its final restoration by the Society for the Preservation of New England Antiquities (SPNEA) was funded by Coffin family descendants and linked to a renewal of interest in island history between 1880 and 1928.

Documentary evidence suggested that the patterning of activities within the Jethro Coffin House lot may not have changed much through

the eighteenth and nineteenth centuries, reflecting a pattern of conservatism and tradition in land use on Nantucket. After construction of the Paddack House (ca. 1726–1740) on a section of the original Coffin lot, certain features such as the driveway/cart path and the well remained mostly unchanged and were shared by occupants of both houses. They may have also shared some outbuildings such as sheds or barns.

With the demise of the whaling industry on Nantucket in the mid-nineteenth century, economic conditions on the island suffered a steady decline. Nantucket was unable to compete with mainland ports and had been devastated by a major disaster with the Great Fire of 1846. The subsequent movement of island residents to the mainland caused a significant reduction in the population of Nantucket and the relative value of property. This process was reflected in the eventual abandonment of the Jethro Coffin House as a dwelling in the late 1860s.

Summary of Construction, Occupation, and Abandonment, 1686–1867

The Jethro Coffin House and the lot on which it was built went through four stages, from construction through occupation by members of Coffin and other families from about 1686 to 1867 and from abandonment and finally reconstruction/restoration in the late nineteenth and early twentieth centuries. The year 1686 has generally been accepted as the likely construction date for the Jethro Coffin House, based on Coffin family tradition. However, the circumstances surrounding this event are not clear, since no deed or other document describing the initial granting of ownership to Jethro Coffin is known to exist. Physical evidence of this construction date allegedly appeared during the first phase of renovation in 1881, when the date 1686 was found inscribed into mortar on the west face of the chimney in the attic. Tradition also relates that the house was built as a wedding present for Jethro and Mary (Gardner) Coffin, whose marriage represented a significant reunion between two of Nantucket's most prominent early European families. In a dispute over the division of common lands known as the Half-Share Insurrection, the Gardner and Coffin families had been members of opposing factions. The property on which the house stands was given to Jethro Coffin by John Gardner, while timber used in its construction was provided by Peter Coffin from his landholdings in Exeter, New Hampshire.

In its original form, the Jethro Coffin House was a hall- and parlor-type structure of one and three quarter story height. On the front of the house, two gables projected from the roof, and there was

a small porch over the front door (see Figure 1.1). Another distinctive feature was the use of a horseshoe-shaped motif in raised brick on the face of the chimney. This motif has been interpreted as a symbol of the joining of the Coffin and Gardner families, or, as Lancaster (1972, 20) has suggested, it may only be a decorative Jacobean-style chimney arch used in modified form. Phillips’s (1984) architectural study and measured drawings from the 1927 restoration indicate that the original house was 30.5 by 39 feet in dimension, with its sills resting on a shallow stone foundation about 4 feet deep. This foundation extended across the entire front and about 16 feet toward the rear of the house, forming a small, shallow cellar. At the rear of the house the sills probably rested on a few large stones. Included under a 10½-foot deep lean-to at the rear of the structure was a kitchen flanked on the east by a milk room and to the west by a chamber. In this configuration, as a center chimney, lean-to structure, the Jethro Coffin House survived relatively unchanged into the late nineteenth century. Fire allegedly destroyed a portion of the rear lean-to prior to the 1860s. However, architectural studies found no convincing evidence of fire damage to the structure (Phillips 1984; Lancaster 1972, 20–22, Forman 1966). A late-nineteenth-century photograph shows the configuration of the lean-to at the rear or northwest corner of the house.

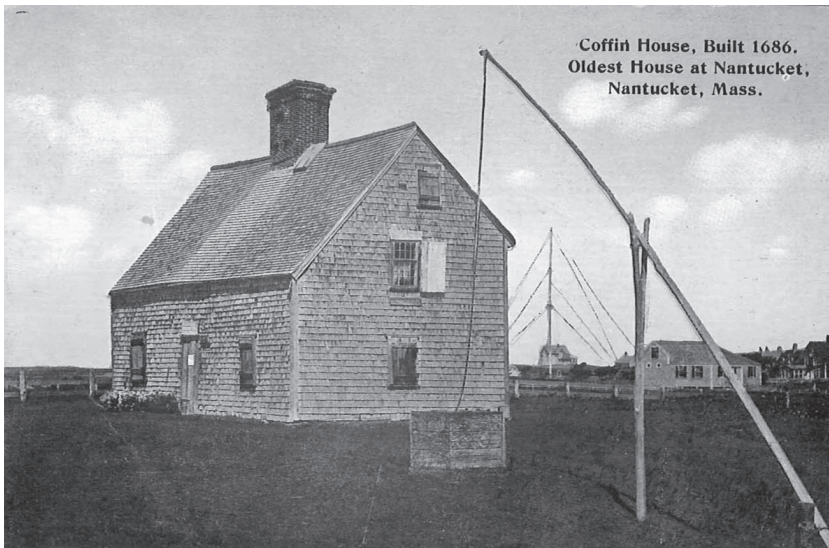


Figure 1.1. Jethro Coffin House, Built 1686

In relation to the general pattern of seventeenth-century settlement on the north shore of Nantucket, the Jethro Coffin House was located near the eastern end of the English town of Sherburne. Initial settlement in the 1660s was concentrated in an area north of Hummock Pond and west of Reed Pond, with a small harbor at Capaum (Capaum Pond) as the focal point. English settlement gradually spread to the southeast in the direction of Nantucket harbor in the 1670s. Other early developments were mills at Wesco Pond and a tidal mill, shoemaking and weaving shops, and warehouses in the harbor area. Further intensive settlement in Sherburne was initiated by the laying out of the Wesco Acre Lots in 1678 (Forman 1966, 22–25; Starbuck 1924, 23, 24).

Compared to other seventeenth-century house sites on Nantucket, the location of the Jethro Coffin House lot is somewhat anomalous. Little noted the unusual choice of location for this house in a 1985 proposal for a comprehensive archaeological survey of NHA properties. The Jethro Coffin House occupies the crest of an elevated knoll with a northerly aspect, while other contemporary homes were placed in more sheltered settings. Use of this exposed location may reflect other non-functional, possibly symbolic, considerations involved in the construction of the Jethro Coffin House.

Historical Background

Documentary research conducted for the 1986 tercentennial study yielded a wealth of information on the families that occupied the Jethro Coffin House from the late seventeenth to mid-nineteenth centuries (Chase 1986). From about 1686 to 1708, Jethro and Mary Coffin occupied the house, and six of their eight children were born in this period, between 1689 and 1704. The earliest possible reference to gardens or cultivated land owned by Coffin dates to before 1701, when blacksmith Nathaniel Starbuck charged him a fee for plowing an acre of ground. The small size of this plow land suggests that it could have been within the 1½-acre lot containing the Jethro Coffin House.

Jethro Coffin sold the house in 1708 to Nathaniel Paddock for the sum of 95 pounds. This transaction included the entire 1½-acre lot, a barn, other outhouses and shops, a well, easements, and garden fences. The Coffin family moved in 1708 to Mendon, Massachusetts, where Jethro became involved in cutting timber and iron making, possibly to support boat building for the early offshore whaling industry on Nantucket. Some other former Nantucket residents joined the Coffin family in Mendon, forming a small colony there. After Jethro's death in 1726,

Mary Coffin returned with the rest of the family to Nantucket (Little and Morrison 1986, 7–9). The lengthy occupation of the Coffin house by the Paddack family began in 1708, when Nathaniel Paddack bought it and moved there with his wife Ann and their first child Daniel (born 1707). Nine other children were born between 1709 and 1724, probably in the Jethro Coffin House. Paddack listed his occupation as weaver, but other documentary evidence indicates he was involved in offshore whaling. In 1714, six years after buying the property, Paddack had paid to Jethro Coffin the sum of 117 pounds, 5 shillings, and sixpence. It is unclear if this amount included the 95 pounds paid to Coffin at the original purchase in 1708. By 1726, Nathaniel and his sons Daniel and Paul were active in shore whaling. Between 1726 and 1740, Nathaniel Paddack built a house (Paddack House) a short distance southeast of the Jethro Coffin House. This new house was probably occupied by Daniel and Paul Paddack and their families. From about 1726 to 1752, various members of the Paddack family occupied both the Paddack and Jethro Coffin houses (Chase 1986).

After Captain Daniel Paddack’s early death while on a whaling expedition in 1743, his father Nathaniel mortgaged the Coffin House and all of his other property to three persons—Paul Paddack and two sons-in-law, Jethro Coleman and George Swain, each held mortgages for 100 pounds. This mortgage was likely arranged to provide for Daniel Paddack’s widow Susanna and her children. In 1747, Nathaniel Paddack was able to pay the 300 pounds needed to release his property, and he probably owned both the houses (Paddack, Coffin) on Sunset Hill. A few months later, Nathaniel sold to his son Paul “one half of my lands and other real estate,” excluding the Coffin House, for 150 pounds. This transaction gave Paul half of the Paddack House, and a few years later, in 1752, he acquired full ownership of it from his father. In 1754, Paul Paddack sold a half interest in the house to mariner Henry Smith, which included the west end of this structure, one rod of land to the north, the use of a cartway or path to the house, and rights to the well and pump. This pattern of shared use of the cart path and the well by occupants of the Coffin and Paddack houses was established by this time and continued into the nineteenth century.

In the early 1760s, Paul Paddack mortgaged his half of the Paddack House to Joseph Swain, a boatwright. At that time, the house was rented to tenant Joseph Dawes, a tailor. Paul and his family could have been sharing the Coffin House with his widowed mother during this period (Chase 1986, 15–17). Other occupants of the Paddack House in the last half of the eighteenth century were the Smith and Fosdick families. In 1763, Henry Smith acquired the entire house for his family,

along with rights of access to the cartpath and the well or pump near the Jethro Coffin House. John and Elizabeth Fosdick purchased the Paddack House from Smith in 1776. Fosdick was a joiner and cabinet-maker with a large family of ten children and occupied the house until he and his wife died in 1809.

Paul Paddack apparently continued to live in the Coffin House through the latter part of the eighteenth century, and in 1786 he sold half of it and surrounding lands to his son Nathaniel II. A provision of this sale was that Nathaniel would receive the remaining half of the house upon the death of his parents. In 1801, two years after his father's death, Nathaniel mortgaged the Coffin House for \$250. This debt would not be paid until 1820 (Chase 1986, 18–22).

After the deaths of both John and Elizabeth Fosdick in 1809, the Paddack House passed through several short episodes of ownership. Sailmaker Edward Brown purchased the house in 1810 for the sum of \$450. Two years later, in 1812, Brown sold the property to Nantucket mariner and trader Joseph Earle. In 1818, Robert Calaway (Calloway) purchased the house from Earle for the same amount Earle had paid for it six years earlier (Chase 1986, 18).

The first official land survey of the Jethro Coffin House and property took place in 1839 in connection with the sale of Nathaniel Paddack's estate to his son George. Since that time, this survey has formed the basis of all deeds describing the property. When Nathaniel Paddack died in 1840, George sold the Coffin House to George Turner, a cooper, for \$300. Turner, his wife Mary, and their five children were the last residents of the house and lived there until about 1867. Tax records for that year indicate that the house, a half-acre lot and one acre "mowing lot," had a value of \$225. A photograph taken circa 1863 reveals three outbuildings, possibly sheds and a privy, standing on the property along the rear (north) lot line. Although the Turners did not actually live in the Coffin House after the period 1867–1868, George Turner's widow Mary retained ownership of the property until 1881. At some point between around 1867 and 1881, the unoccupied Jethro Coffin House was used as a barn for storing hay (Chase 1986, 24–30).

Repair and Restoration, 1881–1928

The Coffin family reunion held on Nantucket in August 1881 marked the beginning of a period of repair and restoration of the Jethro Coffin House. A prominent participant in the reunion, Judge Tristram Coffin, of Poughkeepsie, New York, was made aware of the Jethro Coffin House

and decided to save this ancestral homestead from further deterioration. Together with his brother O. Vincent Coffin, Tristram Coffin bought the house from the heirs of George Turner and had it repaired in 1881. The restored house became one of Nantucket’s primary tourist attractions and was opened for summer visits between 1897 and 1923. In 1923, the Nantucket Historical Association acquired the Jethro Coffin House from Tristram Coffin. A few years later, another Coffin descendant, Winthrop Coffin, of Boston, offered to fund a more extensive restoration of the house. Coffin stipulated that the restoration be carried out under the direction of William Sumner Appleton, secretary of SPNEA. Winthrop Coffin also donated a parcel of land north of the Jethro Coffin House to the town of Nantucket for use as a park. A primary purpose of this gift was to preserve some of the open space around the house on the crest of Sunset Hill.

Restoration work began in June 1927 and involved raising and shoring up the chimney, replacing wood sills, and installing a new masonry foundation under the entire house. The burned lean-to structure at the rear of the house was also replaced. Timbers, lath, and other structural elements were taken from the nearby Paddock House, which was dismantled to provide authentic materials for the restoration. The Jethro Coffin House was rededicated in its restored condition in 1929. The 1927 restoration by Appleton and his project supervisor, Alfred Shurrocks, was summarized by Morgan Phillips of SPNEA as part of an initial inspection report in 1984. Documentation of the restoration work was carefully done with numerous photographs, measured drawings by Shurrocks, and other notes. Some of the important architectural information recorded by Shurrocks included evidence for the existence of two front gables and an original front entrance porch, in addition to many other details of the construction techniques used on the house (Stackpole 1969, 34–36; Phillips 1984; Chase 1986, 30–38).

Archaeological Investigations

Prior to 1986, one other archaeological investigation had been done on the Jethro Coffin House lot. Conducted in the summers of 1975 and 1976, under the direction of Dr. Selina Johnson, the excavations were limited to a single test trench near the northeast corner of the Coffin House. An inventory of the artifacts from the 1975–1976 excavations, including photographs of the fieldwork in progress, was prepared by the Archaeology Committee of the NHA (Jacobson et al. 1986). The artifact assemblage from the test trench was inspected during background research

for the PAL survey. The mixture of eighteenth- and nineteenth-century ceramic types ranged from white Staffordshire stoneware and creamware to transfer-printed pearlware and hard whiteware. Together with other interesting items, such as part of an export porcelain tea caddy, a wooden button, slate pencils, and clay marbles, the ceramic assemblage clearly showed that the yard surrounding the house contained some potentially important archaeological deposits. A small-stemmed projectile point of quartz was the first evidence that the property contained a Precontact period Native American component, possibly dating to the Late or Terminal Archaic period (ca. 4,500 to 3,000 years ago).

The 1985–1986 Tercentennial Project

Remote Sensing

A remote sensing study of the rear yard of the Jethro Coffin House lot was the first actual step in fieldwork for the NHA tercentennial project. Remote sensing of the yard around the house with electrical resistivity was expected to yield information on subsurface anomalies that might mark the location of archaeological features such as former outbuildings, trash pits, and fence lines. It was an opportunity to test the effectiveness of this nonintrusive technique on a historic site where any anomalies could be examined by follow-up sampling with shovel test pits during the archaeological survey.

The electrical resistivity survey of the Coffin House lot was the first time that a remote sensing technique had been applied to an archaeological site on Nantucket. Soil resistivity had been successfully used by Rick Gumaer and other University of Massachusetts Amherst, archaeologists to examine other historic sites in New England for subsurface features (Gumaer et al. 1984). The nonintrusive nature of a soil resistivity survey was an advantage for the Coffin House lot survey because of its open lawn and frequent visits by tourists.

A soil resistivity survey of the rear yard area north of the Jethro Coffin House was done over a two-day period in the summer of 1985 under the direction of Gumaer. NHA Archaeology Committee members Elizabeth Little, Clinton Andrews, and Tim Lepore, as well as John Pretola (Springfield Science Museum), volunteered to assist in carrying out the survey. Gumaer provided the electrical resistivity equipment and technical expertise to collect and analyze the resistivity data.

The resistivity survey covered an area of about 200 m² extending from the rear wall of the Coffin House to a fence marking the north-

ern boundary of the property. This area was divided into a one-meter square grid pattern with resistivity readings taken at each grid point. Identified anomalies ranged from small, localized “hot spots” to a fairly large “patch” extending in a northeasterly direction from the northwest corner of the house. Anomalies along the eastern edge of the rear yard conformed to previous archaeological excavations done in 1975 and the probable alignment of a water pipe leading to an existing outhouse. Part of the large “patch” anomaly was suspected to be the site of outbuildings (outhouse, shops) mentioned in a 1708 deed for the property (Jacobson et al. 1986; Little et al. 1987) (see Figure 1.2).

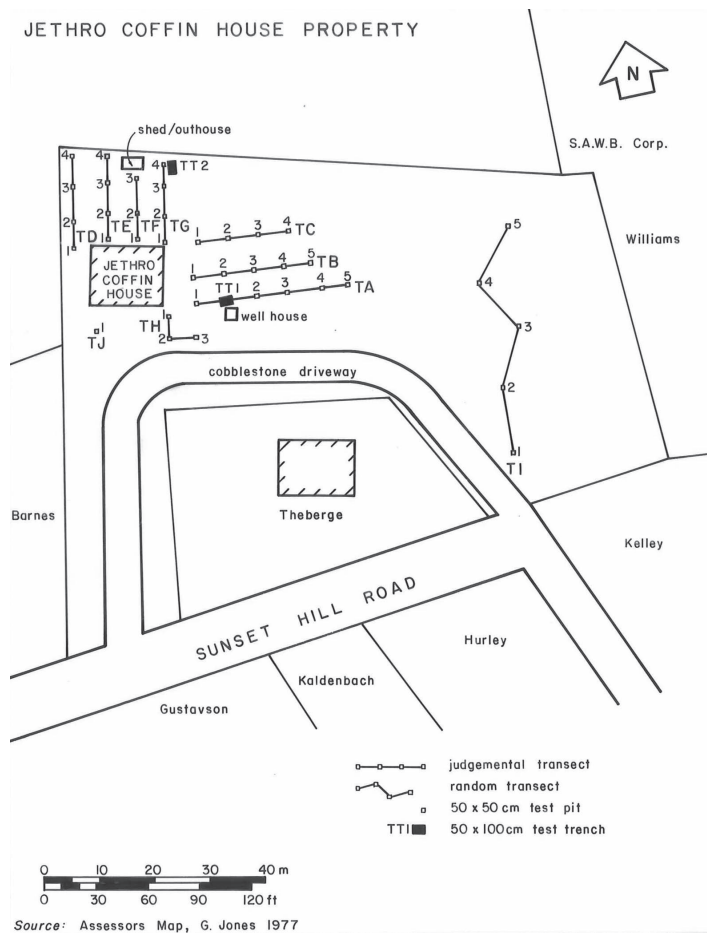


Figure 1.2. Location of Subsurface Testing on Jethro Coffin House Property

Intensive Survey

In April 1986, PAL conducted the fieldwork phase of the intensive archaeological survey. The general objective of this survey was to intensively sample the open property or lot surrounding the Jethro Coffin House. Specific goals were to assess the type, condition, and research potential of archaeological deposits and to identify locations of former outbuildings and garden plots. Condition was important, since it was expected that restoration and stabilization work done on the house in 1927 had likely disturbed older archaeological deposits around the foundation.

To organize the subsurface testing, the Jethro Coffin House lot was divided into four sections that were investigated using different sampling methods. These sections included the side yard east of the house and a low meadow swale below it, the back yard to the rear (north) of the house, and the front yard and a densely wooded area in the extreme east/southeast portion of the property.

Sets of parallel transects with 50 × 50 cm test pits placed at 5-meter intervals were used to sample the most archaeologically sensitive parts of the property. These were the back yard, side yard and swale east of the house, and the front yard. The back yard had anomalies from the soil resistivity survey and possible outbuilding sites; the side yard and swale was a likely location for former gardens and deposits of household refuse. The three parallel transects placed in the side yard and swale and four transects in the rear yard formed a 5-meter grid over these sections of the property.

The area of lowest archaeological sensitivity was the wooded southeastern part of the lot extending from the swale to Sunset Hill Road. Shovel test pits in this wooded area were placed at a 10-meter interval along a single randomly oriented transect. Two 50 × 100 cm trenches were used to investigate small features first encountered in test pits. These included a deposit of brick-and-mortar rubble along the northern property line and a brick-and-cobble paving found on the north side of the well in front of the Coffin House.

Side Yard and Swale

A few test pits in the side yard showed evidence of disturbance such as mixed loam topsoil and sandy subsoil with coal ash from either landscaping or installation of an exterior water faucet on the Jethro Coffin House. In the meadow swale east of the house test pits revealed a 30–80 cm deep accumulation of sandy loam that appeared to be a typical plow

zone enhanced by erosion and slope wash. A gray sand podzol or leached zone separated the plow zone from a coarse sand subsoil horizon.

The ceramic assemblage from the deep sandy loam in the swale consisted of predominantly glazed and unglazed redware (150 sherds). Other diagnostic ceramic types had median manufacture dates ranging from 1730 to 1791. Creamware (69) was most frequent followed by decorated delft (35), smaller amounts of lead-glazed (combed and dotted) slipware (14), and fine white stoneware (15). English brown or Westerwald stoneware and Chinese export porcelain were limited to a few sherds. Late eighteenth to early nineteenth century wares—with median dates ranging from 1800 to 1830—were mostly undecorated (55) and transfer printed (15) pearlware. A small amount of whiteware was found in the disturbed fill of a trench containing a water pipe running across the side yard.

Vessel forms included a basal sherd from a small slipware cup or bowl, a white stoneware plate rim in a “barley” pattern (ca. 1740–1770), and two sherds from a stoneware bowl and cup with an overglaze hand-painted decoration in brown, blue, and green enamel. A few rim sherds were from pearlware plates with a shell- or feather-edged treatment. Among the small samples of glass artifacts from the swale were a fragment of a large, hand-blown bottle with a deep basal indentation and a fragment of a wineglass with an engraved decoration. The thirty-one tobacco pipe stem fragments had bore diameters ranging from $4/64$ " to $7/64$ ", producing a mean date of 1735. This is close to the median dates for some of the eighteenth-century ceramic types found in the meadow swale area.

Structural materials (brick, window glass, nails) and faunal remains such as pieces of shell, mammal, and fish bone were widely dispersed across this part of the site. A distinct concentration of bone fragments in two test pits on Transect B may have marked the location of a trash pit disturbed by plowing. A few fragments of brown-yellow European flint and a piece of coral may have been brought to Nantucket as ship’s ballast. Various occupants of both the Jethro Coffin and Paddack houses were mariners and could have brought these materials to their homes.

Precontact period Native American material found in the swale included a midsection fragment from a projectile point of tan rhyolite and a large, bifacial blade of quartz. Six pieces of chipping debris were recovered and were made of argillite, quartzite, and an unidentified metamorphic rock. All of these items were in the deep sandy loam topsoil or plow zone and the upper subsoil horizon.

The only feature found in the meadow swale area east of the house was a loose paving of cobbles and brick fragments in a test pit on the

northeast side of the well house. Buried under a thin loam deposit, this paving suggested that some attempt was made to prepare the ground surface around the well to facilitate rapid drainage and to prevent erosion. It also was good evidence that the present location of the well house corresponds to the well or “pump” referred to in numerous deeds for the Jethro Coffin and Paddock houses.

Back Yard Area

Four evenly spaced transects created a grid of test pits across the back yard of the Jethro Coffin House lot. Fourteen test pits were excavated at 5 m intervals along these transects, which also conformed to the north-south orientation of the 1 m-meter grid used to organize the earlier soil resistivity survey. Several test pits within the grid were on the locations of anomalies identified in the soil resistivity survey. A single 50 × 100 cm trench (Test Trench 2) was excavated on a suspected feature corresponding to the former location of an outbuilding near the rear fence line.

Soil profiles exposed in the back yard were varied and showed much more evidence of alteration from diverse activities than those in the side yard swale section of the property. Filling or landscaping, restoration of the house, and installation of utility lines were all sources of previous disturbance to this part of the yard. The least altered soil profiles were along Transect D near the western edge of the back yard and consisted mostly of two zones of dark-brown sandy loam extending to about 50 cm below the surface. Closer to the center of the back yard, test pits along Transect E were composed of an upper-loam topsoil with coal ash about 30 cm in depth overlying a grayish-brown, sandy loam A-horizon. This buried A-zone appeared to be an older yard surface and contained ceramic sherds, glass, and other eighteenth- and early-nineteenth-century artifacts. The B₁ subsoil horizon across the entire back yard was a typical dark-yellow/orange coarse sand.

Near the exterior rear wall of the Jethro Coffin House, test pits on Transects E and F exposed evidence of the 1927–1928 restoration work in the form of redeposited loam topsoil and subsoil, which extended from the surface to a depth of 30 cm. The first test pit excavated on Transect F (F1) uncovered a 15-cm layer of brick-and-mortar rubble above an undisturbed sandy loam A-horizon. This restoration-related disturbance appeared to be limited to a narrow zone next to the exterior wall of the house and may not extend more than 1 m into the back yard. Another recent disturbance from water and sewer lines installed along the eastern edge of the back yard was found in test pits on Transect

G (G2, G3). In both test pits, cast iron and ceramic water and sewer pipes leading to the existing outhouse were found under mixed-loam topsoil and sandy subsoil fill.

A trash pit feature containing a dense deposit of ceramic sherds and glassware was found in the location of a strong anomaly identified in the electrical resistivity survey. In test pit F2, a thin deposit of loam topsoil and dense coal ash about 20 cm thick covered the top of the trash deposit. This feature was a concentration of ceramic sherds, glass, and structural materials (brick, nails, window glass) that extended to about 45 cm below surface. At this depth it appeared to intrude into an older, late-eighteenth-century deposit in the upper B₁ subsoil horizon.

Ceramic sherds in the trash deposit were primarily early-nineteenth-century types such as hand-painted and transfer-printed pearlware with lesser amounts of domestic stoneware, glazed redware, and cream-colored ware. Although the sherds were highly fragmented, identifiable vessel forms in the trash pit assemblage included pearlware plates with a feather-edge and transfer-printed decoration, a small jug or pitcher with a hand-painted floral design in blue, and what could have been a child's mug or cup of red-and-green, transfer-printed whiteware. A chamber pot of glazed redware was represented by a single-rim sherd. Glass items found in the trash pit included a very small hand-blown, light-green bottle about 1½ inches in height and a molded, aqua-colored bottle base with embossed lettering that likely held patent medicine or other preparations. The basal portions of a large clear tumbler with beveled sides, a dark-green wine bottle, and an aqua-colored beverage bottle were also found. Brick and window glass in the trash deposit showed no obvious evidence of burning from the fire that allegedly damaged part of the rear lean-to on the house in the 1860s. The B₁ subsoil horizon under the trash deposit contained eighteenth-century white stoneware, redware, and creamware sherds and fragments of dark-green bottle glass.

The suspected location of another feature in the back yard was investigated with a 50 × 100 cm trench (Test Trench 1). A mid-nineteenth-century photograph of the Jethro Coffin House showed two small outbuildings, one of which appears to be a privy, in this location. A shallow depression filled with brick, mortar rubble, and a few boulders was excavated to about 50 cm below the surface, but no evidence of a filled privy or outbuilding was found at this depth. A filled privy or other feature could still be present below this rubble deposit.

Ceramic sherds from test pits in the back yard included primarily redware, creamware, and various pearlware (plain, transfer-printed, hand-painted polychrome). A group of ninety-seven sherds, with median

date ranges from 1730 to 1791, consisted of mostly creamware and white Staffordshire stoneware with a few pieces of delft, lead-glazed yellow slipware, and English brown stoneware. This was a smaller, less diverse assemblage of eighteenth-century ceramics in comparison to that collected from the side yard and swale area of the property. In the back yard, these ceramic types were dispersed in a buried sandy loam (A-horizon) assumed to contain artifacts relating to late seventeenth- and eighteenth-century occupations of the Jethro Coffin House.

Nineteenth-century ceramics, with median dates ranging from 1800 to 1860, comprised the largest category of sherds. Most of the sherds (228) in this grouping were all pearlware, predominantly plain and transfer painted with smaller numbers of hand-painted polychrome and blue- or green-edged wares. Included in this total are the pearlware sherds from the trash deposit described earlier. Domestic stoneware, whiteware, and a few pieces of yellowware made up the remainder of this grouping. These mostly mid-to-late-nineteenth-century ceramic types were found as small sherds scattered throughout the loam topsoil forming the upper half of soil profiles in the back yard.

An analysis of twenty-eight white clay tobacco pipe stem fragments from the back yard using the Binford (1962) regression formula yielded a mean date of 1734. This date is very close to the one (1735) calculated for pipe stems from the side yard and swale section of the house lot. It was somewhat later than most of the median dates for ceramics found in the back yard, dominated by early-to-mid-nineteenth-century types.

In addition to the concentration of window glass and nails in the trash deposit, other interesting structural materials found in test pits were three machine-cut iron spikes about 3½" to 4" in length and four large nails of copper or bronze of the type used in shipbuilding. No concentration of brick, nails, or other structural materials was found near the northern or rear edge of the house lot where it was expected that these materials might help locate former sheds or other outbuildings.

The sample of about 200 pieces of faunal material from the back yard area consisted of mammal, bird, fish bone, and shellfish remains. Most of these faunal remains were unidentifiable, but there were ten recognizable fragments of long bone from large- or medium-size mammals, possibly from a cow, pig, and/or a sheep. Other domestic animal remains included a broken boar tusk and six other teeth from a sheep and a pig. A dense concentration of bone fragments found near the exterior rear wall and northeast corner of the Jethro Coffin House was in an area disturbed by restoration work. It was likely part of an interior, subfloor refuse deposit that was excavated and reburied during the 1928 stabilization work on the foundation. Quahog (*Mercenaria* sp.)

comprised most of the sample of eighty-eight pieces of shell found in test pits across the back yard.

Precontact period Native American cultural material from the back yard was limited to two pieces of quartz shatter and a tabular fragment of gray-green argillite chipping debris found in test pits near the rear of the house. The Native American archaeological component probably extended from the lower meadow swale area on to the slightly elevated portion of the site later selected as the location for the Jethro Coffin House.

Front Yard Area

A subsurface sampling of the front yard part of the site was conducted with four test pits placed along two short transects. Transects H and J originated on the southeast and southwest corners of the Jethro Coffin House and extended south/southeast toward the driveway. Soil profiles showed little evidence of a previous disturbance. A dark-brown sandy loam topsoil 20–35 cm thick covered a lower deposit of lighter gray-brown loam extending to about 50 cm below the surface. This lower deposit of sandy loam appeared to be an older, buried A-horizon and contained mid-to-late-eighteenth-century artifacts. The underlying B₁ subsoil horizon was a pebbly, dark-yellow sand, similar in color and texture to the subsoil observed in other parts of the house lot.

The thirty-six sherds of red earthenware from the front yard included black-glazed redware such as that found in other sections of the house lot with buried domestic refuse. Another forty sherds were eighteenth-century ceramic types such as fine white stoneware, creamware, delft, combed slipware, and Westerwald and English brown stoneware with median manufacture dates ranging from circa 1730 to 1791. These ceramics were found within a lower, gray-brown sandy loam that appeared to be a buried A-zone soil. This soil zone contained a typical sheet refuse deposit of household debris, such as ceramics, bottle glass, bone, and shell fragments associated with the late-seventeenth-to-eighteenth-century occupation of the Jethro Coffin House. The small size of the sherds and glass fragments was consistent with their being dumped on an active surface such as the front dooryard or driveway, where they would have been easily broken and trampled into the soil.

Southeast Section of the House Lot

The wooded southeast part of the Jethro Coffin House lot was investigated with a single randomly oriented test pit transect. Transect I extended

from the extreme southeast corner of the property in a northwesterly direction toward the open meadow/swale below the house. The soil profiles in this densely wooded area were very uniform, consisting of a dark-grey sandy loam topsoil or plow zone about 30 cm thick over a grey quartz sand podzol or leached zone. Below, about 40 cm to 45 cm from the surface, was a strongly oxidized orange-brown B₁ subsoil horizon. Near the poorly drained eastern edge of the house lot, this oxidized subsoil was replaced by a very deep podzol and brown-to-black muck soils. The plow zone in this part of the house lot yielded a scatter of eighteenth- and nineteenth-century ceramic sherds and brick and nail fragments such as those found in greater amounts in the nearby swale. One quartz flake was the only Precontact period Native American object. The most interesting artifact was a tubular bead of dark-blue glass found in test pit I-5, closely resembling the glass trade beads found in seventeenth-century contexts on other Native American and Colonial sites in southern New England.

Paleobotanical Analysis

The use of plants by the former occupants of the Jethro Coffin House was a topic of interest from the earliest stages of this project. The design and installation of a Colonial-period garden was part of the tercentennial year plan for the property. Little's proposal for an archaeological survey first suggested that paleobotanical research should be part of the project. Like the remote sensing survey, the proposed archaeological investigation was an opportunity to apply a technique that had not yet been used on any historic period site on Nantucket. The flotation of soil samples from other sites in urban settings such as Newport, Rhode Island, had demonstrated that floral remains such as seeds could be recovered from feature fill. These floral remains (unburnt and carbonized seeds, fruit pits, plant parts) indicated the types of plant foods making up the diet of occupants of houses and small-scale changes in the landscape, such as vegetation succession in vacant lots, yards, and other open spaces (Mrozowski 1979, 1984). Soil flotation analysis was expected to indicate something about the past location of garden plots used for vegetables or herbs, as well as larger parcels of plow land used for crops (grains, flax, etc.).

A set of eleven, one-liter soil samples for paleobotanical analysis was collected from specific parts of the property during fieldwork. Nine of these samples were taken from test pits along three transects in the overgrown meadow or swale east/southeast of the house. The swale was thought to have been a garden plot and contained relatively dense deposits

of household refuse in a deep loam probably representing a plow zone horizon. Two other soil samples were from test pits in the back yard. They contained a shallow deposit of eighteenth-century artifacts and a dense trash deposit or pit feature containing early-to-mid-nineteenth-century ceramic sherds and bottle glass. Both deposits appeared to be associated with distinct depositional events on the site.

The set of eleven soil samples was processed in a flotation tank at PAL, and the recovered floral remains were identified and interpreted by Steven Mrozowski. A preliminary analysis of the thousands of seeds from these samples was able to identify specimens from ten plant families or species and was considered good evidence of gardening on the property. The samples included *Chenopodiaceae* (chenopodium), *Compositae* (flowering weeds), and *Leguminosae* (possibly bean and alfalfa). The chenopodium and flowering weed species were plants that frequently become established in areas of disturbed or open soils such as an open plowed field or garden plot.

Summary

A substantial amount of information was collected from the below-ground component of the Jethro Coffin House during the archaeological survey. A majority of the house lot was found to contain intact and potentially significant archaeological deposits related to most of the occupation span (ca. 1690 to the 1840s) of the house. Most of the previously disturbed areas were of limited size and in close proximity to the house on the north (rear) and east sides, with the exception of several modern utility lines extending across the back yard from the northeast corner of the house. The specialized studies such as remote sensing and paleobotanical analysis yielded more information than originally expected.

Subsurface testing within the back yard area of the property was planned so that soil anomalies identified during an earlier remote sensing survey using electrical resistivity could be investigated. The discovery of a dense deposit of nineteenth-century household refuse on the location of one of the strongest resistivity anomalies in the back yard was an important finding of the archaeological survey. This trash pit feature contained ceramic sherds and bottle glass that provided a majority of the information now available for activity at the Jethro Coffin House during the early nineteenth century, circa 1800 to 1830. A paleobotanical analysis also yielded a set of data that was larger and more complex than first expected. The eleven soil samples collected from selected sections of the house lot yielded seeds and plant remains that provide good evidence

for the existence of open, cultivated land such as a garden plot on the Jethro Coffin House property.

Other information was relevant to the historic contexts guiding the interpretation of archaeological data from the property. While it was expected that some evidence of the arrangement of outbuildings on the house lot would be uncovered, no physical remains of this type of structure was found in the archaeological survey. Ephemeral buildings such as sheds or workshops may not have been placed on foundations of stone or brick. However, there was also a noticeable absence of other evidence, such as concentrations of nails, window glass, rotted wood, or other structural debris or items that might have been stored in these outbuildings. Photographs of the house and lot showed that by the mid-to-late nineteenth century, outbuildings were located against the rear fence line, and it is possible that they were always on that part of the property. Despite the lack of structural remains, these photographs and the continuity evident in other use of space within the house lot, such as the well, garden plot, and driveway, make it likely that outbuildings were located near the rear lot line.

Since no evidence of a barn was found, it is also possible that occupants of the Jethro Coffin House used one of the outbuildings on the adjacent Paddack House lot, an area that was not tested as part of this survey.

Depositional patterns reflected by the distribution of artifacts and features provided evidence of continuity or conservatism in the arrangement of activities on the Jethro Coffin House lot. One of the most distinct depositional patterns illustrated by the archaeological data was the presence of typical sheet refuse deposits around the house and in the lower meadow/swale area. In the front yard, a discrete layer of eighteenth-century artifacts and faunal remains was in a buried sandy loam topsoil zone. Similar deposits appeared to be present in the back yard but were altered to some extent by later, nineteenth-century events such as filling/landscaping with coal ash and the disposal of household refuse in a trash pit. In the late seventeenth to eighteenth centuries, depositional processes included the disposal of large amounts of domestic refuse such as ceramic sherds, bottle glass, animal bones, and shellfish remains in the lower meadow/swale area. There is good evidence that this part of the property was actively used as cultivated land, possibly a garden plot, and that household trash would have been dumped there to enrich the soil. An analysis of floral remains found in soil samples suggested that the meadow/swale was used for agricultural purposes. Large numbers of seeds from several species of low-lying weeds commonly found in disturbed or open ground such as gardens were identified in

soil samples processed by flotation. They indicate that a garden could have been located there over a long period of time in the eighteenth to nineteenth centuries. An 1863 photograph shows a patch of open land inside a fence next to the well house that stands on the western slope of the meadow/swale area.

Other archaeological evidence in the form of a brick-and-cobble paving indicated that the well on the Jethro Coffin House lot was always in its present location. This feature was found on the north side of the existing well house and contributed to a better understanding of documentary sources that describe how the well was shared by occupants of the Jethro Coffin and Paddack houses over a span of approximately ninety years.

Some use of the space within the Jethro Coffin House lot probably changed in the early nineteenth century. In particular, the disposal of household refuse appears to have shifted from the side yard and meadow/swale to the back yard. The early-nineteenth-century trash pit feature found in the back yard may have been the result of a change in occupancy of the house, possibly from the Paddack to Turner family in 1840. The ceramic sherds, bottles, and other household refuse in this feature could have been cleaned from the house and then buried in a pit excavated in the back yard. Coal ash also appears to have been used in filling, grading, and/or landscaping the back yard and was widespread over this part of the house lot. After the first decades of the nineteenth century, there appears to have been much less disposal of household refuse in the meadow/swale part of the property.

The abandonment of the Jethro Coffin House as a dwelling in the 1860s was reflected in the archaeological assemblage as a whole. Artifacts from the mid-to-late nineteenth century, particularly ceramics, were present only in very small amounts relative to older eighteenth- and early-nineteenth-century types. The abandonment and eventual change in function from a dwelling to a storage outbuilding (hay barn) were related to a larger episode of economic decline on Nantucket. Within this larger context, the late-nineteenth-century treatment of the Jethro Coffin House before repairs in 1881 stands in sharp contrast to its relative value in the late seventeenth and early eighteenth centuries, when the house was a prominent display of the political and socioeconomic achievements of two important Nantucket families (Coffin and Gardner).

The Jethro Coffin House is now one of the most extensively studied historic properties on Nantucket. The study described here was the first systematic sampling and interpretation of the archaeological component of a historic period standing structure on Nantucket. The comprehensive documentary research done by members of the NHA was of great

value for enhancing the interpretation of the archaeological assemblage. It provided insights into family and household composition, property transfers, and the occupations or trades of persons living in the Jethro Coffin House from the late seventeenth through the mid-nineteenth centuries. The findings of this multidisciplinary study should provide a useful benchmark for any future archaeological investigations of similar historic properties on the island.

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