



MONROE HILL BRICK ANALYSIS

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Introduction

Initial field study across the site of Monroe Hill at the University of Virginia revealed many visible seams in the brick masonry walls and a great variation of brick bonding patterns. The following brick analysis arose out of the perceived need to catalog as many instances of brick construction as possible, and to determine whether brick dimensions alone could contribute to the construction of a historical narrative.

The initial hypothesis posited that bricks of similar dimensions across a site are linked to simultaneous building campaigns. This would contribute to the dating of buildings across the site, as some buildings have clear documentary evidence of their construction, and others do not. If a brick patch with a known or widely accepted construction date had matching dimensions with a brick patch that did not have any associated dates, perhaps these two patches could be considered to originate from the same brick manufacturer and therefore a simultaneous construction. Later discussions proposed that bricks with similar dimensions, while potentially originating from the same manufacturer and same batch, might not be from contemporary constructions on Monroe Hill but perhaps from contemporary constructions across the entire University Grounds. After the acquisition of the Monroe Hill site and buildings by the University in the 1820s, the economical practice of recycling bricks for maintenance or new builds would have to be considered, especially on walls that do not

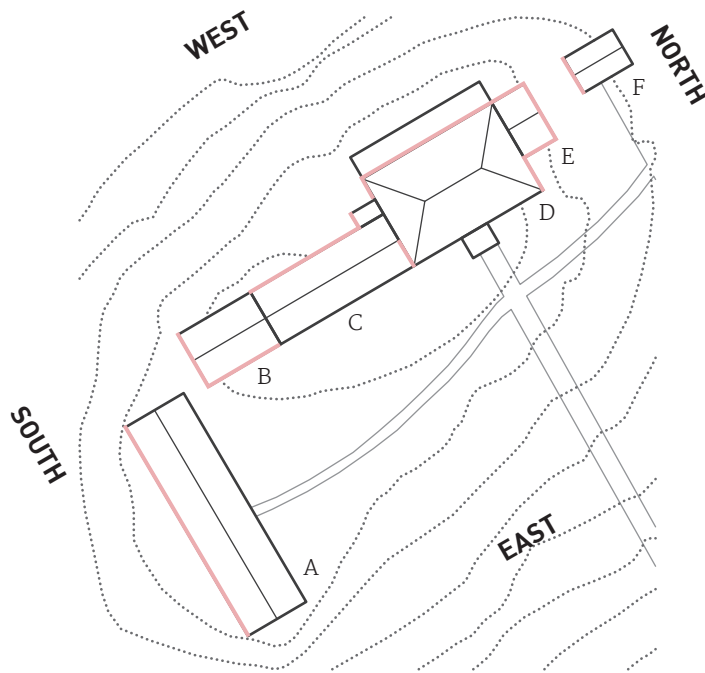


FIGURE 01: Site Map of Monroe Hill

- A. Long Range
- B. Law Office
- C. Short Range
- D. Main House
- E. Kitchen
- F. Garage

constitute main façades.

A second hypothesis also emerged later: if industrialization standardizes brick dimensions, does standard deviation across a dataset indicate a chronology of construction? As in, are older bricks associated with a greater standard deviation, and vice versa? In the following analysis, some of the oldest accepted bricks actually had the lowest standard deviation among the samples. However, as in the previous hypothesis, brick recycling remains a variable that cannot be accounted for in the undertaken methods of statistical analysis.

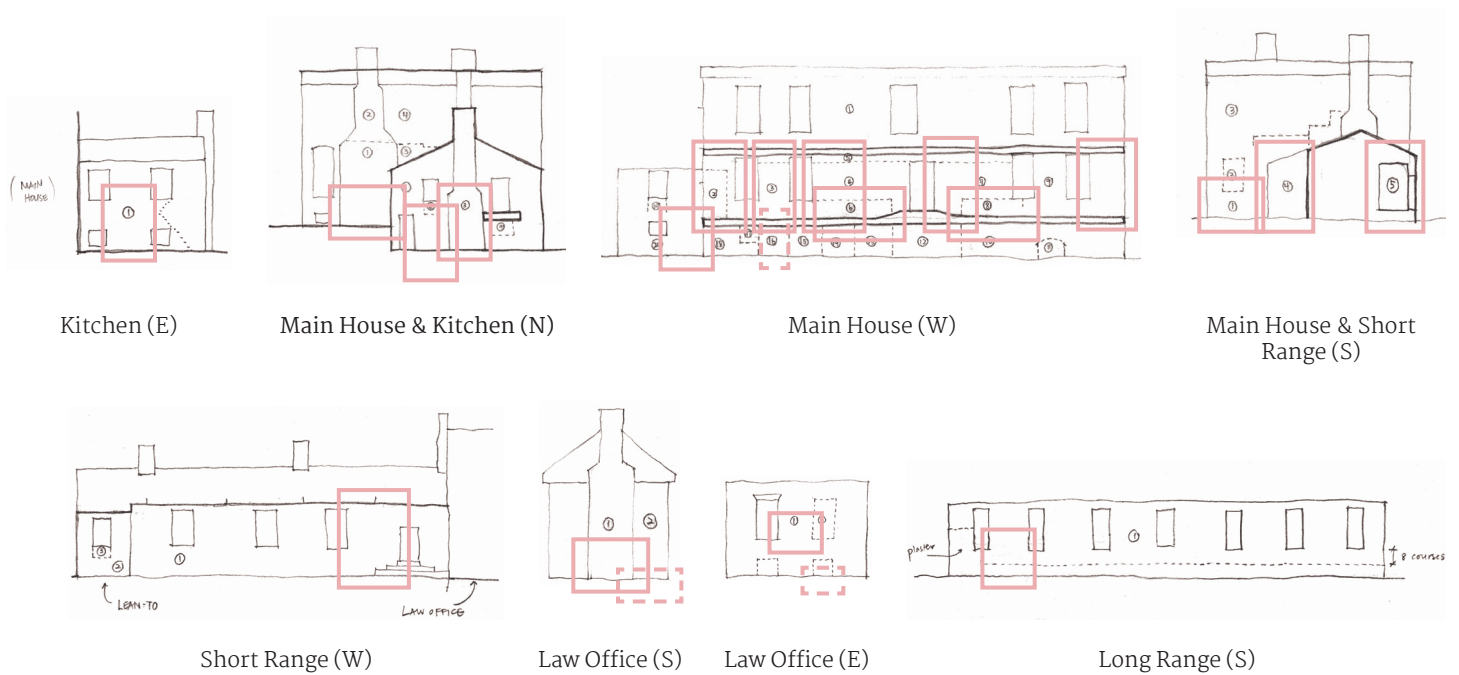


FIGURE 02: Sample locations on elevations

Originally, the bricks were to be measured digitally using 3D-scan data in order to access as much of the building as possible. However, the level of precision afforded by digital measurement was decided to be inappropriate for bricks that were crafted by hand. Therefore, only measurements documented by hand were included in this analysis. Bricks manufactured today use nominal imperial units, as they would have done in the 18th and 19th-century building campaigns of Monroe Hill. The field measurements also use imperial units for this reason. A tolerance of $1/4''$ was chosen to account for physical variables such as erosion or paint build-up over time. Rounding to the nearest $1/4''$ was performed in the field as measurements were taken.

Thirty-two patches of bricks were measured across the site, with a focus on broad patches associated with building campaigns rather than the infill patches of blocked-in openings. In each patch, twenty bricks were measured with an attempt to evenly spread the sample across several courses of brick; for example, four bricks per course across five courses of brick. Brick length and height — as in, the visible dimensions of stretchers — were prioritized over width due to the prevalence of stretchers used in constructions across the site. As field measurements progressed, sample locations moved to brick patches where only length and width could be measured, such as the brick hearths of the Main House. These samples were believed to be important due to the early documentation of a path beneath the Short

Range, which was constructed using unfinished bricks and laid in a running pattern that mostly exposed the shiner (length and width) rather than the stretcher (length and height). It became somewhat difficult to eventually compare all of the brick patches to each other when data was consistently missing for some samples — most exterior bricks did not have width measurements. In hindsight, it would have been prudent to measure the available widths of bricks in header courses that were adjacent to the sample patch.

The majority of exterior bricks are painted, so painted bricks were preferred in all sample patches to reduce variables. Although due to paint coverage, measurements largely depended on touch in addition to sight to determine the outline of a single brick exclusive of mortar. This strategy also prevented the use of digital measuring tools without adding a new set of variables and creating an incomparable dataset.

For each sample, the process involved:

1. Photographing the patch;
2. Noting the bonding pattern;
3. Noting any interesting adjacencies;
4. Sketching the patch and labeling bricks;
5. Recording measurements to the nearest 1/4”.

After each field measurement was completed, the brick dimensions were recorded in a spreadsheet and statistical analyses such as

Average, Standard Deviation, and Mode were calculated. Surface Area was also calculated for the available brick faces, but due to some variety of missing information in all samples, this did not contribute to the analysis. Using Average analysis in this particular dataset was not as productive as I had initially hoped. The sample patches often had bricks in several groups with a variety of dimension combinations, but the Average would occasionally generate a brick dimension combination that did not exist among the field measurements. It was therefore difficult to compare this imaginary “brick” to other brick samples that had fewer brick dimension combinations, and potentially more “accurate” Average dimensions. Mode was a more useful form of analysis, because it found the most commonly occurring brick dimension. Sometimes, the Mode combined brick dimensions in ways that were not the most common — for example, the most common length and the most common height did not necessarily make the most commonly occurring stretcher — though it did feel more accurate than the numbers generated by the Average formula, because they did exist in the field.

Initial analysis attempted to separate existing documentary evidence and other field measurement conclusions from the brick analysis in order to remain objective. Few conclusions came out of this method, except to note some interesting adjacencies when sorting

the list of brick samples by Standard Deviation, Average, and Mode. Estimated dates were then included to see whether brick dimensions confirmed building campaigns, or shed light on patches with a more vague date range. These interpretations can be found along with the analysis charts on the following pages.

Next steps would include filling in the missing information — namely, brick widths — on existing sample patches. Additional patches across the Monroe Hill site, such as the upper floor of the Main House, the Main House rear elevation at the cellar level, and infilled openings on various buildings, would be measured to add to the overall dataset. A sample of high-quality façade brick from an early building on the Lawn would be added to the dataset as a control.

Overall, I believe that this method of analysis has the potential to be useful in the assembly of a historical narrative, if as many variables are controlled as possible. Though it would be ideal to form conclusions based on the data alone, it appears that the potential for this analysis is greater in the interpretation of estimated dates based on documentary evidence. This analysis has brought up significant questions about the appropriateness of mathematical investigation on historical buildings, in particular, ones involving accuracy and the “truth” of numbers. Would additional brick samples contribute to the potential of this analysis, or would more

numbers create a false sense of accuracy? Would a brick study that includes every historical building on the University Grounds help to solve the variable of recycled bricks or will there ever be any way of knowing without documentary evidence? Is it also possible for this work to be continued over time by a variety of scholars? In the same way that brick sizes were not standardized until after the construction of many of these historical buildings, it will be difficult to standardize the way in which measurements are taken. I cannot even guarantee that I have measured each brick sample in the same way across the thirty-two samples that I took on Monroe Hill. Unfortunately, I am biased with a tendency to find patterns, and have likely seen a measurement rounded one way or another to the nearest 1/4” because of a previous dimension that had appeared in the same brick sample.

In the same way that imperial units to the 1/4” and an analysis using Mode felt the most effective in this investigation, it may have been more correct after all to measure to a high degree of accuracy in the field, and then round the Average numbers to a dimension with a realistic tolerance for a pre-industrial brick. With a sample size greater than twenty bricks, in combination with more specific measurements, a different conclusion may have been reached. It is difficult to determine the best approach to this investigation without attempting all of methods.

Analysis: Estimated Date

| LOCATION | AVERAGE | | | STANDARD DEVIATION | | | MODE | | | ROUNDED AVERAGE | | | BONDING | ESTIMATED DATE | NOTES |
|-------------------------|---------|---------|---------|--------------------|---------|---------|--------|--------|--------|-----------------|---------|---------|---------------|----------------|---|
| | Length | Height | Width | Length | Height | Width | Length | Height | Width | Length | Height | Width | | | |
| Law Office East 1 | 8.3125 | 2.7750 | #DIV/o! | 0.2127 | 0.0769 | #DIV/o! | 8.2500 | 2.7500 | #N/A | 8.25 | 2.75 | #DIV/o! | Flemish | 1790 | |
| Law Office North Cellar | 8.4125 | 2.6250 | #DIV/o! | 0.1223 | 0.1282 | #DIV/o! | 8.5000 | 2.5000 | #N/A | 8.5 | 2.75 | #DIV/o! | 3-c Common | 1790 | interior of north cellar wall |
| Law Office North Pier | 7.9625 | 2.2500 | #DIV/o! | 0.1863 | 0.0000 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | Running | 1790 | cellar pier supporting beam with circular saw marks |
| Law Office South 1 | 8.2250 | 2.7500 | #DIV/o! | 0.1602 | 0.0000 | #DIV/o! | 8.2500 | 2.7500 | #N/A | 8.25 | 2.75 | #DIV/o! | Flemish | 1790 | |
| Main 1 Hearth NE | 8.1625 | #DIV/o! | 3.7250 | 0.1677 | #DIV/o! | 0.0769 | 8.2500 | #N/A | 3.7500 | 8.25 | #DIV/o! | 3.75 | Running | 1790 | dining room |
| Main House North 1 | 8.1375 | 2.7500 | #DIV/o! | 0.1276 | 0.0000 | #DIV/o! | 8.2500 | 2.7500 | #N/A | 8.25 | 2.75 | #DIV/o! | Flemish | 1790 | chimney base |
| Main 1 Hearth NW | 8.0500 | #DIV/o! | 3.7250 | 0.1539 | #DIV/o! | 0.0769 | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1819 | study; shed addition |
| Main House West 2 | 7.5000 | 2.5000 | #DIV/o! | 0.1405 | 0.0811 | #DIV/o! | 7.5000 | 2.5000 | #N/A | 7.5 | 2.5 | #DIV/o! | Flemish | 1819 | shed addition |
| Main House West 6 | 7.5625 | 2.4625 | #DIV/o! | 0.2276 | 0.1223 | #DIV/o! | 7.5000 | 2.5000 | #N/A | 7.5 | 2.5 | #DIV/o! | Flemish | 1819 | "garden wall" above porch floor |
| Main 1 Hearth SE | 8.1250 | #DIV/o! | 3.7375 | 0.1721 | #DIV/o! | 0.0559 | 8.0000 | #N/A | 3.7500 | 8.25 | #DIV/o! | 3.75 | Running | 1825 | front room |
| Main 2 Hearth NE | 8.0375 | #DIV/o! | 3.6750 | 0.2032 | #DIV/o! | 0.1428 | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1825 | master bed |
| Main House South 5 | 7.9500 | 2.5000 | #DIV/o! | 0.2379 | 0.0811 | #DIV/o! | 8.0000 | 2.5000 | #N/A | 8 | 2.5 | #DIV/o! | Unknown | 1825 | east end of short range arcade |
| Main 2 Hearth SE | 8.2500 | #DIV/o! | 4.0227 | 0.0000 | #DIV/o! | 0.0754 | 8.2500 | #N/A | 4.0000 | 8.25 | #DIV/o! | 4 | Running | 1842 | boys' room |
| Main 1 Hearth SW | 8.0750 | #DIV/o! | 3.7750 | 0.2308 | #DIV/o! | 0.1795 | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1843 | back room |
| Main 2 Hearth NW | 8.3333 | #DIV/o! | 4.1167 | 0.1220 | #DIV/o! | 0.1291 | 8.2500 | #N/A | 4.0000 | 8.25 | #DIV/o! | 4 | Running | 1843 | master bath |
| Main 2 Hearth SW | 8.1125 | #DIV/o! | 3.6875 | 0.1276 | #DIV/o! | 0.1111 | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1843 | girl's room |
| Main House South 1 | 7.8250 | 2.2500 | #DIV/o! | 0.1832 | 0.0000 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | Uneven Common | 1843 | |
| Main House West 3 | 7.8375 | 2.4375 | #DIV/o! | 0.1468 | 0.1111 | #DIV/o! | 7.7500 | 2.5000 | #N/A | 7.75 | 2.5 | #DIV/o! | Uneven Common | 1843 | |
| Main House West 4 | 7.9625 | 2.2375 | #DIV/o! | 0.2600 | 0.0559 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1843 | |
| Main House West 7 | 7.9625 | 2.2750 | #DIV/o! | 0.1863 | 0.1118 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1843 | |
| Main House West 8 | 7.7875 | 2.3000 | #DIV/o! | 0.0916 | 0.1026 | #DIV/o! | 7.7500 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 5-c Common | 1843 | Soldier course garden wall; pre-1843 |
| Main House West 9 | 7.9500 | 2.2375 | #DIV/o! | 0.1740 | 0.0985 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1843 | |
| Long Range South 1 | 7.8500 | 2.3125 | #DIV/o! | 0.2351 | 0.1111 | #DIV/o! | 7.7500 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 5-c Common | 1848 | |
| Short Range Path | 8.0500 | 2.5000 | 3.8438 | 0.1308 | 0.0000 | 0.1284 | 8.0000 | 2.5000 | 3.7500 | 8 | 2.5 | 3.75 | Running | 1848 | below Short Range; pre-1848 |
| Short Range West 1 | 7.8250 | 2.2625 | #DIV/o! | 0.1642 | 0.0559 | #DIV/o! | 7.7500 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 5-c Common | 1848 | |
| Short Range South 4 | 7.8750 | 2.2500 | #DIV/o! | 0.2500 | 0.0000 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1876 | lean-to addition |
| Kitchen East 1 | 8.1625 | 2.6250 | #DIV/o! | 0.2955 | 0.1282 | #DIV/o! | 8.2500 | 2.5000 | #N/A | 8.25 | 2.75 | #DIV/o! | Running | 1896 | |
| Kitchen North 1 | 7.6500 | 2.3125 | #DIV/o! | 0.3078 | 0.1597 | #DIV/o! | 7.5000 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 6-c Common | 1896 | |
| Kitchen North 3 | 8.2875 | 2.4375 | #DIV/o! | 0.2333 | 0.1791 | #DIV/o! | 8.2500 | 2.5000 | #N/A | 8.25 | 2.5 | #DIV/o! | Uneven Common | 1896 | chimney base |
| Kitchen West | 7.8875 | 2.3250 | #DIV/o! | 0.1898 | 0.1175 | #DIV/o! | 7.7500 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | Uneven Common | 1896 | |
| Main House West Pier | 7.8375 | 2.5000 | #DIV/o! | 0.1677 | 0.0000 | #DIV/o! | 7.7500 | 2.5000 | #N/A | 7.75 | 2.5 | #DIV/o! | Running | 1896 | porch pier |
| Garage South | 8.1625 | 2.5125 | #DIV/o! | 0.2470 | 0.0985 | #DIV/o! | 8.2500 | 2.5000 | #N/A | 8.25 | 2.5 | #DIV/o! | 5-c Common | 1929 | likely post-1929 |

TABLE 01: Brick samples sorted by Estimated Date

The estimated dates of the brick patches are based on a sequence of construction determined by documentary evidence and field measurements. The rear [West] elevation noticeably incorporates bricks from separate building campaigns, as evident by the seams. It is likely, then, that there are more building campaigns than the estimated three campaigns along the rear of the Main House.

The incorporation of Monroe Hill into the University of Virginia in the 1820s may point to the use of recycled bricks from elsewhere in the University Grounds. It is possible then, that changes in brick dimension within a single building is not indicative of separate building campaigns, but simply due to the use of recycled bricks.

Analysis: Standard Deviation

| LOCATION | AVERAGE | | | STANDARD DEVIATION | | | MODE | ROUNDED AVERAGE | | | BONDING | ESTIMATED DATE | NOTES | | |
|-------------------------|---------|---------|---------|--------------------|---------|---------|--------|-----------------|--------|-------|---------|----------------|---------------|------|---|
| | Length | Height | Width | Length | Height | Width | | Length | Height | Width | | | | | |
| Main 2 Hearth SE | 8.2500 | #DIV/o! | 4.0227 | 0.0000 | #DIV/o! | 0.0754 | 8.2500 | #N/A | 4.0000 | 8.25 | #DIV/o! | 4 | Running | 1842 | boys' room |
| Main House West 8 | 7.7875 | 2.3000 | #DIV/o! | 0.0916 | 0.1026 | #DIV/o! | 7.7500 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 5-c Common | 1843 | Soldier course garden wall; pre-1843 |
| Main 2 Hearth NW | 8.3333 | #DIV/o! | 4.1167 | 0.1220 | #DIV/o! | 0.1291 | 8.2500 | #N/A | 4.0000 | 8.25 | #DIV/o! | 4 | Running | 1843 | master bath |
| Law Office North Cellar | 8.4125 | 2.6250 | #DIV/o! | 0.1223 | 0.1282 | #DIV/o! | 8.5000 | 2.5000 | #N/A | 8.5 | 2.75 | #DIV/o! | 3-c Common | 1790 | interior of north cellar wall |
| Main House North 1 | 8.1375 | 2.7500 | #DIV/o! | 0.1276 | 0.0000 | #DIV/o! | 8.2500 | 2.7500 | #N/A | 8.25 | 2.75 | #DIV/o! | Flemish | 1790 | chimney base |
| Main 2 Hearth SW | 8.1125 | #DIV/o! | 3.6875 | 0.1276 | #DIV/o! | 0.1111 | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1843 | girl's room |
| Short Range Path | 8.0500 | 2.5000 | 3.8438 | 0.1308 | 0.0000 | 0.1284 | 8.0000 | 2.5000 | 3.7500 | 8 | 2.5 | 3.75 | Running | 1848 | below Short Range; pre-1848 |
| Main House West 2 | 7.5000 | 2.5000 | #DIV/o! | 0.1405 | 0.0811 | #DIV/o! | 7.5000 | 2.5000 | #N/A | 7.5 | 2.5 | #DIV/o! | Flemish | 1819 | shed addition |
| Main House West 3 | 7.8375 | 2.4375 | #DIV/o! | 0.1468 | 0.1111 | #DIV/o! | 7.7500 | 2.5000 | #N/A | 7.75 | 2.5 | #DIV/o! | Uneven Common | 1843 | |
| Main 1 Hearth NW | 8.0500 | #DIV/o! | 3.7250 | 0.1539 | #DIV/o! | 0.0769 | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1819 | study; shed addition |
| Law Office South 1 | 8.2250 | 2.7500 | #DIV/o! | 0.1602 | 0.0000 | #DIV/o! | 8.2500 | 2.7500 | #N/A | 8.25 | 2.75 | #DIV/o! | Flemish | 1790 | |
| Short Range West 1 | 7.8250 | 2.2625 | #DIV/o! | 0.1642 | 0.0559 | #DIV/o! | 7.7500 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 5-c Common | 1848 | |
| Main House West Pier | 7.8375 | 2.5000 | #DIV/o! | 0.1677 | 0.0000 | #DIV/o! | 7.7500 | 2.5000 | #N/A | 7.75 | 2.5 | #DIV/o! | Running | 1896 | porch pier |
| Main 1 Hearth NE | 8.1625 | #DIV/o! | 3.7250 | 0.1677 | #DIV/o! | 0.0769 | 8.2500 | #N/A | 3.7500 | 8.25 | #DIV/o! | 3.75 | Running | 1790 | dining room |
| Main 1 Hearth SE | 8.1250 | #DIV/o! | 3.7375 | 0.1721 | #DIV/o! | 0.0559 | 8.0000 | #N/A | 3.7500 | 8.25 | #DIV/o! | 3.75 | Running | 1825 | front room |
| Main House West 9 | 7.9500 | 2.2375 | #DIV/o! | 0.1740 | 0.0985 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1843 | |
| Main House South 1 | 7.8250 | 2.2500 | #DIV/o! | 0.1832 | 0.0000 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | Uneven Common | 1843 | |
| Law Office North Pier | 7.9625 | 2.2500 | #DIV/o! | 0.1863 | 0.0000 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | Running | 1790 | cellar pier supporting beam with circular saw marks |
| Main House West 7 | 7.9625 | 2.2750 | #DIV/o! | 0.1863 | 0.1118 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1843 | |
| Kitchen West | 7.8875 | 2.3250 | #DIV/o! | 0.1898 | 0.1175 | #DIV/o! | 7.7500 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | Uneven Common | 1896 | |
| Main 2 Hearth NE | 8.0375 | #DIV/o! | 3.6750 | 0.2032 | #DIV/o! | 0.1428 | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1825 | master bed |
| Law Office East 1 | 8.3125 | 2.7750 | #DIV/o! | 0.2127 | 0.0769 | #DIV/o! | 8.2500 | 2.7500 | #N/A | 8.25 | 2.75 | #DIV/o! | Flemish | 1790 | |
| Main House West 6 | 7.5625 | 2.4625 | #DIV/o! | 0.2276 | 0.1223 | #DIV/o! | 7.5000 | 2.5000 | #N/A | 7.5 | 2.5 | #DIV/o! | Flemish | 1819 | "garden wall" above porch floor |
| Main 1 Hearth SW | 8.0750 | #DIV/o! | 3.7750 | 0.2308 | #DIV/o! | 0.1795 | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1843 | back room |
| Kitchen North 3 | 8.2875 | 2.4375 | #DIV/o! | 0.2333 | 0.1791 | #DIV/o! | 8.2500 | 2.5000 | #N/A | 8.25 | 2.5 | #DIV/o! | Uneven Common | 1896 | chimney base |
| Long Range South 1 | 7.8500 | 2.3125 | #DIV/o! | 0.2351 | 0.1111 | #DIV/o! | 7.7500 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 5-c Common | 1848 | |
| Main House South 5 | 7.9500 | 2.5000 | #DIV/o! | 0.2379 | 0.0811 | #DIV/o! | 8.0000 | 2.5000 | #N/A | 8 | 2.5 | #DIV/o! | Unknown | 1825 | east end of short range arcade |
| Garage South | 8.1625 | 2.5125 | #DIV/o! | 0.2470 | 0.0985 | #DIV/o! | 8.2500 | 2.5000 | #N/A | 8.25 | 2.5 | #DIV/o! | 5-c Common | 1929 | likely post-1929 |
| Short Range South 4 | 7.8750 | 2.2500 | #DIV/o! | 0.2500 | 0.0000 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1876 | lean-to addition |
| Main House West 4 | 7.9625 | 2.2375 | #DIV/o! | 0.2600 | 0.0559 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1843 | |
| Kitchen East 1 | 8.1625 | 2.6250 | #DIV/o! | 0.2955 | 0.1282 | #DIV/o! | 8.2500 | 2.5000 | #N/A | 8.25 | 2.75 | #DIV/o! | Running | 1896 | |
| Kitchen North 1 | 7.6500 | 2.3125 | #DIV/o! | 0.3078 | 0.1597 | #DIV/o! | 7.5000 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 6-c Common | 1896 | |

TABLE 02: Brick samples sorted by Standard Deviation Length, Height, Width

One hypothesis about the relationship between brick dimensions and historical dating is that standard deviation decreases over time due to industrialization. Bricks from the Law Office are accepted to be from the 1790s, though their standard deviation arranges them fairly evenly through the list. The buildings that are likely to be the newest on site — the kitchen and the garage — in fact, have the greatest standard deviation among their samples and appear at the bottom of the list.

Several adjacencies in the list are interesting: the Flemish chimney base from the Main House and the Law Office cellar bricks possibly further indicate that they are contemporary. The brick sizes themselves are

not the same, so perhaps they are constructed from separate batches but with similar technology. The Law Office cellar pier that supports a beam with circular saw marks has bricks with a similar standard deviation and dimension as those from the Main House that have an estimated construction date of 1843. This possibly suggests that the cellar pier was added in much later to support changes in the Law Office floor construction. The portion of the Main House rear elevation left [North] of the door is also listed between much newer constructions on site — approximately 1876–1929 — possibly indicating that the rear elevation was completed at a later date than previously estimated.

Analysis: Rounded Average

| LOCATION | AVERAGE | | | STANDARD DEVIATION | | | MODE | | | ROUNDED AVERAGE | | | BONDING | ESTIMATED DATE | NOTES |
|-------------------------|---------|---------|---------|--------------------|---------|---------|--------|--------|--------|-----------------|---------|---------|---------------|----------------|---|
| | Length | Height | Width | Length | Height | Width | Length | Height | Width | Length | Height | Width | | | |
| Main House West 2 | 7.5000 | 2.5000 | #DIV/o! | 0.1405 | 0.0811 | #DIV/o! | 7.5000 | 2.5000 | #N/A | 7.5 | 2.5 | #DIV/o! | Flemish | 1819 | shed addition |
| Main House West 6 | 7.5625 | 2.4625 | #DIV/o! | 0.2276 | 0.1223 | #DIV/o! | 7.5000 | 2.5000 | #N/A | 7.5 | 2.5 | #DIV/o! | Flemish | 1819 | "garden wall" above porch floor |
| Kitchen North 1 | 7.6500 | 2.3125 | #DIV/o! | 0.3078 | 0.1597 | #DIV/o! | 7.5000 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 6-c Common | 1896 | |
| Long Range South 1 | 7.8500 | 2.3125 | #DIV/o! | 0.2351 | 0.1111 | #DIV/o! | 7.7500 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 5-c Common | 1848 | |
| Main House South 1 | 7.8250 | 2.2500 | #DIV/o! | 0.1832 | 0.0000 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | Uneven Common | 1843 | |
| Main House West 8 | 7.7875 | 2.3000 | #DIV/o! | 0.0916 | 0.1026 | #DIV/o! | 7.7500 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 5-c Common | 1843 | Soldier course garden wall; pre-1843 |
| Short Range West 1 | 7.8250 | 2.2625 | #DIV/o! | 0.1642 | 0.0559 | #DIV/o! | 7.7500 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 5-c Common | 1848 | |
| Main House West 3 | 7.8375 | 2.4375 | #DIV/o! | 0.1468 | 0.1111 | #DIV/o! | 7.7500 | 2.5000 | #N/A | 7.75 | 2.5 | #DIV/o! | Uneven Common | 1843 | |
| Main House West Pier | 7.8375 | 2.5000 | #DIV/o! | 0.1677 | 0.0000 | #DIV/o! | 7.7500 | 2.5000 | #N/A | 7.75 | 2.5 | #DIV/o! | Running | 1896 | porch pier |
| Kitchen West | 7.8875 | 2.3250 | #DIV/o! | 0.1898 | 0.1175 | #DIV/o! | 7.7500 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | Uneven Common | 1896 | |
| Law Office North Pier | 7.9625 | 2.2500 | #DIV/o! | 0.1863 | 0.0000 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | Running | 1790 | cellar pier supporting beam with circular saw marks |
| Main House West 4 | 7.9625 | 2.2375 | #DIV/o! | 0.2600 | 0.0559 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1843 | |
| Main House West 7 | 7.9625 | 2.2750 | #DIV/o! | 0.1863 | 0.1118 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1843 | |
| Main House West 9 | 7.9500 | 2.2375 | #DIV/o! | 0.1740 | 0.0985 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1843 | |
| Short Range South 4 | 7.8750 | 2.2500 | #DIV/o! | 0.2500 | 0.0000 | #DIV/o! | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1876 | lean-to addition |
| Short Range Path | 8.0500 | 2.5000 | 3.8438 | 0.1308 | 0.0000 | 0.1284 | 8.0000 | 2.5000 | 3.7500 | 8 | 2.5 | 3.75 | Running | 1848 | below Short Range; pre-1848 |
| Main House South 5 | 7.9500 | 2.5000 | #DIV/o! | 0.2379 | 0.0811 | #DIV/o! | 8.0000 | 2.5000 | #N/A | 8 | 2.5 | #DIV/o! | Unknown | 1825 | east end of short range arcade |
| Main 1 Hearth NW | 8.0500 | #DIV/o! | 3.7250 | 0.1539 | #DIV/o! | 0.0769 | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1819 | study; shed addition |
| Main 1 Hearth SW | 8.0750 | #DIV/o! | 3.7750 | 0.2308 | #DIV/o! | 0.1795 | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1843 | back room |
| Main 2 Hearth NE | 8.0375 | #DIV/o! | 3.6750 | 0.2032 | #DIV/o! | 0.1428 | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1825 | master bed |
| Main 2 Hearth SW | 8.1125 | #DIV/o! | 3.6875 | 0.1276 | #DIV/o! | 0.1111 | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1843 | girl's room |
| Garage South | 8.1625 | 2.5125 | #DIV/o! | 0.2470 | 0.0985 | #DIV/o! | 8.2500 | 2.5000 | #N/A | 8.25 | 2.5 | #DIV/o! | 5-c Common | 1929 | likely post-1929 |
| Kitchen North 3 | 8.2875 | 2.4375 | #DIV/o! | 0.2333 | 0.1791 | #DIV/o! | 8.2500 | 2.5000 | #N/A | 8.25 | 2.5 | #DIV/o! | Uneven Common | 1896 | chimney base |
| Kitchen East 1 | 8.1625 | 2.6250 | #DIV/o! | 0.2955 | 0.1282 | #DIV/o! | 8.2500 | 2.5000 | #N/A | 8.25 | 2.75 | #DIV/o! | Running | 1896 | |
| Law Office East 1 | 8.3125 | 2.7750 | #DIV/o! | 0.2127 | 0.0769 | #DIV/o! | 8.2500 | 2.7500 | #N/A | 8.25 | 2.75 | #DIV/o! | Flemish | 1790 | |
| Law Office South 1 | 8.2250 | 2.7500 | #DIV/o! | 0.1602 | 0.0000 | #DIV/o! | 8.2500 | 2.7500 | #N/A | 8.25 | 2.75 | #DIV/o! | Flemish | 1790 | |
| Main House North 1 | 8.1375 | 2.7500 | #DIV/o! | 0.1276 | 0.0000 | #DIV/o! | 8.2500 | 2.7500 | #N/A | 8.25 | 2.75 | #DIV/o! | Flemish | 1790 | chimney base |
| Main 1 Hearth NE | 8.1625 | #DIV/o! | 3.7250 | 0.1677 | #DIV/o! | 0.0769 | 8.2500 | #N/A | 3.7500 | 8.25 | #DIV/o! | 3.75 | Running | 1790 | dining room |
| Main 1 Hearth SE | 8.1250 | #DIV/o! | 3.7375 | 0.1721 | #DIV/o! | 0.0559 | 8.0000 | #N/A | 3.7500 | 8.25 | #DIV/o! | 3.75 | Running | 1825 | front room |
| Main 2 Hearth NW | 8.3333 | #DIV/o! | 4.1167 | 0.1220 | #DIV/o! | 0.1291 | 8.2500 | #N/A | 4.0000 | 8.25 | #DIV/o! | 4 | Running | 1843 | master bath |
| Main 2 Hearth SE | 8.2500 | #DIV/o! | 4.0227 | 0.0000 | #DIV/o! | 0.0754 | 8.2500 | #N/A | 4.0000 | 8.25 | #DIV/o! | 4 | Running | 1842 | boys' room |
| Law Office North Cellar | 8.4125 | 2.6250 | #DIV/o! | 0.1223 | 0.1282 | #DIV/o! | 8.5000 | 2.5000 | #N/A | 8.5 | 2.75 | #DIV/o! | 3-c Common | 1790 | interior of north cellar wall |

TABLE 03: Brick samples sorted by Rounded Average Length, Height, Width

Average dimensions involve a level of precision — up to four decimal places — that was not possible in field measurements. This level of precision would not be appropriate anyway to the analysis of bricks that are crafted by hand and are subject to a number of physical variables. Rounded Average dimensions bring the Average dimension back to the 1/4” tolerance that was used during field measurements. Doing so, similar “average” bricks can be grouped together and analyzed as though they are from contemporary batches of brick production.

Brick dimensions examined concurrently with bonding patterns are especially meaningful for determining

contemporary building campaigns. For example, the two Flemish-bonded patches along the rear elevation have the same Rounded Average dimensions and were previously estimated to be built at the same time. The brick patches that constitute the Kitchen are also split among several groups of brick dimension; the bonding patterns are varied among these patches, possibly indicating that the Kitchen was constructed over several campaigns. The Law Office cellar bricks, from both the retaining wall and the pier, are not in the same groups of Rounded Average brick dimensions as the East wall and the chimney; along with the beam with circular saw marks, this evidence might indicate that the inner structures of the cellar were constructed at a later date than the exterior foundation and above-ground walls.

Analysis: Mode

| LOCATION | AVERAGE | | | STANDARD DEVIATION | | | MODE | ROUNDED AVERAGE | | | BONDING | ESTIMATED DATE | NOTES | | | |
|-------------------------|---------|---------|---------|--------------------|---------|---------|------|-----------------|--------|--------|---------|----------------|---------|---------------|------|---|
| | Length | Height | Width | Length | Height | Width | | Length | Height | Width | | | | | | |
| Kitchen North 1 | 7.6500 | 2.3125 | #DIV/o! | 0.3078 | 0.1597 | #DIV/o! | ↕ | 7.5000 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 6-c Common | 1896 | |
| Main House West 2 | 7.5000 | 2.5000 | #DIV/o! | 0.1405 | 0.0811 | #DIV/o! | ↕ | 7.5000 | 2.5000 | #N/A | 7.5 | 2.5 | #DIV/o! | Flemish | 1819 | shed addition |
| Main House West 6 | 7.5625 | 2.4625 | #DIV/o! | 0.2276 | 0.1223 | #DIV/o! | ↕ | 7.5000 | 2.5000 | #N/A | 7.5 | 2.5 | #DIV/o! | Flemish | 1819 | "garden wall" above porch floor |
| Kitchen West | 7.8875 | 2.3250 | #DIV/o! | 0.1898 | 0.1175 | #DIV/o! | ↕ | 7.7500 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | Uneven Common | 1896 | |
| Long Range South 1 | 7.8500 | 2.3125 | #DIV/o! | 0.2351 | 0.1111 | #DIV/o! | ↕ | 7.7500 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 5-c Common | 1848 | |
| Main House West 8 | 7.7875 | 2.3000 | #DIV/o! | 0.0916 | 0.1026 | #DIV/o! | ↕ | 7.7500 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 5-c Common | 1843 | Soldier course garden wall; pre-1843 |
| Short Range West 1 | 7.8250 | 2.2625 | #DIV/o! | 0.1642 | 0.0559 | #DIV/o! | ↕ | 7.7500 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | 5-c Common | 1848 | |
| Main House West 3 | 7.8375 | 2.4375 | #DIV/o! | 0.1468 | 0.1111 | #DIV/o! | ↕ | 7.7500 | 2.5000 | #N/A | 7.75 | 2.5 | #DIV/o! | Uneven Common | 1843 | |
| Main House West Pier | 7.8375 | 2.5000 | #DIV/o! | 0.1677 | 0.0000 | #DIV/o! | ↕ | 7.7500 | 2.5000 | #N/A | 7.75 | 2.5 | #DIV/o! | Running | 1896 | porch pier |
| Law Office North Pier | 7.9625 | 2.2500 | #DIV/o! | 0.1863 | 0.0000 | #DIV/o! | ↕ | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | Running | 1790 | cellar pier supporting beam with circular saw marks |
| Main House South 1 | 7.8250 | 2.2500 | #DIV/o! | 0.1832 | 0.0000 | #DIV/o! | ↕ | 8.0000 | 2.2500 | #N/A | 7.75 | 2.25 | #DIV/o! | Uneven Common | 1843 | |
| Main House West 4 | 7.9625 | 2.2375 | #DIV/o! | 0.2600 | 0.0559 | #DIV/o! | ↕ | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1843 | |
| Main House West 7 | 7.9625 | 2.2750 | #DIV/o! | 0.1863 | 0.1118 | #DIV/o! | ↕ | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1843 | |
| Main House West 9 | 7.9500 | 2.2375 | #DIV/o! | 0.1740 | 0.0985 | #DIV/o! | ↕ | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1843 | |
| Short Range South 4 | 7.8750 | 2.2500 | #DIV/o! | 0.2500 | 0.0000 | #DIV/o! | ↕ | 8.0000 | 2.2500 | #N/A | 8 | 2.25 | #DIV/o! | 5-c Common | 1876 | lean-to addition |
| Short Range Path | 8.0500 | 2.5000 | 3.8438 | 0.1308 | 0.0000 | 0.1284 | ↕ | 8.0000 | 2.5000 | 3.7500 | 8 | 2.5 | 3.75 | Running | 1848 | below Short Range; pre-1848 |
| Main House South 5 | 7.9500 | 2.5000 | #DIV/o! | 0.2379 | 0.0811 | #DIV/o! | ↕ | 8.0000 | 2.5000 | #N/A | 8 | 2.5 | #DIV/o! | Unknown | 1825 | east end of short range arcade |
| Main 1 Hearth NW | 8.0500 | #DIV/o! | 3.7250 | 0.1539 | #DIV/o! | 0.0769 | ↕ | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1819 | study; shed addition |
| Main 1 Hearth SE | 8.1250 | #DIV/o! | 3.7375 | 0.1721 | #DIV/o! | 0.0559 | ↕ | 8.0000 | #N/A | 3.7500 | 8.25 | #DIV/o! | 3.75 | Running | 1825 | front room |
| Main 1 Hearth SW | 8.0750 | #DIV/o! | 3.7750 | 0.2308 | #DIV/o! | 0.1795 | ↕ | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1843 | back room |
| Main 2 Hearth NE | 8.0375 | #DIV/o! | 3.6750 | 0.2032 | #DIV/o! | 0.1428 | ↕ | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1825 | master bed |
| Main 2 Hearth SW | 8.1125 | #DIV/o! | 3.6875 | 0.1276 | #DIV/o! | 0.1111 | ↕ | 8.0000 | #N/A | 3.7500 | 8 | #DIV/o! | 3.75 | Running | 1843 | girl's room |
| Garage South | 8.1625 | 2.5125 | #DIV/o! | 0.2470 | 0.0985 | #DIV/o! | ↕ | 8.2500 | 2.5000 | #N/A | 8.25 | 2.5 | #DIV/o! | 5-c Common | 1929 | likely post-1929 |
| Kitchen East 1 | 8.1625 | 2.6250 | #DIV/o! | 0.2955 | 0.1282 | #DIV/o! | ↕ | 8.2500 | 2.5000 | #N/A | 8.25 | 2.75 | #DIV/o! | Running | 1896 | |
| Kitchen North 3 | 8.2875 | 2.4375 | #DIV/o! | 0.2333 | 0.1791 | #DIV/o! | ↕ | 8.2500 | 2.5000 | #N/A | 8.25 | 2.5 | #DIV/o! | Uneven Common | 1896 | chimney base |
| Law Office East 1 | 8.3125 | 2.7750 | #DIV/o! | 0.2127 | 0.0769 | #DIV/o! | ↕ | 8.2500 | 2.7500 | #N/A | 8.25 | 2.75 | #DIV/o! | Flemish | 1790 | |
| Law Office South 1 | 8.2250 | 2.7500 | #DIV/o! | 0.1602 | 0.0000 | #DIV/o! | ↕ | 8.2500 | 2.7500 | #N/A | 8.25 | 2.75 | #DIV/o! | Flemish | 1790 | |
| Main House North 1 | 8.1375 | 2.7500 | #DIV/o! | 0.1276 | 0.0000 | #DIV/o! | ↕ | 8.2500 | 2.7500 | #N/A | 8.25 | 2.75 | #DIV/o! | Flemish | 1790 | chimney base |
| Main 1 Hearth NE | 8.1625 | #DIV/o! | 3.7250 | 0.1677 | #DIV/o! | 0.0769 | ↕ | 8.2500 | #N/A | 3.7500 | 8.25 | #DIV/o! | 3.75 | Running | 1790 | dining room |
| Main 2 Hearth NW | 8.3333 | #DIV/o! | 4.1167 | 0.1220 | #DIV/o! | 0.1291 | ↕ | 8.2500 | #N/A | 4.0000 | 8.25 | #DIV/o! | 4 | Running | 1843 | master bath |
| Main 2 Hearth SE | 8.2500 | #DIV/o! | 4.0227 | 0.0000 | #DIV/o! | 0.0754 | ↕ | 8.2500 | #N/A | 4.0000 | 8.25 | #DIV/o! | 4 | Running | 1842 | boys' room |
| Law Office North Cellar | 8.4125 | 2.6250 | #DIV/o! | 0.1223 | 0.1282 | #DIV/o! | ↕ | 8.5000 | 2.5000 | #N/A | 8.5 | 2.75 | #DIV/o! | 3-c Common | 1790 | interior of north cellar wall |

TABLE 04: Brick samples sorted by Mode Length, Height, Width

Average (and Rounded Average) dimensions “invent” brick sizes, in a sense, by mathematically generating dimensions and by combining average brick lengths with average brick heights in ways that do not exist in the field. By examining the Mode among the dataset, really occurring brick dimensions can be compared to each other for a more accurate analysis.

The Kitchen brick patches are slightly better grouped in this iteration of analysis, though their separation still appears to suggest that the Kitchen was constructed over various building campaigns. Particularly, the chimney and the exterior wall behind it have noticeably different brick sizes (8-1/4” x 2-1/2” compared to

7-1/2” x 2-1/4”). As no patches on the other side of the Kitchen chimney were measured, it is possible that the Kitchen had a smaller footprint and was later expanded toward the East. The portions of the Main House with Flemish bonding and the Law Office patches have the same brick dimension Modes, adding evidence to the estimation that these parts of the site are from contemporary constructions. The group of patches with Mode dimensions measuring 8” x 2-1/2” x 3-3/4” may assist in dating the path beneath the Short Range, as previously the only clue was that it predated the Short Range’s construction in 1848–1849. The Law Office cellar pier bricks are once again grouped with patches dating to the 1840s and later, possibly proving that the beam with circular saw marks is not the only new construction in the cellar.

Law Office East 1

BOND Flemish
FINISH Painted
DATE April 5, 2018 [Measure 2]
NOTES Only stretchers measured.
Law Office accepted to be constructed ca. 1790 with documentary evidence.
Several former openings are blocked in on this wall.



FIGURE 03

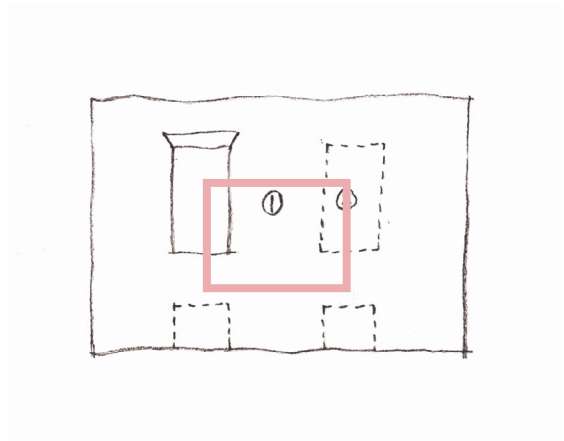


FIGURE 04

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sqi] | SURFACE AREA (HEADER) [sqi] | SURFACE AREA (FACE) [sqi] |
|---------------------------|-------------|-------------|------------|--------------------------------|-----------------------------|---------------------------|
| 6 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 8 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 10 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 16 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 1 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 4 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 5 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 7 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 13 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 17 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 18 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 19 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 2 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 3 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 9 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 11 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 14 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 15 | 8 1/2 | 3 | | 25.5 | 0 | 0 |
| 20 | 8 1/2 | 3 | | 25.5 | 0 | 0 |
| 12 | 8 3/4 | 2 3/4 | | 24.0625 | 0 | 0 |
| AVERAGE | 8.3125 | 2.7750 | #DIV/o! | 23.0719 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.2127 | 0.0769 | #DIV/o! | 1.0003 | 0.0000 | 0.0000 |
| MODE | 8 1/4 | 2 3/4 | #N/A | 22.6875 | 0.0000 | 0.0000 |

TABLE 05

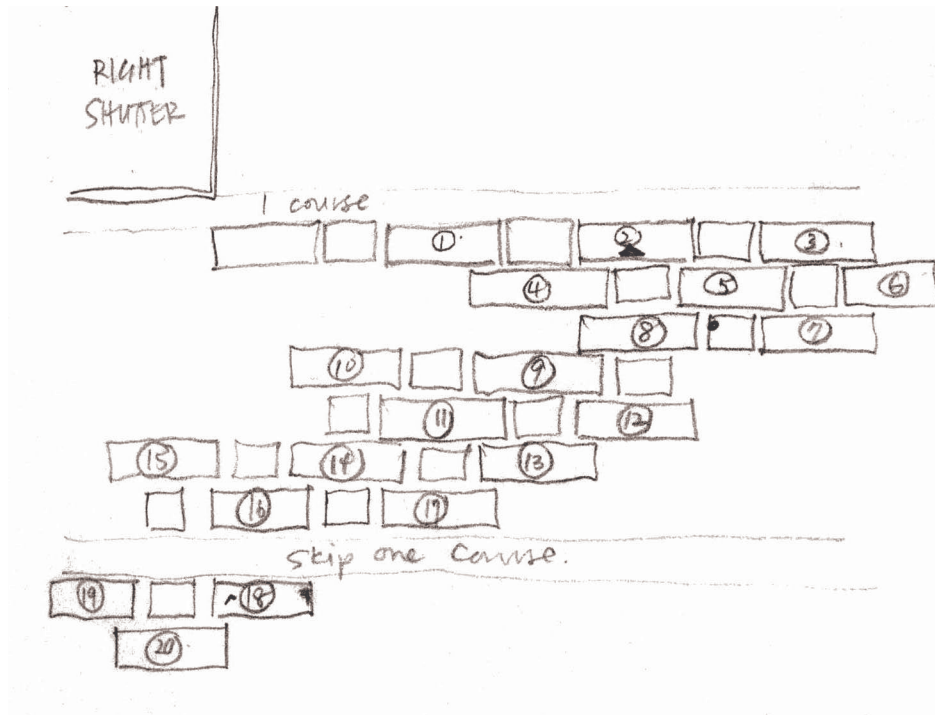


FIGURE 05

Law Office South 1

BOND Flemish
FINISH Painted
DATE April 5, 2018 [Measure 3]
NOTES Chimney base.
Only Stretchers measured.
Law Office accepted to be constructed ca. 1790 with documentary evidence.



FIGURE 06

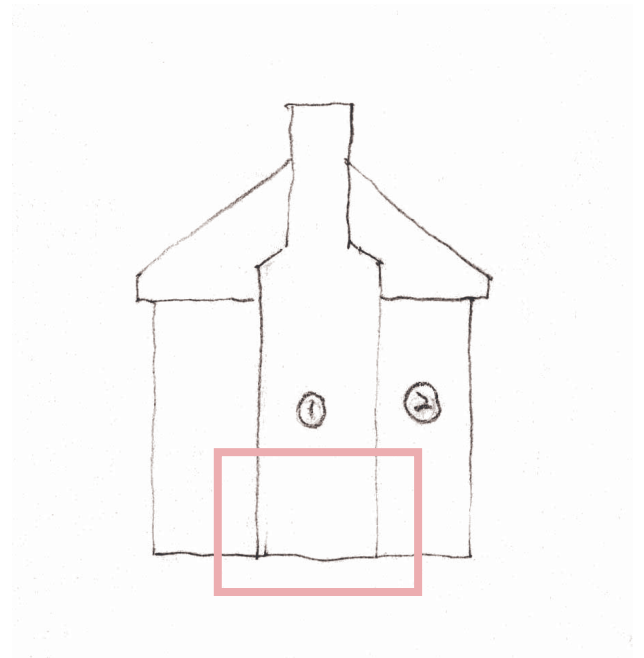


FIGURE 07

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 4 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 6 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 8 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 10 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 20 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 2 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 3 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 5 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 7 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 11 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 12 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 13 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 14 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 15 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 17 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 18 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 19 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 1 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 9 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 16 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| AVERAGE | 8.2250 | 2.7500 | #DIV/o! | 22.6188 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.1602 | 0.0000 | #DIV/o! | 0.4405 | 0.0000 | 0.0000 |
| MODE | 8 1/4 | 2 3/4 | #N/A | 22.6875 | 0.0000 | 0.0000 |

TABLE 06

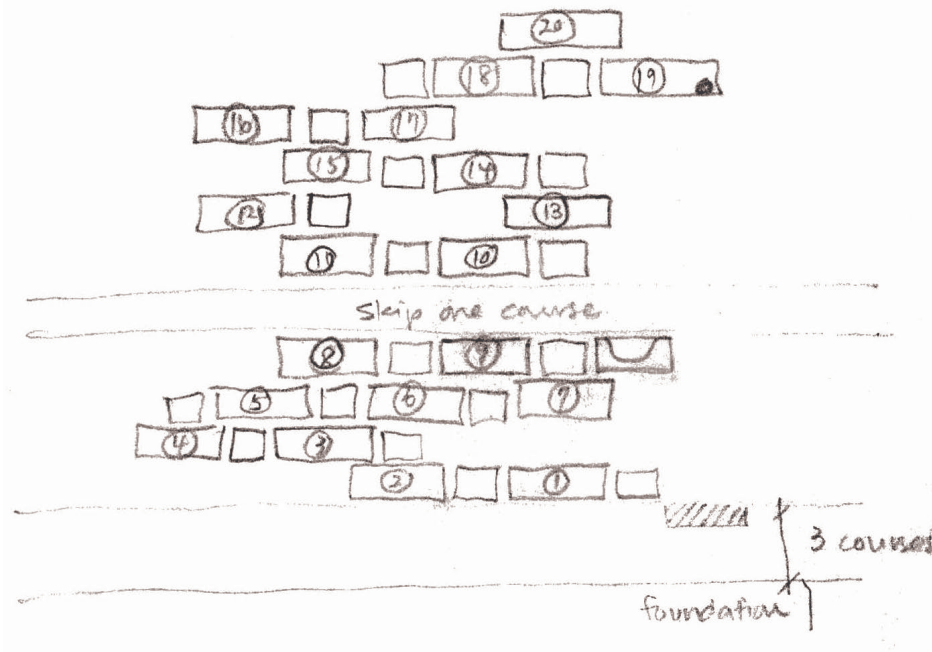


FIGURE 08

Law Office North 1

BOND 3-course Common?
FINISH Whitewashed
DATE April 12, 2018 [Measure 13]
NOTES Interior of North cellar wall.
Beam with circular saw marks shown intersecting with this wall, indicating that changes to the floor structure above likely occurred after the Civil War (post-1865).
Actual brick wall believed to be part of the single 18th C building campaign of the Law Office (ca. 1790).

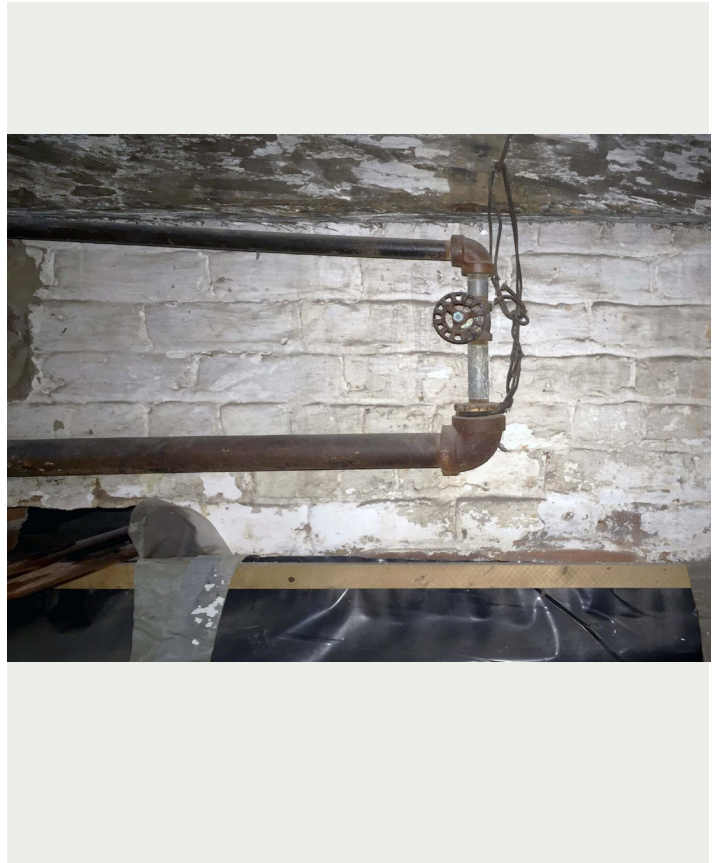


FIGURE 09

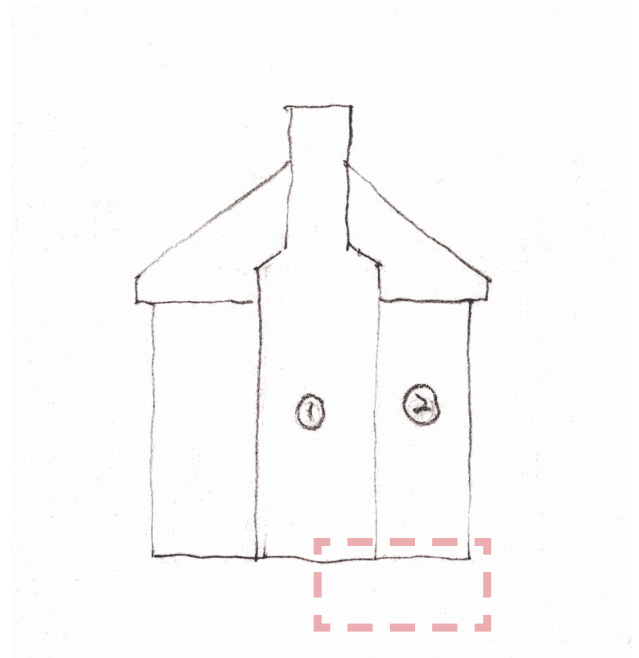


FIGURE 10

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [si] | SURFACE AREA (HEADER) [si] | SURFACE AREA (FACE) [si] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 4 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 14 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 17 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 19 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 8 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 10 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 11 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 1 | 8 1/2 | 2 1/2 | | 21.25 | 0 | 0 |
| 2 | 8 1/2 | 2 1/2 | | 21.25 | 0 | 0 |
| 3 | 8 1/2 | 2 1/2 | | 21.25 | 0 | 0 |
| 13 | 8 1/2 | 2 1/2 | | 21.25 | 0 | 0 |
| 16 | 8 1/2 | 2 1/2 | | 21.25 | 0 | 0 |
| 18 | 8 1/2 | 2 1/2 | | 21.25 | 0 | 0 |
| 5 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 6 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 7 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 9 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 12 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 15 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 20 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| AVERAGE | 8.4125 | 2.6250 | #DIV/0! | 22.0844 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.1223 | 0.1282 | #DIV/0! | 1.1573 | 0.0000 | 0.0000 |
| MODE | 8 1/2 | 2 1/2 | #N/A | 23.3750 | 0.0000 | 0.0000 |

TABLE 07

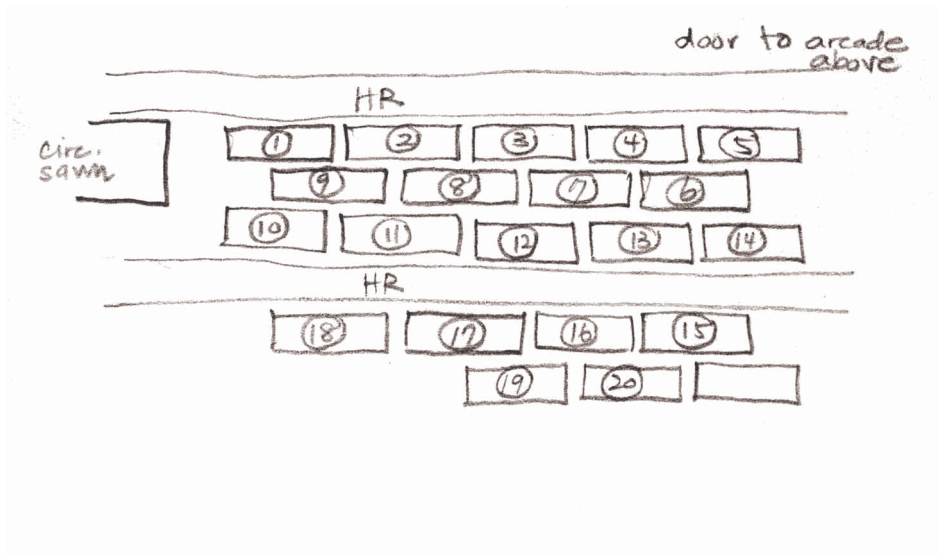


FIGURE 11

Law Office North 2

BOND Running
FINISH Unfinished
DATE April 12, 2018 [Measure 14]
NOTES Northeast cellar pier supporting a beam with circular saw marks, indicating that changes to the floor structure above likely occurred after the Civil War (post-1865).



FIGURE 12

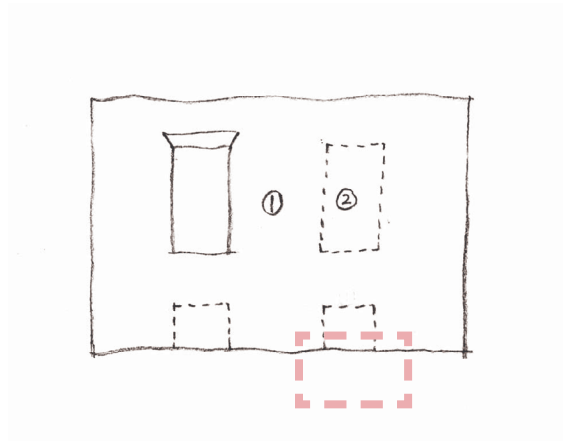


FIGURE 13

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 7 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 10 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 14 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 15 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 16 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 19 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 1 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 2 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 3 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 5 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 6 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 8 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 9 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 11 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 12 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 13 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 17 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 20 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 4 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 18 | 8 1/2 | 2 1/4 | | 19.125 | 0 | 0 |
| AVERAGE | 7.9625 | 2.2500 | #DIV/0! | 17.9156 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.1863 | 0.0000 | #DIV/0! | 0.4192 | 0.0000 | 0.0000 |
| MODE | 8 | 2 1/4 | #N/A | 18.0000 | 0.0000 | 0.0000 |

TABLE 08

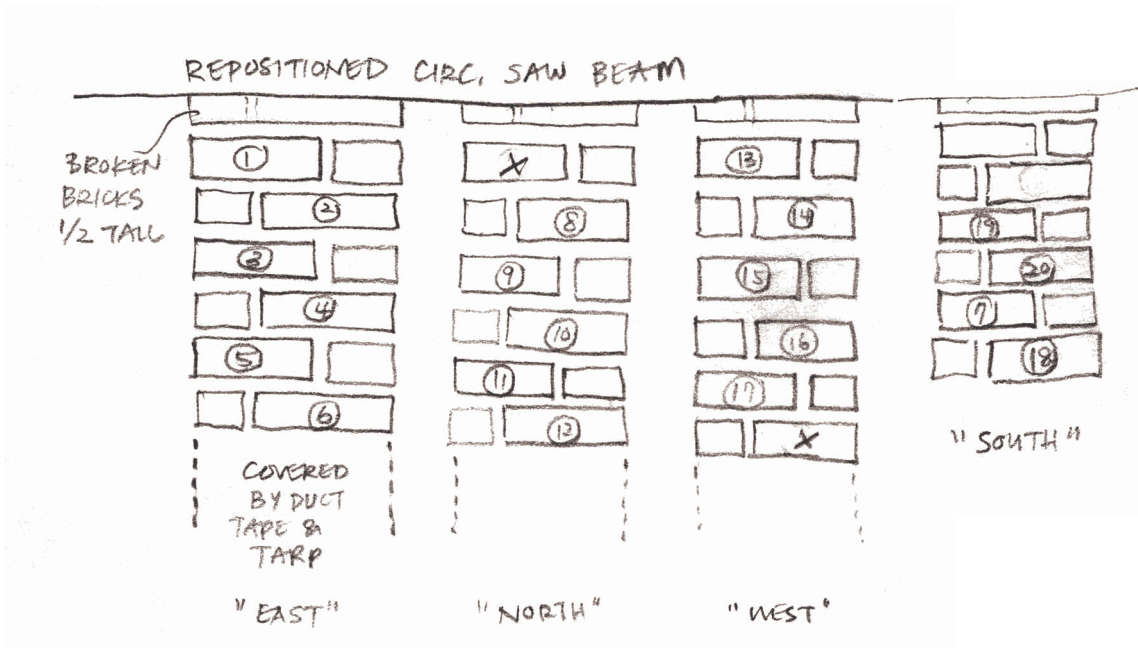


FIGURE 14

Short Range Path

BOND Running
FINISH Unfinished
DATE March 1, 2018 [Measure 1]
NOTES Path beneath Short Range (measured in the second room from the Law Office) dates the brick to pre-1848, from documentary evidence of payment to George W. Spooner for construction of state student dormitories between July 1848 and January 1849. Visible portion of the path runs from a southeast to a northwest direction, apparently making a right-angle turn toward the Law Office beneath the Short Range.



FIGURE 15

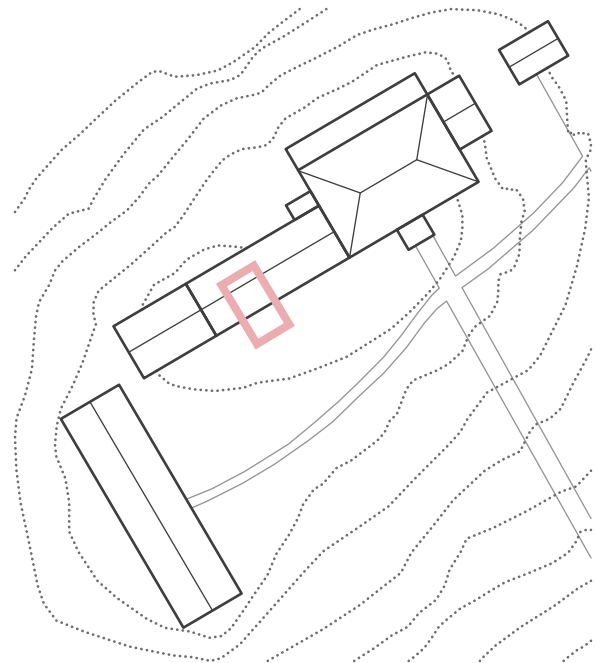


FIGURE 16

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 10 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 4 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 7 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 8 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 9 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 13 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 14 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 16 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 18 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 20 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 21 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 3 | 8 | | 4 | 0 | 0 | 32 |
| 1 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 6 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 15 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 2 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 5 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 11 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 12 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 22 | 8 1/4 | | 4 | 0 | 0 | 33 |
| AVERAGE | 8.0500 | 2.5000 | 3.8438 | 19.8438 | | 31.0625 |
| STANDARD DEVIATION | 0.1308 | 0.0000 | 0.1284 | 0.3125 | | 10.7500 |
| MODE | 8 | 2 1/2 | 3 3/4 | 0.0000 | 0.0000 | 30.0000 |

TABLE 09

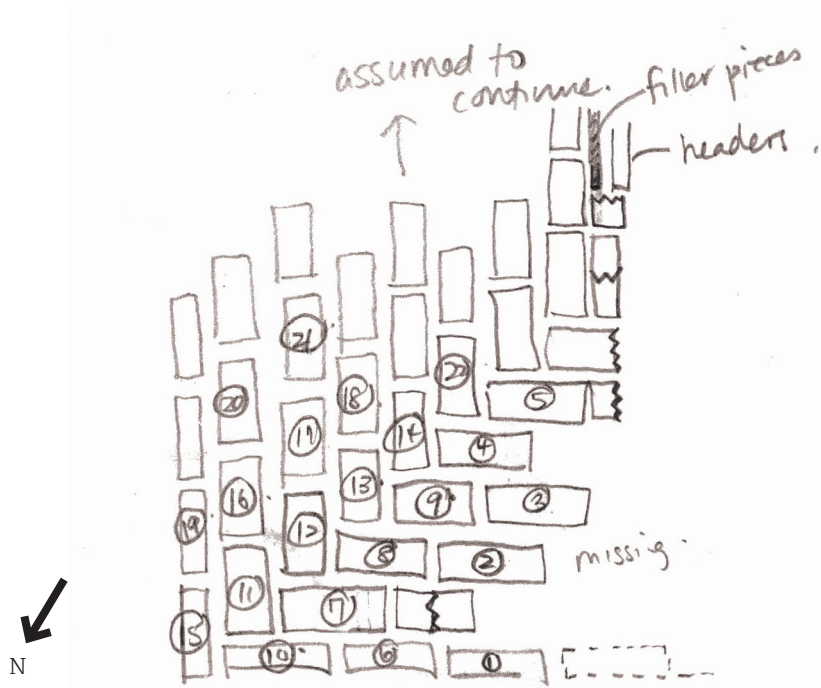


FIGURE 17

Main House North 1

BOND Flemish
FINISH Painted
DATE April 5, 2018 [Measure 4]
NOTES Chimney base.
Only stretchers measured.
[Refer to sketch] Brick bond changes from Flemish to Running after corbeling at transition between first and second floors. Documentary evidence and field measurements indicate that this Northeast quadrant of the Main House dates to the 18th C, contemporary to the Law Office.



FIGURE 18

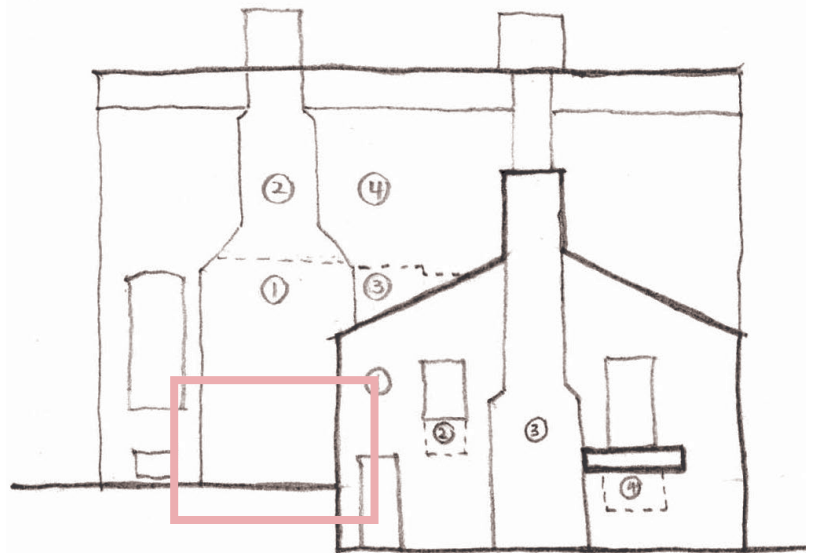


FIGURE 19

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 1 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 2 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 5 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 7 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 11 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 14 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 15 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 16 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 17 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 3 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 4 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 6 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 8 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 9 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 10 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 12 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 13 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 18 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 19 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 20 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| AVERAGE | 8.1375 | 2.7500 | #DIV/o! | 22.3781 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.1276 | 0.0000 | #DIV/o! | 0.3509 | 0.0000 | 0.0000 |
| MODE | 8 1/4 | 2 3/4 | #N/A | 22.6875 | 0.0000 | 0.0000 |

TABLE 10

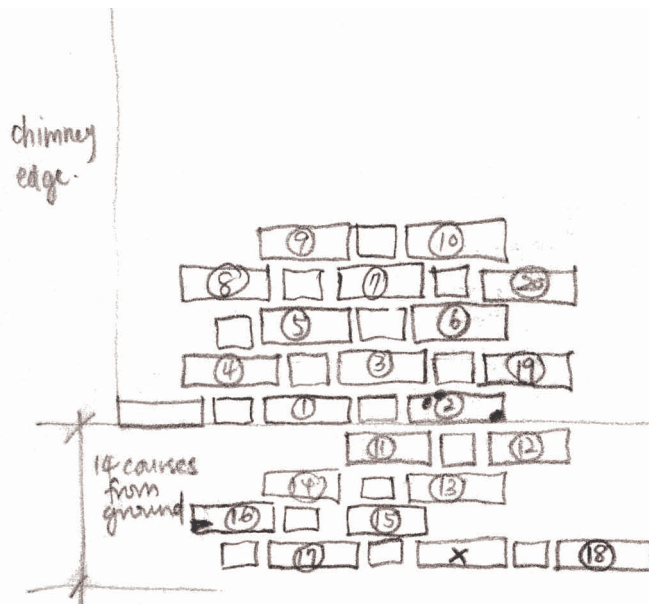


FIGURE 20

Main House Ground Floor, NE Hearth

BOND Running
FINISH Rubbed
DATE April 12, 2018 [Measure 22]
NOTES Currently dining room.
Documentary evidence and field measurements indicate that this Northeast quadrant of the Main House dates to the 18th C, contemporary to the Law Office.



FIGURE 21

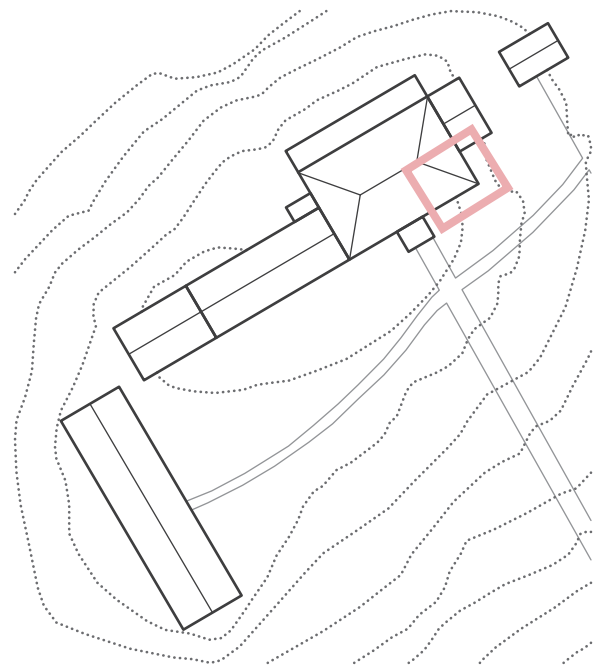


FIGURE 22

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [si] | SURFACE AREA (HEADER) [si] | SURFACE AREA (FACE) [si] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 7 | 7 3/4 | | 3 3/4 | 0 | 0 | 29.0625 |
| 13 | 8 | | 3 1/2 | 0 | 0 | 28 |
| 5 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 9 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 15 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 19 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 20 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 4 | 8 1/4 | | 3 1/2 | 0 | 0 | 28.875 |
| 1 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 2 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 3 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 6 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 8 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 10 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 11 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 12 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 14 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 16 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 17 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 18 | 8 1/2 | | 3 3/4 | 0 | 0 | 31.875 |
| AVERAGE | 8.1625 | #DIV/o! | 3.7250 | 0.0000 | 0.0000 | 30.4063 |
| STANDARD DEVIATION | 0.1677 | #DIV/o! | 0.0769 | 0.0000 | 0.0000 | 0.9184 |
| MODE | 8 1/4 | #N/A | 3 3/4 | 0.0000 | 0.0000 | 30.9375 |

TABLE 11

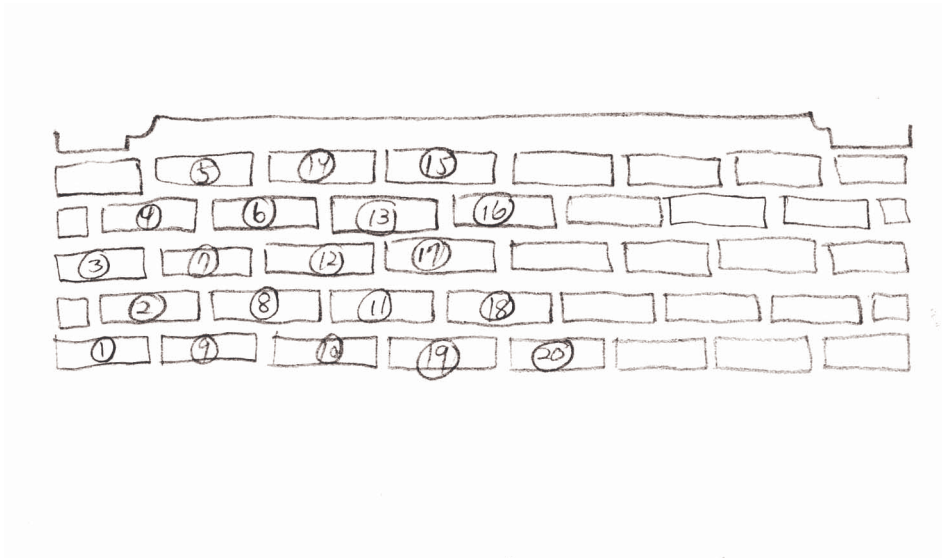


FIGURE 23

Main House West 2

BOND Flemish
FINISH Painted
DATE April 6, 2018 [Measure 8]
NOTES Only stretchers measured.
If the Northeast quadrant of the Main House is accepted to be the 18th C original build (contemporary to the Law Office), then the Northwest quadrant is likely to be the “brick shed addition” constructed between 1800–1819.

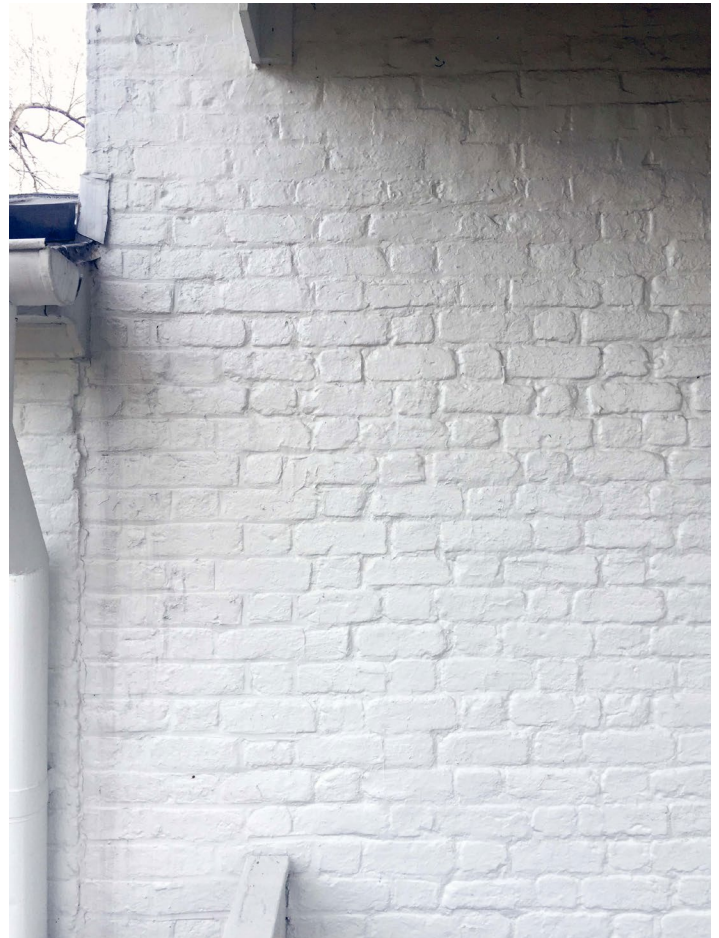


FIGURE 24

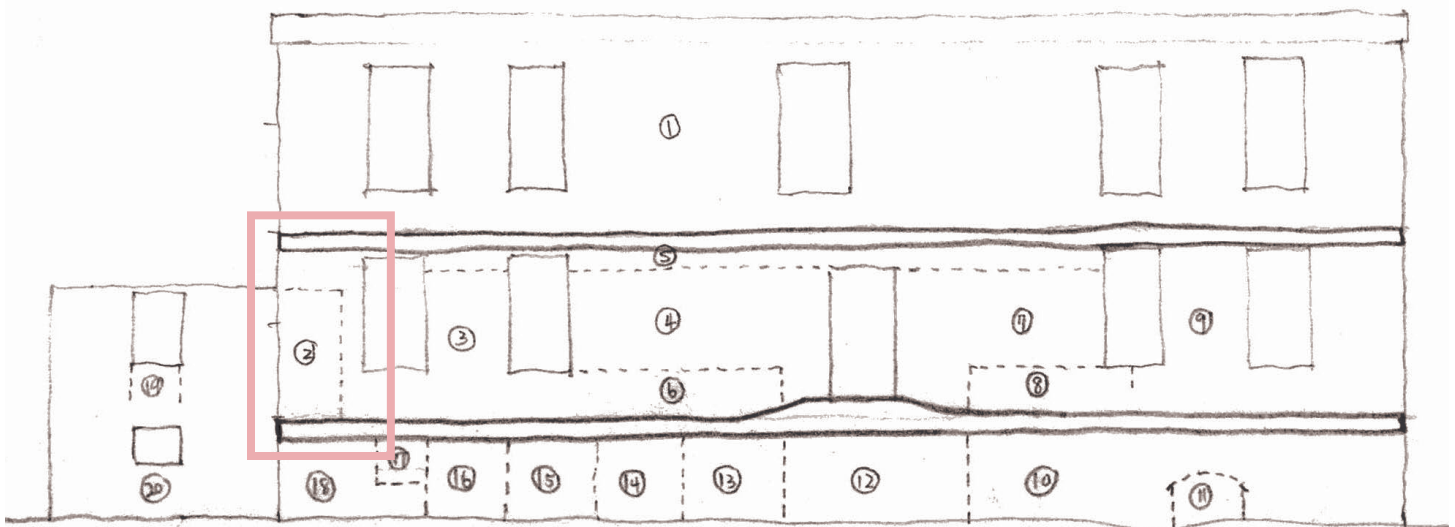


FIGURE 25

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 11 | 7 1/4 | 2 1/4 | | 16.3125 | 0 | 0 |
| 8 | 7 1/4 | 2 1/2 | | 18.125 | 0 | 0 |
| 14 | 7 1/4 | 2 1/2 | | 18.125 | 0 | 0 |
| 3 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 4 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 5 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 6 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 9 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 10 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 12 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 13 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 16 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 17 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 18 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 19 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 20 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 15 | 7 1/2 | 2 3/4 | | 20.625 | 0 | 0 |
| 1 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 2 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 7 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| AVERAGE | 7.5000 | 2.5000 | #DIV/o! | 18.7531 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.1405 | 0.0811 | #DIV/o! | 0.7749 | 0.0000 | 0.0000 |
| MODE | 7 1/2 | 2 1/2 | #N/A | 18.7500 | 0.0000 | 0.0000 |

TABLE 12

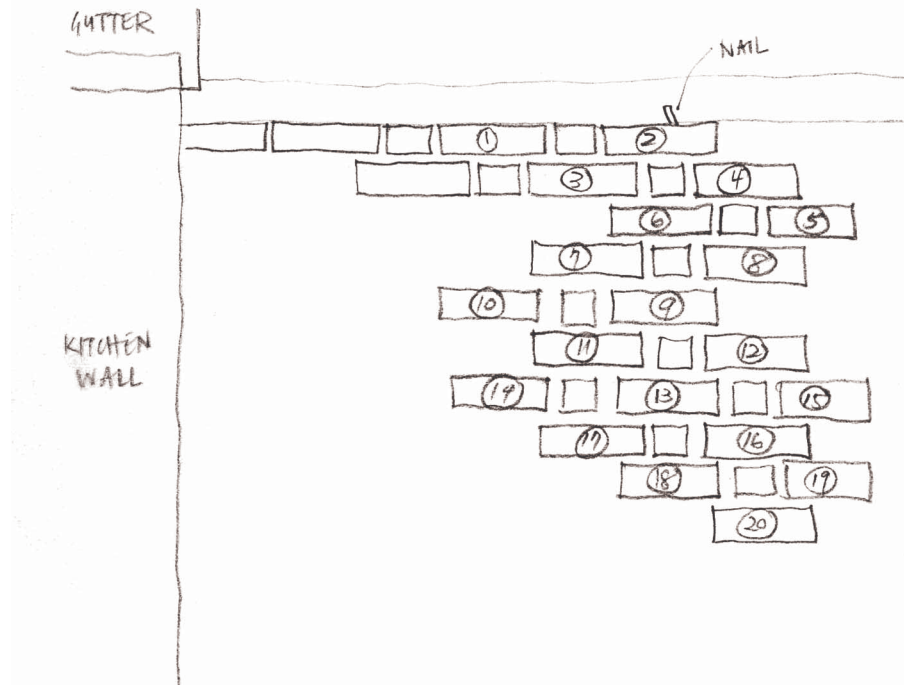


FIGURE 26

Main House Ground Floor, NW Hearth

BOND Running
FINISH Rubbed
DATE April 12, 2018 [Measure 21]
NOTES Currently study.
Documentary evidence in 1819 Annual Report describes a “shed” addition to the west [Northwest quadrant] of the existing 1790s building [Northeast quadrant]. No changes in brick appearance are visible in the outer hearth, though the inner hearth and firebox are completely blocked.

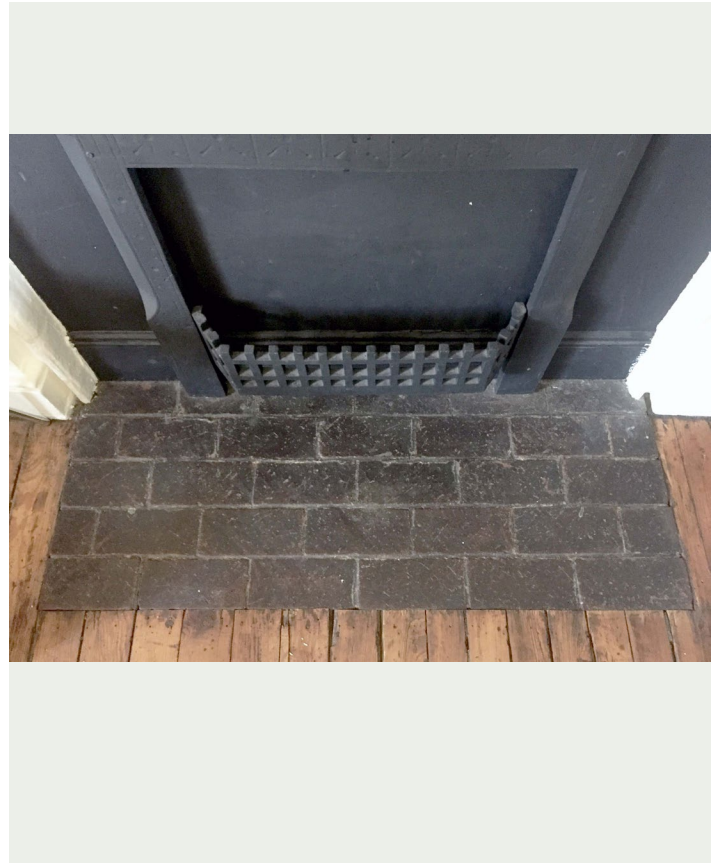


FIGURE 27

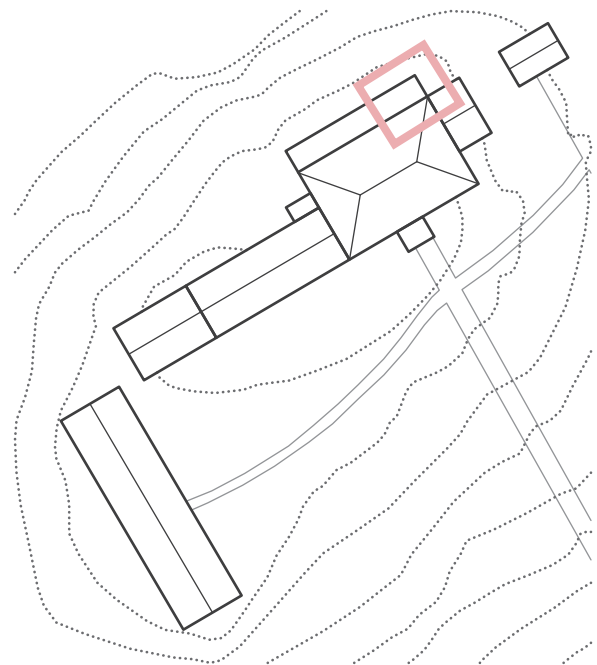


FIGURE 28

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [si] | SURFACE AREA (HEADER) [si] | SURFACE AREA (FACE) [si] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 7 | 7 3/4 | | 3 3/4 | 0 | 0 | 29.0625 |
| 18 | 7 3/4 | | 3 3/4 | 0 | 0 | 29.0625 |
| 10 | 8 | | 3 1/2 | 0 | 0 | 28 |
| 20 | 8 | | 3 1/2 | 0 | 0 | 28 |
| 1 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 2 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 3 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 4 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 9 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 13 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 15 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 16 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 17 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 19 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 5 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 6 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 8 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 11 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 12 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 14 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| AVERAGE | 8.0500 | #DIV/o! | 3.7250 | 0.0000 | 0.0000 | 29.9875 |
| STANDARD DEVIATION | 0.1539 | #DIV/o! | 0.0769 | 0.0000 | 0.0000 | 0.8894 |
| MODE | 8 | #N/A | 3 3/4 | 0.0000 | 0.0000 | 30.0000 |

TABLE 13

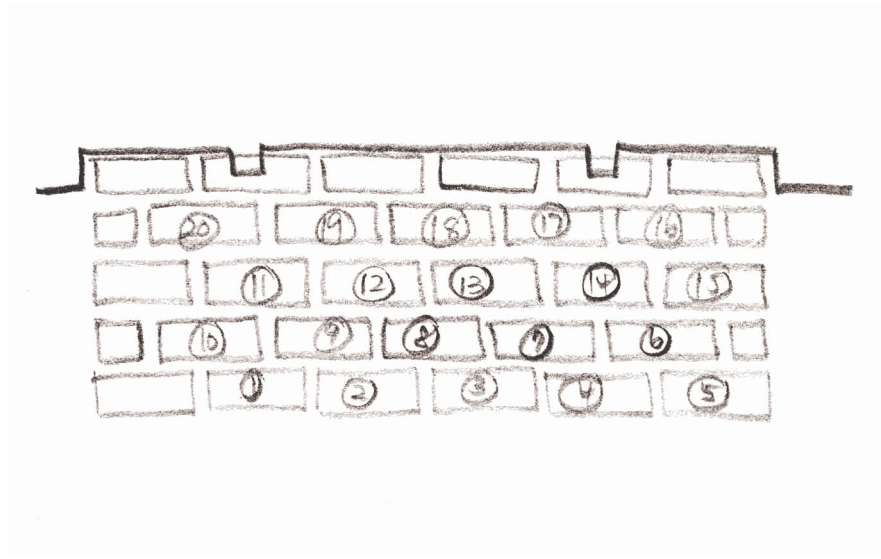


FIGURE 29

Main House West 6

BOND Flemish
FINISH Painted
DATE April 19, 2018 [Measure 29]
NOTES Only stretchers measured, left [North] of door above porch floor. Documentary evidence in 1819 Annual Report describes a “shed” addition to the west [Northwest quadrant] of the existing 1790s building [Northeast quadrant]. This Flemish bonded portion may be contemporary to or predate the 1819 shed addition as a garden wall. As the bricks are not capped in any way, it is also possible that a full building wall was demolished down to the current height and then incorporated into the later 1843 building campaign.

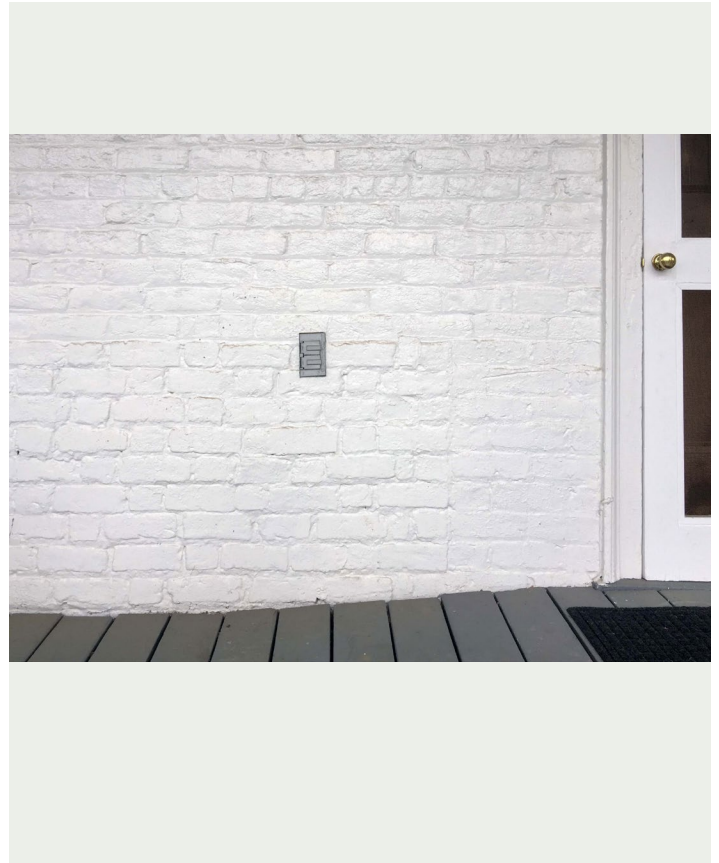


FIGURE 30

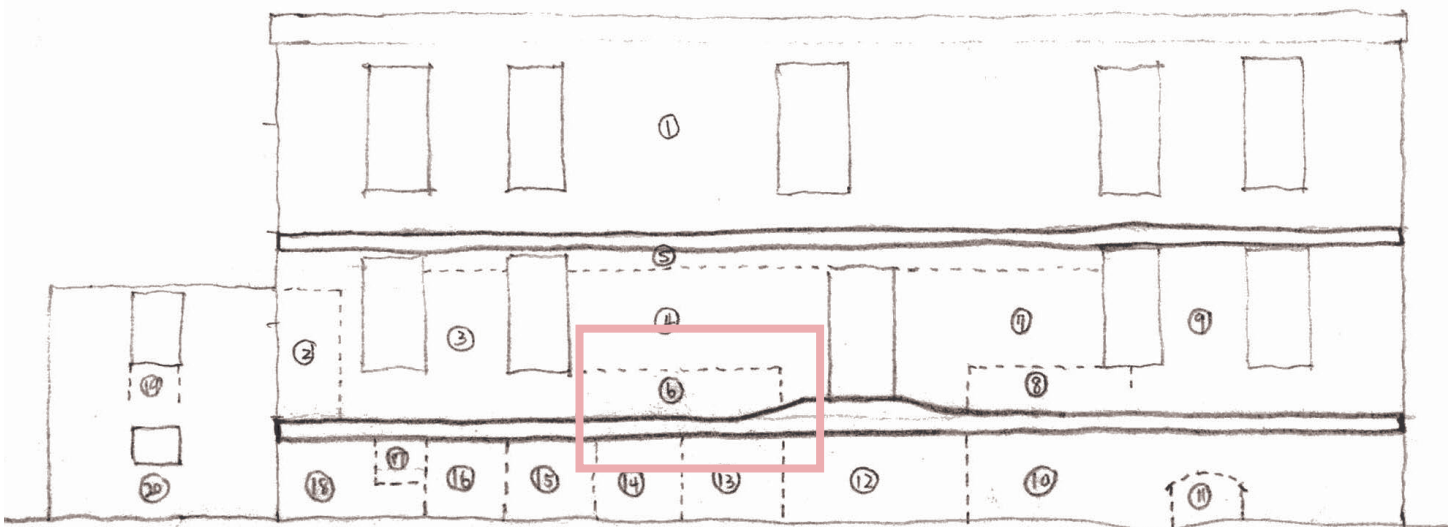


FIGURE 31

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [si] | SURFACE AREA (HEADER) [si] | SURFACE AREA (FACE) [si] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 9 | 7 | 2 1/2 | | 17.5 | 0 | 0 |
| 4 | 7 1/4 | 2 1/4 | | 16.3125 | 0 | 0 |
| 1 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 3 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 13 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 2 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 5 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 6 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 7 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 12 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 15 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 17 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 18 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 20 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 8 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 14 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 16 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 19 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 11 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 10 | 8 | 2 3/4 | | 22 | 0 | 0 |
| AVERAGE | 7.5625 | 2.4625 | #DIV/o! | 18.6344 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.2276 | 0.1223 | #DIV/o! | 1.2870 | 0.0000 | 0.0000 |
| MODE | 7 1/2 | 2 1/2 | #N/A | 18.7500 | 0.0000 | 0.0000 |

TABLE 14

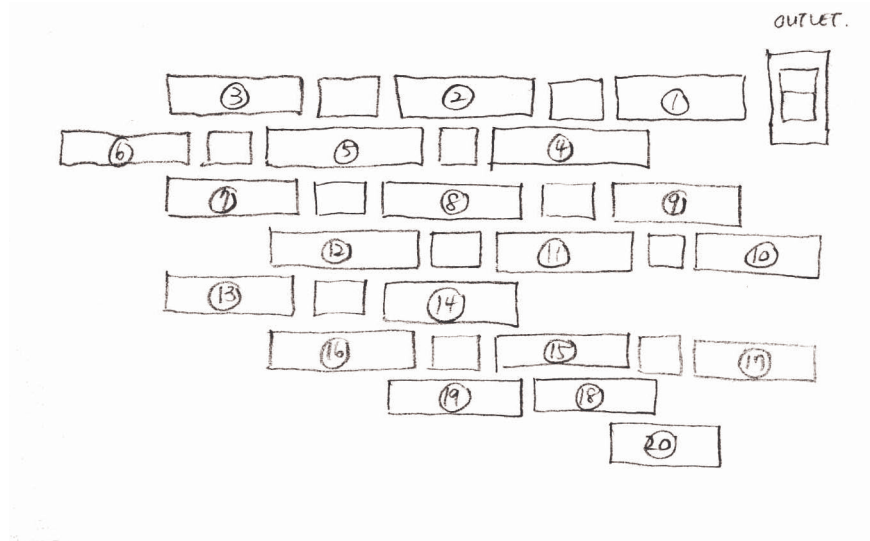


FIGURE 32

Main House West 3

BOND Uneven Common
FINISH Painted
DATE April 18, 2018 [Measure 27]
NOTES Documentary evidence in 1819 Annual Report describes a “shed” addition to the west [Northwest quadrant] of the existing 1790s building [Northeast quadrant]. The 1819 shed addition likely only remains in the Flemish bonded brick at the Northwest corner of the Main House. As this wall is constructed with Common bond, it may be part of the 1843 building campaign, when the shed addition [Northwest quadrant] was expanded to two stories.

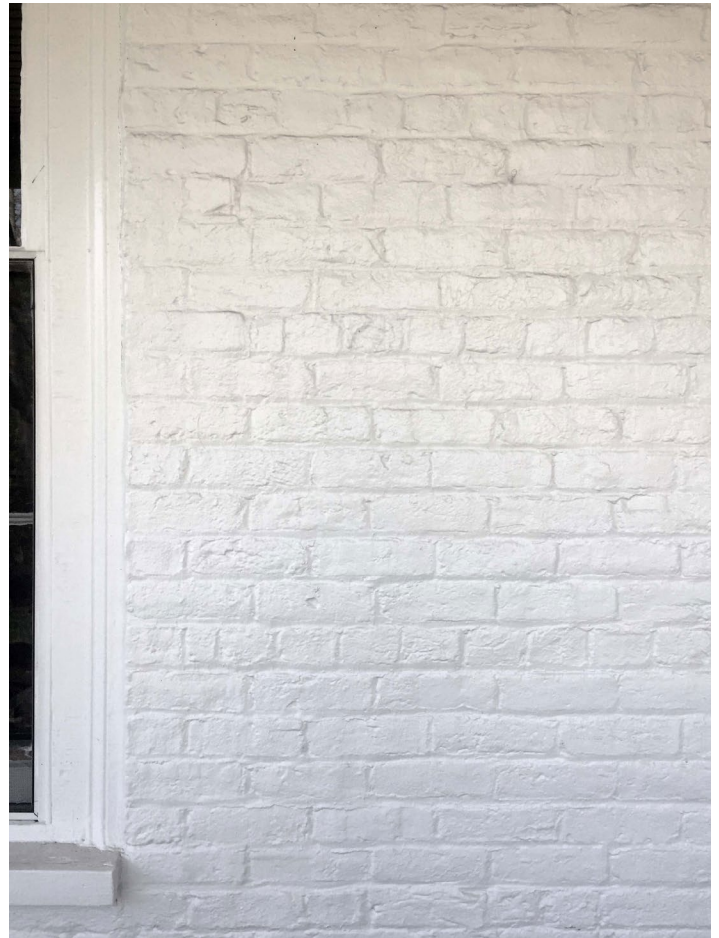


FIGURE 33

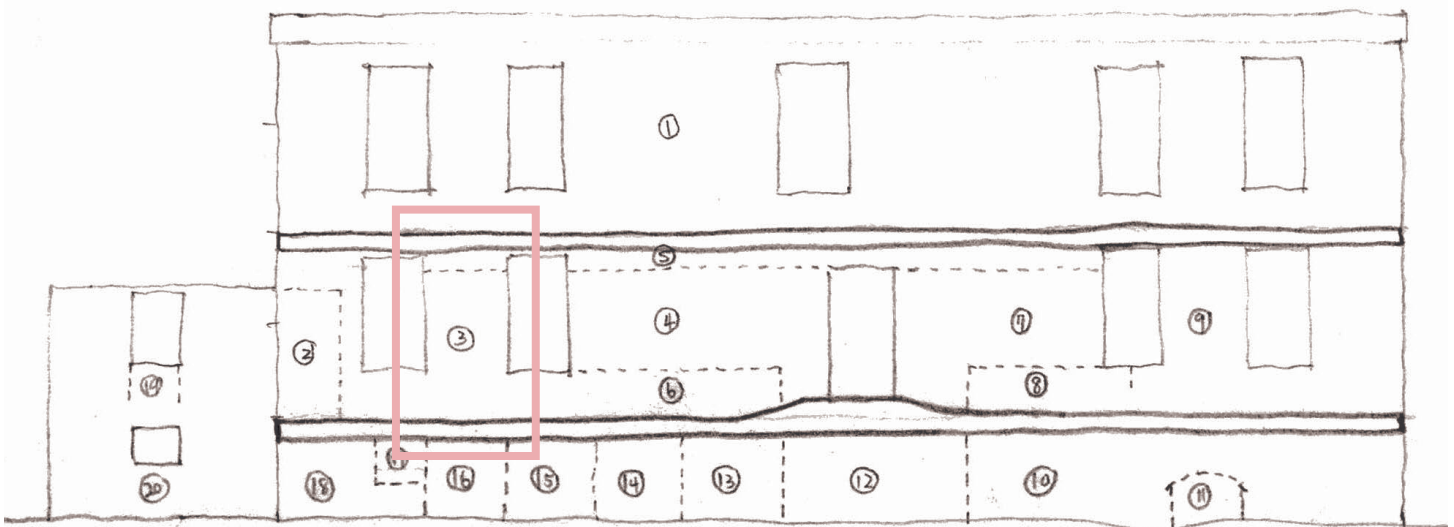


FIGURE 34

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 2 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 6 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 9 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 10 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 1 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 3 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 5 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 7 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 8 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 11 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 13 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 16 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 4 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 15 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 12 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 14 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 17 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 18 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 19 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 20 | 8 | 2 1/2 | | 20 | 0 | 0 |
| AVERAGE | 7.8375 | 2.4375 | #DIV/0! | 19.1031 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.1468 | 0.1111 | #DIV/0! | 0.9262 | 0.0000 | 0.0000 |
| MODE | 7 3/4 | 2 1/2 | #N/A | 19.3750 | 0.0000 | 0.0000 |

TABLE 15

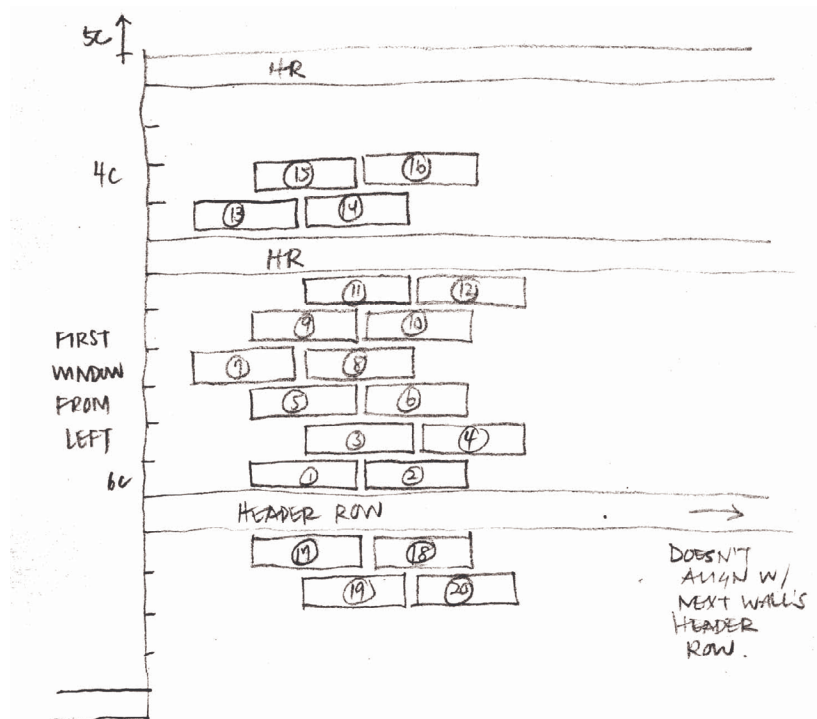


FIGURE 35

Main House West 4

BOND 5-course Common
FINISH Painted
DATE April 18, 2018 [Measure 26]
NOTES Documentary evidence in 1819 Annual Report describes a “shed” addition to the west [Northwest quadrant] of the existing 1790s building [Northeast quadrant]. The 1819 shed addition likely only remains in the Flemish bonded brick at the Northwest corner of the Main House. As this wall is constructed with Common bond, it may be part of the 1843 building campaign, when the shed addition [Northwest quadrant] was expanded to two stories.



FIGURE 36

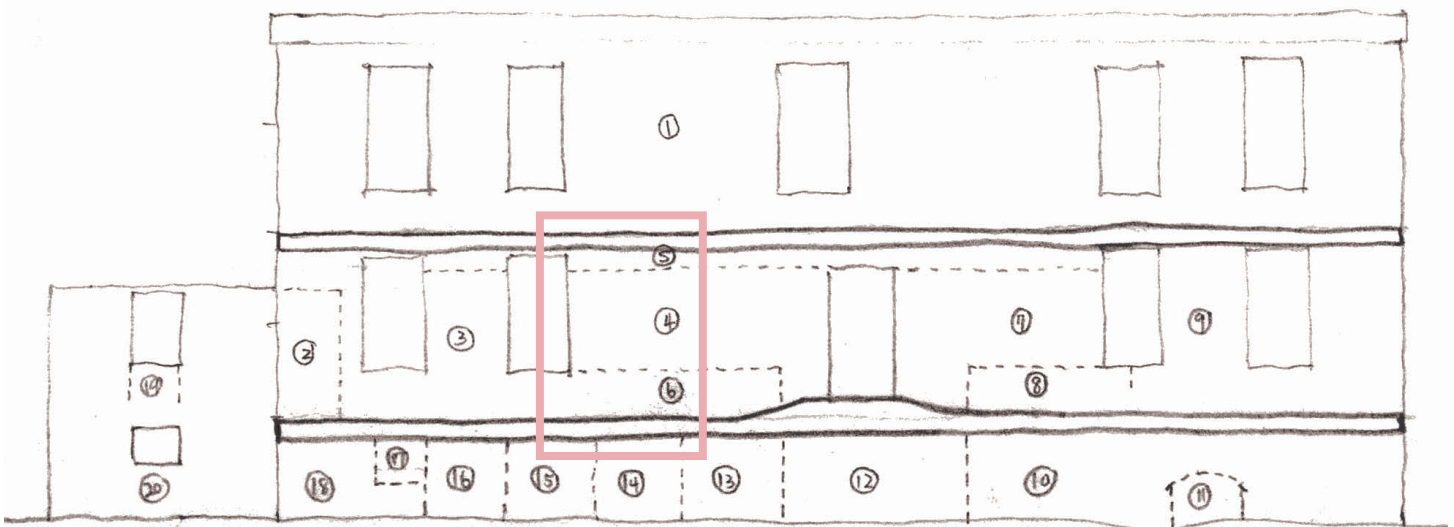


FIGURE 37

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 4 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 5 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 14 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 9 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 12 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 18 | 8 | 2 | | 16 | 0 | 0 |
| 2 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 3 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 6 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 8 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 11 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 13 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 15 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 16 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 17 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 19 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 1 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 10 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 20 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 7 | 8 1/2 | 2 1/4 | | 19.125 | 0 | 0 |
| AVERAGE | 7.9625 | 2.2375 | #DIV/0! | 17.8156 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.2600 | 0.0559 | #DIV/0! | 0.7242 | 0.0000 | 0.0000 |
| MODE | 8 | 2 1/4 | #N/A | 18.0000 | 0.0000 | 0.0000 |

TABLE 16

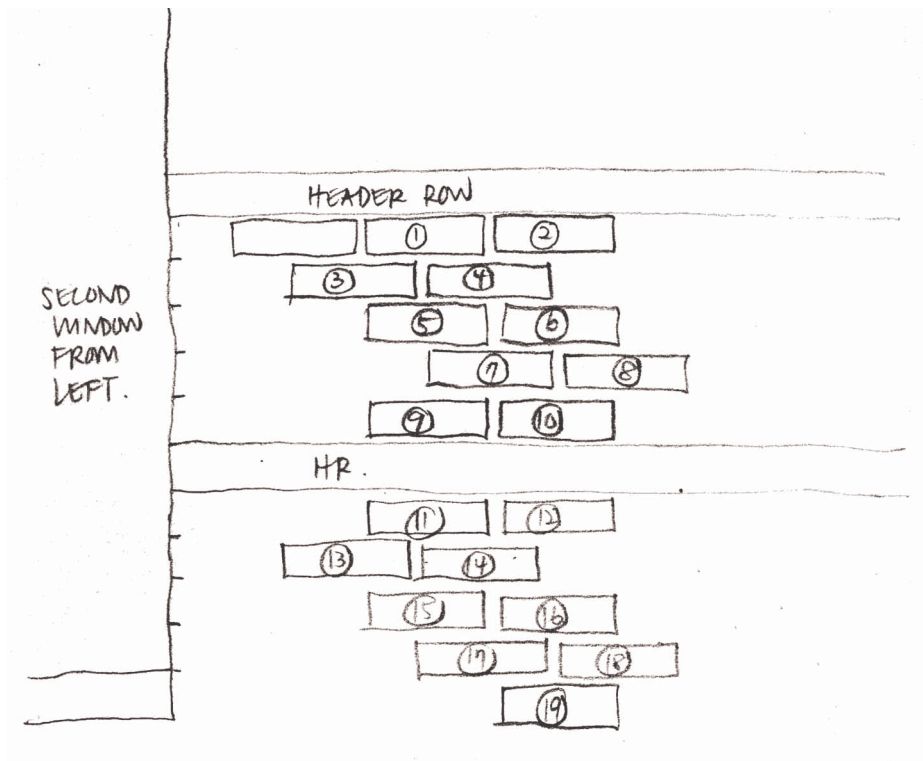


FIGURE 38

Main House Upper Floor, NE Hearth

BOND Running
FINISH Rubbed
DATE April 12, 2018 [Measure 18]
NOTES Currently master bedroom.
Documentary evidence of a significant expansion from 1822–1825 likely consisted of a second floor over the original 1790s construction [Northeast quadrant].
Some bricks appear to have been replaced in the outer hearth, the newer bricks possibly are those with a lighter color tone.

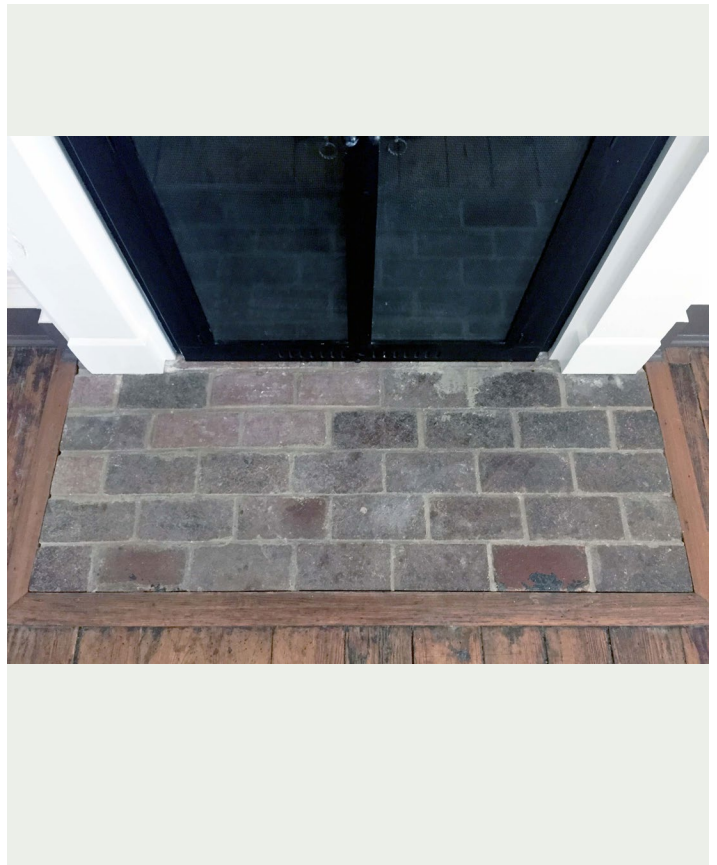


FIGURE 39

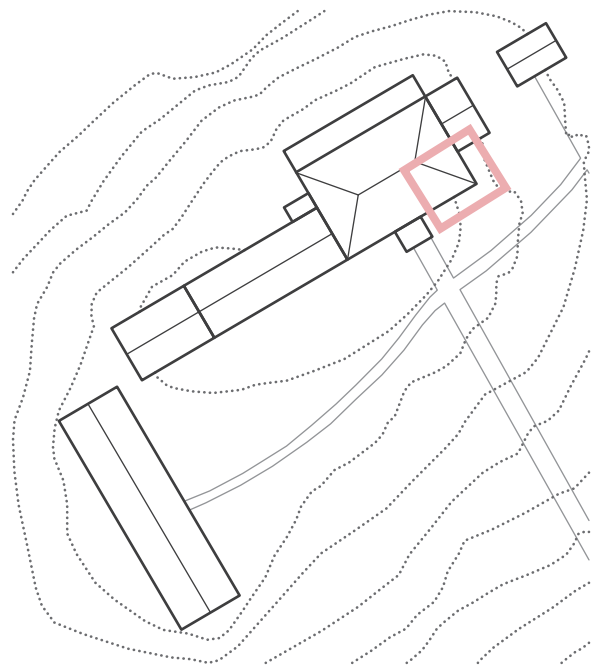


FIGURE 40

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [si] | SURFACE AREA (HEADER) [si] | SURFACE AREA (FACE) [si] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 10 | 7 3/4 | | 3 1/2 | 0 | 0 | 27.125 |
| 11 | 7 3/4 | | 3 1/2 | 0 | 0 | 27.125 |
| 12 | 7 3/4 | | 3 1/2 | 0 | 0 | 27.125 |
| 19 | 7 3/4 | | 3 1/2 | 0 | 0 | 27.125 |
| 9 | 8 | | 3 1/2 | 0 | 0 | 28 |
| 3 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 4 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 5 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 13 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 14 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 15 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 17 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 18 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 20 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 2 | 8 1/4 | | 3 1/2 | 0 | 0 | 28.875 |
| 7 | 8 1/4 | | 3 1/2 | 0 | 0 | 28.875 |
| 1 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 8 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 16 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 6 | 8 1/2 | | 4 | 0 | 0 | 34 |
| AVERAGE | 8.0375 | #DIV/o! | 3.6750 | 0.0000 | 0.0000 | 29.5531 |
| STANDARD DEVIATION | 0.2032 | #DIV/o! | 0.1428 | 0.0000 | 0.0000 | 1.6895 |
| MODE | 8 | #N/A | 3 3/4 | 0.0000 | 0.0000 | 30.0000 |

TABLE 17

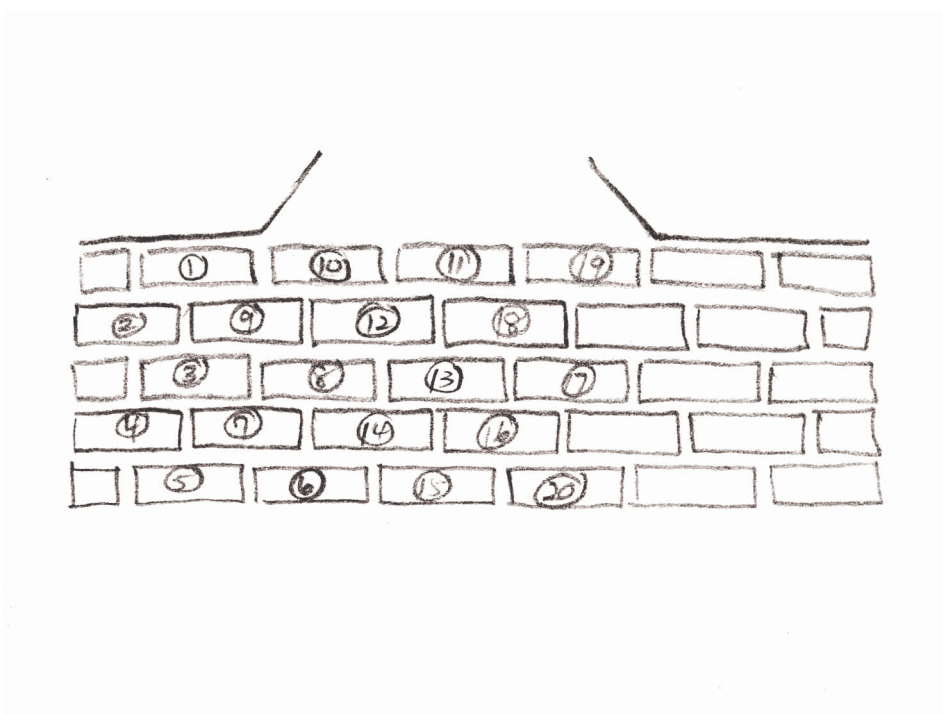


FIGURE 41

Main House South 5

BOND Unknown
FINISH Part plaster; all painted
DATE April 12, 2018 [Measure 23]
NOTES East end of Short Range arcade.
This wall is the only portion on the front half of the Main House that is not covered with render. Documentary evidence of a significant expansion from 1822–1825 likely consisted of a second floor over the original 1790s construction [Northeast quadrant] and a single-story addition towards the south [Southeast quadrant]. Due to overlapping constructions, this wall predates the Short Range (1848–1849).



FIGURE 42

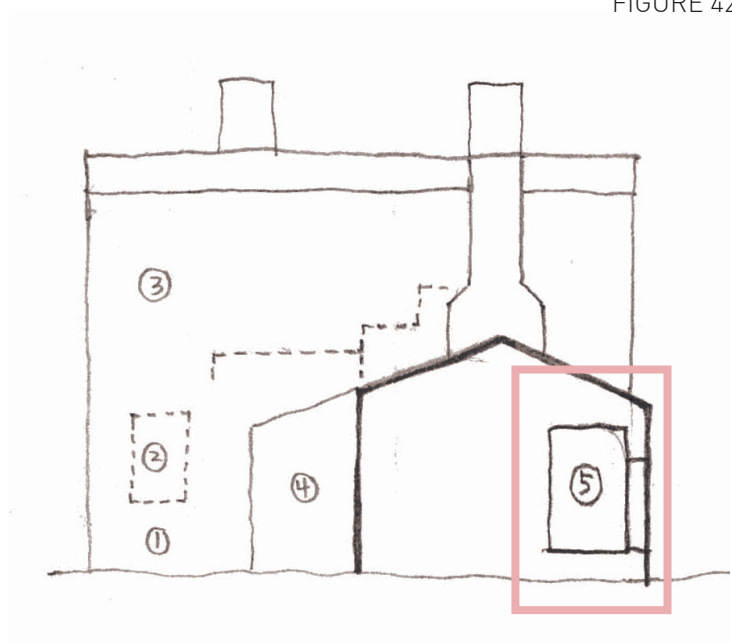


FIGURE 43

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 15 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 16 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 5 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 6 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 8 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 9 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 10 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 2 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 7 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 11 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 13 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 14 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 18 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 19 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 20 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 4 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 3 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 12 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 17 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 1 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| AVERAGE | 7.9500 | 2.5000 | #DIV/0! | 19.8750 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.2379 | 0.0811 | #DIV/0! | 0.8952 | 0.0000 | 0.0000 |
| MODE | 8 | 2 1/2 | #N/A | 20.0000 | 0.0000 | 0.0000 |

TABLE 18

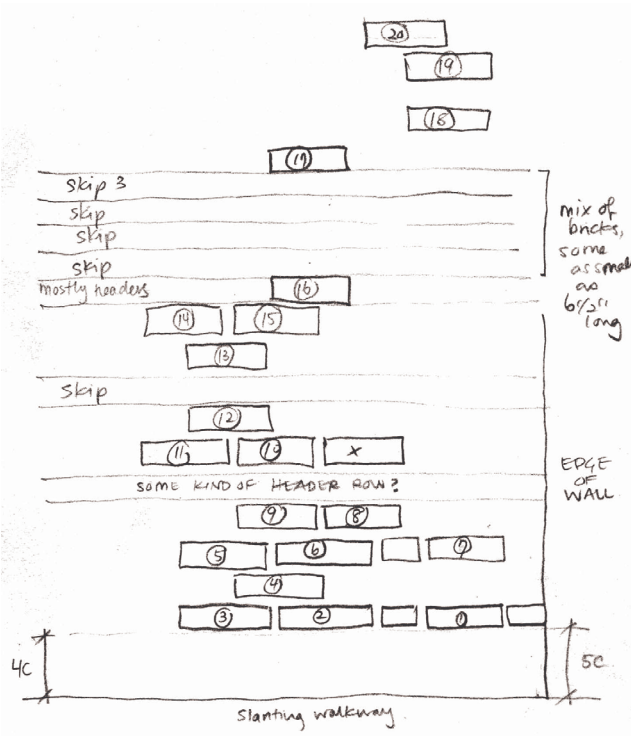


FIGURE 44

Main House Ground Floor, SE Hearth

| | |
|---------------|--|
| BOND | Running |
| FINISH | Rubbed |
| DATE | April 12, 2018 [Measure 19] |
| NOTES | Currently front room. Documentary evidence of a significant expansion from 1822–1825 likely consisted of a second floor over the original 1790s construction [Northeast quadrant] and a single-story addition towards the south [Southeast quadrant]. No changes in brick are visible in the outer hearth, though the bricked-in firebox is likely a later construction. |

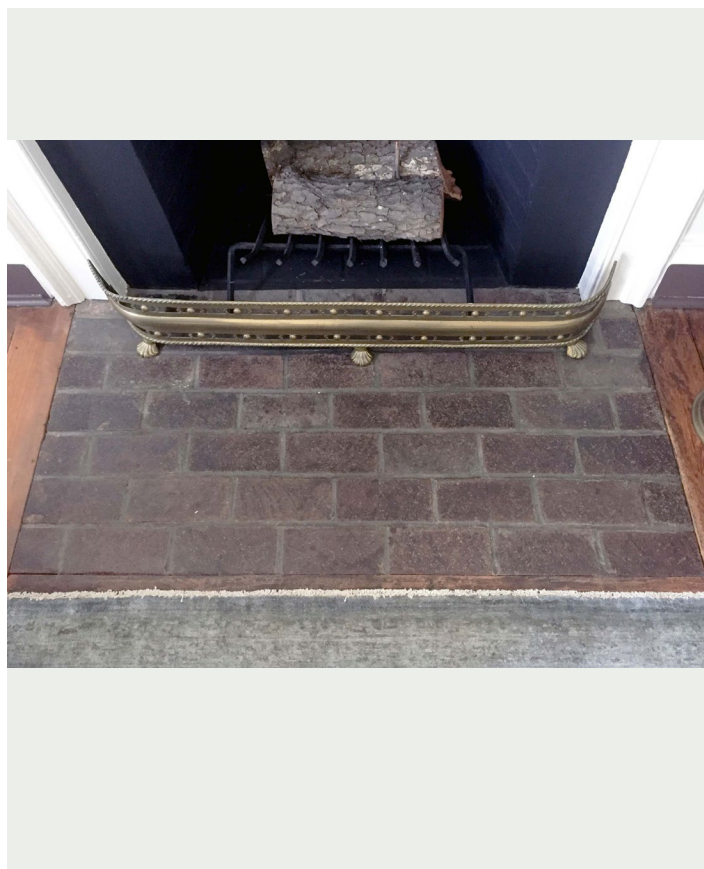


FIGURE 45

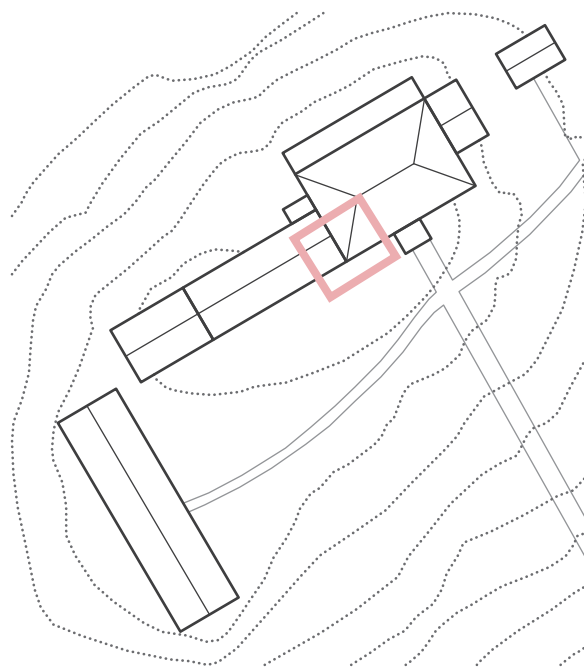


FIGURE 46

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 14 | 8 | | 3 1/2 | 0 | 0 | 28 |
| 1 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 2 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 3 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 4 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 5 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 6 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 7 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 8 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 12 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 17 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 19 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 9 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 10 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 11 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 13 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 15 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 20 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 16 | 8 1/2 | | 3 3/4 | 0 | 0 | 31.875 |
| 18 | 8 1/2 | | 3 3/4 | 0 | 0 | 31.875 |
| AVERAGE | 8.1250 | #DIV/o! | 3.7375 | 0.0000 | 0.0000 | 30.3688 |
| STANDARD DEVIATION | 0.1721 | #DIV/o! | 0.0559 | 0.0000 | 0.0000 | 0.8456 |
| MODE | 8 | #N/A | 3 3/4 | 0.0000 | 0.0000 | 30.0000 |

TABLE 19

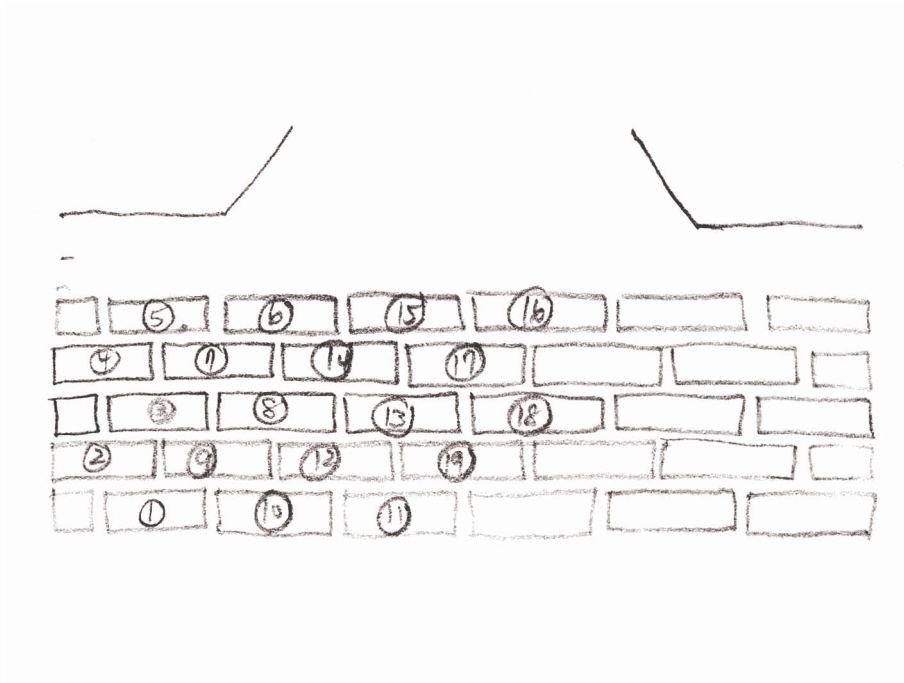


FIGURE 47

Main House Upper Floor, SE Hearth

BOND Running
FINISH Rubbed
DATE April 12, 2018 [Measure 15]
NOTES Currently boys' room.
Documentary evidence dates the front portico addition to January 1842, therefore the second floor across the front of the Main House must be completed by this time.
The firebox is currently bricked in, and there is a marked change in brick appearance between the inner hearth and the outer hearth. Possibly, the firebox and inner hearth are constructed simultaneously, at a later period to the outer hearth.

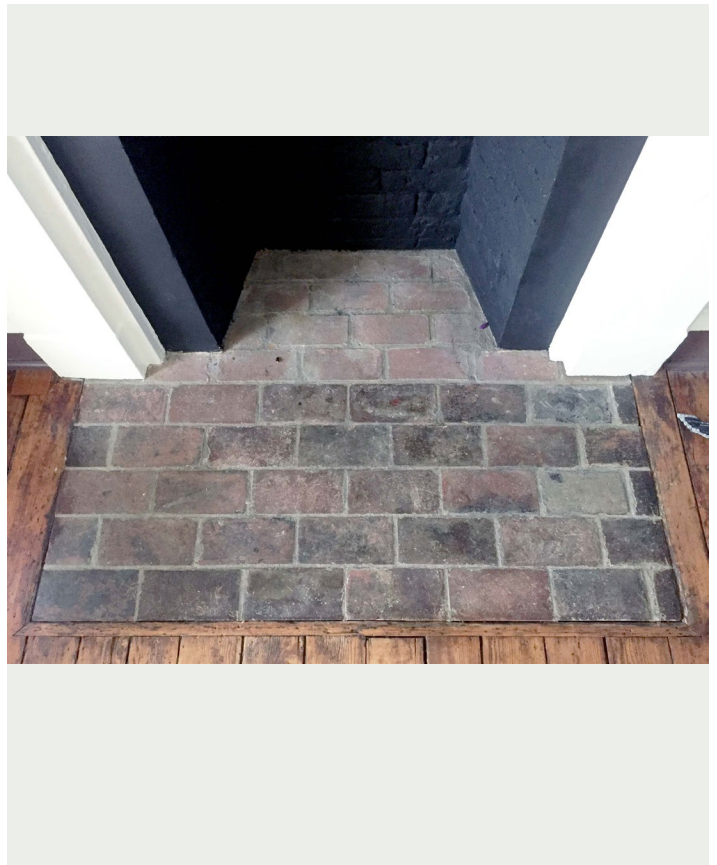


FIGURE 48

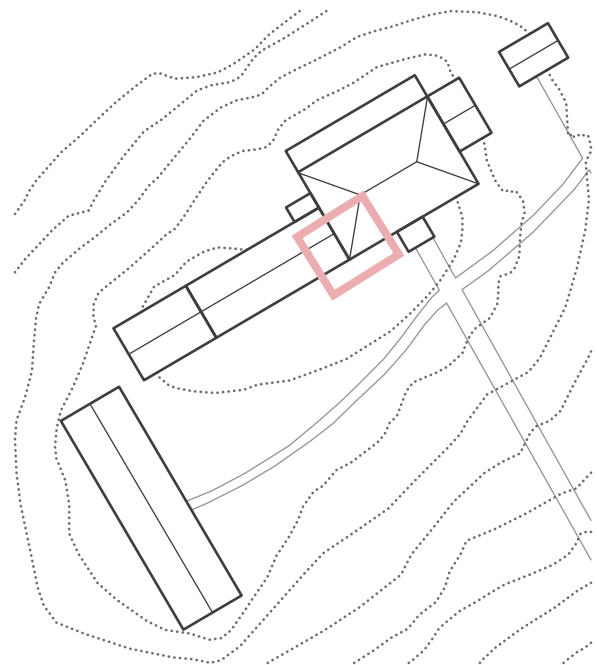


FIGURE 49

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 11 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 12 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 13 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 14 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 15 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 16 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 17 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 18 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 19 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 20 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 10 | 8 1/4 | | 4 1/4 | 0 | 0 | 35.0625 |
| 1 | | | | 0 | 0 | 0 |
| 2 | | | | 0 | 0 | 0 |
| 3 | | | | 0 | 0 | 0 |
| 4 | | | | 0 | 0 | 0 |
| 5 | | | | 0 | 0 | 0 |
| 6 | | | | 0 | 0 | 0 |
| 7 | | | | 0 | 0 | 0 |
| 8 | | | | 0 | 0 | 0 |
| 9 | | | | 0 | 0 | 0 |
| AVERAGE | 8.2500 | #DIV/o! | 4.0227 | 0.0000 | 0.0000 | 33.1875 |
| STANDARD DEVIATION | 0.0000 | #DIV/o! | 0.0754 | 0.0000 | 0.0000 | 0.6219 |
| MODE | 8 1/4 | #N/A | 4 | 0.0000 | 0.0000 | 33.0000 |

TABLE 20

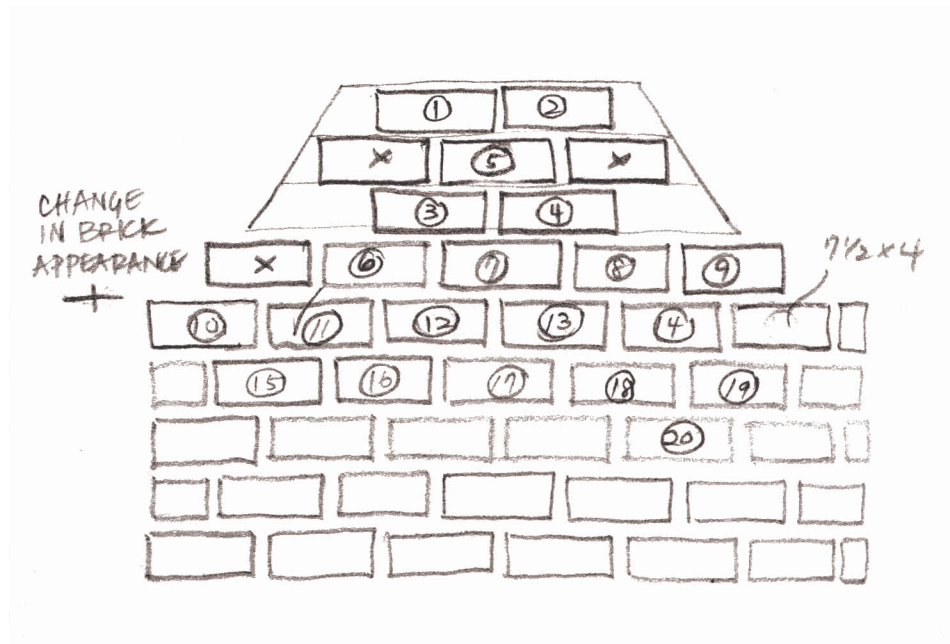


FIGURE 50

Main House Upper Floor, NW Hearth

BOND Running
FINISH Rubbed
DATE April 12, 2018 [Measure 17]
NOTES Currently master bathroom.
Documentary evidence suggests that this Northwest quadrant is the second-floor expansion to the existing “shed” addition that was completed as part of an 1843 building campaign.
No changes in brick are visible in the hearth, though the firebox and any possible changes in its masonry are blocked by an insert.

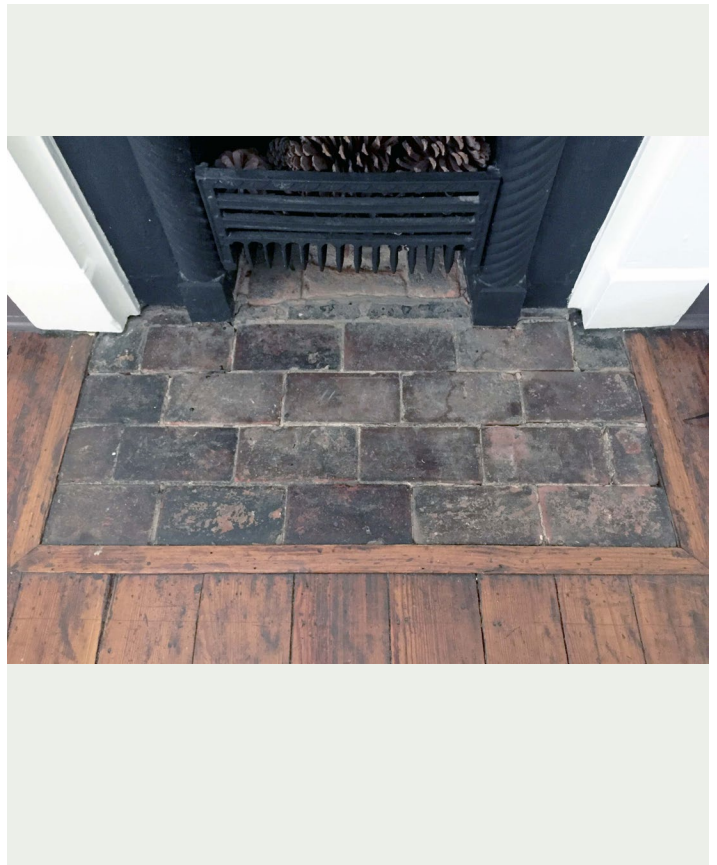


FIGURE 51

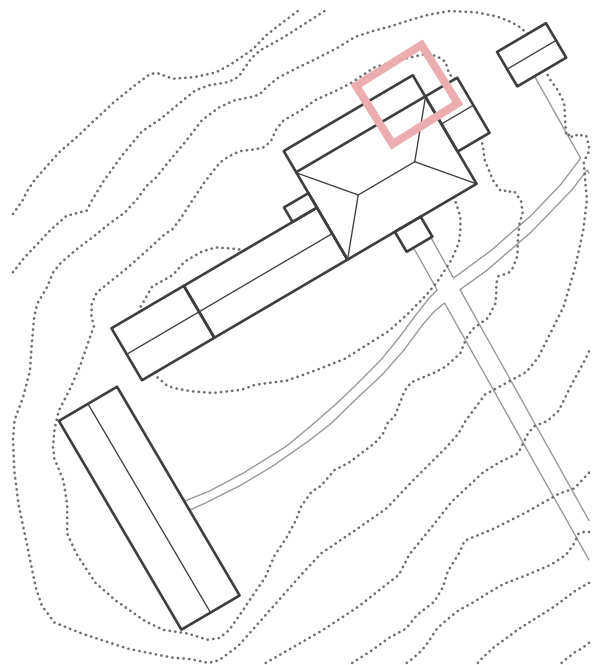


FIGURE 52

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [si] | SURFACE AREA (HEADER) [si] | SURFACE AREA (FACE) [si] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 7 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 8 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 9 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 11 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 12 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 14 | 8 1/4 | | 4 | 0 | 0 | 33 |
| 3 | 8 1/4 | | 4 1/4 | 0 | 0 | 35.0625 |
| 4 | 8 1/4 | | 4 1/4 | 0 | 0 | 35.0625 |
| 13 | 8 1/4 | | 4 1/4 | 0 | 0 | 35.0625 |
| 15 | 8 1/4 | | 4 1/4 | 0 | 0 | 35.0625 |
| 1 | 8 1/2 | | 4 | 0 | 0 | 34 |
| 10 | 8 1/2 | | 4 | 0 | 0 | 34 |
| 2 | 8 1/2 | | 4 1/4 | 0 | 0 | 36.125 |
| 5 | 8 1/2 | | 4 1/4 | 0 | 0 | 36.125 |
| 6 | 8 1/2 | | 4 1/4 | 0 | 0 | 36.125 |
| 16 | | | | 0 | 0 | 0 |
| 17 | | | | 0 | 0 | 0 |
| 18 | | | | 0 | 0 | 0 |
| 19 | | | | 0 | 0 | 0 |
| 20 | | | | 0 | 0 | 0 |
| AVERAGE | 8.3333 | #DIV/o! | 4.1167 | 0.0000 | 0.0000 | 34.3083 |
| STANDARD DEVIATION | 0.1220 | #DIV/o! | 0.1291 | 0.0000 | 0.0000 | 1.2716 |
| MODE | 8 1/4 | #N/A | 4 | 0.0000 | 0.0000 | 33.0000 |

TABLE 21

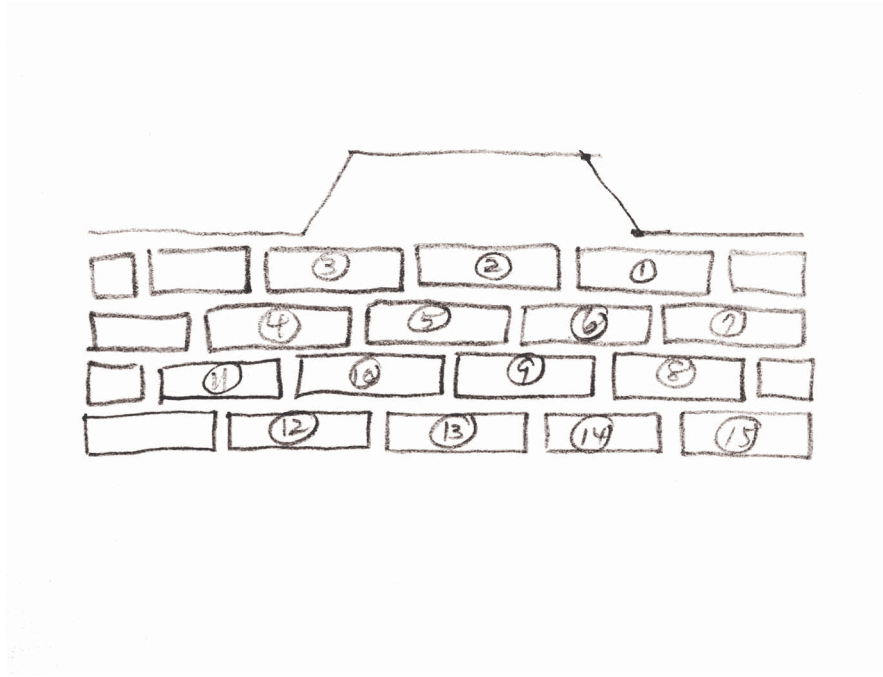


FIGURE 53

Main House West 8

BOND 5-course Common
FINISH Painted
DATE April 18, 2018 [Measure 28]
NOTES Soldier course, possibly from a preexisting garden wall that was incorporated into the Main House.
Documentary evidence suggests that the Southwest quadrant of the Main House is part of an 1843 building campaign, when the existing “shed addition” [Northwest quadrant] was expanded to two stories with a 1.5-shed addition beside to complete a rectangular footprint. This garden wall likely predates the 1843 building campaign.

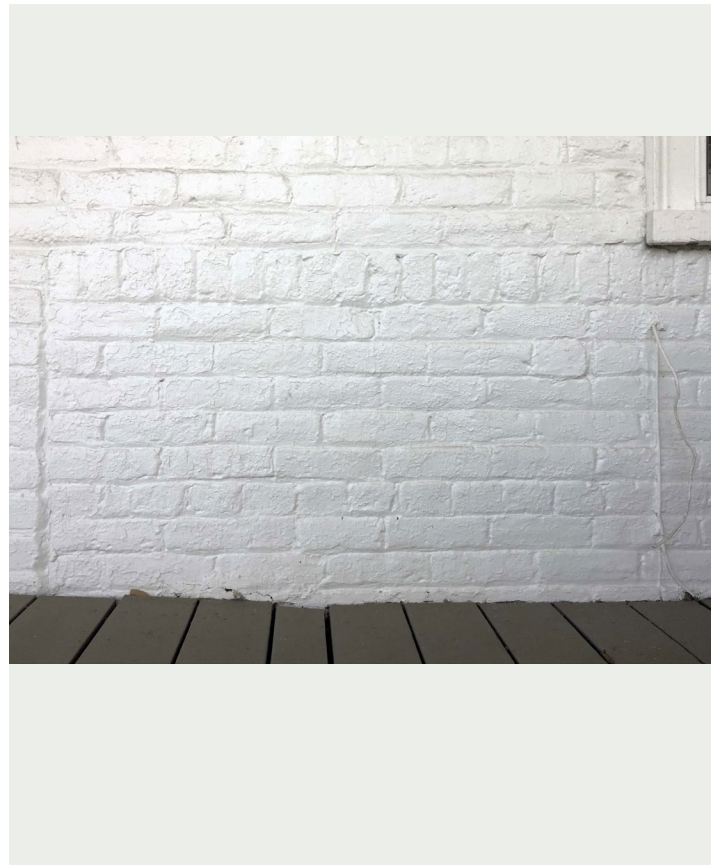


FIGURE 54

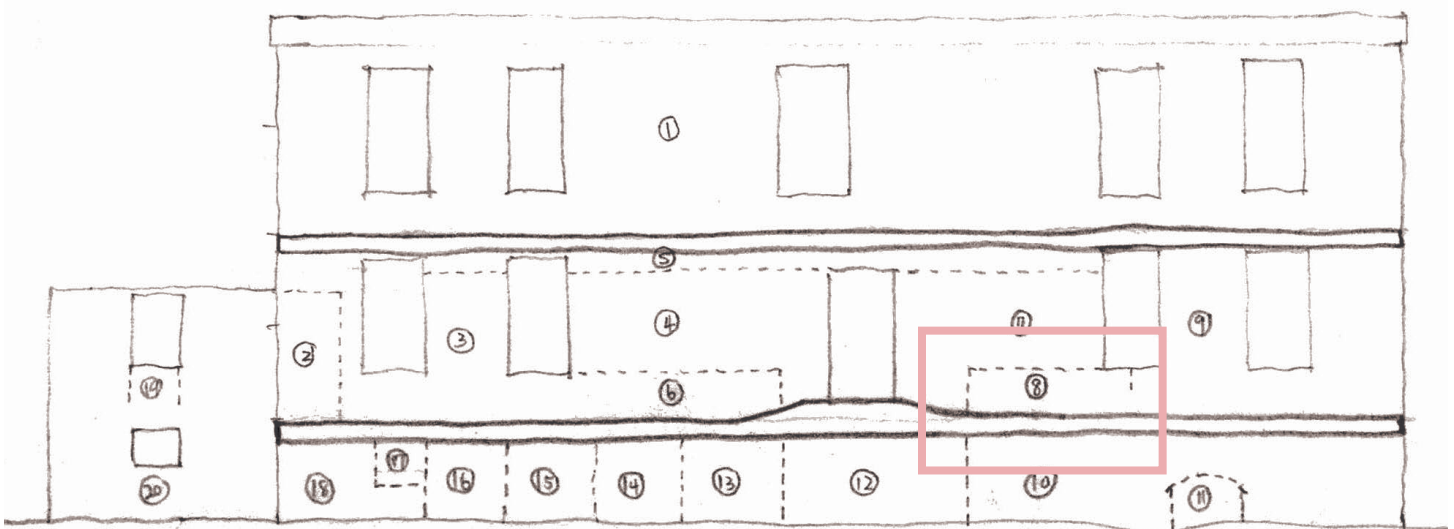


FIGURE 55

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sqi] | SURFACE AREA (HEADER) [sqi] | SURFACE AREA (FACE) [sqi] |
|---------------------------|-------------|-------------|------------|--------------------------------|-----------------------------|---------------------------|
| 1 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 2 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 3 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 4 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 5 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 6 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 7 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 8 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 11 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 12 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 18 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 19 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 20 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 13 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 14 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 15 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 16 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 9 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 10 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 17 | 8 | 2 1/4 | | 18 | 0 | 0 |
| AVERAGE | 7.7875 | 2.3000 | #DIV/o! | 17.9094 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.0916 | 0.1026 | #DIV/o! | 0.7784 | 0.0000 | 0.0000 |
| MODE | 7 3/4 | 2 1/4 | #N/A | 17.4375 | 0.0000 | 0.0000 |

TABLE 22

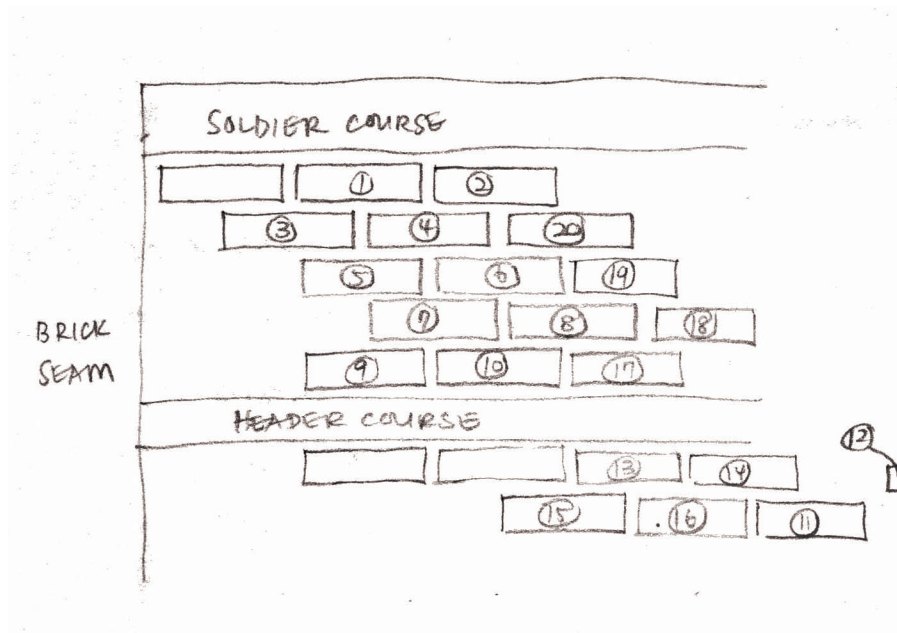


FIGURE 56

Main House Ground Floor, SW Hearth

BOND Running
FINISH Rubbed
DATE April 12, 2018 [Measure 20]
NOTES Currently back room.
Documentary evidence suggests that this Southwest quadrant of the Main House is part of an 1843 building campaign, when the existing “shed addition” [Northwest quadrant] was expanded to two stories with a 1.5-shed addition beside to complete a rectangular footprint. No changes in brick appearance are visible in the inner or outer hearths.

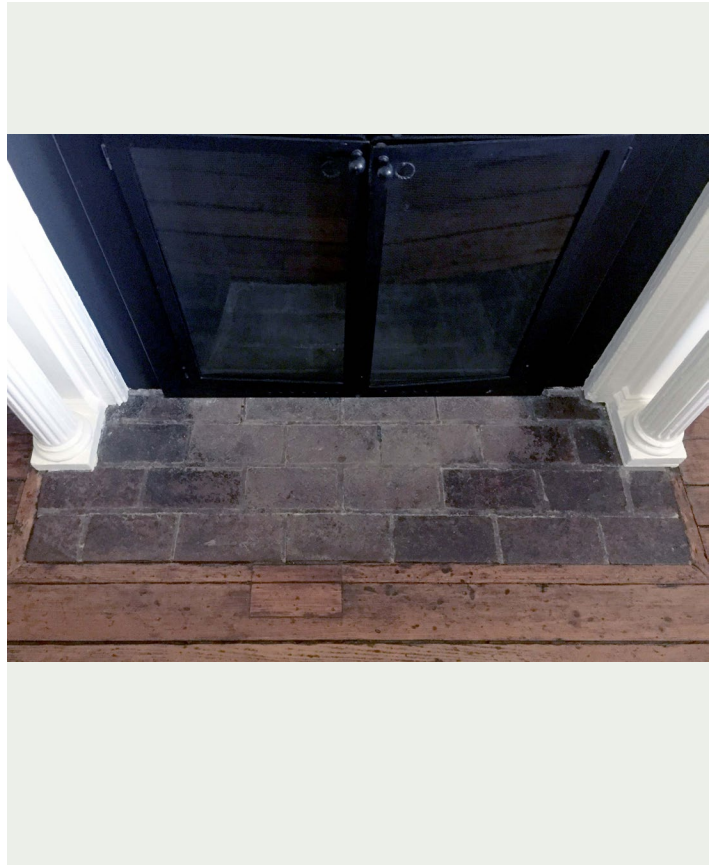


FIGURE 57

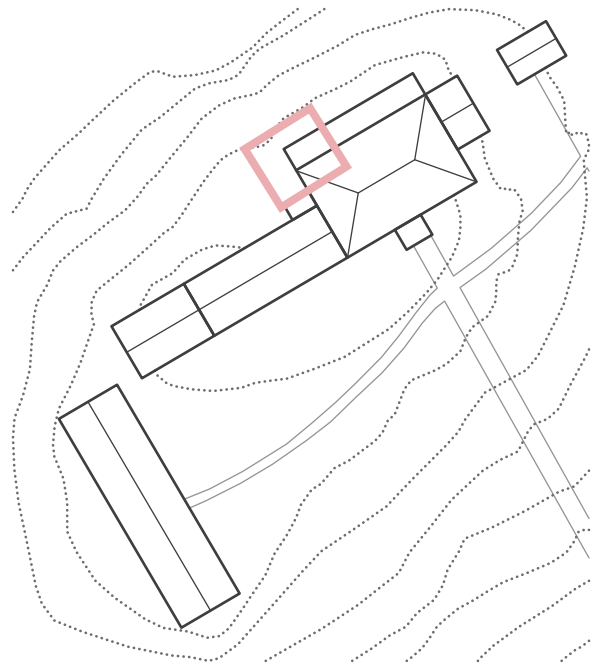


FIGURE 58

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 5 | 7 3/4 | | 3 1/2 | 0 | 0 | 27.125 |
| 7 | 7 3/4 | | 3 3/4 | 0 | 0 | 29.0625 |
| 8 | 7 3/4 | | 3 3/4 | 0 | 0 | 29.0625 |
| 13 | 7 3/4 | | 3 3/4 | 0 | 0 | 29.0625 |
| 9 | 8 | | 3 1/2 | 0 | 0 | 28 |
| 4 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 6 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 10 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 11 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 17 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 20 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 18 | 8 | | 4 1/4 | 0 | 0 | 34 |
| 1 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 2 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 3 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 14 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 16 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 19 | 8 1/4 | | 4 1/4 | 0 | 0 | 35.0625 |
| 12 | 8 1/2 | | 3 3/4 | 0 | 0 | 31.875 |
| 15 | 8 1/2 | | 3 3/4 | 0 | 0 | 31.875 |
| AVERAGE | 8.0750 | #DIV/o! | 3.7750 | 0.0000 | 0.0000 | 30.4906 |
| STANDARD DEVIATION | 0.2308 | #DIV/o! | 0.1795 | 0.0000 | 0.0000 | 1.8230 |
| MODE | 8 | #N/A | 3 3/4 | 0.0000 | 0.0000 | 30.0000 |

TABLE 23

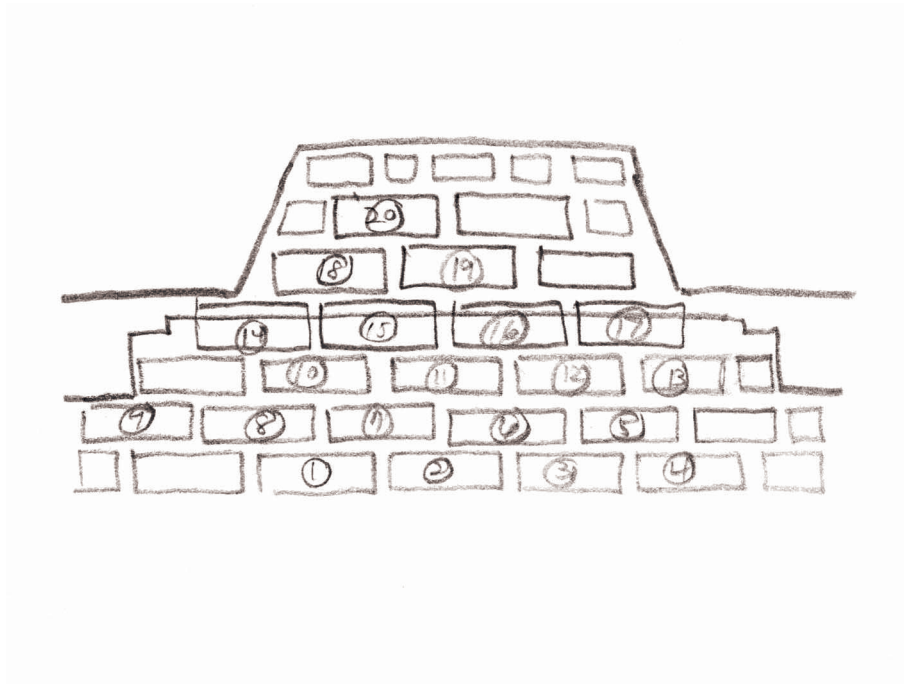


FIGURE 59

Main House West 7

BOND 5-course Common
FINISH Painted
DATE April 18, 2018 [Measure 25]
NOTES Documentary evidence suggests that the Southwest quadrant of the Main House is part of an 1843 building campaign, when the existing “shed addition” [Northwest quadrant] was expanded to two stories with a 1.5-shed addition beside to complete a rectangular footprint. Visible seams in the brick construction could indicate that the Southwest quadrant was constructed in separate building campaigns [see sketch for seam locations].

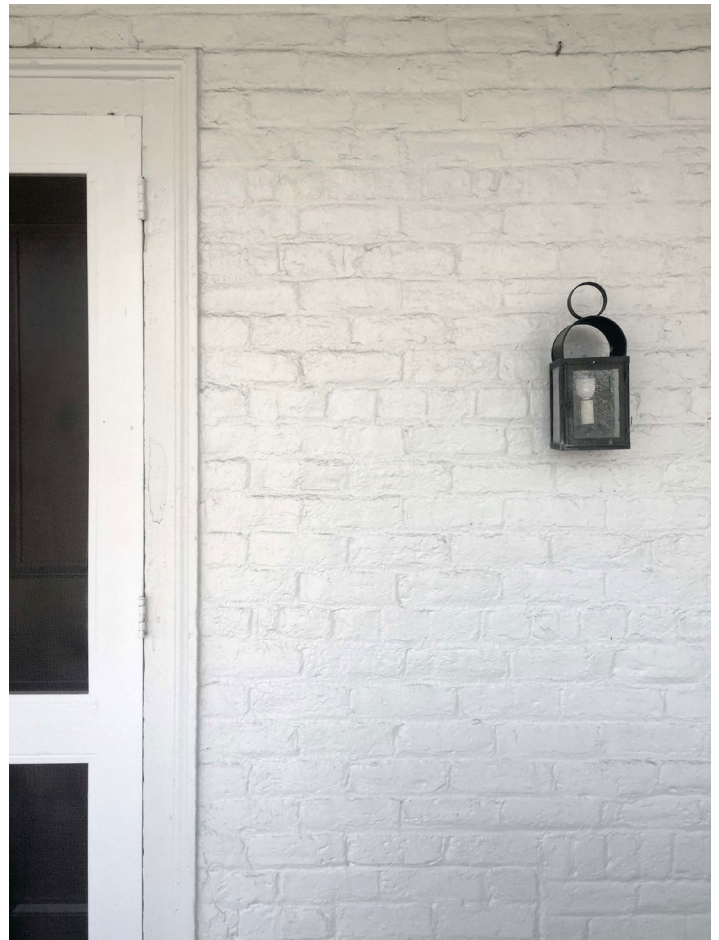


FIGURE 60

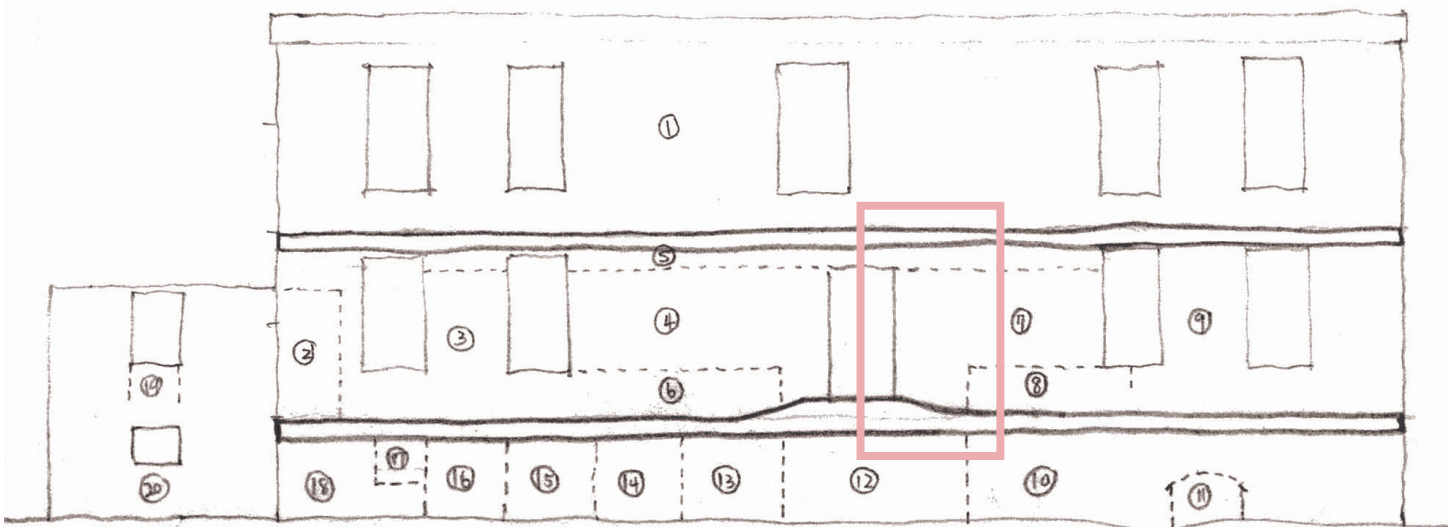


FIGURE 61

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 10 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 7 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 8 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 19 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 14 | 8 | 2 | | 16 | 0 | 0 |
| 1 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 2 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 5 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 6 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 9 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 11 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 12 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 13 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 15 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 16 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 18 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 20 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 4 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 17 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 3 | 8 1/2 | 2 1/4 | | 19.125 | 0 | 0 |
| AVERAGE | 7.9625 | 2.2750 | #DIV/0! | 18.1094 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.1863 | 0.1118 | #DIV/0! | 0.8747 | 0.0000 | 0.0000 |
| MODE | 8 | 2 1/4 | #N/A | 18.0000 | 0.0000 | 0.0000 |

TABLE 24

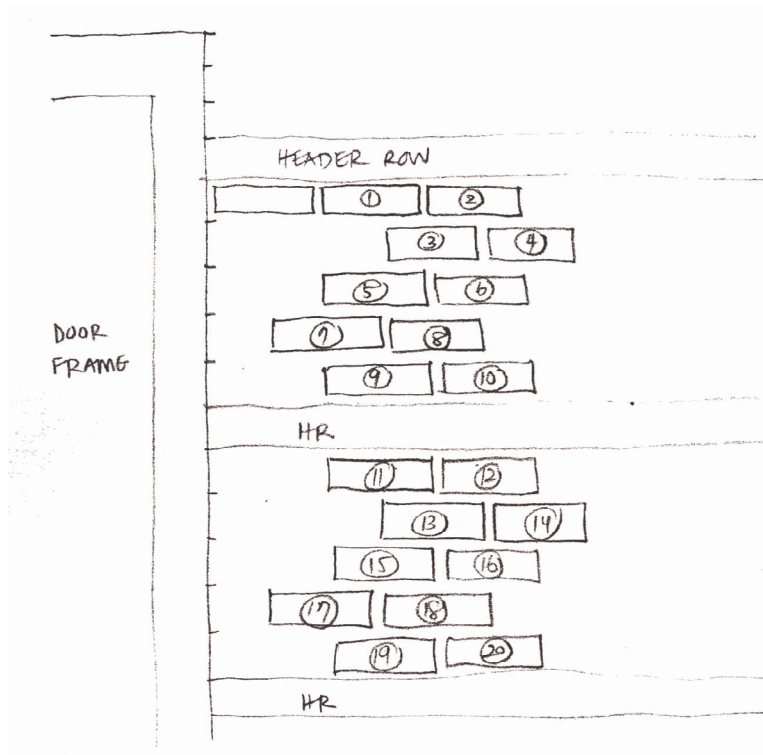


FIGURE 62

Main House West 9

BOND 5-course Common
FINISH Painted
DATE April 18, 2018 [Measure 24]
NOTES Wall right of fourth window from left [North].
Documentary evidence suggests that this Southwest quadrant of the Main House is part of an 1843 building campaign, when the existing “shed addition” [Northwest quadrant] was expanded to two stories with a 1.5-shed addition beside to complete a rectangular footprint. Due to overlapping constructions, this wall predates the lean-to addition (pre-1870s) but not necessarily the Short Range (1848–1849).



FIGURE 63

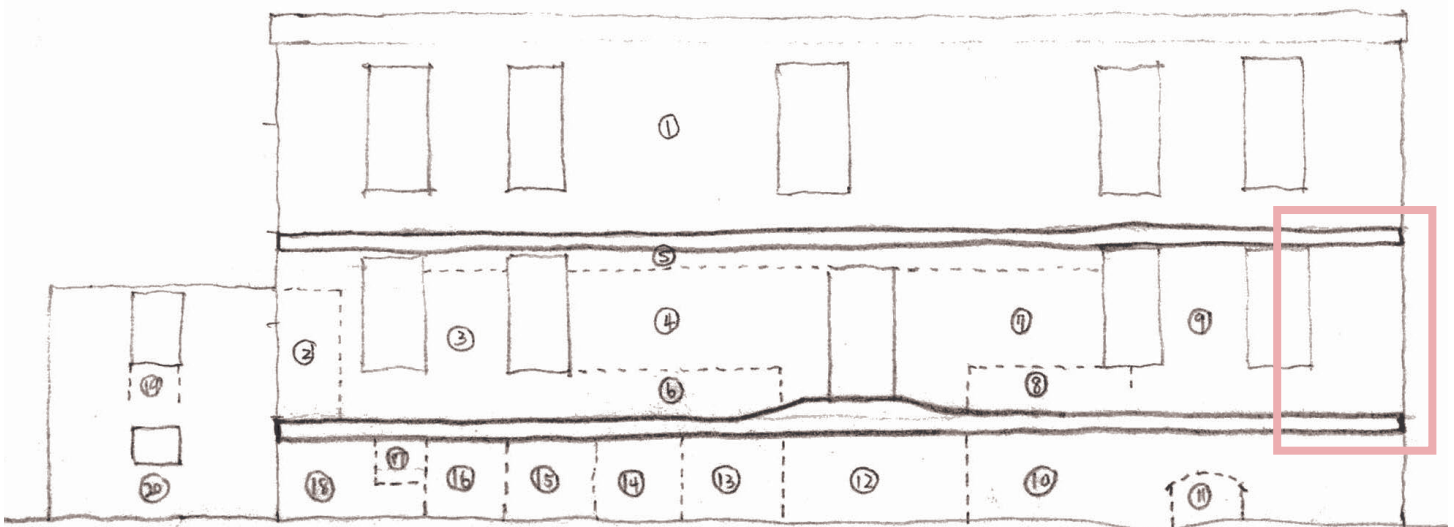


FIGURE 64

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 18 | 7 3/4 | 2 | | 15.5 | 0 | 0 |
| 3 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 4 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 7 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 14 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 17 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 20 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 15 | 8 | 2 | | 16 | 0 | 0 |
| 2 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 5 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 6 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 8 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 12 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 13 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 16 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 19 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 10 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 1 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 9 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 11 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| AVERAGE | 7.9500 | 2.2375 | #DIV/o! | 17.7906 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.1740 | 0.0985 | #DIV/o! | 0.9240 | 0.0000 | 0.0000 |
| MODE | 8 | 2 1/4 | #N/A | 18.0000 | 0.0000 | 0.0000 |

TABLE 25

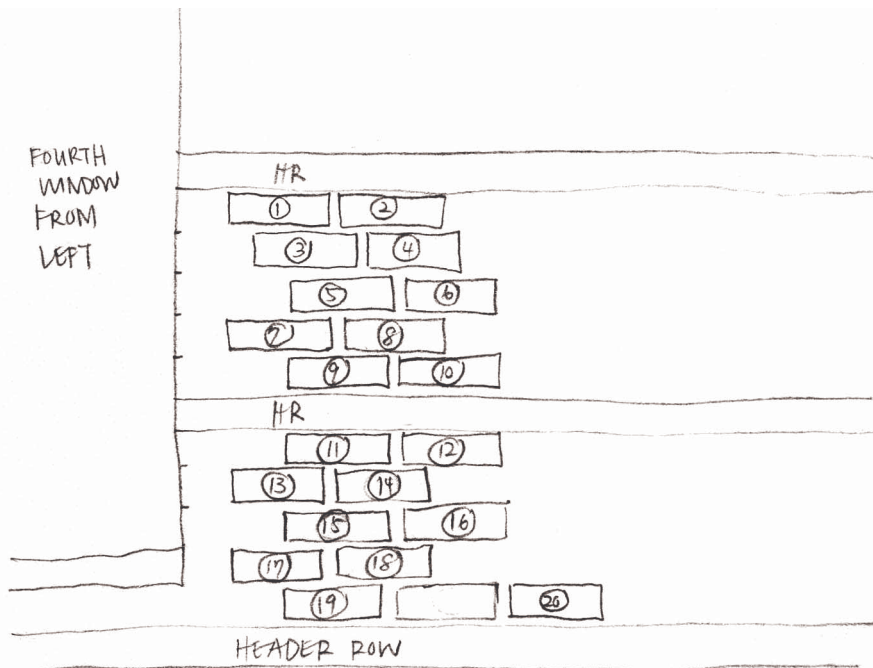


FIGURE 65

Main House South 1

BOND Uneven Common
FINISH Painted
DATE April 19, 2018 [Measure 30]
NOTES Documentary evidence suggests that this Southwest quadrant of the Main House is part of an 1843 building campaign, when the existing “shed addition” [Northwest quadrant] was expanded to two stories with a 1.5-shed addition beside to complete a rectangular footprint. Due to overlapping constructions, this wall predates the lean-to addition (pre-1870s) but not necessarily the Short Range (1848–1849).

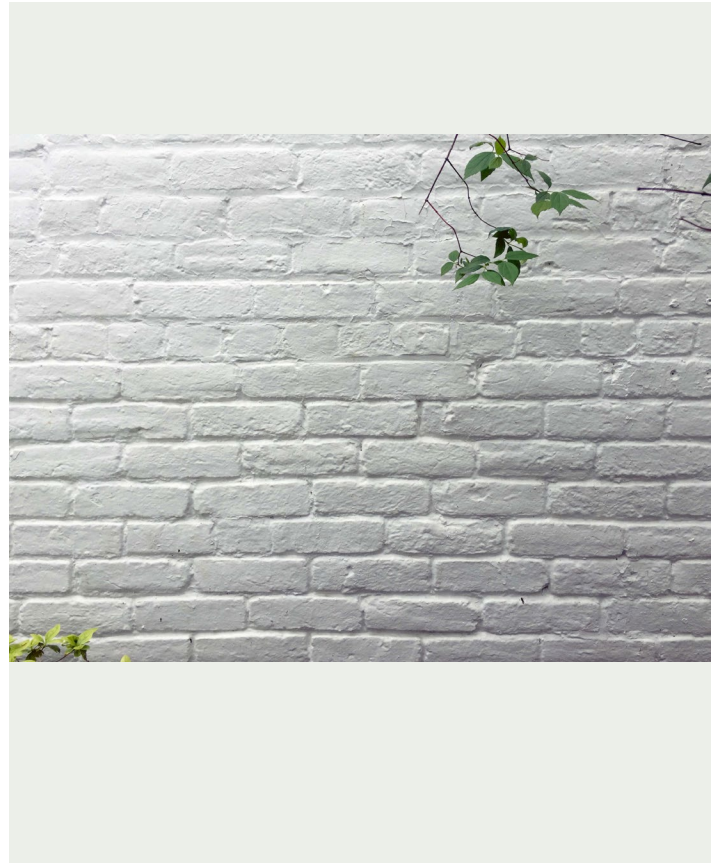


FIGURE 66

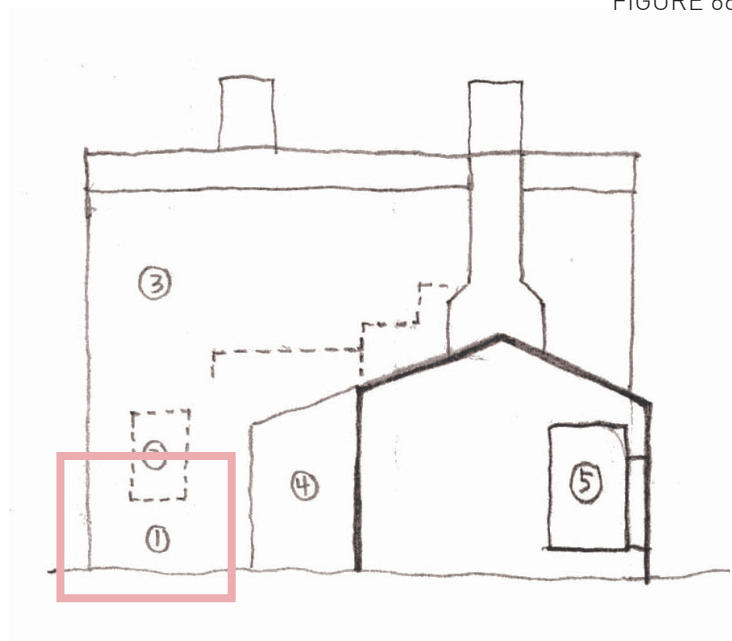


FIGURE 67

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sqi] | SURFACE AREA (HEADER) [sqi] | SURFACE AREA (FACE) [sqi] |
|---------------------------|-------------|-------------|------------|--------------------------------|-----------------------------|---------------------------|
| 6 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 7 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 9 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 8 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 11 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 12 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 13 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 17 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 18 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 19 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 20 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 1 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 2 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 3 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 4 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 5 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 10 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 14 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 15 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 16 | 8 | 2 1/4 | | 18 | 0 | 0 |
| AVERAGE | 7.8250 | 2.2500 | #DIV/0! | 17.6063 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.1832 | 0.0000 | #DIV/0! | 0.4121 | 0.0000 | 0.0000 |
| MODE | 8 | 2 1/4 | #N/A | 18.0000 | 0.0000 | 0.0000 |

TABLE 26

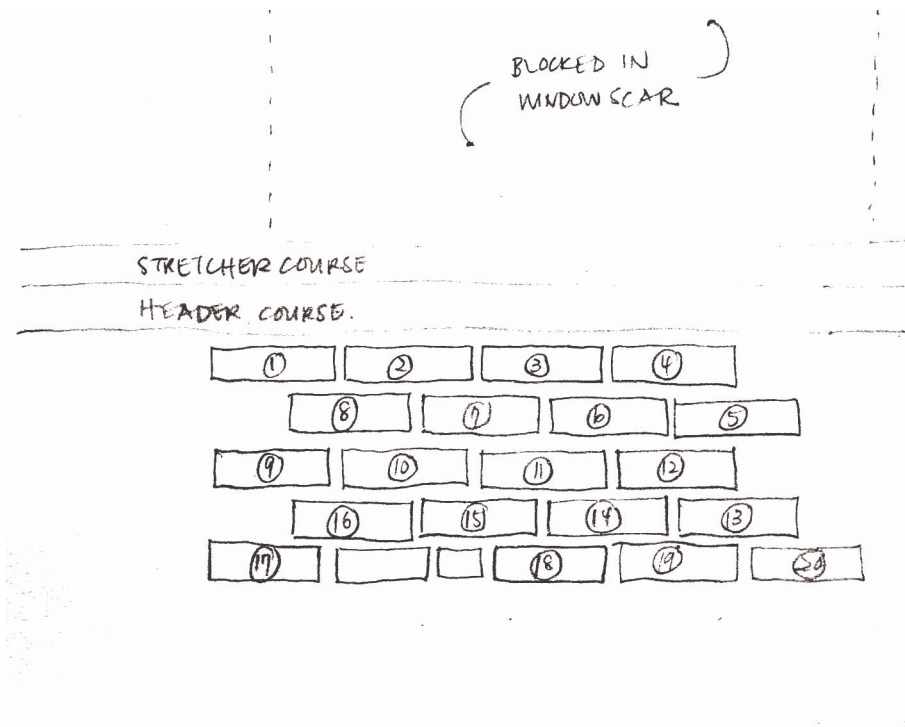


FIGURE 68

Main House Upper Floor, SW Hearth

BOND Running
FINISH Rubbed
DATE April 12, 2018 [Measure 16]
NOTES Currently Girl's room.
Documentary evidence dates the completed two-story rear of the house to after 1866, when Proctor Venable requested funds to pursue such construction. The firebox is currently bricked in, and there is a marked change in brick appearance between the inner hearth and the outer hearth. Possibly, the firebox and inner hearth are constructed simultaneously, at a later period to the outer hearth.



FIGURE 69

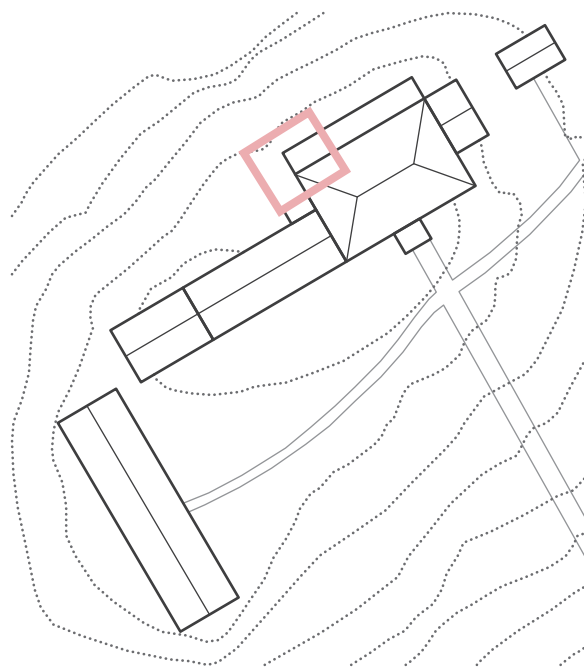


FIGURE 70

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 3 | 8 | | 3 1/2 | 0 | 0 | 28 |
| 5 | 8 | | 3 1/2 | 0 | 0 | 28 |
| 14 | 8 | | 3 1/2 | 0 | 0 | 28 |
| 15 | 8 | | 3 1/2 | 0 | 0 | 28 |
| 1 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 4 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 7 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 13 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 18 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 19 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 20 | 8 | | 3 3/4 | 0 | 0 | 30 |
| 17 | 8 1/4 | | 3 1/2 | 0 | 0 | 28.875 |
| 2 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 6 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 8 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 9 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 10 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 11 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 12 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| 16 | 8 1/4 | | 3 3/4 | 0 | 0 | 30.9375 |
| AVERAGE | 8.1125 | #DIV/o! | 3.6875 | 0.0000 | 0.0000 | 29.9188 |
| STANDARD DEVIATION | 0.1276 | #DIV/o! | 0.1111 | 0.0000 | 0.0000 | 1.1278 |
| MODE | 8 | #N/A | 3 3/4 | 0.0000 | 0.0000 | 30.9375 |

TABLE 27

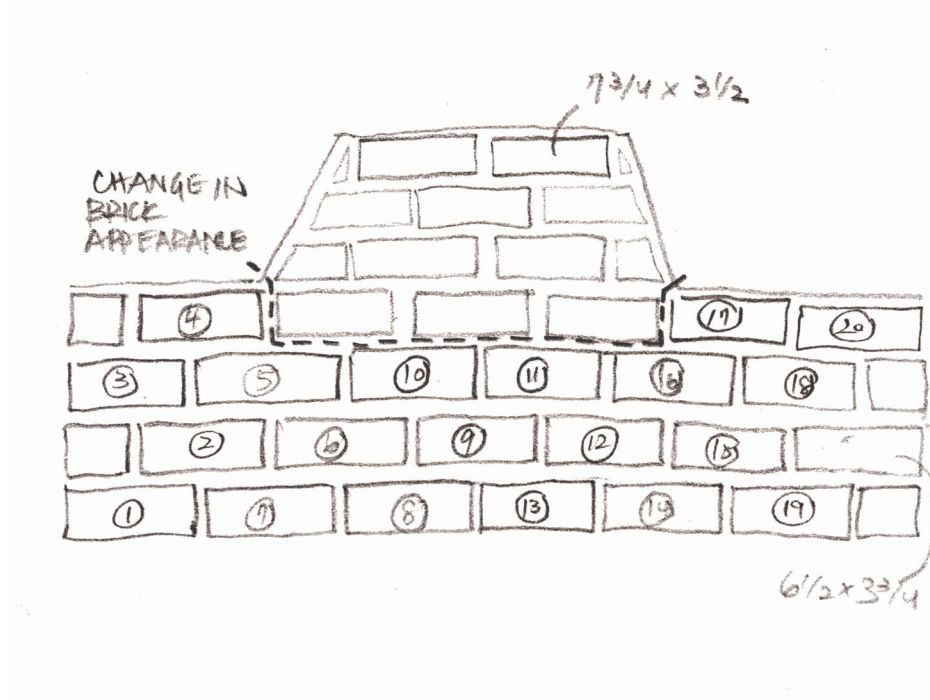


FIGURE 71

Main House West Pier

BOND Running
FINISH Painted
DATE April 6, 2018 [Measure 11]
NOTES Second porch pier from left [North].
Proctor Thomas Price requested funds for constructing front and rear porches in 1877, following up with another request in 1879. 1896 Sanborn map shows a rear porch of some kind, which disappears in the 1907 map and is not drawn again in any later editions.



FIGURE 72

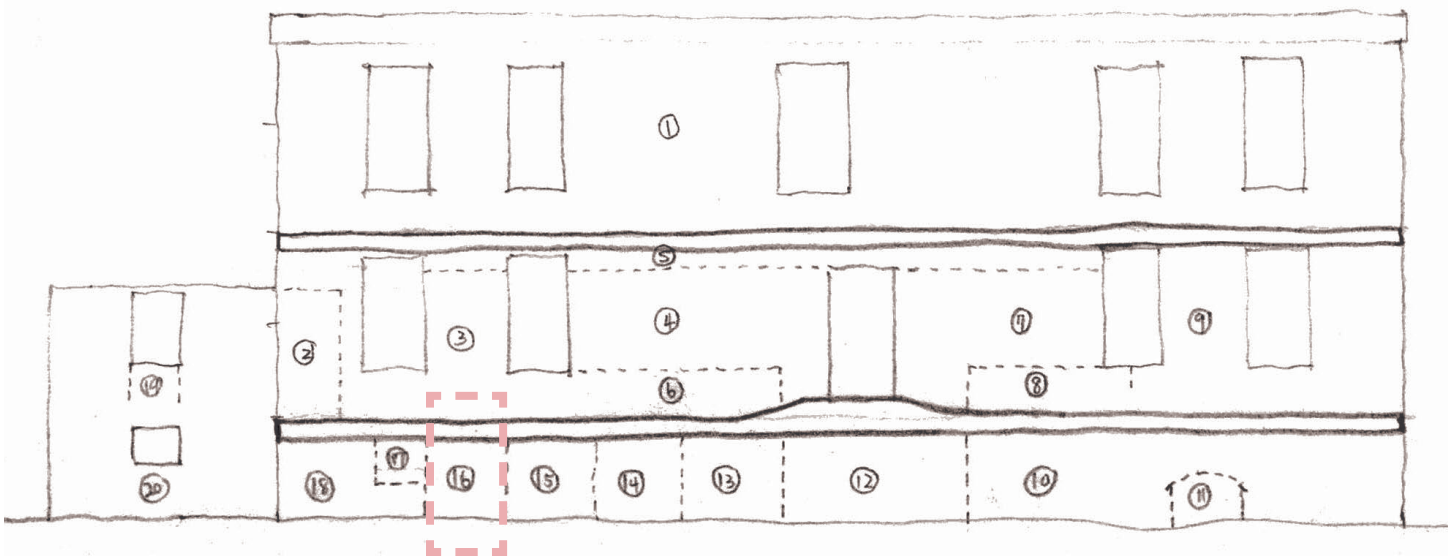


FIGURE 73

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 18 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 2 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 4 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 5 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 6 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 7 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 8 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 11 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 13 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 14 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 15 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 16 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 17 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 1 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 9 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 10 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 12 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 19 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 20 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 3 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| AVERAGE | 7.8375 | 2.5000 | #DIV/0! | 19.5938 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.1677 | 0.0000 | #DIV/0! | 0.4193 | 0.0000 | 0.0000 |
| MODE | 7 3/4 | 2 1/2 | #N/A | 19.3750 | 0.0000 | 0.0000 |

TABLE 28

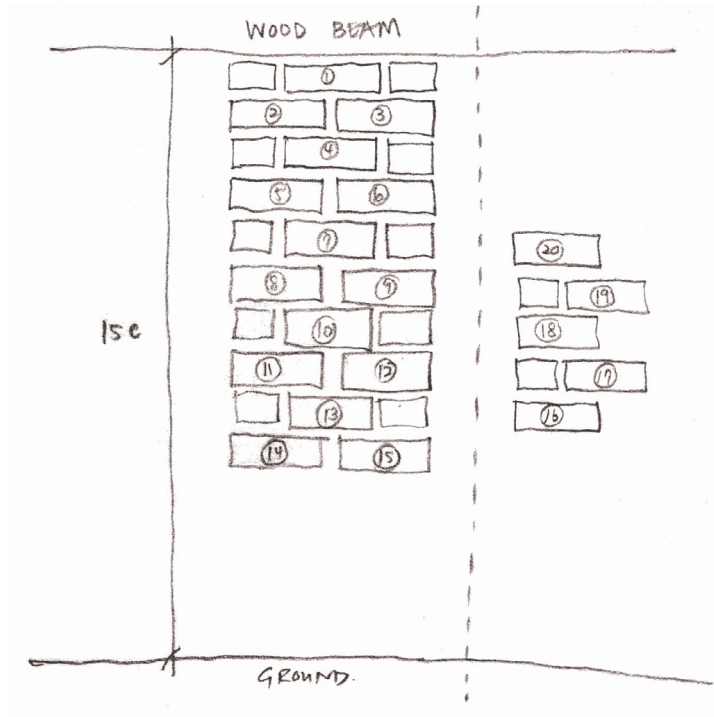


FIGURE 74

Long Range South 1

BOND 5-course Common
FINISH Painted
DATE April 6, 2018 [Measure 12]
NOTES Wall between first and second windows from left [West].
Both Ranges date to 1848–1849, from documentary evidence of payment to George W. Spooner for construction of state student dormitories between July 1848 and January 1849.



FIGURE 75

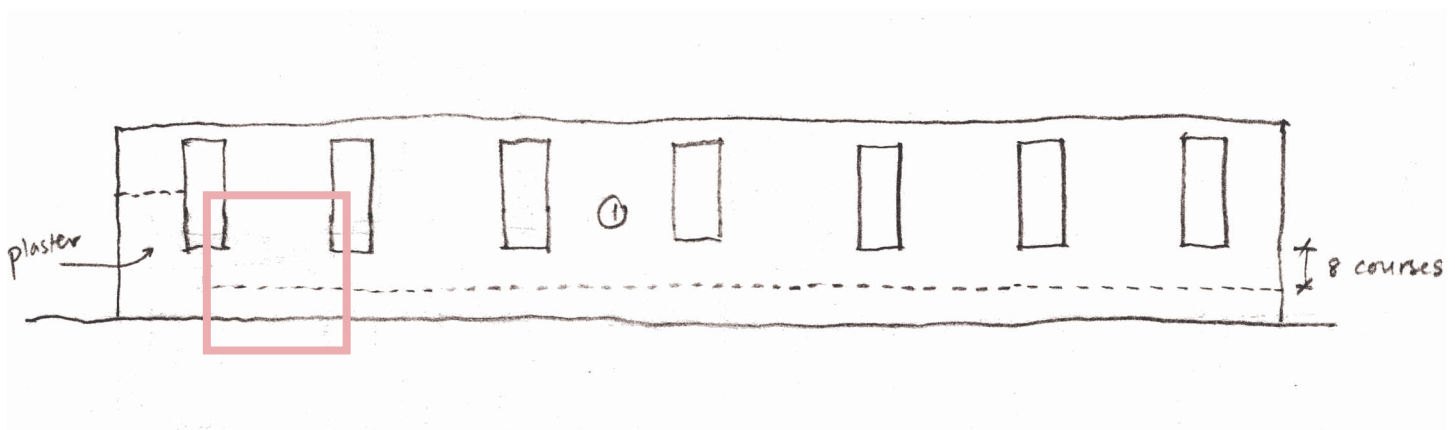


FIGURE 76

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sqi] | SURFACE AREA (HEADER) [sqi] | SURFACE AREA (FACE) [sqi] |
|---------------------------|-------------|-------------|------------|--------------------------------|-----------------------------|---------------------------|
| 12 | 7 1/4 | 2 1/4 | | 16.3125 | 0 | 0 |
| 2 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 1 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 3 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 11 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 14 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 15 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 16 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 17 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 18 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 19 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 4 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 6 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 8 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 20 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 5 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 7 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 10 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 9 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 13 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| AVERAGE | 7.8500 | 2.3125 | #DIV/o! | 18.1688 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.2351 | 0.1111 | #DIV/o! | 1.3013 | 0.0000 | 0.0000 |
| MODE | 7 3/4 | 2 1/4 | #N/A | 17.4375 | 0.0000 | 0.0000 |

TABLE 29

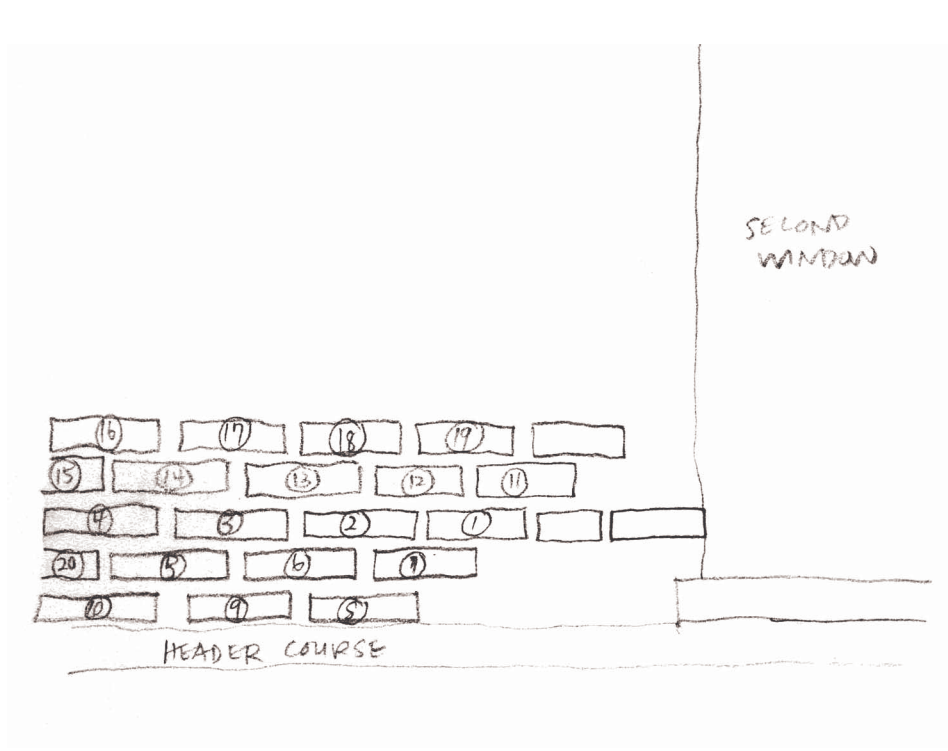


FIGURE 77

Short Range West 1

BOND 5-course Common
FINISH Painted
DATE April 6, 2018 [Measure 10]
NOTES Both Ranges date to 1848–1849, from documentary evidence of payment to George W. Spooner for construction of state student dormitories between July 1848 and January 1849.



FIGURE 78

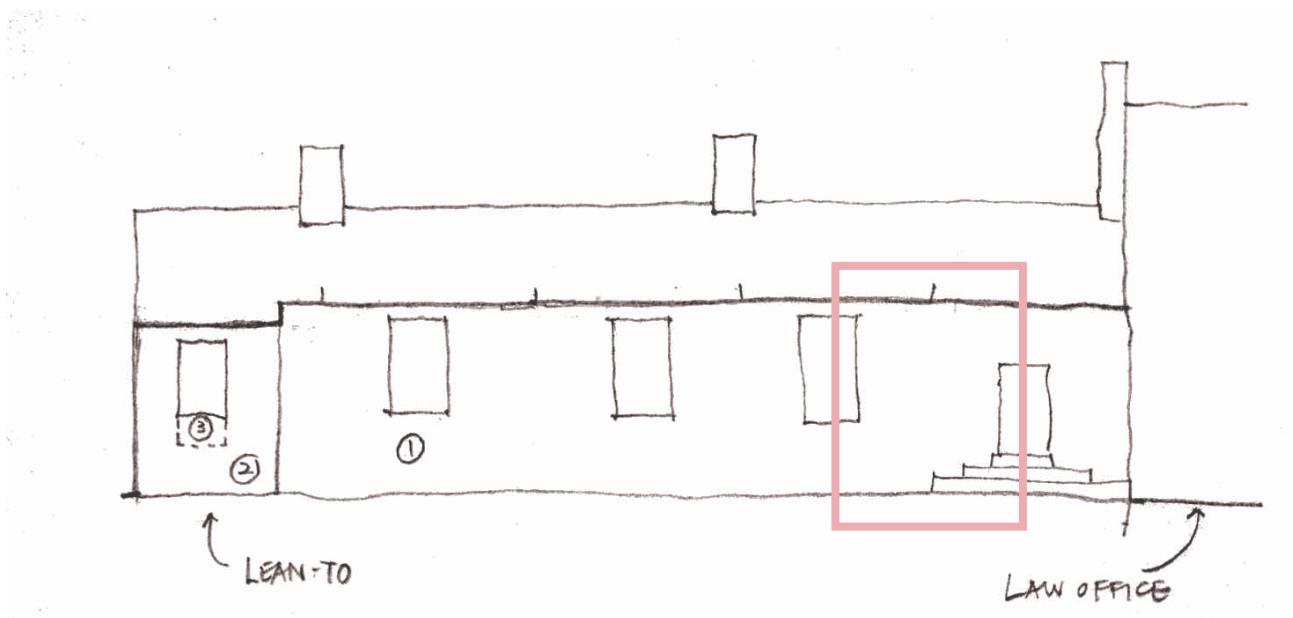


FIGURE 79

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 16 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 20 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 1 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 4 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 7 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 8 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 11 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 12 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 14 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 18 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 19 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 15 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 2 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 3 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 5 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 6 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 9 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 10 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 13 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 17 | 8 | 2 1/4 | | 18 | 0 | 0 |
| AVERAGE | 7.8250 | 2.2625 | #DIV/0! | 17.7031 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.1642 | 0.0559 | #DIV/0! | 0.5384 | 0.0000 | 0.0000 |
| MODE | 7 3/4 | 2 1/4 | #N/A | 17.4375 | 0.0000 | 0.0000 |

TABLE 30

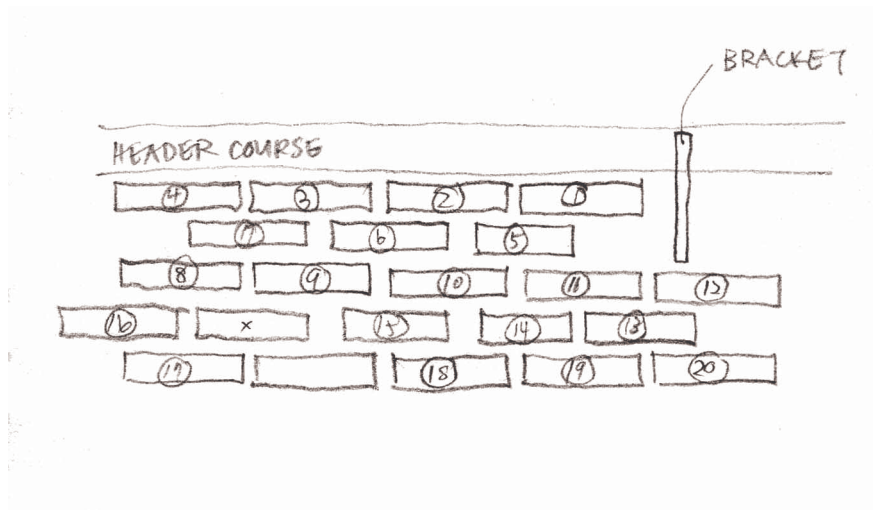


FIGURE 80

Short Range South 4

BOND 5-course Common
FINISH Painted
DATE April 6, 2018 [Measure 9]
NOTES Lean-to addition on West side of the Short Range.
Available maps show this addition from the 1870s [Anonymous map of the Academical Village ca. 1872–1876]. The addition is shown continuous with the Short Range rooms in the following map dates: 1872–1876, 1896, 1902, 1909. The addition is shown continuous with the Main House during: 1895, 1907, 1913, 1920, 1929. Currently, the addition is shown continuous with the Range rooms.



FIGURE 81

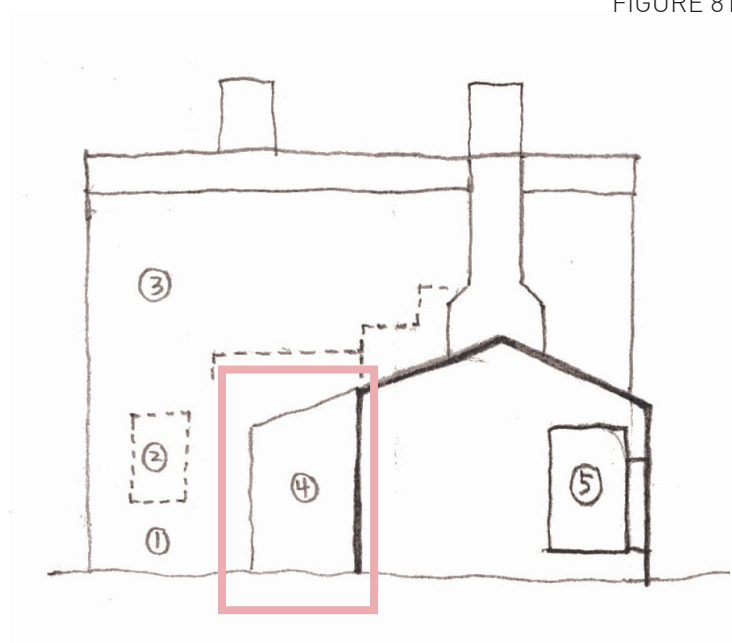


FIGURE 82

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 1 | 7 1/4 | 2 1/4 | | 16.3125 | 0 | 0 |
| 2 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 18 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 4 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 7 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 8 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 9 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 20 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 3 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 5 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 6 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 10 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 11 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 12 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 14 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 15 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 16 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 19 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 13 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 17 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| AVERAGE | 7.8750 | 2.2500 | #DIV/o! | 17.7188 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.2500 | 0.0000 | #DIV/o! | 0.5625 | 0.0000 | 0.0000 |
| MODE | 8 | 2 1/4 | #N/A | 18.0000 | 0.0000 | 0.0000 |

TABLE 31

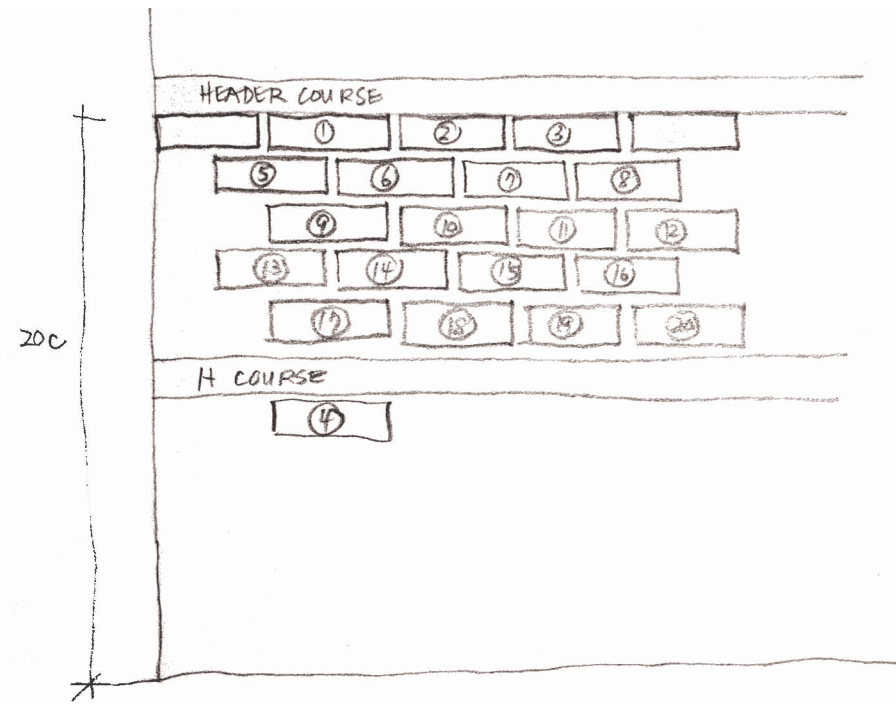


FIGURE 83

Kitchen East 1

BOND Running
FINISH Painted
DATE April 5, 2018 [Measure 5]
NOTES Sanborn maps show a structure in the current location of the kitchen as early as 1896. Other documentary evidence indicates that an 1881 building campaign may be associated with this structure. The fairly consistent Running Bond is disrupted several courses below the upper windows, possibly aligned with separate building campaigns between the upper and lower floors.



FIGURE 84

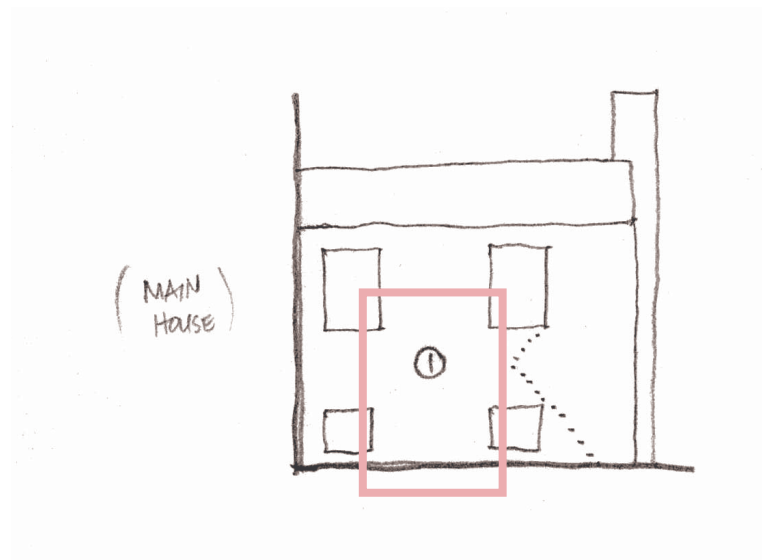


FIGURE 85

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 6 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 9 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 10 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 11 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 13 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 4 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 5 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 12 | 8 | 2 3/4 | | 22 | 0 | 0 |
| 14 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 16 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 17 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 1 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 7 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 8 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 2 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 3 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 15 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 18 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 19 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 20 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| AVERAGE | 8.1625 | 2.6250 | #DIV/0! | 21.4531 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.2955 | 0.1282 | #DIV/0! | 1.6999 | 0.0000 | 0.0000 |
| MODE | 8 1/4 | 2 1/2 | #N/A | 23.3750 | 0.0000 | 0.0000 |

TABLE 32

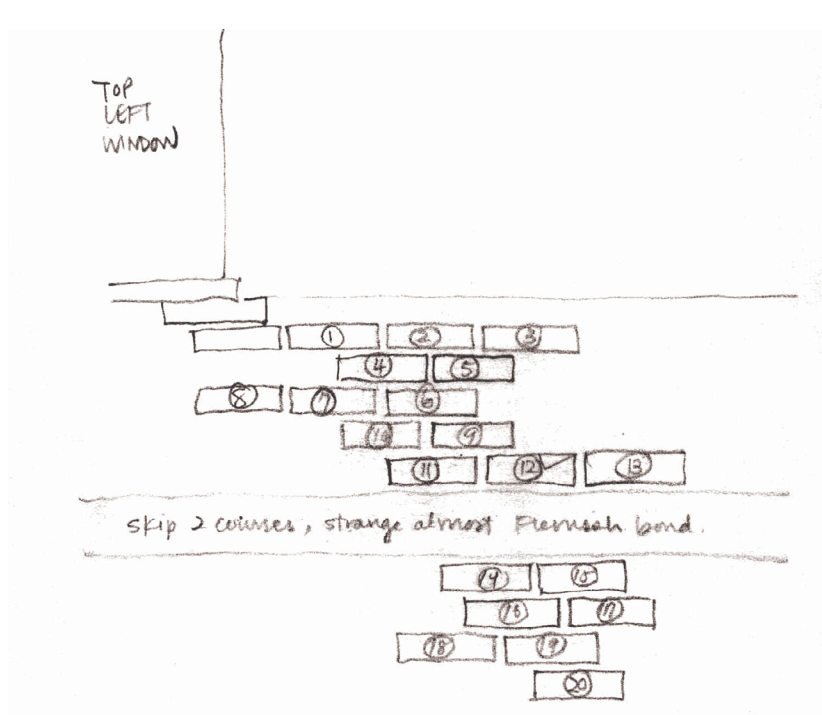


FIGURE 86

Kitchen North 1

BOND 6-course Common
FINISH Painted
DATE April 19, 2018 [Measure 31]
NOTES Sanborn maps show a structure in the current location of the kitchen as early as 1896. Other documentary evidence indicates that an 1881 building campaign may be associated with this structure.

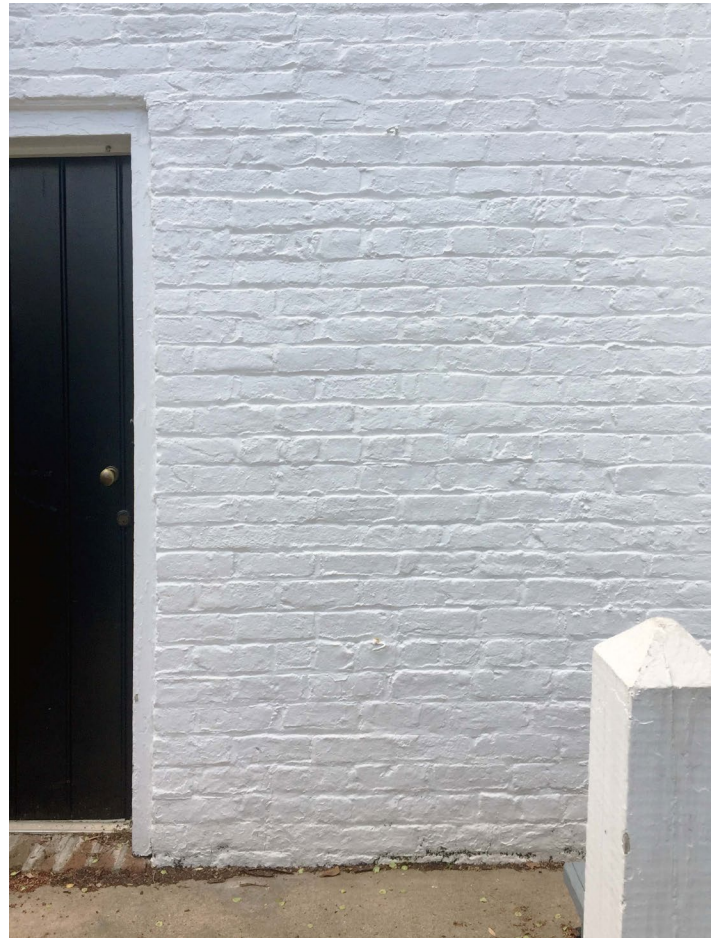


FIGURE 87

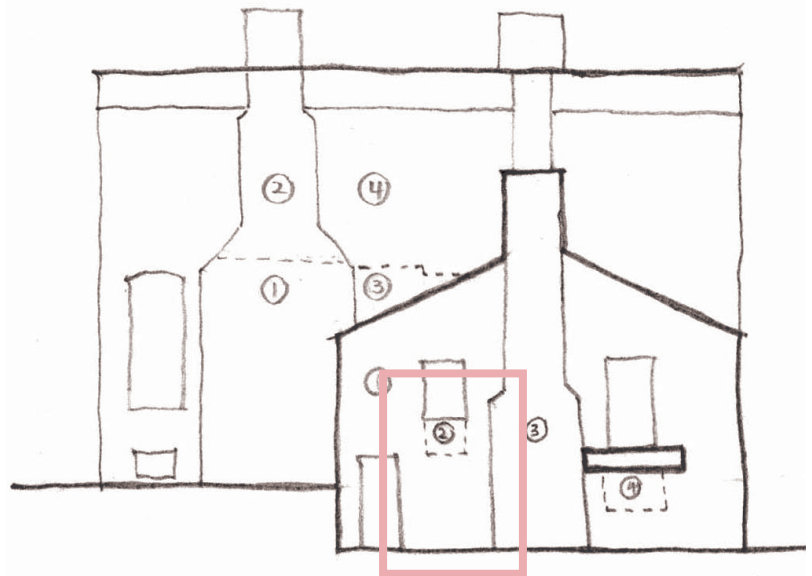


FIGURE 88

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 9 | 7 | 2 1/4 | | 15.75 | 0 | 0 |
| 7 | 7 1/4 | 2 1/4 | | 16.3125 | 0 | 0 |
| 3 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 8 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 10 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 17 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 18 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 14 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 15 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 19 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 20 | 7 1/2 | 2 1/2 | | 18.75 | 0 | 0 |
| 4 | 7 3/4 | 2 | | 15.5 | 0 | 0 |
| 11 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 12 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 5 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 6 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 2 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 16 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 1 | 8 1/4 | 2 | | 16.5 | 0 | 0 |
| 13 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| AVERAGE | 7.6500 | 2.3125 | #DIV/o! | 17.6813 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.3078 | 0.1597 | #DIV/o! | 1.2914 | 0.0000 | 0.0000 |
| MODE | 7 1/2 | 2 1/4 | #N/A | 16.8750 | 0.0000 | 0.0000 |

TABLE 33

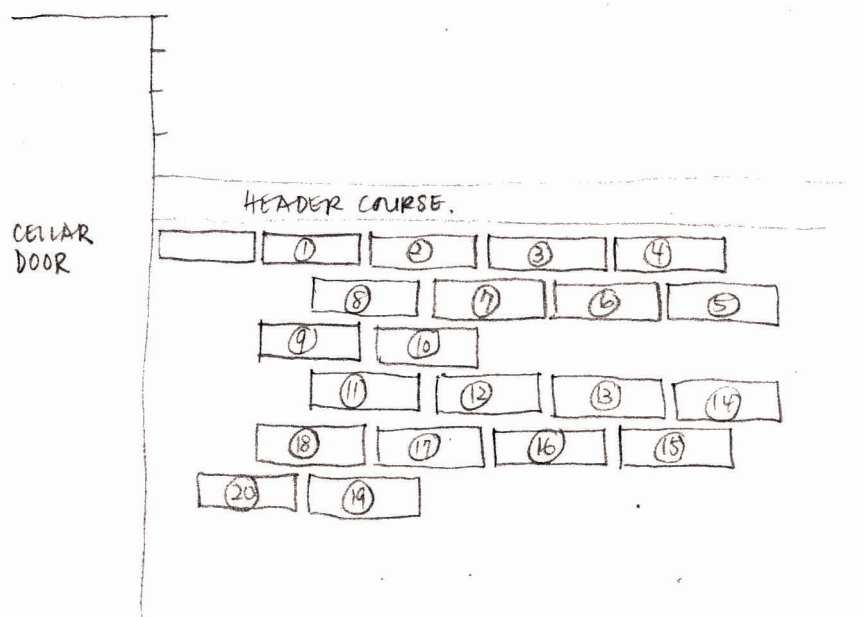


FIGURE 89

Kitchen North 3

BOND Uneven Common
FINISH Painted
DATE April 5, 2018 [Measure 6]
NOTES Chimney base.
Sanborn maps show a structure in the current location of the kitchen as early as 1896.
Other documentary evidence indicates that an 1881 building campaign may be associated with this structure.



FIGURE 90

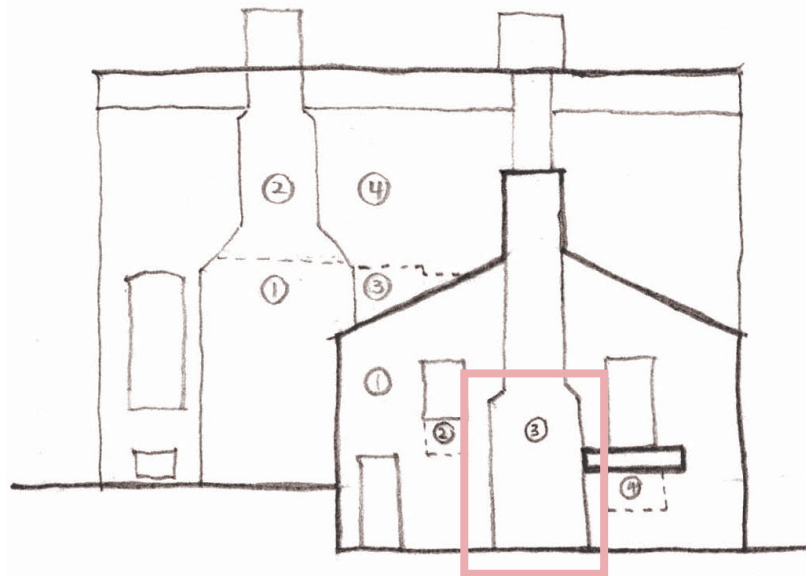


FIGURE 91

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 20 | 7 1/2 | 2 3/4 | | 20.625 | 0 | 0 |
| 1 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 5 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 8 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 9 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 10 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 11 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 16 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 6 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 7 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 13 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 14 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 17 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 15 | 8 1/2 | 2 1/4 | | 19.125 | 0 | 0 |
| 4 | 8 1/2 | 2 1/2 | | 21.25 | 0 | 0 |
| 12 | 8 1/2 | 2 1/2 | | 21.25 | 0 | 0 |
| 18 | 8 1/2 | 2 1/2 | | 21.25 | 0 | 0 |
| 19 | 8 1/2 | 2 1/2 | | 21.25 | 0 | 0 |
| 2 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| 3 | 8 1/2 | 2 3/4 | | 23.375 | 0 | 0 |
| AVERAGE | 8.2875 | 2.4375 | #DIV/0! | 20.2000 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.2333 | 0.1791 | #DIV/0! | 1.5851 | 0.0000 | 0.0000 |
| MODE | 8 1/4 | 2 1/2 | #N/A | 20.6250 | 0.0000 | 0.0000 |

TABLE 34

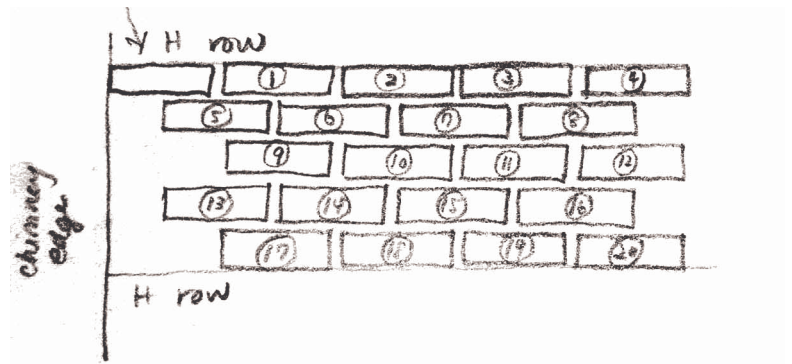
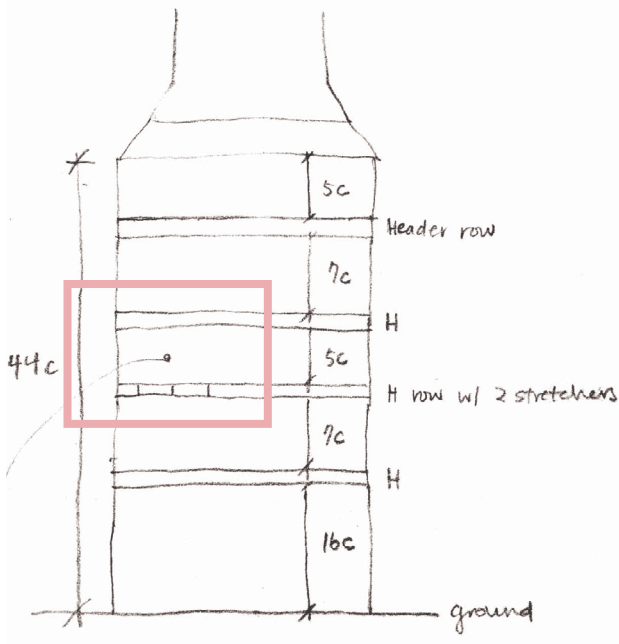


FIGURE 92

Kitchen West

BOND Uneven Common
FINISH Painted
DATE April 19, 2018 [Measure 32]
NOTES Labeled on sketch as “Main House West 20.”

Sanborn maps show a structure in the current location of the kitchen as early as 1896.

Other documentary evidence indicates that an 1881 building campaign may be associated with this structure.

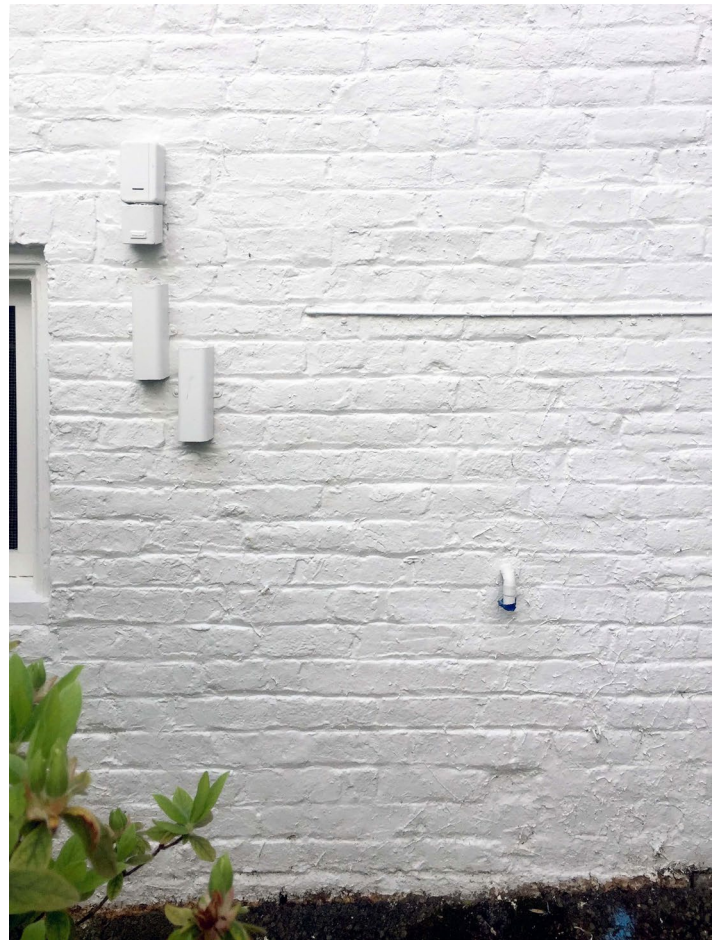


FIGURE 93

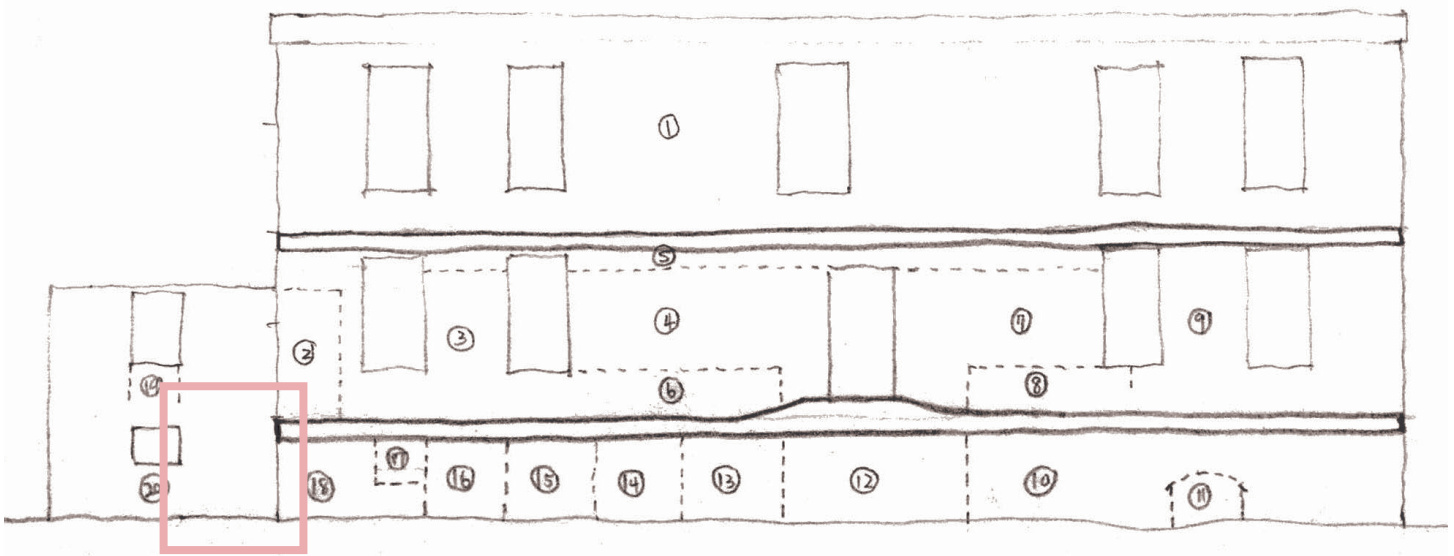


FIGURE 94

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [sq] | SURFACE AREA (HEADER) [sq] | SURFACE AREA (FACE) [sq] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 6 | 7 1/2 | 2 1/4 | | 16.875 | 0 | 0 |
| 1 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 3 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 5 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 8 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 15 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 17 | 7 3/4 | 2 1/4 | | 17.4375 | 0 | 0 |
| 10 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 11 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 18 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 2 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 4 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 9 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 14 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 16 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 19 | 8 | 2 1/4 | | 18 | 0 | 0 |
| 7 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 20 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 13 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 12 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| AVERAGE | 7.8875 | 2.3250 | #DIV/o! | 18.3406 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.1898 | 0.1175 | #DIV/o! | 1.0692 | 0.0000 | 0.0000 |
| MODE | 7 3/4 | 2 1/4 | #N/A | 17.4375 | 0.0000 | 0.0000 |

TABLE 35

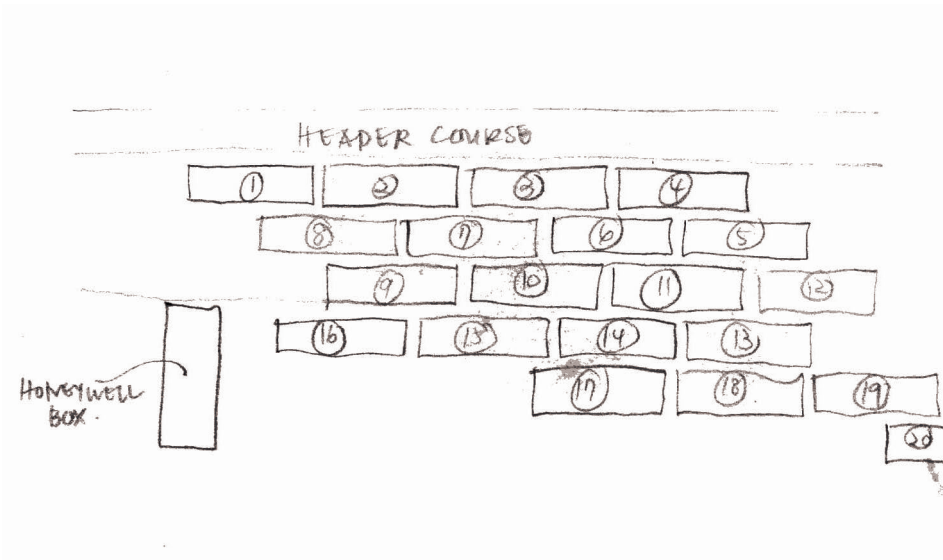


FIGURE 95

Garage South

BOND 5-course Common
FINISH Painted
DATE April 5, 2018 [Measure 7]
NOTES Documentary evidence of 1929 Sanborn map shows a single-story structure, marked "A" possibly for "automobile;" however the footprint is more square compared to the existing rectangular garage.

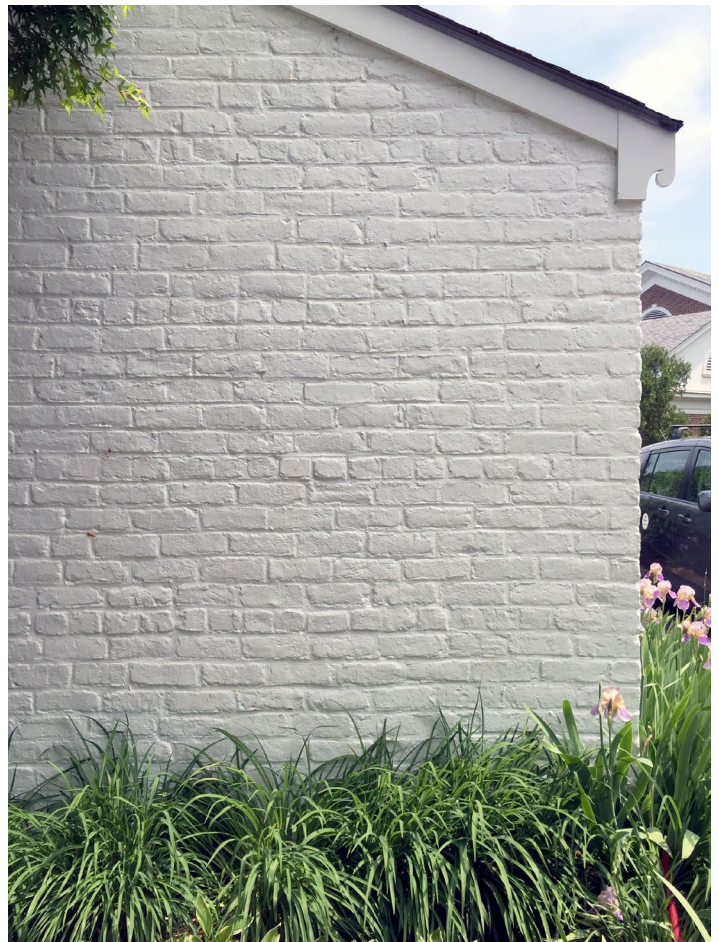


FIGURE 96

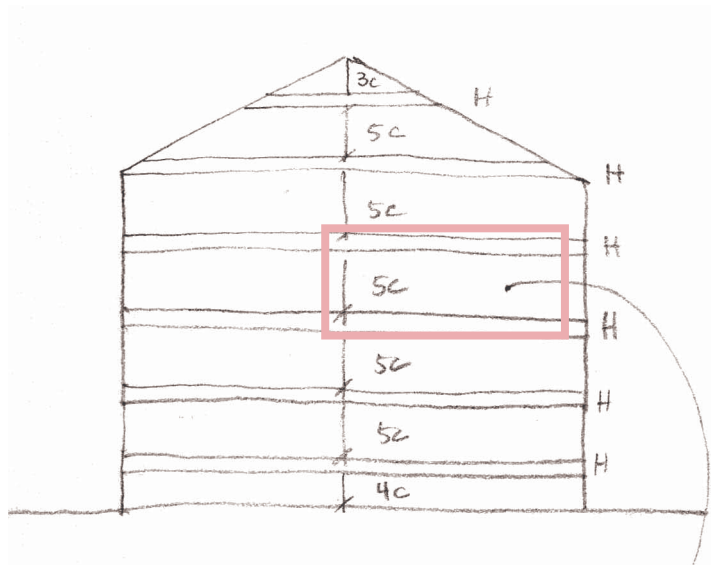


FIGURE 97

| BRICK | LENGTH [in] | HEIGHT [in] | WIDTH [in] | SURFACE AREA (STRETCHER) [si] | SURFACE AREA (HEADER) [si] | SURFACE AREA (FACE) [si] |
|---------------------------|-------------|-------------|------------|-------------------------------|----------------------------|--------------------------|
| 9 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 11 | 7 3/4 | 2 1/2 | | 19.375 | 0 | 0 |
| 2 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 3 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 6 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 7 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 10 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 18 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 20 | 8 | 2 1/2 | | 20 | 0 | 0 |
| 13 | 8 1/4 | 2 1/4 | | 18.5625 | 0 | 0 |
| 1 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 5 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 8 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 15 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 19 | 8 1/4 | 2 1/2 | | 20.625 | 0 | 0 |
| 16 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 17 | 8 1/4 | 2 3/4 | | 22.6875 | 0 | 0 |
| 12 | 8 1/2 | 2 1/2 | | 21.25 | 0 | 0 |
| 14 | 8 1/2 | 2 1/2 | | 21.25 | 0 | 0 |
| 4 | 8 3/4 | 2 1/2 | | 21.875 | 0 | 0 |
| AVERAGE | 8.1625 | 2.5125 | #DIV/o! | 20.5094 | 0.0000 | 0.0000 |
| STANDARD DEVIATION | 0.2470 | 0.0985 | #DIV/o! | 1.0437 | 0.0000 | 0.0000 |
| MODE | 8 1/4 | 2 1/2 | #N/A | 20.0000 | 0.0000 | 0.0000 |

TABLE 36

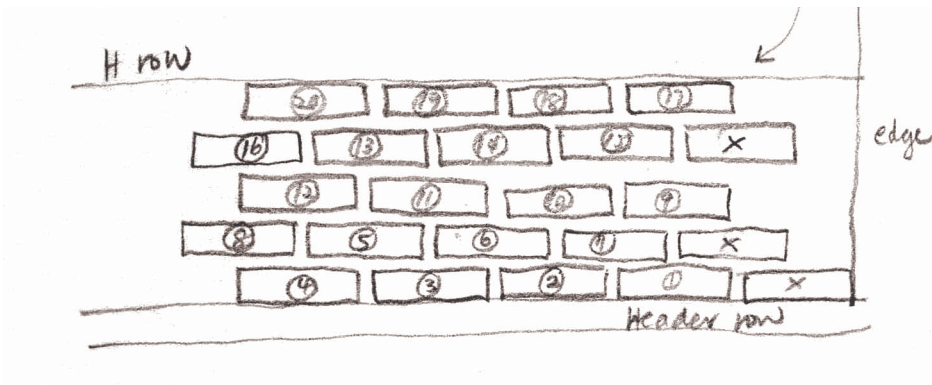


FIGURE 98

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MONROE HILL BRICK ANALYSIS 2018