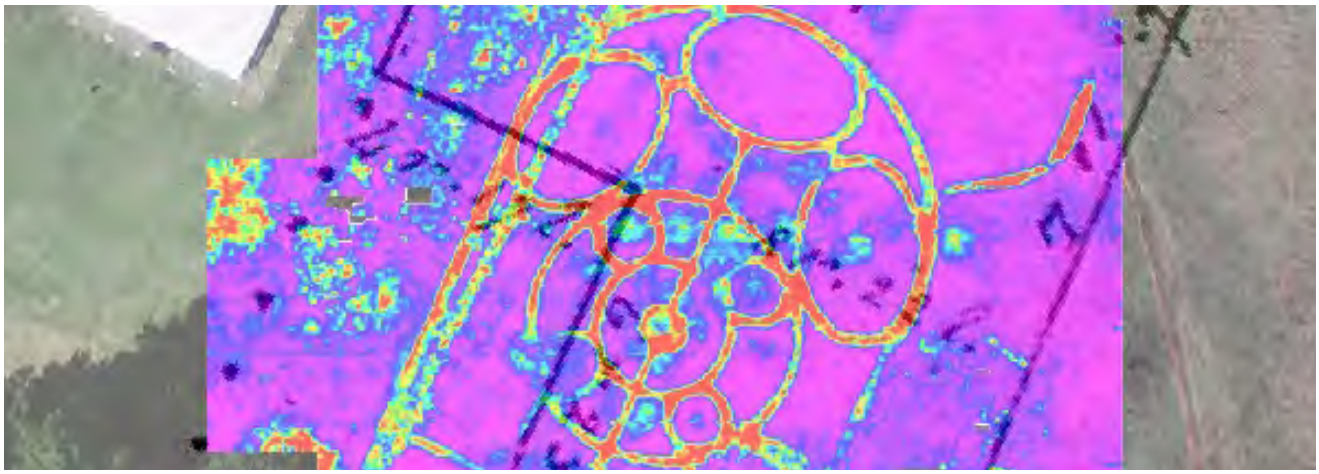
The Formal Garden and Fruit Wall
2019, 2021, and 2022 Field Seasons
Gore Place, Waltham, MA



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Cultural Resource Management Study No. 94

May 2025

Abstract

The Fiske Center for Archaeological Research at UMass Boston engaged in a multi-season examination of the formal landscape north of the mansion house at Gore Place in Waltham and Watertown, Massachusetts. The archeological work consisted of a geophysical survey of the whole area in the fall of 2019 and excavation in the summer of 2021 and 2022 focusing on the southeast corner of the formal garden and the eastern wing of the fruit wall. Excavation units covered just over 63 sq m. The excavations identified large areas where Gore period features were preserved.

In the southeast corner most units were covered with preserved features from the Gore period (ca. 1800-1830). These features, at 30 cm (<12 inches) below the surface, are mostly thin soil stains, representing locations where individual plants, plant beds, or posts were dug through the enriched topsoil and into the underlying subsoil. The rows of plants run on a consistent NW to SE orientation, in multiple rows with different sized plants. Along the south edge of the excavation area are long, linear soil stains that are remains of the garden border; these appear at two stratigraphic levels and two different orientations indicating changes in the layout of the garden. Outside of the area that was planted, remains of trenches dug to turn and prepare the soil are visible. Since most of these features are clear and well defined, this seems to represent a single, planned planting of an ornamental perennial garden with a border, possibly of hedges, and rows of small and large plants. These plantings cover an extensive area, extending at least 7 m (23 ft) from the southern boundary, indicating the scale of the Gores' formal landscape.

We also excavated units at the eastern and western edges of the enclosure. The unit near the eastern edge did not locate any features, but the units on the western edge located the apparent western edge of plantings. Although the features in this area are a little less clear, they seem to follow the same orientation as those in the southeast corner.

Two trenches investigated the eastern wing of the fruit wall and grapery. Deposits in this area are preserved beginning at 45 cm (18 inches) below the surface. At the point at which we crossed it, 12 courses of brick are preserved as part of the fruit wall. These would have sat below the Gore era surface, supporting a tall wall above grade. There are specialized deposits on both sides of the eastern wing of the fruit wall: a large, charcoal rich, compost pit on the north (back) side and a prepared planting bed on the south side, possibly for growing grapes.

The final section of the report assembles information about other period gardens in the region and also studies Gore's composting and soil enrichment practices. This report covers all seasons of work on the formal garden and supersedes the interim report on the 2021 season. While the technical descriptions in the interim report are still correct, the interpretation of the features has changed in some cases.

Acknowledgements

First and foremost, we thank the Gore Place Society for supporting this work and for their stewardship of the property which has enabled the preservation of the archaeological record. This work was initiated under Susan Robertson, the former Executive Director, and completed under Gavin Kleespies. Scott Clarke also contributed significantly to this project.

All archaeological projects are supported by many people. We would also like to acknowledge the UMass Boston staff and students who contributed to the project over the years including John Schoenfelder (survey and overhead photography), Brian Damiata (UCLA, geophysics), Melody Henkel (photography), Trace Podder and Joe Aramini (GIS), and Cyrus Marion, Cal Mikowski, and Katie Lincoln (laboratory work and digitization). The fieldwork for this project required a very high level of technical skill, under demanding conditions, so special recognition goes to the geophysical survey crew (Justin Malcolm, Kaitlyn Ball, Linda Seminario, and Nicholas Densley) and the field crews (Linda Seminario, David Spidaliere, Claire Norton, Mikayla Roderick, Alex Patterson, Naomh Fairweather, Kiara Montes, Cal Mikowski, Lauren Schumacher, Lissa Herzing, and Kyett Salamone).

Many thanks to the 2021 and 2022 field crews and the 2019 geophysical survey crew (not pictured).

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Chapter 1: Historical and Archaeological Background

Introduction

The Fiske Center for Archaeological Research at UMass Boston engaged in a multi-season examination of the formal landscape north of the mansion house at Gore Place in Waltham and Watertown, Massachusetts. The archaeological work is necessary to understand the use and layout of this part of the property because none of the documentary material indicates how the area between the house and the fruit wall was laid out and used during the Gore period (1786-1834), with the exception of a single, retrospective (1881) mention of a flower garden in this location and an outline on Theodore Lyman Jr's map (1834-1838).

The archeological work consisted of geophysical survey in the fall of 2019 and excavation in the summer of 2021 and 2022. Excavations in the summer of 2021 focused on two areas of the formal landscape north of the mansion house (Figs. 1.1, 1.2): the southeast corner of the enclosure depicted on the Lyman map (which we presumed to be the southeast corner of a formal garden) and the eastern wing of the fruit wall. In 2022, we expanded the excavations in the southeast corner of the enclosure and tested other locations along the enclosure's east and west edges. The excavations were very successful and identified large areas where Gore period features were preserved. Once we found areas with intact features, we concentrat-

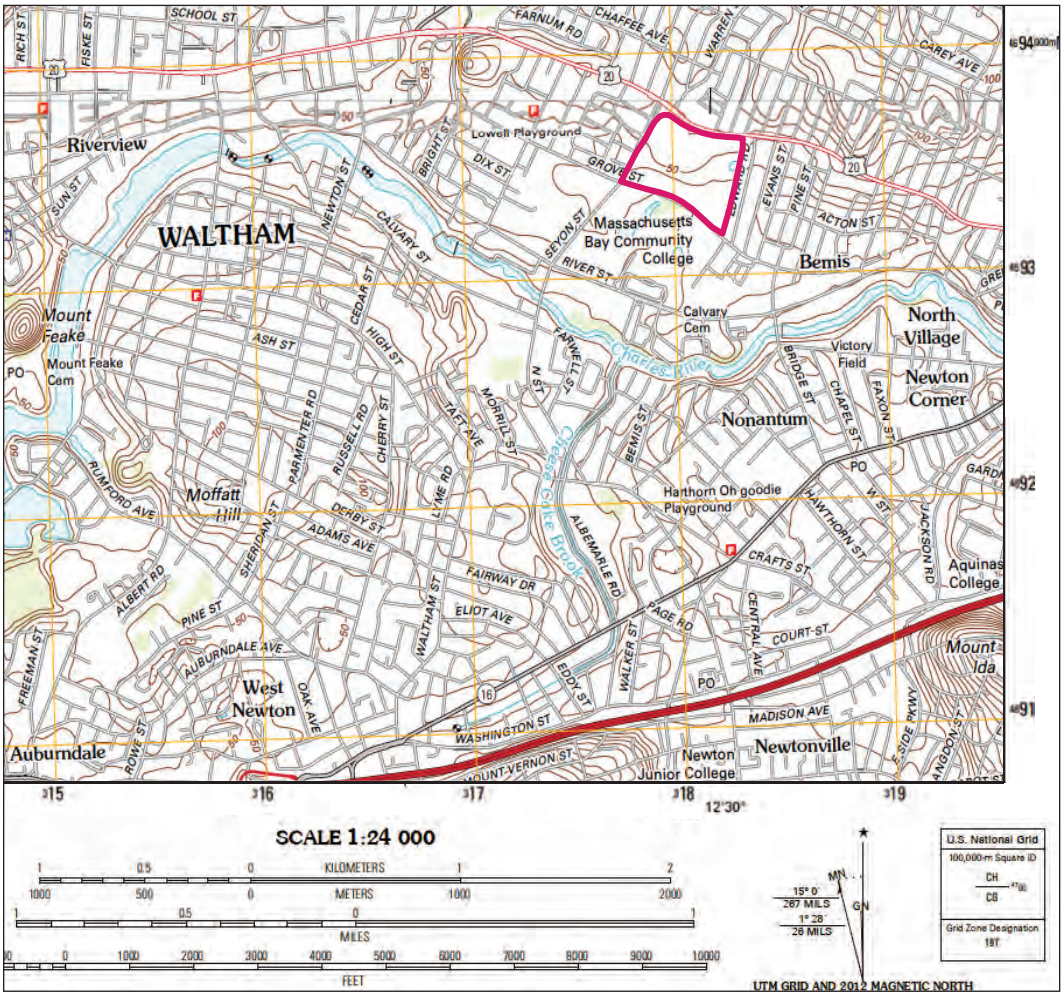


Figure 1.1. USGS map of Waltham and Watertown, Massachusetts, showing the location of the Gore Place property bounded by Main, Gore, and Grove streets.

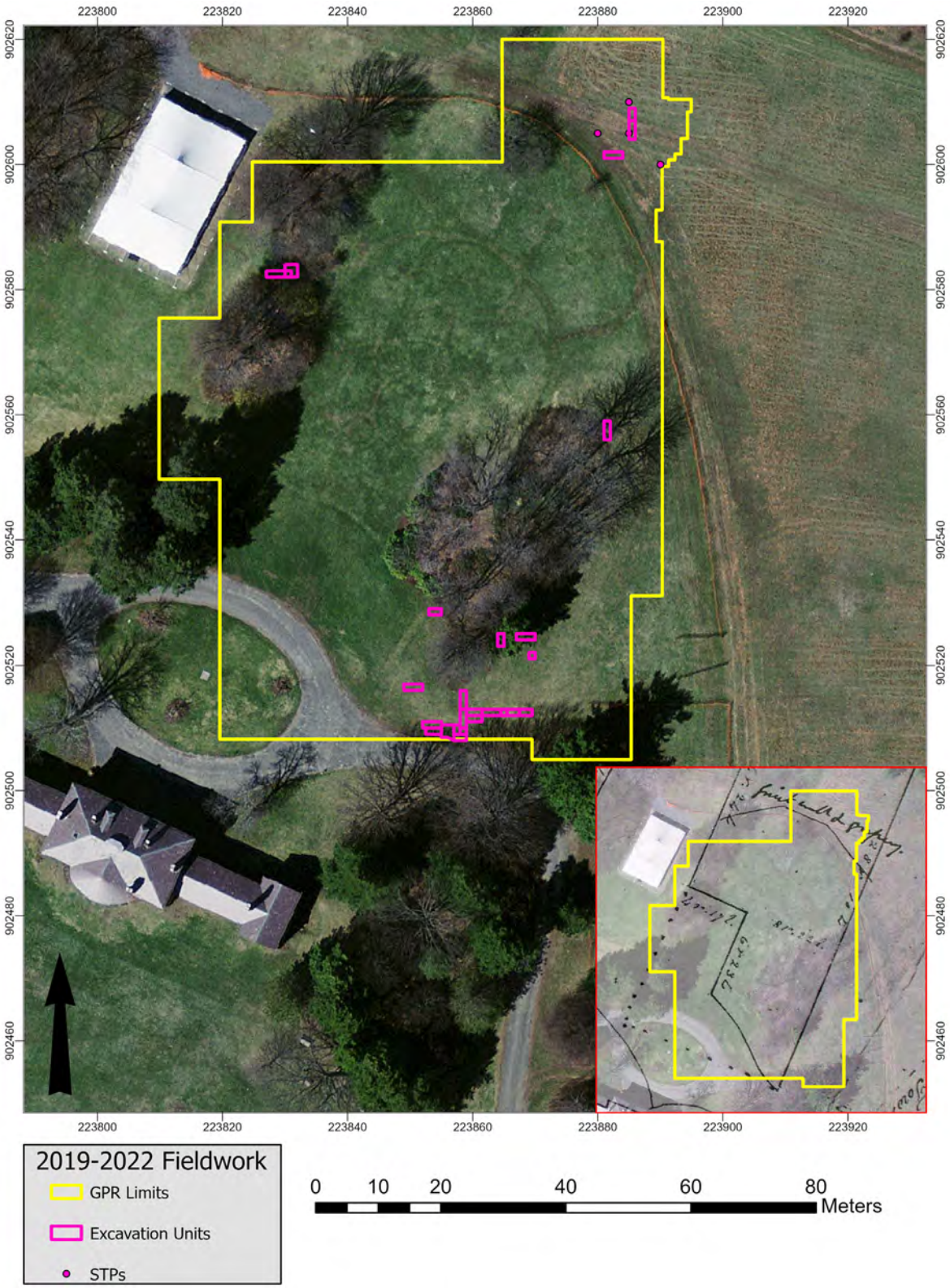


Figure 1.2. Overview of the work carried out in 2019, 2021, and 2022, showing the area covered by geophysical surveys and the 2021 and 2022 excavation units. The inset uses a georeferenced version of the Lyman map to show the general relationship between the excavation units and the historic landscape features. Numbers in the margins represent the Massachusetts State Plane grid in meters. North is to the top.

ed our work in those areas in order to answer more in-depth questions about the garden layout.

This work builds on significant prior research at Gore Place including documentary studies (Brockway 2001, Viens 2010), architectural studies (Baker and Mesick 2001, Baker, Mesick and Martin 2002), and the Fiske Center's prior excavations (DeForest 2010; Beranek and Crowder 2016; Beranek et al. 2009; Beranek, Smith, and Steinberg 2011; Smith 2011; Smith and Dubell 2006; Smith, Beranek, and Steinberg 2010; Romo 2017; Romo and Beranek 2014) that have examined the 1806 greenhouse, agricultural fields, wells, pathways, and other landscape features around the property (Fig 1.3).

The preservation of features related to the formal landscape is exceptional, both in the southeast corner of the garden, the west edge of the garden, and around the fruit wall. In total, we opened just over 63 sq m (678 sq ft). In the southeast corner, we opened 19 excavation units; all but three units were covered with preserved features from the Gore period (ca. 1800-1830). These features, at 30 cm (<12 inches) below the surface (or shallower in some places) are mostly thin soil stains, representing locations where individual plants, plant beds, or posts were dug through the enriched topsoil and into the underlying subsoil. The rows of plants run on a consistent NW to SE orientation, in multiple rows with different sized plants. Along the south edge of the excavation area are long, linear soil stains that are remains of the garden border; these appear at two stratigraphic levels and two different orientations indicating changes in the layout of the garden. Outside of the area that was planted, remains of trenches dug to turn and prepare the soil are visible. Since most of these features are clear and well defined, this seems to represent a single, planned planting of an ornamental perennial garden with a border, possibly of hedges, and rows of small and large plants. These plantings cover an extensive area, extending at least 7 m (23 ft) from the southern boundary, indicating the scale of the Gores' formal landscape. One unit contained a section of pathway that was part of a later garden but may also have been part of the Gores' garden; there were Gore-era planting features adjacent to the path.

We also excavated units at the eastern and western edges of the enclosure. The unit near the eastern edge did not locate any features, but the units on the western edge located the apparent western edge of plantings (3 units; 7 sq m). Although the features in this area are a little less clear, they seem to follow the same orientation as those in the southeast corner.

We placed two trenches (8 sq m/ 86 sq ft) to investigate the eastern wing of the fruit wall/grapery depicted on the Lyman map. Deposits in this area are well preserved beginning at 45 cm (18 inches) below the surface. At the point at which we crossed it, 12 courses of brick are preserved as part of the fruit wall. These would have sat below the Gore era surface, supporting a tall wall above grade. A later metal pipe runs along the back side of the wall. This likely brought water to the later greenhouse that was built in the center section. There are specialized deposits on both sides of the eastern wing of the fruit wall: a large, charcoal rich, compost pit on the north (back) side and a prepared planting bed on the south side, possibly for growing grapes.

This report covers all seasons of work on the formal garden and supersedes the interim report on the 2021 season (Beranek, Aramini, and Steinberg 2022). While the technical descriptions in the interim report are still correct, the interpretation of the archaeological features has changed in some cases.

Property History

A short overview of the owners of the Gore Place property from the Gore's time forward is presented here for context. Much of this information was originally drawn from Brockway's 2001 Landscape History report, but archaeological excavations since that time have added new information.

Gore Occupation ca. 1786-1834

In 1786, Christopher and Rebecca Gore purchased 50 acres of land from Aaron Dexter. This transfer consisted of a 33-acre parcel, known as the "mansion house lot," that contained a mansion house, barn and other outbuildings, and a separate parcel of 18 acres with no improvements. Ad-

ditional acreage purchased by the Gores in 1791 included the 34 acre "homestead lot" or "forty acre lot" to the north and the 75-acre "Ward farm" that bordered the Charles River to the south. The acquisition of additional wood lots created a total of 197 acres owned by the Gores at the time of Rebecca Gore's death in 1834. The mansion house lot and an adjacent 12 acre parcel to the east that was not actually owned by the Gores make up the present 45-acre Gore Place estate.

The Gores may have either used or renovated the existing mansion house, or built a new home. They added a carriage house (still standing) in 1793. The fruit wall and grapery shown on later maps, approximately 130 m (427 ft) north of the mansion house, may have been constructed during this early period, since it is not aligned with the current house. From 1796-1804, while the Gores were living in London, Rebecca Gore's brother, William Payne, served as caretaker of the mansion house and grounds, and he later claimed to have "layed out many of the present walks" (Hammond 1986). A greenhouse was attached to the end of the east wing of the mansion house, and it was here that a fire started in 1799 that destroyed all of the house but the west wing. This wing served as temporary living quarters for a time before being moved off the property.

The Gores constructed a new brick mansion in the same general location between 1805 and 1806 (Fig. 1.4). This is the house that currently stands. The greenhouse located immediately east of the carriage house was probably also constructed at this time. Both the original fruit wall and the greenhouse were important components of Gore's intense interest in scientific agriculture that focused on plant propagation and soil composting among other pursuits (Hammond 1982). The main farm complex lay across Main Street to the north, although some of the property around the house was used as fields and vegetable gardens. Large areas surrounding the mansion house were part of the formal landscape that included the greenhouse, fruit wall, flower garden, and walking paths. Gore was the last owner who engaged in significant agricultural production; later owners focused more on the formal and ornamental aspects of the property.

Actual occupation of the property by the Gores was intermittent between 1793 and 1834, during which time they also stayed in Boston, Paris and London. Other potential occupants of the property include house servants, gardeners, and farm managers. Occupation by Rebecca after the death of Christopher in 1827 is unclear, but by the time of her death in 1834, Judge Charles Jackson was renting the property.

Lyman Occupation ca. 1834-1838

The Gore property, containing the "mansion house, stable, vinery and sheds," was purchased by Theodore Lyman Jr. in 1834. Theodore and his wife, Mary, maintained a keen interest in scientific agriculture and in further developing the pleasure gardens on the property. Mary Lyman died in 1836 prompting Theodore to put the property up for auction. Changes to the formal landscape, including the design of the curvilinear garden, have been attributed to the Lyman period, based on information recorded by the Historic American Building Survey when they mapped the property in 1935 and on Col. Henry Lee's memories, recorded in 1881, of a visit in 1834 (Brockway 2001: 29, 31-32). However, the Lyman occupation was very short. There are some suggestions in the archaeological and documentary record that while Lyman may have started making changes to the formal landscape, major changes are more likely to have taken place under the next owner, John Singleton Copley Greene.

Greene Occupation ca. 1838-1856

John Singleton Copley Greene purchased the estate on October 23rd, 1838. A plan, apparently drawn in 1841, but printed and used for the sale of the property in 1853, provides a detailed view of the property at this period, the notable features of which are discussed below. Both Lyman and Greene reportedly employed Robert Murray, a Scottish-born gardener, who immigrated in 1834 and settled in Watertown. Archaeological data indicate that the greenhouse along the entrance drive was demolished during Greene's occupation. It is possible that the curvilinear garden was also completed during Greene's tenure, though since Lyman and Greene both employed Robert Murray,

Figure 1.3. Composite map of all of the Fiske Center's excavation locations at Gore Place, color coded by excavation year.

Figure 1.4. View of the Mansion and area to the north that is the subject of this investigation. Drone photograph by John Schoenfelder, 2019. View to the north.

it is possible that the change in property layout spans both periods and was overseen by Murray.

Later Periods

After 18 years of occupation, the Greenes sold the mansion house lot in 1856 to Theophilus Walker, who in turn sold it to his nieces, Mary Sophia and Harriet Sarah Walker in 1890. Mary Sophia Walker bequeathed the property to the Episcopal Church on October 10th, 1907. Brockway dates the removal of the fruit wall and adjoining greenhouses to the period between 1907 and 1911 (2001: 41). The church sold the property again in 1911 to Charles H. Metz who used the house for office and living space. Metz was one of the 1894 founders of the Waltham Mfg. Co. that produced bicycles, namely the "Orient" at the Rumford Avenue Plant. He later experimented with motorcycles and in 1909 incorporated the Metz Co. that produced automobiles until 1926. It was during Metz's ownership that the surrounding neighborhood saw significant change through the development of residential housing and the expansion of industrial buildings, including his own, along the Charles River to the south. On July 11th, 1921 "the old Gore estate" was sold to Henry Beal and the trustees of the Waltham Country Club (Hammond 1986). Substantial changes were made to the property during this period as much of the landscape was transformed into a golf course with additional recreational facilities. An air photo of the property from this period shows definitively that the fruit wall was no longer standing. The Waltham Country Club went bankrupt in 1935 and the estate was sold to the newly formed Gore Place Society that has preserved and maintained the estate to the present.

Documentary Data and Historic Maps of Gore Place

Documentary sources provide some data about the formal landscape during the different ownership periods. While no maps of the property survive from the Gore Period, there are several maps

from later in the 19th century. Many of these maps are more detailed than any of the period written descriptions; for example, none of the written descriptions quoted in Brockway clearly note the existence of both the greenhouse along the entrance drive and the fruit wall and grapery. Several refer only to one structure, leaving it unclear which structure is intended.

Gore Period, 1786-1843

Although there is no single, synthetic description of the landscape while the Gores lived there, various elements of the Gore Place landscape are mentioned in letters, farm journals, and estate documents. Many of these have been assembled in other reports, referenced here (particularly Brockway 2001; Viens 2010). Information about an ornamental garden is very slim in any of these accounts. Fruit tree (apples, pears, cherries, and peaches), grapes, garden vegetables, and field crops are discussed in Gore's letters to Rufus King, but there are no apparent mentions of an ornamental garden. Other contemporary accounts of the property's landscape also focus on field crops, walkways, and trees. Samuel Ripley's 1815 account (quoted in Brockway 2001: 24) mentions the walkways lined with trees and shrubs and the field crops (corn, wheat, and barley), but does not say anything about a flower garden. Two accounts from shortly after the Gore period also both focus on the numerous shade trees which suggests that they were a truly distinctive feature of the property (an 1830s letter by Mary Lyman and an 1840s account by Robert Murray, son on the gardener of the same name, quoted in Brockway 2001: 31-35).

There are clear mentions of greenhouse flowers. Jacob Farwell, the farm manager, mentions helping Heathcot, the gardener, in the "hothouse," probably the greenhouse along the entrance drive. An estate sale notice at Rebecca Gore's death lists roses and geraniums in the vinery (meaning either the greenhouse or structures along the fruit wall) and also mentions orange, variegated orange, and lime trees, all plants that would have spent all or part of the year growing inside a sheltered structure (Brockway 2001: 26, 28).

The only specific mention of a flower garden seems to come from Col. Henry Lee's 1881 account of his visit to the property in 1834. This makes the archaeological evidence of this garden particularly important, though difficult to interpret as there are no documentary indications of what was planted there. Since only Christopher Gore's letters survive, it is possible that although an ornamental garden was not particularly important to him, it was one of Rebecca Gore's interests. We know that Rebecca Gore was also interested in horticulture because in 1830, several years after Christopher's death, she was one of three women who were made honorary members of the Massachusetts Horticultural Society, an otherwise male organization (Wilder 1879: 9).

Lyman Map, 1834-1838

They Lyman map was drawn at some point during the Lymans' short occupation and has proved to be very accurate in many of the features it depicts (Fig. 1.5). The creator of the map paid attention to internal property divisions, many of which are annotated with measured lengths in rods. When we georeference this map (ie, overlay it over an air photo in GIS and put it into a modern measurement system), the dimensions noted on the map correspond closely to the measurements of these spaces in the GIS database. Archaeological excavations have also corroborated the accuracy of many of the map's details. For example, the greenhouse is depicted at a specific angle, with a small addition, in an enclosure with a rounded corner. All of these aspects can also be seen in the archaeological record.

One of the internal property divisions on the Lyman map is the large rectangle that encloses the "fruit wall and grapery." This area was the focus of the geophysical survey in 2019 and the excavations in 2021 and 2022. This enclosure has measured dimensions along many of its sides. The measurement along the east side read 28 rods (462 feet, 141 meters); the north side reads 12 rods (198 feet, 60 meters). The width of the north end of the enclosure was clearly determined by the length of the fruit wall. South of the fruit wall, the west edge jogs inwards, and the south side of this smaller area is curved. We do not know what exactly is represented by this irregular outline, but given the detailed measurements and the map's

overall accuracy, it must have depicted an existing division of the landscape. A dotted line, without measurements, extends the area into a regular rectangle. One interpretation of the dotted line is that it represents a proposed or in-progress change to the landscape at the point at which the map was drawn.

Based on other descriptions of the property, primarily Henry Lee's 1881 account of his 1834 visit (discussed below), our interpretation is that the Gores' flower garden is within this enclosure. The extent of the garden and the nature of the enclosure were unknown. Did the garden fill the whole space or just the narrower projection at the south end? Was the area enclosed by a wall, a fence, or a hedge? The survey and excavations reported on here were designed to answer questions about this area.

Other notable points from this map include the following:

--The center line of the fruit wall, and of the rectangle enclosing it, is not aligned with the center of the mansion but is offset to the east. This misalignment is the primary feature that suggests that the fruit wall may have been constructed prior to 1799 and aligned with the older house. Other studies of formal gardens (see below) have repeatedly shown that houses and gardens were designed in tandem, with the dimensions of the house determining the dimensions of landscape elements. Thus, the off-set between the standing Mansion and the fruit wall is unusual.

--No buildings are drawn against the fruit wall. Graperies often were enclosed during the period, but given the accuracy of this map, the fact that no building is drawn suggests that if the grapery along the fruit wall was enclosed, it was in a temporary way that was removable seasonally.

--Although we know that Gore had pathways around the property, these are not depicted on Lyman's map.

The Lyman map was clearly created from a very detailed survey of the property, including measurements of some of the internal features, and

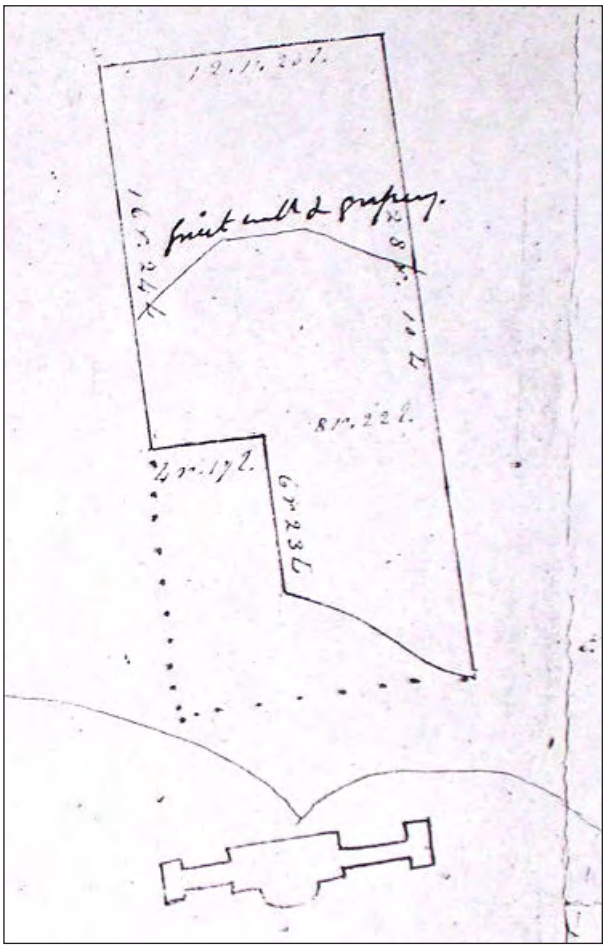


Figure 1.5. Lyman map, 1834-1838, detail of the enclosure around the fruit wall and grapery.

is generally quite accurate in depicting the shapes, size, and orientations of buildings and spaces within the property, based on details of the map that we have been able to compare with the archaeological record. However, even small changes in the way that the Lyman map is georeferenced (overlaid on the landscape) shift the relationship between the map and the ground by 3 to 5 meters (10 to 15 ft). Pivoting the map even slightly changes our ideas of where, exactly, on the ground the garden borders might be. This means that even this highly accurate map only gives us guidance within about 5 meters (ca. 15 feet) for the location of specific features. Five meters is a large archaeological test area, so we chose excavation locations using information from the Lyman map and the geophysical surveys, not the map alone.

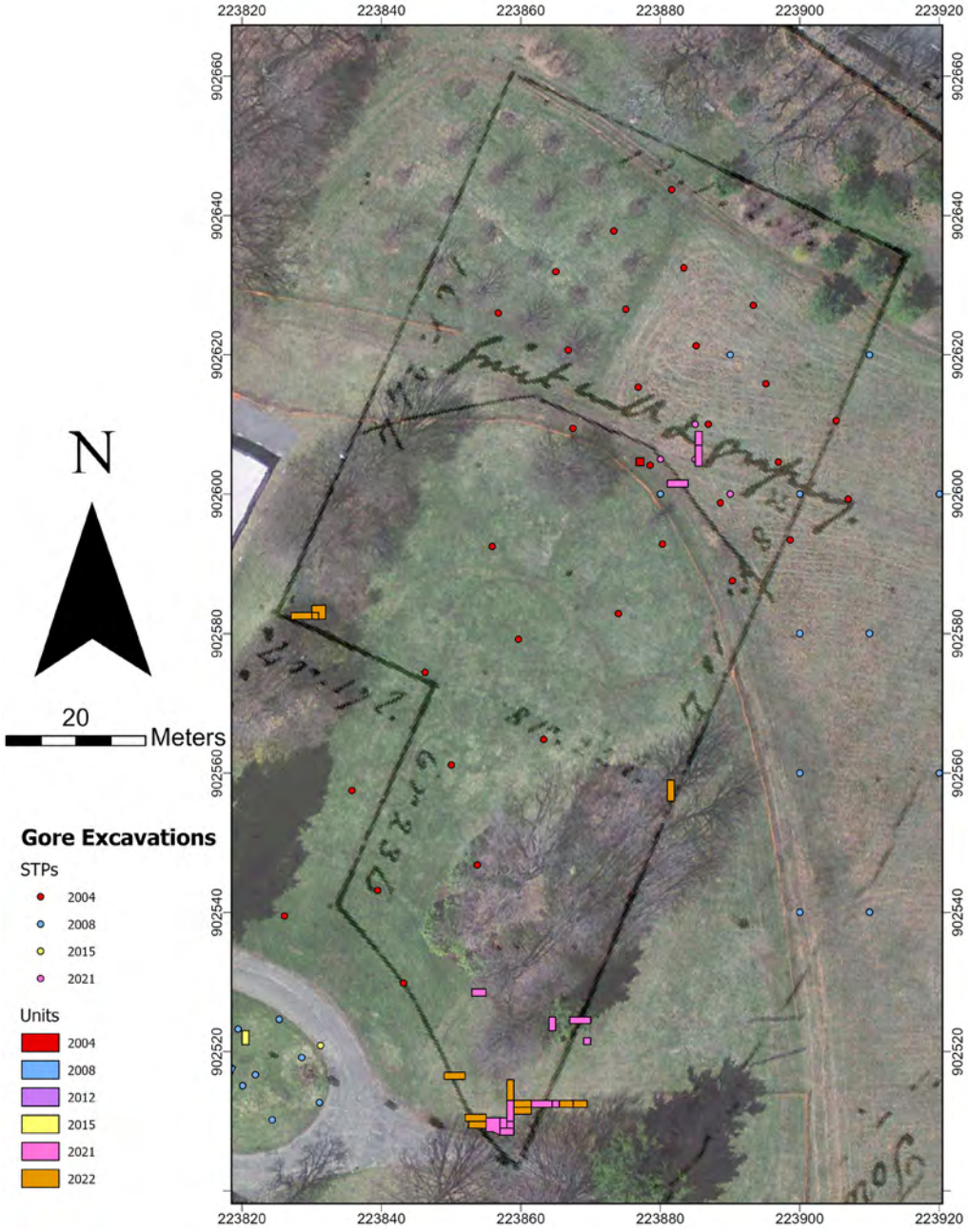


Figure 1.6. One georeference of the Lyman map showing the relationship to the 2021 and 2022 excavation units.

This report will refer to different georeferences of the Lyman map. One is the "starting georeference" – created using the location of the house and features such as the Waltham/Watertown boundary line. After the archaeological excavations, we tried to refine this georeference using information about the location of the fruit wall and other data. This created a slightly different georeference (Fig. 1.6) that is used in most of the report figures. Both of these are very similar in that the size of the Lyman enclosure is correct, but small changes in map orientation shift where specific excavation units appear to be in relationship to the boundaries drawn on the map (inside vs. outside).

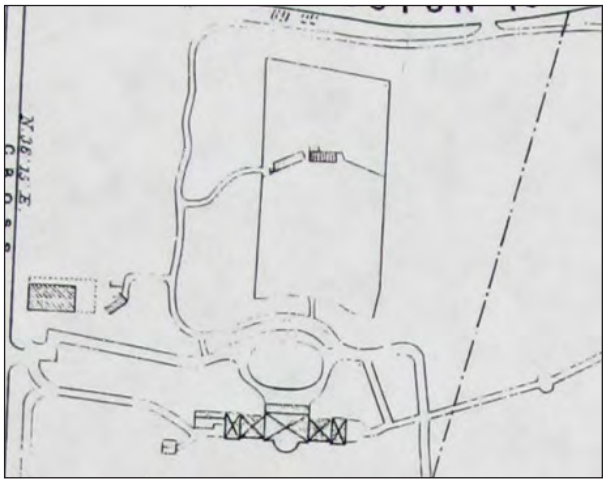


Figure 1.7. The Greene map, 1841-1853.

Even with the refinement based on archaeological data, the way that the Lyman map is georeferenced is not exact (ie, the east edge of the garden on the map is further east than the eastern edge of the planting features discovered archaeologically).

Greene Map, 1841 to 1853

The Greene map (Fig. 1.7) includes a notation that it was drawn in 1841, but it was being used in an estate sale in 1853. It is not clear if all of the features on the map existed for this whole period. For example, the greenhouse along the entrance drive may have been demolished after the map was drawn in 1841 but before the property was put up for auction in 1853. Analysis of the demolition layers around the greenhouse did not provide a definitive demolition date between 1841 and 1900, but Romo feels that it was likely demolished early in this period (Romo 2017: 103).

One of the notable features of this map is the attention it pays to paths and roadways which were not a prominent feature of the Lyman map. Based on the 2019 geophysical survey, this map is an accurate depiction of the driveway arrangement during this period (Fig. 1.8). As seen in Figures 1.7 and 1.8, there is an oval in front of the house, with a drive that encircles it. There is a narrower path that parallels the north edge of the oval, linking the driveway, the entrance to the enclosure around the fruit wall, and the path that runs between the greenhouse and the fruit wall. Many of these features can be seen clearly in the geophysical survey results: the outline of the oval, the north edge of the road, the path north of that, and the path leading to the west end of the fruit wall.

On the Greene map, the rectangular enclosure around the fruit wall is still present, though without the jog on the western side. Instead, the east edge is now irregular, with the south end of the east edge angled in. This angle seems to help visually counteract the fact that the enclosure is offset from the house. If you extended that angled line, it would connect to the east end of the house. The south end of the enclosure is gently curved across its width. Thus it does not exactly follow either of the southern edges depicted on the Lyman map (the dotted or the solid line). In fact, the dotted line on the Lyman map would run through the middle of the drive circle, indicating that whatever Lyman intended to establish with that line, it was short lived (Fig. 1.8). This suggests that the oval was a landscape feature constructed under Greene's tenure.

The short path that comes out of the center of the rectangular enclosure is also visible on some of the geophysical slices and is aligned with the center of the curvilinear garden.

Finally, this is the earliest map that shows structures against the fruit wall suggesting that the structures against the central and western sections were added between 1834 and 1841, by either Lyman or Greene.

Lee Map (1881 retrospective)

Col. Henry Lee visited his relatives, the Jackson family, who were renting Gore Place in 1834, shortly before it was sold to Theodore Lyman (Brockway 2001: 28-29). Much later, in 1881, he wrote a memoir which included his memory of the property, both written description and a sketch map (Fig. 1.9). The Lee map is much more schematic than the surveyed maps produced under Lyman and Greene and it omits several features that existed when Lee visited including the fruit wall and the greenhouse along the entrance drive. It does depict the mansion, carriage house, driveway and paths, vegetable garden, and a flower garden. The flower garden is located north and east of the mansion and shown as rectangular with crossing

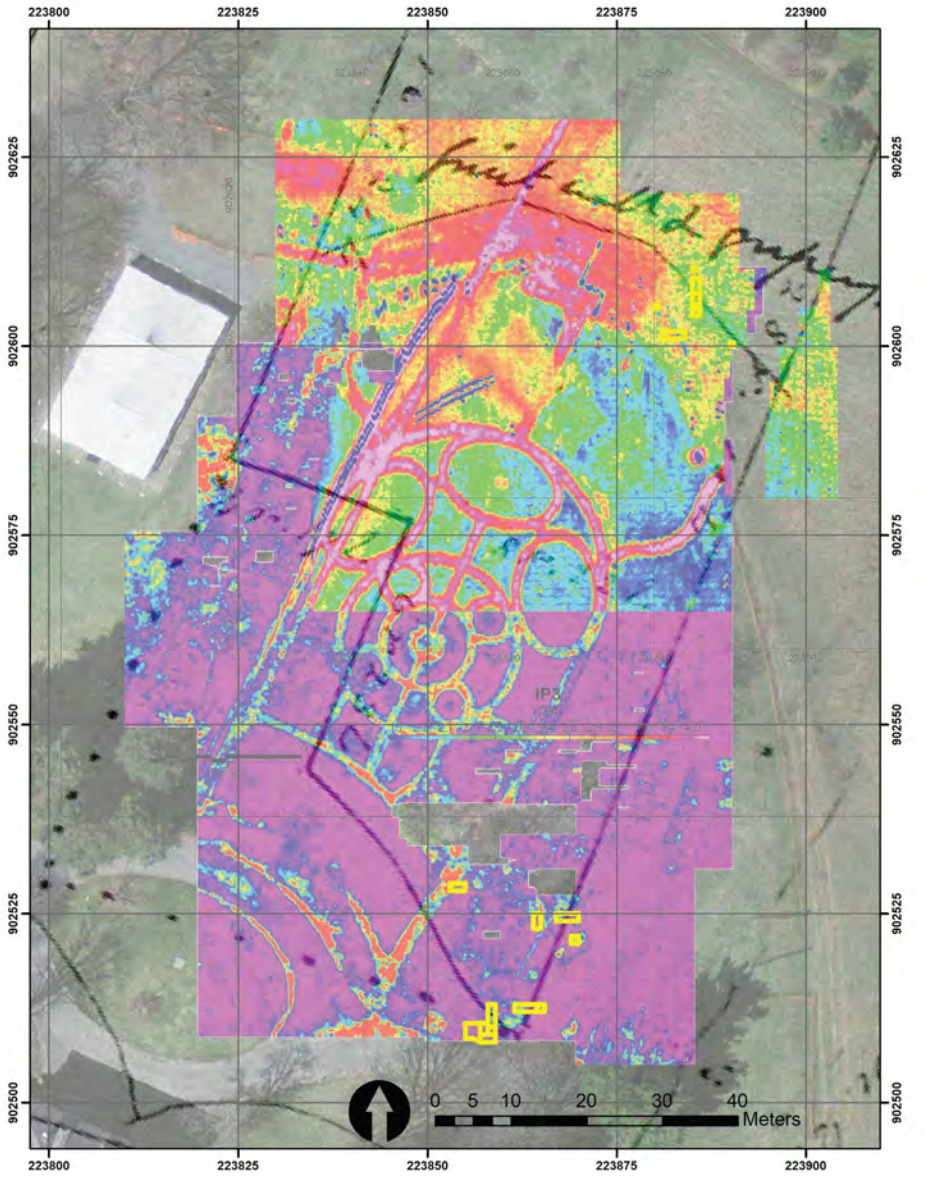


Figure 1.8. Geophysical survey results from 2019 showing features that correspond to the Greene map – an oval in front of the house, surrounded by a driveway, with an additional path to the north that follows the curve of the driveway.

internal paths. Lee's written description of the garden states that it was "laid out formally and ornamented with a sun dial in the center" (Brockway 2001: 29). Lee wrote that Lyman changed the landscape by adding a garden "in the modern fashion," and that Greene added a "new curved avenue cutting up the lawn." This likely refers to the drive circle and the pathways just north of it.

Because Lee's description was written so long after the fact, and omitted some prominent details such as the fruit wall, it cannot be used in the same way as the Lyman and Greene maps. However, it is the only account of the Gore period garden. It suggests that the Gore garden had a simpler, more geometric layout than later gardens, and it seems to confirm that the Gores' garden, like the fruit wall, was not centered on the mansion but located east of the mansion's center line. In his sketch, the center line of the garden is aligned with the room block at the end of the east wing. One pos-

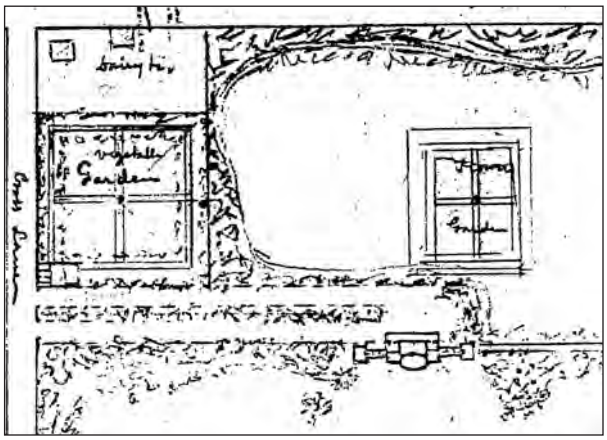


Figure 1.9. Lee map, drawn in 1881 based on Col. Henry Lee's memory of a visit to Gore Place in 1834.

sible interpretation is that the garden depicted by Lee sits inside the narrower section on the Lyman map, which would maintain relationship that Lee depicts between the center line of the garden and the east end of the house (Fig. 1.10).

Eliot Plan (1889)

Charles Eliot published a short description of Gore Place, with an accompanying sketch, from the period when the property was owned by the Walker family. His map shows the carriage house (labeled Stable), the fruit wall (labeled greenhouse), the house, roadways, and trees (Fig. 1.11). The trees are the focus on his written description, but he also mentions the "flower garden, carefully sheltered and quaintly laid out in geometric fashion, with great banks of shrubs at the sides, plenty of smooth grass, and large beds crowded with perennials" (Eliot 1889: 87). His written text does not mention the greenhouses/fruit wall. The two most notable features of the sketch are that Eliot depicts structures against all three wings of the fruit wall and that lines of trees or shrubs run south from the ends of the fruit wall, following the line of the enclosure depicted on the Lyman and Greene maps.

HABS (1935)

The Historic American Buildings Survey (HABS) drew plans of Gore Place in 1935, including an overall plan of the grounds and a detailed plan of the curvilinear garden (Fig. 1.12). Trees

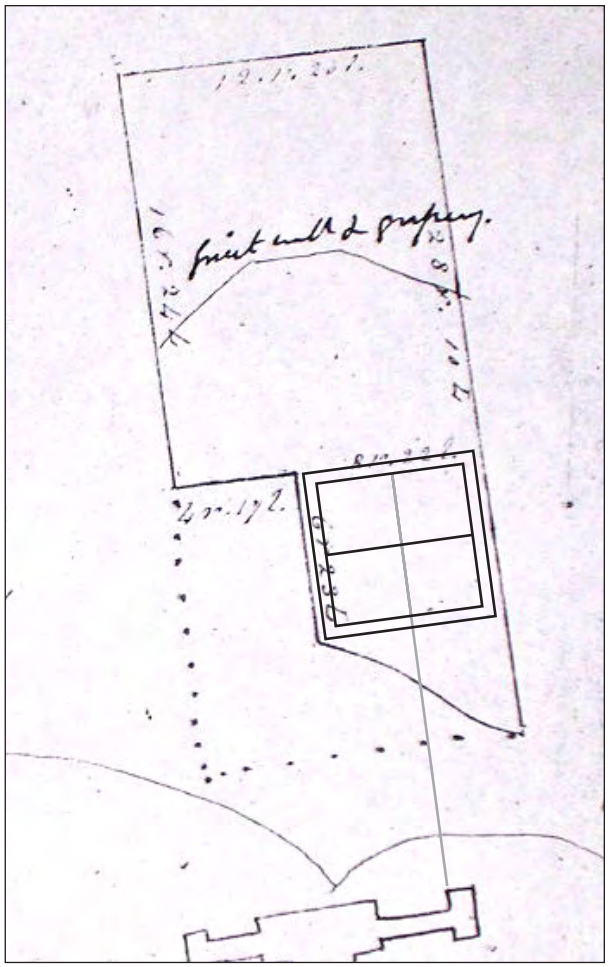


Figure 1.10. One possible relationship between the garden drawn by Lee and Lyman's map of the property. This layout is speculative and is based primarily on the fact that Lee depicts the garden east of center of the mansion.

and shrubs were drawn in and labeled on these plans. The HABS drawings also include marginal notes that attribute the layout of the curvilinear garden to Lyman's gardener, Robert Murray, who was not mentioned in earlier property descriptions. However, the HABS map also asserts that the earlier, pre-1835 garden was north of the stable. The HABS plan depicts the fruit wall as "Site of Greenhouse," with a large central block and shallow structures against both wings, despite the fact that it was no longer standing by this point. Several of the paths depicted on the Greene map are no longer present, including the path along the north side of the oval. Unlike any previous map, however, the plan of the curvilinear garden beds and paths is mapped in detail. This map corre-

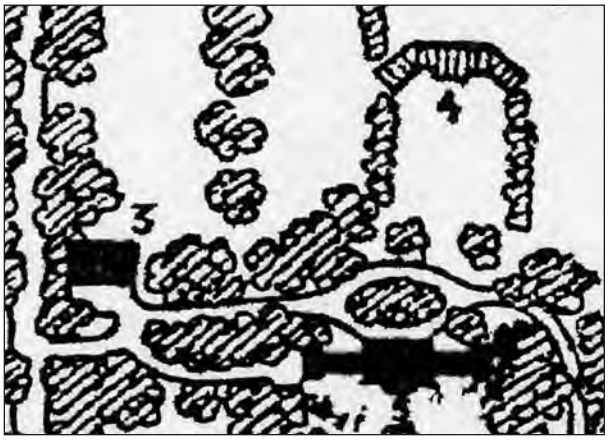


Figure 1.11. Eliot plan, 1889. Note that the rows of trees or shrubs running south from the ends of the fruit wall follow the same path as the outline of the enclosure on the Lyman and Greene maps.

sponds closely to the paths visible in the geophysical survey, although the GPR shows several paths that were no longer visible in 1935. Notably, the path that forms the eastern edge of the curvilinear garden is not straight but angled to the east at its southern end, as the enclosure on the Greene map does. This suggests that both the enclosure and the interior garden paths were laid out like this by either Greene or Lyman (though this feature does not appear on the otherwise very detailed Lyman map, suggesting that it may have been a change may by Greene).

In sum, the different maps of Gore Place were drawn for with different emphases and show different landscape features with varying degrees of accuracy. The maps also each depict a single moment during an ownership period, so it is difficult to tell which owner was responsible for the changes visible between the Lyman and Greene maps.

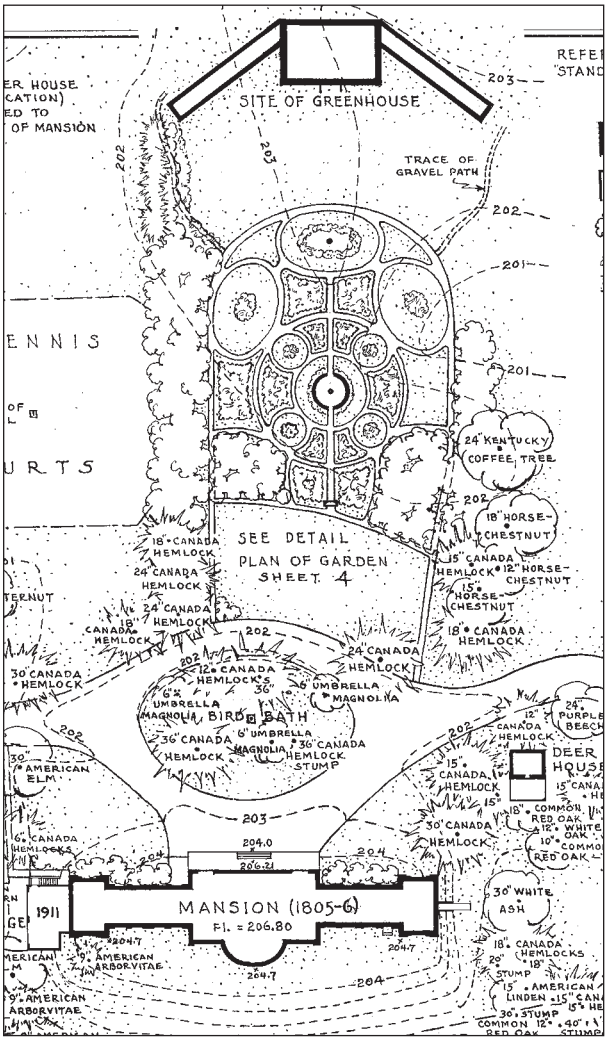


Figure 1.12. Historical American Buildings Survey plan of the Gore Place garden, drawn in 1935.

Garden Archaeology

The following section reviews some of the major literature on the archaeology of gardens in North American. The archaeology of greenhouses has been covered elsewhere (Beranek et al. 2009; Romo 2017), so is not discussed again here. The archaeology of gardens and formal landscapes has a long history within historical archaeology. A significant amount of this work took place in the 1980s and early 1990s on large 18th-century estates in Maryland, Virginia, North Carolina, Pennsylvania, and New Jersey. Many of these early projects are summarized in several edited volumes (Yamin and Metheny 1996; Kelso and Most 1990) ; and other publications, see citations in (Goodwin et al. 1995; Baugher and De Cunzo 2002). Baugher and DeCunzo (2002) provide a particularly good overview of the most significant archaeological projects on gardens and formal landscapes in the United States up to the date of their publication, with citations to the relevant publications. Major programs in landscape and garden archaeology have continued at large estates in the region, especially at properties associated with American presidents (Jefferson's properties

of Monticello and Poplar Forest (Gary and Proebsting 2016); Washington's Mt. Vernon(White 2016) and properties around Philadelphia (Woodlands and Bartram's Garden in Pennsylvania (Mitchem 2020).

There has not been the same kind of extensive work in New England, with the exception of the work at Gore Place. Although there have been a number of archaeological excavations at properties with formal gardens, only the work at Edith Wharton's property in Lenox, Massachusetts, has had the kind of broad scope to reconstruct the formal landscape in a way that is comparable to the work at Gore Place. There has been archaeological work on the formal gardens at the Manse (Northampton, MA), The Loring-Greenough House (Jamaica Plain, MA), The Vale (Lyman's property in Waltham, MA), the Spencer-Peirce-Little House (Newbury, MA), and at the Longfellow House (Cambridge, MA), all properties known to have had formal flower or pleasure gardens. Some of these have documentary sources that also provide good insight into the gardens and ornamental landscapes. Work at the Northampton Manse identified altered stratigraphy and planting holes but was limited in extent (Hood 1992). Work in areas known to be a part of a later 19th-century garden at the Longfellow house uncovered some features such as fences, walls, and garden beds (Dimmick 1996; Pendery, Haynie, and Sexton 2003), and recently has work begun to shift towards the possible location of the early gardens from Craigie's occupation that would have been contemporary with Gore Place. Geophysical survey there identified anomalies that may be a circular pathway and planting beds (Watters 2012). Excavations at the Spencer-Peirce-Little House in Newbury (Beaudry 1994) identified a prepared soil "drainage field," possibly intended for growing grapes or some other form of horticultural experimentation in the late 18th or early 19th century. Work at this site was extensive, showing that the area of prepared soil was large, but it uncovered no features that would determine how the area was used or laid out with the exception of surrounding fence posts. Work at the Vale uncovered drainage, paths, and a planting bed (still in use) associated with the standing Peach Wall (Pinello 1999) and historic pathways that surrounded a still in use garden bed (Pinello and White 2000) though all of the planting features discovered were modern. Excavation and geophysical survey at the Loring-Greenough House identified potential historic garden pathways and attempted to date some of the existing planting beds (Steinberg et al. 2010; Smith and Howlett 2004).

The Mount, Edith Wharton's property in Lenox, Massachusetts is the only property other than Gore Place where extensive archaeological work has taken place to reconstruct aspects of the larger formal landscape. Two seasons of work allowed archaeologists to reconstruct the original layout of Warton's early 20th-century garden pathways, terraces, and planting beds in great detail (Binzen, Barker, and Pinello 2002) using ground penetrating radar survey and very long excavation trenches (multiple trenches that were 1 m wide but ca. 30 m long). At The Mount, the features they were examining were very shallow, and the excavations only needed to remove the top 10 to 20 cm of soil. However, dating to a century after Gore's garden, the layout of Wharton's garden is not useful as a comparison for what Gore Place might have looked like.

Research Questions in the Archaeology of Gardens and Landscapes

Analytically, early garden archaeology was most focused on reconstruction (Beaman Jr. 2002; Baugher and De Cunzo 2002: 68) and that continues to be an important driving force for some places. But, early on, archaeologists also incorporated garden archaeology into broader landscape archaeology studies to examine how gardens were part of a construction, naturalization, and legitimization of social power, particularly as part of shaping and ordering a colonial landscape (Spencer-Wood and Baugher 2010; Leone, Harmon, and Neuwirth 2005; Yamin and Metheny 1996). Zierdan (Zierden 2010) looks at the role of formal gardens as one element of an urban townhouse landscape that can be studied to understand the racial power dynamics in a densely used space. A number of works have specifically looked at the role that women played in shaping gardens and greenhouses (Weber 1996; Beranek et al. 2009).

More recent projects have also stressed the importance of understanding the labor put into gardens and the extent to which people reshaped the landscape and environment (e.g., Gary and Proebsting 2016: 76). Some of the most recent work on the archaeology of gardens has been pushing to move the topic beyond the study of elite landscape gardens. Camp's work on the gardens established by Japanese residents in internment camps is one example of the ways in which gardens can be used to understand cultural expression and resistance (Camp 2021).

Historical and archaeological studies have also examined the political nature of gardens, scientific agriculture, and horticulture in the early United States, an area related to the archaeological study of gardens as landscapes of power (see Wickham 2012; Pauly 2007; Wulf 2011) (see also chapters in (Yamin and Metheny 1996). In Massachusetts, this has specifically been examined by Thornton, in her study of the Massachusetts Society for Promoting Agriculture (Thornton 1989) of which Gore was a member, and this is the broader interpretative context that we have used in earlier work on the Gores' greenhouse (Beranek et al. 2009; Romo 2017).

Chapter 2: Field Results

Previous Archaeological Research on the Fruit Wall and Formal Garden Area

In 2005, Leith Smith and Gregory Dubell carried out an initial site examination of the flower garden and the fruit wall (as well as the entrance drive, carriage house, vegetable garden, and greenhouse; Smith and Dubell 2006). This work proved to be foundational for the large scale excavations around the site of the greenhouse along the entrance drive in 2008 and 2012; however, the 2021 excavations were the first opportunity to follow up Smith and Dubell's work over the formal gardens and fruit wall. The 2005 excavations consisted of 11 test pits over the central part of the formal garden, mostly within the footprint of the curvilinear garden, and 21 test pits and an excavation unit over the area of the fruit wall. These excavations were carried out prior to our regular use of the State Plane grid to map excavation locations, so the locations of these units are approximate and we cannot use them to pinpoint exact points to return to for follow up work. However, they were useful in helping to understand the potential depths and types of deposits across this area.

In the flower garden, they found topsoils that extended to 32 to 46 cm below the surface. Planting pot fragments were the most common artifact type, and based on the image included in the report, some of these were larger than the fragments that we found in the 2021 excavations over the garden area. They noted that some STPs contained small fragments of burned ceramics, consistent with our 2021 findings and the STPs across the south lawn. The other notable result was that they found that the different paths were constructed differently; several were just sand and gravel, while the northern perimeter path was a layer of sand and gravel over a deposit of cobble stones, similar to our findings about the eastern perimeter path in EU2112.

The most significant results around the fruit wall were from test pit C2 which located a possible stone foundation and test pit D1 which located a brick pier. A 1 x 1 m excavation unit was opened southwest of D1 and encountered a brick wall with an additional interior pier. This wall began at 40 cm below the modern surface (consistent with our findings in the area in 2021). It was 2 bricks thick, 5 bricks high, and sat on a stone sill topped with mortar. Smith and Dubell (2006: 40) interpreted this wall and pier as part of the front wall of one of the structures built against the fruit wall. Comparison with the fruit wall located in 2021 suggests that they were correct; it was not as substantially built as the fruit wall itself, suggesting that it supported a shorter front wall. Similar to our findings (below), the soil north of this wall that would have been used for planting was a silt mixed with sand, shells, charcoal, and bone.

2019 Geophysical Survey

In 2019, John Steinberg and Brian Damiata carried out a large geophysical survey over the area between the Mansion and the former site of the fruit wall (see Fig. 1.2). They were assisted by UMass Boston students including Justin Malcolm, Kaitlyn Ball, Linda Seminario, and Nicholas Densley.

In the main garden area, three geophysical methods were employed: magnetometry, conductivity, and ground penetrating radar (GPR). The methods can detect different contrasts in the subsurface properties, so multiple methods in the same region often yield different results. In general, the same grid and line spacing were used for all surveys but the area and extent varied (Fig. 2.1).

In 2008 as part of work on the greenhouse, magnetometry was used on a small geophysical grid that was centered on the grapery wall. A Geometrics G-858 Cesium Vapor Magnetometer was used in Gradiometer mode with the MagMapper control unit. The unit has a working range of 20,000 to 100,000 nT. The survey was performed unidirectionally from south to north using 25 cm spacing and PVC flag fiducials every 10 meters resulting in a reading every 6 cm. Given the latitude, sensors were set up for a vertical gradient and oriented at 45°. The two sensors were separated by 70 cm and the lower sensor was ~45 cm above the surface on the standard aluminum

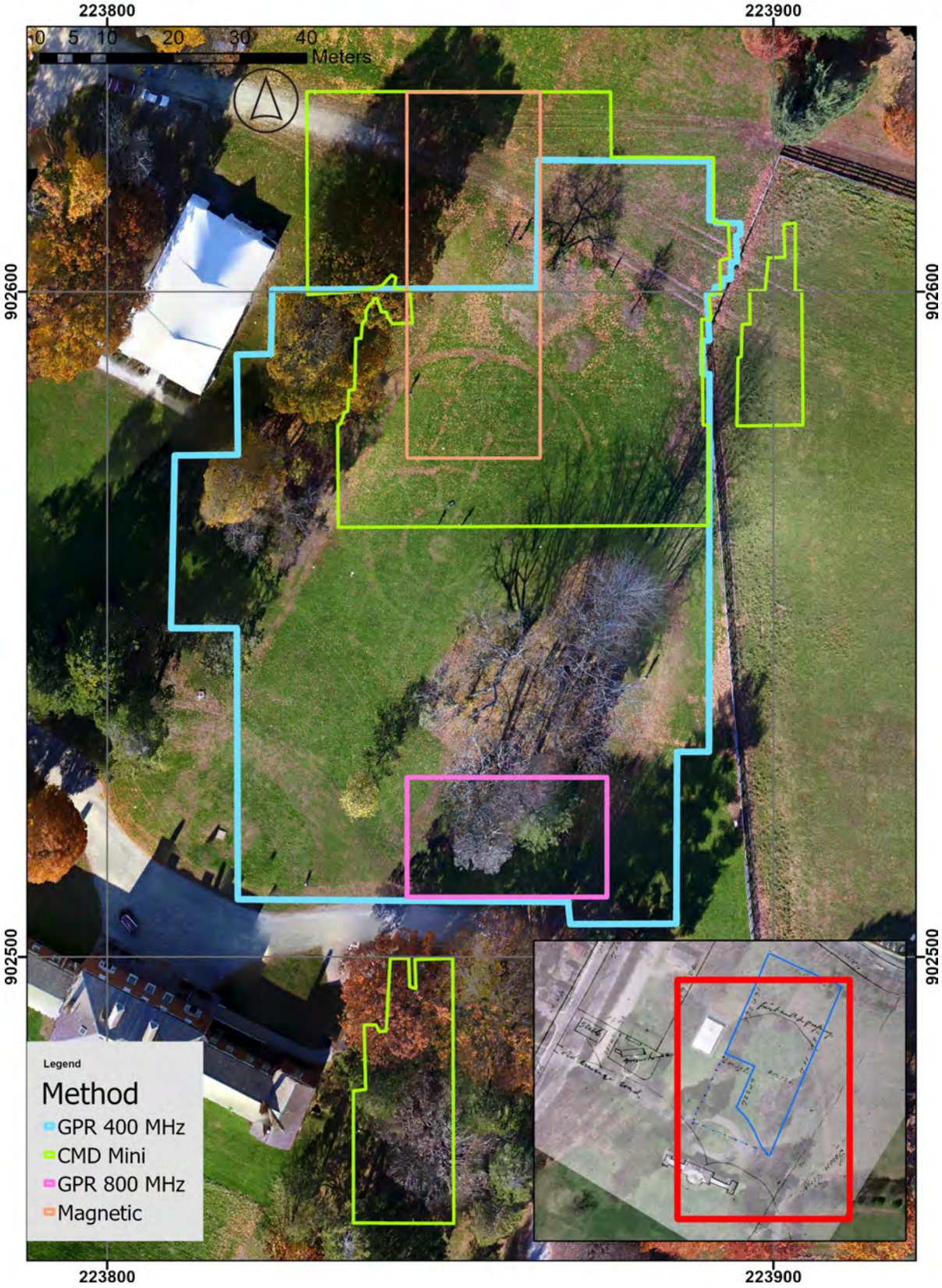


Figure 2.1. Areas covered by different geophysical survey techniques.

rigging. Data was processed using Oasis Montaj mapping software.

In 2019, conductivity data was collected on 3 separate grids using the CMD-mini which operates at 30 kHz. Data was logged with the three dipole lengths from the single transmitter located at one end of the unit and three receivers separated by 0.32, 0.71 and 1.18 m which yield depths of exploration of approximately 0.5, 1.0 and 1.8 m respectively. For the survey, the unit was operated in the vertical dipole mode with the boom just above the surface parallel to the transects. Transects were walked unidirectionally from south to north separated by 0.25 m. The sampling rate was set to 10 samples per second, which yielded measurements every ~0.06 m along the transects. The surveying was guided by color-coded PVC flags that were placed every 10 meters along transects separated by 1 m. Data was processed using Oasis Montaj mapping software.

Also in 2019, the GPR survey was performed using a Malå X3M system and both a 500 and 800 MHz antennas were used. Most of the data was collected with the 500 MHz antenna and only a small area was surveyed with the 800 MHz antenna (Fig. 2.1). Transects were spaced 25 cm apart and for both surveys, data was collected unidirectionally from east to west. The scan interval was 2 cm along parallel contiguous transects. The data collection was guided by stretching a fiberglass measuring tape between the endpoints spaced every meter and the plotted location a transect was determined by using a calibrated wheel attached to the antenna. Data was processed and filtered using GPR-Slice software.

Slices of the GPR data from the 500 MHz antenna have been the most useful for the garden area and fruit wall; the CMD survey also provided useful information about the former structures against the fruit wall.

The GPR survey very clearly shows the paths and garden beds from the curvilinear garden in the center of this space, as well as buried irrigation and electrical lines, and other pathways. We used the data from deeper slices and areas outside the curvilinear garden to place many of the initial excavation units. In many cases, this was productive even though it was not always clear in the field what the GPR had shown. Our interpretation is that in some cases, it was showing subtle differences in the way that the soil held moisture that were related to former garden features. Following the excavation, we looked again at the GPR and the feature maps and were able to identify additional anomalies in the GPR that follow the same alignments as the planting features. This recursive use of the geophysical and excavation data has been productive in placing units, interpreting them, and extending our understanding of the formal garden layout beyond the excavation areas. The results of the GPR and CMD surveys are discussed with the excavation units below.

2021 and 2022 Excavations

The 2021 and 2022 excavations (Table 2.1) were designed to locate features relating to the enclosure depicted on the Lyman and Greene maps, as well as any planting features from gardens inside this enclosure. We also wanted to locate and document the fruit wall. Unit locations were selected based on both the starting georeference of the Lyman map and geophysical anomalies. In order to be able to focus on potential older, Gore period features, we intentionally placed our excavation units outside the limits of the curvilinear garden. We hoped that by avoiding these gardens, well documented by HABS and the geophysical survey, we would have a better chance of locating undisturbed, older garden features. This strategy proved to be successful.

Methods

All of the excavation locations were surveyed in with a total station, based on local benchmarks that we have used for previous projects on the property. Unit coordinates are in the Massachusetts State Plane grid using NAD 83. These coordinates (in meters) can be seen in the margins of many of the figures. Fieldwork was carried out by graduate students at UMass Boston (Linda Seminario, David Spidaliere, Claire Norton, Mikayla Roderick, Alex Patterson, Naomh (Sean) Fairweather, Kiara Montes, Cal Mikowski, Lauren Schumacher, Lissa Herzing, and Kyett Salamone), supervised by Christa Beranek. Units were numbered in the order of excavation, with the first two digits of the unit number corresponding with the year of excavation (21 or 22). In most cases, we excavated large units (1x2 or 1x3 m) in order to better see feature plans. Several 50x50 cm shovel test pits were excavated near the fruit wall, but shovel test pits would have been an inappropriate method in the garden. We excavated stratigraphically, separating the different cultural and natural levels, assigning each different stratum in each unit a context number (beginning with 5000). Context changes were recorded with photographs and plan drawings. Closing profiles were drawn for all of the excavation units. In many cases, John Schoenfelder took closing overhead photographs, using a camera on a pole or a drone. Excavations in the garden area stopped at the feature level. A small number of features were bisected to determine their depth, but most were left in place after documentation and covered with geotextile before backfilling.

All sediments were screened through ¼ inch mesh hardware cloth. Recovered cultural material was placed in labeled bags for later processing and analysis. Bagged artifacts were removed to the Fiske Center's archaeological laboratory at UMass Boston. Glass, ceramic, and stable bone artifacts were washed; metal and fragile bone were dry brushed. They were rebagged for long-term storage. The artifacts were cataloged in a FileMaker Pro relational database; this catalog can be found in Appendix A. In addition to students from the field crew, Katie Lincoln, Joseph Aramini, and Cyrus Marion assisted with the laboratory work. Unit plans from the two seasons were digitized into large composite features plans (much of this work by Cyrus Marion). GIS maps were generated by Joseph Aramini and Trace Podder. Following the completion of this report, the artifacts will be returned to Gore Place for curation.

This report covers both seasons of work on the formal garden and supersedes the interim report on the 2021 season (Beranek, Aramini, and Steinberg 2022). While the technical descriptions in the interim report are still correct, the interpretation of these features has changed in some cases.

Fruit Wall

Excavations around the Fruit Wall were more limited than those in the garden and there is significant potential for future archaeological work in this area. We decided to concentrate on the eastern wing of the fruit wall because the geophysical survey suggested that this wing of the fruit wall did not have as substantial a building against it as the western and central sections. There are no structures depicted against the wall in the 1834 Lyman map. Structures against the fruit wall appear along the western and central sections in the 1841 Greene map, and in the 1900 Atlas of Middlesex County there are apparent structures along the east and west wings. In the geophysical survey, however, the structure against the east wing appears less substantial than those along the west and

Table 2.1. 2021 and 2022 excavation units.

Unit	Dimensions, E-W x N-S (m)	Area (sq m)	SW corner coordinates	Site area	Notes
EU2102	1 x 3	3	E223858 N902510	SE corner of garden	Gore period planting features
EU2102ext	1 x 1	1	E223858 N902509	SE corner of garden	Gore period planting features
EU2103	3 x 1	3	E223861.5 N902512	SE corner of garden	Gore period planting features
EU2104	1 x 2	2	E223864 N902523	SE corner of garden	Contained golf course era deposits, possibly gravel parking surface
EU2105	3 x 1	3	E223867 N902524	SE corner of garden	Golf course era deposits, possibly gravel parking surface
EU2111	1 x 1	1	E223869 N902521	SE corner of garden	No historic deposits
EU2112	2 x 1	2	E223853 N902528	Garden pathway	Several layers of path deposits from curvilinear garden
EU2113	1 x 1.5	1.5	E223857 N902509	SE corner of garden	Gore period planting features
EU2114	2 x 1	2	E223857 N902508	SE corner of garden	Gore period planting features
EU2115	1 x 3	3	E223885 N902604	Fruit wall	Charcoal pit north of fruit wall
EU2116	1 x 1	1	E223864.5 N902512	SE corner of garden	Gore period planting features
EU2117	1 x 2	2	E223885 N902607	Fruit wall	Charcoal pit behind fruit wall
EU2118	2 x 2.5	4.1	E223855 N902508	SE corner of garden	Gore period planting features
EU2119	3 x 1	3	E223881 N902601	Fruit wall	Fruit wall crosses this unit
EU2231	3 x 1	3	E223827 N902582	West edge of garden	Gore period planting
EU2231ext	1 x 1	1	E223830 N902582	West edge of garden	Gore period planting
EU2233	3 x 1	3	E223852 N902510	SE corner of garden	Gore period planting
EU2234	3 x 1	3	E223849 N902516	SE corner of garden	Gore period soil preparation
EU2235	2.5 x 1	2.5	E223859 N902512	SE corner of garden	Gore period planting and soil preparation
EU2236	3 x 1	3	E223881 N902556	East edge of garden	No features located
EU2238	2 x 1	2	E223865.5 N902512	SE corner of garden	Gore period soil preparation
EU2239	1 x 3	3	E223858 N902513	SE corner of garden	Gore period planting
EU2240	2 x 2	3	E223830 N902582	West edge of garden	Gore period planting, NB unit area is 3 sq m b/c 2231ext is one quad of the 2x2. Coordinate here is the SW corner of EU2231ext
EU2241	2 x 2	2	E223867.5 N902512	SE corner of garden	Gore period soil preparation
EU2242	2.5 x 1	2.5	E223859 N902511	SE corner of garden	Gore period planting and soil preparation
EU2243	2.5 x 1	2.5	E223852.5 N902509	Southeast corner of garden	Gore period planting and soil preparation.
STP21_05	0.5 x 0.5	0.25	E223885 N902685	Fruit wall	Became part of EU2115
STP21_06	0.5 x 0.5	0.25	E223885 N902601	Fruit wall	North of fruit wall, no historic features
STP21_08	0.5 x 0.5	0.25	E223890 N902600	Fruit wall	No historic features, possible golf course era sand trap
STP21_13	0.5 x 0.5	0.25	E223880 N902605	Fruit wall	Deposits relating to planting in front of the fruit wall

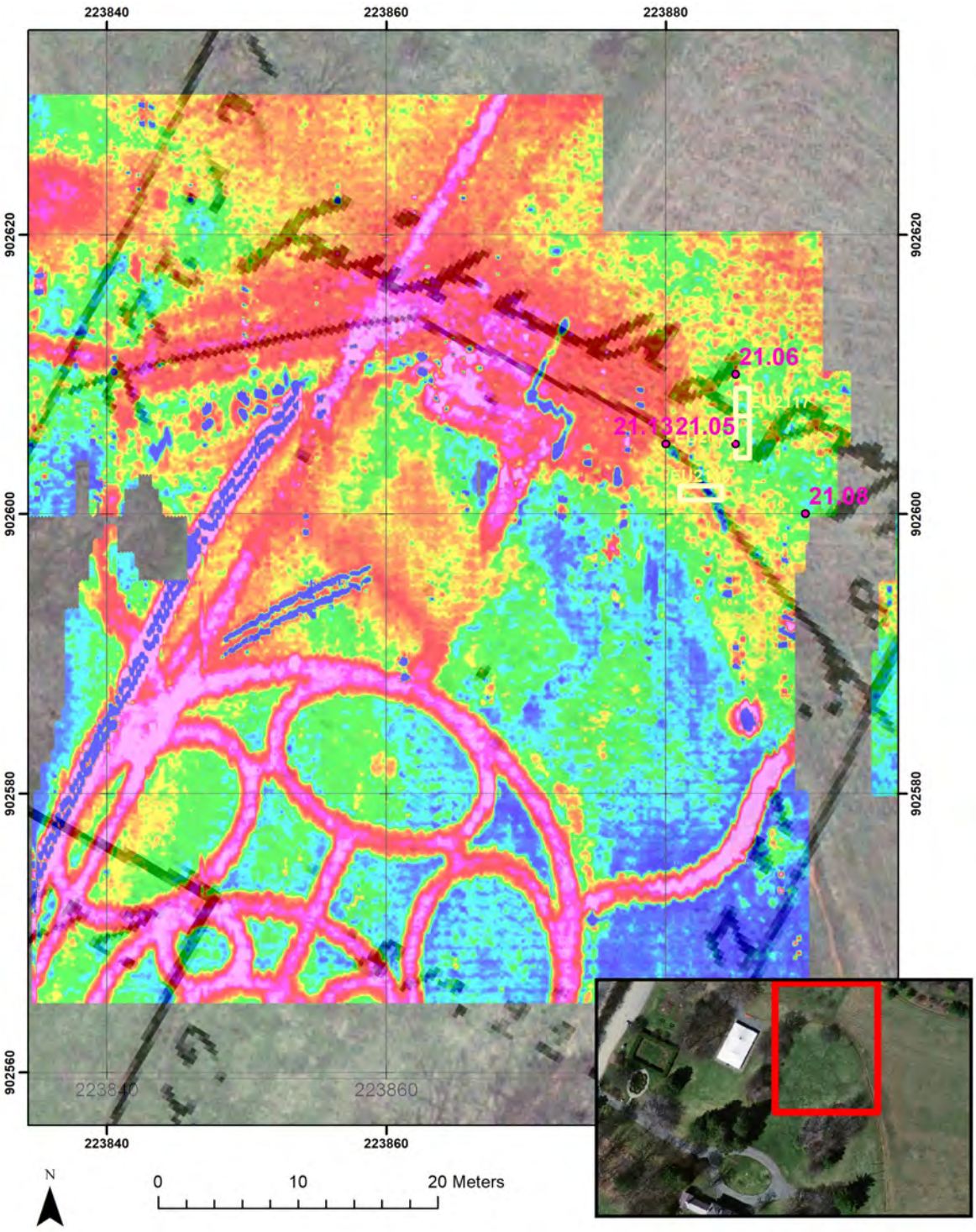


Figure 2.2. Images of the geophysical surveys over the fruit wall showing strong anomalies over the central block and west wing of the fruit wall. Based on the excavated location of the fruit wall, the anomalies seen here are located both in front of and behind the wall along the central section, suggesting that construction or demolition debris exists on both sides of the central section of the wall. The east wing, on the other hand, does not have this strong signature, but does show reflectors in the GPR that suggest a small structure against the front of the wall in the vicinity of EU2119. There is also a metal pipe visible running along the back of the fruit wall.

Figure 2.3. Historic image of the greenhouse that was constructed against the center and western sections of the fruit wall.

central sections, either because it was constructed differently or demolished differently (Fig. 2.2). The only photographs known of the green house show only the western and central sections (Fig. 2.3).

An earlier project (Smith and Dubell 2006) had placed test pits across the fruit wall area (see Fig. 1.3), but since the locations of those were not recorded in an absolute coordinate system, it was difficult to relocate those STPs with enough precision to use them to place excavation units. Smith and Dubell's most significant finding was a brick wall in an excavation unit near test D1 that was the front wall for one of the structures built against the fruit wall (Smith and Dubell 2006: 40). They also located a possible stone foundation in test C2 which is more difficult to interpret. In general, they concluded that there were deep deposits in front of the wall, and shallow deposits behind the wall. However, this proved not to be universally true, since we encountered a very deep resource pit behind the eastern wing of the fruit wall.

We began our work in the area by excavating a small number of test pits to understand the variation in deposits (Fig. 2.4). One test pit (STP 21_05) encountered a charcoal rich deposit at 50 cm below the surface. This area was expanded to EUs 2115 and 2117, which together made up a 5 meter long trench. Another unit, EU2119, was opened to cross a geophysical anomaly interpreted as a metal pipe, with the hope that this pipe was associated with the greenhouse. This unit contained the fruit wall, with the metal pipe running along its back edge.

The fruit wall was demolished early in the 20th century, and historic deposits begin at 40 to 50 cm (15 to 20 inches) below the modern surface. The upper strata is compact and homogenous, containing planting pot fragments, flat glass, coal, some fragmentary bricks, and modern plastics throughout, indicating that it was mixed in the later 20th century, possibly by plowing. The density of construction material, particularly brick, was surprisingly low given the remains of the large brick fruit wall below. It seems that large amounts of structural demolition debris were not incorporated in the soil that capped the demolished fruit wall.

EUs 2115 and 2117

These excavation units uncovered a very unusual deposit, that extended for most of the length of the 5 m long excavation area. It consisted of a very dark black (organically enriched) soil with large pieces of charcoal as a significant component (60%) of the matrix (Fig. 2.5). These pieces of charcoal seemed to be from downed wood, not structural timers, so do not represent material from a structure fire. Microscopic analysis of the charcoal shows that it comes from multiple species: beech, birch, and maple are represented. They are in large, clean pieces, and not trampled or disturbed much after burning. Although there is a large amount of charcoal throughout the matrix, there are places where there were particularly dense concentrations of large pieces of charcoal (with very little soil), and other places where there were smaller concentrations of unburned animal bone.

This charcoal deposit was 30 cm thick and sat in a straight-walled pit cut into the subsoil (Fig. 2.6). The excavation of EU2119 showed that the charcoal deposit ran up to the back of the fruit wall. If it is regularly shaped, this would mean that the back edge of the pit is over 6 meters from the back of the fruit wall. The outlines of the pit also seem to be visible in the GPR suggesting that the charcoal deposit extends as much as 9 meters along the back side of the east wing of the fruit wall, for a total possible dimension of 6 x 9 (20 x 30 ft), though this would need to be confirmed with additional test units to be certain. There are

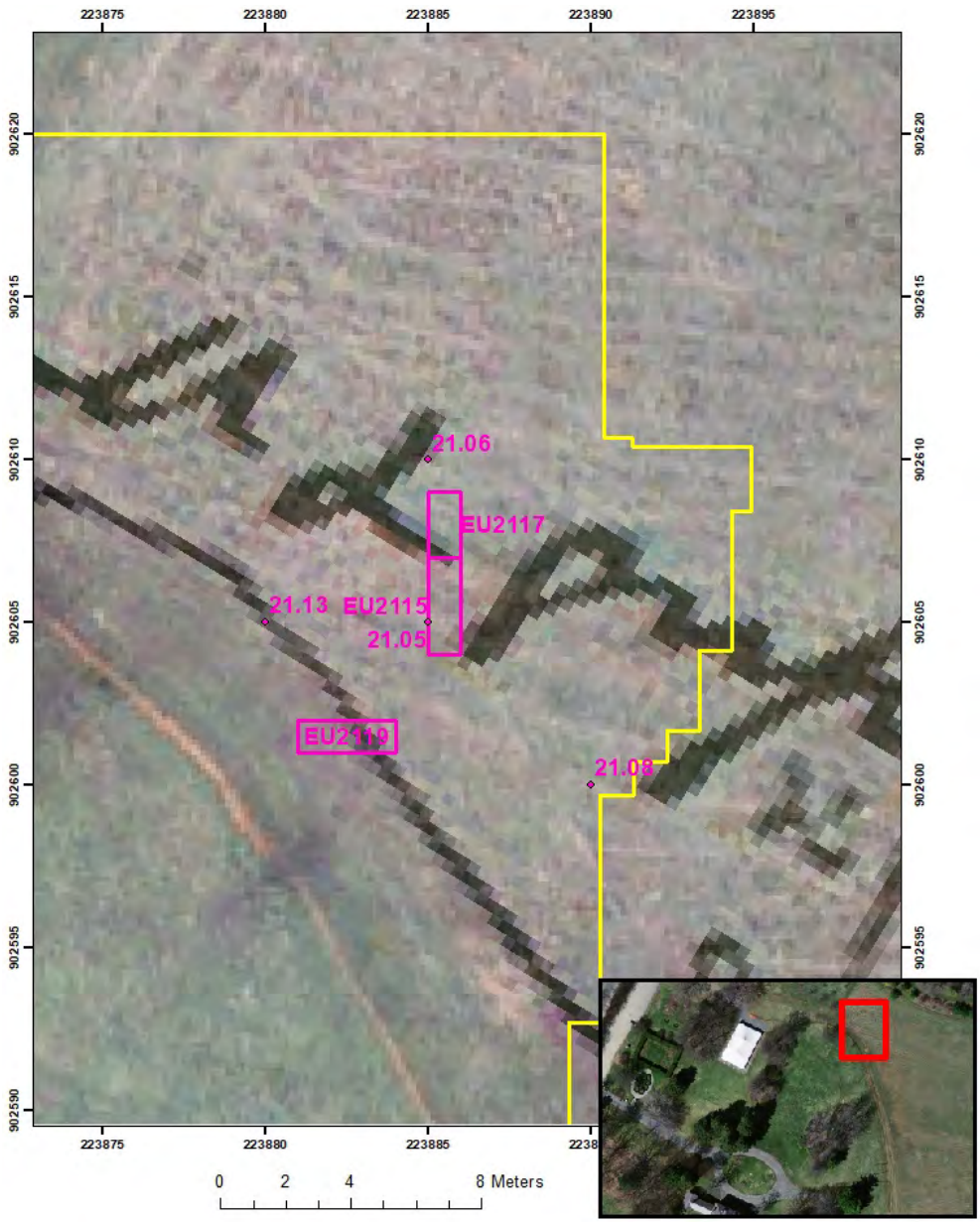


Figure 2.4. Units in the fruit wall area.

very few artifacts in with the charcoal, making it difficult to date. There was no obvious late 19th or early 20th century ground surface either surrounding or capping this pit. It has a very clean and abrupt upper interface, and the upper surface seemed to have the impressions of tire tracks in it. The ground surface that surrounded or covered this pit in the early 20th century may have been removed, and the pit truncated, when the fruit wall was demolished. Gore Place reports that soil from some parts of the property was sold early in the 20th century, which may account for the absence of a historic/buried ground surface in this area.

Our interpretation is that this feature is a resource or specialized compost pit behind the fruit wall that held a mixture of soil, animal bone, and charcoal that could be added to planting soils to enrich them. The garden soils throughout the southeast corner of the garden, for example, had abundant charcoal flecking. The date of the use of this resource pit is unclear, but there are no artifacts that indicate that it is modern. Smaller

Figure 2.5. Charcoal pieces from the pit behind the fruit wall.

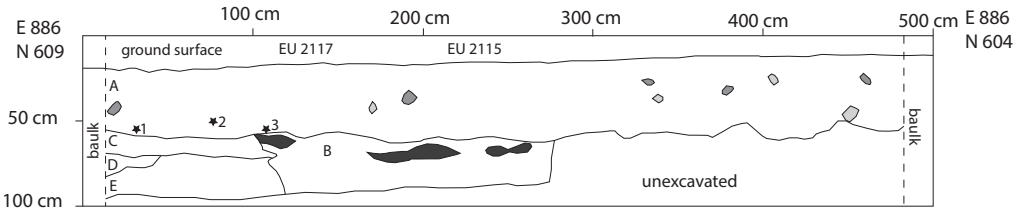
resource pits were found north of the 1806 greenhouse in two different areas (Lots F and BU, Romo and Beranek 2014: 44-50), meaning that this practice was widespread.

Excavations at Lyman's nearby property, The Vale, may have uncovered a similar deposit. Pinello describes a 1x1 m unit that encountered a deposit of large pieces of "charred wood" with some coal but no other artifacts in a pit that cut at least 20 cm into the subsoil (1999: 8, 13-14). The deposit is not interpreted further. The unit where this deposit was found was on the lawn between the house and the Peach Wall, however, not necessarily an expected location for a resource pit.

EU2119

EU2119 was placed to cross a geophysical anomaly interpreted as a metal pipe. This proved to be a small pipe, 38 cm below the modern surface, that ran immediately behind the remains of the fruit wall, presumably to bring water to the later 19th/early 20th century greenhouses. All of the soil above the pipe (down to 40 cm below the surface), was a homogenous layer that contained primarily architectural debris (brick, window glass, nails), coal, and fragments of planting pots and other historic ceramics. Beginning at 40 cm bs, we encountered deposits relating to the fruit wall with no evidence of 20th-century disturbance. Upper courses of the fruit wall had been demolished, and the remaining courses began at 40 cm below the modern surface (Fig. 2.7). The fruit wall consisted of a row of bricks running longways forming the back of the wall, with another row of bricks perpendicular to those facing the front of the wall (Fig. 2.8) with a substantial layer of mortar between the two. We excavated part of the charcoal pit behind the wall to investigate the construction of the fruit wall. Twelve courses of brick were preserved. The bottom two courses were wider, creating a broader base, which sat on a pad of mortar. These lower levels were cut into the subsoil, which was then back filled against the wall and capped by the charcoal pit fill.

The deposits in front of the wall were complex, and we exposed a relatively small area (less than 1 x 2 m). However, our interpretation is that they are the remains of planting beds for grape vines (see Ch. 3). At the level of the top of the fruit wall, the soil was mottled (cxt 5105; deposit "E" in Fig. 2.7) with dark stains that continually changed shape. It contained some bone, and a notable amount of shell. The low artifact density makes this layer hard to date as well, but the only temporally diagnostic artifacts in it were late 18th and early 19th-century ceramics (blue shell edge pearlware and polychrome hand-painted pearlware). This may mean that the preserved deposits date to the Gore period despite the fact that the fruit wall remained in use throughout the 19th century. As we went deeper, the darker soil became predominant and the level of gravel decreased. This suggests that this soil is mixed, but represents a planting bed, possibly with some disturbance in the upper layers. Below this mottled soil we found an 8-10 cm (3-4 inches) thick layer of brick and mortar rubble (5110; deposit "J" in Fig. 2.7) that was not continuous but was broken up by strips of subsoil that ran perpendicular to the fruit wall (Fig. 2.9). Once we uncovered the mortar deposit, we cut through only part of it (the western 70 cm of the unit), revealing a series of thin, stratified deposits below it (cxt 5112; F, H, and I in Fig. 2.7), the lowest of which was a gravel and cobble layer over subsoil. These underlying deposits were also interrupted in the same perpendicular fashion. These deposits match period descriptions of specialized planting beds for growing grapes; further discussion can be found in Chapter 3.

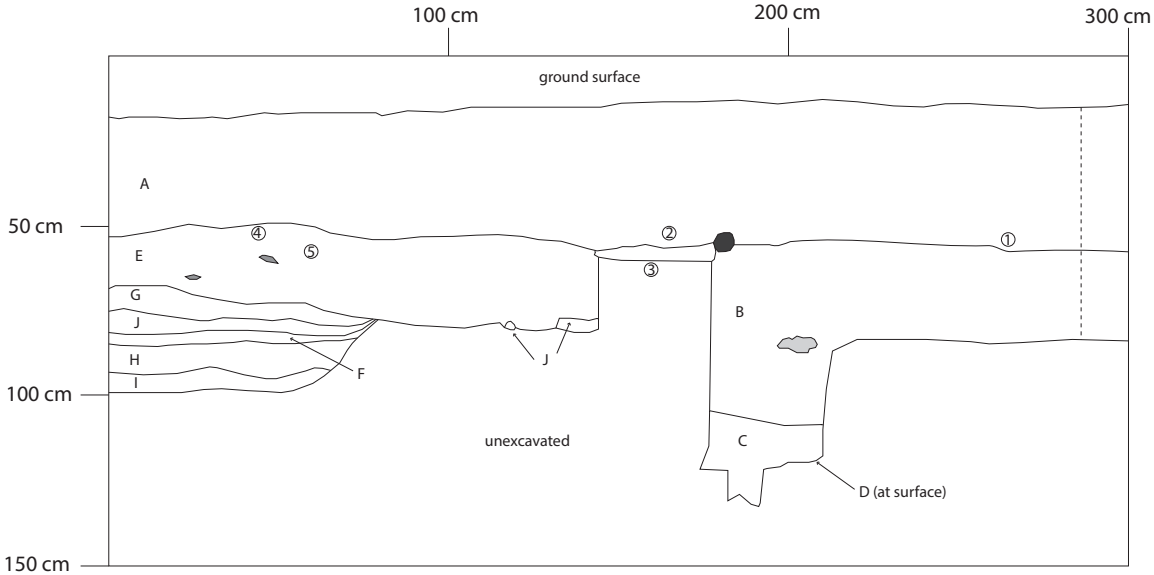


Soil descriptions

A = 10 YR 3/4 dark yellowish brown, sandy silt moderately compact
with 1% charcoal and small cobbles
fill layer
B = 10 YR 2/1 black, silt, mostly compact
60% charcoal inclusions, 5% bone
charcoal layer/pit
C = 10 YR 3/4 dark yellowish brown mottled with
10 YR 4/6 dark yellowish brown slightly sandy silt, moderately compact
start of transition to sub strata
D = 10 YR 5/8 yellowish brown, slightly sandy silt, slightly compact
with small cobble inclusions
transition to sub strata
E = 10 YR 5/8 yellowish brown, sand, loose
20% small gravel and cobble inclusions
sub strata

= charcoal
= cobble
= brick

Figure 2.6. East wall profile drawing and closing photograph facing north of EUs2115 and 2117.



Key

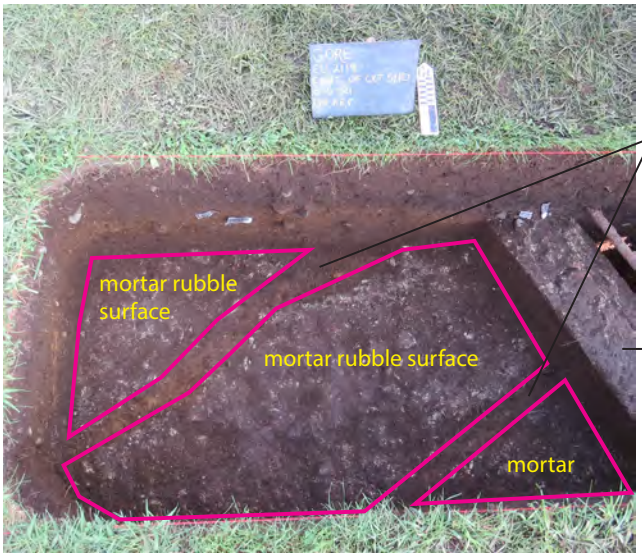
= pipe
= shell
= bone
= baulk

①= botton of cxt 5096, top of cxt 5103
②= bottom of cxt 5096, top of cxt 5102
③= bottom of cxt 5102, top of cxt 5106
④= bottom of cxt 5906, top of cxt 5101
⑤= bottom of cxt 5101, top of cxt 5105

Munsell
A = 10 YR 2/2 very dark brown, sandy silt
B = 10 YR 2/1 black, sandy silt
C = 10 YR 6/8 brownish yellow, coarse sand with gravel and cobble
D = 2.5 Y 6/6 olive yellow, fine sand
E = 10 YR 3/3 dark brown, silt mottled with
10 YR 5/6 yellowish brown, fine sandy silt
F = 10 YR 2/2, very dark brown, sandy silt
G = 10 YR 3/3 dark brown, slightly sandy silt
H = 10 YR 3/6 dark yellowish brown, coarse sandy silt
I =10 YR 4/6 darl yellowish brown, coarse sand with gravel and cobble
J = mortar and brick layer

Figure 2.7. North wall profile of EU2119.

Figure 2.8. Top of the fruit wall in EU2119 with an irrigation pipe behind it.



mortar layer in profile, 3-4 inches thick, following excavation through a small section

Figure 2.9. Mortar deposit, broken up by parallel, linear strips of subsoil, in front of the fruit wall.

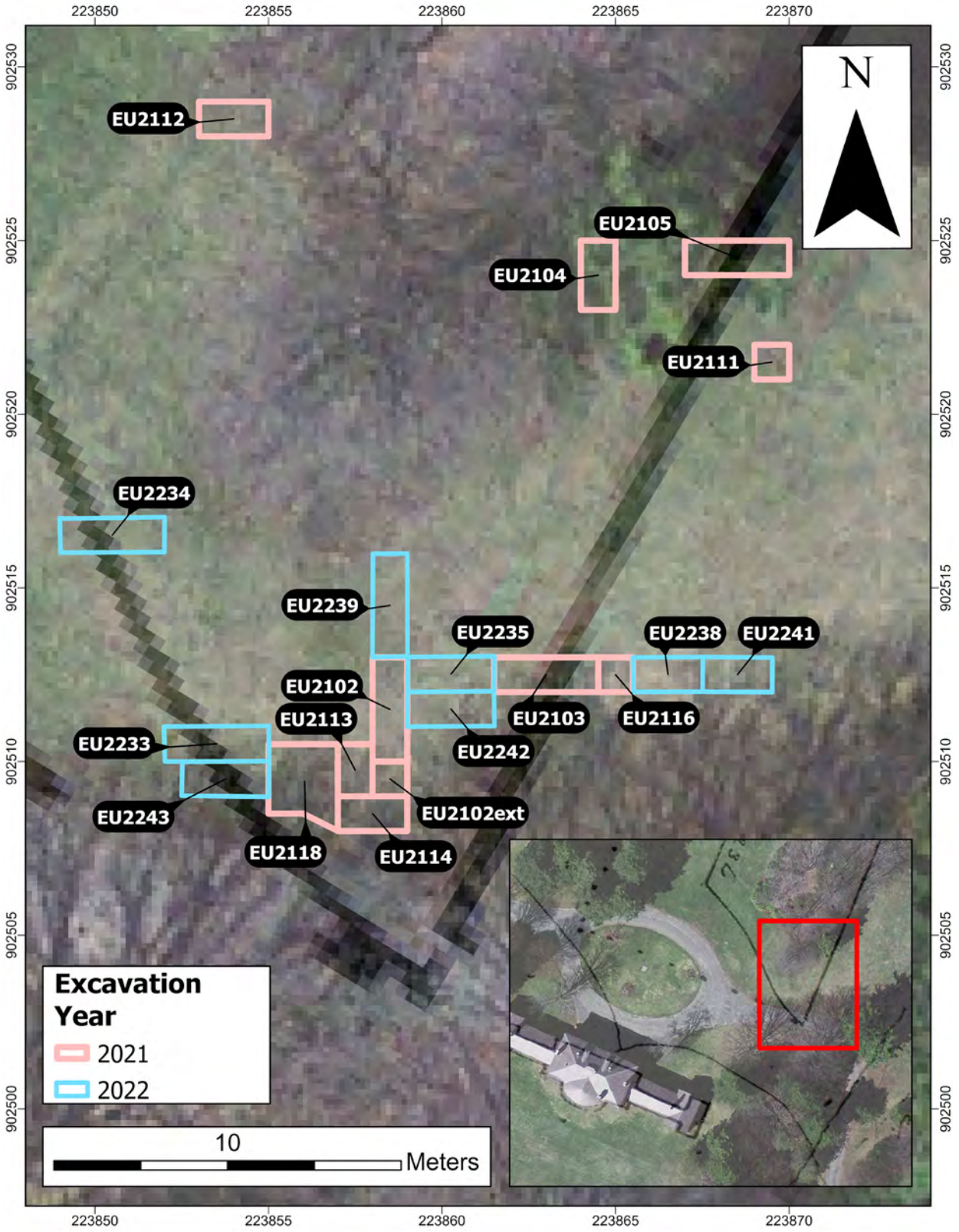


Figure 2.10. Excavation units in the southeast corner of the garden. Map by Trace Podder.

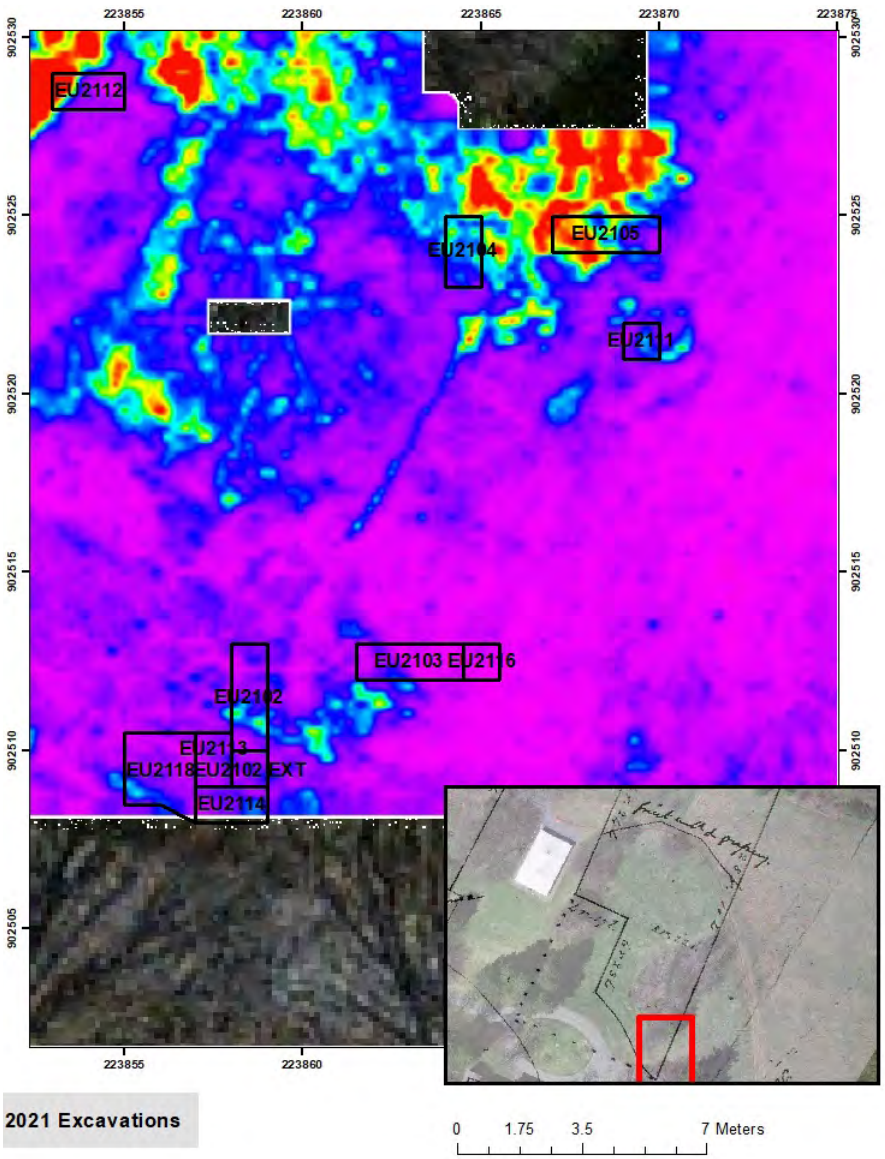


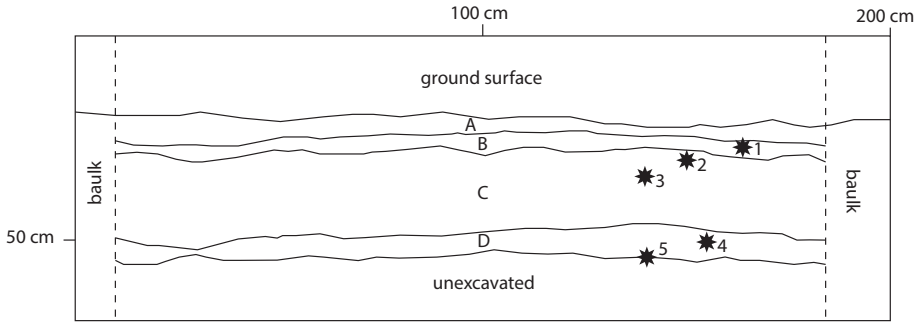
Figure 2.11. Ground penetrating radar results in areas of EU2104, 2105, 2111, 2102, and 2013; this slice shows strong reflectors used to place 2104 and 2015.

Southeast Garden Corner

In the area corresponding to the southeast corner of the enclosure on the Lyman map, we opened 19 excavation units of various sizes covering 142 sq m (Fig. 2.10; Table 2.1). Most of these were contiguous, providing a detailed view of a 17 m (E-W) by 8 m (N-S) area. Five additional units were not connected with this block. Three units did not contain any Gore or Lyman period features (2104, 2105, 2111); but all of the other units in this area contained garden features. Most of these related to the Gore and Lyman periods; EU2112 contained stratified pathway deposits that extended into the Greene period over older features.

Units without Garden Features: 2104, 2105, and 2111

Based on the starting georeference of the Lyman map, units 2104, 2105, and 2111 should be located along the eastern border of the enclosure depicted on the Lyman map, and they were opened with the goal of finding features related to that border. Ultimately, none of them contained historic



A = 10 YR 2/2 very dark brown, compact silt topsoil
B = 10 Yr 2/2 very dark brown, compact silt high density of gravel inclusions
C = 10 YR 3/3 dark brown, moderately compact silt
D = 10 YR 4/6 dark yellowish brown, sandy silt moderately compact, mottled with 10 YR 2/2 very dark brown

Coordinates

NW corner E223864 N 902525
SW corner E223864 N 902523

✸Context tags

1 = bottom of level 1, cxt 5009
2 = bottom of level 2, cxt 5011
3 = close cxt 5012, open cxt 5013
4 = close cxt 5014, open cxt 5015
5 = close cxt 5015, open cxt 5016

Figure 2.12. West wall profile of EU2104. Units 2104, 2105, and 2111 have similar stratigraphy.

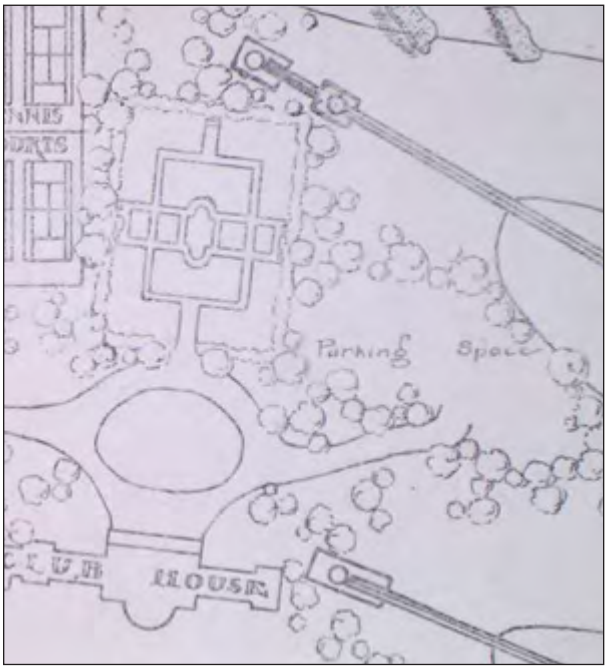


Figure 2.13. Plan of the Waltham Country Club. Units 2104, 2105, and 2111 are located near the area that was planned as a parking area on this map.

garden features, though they did contain a layer of enriched soil from the Gore period. They also contained deposits related to the golf-course.

All three units were placed to cross geophysical anomalies. EU2104, running north-south, was placed so that the northern end would overlap with a broad area that appears as blue and red in Fig. 2.11. EU2105, running east-west, was placed to cross the eastern edge of the same reflector, with an additional strong reflector in the southeast corner. EU2111 was placed to intersect a similarly strong reflector. The broad reflective area that appears throughout the units may be explained by the remains of a gravel layer from the golf course era.

In general, the stratigraphy of these units consisted of a thin layer (5 to 10 cm thick) of modern sod and topsoil (cxts 5009, 5002, 5021), a gravel deposit (cxts 5011, 5005, 5022), and an enriched soil (cxts 5012, 5014, 5010, 5024) over subsoil (Fig. 2.12). Subsoil appeared at 30 to 35 cm below the modern surface throughout this area. In units 2105 and 2111, the strong reflectors proved to be pieces of concrete/conglomerate that had been set into/cut through the earlier enriched Gore-period soil deposit. These date to the golf course period or more recently.

The gravel deposit was up to 5 cm thick, but not evenly distributed over the whole area. It was thickest in 2104 and the western end of 2105. The

Table 2.2. Ceramic types from a sample of contexts across the garden area showing the range of ware types and decorative styles. Redware, creamware, and pearlware are the most common, but there are a wide range of types and decorations in the assemblage. The most common decorative styles all date to the Gore period: polychrome painted pearlware (1795-1835), neoclassical scalloped blue and green shell edged pearlware (1800-1830), and blue transfer printed pearlware, produced since 1783 and common after 1812. Other colors of transfer print were introduced in 1818 and 1829, but none of those other colors are represented.

Ware Types	EU2102	EU2102ext	EU2104	EU2105	EU2111	EU2113	EU2114	EU2118	EU2239	EU2241	Grand Total
Earthenware, coarse	**73**	**27**	**51**	**100**	**21**	**40**	**54**	**53**	**73**	**146**	**638**
Buckley Ware	1										1
Indeterminate earthenware	1								3		4
Redware (including planting pots)	68	27	45	99	17	40	54	51	63	145	609
Staffordshire Slipware			1	1				1	1		4
Tin Glazed	3		5		4			1	6		19
Earthenware, refined	**130**	**16**	**79**	**76**	**17**	**33**	**36**	**40**	**132**	**122**	**681**
Creamware	44	9	30	35	3	9	7	8	63	45	253
Creamware factory-made slipware (dipt ware)									2	2	4
Creamware, overglaze painted									1	1	2
Indeterminate earthenware (burned)	30	5	14	19	6	11	13	14	19	17	148
Manganese mottled				1		1					2
Pearlware	43	1	18	7	1	9	12	7	31	28	157
Pearlware, other decoration	1									3	4
Pearlware, shell edged blue	1		1	1	1	2			3	4	13
Pearlware, shell edged green	3		2	2				2		1	10
Pearlware, sponged									2	1	3
Pearlware, transfer printed blue	5	1	12	10	2		1	1	5	8	45
Pearlware, underglaze painted blue			1							4	5
Pearlware, underglaze painted polychrome	3		1	1	4	1	3	8		3	24
Whiteware									6	5	11
Porcelain	**3**		**1**	**2**	**3**	**2**		**1**	**4**	**1**	**17**
Stoneware, coarse	**2**	**1**	**5**	**1**				**1**	**3**	**2**	**15**
British Brown stoneware			1	1				1			3
Indeterminate stoneware			2							1	3
Rhenish stoneware	2	1	2						3	1	9
Stoneware, refined		**1**		**3**	**1**	**1**			**3**	**2**	**11**
Black Basalt										2	2
Indeterminate stoneware				1							1
Jackfield Type		1				1					2
White Salt Glazed				2	1				3		6
Grand Total	**208**	**45**	**136**	**182**	**42**	**76**	**90**	**95**	**215**	**273**	**1362**

Table 2.3. Equivalent of contexts in units 2102, 2103, 2113, 2114, 2116, 2118, 2233, 2235, 2238, 2239, 2241, 2242, and 2243.

Level	Contexts
Level 1, modern topsoil	5001, 5003, 5004, 5018, 5023, 5039, 5059, 5070, 5087, 5120, 5121, 5138, 5151, 5156, 5157, 5166
Level 2, more gravelly soil	5007, 5008, 5019, 5025, 5042, 5063, 5071, 5088, 5122, 5123, 5142, 5152, 5160, 5162, 5168
Level 3, enriched Gore period garden soil	5013, 5020, 5026, 5043, 5067, 5074, 5093, 5124, 5125, 5126, 5143, 5155, 5161, 5163, 5169
Transition to subsoil/feature definition	5028, 5029, 5052, 5054, 5073, 5082, 5095, 5107, 5113, 5114, 5116, 5128, 5032, 5137, 5146, 5164, 5165, 5170
Feature bisects	5033, 5034, 5037, 5038, 5060, 5061, 5062, 5065, 5066, 5075, 5081, 5083, 5085, 5086, 5099, 5100, 5159; post holes: 5068, 5094

gravel layer and topsoil contained two golf tees, suggesting that the gravel layer was the surface during the 1920s/early 1930s when the property served as the Waltham Country Club. A plan map of the country club (Fig. 2.13) shows a parking area in the general vicinity of these units. The gravel may be a remnant of the golf course parking area.

Below the gravel layer in all units was a thick (15 to 20 cm) soil containing flecks of charcoal, small pieces of calcined bone, nails, and small fragments of 19th c. glass and ceramics (cxts 5012, 5014, 5010, 5024). Some of the ceramics (10-20%) were burned. Described as "chocolate brown" in the field, the layer was very silty, with a low gravel content. This layer represents an enhanced or enriched planting soil, similar to what was found on the south lawn (Smith, Beranek, and Steinberg 2010: 51-56, 69-71) and the whole of the formal garden area, see below and Chapter 3.

As seen in Table 2.2, there was a very consistent distribution of ceramic types across the garden soils in this area and elsewhere in the southeast garden corner. The ceramics were mainly earthenwares, mostly redwares (including planting pot fragments) and decorated and undecorated creamware and pearlware, with smaller amounts of stoneware and porcelain. The most recent ceramics across these deposits were blue transfer printed pearlwares which became common in Massachusetts in the 1820s, though they were available earlier; shell edged blue and green pearlwares were also present in all of the garden soils. Twelve percent of the ceramic fragments were unidentifiable since they were burned beyond recognition. As expected from enhanced soil, all bones were calcined. The density of glass was slightly higher than some other parts of the garden while the density of nails was slightly lower.

There were no visible planting features or post holes in these units, despite the presence of the Gore-era enriched soil. The fact that the soil layer was preserved suggests that if the area had been planted in the past, the planting holes would be visible at the interface with the subsoil, as they are in EU2102 and adjoining units. However, the enriched soil layer is thicker here than in EU2102, so it is possible that planting features in this area might not be visible if they did not cut all the way through to the subsoil. There was also no east-west difference visible between 2104 and the eastern end of 2105 that would indicate a transition from inside to outside the garden area.

Given the undifferentiated nature of the lower deposits in these units, it is hard to tell if they fell inside or outside the garden enclosure. There is a thick, enriched soil present here, but that is widespread across the property, including on the South Lawn, suggesting that Gore enriched the soil over large areas of his property. There is no evidence of a fence, wall, or boundary running through these units that would help pinpoint the exact garden edge. However, if we use the data from the features found in the block of units to the south, the garden edge would run between EU2104 (inside) and 2105 (outside).

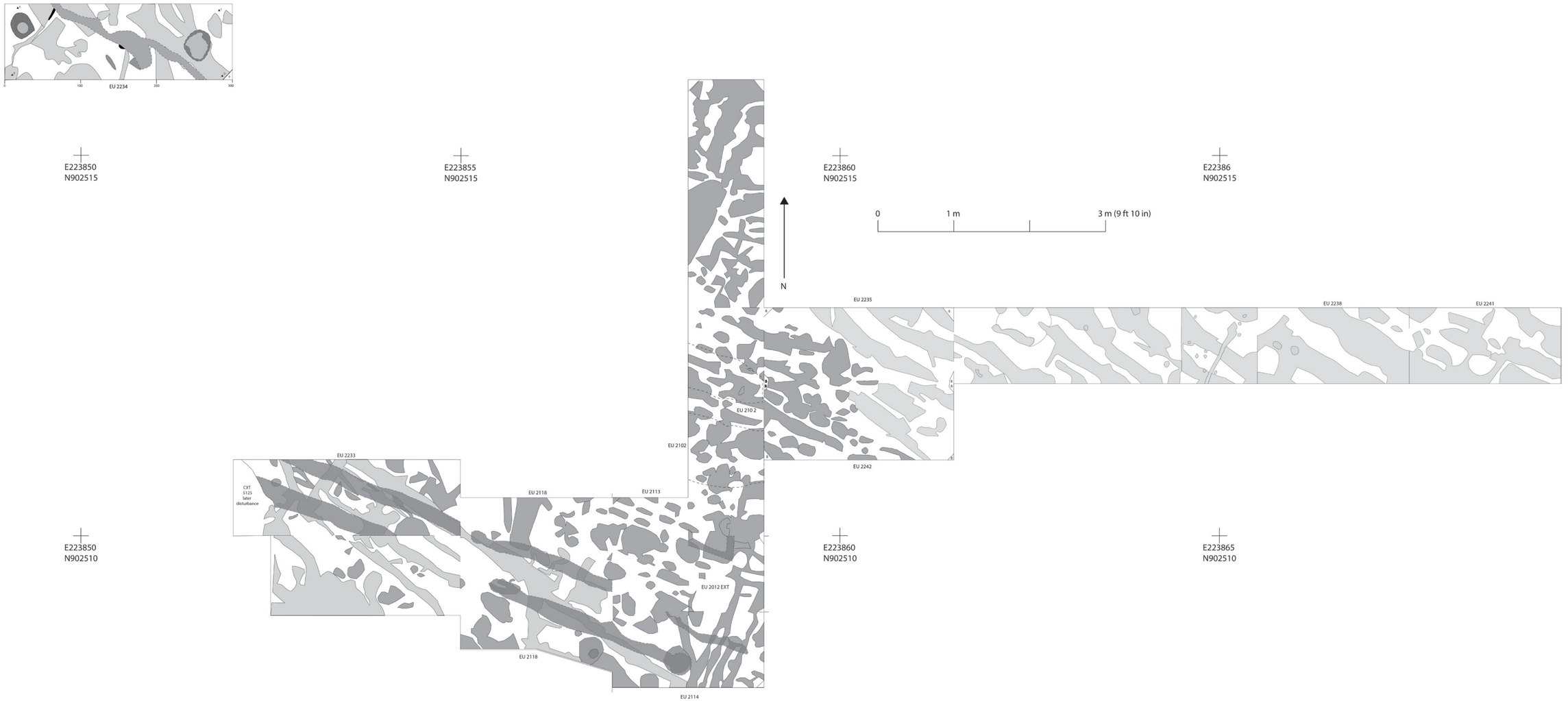
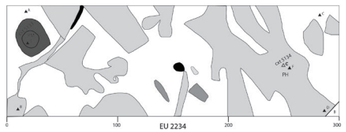


Figure 2.14. Composite plan of all features in units 2234 in the west to 2241 in the east. See Figure 2.10 for unit names. North is to the top. The two different shades of grey represent the two different feature orientations. This plan shows all of the documented features, at all elevations.



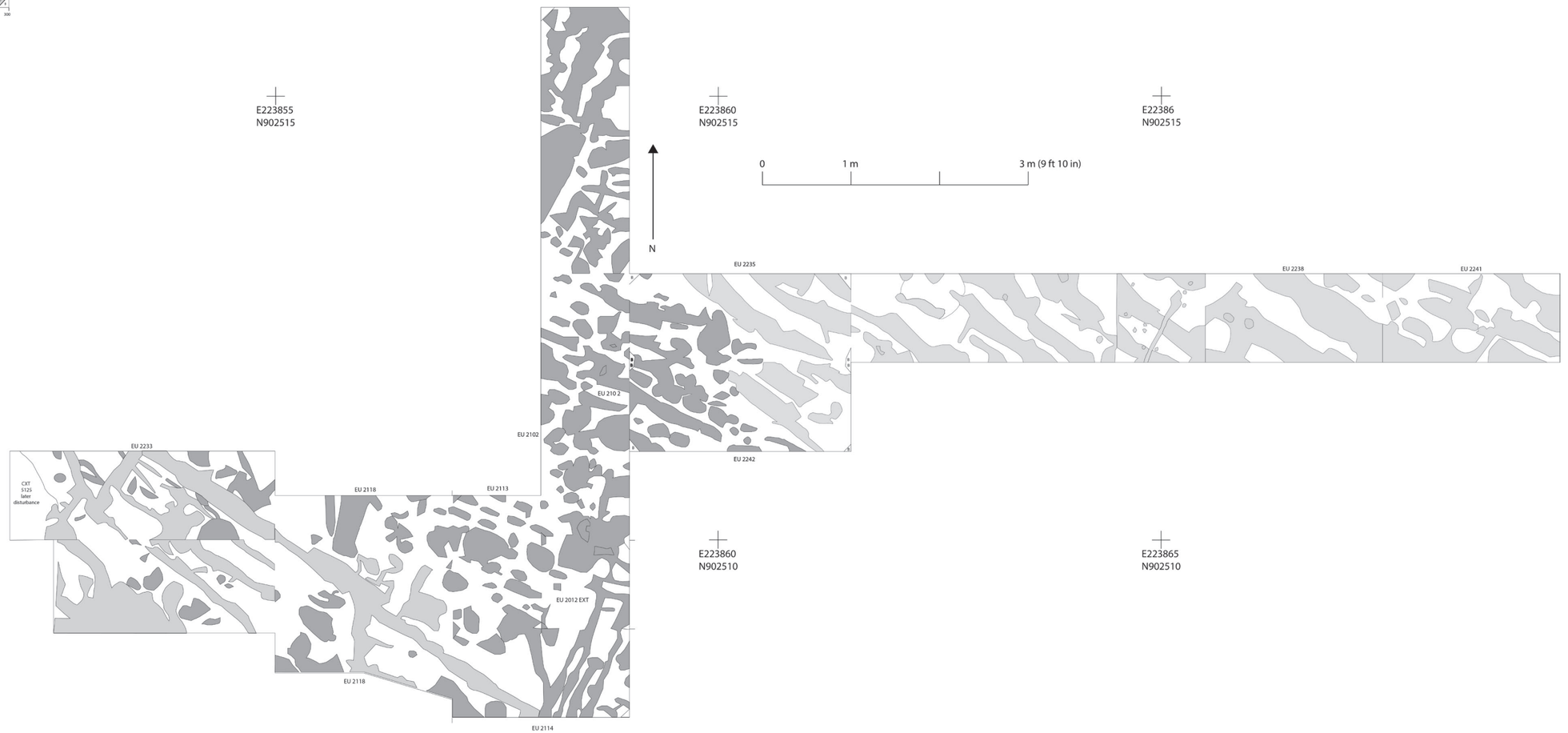
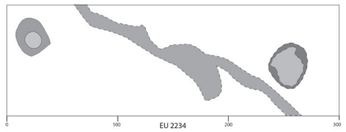


Figure 2.15. Composite plan of all features in units 2234 in the west to 2241 in the east. See Figure 2.10 for unit names. North is to the top. The two different shades of grey represent the two different feature orientations. This plan shows only the features at the level 3 to 4 interface, at the transition to subsoil. These consist of planting holes in the central section, with linear edging features at the south, and trenches, interpreted as the signature of soil preparation activities in the units on the eastern edge and the isolated unit to the west.

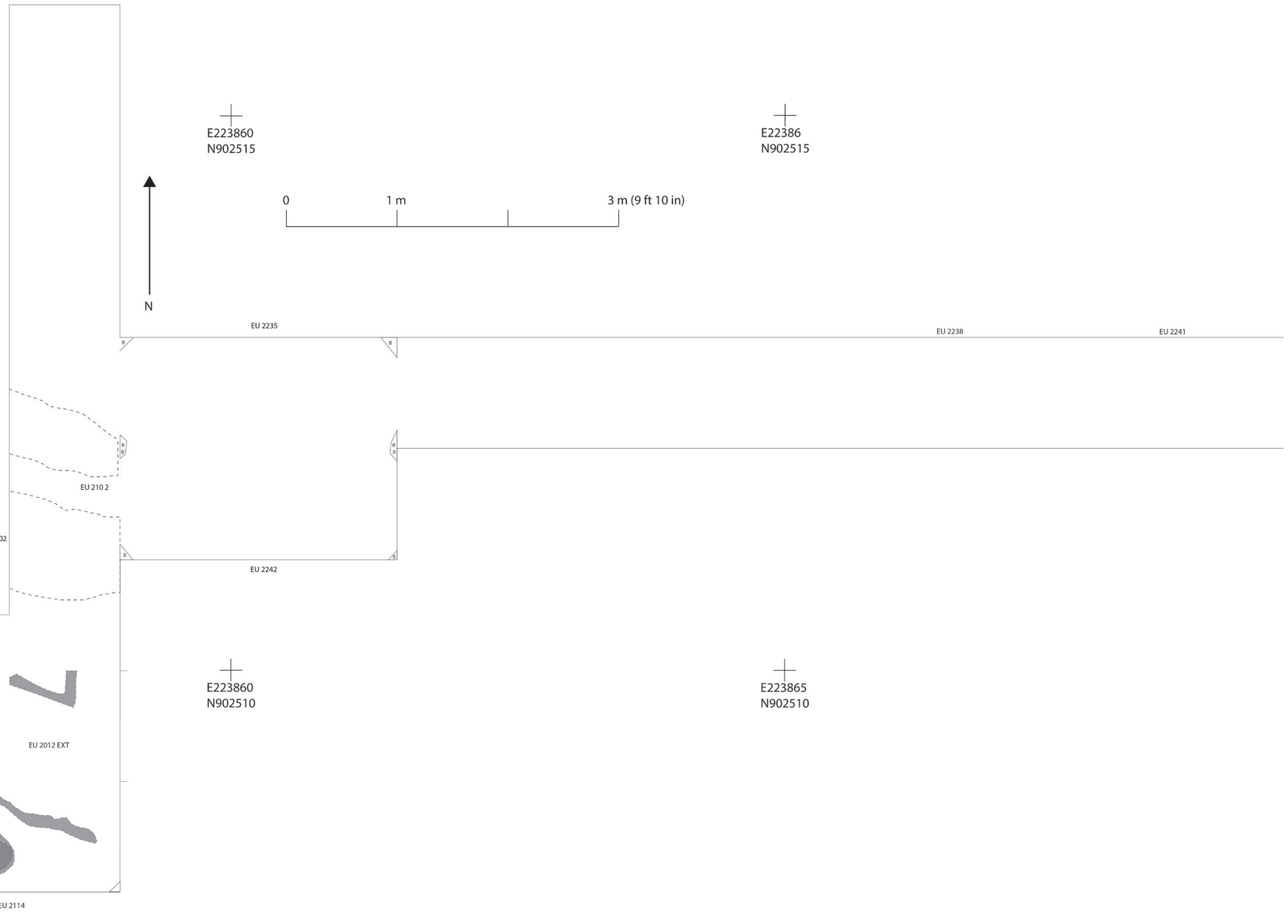


E223850
N902515

E223855
N902515

E223860
N902515

E22386
N902515

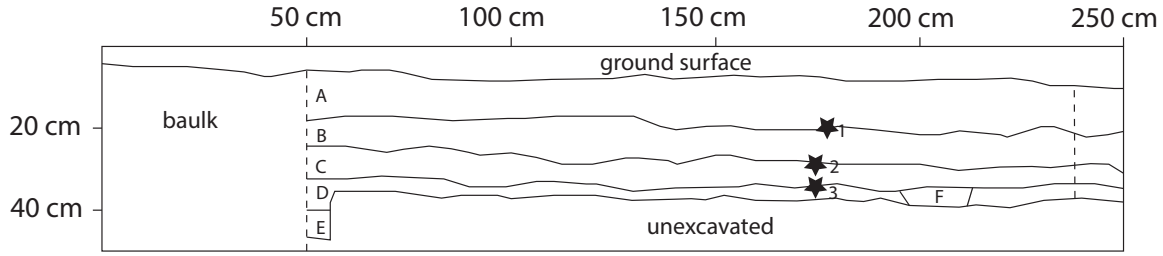


E223850
N902510

E223860
N902510

E223865
N902510

Figure 2.16. Composite plan of all features in units 2234 in the west to 2241 in the east. See Figure 2.10 for unit names. North is to the top. The two different shades of grey represent the two different feature orientations. This plan shows only the features visible at the level 2 to 3 interface, which we interpret as edging and internal dividing features, possibly trenches to plant border hedges. There are several post holes associated with these shallow trenches.



Munsell

Key

1= close CXT 5087
open CXT 5088
2= close CXT 5088
open CXT 5093
3= close CXT 5093
open CXT 5095

A= 10 YR 3/2 very dark grayish brown, slightly compact, coarse sandy silt B= 10 YR 3/3 dark brown, moderately compact, medium sandy silt
C= 10 YR 3/4 dark yellowish brown, moderately compact, coarse sandy silt
<1% mottling 10 YR 5/6 yellowish brown, very fine sandy silt
D= 10 YR yellowish brown, moderately compact, very fine sandy silty
10 YR 3/3 dark brown, slightly sandy silt (features)
E= 10 YR 3/3 dark brown, moderately compact, slightly sandy silt F= 10 YR 3/3 dark brown, moderately compact, slightly sandy silt

Interpretations

A= CXT 5087- top soil and sod
B= CXT 5088- gravel layer with lighter matric
C= CXT 5093 mottled layer abvoe feature layer
possibly Gore surface layer
D= CXT 5095- feature layer
E= CXT 5100- deep, dark feature in SW corner
F= CXT 5099- pair of linear features running SE to NW

Figure 2.17a. Representative stratigraphic profiles of units in the southeast corner of the garden. A) EU2118 west wall.

Units with Garden Features

The rest of the units in the southeast corner of the enclosure depicted on the Lyman map contained features (all soil stains) relating to the gardens once located here or to the preparation of the soil for gardening (Figs. 2.14-2.16). All units contained features at the interface between the cultural layers and the subsoil that we interpret as evidence of Gore period activities; a number of units had other features at higher elevations relating to later changes to the gardens (gravel pathways or later edging features).

These units share a common stratigraphy, although the thicknesses of the different levels varies across space. In general, there are three main cultural strata (Figure 2.17; Table 2.3). Level 1 is the modern sod and topsoil. It varies in thickness from 10-14 cm thick at the western end of the excavation area (in EU2241) to 6 to 12 cm thick in EUs 2102 and 2118 further east. Despite being the "modern" topsoil, it contains few modern artifacts with the exception of some recent glass and occasionally other lost or discarded items. The artifact density is low overall, and most of the ceramics are from the Gore period, suggesting that there was little trash deposition across this area throughout the 19th and 20th centuries. Level 2, a slightly lighter colored, compact soil with higher gravel content (up to 10% small rounded gravel, less in some areas) may represent the buried Gore-period surface; it is fairly consistently 6 to 10 cm thick and often contains charcoal flecking. Level 3 is a less compact, mottled soil that we have interpreted as an enriched or prepared soil, discussed further below. This layer varies from 6 to 14 cm in thickness, but not with any apparent pattern and is characterized by abundant inclusions of charcoal, calcined bone, brick fragments, nails, and burned and unburned glass and ceramic fragments (Fig. 2.18). The presence of so much charcoal, calcined

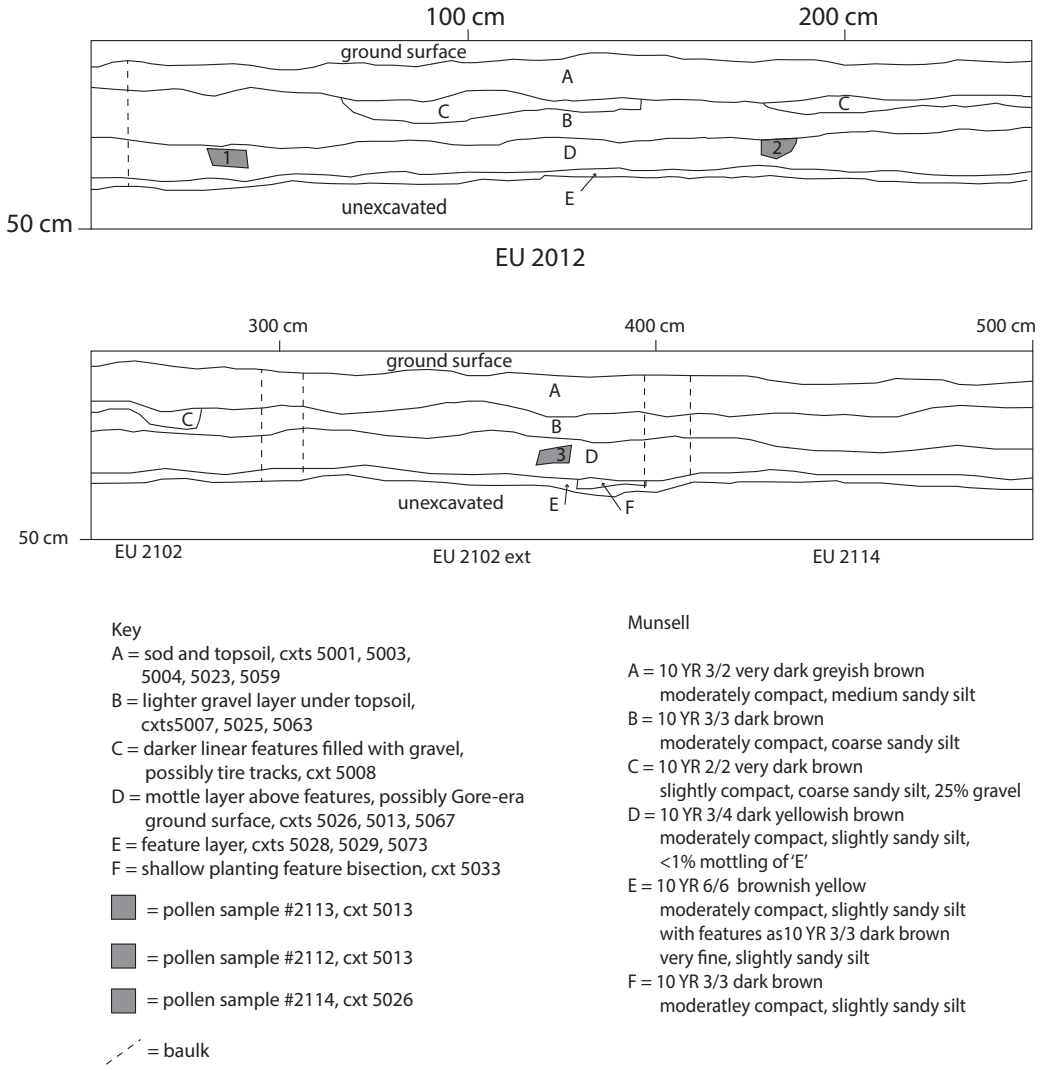


Figure 2.17b. Representative stratigraphic profiles of units in the southeast corner of the garden. B) EU2102 and 2114 east wall.

bone, and fragmentary domestic artifacts indicates that Gore was adding a systematically prepared mixture of materials to enhance his garden soils.

Level 4 is a thin level removed at the interface between level 3 and the underlying subsoil to clarify the features. Only 2 cm or less of this layer was usually removed, so it is not always visible on the profile drawings. The limit of excavation was very consistently ca. 30 cm below the modern surface, varying only by about 2 cm over most of this area, except in places where there were deeper features (discussed below).

Variations to this stratigraphic sequence and disturbance more recent that the first third of the 19th century were very limited. The addition of gravel for a potential parking area in EUs 2104 and 2105 is one alteration. There were also pieces of concrete conglomerate rubble in the eastern end of EU2105 and in EU2111, both visible as strong reflectors on the GPR. The southern edge of the contiguous excavation units had been compacted and had additional gravel at the surface from the adjacent driveway (EUs 2118, 2114), and the irregularity in the southern edge of EU2118 is to avoid digging through the drive. The western end of EUs 2233 and 2243 abutted an unknown gravel filled feature that cut through the earlier strata, also visible on the GPR. The purpose of this feature

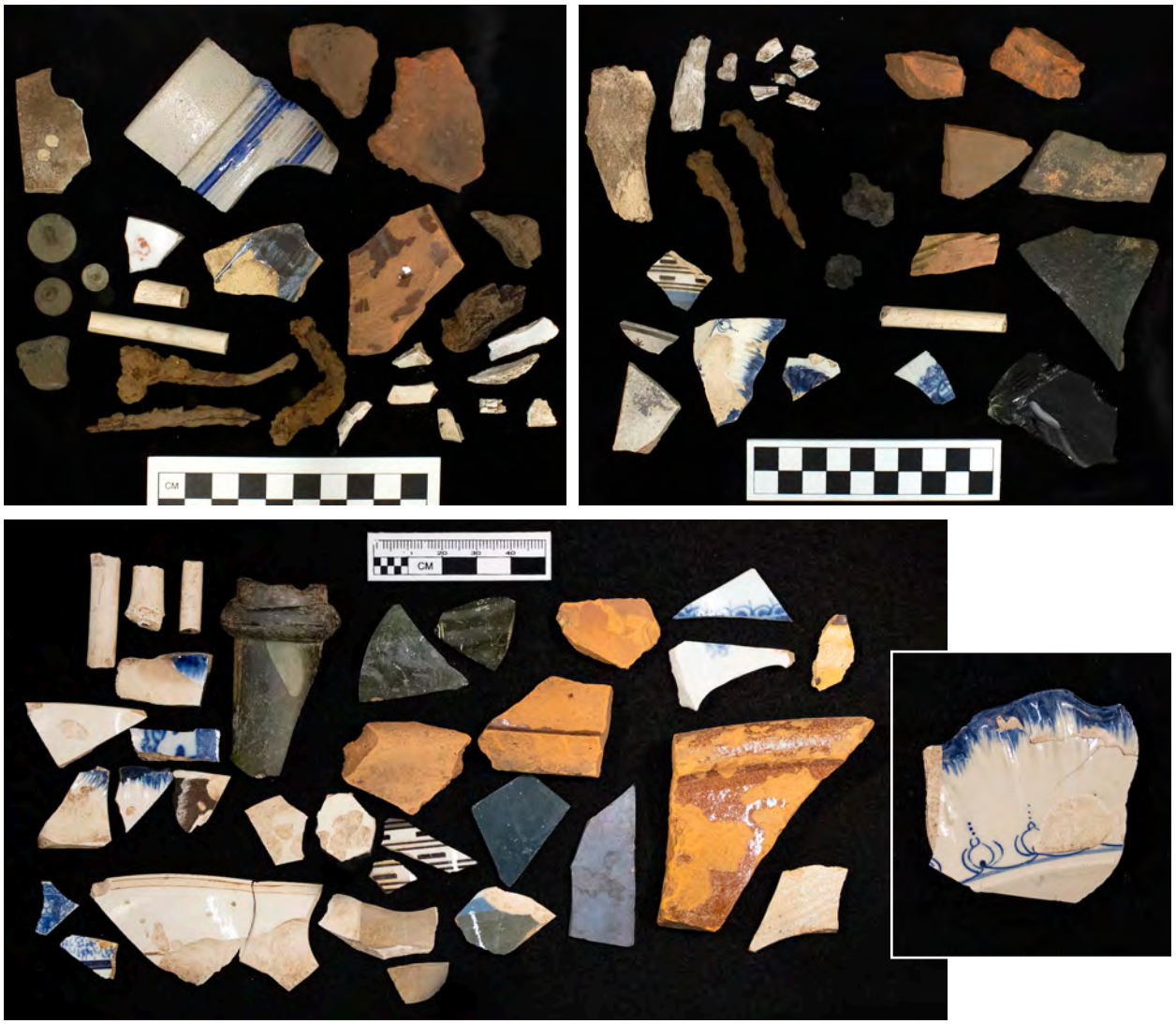


Figure 2.18. A sample of the artifact assemblage from the enriched Gore period soil levels (levels 2 and 3). Above, left) Artifacts from context 5013 in EU2102. Pictured: burned refined earthenware, gray salt glazed stoneware, brick fragments, copper alloy buttons, porcelain, smoking pipe stems, glazed redware, nails, and calcined bone. Above, right) Artifacts from context 5020 in EU2103. Pictured: unburned and calcined bone, nails, planting pot fragments, refined earthenware showing the typical range of decorative types present, pipe stem, glazed redware, dark green bottle glass. Bottom) Artifacts from contexts 5143 and 5146 in EU2235. Pictured: Pictured: smoking pipes, refined earthenware, vessel glass, redware and planting pots, window glass, porcelain, and stoneware. The single artifact pictures from cxt 5146 is a sherd of blue shell edged pearlware with an additional hand painted design. Note that some ceramic types appear in multiple units/contexts. Photographs by Melody Henkel.

is not known, and the western end of EU2243 was shortened to avoid it. There are also several buried irrigation pipes and electrical lines, visible in the GPR data (see below), which would have disturbed the limited areas in which they were installed. Other than these, the southeast garden corner area is remarkably well preserved. With the exception of small amounts of more recent glass and occasional other materials in the topsoil, there was also very little trash deposition across this area after the Gore period. The ceramic types across the area date to the Gore period (Table 2.2).

The artifact assemblage in levels 2 and 3 across this area is a dense collection of primar-

Table 2.4. Mean ceramic dates (MCD) for a samle of Gore garden contexts.

Unit	Context	Total Ceramics	MCD +/- 1 Standard deviation
EU2231	5131	220	1799.49 ± 26.88
EU2104	5012	62	1789.58 ± 44.67
EU2111	5024	42	1796.78 ± 57.11
EU2239	5155	194	1800.09 ± 31.4
EU2105	5010	182	1805.68 ± 34.28
EU2102	5013	208	1808.28 ± 29.47
EU2104	5014	74	1808.62 ± 25.28
EU2102ext	5026	45	1810.47 ± 31.12
EU2241	5162	116	1810.7 ± 26.22
EU2241	5163	157	1812.42 ± 29.04
EU2239	5152	21	1790.83 ± 28.58
EU2118	5093	95	1813.58 ± 36.59
EU2113	5043	76	1814.21 ± 32.31
EU2114	5067	90	1820.17 ± 28.57

ily small fragments of glass and ceramic, nails, calcined bone, charcoal, some smoking pipe fragments, and some small finds such as buttons and buckles (Figs. 2.18; see density calculations in Chapter 3, Tables 3.1 and 3.2). Many of the ceramics are burned and almost all of the bone is calcined and broken into small pieces. In EU2118, for example, 17% of the ceramics were unidentifiable because of burning. With the exception of some modern material in the topsoil, the artifact deposition in this area all seems to relate to the Gore period (see Table 2.2). Fourteen of the 171 contexts excavated in 2021 and 2022 were cataloged in sufficient detail to produce mean ceramic dates (Table 2.4). The MCDs range from 1789 to 1820, corresponding with the Gore occupation. They have a large standard deviation, probably because of the large number of undecorated or unidentifiable sherds with long possible date ranges. The decorated types present, such as the black basalt stoneware (popular late 18th c.), the elaborately scalloped and hand painted blue shell edge pearlware (popular ca. 1800-1820), the inlaid slip in a checkerboard pattern (popular 1790s-1820, Sussman 1997: 48), and blue transfer printed pearlware (produced since 1783 but more widely available after 1812) all fall into the period when the Gores were designing their house and landscape (see Fig. 2.18 for examples). The widespread presence of transfer printed ware suggests a date after 1810. In previous excavations, it has not been clear if the ceramic and glass fragments in the soil came from the Gore household or were brought in from off the property with other material to add to the soil. However, the presence of planting pot fragments throughout the units and of multiple sherds of the same vessel deposited in close proximity both suggest that much of the trash was from the Gore property, not brought in from elsewhere. This means that the ceramic fragments in these deposits can be used to infer the kinds of materials that the Gores owned. The composition, spatial patterning, origin, and purpose of these soil additions will be discussed below in Chapter 3.

Garden Features

The most significant aspect of this excavation area, however, is not the artifact assemblage, but the preserved features that cover the whole area, visible at the base of level 3 (Fig. 2.15). These

Figure 2.19. Features in EUs 2235 and 2242.

features can be broken down into four types: broad parallel trenches that cover all of the units in the east (EU2241 to the mid point of EUs 2235 and 2242); soil stains left by digging holes for individual plants (covering the middle part of the excavation area); long linear features marking the south edge of the area; and a small number of post holes and other deeper features. These feature types are different from what has been identified in many other garden excavations where pathways, terraces, and garden beds are more common than the planting holes for individual plants. This means that at Gore Place, we have a sense of the arrangement of individual plants, but have to hypothesize about the larger layout of garden beds. The preservation of these shallow, delicate features over such a broad area, relatively close to the modern surface, is truly exceptional. All of these features are soil stains, meaning that they are only defined by subtle soil color differences, visible only at a very specific depth because they have very limited thickness. During the dry summers of 2021 and 2022, it was very difficult to see these features, and we needed to continually water the excavation areas to keep soil color differences visible (adding up to 40 gallons of water per day in the very dry summer of 2022). It is a testament to the skill of the field crew that they were able to so carefully excavate and document them.

Lower strata: Broad Trenches

These trenches can be seen at the interface of level 3 and 4 as wide, linear soil stains that are not perfectly regular. They vary in width from about 25 to 45 cm, with most 25 to 30 cm wide (10 to 12 inches), usually with a slightly smaller space (20 cm/8 inches or less) between them, and run at an angle to our excavation grid (ca. 36 degrees north of west). They are irregular in that their edges are "lumpy" rather than perfectly straight. They do not cut much deeper than the interface with the subsoil where they are first clearly visible (2-3 cm in places where they were tested). These were first found in EUs 2103 and 2116 in 2021, and were then also located covering all of EUs 2238 and 2241 and the eastern portion of EUs 2235 and 2242 (Figs. 2.19 and 2.20).

The interpretation of these features has changed since the interim report. In the interim report on the 2021 season, we interpreted these as planting features within the formal garden, possibly trenches for planting bulbs. We now interpret these features as outside the limits of the formal garden, and as evidence of soil preparation prior to planting, not evidence of planting. Interpreting these features as "outside" the formal garden means that the eastern edge of the garden runs through EUs 2235 and 2242, very close to the edge as shown on the georeferenced Lyman map.

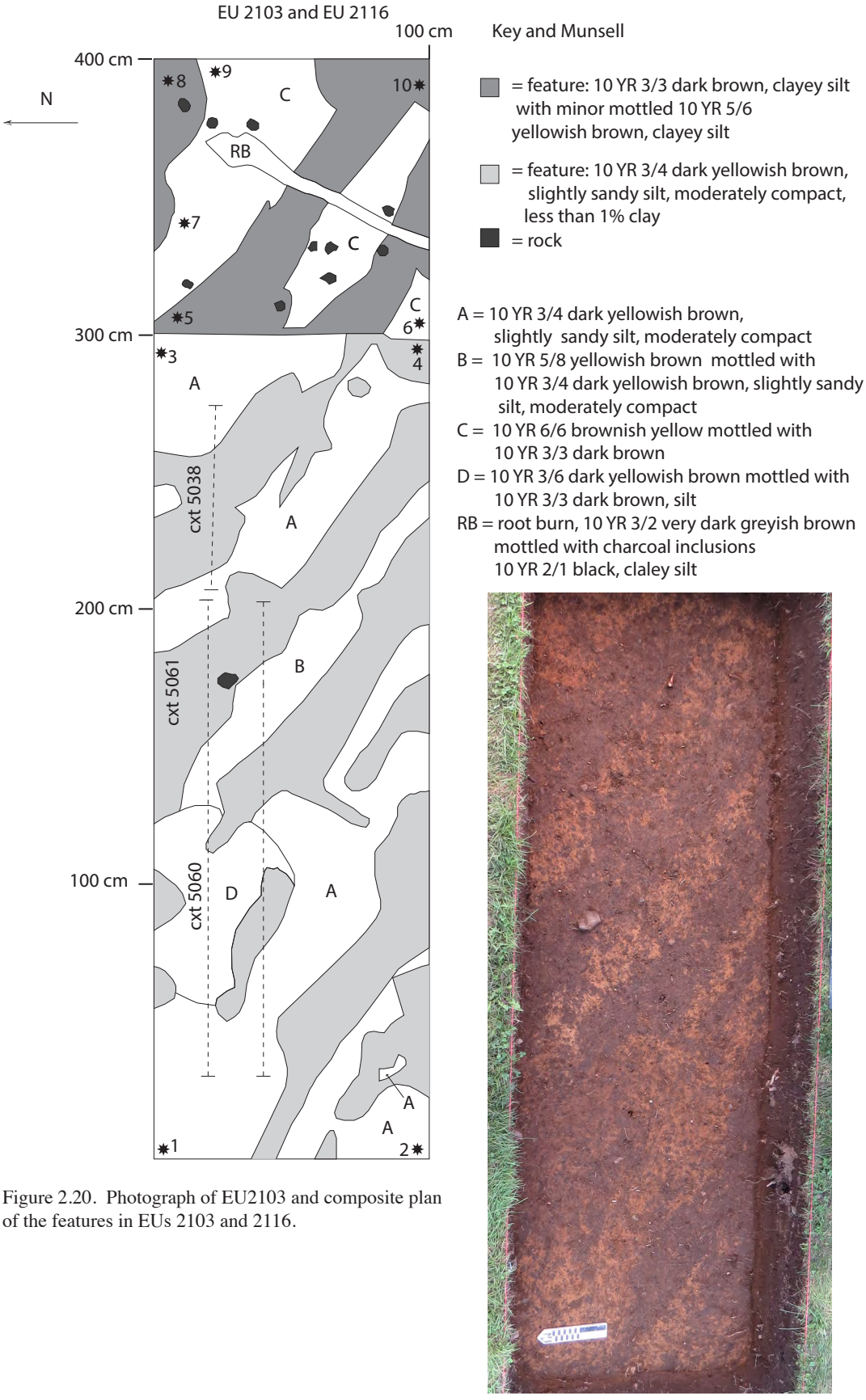


Figure 2.20. Photograph of EU2103 and composite plan of the features in EUs 2103 and 2116.

We now interpret these features as evidence of the Gores' soil preparation activities, systematically turning the soil to incorporate compost and other soil additives. This is sometimes called "double digging," and archaeologists at Mt. Vernon describe similar trenches at an angle to the garden, a foot wide and less than a foot and a half apart, of very consistent depth, visible at the interface with the subsoil in a new section of the garden prepared in 1785 (White 2016: 51). William Cobbett, in his 1821 manual on gardening, described preparing the soil in this manner by digging a long trench, then turning the soil from the next strip over into the trench, (Cobbett 2003 [1821]: 9-10), hence mixing and loosening the soil in preparation for planting. The features at Gore Place are consistent with what White (2016) found and may result from the process like what Cobbett described. Further, the artifact densities of these units are different than the density of artifacts in the units with small, planting features that seem to be inside the garden (see Chapter 3), strengthening the argument that despite having the same stratigraphy and types of artifacts, the depositional or post-depositional processes in these two areas were different.

Lower strata: Planting features

To the west of these units, and covering all or parts of the rest of the contiguous units, are soil features that we interpret as the bottoms of planting holes (Figs. 2.15, 2.21, and 2.22) visible again only at the interface of levels 3 and 4. These darker soil stains would have been formed when someone dug a hole through the darker, enriched garden soil, cutting just a few centimeters into the underlying, more yellowish subsoil. When excavated to the interface between levels 3 and 4, these bottoms of these planting holes can be seen. They are of various sizes, but there are clearly areas where small, oblong planting holes can be seen in SE to NW rows, most clearly in EU2113 (Fig. 2.21). In other places these appear as longer, narrow SE to NW trenches. Perpendicular to these rows and trenches are larger features in the northwest end of EU2239. We bisected several of these features, and they were also uniformly shallow, extending just 2-3 cm below the interface with the subsoil. Most of these features were left in place. Notably, although these features follow generally the same SE to NW alignment as the soil preparation trenches, they are at a slightly different angle (24 to 27 degrees north of west).

Our interpretation is that these represent the individual planting holes for different sizes and types of plants, bulbs, and shrubs, providing a window on the layout of the actual plants in the garden beds. Some of these plantings seem to continue south of (outside) the linear edging feature discussed below.

Lower strata: Edging Features

At the southern edge of this dense cluster of plating features is a long linear feature which runs across EUs 2114, 2118, and 2233, with additional branching and parallel segments further south visible at the interface of levels 3 and 4 (Fig. 2.23). This feature is in light grey in Fig. 2.15. Note that the longest section of this feature does not run parallel to the rows of small planting holes north of it. Rather it is parallel to the soil preparation trenches (35 degrees north of west).

We have interpreted this as a marker of the southern border of the garden, though not the absolute edge, as some planting features, usually larger ones can be seen to the south of it. Whether this was a board fence or a row of hedges is unclear. It has a shallow (ca. 7 cm), V-shaped profile. Hedges were a common way to edge garden beds and, according to William Cobbett (2003 [1821]: 15-19), were planted in a long, narrow trench, often with a second parallel trench/row of hedges. From a letter quoted in Viens report, we know that Gore had English white thorn hedges (Viens 2010: 4). White thorn, also called hawthorne, are the type of hedges that Cobbett advised for creating a "quick set" hedge around a garden (2003 [1821]: 15-19). Cobbett specifies the spacing for planting the hedge seedlings and calculates that to surround a 300 x 150 ft garden would take 1800 hedge seedlings, which would grow to a five foot tall hedge in six years.

The odd angle of this edge (relative to the rows of plants) corresponds with the angled solid line that forms the southern border of the enclosure shows on the Lyman map. These two

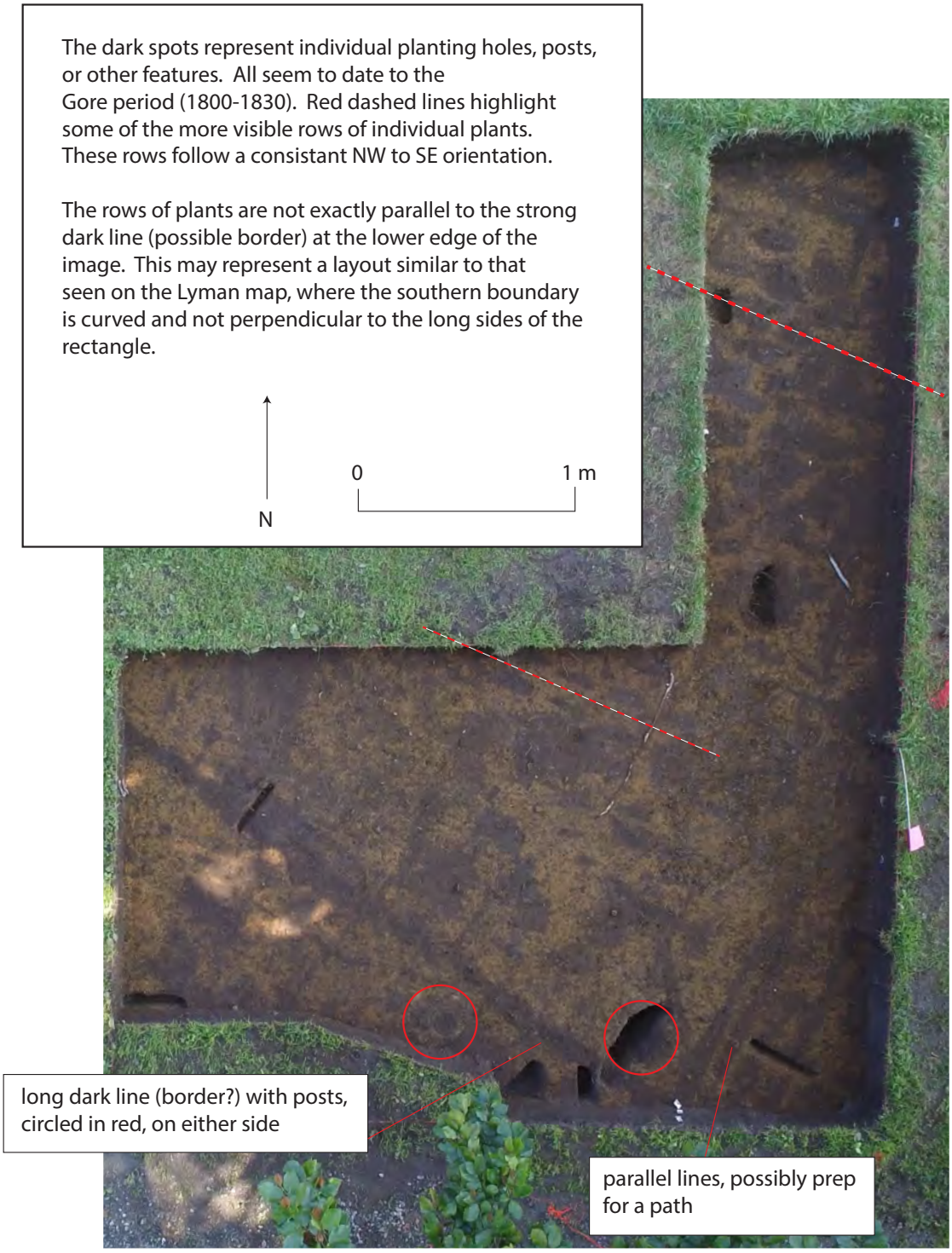


Figure 2.21. Overhead photograph of features in units 2102, 2113, 2114, and 2118, with annotations.

different alignments – the rows of plants versus the edging feature – all appear in features at the same level, suggesting that they are contemporary. Above ground, this would appear as rows of plants parallel or perpendicular to the long east edge of the garden, with a southern border cutting across at an angle to the plantings.

Figure 2.22. Overhead photograph of features in EU2239.

Figure 2.23. Edging feature and other planting features at the level 3 to 4 interface in EU2118. Note that north is to the right in this image.

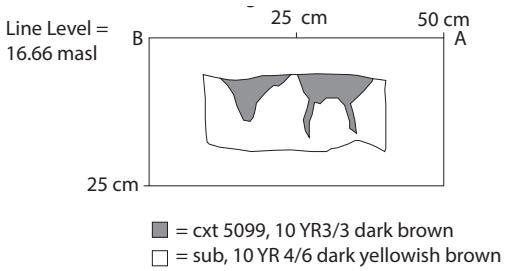
Figure 2.24. Soil features visible at the upper interface of the Gore period soil in EU2114. The yellowish soil is subsoil that has been upcast (a post hole), with a darker post mold in the center. Two linear stains are visible, one extending from the post hole and one to the north.

Upper strata: Edging Features

While all of the features described above appear clearly at the interface of levels 3 and 4, there is another set of features which appears at the interface of levels 2 and 3. These features are only visible at the top of the Gore-period enriched soil. The fact that they appear higher in the stratigraphic sequence (with other features below them at a lower strata) indicates that they are newer/more recent than the features below. These features are two parallel lines that appear slightly darker than the surrounding soil (Figs. 2.16, 2.24, and 2.25). These two lines were very subtlety different than the surrounding soil (such that we did not see them in 2113, which is the first unit where we would have encountered them) and had little thickness. In 2233, they were quite regular at 25-30 cm (10-12 inches) wide, with a gap of 25 cm between them. They appear as slightly narrower in 2214, possibly because we did not see them at their upper interface. In EU2233, excavators were able to determine that these features were V-shaped in profile and had a small amount of gravel at the lower interface.

Although they follow roughly the same course as the edge features described above, they are at a slightly different angle (24 degrees north of west). These features follow the same orientation as the

Figure 2.25. Soil features visible at the level 2 to 3 interface in EU2233.



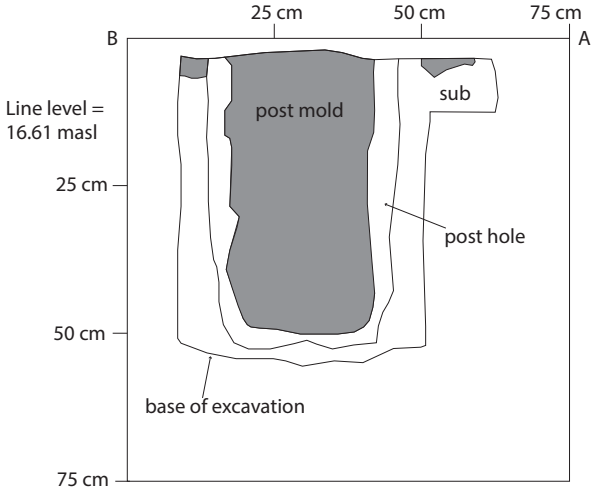


Figure 2.26. Profiles of bisected features: context 5099, the linear feature in EU2118, and context 5068, the post hole in EU2114. Bisect locations are indicated in Figure 2.21.

rows of planting features. Our interpretation is that these represent the course of the dotted line on the Lyman map which regularizes the south edge of the enclosure. This would suggest that the solid line represents the older, Gore-period edge, and the dotted line represents a later change, possibly one that was only planned or in progress at the point at which the map was drawn. (Compare the angles of the two sets of features in Figs. 2.14 to 2.16 with the two boundaries shown on the Lyman map in Fig. 1.5.) These two parallel features match Cobbett's description of the trenches dug to plant border hedges fairly closely.

Other Features

Finally, there are several other features in these units that differ from those described above. A total of four post holes with post molds (the space that once held the post) were also visible at the level 2 and 3 interface. Two are in the contiguous block of units: one at the east end of one of the long edging features in 2114 and one just south of the same stain in 2118 (Figs. 2.21, 2.24). Unlike the other features, the post holes had significant depth. The post holes and post molds continued through the depth of the Gore period soil and into the subsoil below. We bisected the example in EU2114 (Fig. 2.26). There were additional post holes in EU2234, discussed separately below. Presumably, these posts were related to the newer (upper) edging features, since they appeared at the same depth. They may be fence or gate posts, or posts that supported a fence built temporarily to protect growing hedges, a feature which Cobbett recommended for the first few years as the hedges became established (Cobbett 2003 [1821]: 22-23).

One subtle feature in EU2103 is a roughly circular area (cxt 5060) about 70 cm in diam-

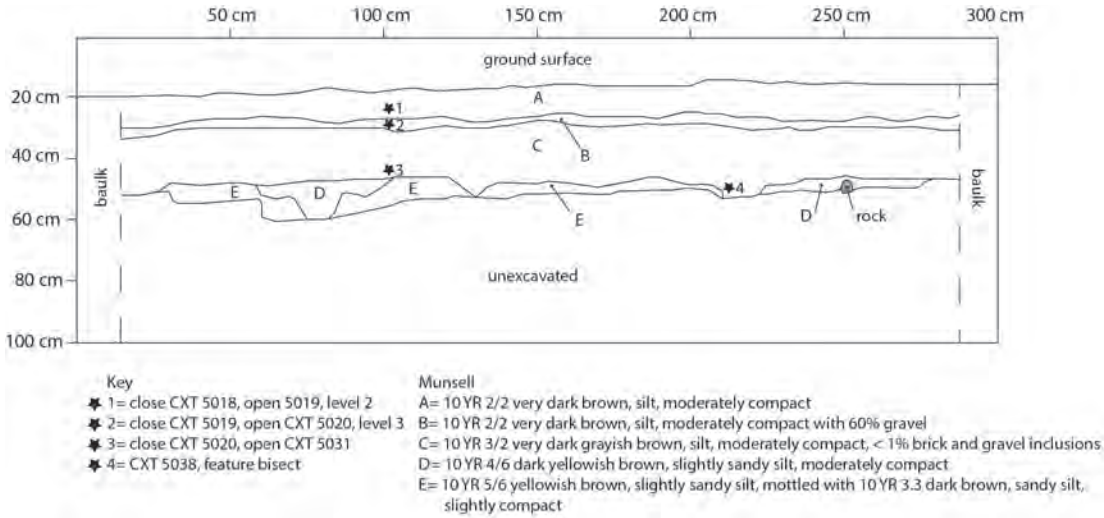


Figure 2.27. North wall profile of EU2103.

Figure 2.28. Dark feature in the northeast corner of EU2116 at its upper interface at the top of level 4 and bisected after the close of level 4.

eter abutting the north wall of the unit (Figs. 2.14, 2.19). This feature appears to interrupt the trenches that otherwise cover this area; it appeared lighter than the fill of the trenches, but darker than the background subsoil. It was bisected; it quickly became smaller, but at its deepest point, continued 10 cm into the surrounding subsoil (labeled D on Fig. 2.27). It may represent a single large planting feature.

The other feature in this trench crosses EU2116 and EU2238. It was first identified in the NE corner of 2116 at the upper interface of level 3 (the enriched Gore soil) as an area that was darker, with charcoal inclusions extending 20 cm into the unit from the north wall (Fig. 2.28). It persisted through level 3 and cut 15 cm into the subsoil (level 4). Unlike the feature in 2103, it had steep straight sides and maintained its size as it cut into the subsoil. This feature continued into the very northwest corner of 2238, excavated the following year, as context 5145. In this unit, however, it appeared as a concentration of cobbles, bricks, and larger artifacts at the level 2 to 3 interface (Fig. 2.29). The cobbles continued throughout level 3, but stopped by the level 3 to 4 interface, at which point the soil in the northwest corner was not visibly different than the soil elsewhere in the unit. In sum, this feature appeared along the north wall

Figure 2.30. Closing plan of features in EU2234.

Figure 2.29. The continuation of the feature from EU2116 into the northwest corner of EU2238, where it appeared as a cluster of bricks and cobbles. In this photograph, the first level of cobbles has been removed.

of the units at the junction of 2116 and 2238 at the upper surface of level 3; more of the feature was located in 2116. In 2238, it was filled with cobbles and other rubble, while in 2116 it was filled with darker soil and continued into the subsoil. It appeared to connect to several decayed roots in 2116, so it may represent a planting feature, possibly a small tree location.

Isolated units with Garden Features

EU 2234

EU 2234, which is not contiguous with the other units, was placed to follow the solid, angled southern border on the Lyman map. The unit had the same three strata: top soil, an intermediate layer, and an enriched garden soil. However, elsewhere, level 2 had a notable amount of gravel, which was absent in 2234. The artifact densities in this unit were also different, with a lower density of bone and a higher density of nails than other units in the garden (see Table 3.1).

Like other units, there were features visible at two different depths: one set visible at the interface between level 2 and 3, and a different set of features visible at the interface of levels 3 and 4. At the 2/3 interface, there was a single long, irregular, linear stain with post holes both north and south of

it (see Fig. 2.16). This soil stain follows the same orientation as the other edging feature, described above, that appear at the 2/3 interface. However, it is not an extension of those features, appearing on a different line. It runs parallel with the planting features and perpendicular to the east edge of the garden as depicted on the Lyman map. The post holes continued through level 3 and into subsoil (Fig. 2.30). The post hole at the east end of the unit (cxt 5134) had a square post mold and was still faintly visible at the interface with subsoil. The post hole at the west end of the unit (cxt 5133) was rounded, with a 15 cm diameter post mold and still clearly visible at the end of excavation. It was very similar in size and position (relative to the edging features) to the posthole and mold in EU2118, both appearing just outside/south of the linear edging features.

The features at the interface of levels 3 and 4 are not nearly as clear or apparently patterned as the planting features in the contiguous block of units further east (Figs. 2.15, 2.30). However, most of them appear as broad trenches, more similar to the soil preparation features found in the eastern set of units and following the same orientation. There are a few smaller, rounded features that may be planting holes (NE corner, along the south wall), but it is difficult to determine that without seeing patterning over a larger area.

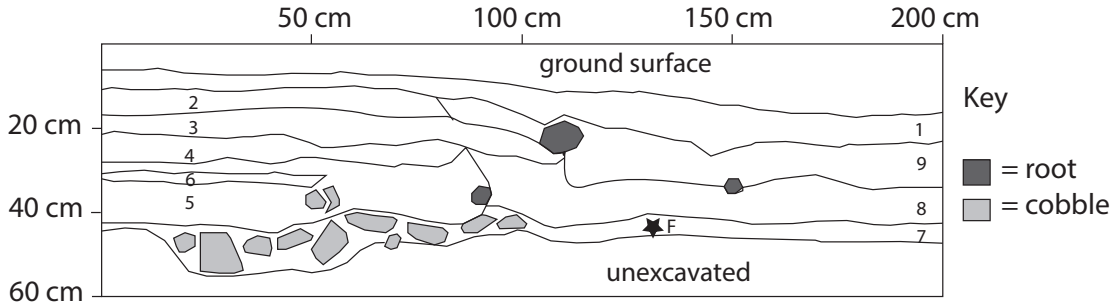
Although this unit crossed the southern border of the georeferenced Lyman map, it is important to remember that that georeference is not exact; ie, the relationship between the map and the actual places on the ground is a little bit off. However, it does not intersect that edge as an archaeological feature. Instead, EU2234 falls inside the garden, but apparently not in a place where there were planting beds of the type present further east. However, this area does seem to have been subject to the same kind of soil preparation and trenching as the area further east, and it does contain a later set of features in the form of a hedge or fence and some post holes. This hedge or fence must have been an interior division of the garden.

EU2112

This 1x2 m unit was placed to investigate the construction of one of the pathways that forms the edge of the curvilinear garden. The pathway crossed the northwestern corner of the unit. This excavation showed that there were multiple layers of material laid to construct the path, likely in two different time periods (Fig. 2.31). The upper layers of the pathway consisted of two distinct gravel layers: a heavy concentration of pea sized pebbles in a dark brown clay-silt over a darker brown layer with larger pebbles, covering a slightly broader area. Our interpretation is that these represent the later 19th and early 20th-century path surfaces. Beneath these gravel layers is a layer of coarse sand and marine clay with a low density of pebble inclusions. This clay capped a yellowish brown sand with large gravel inclusions (similar to the sand and gravel mixture termed "Gore fill" found elsewhere on the property), over a bedding of larger cobbles. The clay seems to be a surface or cap over the sand and cobble bedded pathway. Similar clay has been found elsewhere on the property, capping the ground surface around the well in the drive circle, for example, or edging the roadway along the 1806 greenhouse (Beranek, Smith, and Steinberg 2011: 48-50). In both of these contexts, the marine clay cap over a sand and gravel mixture has been interpreted as dating to the Gore period. There are no temporally diagnostic artifacts in the pathway deposits that help us date them.

This presents a challenge that forces us to reconsider the dating over other previously excavated features. The lower level of the pathways -- a clay cap over "Gore gravel" and large cobbles – look very similar to other features that have been attributed to the Gore period. However, this path is part of the curvilinear garden which dates to shortly after the Gore period based on archaeological and documentary evidence. Are other features using this gravel deposit and a clay cap actually from a post-Gore period? Did multiple property owners employ similar construction materials and techniques? Or, is this section of path part of an older Gore-period layout that was then incorporated into the curvilinear garden?

We considered this last possibility -- whether this section of pathway might be older than others in the curvilinear garden, existed in Gore's garden, and then was re-used/incorporated into the later curvilinear layout. In the GPR, this pathway looks



1= CXT 5027; 10 YR 2/2 very dark brown, clayey silt
2= first gravel layer; 10 YR 2/2 very dark brown, clayey silt with pea sized gravel inclusions
3= second gravel layer; 10 YR 3/3 darl brown, clayey silt with medium pebble inclusions
4= marine clay layer; 5 Y 4/2 olivegray, clayey coarse sand with low density of pebble inclusions
5= sandy gravel layer; 10 YR 5/6 yellowish brown, coarse sand with large pebble inclusions
6= dark lens layer; 10 YR 3/3 dark brown, sandy silt
7= cobble layer; 10 YR 5/6 yellowish brown, coarse sand with large cobble inclusions
8= 10 YR dark grayish brown, clayey silt
9= 10 YR 3/3 dark brown, clayey silt

Figure 2.31. North wall profile of EU2112, photograph and profile drawing.

very similar to all of the others in the curvilinear garden. The lower layers of this pathway appear in the same depth slice as other oval paths. However, it is constructed very different than the circular paths excavated near the greenhouse (Romo and Beranek 2014: 52-53) which consisted only of a thin layer of gravel, yet still appear clearly on the GPR. This leaves open the possibility that not all of the paths in the curvilinear garden were constructed in the same way/at the same time. Further testing of other sections of path would provide more information on this question. There is also geophysical evidence, discussed below, that there are path sections through the center of the formal garden area that existed prior to the curvilinear garden and then fell out of use, suggesting that Gore did have gravel paths as part of this landscape.

One of the problems, however, with assigning the pathway to the Gore period is that possible planting features continue under the pathway and were visible once it was removed (Fig. 2.32). Both adjacent to and beneath the pathway were a series of small stains in the subsoil that are very similar in size and depth to the planting features identified in EU2102 and elsewhere. There were small features throughout the eastern half of the unit (Fig. 2.32). It is possible that the small stains in the northeast part of the unit could be rows along the same orientation as the rows of small plantings in the larger excavation block, although patterning is much harder to see in a single excavation unit. The central part of the unit contained a larger soil stain (6 cm deep). Beneath the path, and seemingly running parallel to the path's orientation (southwest to northeast) were another series

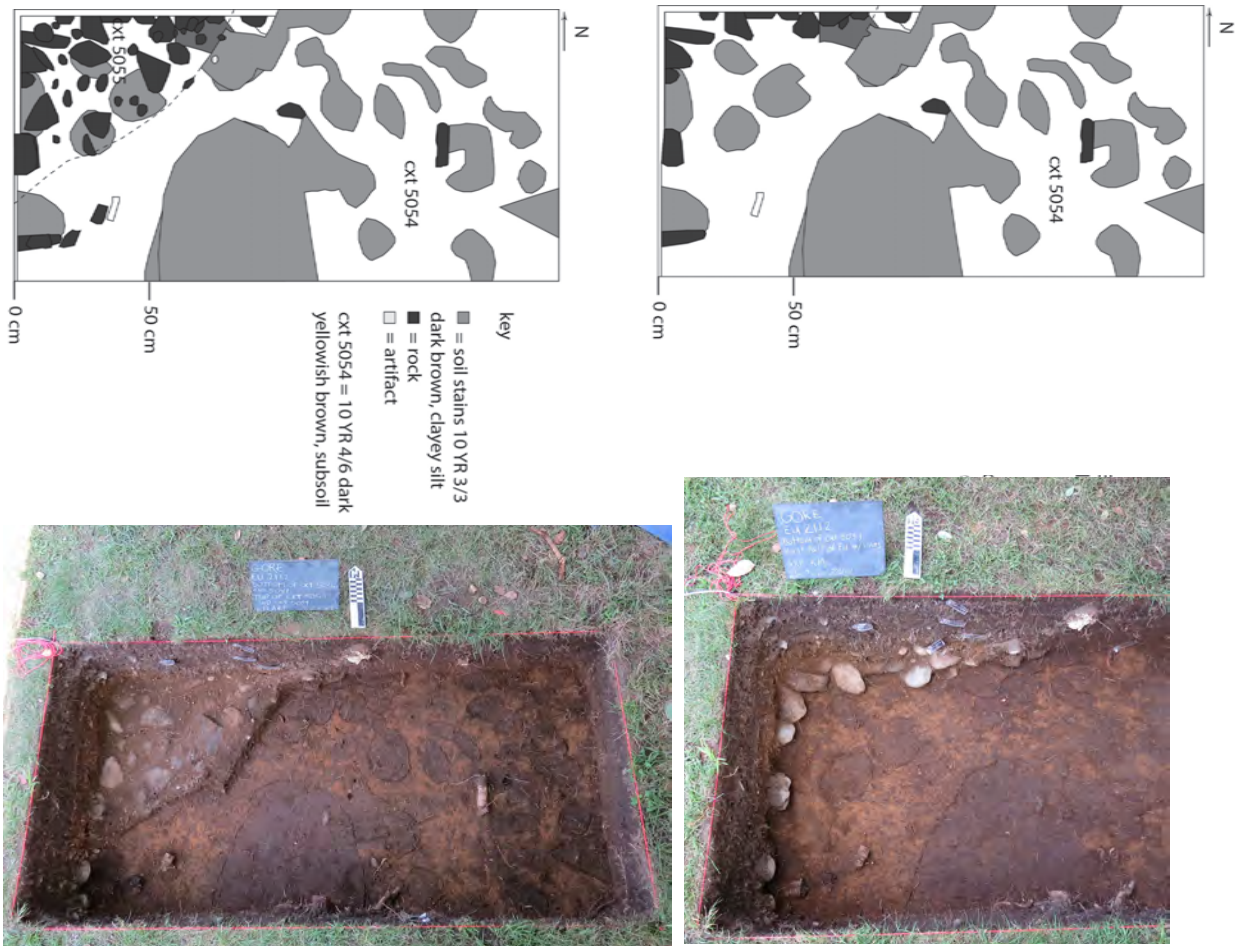


Figure 2.32. Plan and photograph of EU2112 with the lowest layer of cobble pathway bedding and after removal of those cobbles showing soil stains visible blow the lowest layer of pathway bedding. These stains may be planting holes or they may have been formed by the large cobbles that made up the lowest stratum of the path.

of soil stains (2 cm deep). None of these produced diagnostic artifacts that would help date them. If the stains under the path are also planting features, this suggests that the area was planted first, then only later was a path added in this location. However, this is very difficult to determine in such a small area, and stains below the path could be related to the construction of the path itself, with a lower stratum of cobbles.

Although additional tests would be needed to determine this for sure, it seems possible that the lower layers of this path date to the Gore period, based on the similarity with other features across the property. If this interpretation is correct, this pathway existed in Gore's time period and fell within the formal garden. It then was reused as the eastern edge of the curvilinear garden. Planting features were definitely located adjacent to the path. While soil stains continue under the edge of the path, these may be related to the pathway itself.

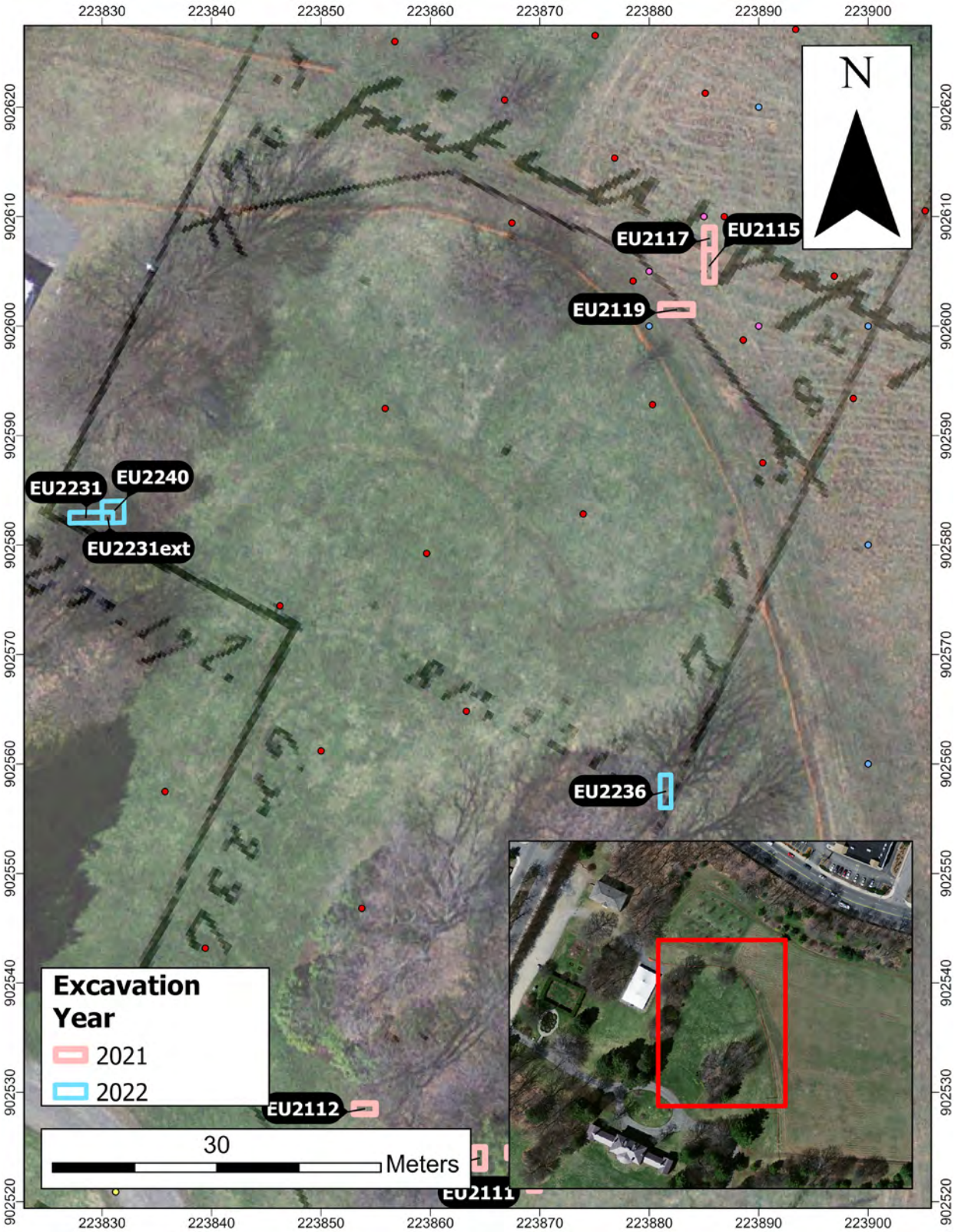


Figure 2.33. Excavation unit locations over the fruit wall and on the east and west edges of the garden. Map by Trace Podder.

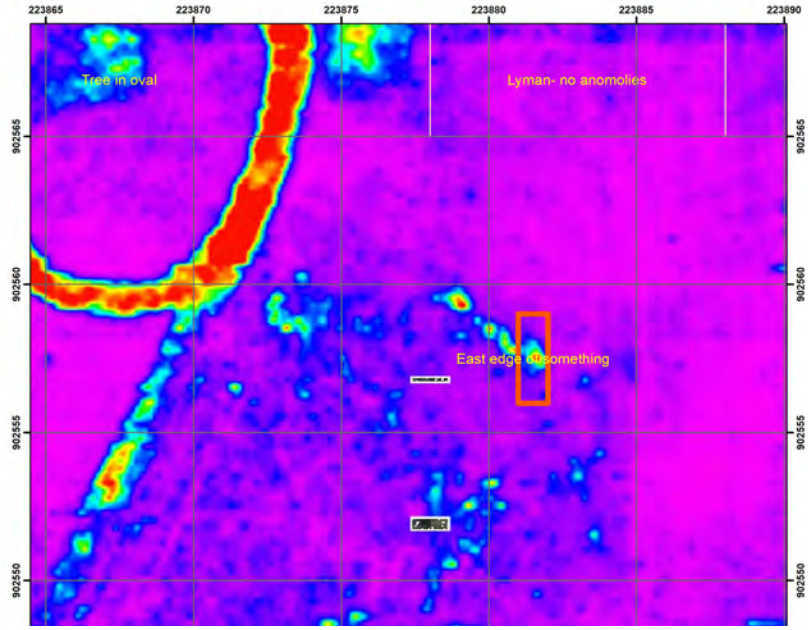


Figure 2.34. Geophysical anomaly that crosses EU2236, possibly caused by the tree root that runs through the unit.

Excavations in Other Areas

East Edge: EU2236

EU2236 was a 1 x 3 m (N-S) unit excavated along the eastern border of the enclosure deposited on the Lyman map to test a geophysical anomaly that appeared that it might separate the narrower part of the enclosure from the area around the fruit wall (Fig. 2.33, 2.34). The unit sits at the border between two areas with different geophysical properties (all purple to the north, more varied to the south). However it also sites at the edge of current grove of trees. This geophysical difference may be caused by modern vegetation, or by historic differences in the soil that promoted things to grow here differently. There is a large tree root running through the unit which may explain the geophysical anomaly, and no features were evident in the unit. This unit had only two strata above subsoil, though the overall depth to subsoil was comparable to the units further south. There was some more modern materials (glass, 1963 coin) in the topsoil, but the unit also contained Gore-period glass and ceramics, and both calcined and unburned bone. This shows that widespread nature of Gore's soil enrichment, although the excavators did not note charcoal here, in a difference from the units to the south. This unit also contained some more structural material than elsewhere in the gardens – large pieces of slate, some shaped stone, and large brick fragments, though not in a particularly high density.

Western Garden Edge: EUs 2231, 2231ext, and 2240

This block of excavation units began as a 1x3 m trench (EU2331), to which an additional meter was added to the east (2231ext). That meter was subsequently expanded into a 2x2 m unit at EU2240 (Fig. 2.33). These units were placed near the current event tent to explore the western edge of the garden based on a broad change in the geophysical properties of the area (Fig. 2.35).

The soil in this area was extremely dry and full of small roots, making it difficult to see soil changes and features. The stratigraphy consisted of only two slightly different levels, a thick level 1 (10 YR 3/3/ dark brown sandy silt) and a thinner level 2 (10YR ¾ dark yellowish brown sandy silt), with excavation ending at 32 to 36 cm bs. At the close of excavation, features covered all of 2240 and 2231ext, and the eastern meter of 2231. The western 2 meters of 2231 were mostly devoid of features, suggesting that whatever the geophysi-

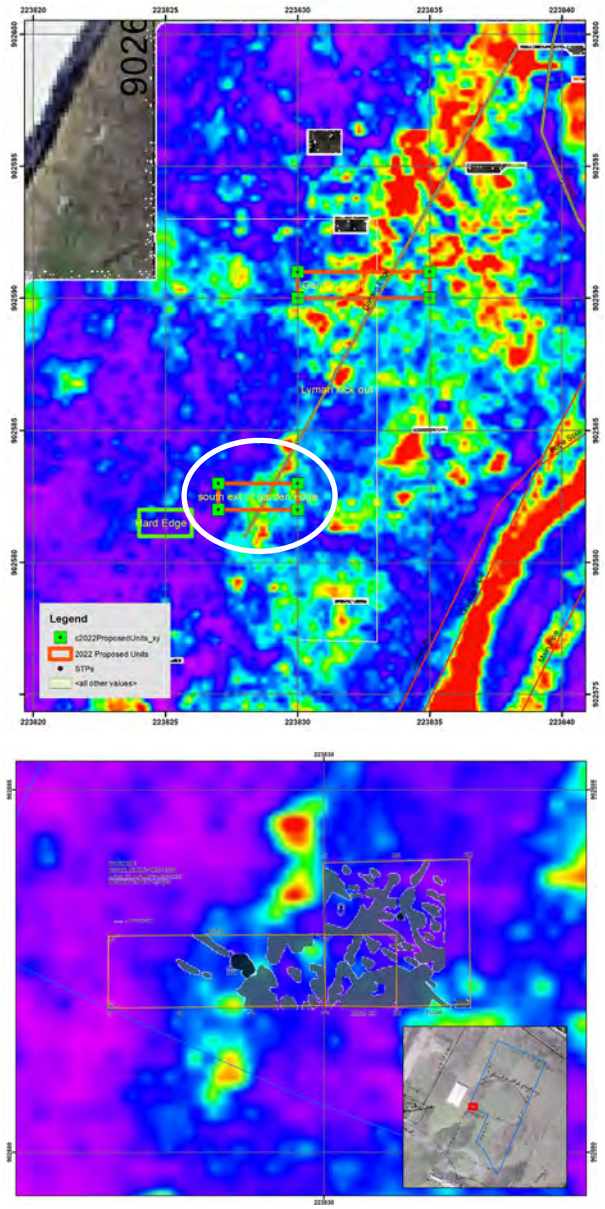


Figure 2.35. Geophysical anomaly at the west edge of the garden used to place units 2231 and 2240. Top: slice 4 with EU2231 location circled in white; bottom: slice 5 detail with features.

cal change in properties is here, it was a result of the western edge of the garden. The features here were a little less clear than in the area at the southeast corner (Fig. 2.36a), but they did include a series of small planting holes, some which seem to be in rows following the orientation of planting features elsewhere. There were larger features in the south and west, but no clear structural features defining the western edge.

The artifact assemblage (Fig. 2.36b) in these units is similar to that found in the units to the southeast, but not exactly the same. There is a mixture of calcined and uncalcined bone, although the high uncalcined bone count in EU2231ext are mostly pieces from a single turtle. There is more coal in this area than in the southeast corner, and larger pieces of planting pots are one of the dominant components of the ceramic assemblage. Both the higher amount of coal and the larger pieces of planting pots probably are a result of being closer to the greenhouse, where both of these artifact types were extremely common. Some of the ceramics in these deposits also seem to be later than those in the southeast garden corner units, including some pieces of dark blue transfer printed ceramic with a continuous floral motif which was most popular and common between 1820 and 1836 (Maryland Archaeological Conservation Laboratory, n.d.)

Geophysical Anomalies in the Garden

We examined the GPR slices closely, both prior to excavation as a way to place excavation units and after excavation using the results of the excavation to better understand the GPR. This recursive use of geophysical and excavation data has proved to be productive in understanding the very subtle features related to the early gardens at Gore Place. There are a number of features related to the fruit wall and greenhouses which were discussed with those units, but here we discuss the garden features.

The most evident set of features on this part of the property are the paths and garden beds that make up the curvilinear garden (Fig. 2.37) as well as several buried water and electrical lines. Here the GPR clearly shows, in multiple slices, the plan drawn on the HABS map, as well as two paths leading to the ends of the fruit wall, the edges of the drive circle, and (on some of the slices), the additional path following the north edge of the drive circle that is depicted on the Greene map (see Fig. 1.8).

Deeper slices, however, show other path segments along the central axis leading to the fruit wall which do not appear on the HABS plan (Fig. 2.38). These segments – between the drive circle

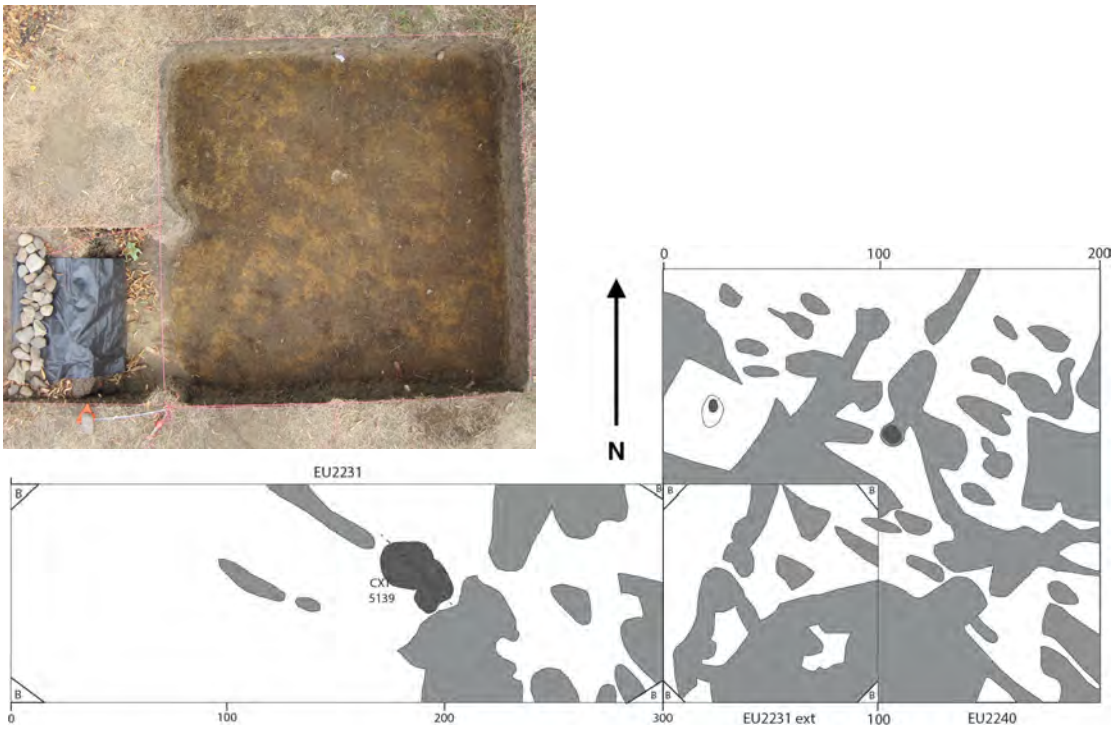


Figure 2.36. Composite plan of features in EUs 2231, 2231ext, and 2240. Photograph of features in 2231ext and 2240.

Figure 2.36b. Selection of artifacts from context 5131 in EU2231. Pictured: base of a Buckley-type storage jar, American stoneware, planting pot rim, bottle and window glass, calcined and uncalcined bone, a single piece of porcelain, polychrome painted pearlware (1795-1835), blue transfer printed pearlware, and smoking pipe stems.

and the curvilinear garden and between the northern oval and the fruit wall – appear only on deeper slices, suggesting that they were part of an older center path that led from the driveway to the center of the fruit wall. (A third segment leading to the northern oval appears both on the deep slices and as part of the later path system.) When the curvilinear garden was installed, only some of this central axis was maintained; other parts were removed and did not become part of the next layout. Those sections of path must have been re-landscaped in such a way that they no longer appear in the shallow slices, but remnants of them are visible more deeply buried. The GPR suggests that in Gore or Lyman's time, there was a long central path from the drive to the center of the fruit wall.

In the area where we excavated our largest block of excavation units, there are also traces in the GPR that relate to the garden layout, though it is not clear what all of them are. The GPR, for example, can be very sensitive to thin layers of gravel or can detect the moisture differences caused by tree roots. EU2102 was placed to cross some strong (yellowish green) reflectors that we thought may be related to the southeast corner of the garden (Fig. 2.39). Even after excavation, it is not clear what anomalies were being detected by the GPR, but it is clear that the anomalies that cross 2012 and 2239 and continue to the west as dark blue splotches are following the orientation

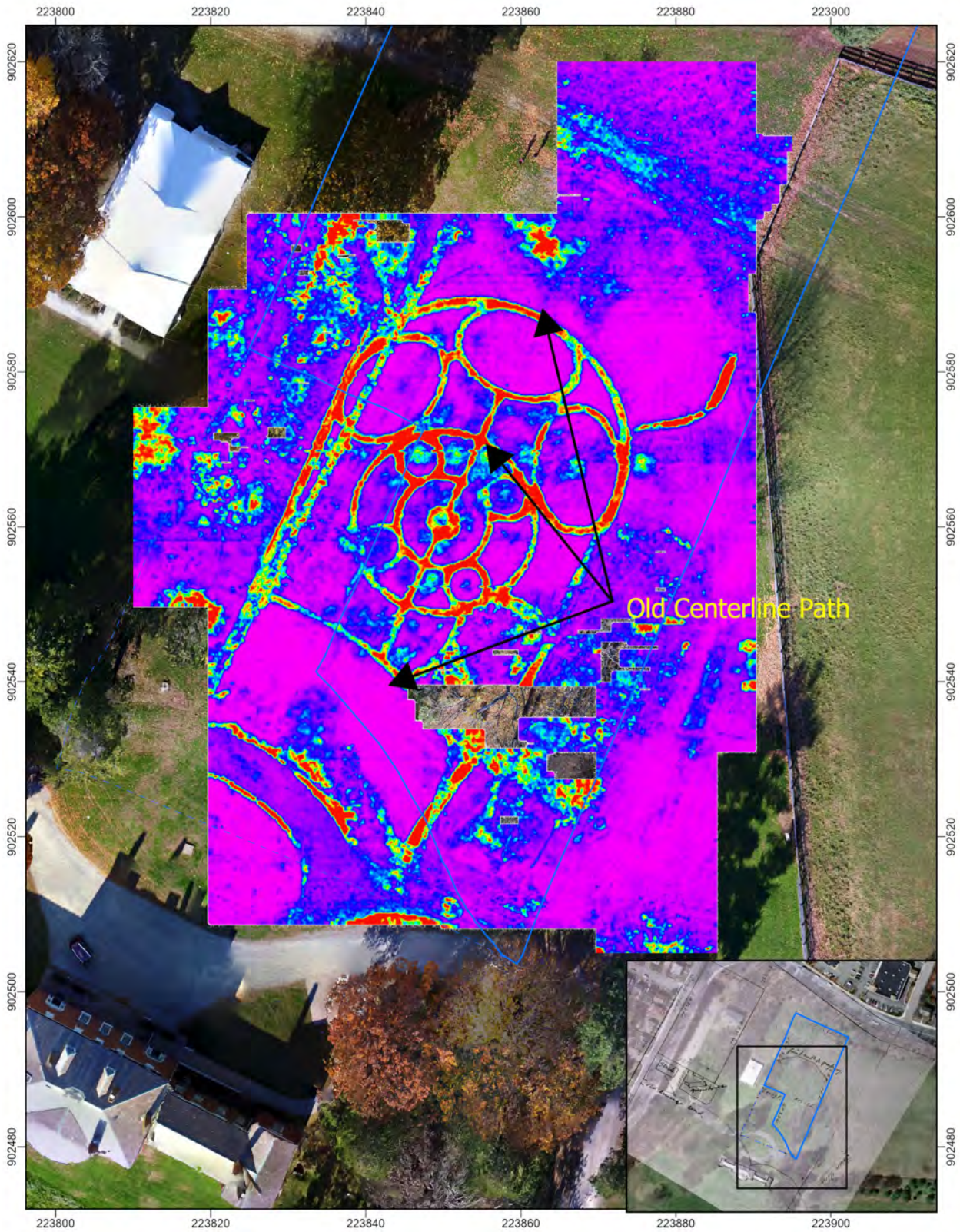


Figure 2.37. GPR slice 5 showing the paths associated with the curvilinear garden,

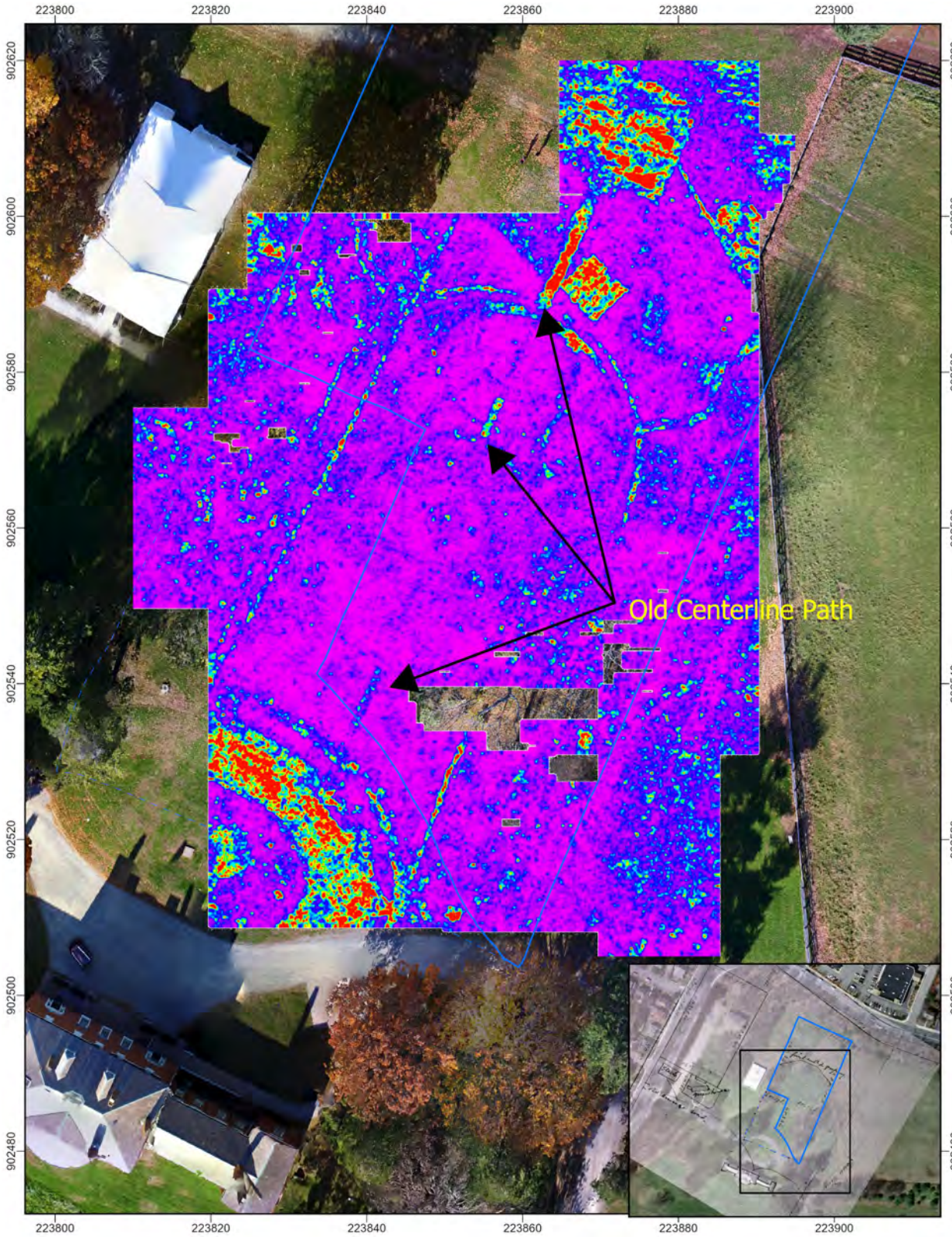


Figure 2.38. A deeper GPR slice (17) showing some additional segments of a center pathway that were not incorporated in the curvilinear garden. This suggests that the center path once ran from the driveway to the fruit wall and that some sections were landscaped away (upper layers removed) when the curvilinear garden was designed.

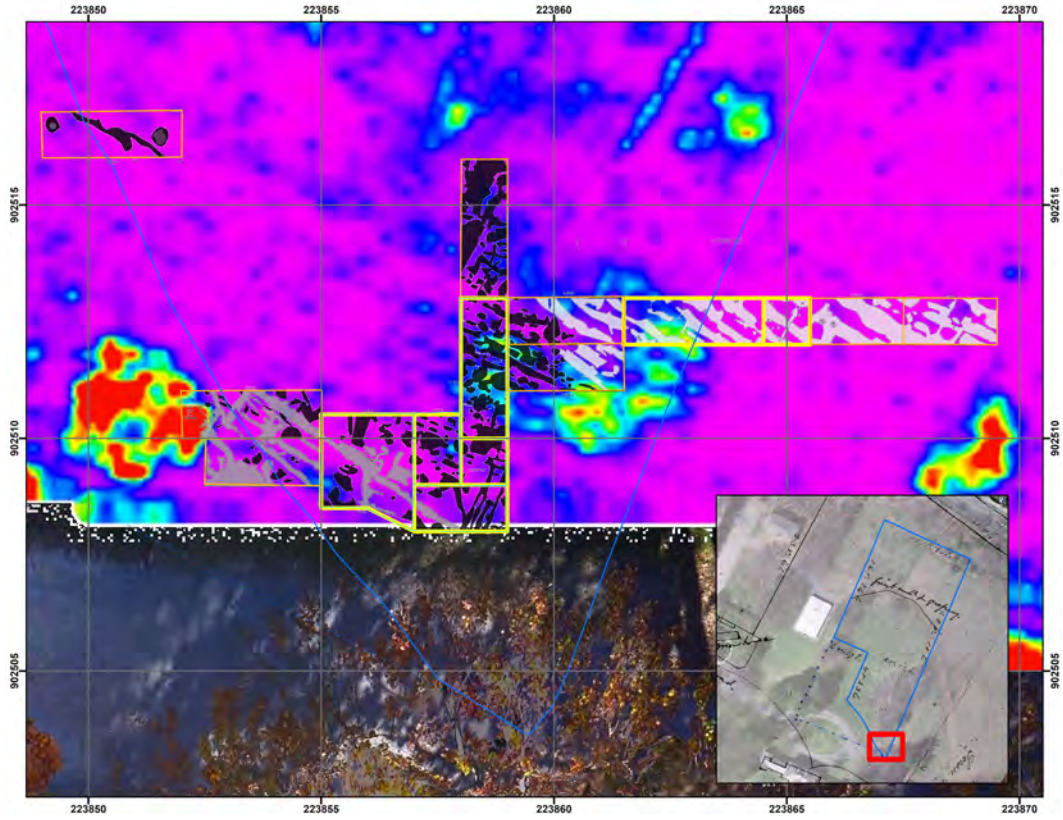


Figure 2.39. GPR slice 7 showing anomalies in the southeast garden corner that fall just outside the planting features as well as fainters anomalies following the alignment of the planting features.

of the garden planting features. This orientation is also evident in a shallower slice (slice 3; Fig. 2.40) where a light blue reflector begins in 2238 and continues west until 2234. Light purple scars both parallel (south) and perpendicular (north) to this reflector are also visible.

Furth west, beyond where we tested, similar light purple scars are visible running up to where the central axial path would have been and then stopping (Fig. 2.41. No similar features are visible on the west side of the central path, although that area is also undisturbed by the curvilinear garden, meaning that similar features should have been preserved if they were present. Although we cannot be certain what is causing the geophysical anomalies (planting beds that hold more water, pathways that are more compressed and drier?), all of these features follow the orientation seen in the archaeological features and provide more information about the extent and orientation of Gore's garden.

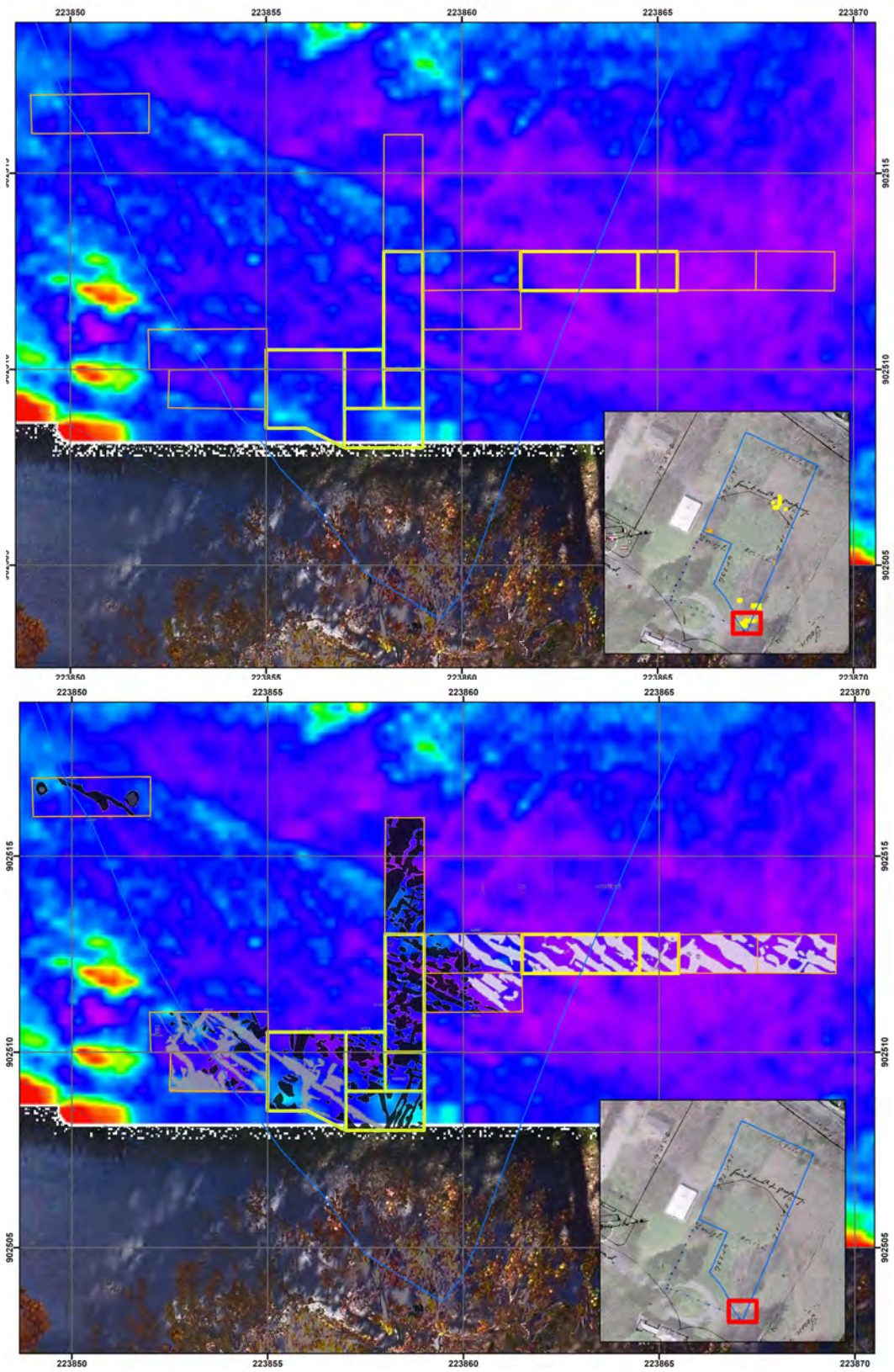


Figure 2.40. GPR slice 3 showing anomalies in the southeast garden corner that follow the alignment of the garden planting features.

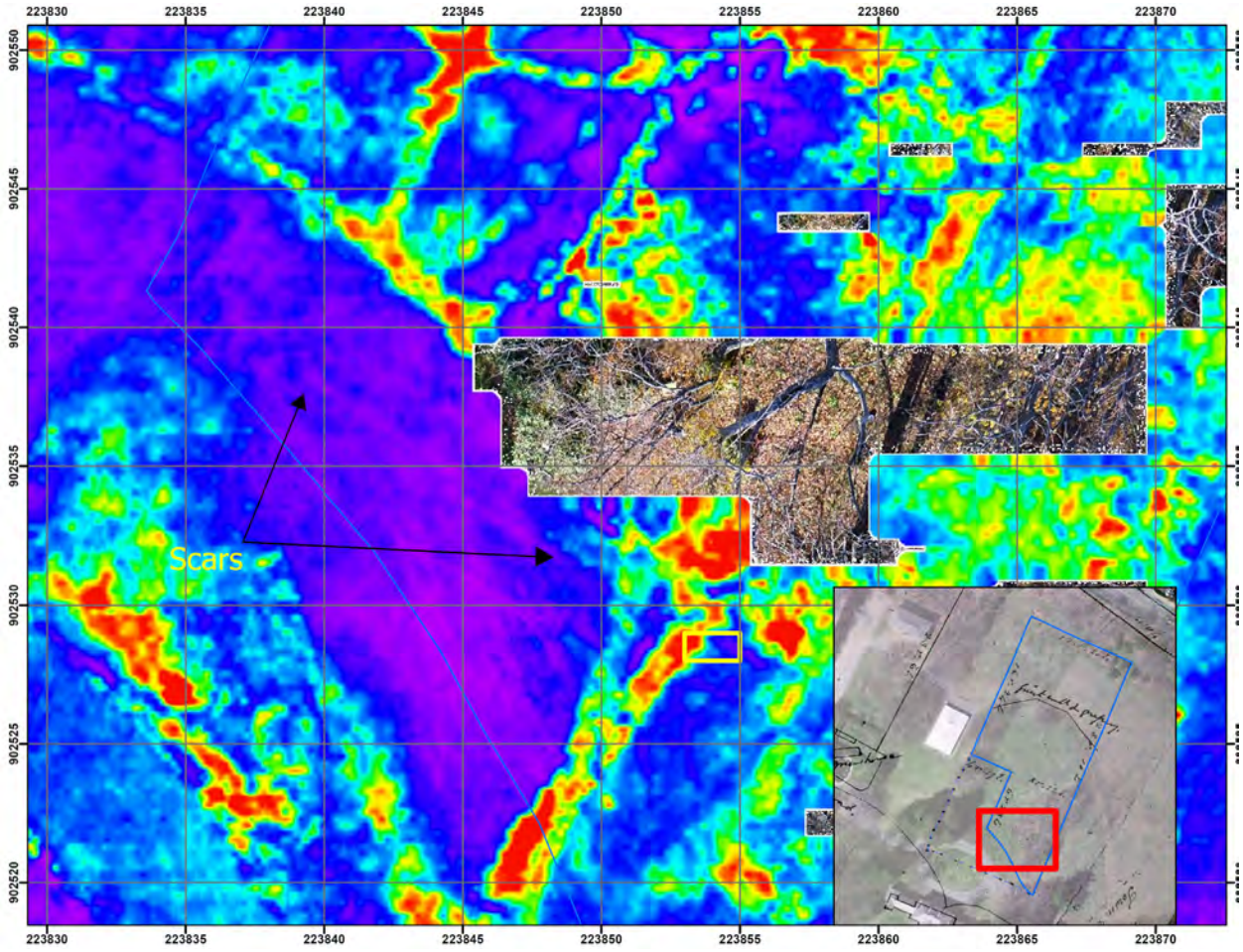


Figure 2.41. Faint purple lines following the orientation of the planting features extend as far as the central path, but not beyond. It is not clear what feature is causing these, but they may be related to the Gore-period garden layout.

Chapter 3: Discussion and Synthesis

Methods for Studying Gardens

A significant amount of the literature on the archaeology of formal gardens describes the field methods that have been most useful in locating and understanding these sometimes ephemeral features. At Gore Place, we used a combination of geophysical survey with GPR and CMD, historical maps, test pits, and larger unit excavations, with the output from all of these overlaid in a GIS allowing us to see different types of data in combination. Fundamentally, it is the combination of all of the data sources in the GIS that has allowed us to be successful, since each type of data is more powerful when interpreted in conjunction with the others.

The ground penetrating radar, for example, was successful in identifying some difference in the soil that corresponded to the edges of the formal gardens on the west side and in the southeast corner (see Figs. 2.35 and 2.39). However, it was only by looking at this data in conjunction with the georeferenced Lyman map that we were able to identify these anomalies, rather than any of numerous others, for testing. In both locations, excavation units were placed based on geophysical anomalies and successfully located the apparent edges of garden planting features, despite the fact that it was not clear during excavation what property of the soil the GPR was responding to.

The georeferencing of the Lyman map itself was only possible because of a combination of data types. We used current landscape features for the initial georeference, but continually refined the georeference over the years using excavated archaeological data such as the location of the greenhouse along the entrance drive and the fruit wall foundation. Even if these refinements made relatively small adjustments to how the map was georeferenced, those adjustments made 3 to 5 meter differences on the ground, allowing us to be that much more targeted with future excavation unit locations.

Excavation of multiple, contiguous units and carefully documenting the soil stains was crucial to first identifying planting and edging features and then to seeing how they formed larger patterns (Figs. 3.1 and 3.2). Since all of these features were shallow soil stains, shovel test pits would likely have cut into or disturbed them and would not have allowed us to see how they were patterned. Understanding patterning and feature orientation was only possible because we excavated and carefully mapped multiple contiguous units. In single 1x2 or 1x3 m units such as EU2112 and EU2234, it is difficult to see the features as part of a larger pattern. Even with the very large area that we did open, we are still left to hypothesize about the exact layout of the garden beds, given their apparent large scale.

Figure 3.1. Mapping the soil stains. Careful documentation was crucial for creating an accurate composite feature plan.

Figure 3.2. Overhead photography of multiple units.

Finally, putting the plan of the excavated features in the GIS and looking at the GPR results again in light of the feature plan helped us to identify anomalies that are on the same alignment that continue beyond the area we were able to excavate. These help us to understand the extent of the Gores' garden in the southeast corner, which seems to have filled the area up to the central path to the fruit wall.

In this particular context, pollen and macrobotanical sampling were not successful in providing information about the garden, only about the larger regional environment. However, wood charcoal identification from the charcoal pit behind the fruit wall was informative. In 2021, we took nine samples for pollen extraction from the southeast garden corner units, from both planting features and surrounding soil deposits. Although pollen generally provides information about the broader regional environment, it was possible that pollen from the surface of the Gore period garden might contain clusters of pollen from the garden plants. Two samples from the surface of the Gore-period deposits were processed and examined. Both only showed the usual range of pollen representing the wider environment and do not provide any information about the garden specifically. We also took 10 samples for flotation, to look for charcoal and seeds from this area, primarily from features. These have all been processed, and one, from the enriched soil layer in EU2118, was examined to see if burned plant material was also part of the additives to the soil. No charred seeds were present. Based on these results, no additional soil samples were taken in 2022.

Expectations for Domestic Formal Gardens in the Early 19th Century

Even though we uncovered an extensive area of planting features, the Gore Place formal landscape is so large that it is not possible to excavate it all, so knowledge about other garden layouts is helpful in interpreting the features that we found. What do we know about the layout of late 18th and early 19th-century domestic gardens and formal landscapes in the early United States, especially in New England? Gardens are living landscapes that inherently change over time and are also subject to changes in style, so gardens as they exist today cannot necessarily be used as models for the early 19th century. What documentary and archaeological sources provide information about gardens in the early 19th century?

Leighton identified a limited number documentary sources or well preserved gardens that could be used as sources (Leighton 1987: 209-222) and Historic New England compiled maps and images depicting local examples, discussed below (Codman, n.d.). The mid-Atlantic and Chesapeake gardens that are either preserved or have been studied archaeologically are, unfortunately, not direct models for what the Gore Place garden would have looked like for several reasons. Many of these gardens were designed earlier (generally in the mid-18th century) and features like stepped terraces were not necessarily in fashion by the time the Gores were laying out their landscape. Many Chesapeake gardens that would have been nearly contemporary with the Gores were on

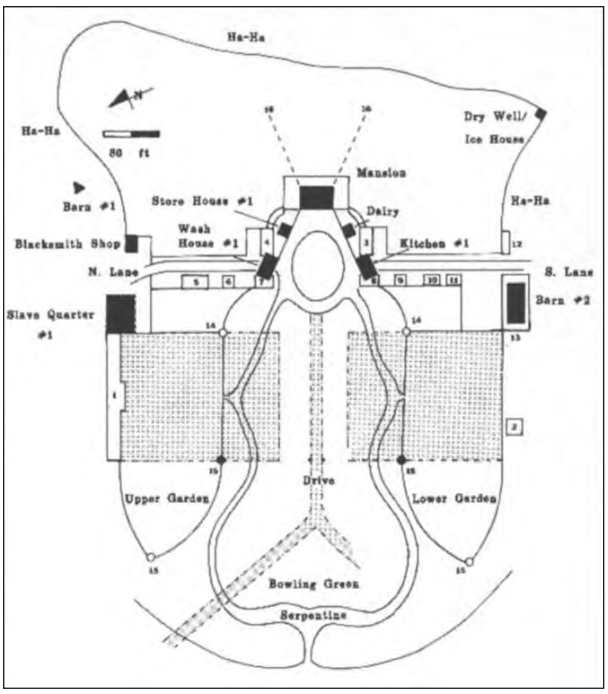


Figure 3.3. Reconstructed layouts of the gardens at Mt. Vernon. The early layout consisted of two rectangular gardens on either side of a straight pathway, while the later gardens were shield shaped with a serpentine pathway between them. Beds within these shield shaped gardens were simple – large rectangles edged with hedges, divided by paths crossing at right angles. (Image from White 2016: 49).

properties that were a much larger scale, such as George Washington's 1785 redesign of his garden at Mt. Vernon (White 2016), Thomas Jefferson's post-1806 layout at Poplar Forest (Gary and Proebsting 2016), or William Paca's construction of a new house and garden in the 1790s at Wye Island on his 1400 acre property, with an enslaved labor force of 100 individuals (Leone, Harmon, and Neuwirth 2005). The Massachusetts "country seats" of Gore and his contemporaries were often 100 to 200 acres, while properties in England and the Chesapeake could easily be over 1000 acres (Wulf 2001: 43).

However, despite the fact that the Chesapeake examples cannot serve as direct models for the Gore Place garden, there are some general principles that can be seen at many elite gardens. Based on both archaeological and documentary evidence, colonial and late 18th/early 19th-century garden layouts shared a common design, drawing on English principles, but ones that would not necessarily have been currently in fashion in England (Baugher and De Cunzo 2002; Leone, Harmon, and Neuwirth 2005; Leighton 1987: 209-222). Many of the larger 18th-century domestic gardens that have been documented archaeologically have tree-lined avenues, with a straight path leading away from the house through the center of the garden. Terracing can be seen at large properties in both urban and rural contexts in Maryland and Virginia, though it does not seem to have been a common feature of New England gardens.

In general, paths crossed at right angles. Between the paths were planting beds and lawns; garden beds tended to be rectangular, though could be other shapes, and contained a mixture of flowers, herbs, and shrubs. Sometimes beds were edged, but often they were just surrounded by a grass lawn. The overall layout was generally, even if not rigidly, symmetrical. Smaller gardens, while not terraced, often had a similar quartered, rectilinear plan. The gardens could be enclosed by brick walls, as they were at Mt. Vernon, or just lightly fenced. At most of the elite properties, the house and the garden had been designed to visually relate to each other, and the dimensions of the houses sometimes became important elements of the garden layouts (Yentsch et al. 1987: 4-5).

Leighton, working from documentary sources and existing gardens, adds additional information about the plants that would have made up the gardens in the early 19th century, noting that different sections of the garden could be edged with boxwood hedges, larger garden beds often had a central shrub, plantings were generally symmetrical, and that the plants were "set out to stay and grow old in place" (Leighton 1987: 222). The trend for annuals came later.

By the time Gore was designing his garden, design principles had shifted from the 18th century to include somewhat more naturalistic or curvilinear elements (Sellers 2003). Extensive archaeological research at Mt. Vernon shows how the earlier 1760s layout, with a central drive and walled rectangular gardens on either side, changed to employ more picturesque principles in Washington's redesign in the 1780s (White 2016: 47, 49). The new design replaced the central drive with a

green, surrounded by a winding "serpentine" drive bordered by trees. Enclosed gardens remained on either side, but these were now shield-shaped rather than rectangular (Fig. 3.3). The layout within these gardens, however, continued to be very simple and geometric, with six large garden beds divided by four primary, straight and intersecting gravel paths (White 2016: 51-52). Like Gore, Washington built specialized structures in which to grow plants; his hothouse was built into one of the brick walls surrounding the upper garden.

Prior to archaeological excavations that revealed this simple layout of garden beds, the Mt. Vernon gardens has been redesigned in 1985 using the picturesque principles expressed in 18th-century garden manuals (White 2016: 57). Based on these documentary sources, the garden was constructed with a complex layout with 31 garden beds and 24 paths; some garden beds were crescent shaped. The archaeological discovery that the actual garden layout was much simpler, with six large, rectangular beds divided by four paths, prompted another redesign of the Mt. Vernon gardens in 2010, based on this information. The Mt. Vernon landscape provides a good example of the limited ways in which the European trend for more naturalistic gardens might have been built in North America and a concrete illustration of Leighton's warning about using English gardening manuals to determine what American gardens might look like (Leighton 1987: 222).

While Leighton sees this as a "lag" in Americans adopting English design principles, it is probably more accurate to think of this as a conscious and selective use of designs, especially in the years following the American Revolution when Americans may have wanted to separate themselves from English styles. Leone and co-authors make a similar argument that the American preference for the more formal designs, which were still popular in Continental Europe, was a choice rather than simply an example of being stylistically behind (Leone, Harmon, and Neuwirth 2005: 155). Brockway, in her landscape report on Gore Place, also notes that although the Gores were definitely influenced by European design ideas, they drew on them selectively (Brockway 2001: 12-13). She cites Jeferson's feelings that not all European design elements were suited either for the American climate or national character.

Figure 3.4. An 1812 plan of the Rundlet-May property in Portsmouth, NH, held by Historic New England.

Local Examples

In addition to the general design elements described above – lightly enclosed gardens with relatively simple layouts, paths that likely crossed at right angles, and geometric beds with a mixture of flowers and shrubs surrounded by lawns – there are several depictions or descriptions of early 19th-century properties in the northeast that can help envision what domestic gardens were laid out at properties at a similar scale to Gore Place. Here the focus is on information from prior to 1850, because garden styles changed again dramatically after that time. Later 19th-century American gardens emphasized curved shapes and edges, strong color contrasts, and new annual plants (Leighton 1987: 222); some of these elements can be seen in the curvilinear garden likely installed by J. S. Copley Greene.

Historic New England assembled drawings, paintings, and plans from the early 19th century, with a small number of later photographs, which depict local gardens from 1780-1850 (Carlo, n.d.). The online exhibit starts with watercolor sketches of The Lilacs (ca. 1810) in Medford, MA, which has a curved front drive and a circular garden.

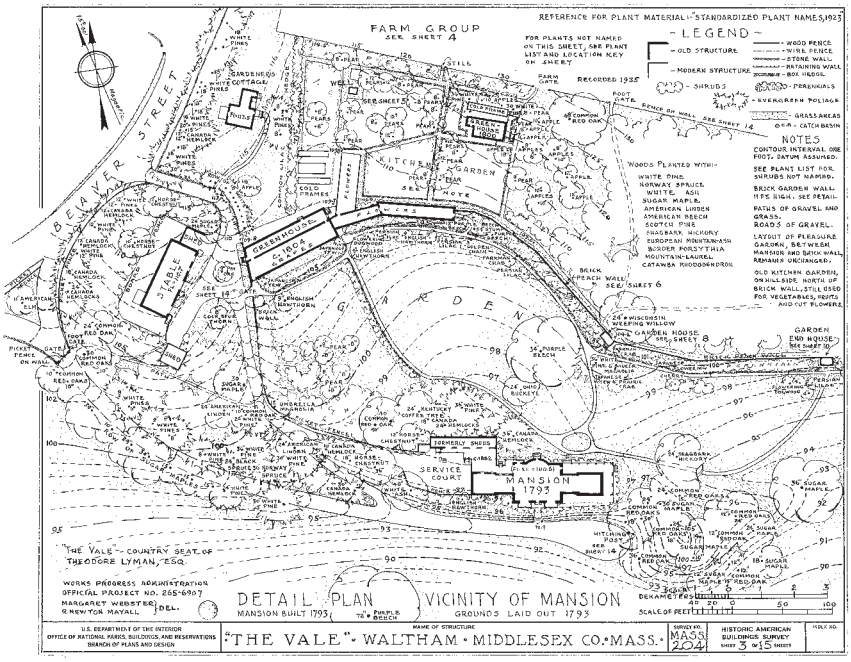


Figure 3.5. HABS plan of Lyman's estate The Vale in Waltham, MA. This plan shows features that survived in the early 20th century and does not include the garden and paths south of the peach wall that would be the best parallel to the Gore garden.

The drive is bordered with shrubs that are widely spaced. Given the proximity of the drive at Gore Place to the archaeological features, this seems to be a very similar layout (where the garden begins very close to the drive). The back of The Lilacs is on a slope, like the Gore Place, and uses a series of curved paths and curved beds that hug the slope in a more naturalistic arrangement.

The Historic New England exhibit also includes an 1812 plan of the Rundlet-May grounds in Portsmouth, NH, with gardens in rectangular beds which the exhibit describes as possibly a reflection of the "conservative" taste of the property owner, and also possibly a function of the house's urban setting (Fig. 3.4; Historic New England n.d.). The overall layout at Rundlet-May is also a good example of a designed landscape that is geometric by not strictly symmetrical. An 1820s illustration of The Vale, Lyman's nearby property in Waltham, shows an undulating, more naturalistic landscape with trees and a small body of water south of the house, but does not depict the fruit wall, greenhouses, and gardens that existed north of the house. A fruit wall (known as the peach wall) and several green houses are still standing. Archaeological excavations have examined the peach wall's construction (Pinello 1999) and the kitchen garden north of the peach wall which would have been part of the functional rather than ornamental landscape (Pinello and White 2000). Pinello (1999: 10) notes that there was a garden and set of paths south of the peach wall that merits further study; these are not mapped on the HABS plan of the property (Fig. 3.5). This garden would have been visible from the house and in a position comparable to the formal garden at Gore Place between the house and the fruit wall. Unfortunately, there does not seem to be any information on the layout of this garden at The Vale.

Another regional property that would have been comparable to Gore Place was the 140 acre Cambridge estate of Andrew Craigie. In 1792, Craigie purchased the former Vassal estate, now known as the Longfellow House-Washington's Headquarters National Historical Site. Like Gore and Lyman, Craigie was one of the founding members of the Massachusetts Society for Promoting Agriculture and maintained both ornamental and productive grounds around his house (Evans 1993: 15-25). He and his wife Elizabeth were

both interested in horticulture and donated land to Harvard College for them to establish a botanical garden, from which Elizabeth then purchased plants. Correspondence from the period when Craigie purchased the property and again from shortly after his death in 1819 indicates that he had a garden, at least one green house, as well as other outbuildings including a "temple," presumably an ornamental garden structure (Evans 1993: 17). He purchased elm and poplar trees and over 100 fruit trees (apple, pear, cherry, plum, peach, and apricot) when he took over the property, and also purchased shrubs and plants for both the grounds and the greenhouse (Evans 1993: 23). Unfortunately, the surviving garden and the known garden plans all relate to Henry Wadsworth Longfellow's redesign of the property after 1840 with gardens north of the house. Very little is known about the location or layout of the Craigie gardens. However, a recent geophysical survey identified a circular anomaly and possible garden beds south and southeast of the house (Watters 2012). Additional information about the Craigie period (1792-1841) would provide a strong contemporary comparison to Gore Place.

Other contemporary descriptions of gardens in Salem and Newburyport (quoted in Moore 1988) provide a window onto what visitors considered important. Although flowers are sometimes mentioned, none of the accounts that Moore quotes discuss outdoor garden beds in any detail. Specific mentions focus on fruits, both strawberries and fruit trees, on shade trees and the vistas that were intentionally created by planting screens of trees, and on greenhouse plants. An 1802 visitor to the Derby gardens in Salem wrote, "Here too is an elegant garden, full of fruit trees, the walks kept as nice as possible" (quoted in Moore 1988: 137). This focus on trees is also evident at Gore Place and is important to keep in mind. Gore's correspondence with Rufus King includes multiple mentions of trees (but none of flowers). Mary Lyman's description of the Gore Place landscape at the point she and Theodore Lyman Jr. purchased it says "This place has not the advantage of prospect that we have been accustomed to…but the house is excellent and it is surrounded by a fine belt of trees" (quoted in Brockway 2001: 31). Beds with flowers, herbs, and shrubs were only one element in a designed landscape, and not necessarily the most notable.

Gore, Lyman, and Craigie were all members of the MSPA with country estates that combined productive agricultural activities with an ornamental or leisure landscape that incorporated specialized structures such as greenhouses and fruit walls. Different types of information have survived from each property – many of the physical elements such as the peach wall and early greenhouses are still standing at the Lyman estate, while some detailed correspondence and estate sale documents survive from Andrew Craigie. The excavations at Gore Place provide a different window on this cluster of properties, including information about the soil enrichment, garden layout and extent, and greenhouse construction and landscaping.

The Formal Landscape at Gore Place

The nature and extent of the formal landscaping prior to the Gores' ownership is not well known. Did the Gores start with any existing elements or constraints that they incorporated in their landscape, or did their tenure mark a total shift in how the property was laid out? The mis-alignment between the fruit wall and the house suggests that the fruit wall pre-dates the 1806 mansion, but it may have been constructed by the Gores after they acquired the property in 1786. Our assessment of the archaeological deposits is that Gore very actively shaped the landscape by moving soil, sand, and gravel, but a systematic review of all of the excavation data from multiple seasons might be productive. Certainly the fact that we have not found any archaeological deposits that date prior to the Gores' occupation suggests that the Gores changed the landscape extensively, rather than simply layering new elements onto older surfaces.

Both formal, geometric and more naturalistic modes of landscape design were in play during the Gores' period, however, in the early United States, surviving examples suggest that the gardens that were part of landscapes designed in a "naturalist" mode could still be quite geometric. Gore seems to have employed both geometric and naturalistic elements, from different vantage points on the property.

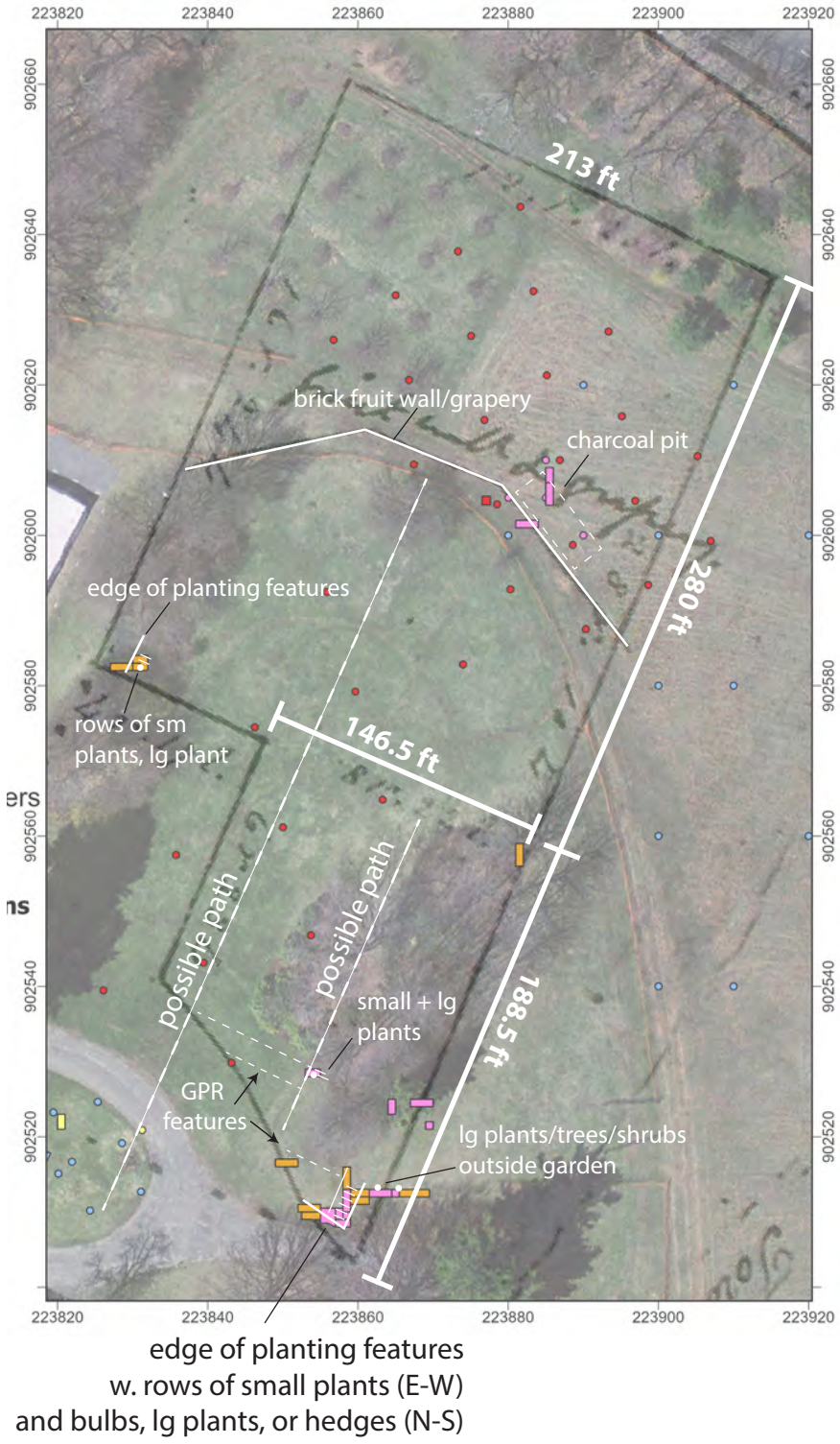


Figure 3.6. Schematic representation of Gore-era and potential Gore-era formal landscape features identified in excavations and geophysical surveys. The extent of planting features beyond the excavation units is not known. The pathways are difficult to date; the path leading to the center of the fruit wall likely existed in Gore's period, based on its presence in deep geophysical slices. The other path may have existed in Gore's period, based on path deposits that are similar in composition to other Gore-era features.

The entrance to Gore Place would have appeared almost dense compared to the Vale, for example, with the entrance drive bringing visitors past the carriage house, the green house, and then to a more expansive, formal view of gardens flanked by the brick fruit wall on one side and the house of the other. The vantage point looking south from the house, however, would have been much more pastoral (more akin to the view from the southern approach to the Vale). The house sits on the edge of a terrace that would have looked over agricultural fields and other landscapes down to the Charles River. In this sense, Gore Place was similar to The Lilacs, with a more formal landscape and entrance drive on one side of the house and a sloping naturalistic view on the other. As Brockway notes (2001: 12), the agricultural elements of Gore's landscape were an important and intentional part of the views from the house, not an element to be concealed.

Like many other properties with surrounding formal landscapes, the house was an integral part of the designed landscape. Leone et al. (2005) point out how the Wye house and gardens were constructed together, with ideas of surveillance and visibility inherent in the design. The Wye house was a central element on the landscape, intended to both observe and be visible from the formal and working landscapes. Although the Gore Mansion is slightly off center from the formal landscape, probably as a result of being designed at different points, the house is still central to the layout of the property as a whole – visible from and with views of formal and agricultural areas.

Although the maps and descriptions from the Gore period are limited, the combination of excavation and geophysical data and comparative examples lets us surmise quite a lot about the Gore Place formal landscape between the Mansion and the fruit wall and the use of the fruit wall during Gore's period (Fig. 3.6).

The Fruit Wall

We did a limited amount of excavation at the "fruit wall and grapery," but that work combined with documentary sources, comparative data, and the geophysical results provide a picture of how Gore constructed and used the fruit wall and how it changed under later owners. The base of the fruit wall is preserved beginning at 40 cm (about 16 inches) below the modern surface (Fig. 3.7), at which point it consists of 12 courses of brick set on a wider footing (Fig. 3.8). Most or all of these courses would have been below-grade when the fruit wall was in use, supporting a tall superstructure. Gore's letters to Rufus King mention grapes and fruit trees several times and both were likely grown against the different sections of the wall. Gore's letters mention grapes in 1816 and 1817, including a mention of 1600 bunches in the grapery in 1816. His letters also mention apple, pear, peach, and cherry trees. These trees may have occupied some of the area along and south of the fruit wall and/or other parts of the property.

Despite the fact that the fruit wall and the later greenhouses built against them stood into the early 20th c, there was no obvious evidence of 20th c activity deeper than 40 cm below the modern surface (the point at which we found the fruit wall). Below this point, the deposits seem to date to the 19th century and consist of a charcoal-rich compost pit behind the wall, the fruit wall, and deposits in front of the wall that may have been put in place as early as the Gore-period in order to grow grapes.

In period descriptions, "graperies" are most commonly enclosed structures, consisting of a tall back brick wall (10-14 feet), a short front wall (2 ½ to 3 ft), and a sloped glass roof (Kratzer 1995; Speechly 1791: 131). Kratzer (1995: 20-23) describes these lean-to style greenhouses against a tall back wall as a common method of growing grapes, and argues that period authors felt that grapes could be grown against a wall, without a structure, but that a structure was necessary to improve the amount of fruit that the vines produced. Speechly agrees, writing that there are some kinds of grapes that will ripen against a "common wall," but that there are a number of risks in using this method (1791: 174).

On the 1834 Lyman map of Gore Place, the fruit wall is very clearly labeled "fruit wall and grapery," although no structure is depicted. The map depicts other structures, such as the greenhouse along the entrance drive, very accurately, suggesting that the Gores' fruit wall grapery

Figure 3.7. The top of the preserved fruit wall with a more recent irrigation pipe just to the north of it, showing the difference between the planting soil in front of the wall and the charcoal pit behind the well.

Figure 3.8. View of the north side of the fruit wall showing 12 preserved courses of brick.

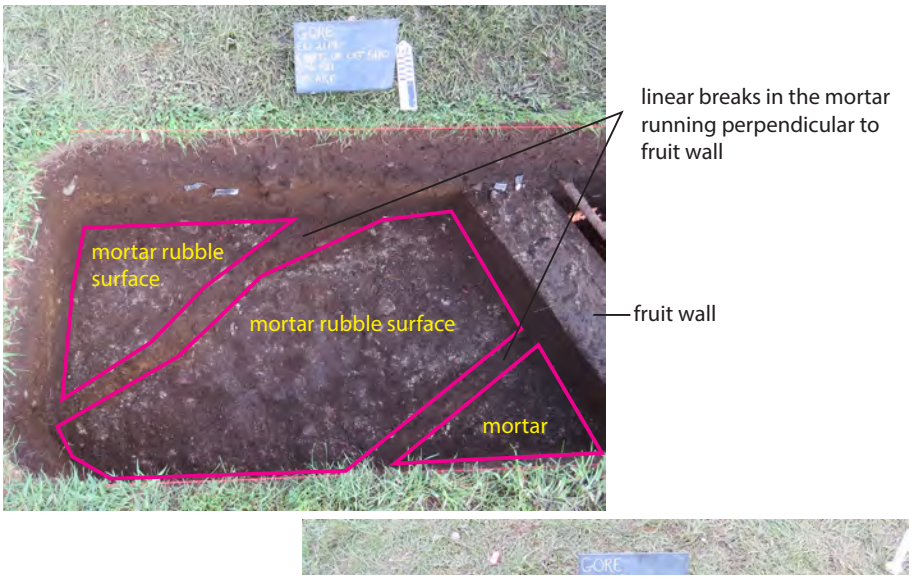
only consisted of a back wall, not of a permanent roofed structure. Kratzer (1995: 20-22), however, reproduces some period images of graperies that show removable glass panels. The Peach Wall at the Lyman property in Waltham, MA, was also apparently enclosed seasonally using removable panels that would make up the "Peach Wall House," at least by the late 19th century (Pinello 1999: 10). Pinello writes that although the hardware that survived at the time of her examination dated to the late 19th century, it may have been the continuation of an earlier practice. Gore may have employed something similar to protect grape vines along part of the wall. Extending EU2119 away from the fruit wall would probably be able to determine whether there was a front wall, or a support for temporary glass panels, along this section.

Some of the late 18th and early 19th-century gardening manuals included advise for growing grapes and other plants (Louden 1824), while other publications were dedicated specifically to the care of grape vines (Speechly 1791). Grape roots cover a broad area, so have to be planted in the ground and cannot be grown in a raised bed (Kratzer 1995: 31). When grown inside structures, the plant roots were often placed just outside the front wall, and the vines threaded to grow inside; alternatively, the front wall of a vinery could be built on pillars with gaps that would let grape roots spread into the surrounding soil (Romo 2017).

Several historic sources describe how to prepare soil for grape vines, with an emphasis on ensuring that the soil needed to be well drained so that the roots of the vines would stay dry. Before planting grape vines, the area that will form the beds needed to be dug out, and the base lined with a compacted layer of gravel, broken stones, broken brick, or "lime rubbish." Then a specially prepared soil mixture should be placed over this base for the grapes to grow in. William Speechly, in a volume dedicated to growing grapes in England, writes about this at length:

> [If] the ground be wet or springy, the soil either a barren sand or cankered clay, it will be requisite to use all necessary expedients to prevent the roots of the Vine from entering into them…When the soil comes under any of the above descriptions, a bottom floor should be made to prevent the Vine roots from penetrating it: This floor must be made of such materials as chippings of stone, coarse gravel, broken bricks, &c. and these must be laid quite as low as the bottom of both the drains, and to the thickness of eight or ten inches. (Speechly 1791: 31).

Above this base layer, a two and a half foot



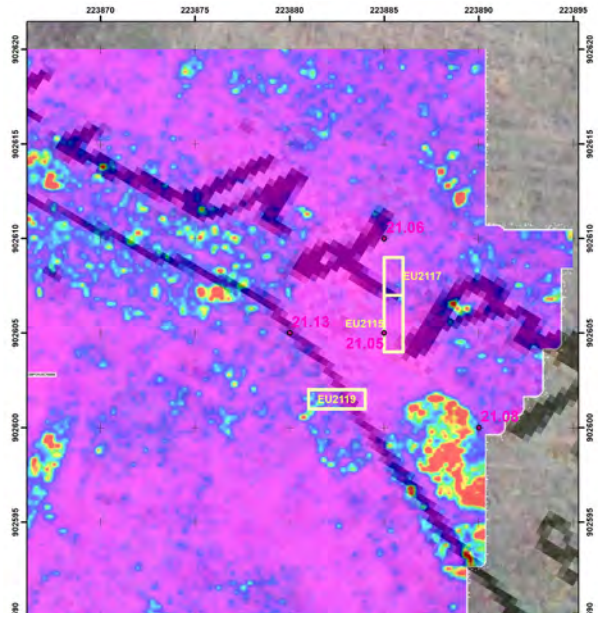


Figure 3.10. GPR slice 24 showing possible structural elements in front of the east wing of the fruit wall and the charcoal pit behind the wall (purple area).

thick planting bed should be prepared from a mixture of "garden mould (a strong loam)," "swarth or turf from a pasture where the soil is a sand loam," "sweepings and scrapings of pavements and hard roads," "rotten cow and stable yard dung," and "vegetable mould from reduced and decayed oak leaves" (Speechly 1791: 33).

John Louden, writing later, has similar advice on shielding grape vine roots from the local soil. He writes that the soil in which grape vines are grown should not only be drained well but also must "prevent the cold moisture from ascending into the superstratum" (Louden 1824: 32). The soil in which grapes are grown "must be separated from the subsoil by a layer of stones, brickbats, gravel, and lime rubbish, well mixed together and beaten, or rammed into a compact body" (Louden 1824: 33). Over this should be laid a two foot thick planting bed composed of "four parts of loamy turf…a fifth part rotten dung, blood, night soil, bones, or any dung…and a sixth part of lime rubbish and coarse sand or gravel mixed together…and if there are any bones in it, it will require no renewal or enrichment for many years" (Louden 1824: 32). Because grape roots covered a large area, planting beds might need to extend 12 to 14 feet from the wall (Kratzer 1995: 31).

Louden and Speechly disagree about whether "lime rubbish" should be included in this base layer. Louden includes it, while Speechly (1791: 51) writes that "vines are greatly injured by the common practice of laying lime-rubbish for the bottom floor in the preparation of the ground." Opinions were similarly varied on the soil mixture and additives for the planting beds. In Kratzer's survey of the literature on soil enrichments for grape vines, he identified animal dung, bone meal, lime or old mortar, and wood charcoal ashes as the most common additives, but shell, leather, coal and coal ash, blacksmith cinders, street dirt, brick bats, tan bark, compost, and sand were also recommended (Kratzer 1995: 30).

The deposits in EU2119 are consistent with period descriptions of how to prepare an area for planting grapes and with Kratzer's findings at the graperies at Nicholas Biddle's estate Andalusia, outside of Philadelphia. Biddle's graperies were constructed in 1835-1836 and consisted of two 260 foot long brick walls with lean-to style greenhouses against them, heated by furnaces (Kratzer 1995). At Andalusia, Krazter (1995: 79-80) found that the soil beds for the grape vines contained pieces of lime, shell, charcoal, and bone. These soils sat over a layer of broken bricks, broken schist rock, and gravel.

The deposits at Gore Place are similar: a sandy soil planting bed (with shell inclusions) over a compact base (the brick and mortar layer) designed to keep the grape vine roots separate from the underlying soil and to promote drainage (see Fig.2.8, 2.9; Fig. 3.9) . Mortar contains lime, so this crushed mortar deposit at Gore Place could be interpreted as the "lime rubbish" layer described in the literature. Only 25 cm (10 inches) of planting soil was present over the mortar layer, suggesting that some was removed when the wall was demolished, since it was much thinner that the recommended 2 to 2 ½ feet. There is no evidence that the Gores' fruit wall was heated or that it included permanent greenhouse structures prior to 1834, making it different from the graperies at Andalusia. It is possible that grapes or other vines were also grown in the greenhouse along the entrance drive since it had a front wall supported on piers in order to let roots grow into the outside soil.

Geophysical Information on the Fruit Wall

Different geophysical methods (GPR and CMD Mini) show features relating to the fruit wall and the greenhouses built against it that indicate how they changed after the Gore period. The CMD shows features that correspond closely to the Greene map: a structure constructed against the central block of the fruit wall, a structure against the west wing, and a path heading west from the end of the west wing (see Fig. 2.2). No comparable anomalies are visible against the east wing, suggesting that it was not built up in the same way and that the greenhouse structure in historic photos was limited to the central and western parts of the wall. This means that the east wing is less disturbed, with more potential to show Gore's use of the wall.

The CMD does show the metal pipe (uncovered in EU2119) that ran along the back of the fruit wall to bring water to the greenhouses. The GPR shows hints of an anomaly along the east wing (Fig. 3.10), in the form of a small projection along part of the wall. More excavation would be required to determine what this is, but it may indicate the extent of the mortar rubble layer encountered in EU2119. The extent of the charcoal pit behind the fruit wall is visible in the same slice as a bright pink area. The GPR survey provides a sense of how large this charcoal pit was.

Curvilinear paths leading to the fruit wall wings appear very clearly in the GPR (Fig. 2.37), these must have fallen out of use after the fruit wall and its associated greenhouses were demolished and were not depicted on the HABS map.

The Formal Garden

The documentary evidence of the use of the landscape between the Mansion house and the fruit wall consists only of Lee's retrospective description and sketch of a flower garden and Lyman's depiction of an unlabeled enclosure. Lee's sketch places the formal garden east of the center axis of the house (Figs. 1.9 and 1.10). It is possible that the quartered area depicted by Lee falls within the narrower section of the enclosure depicted on the Lyman map. Archaeologically, we have confirmed that there are expansive planting features at the southeastern corner of the area, with a clear east edge and apparent southern edge, likely bounded on the south by hedges or a fence (Fig. 3.11). Within these edges are rows of small planting features. Features following the same orientation as the planting holes are visible in the GPR, extending as far as the central path to the fruit wall. Our limited testing on the western edge of the Lyman enclosure shows that there are also planting features there with an apparent western edge. We have much less information about the extent of the features in this area.

Feature Orientation

Across the whole southeast garden corner, it

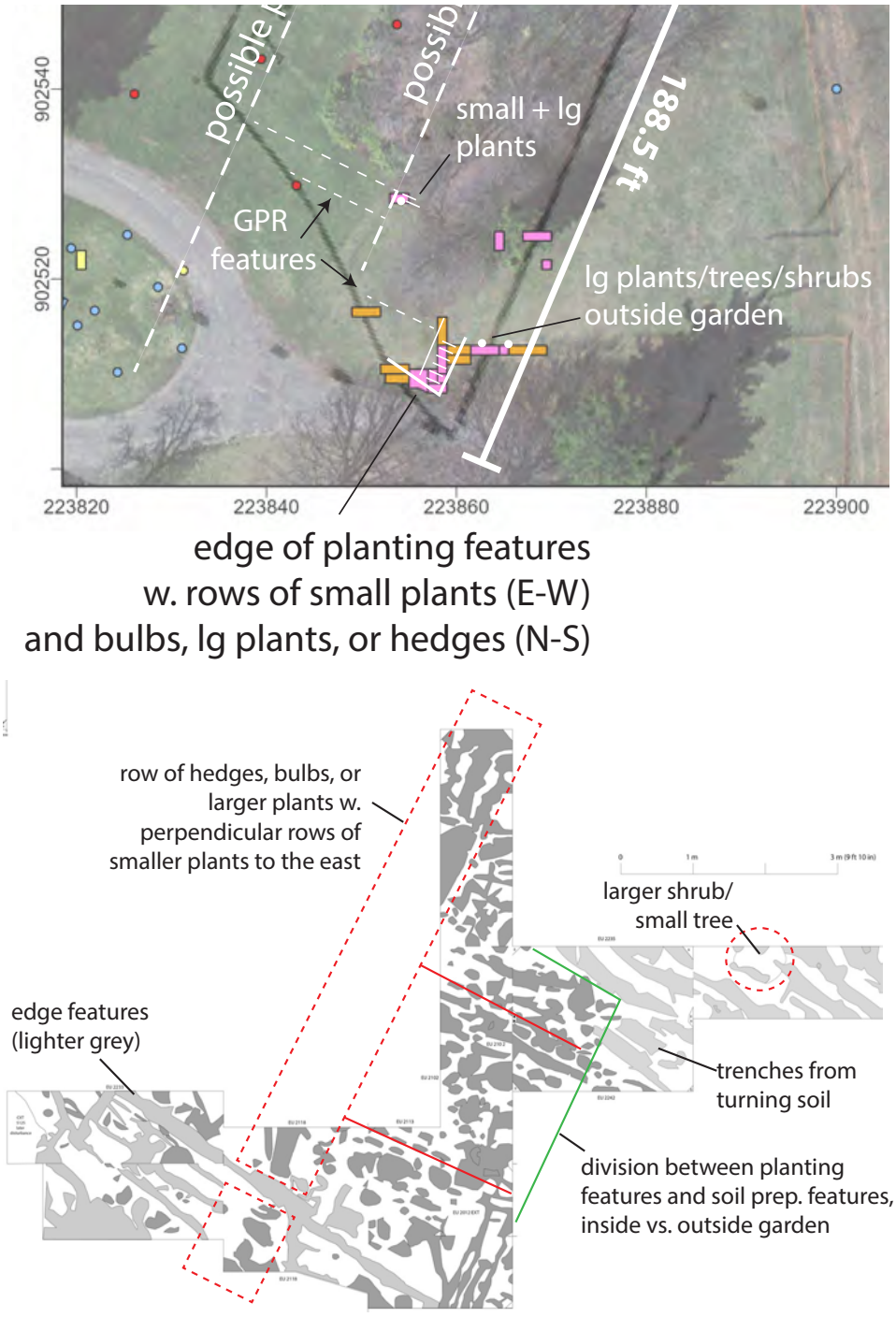


Figure 3.11. Annotated detail of planting features and of schematic layout (Figure 3.6), showing the Gore-era planting features in the southeast garden corner. See also Figs. 2.14-2.16, 2.36, 2.38, 2.41.

is important to note that there are archaeological features at two different orientations. These two orientations have been represented by different color coding in Figures 2.14 to 2.16. If we think of the east edge of the enclosure on the Lyman map as a baseline, we can describe the two feature orientations relative to that line. Features with both orientations appear at the lower level (level 3

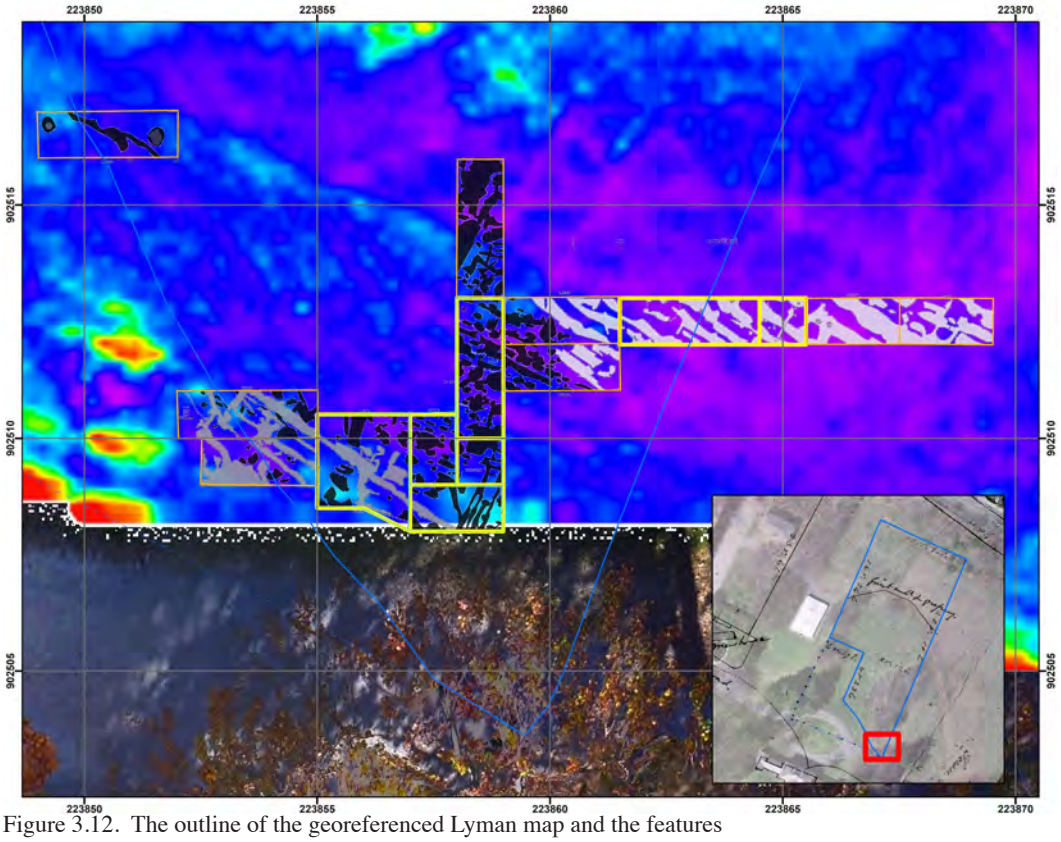


Figure 3.12. The outline of the georeferenced Lyman map and the features that appear at the level 3 to 4 interface.

to 4 interface). Here, the soil preparation features and the edging features (lighter shading) appear at a slightly less than 90 degree angle relative to the east edge of the garden (Fig. 3.12). This angle is not as acute as the angled southern edge of the garden depicted on the Lyman map.

Planting features at the level 3 to level 4 interface (darker shading), however, appear either at a right angle to the Lyman east edge, or parallel to it (in the case of the long N-S features visible in 2239). All of the features visible at the level 2 to 3 interface also follow this orientation (darker shading), suggesting that these relate to the dotted line on the Lyman map that squares off this southern border. Geophysical features in this area also follow this orientation.

The existence of edging features with two slightly different orientations indicates that the southern edge of the garden had two slightly different layouts at different points in time. The archaeology, in this regard, is consistent with the Lyman map which also shows two different southern borders. Despite the fact that the angled archaeological edge features and the angled edge of the Lyman map do not follow exactly the same orientation, they likely both relate to the same overall garden plan in which the southeast corner of the garden was not exactly square. While the southern border changed, however, all of the planting features appear to follow a single orientation, possibly representing a single episode of planting perennials.

Preparation

Gore appears to have prepared the soil for planting in this area by digging trenches down to the level of the interface with the subsoil, visible in the units at the eastern edge of the area. This practice may be similar "double digging," described in period manuals (Cobbett 2003 [1821]: 9-10), a method of systematically thoroughly turning the soil by digging it out in trenches. This

served to incorporate the compost and soil additives and to loosen the soil; Cobbett felt that this method, though more time consuming than plowing or harrowing, was better for the soil. Excavators at Mt. Vernon also found soil stains from trenches of a similar size in areas that were prepared for planting in 1785 but beyond the limits of the garden beds (White 2016: 51). This action was probably the source of the high density of artifacts deposited across the garden, described below. The artifacts are densest in level 3, suggesting that possibly additional clean soil/organic material was added to the upper layers of the garden beds.

Layout

The information about the layout of the formal garden during Gore's period comes from the Lyman map, the geophysical survey, and excavations which were concentrated on the southeast corner of the enclosure depicted on the Lyman map. It seems fairly certain that the narrow projection of the Lyman map was a site of multiple garden beds, edged with hedges, with a path on the center line of the fruit wall forming the western boundary and possibly another path in the middle of this area. We did also uncover some garden features at the far western edge of the enclosure depicted on the Lyman map (EUs 2231 and 2240), but the small number of units there make it difficult to say how far planting extended along the western edge.

The georeference of the Lyman map visible on the figures is this report is not exact. It shows the location of the fruit wall very well (the wall as drawn on the map crosses EU2119 where we excavated the fruit wall). However, the east edge of the enclosure is further east that we think the garden edge was. Planting features end in EUs 2235 and 2242, suggesting that was the eastern edge of ornamental plantings. We excavated 9 meters further east, and only found soil preparation features and two isolated larger features, so we are fairly confident that we have found the eastern edge.

The geometric but not totally symmetrical outline on the Lyman map would not have been particularly unusual for a garden plan (see for example Fig. 3.2). The fruit wall provided the defining dimension for the width of the northern part of the Gores' garden. It is surprising that the fruit wall is not aligned with the house, given how often garden and landscape layouts did use the house as in integral part of their design. This off-set between the house and the fruit wall suggests that the fruit wall may have been built earlier to align with the previous house.

At some point in time, there was a central walkway that stretched from the drive to the middle of the fruit wall. Parts of this were used in the curvilinear garden, but the GPR shows that this pathway was once longer and included sections that later fell out of use (Fig. 2.38). Because the disused sections appear only on deep GPR slices, it is possible that they date to the Gore period. We did not excavate any sections of the central pathway; other excavations could test this interpretation of the GPR results. We did excavate one section of pathway, in EU2112. This path forms the eastern edge of the curvilinear garden, but may have existed as an internal/central path in Gore's garden (see Fig. 3.6). The archaeological data about the date of this path is ambiguous. There were multiple layers of pathway bedding, and the lower layers consisting of marine clay and a distinctive sand and gravel mixture that elsewhere on the property have been associated with elements constructed during the Gores' occupation. We would need to test additional pathway segments to confirm if this path is constructed differently from those that only appear in the curvilinear garden. The GPR does not clearly show any other Gore-period pathways. This may be because they were shallow and were removed when the curvilinear garden was constructed. Or, other internal paths may not have been covered in gravel, just grassy sections between garden beds.

Both the GPR and the excavated planting features show that there were internal garden features that ran perpendicular to the central path (see Figs. 2.39-2.42, 3.12). Whether these were paths, garden beds, or both, this rectilinear organization with elements meeting at right angles is what would be expected from gardens of this period. This rectilinear organization is also consistent with Lee's retrospective description of the Gores' garden as being "laid out formally" (quoted in (Brockway 2001: 29 where there is also mention of a central sundial). No features on this orienta-

Figure 3.13. Remains of the wall that surrounded the yard south of the greenhouse, separating the greenhouse from the entrance drive. No similar features were found surrounding the gardens.

tion are visible in the GPR west of the central path, although our excavation areas along the west edge also show planting features there. It may be that Gore's garden beds were limited to the irregularly shaped areas formed by the solid line on the Lyman map, though additional testing outside of this area would be necessary to say that for certain. Archaeologically, we have evidence for extensive planting beds in the narrow area of the Lyman map and at least some plantings along the western edge.

Planting Beds

Unlike other projects where excavations revealed garden beds, this work mostly uncovered individual planting features, so we have to hypothesize about the shapes and dimensions of the beds themselves. Although we do not have any dimensions for planting beds (since our contiguous excavation area was completely covered by features), long rectangular beds would have been very common. The dimensions of the planting beds at the 1792 garden at Wye Plantation in Maryland are 6 and 12 ft wide by 60 ft long for example (Leone et al 2005: 147). In the southeast corner, we have evidence of plantings that would have extended several meters in from the eastern edge. The maximum east-west width that we have visible is along the south edge of 2114, 2118, and into 2233 where small planting features extended about 2.5 m SE to NW (over 8 ft), with a possible long row of hedges, bulbs, or larger plants running perpendicular to them for possibly 7.5 m (24 ½ ft) or more (Fig. 3.11).

EU2234 does not show any evidence of individual planting features, suggesting that it was not within a garden bed. (There are higher elevation indications of a hedge running through EU2234, but this may be a later planting/change to the garden layout.) There are planting features visible again on the east side of EU2112. This suggests several large planting beds in this area. Geophysical traces (Fig. 2.41) suggest that this layout continued to the former central path leading to the fruit wall. The area east of this path would have been an area of hedges and garden beds, parallel and/or perpendicular to the central path. This area might have been divided by the path that runs through 2112, but this is fairly speculative. The lower strata of this path are constructed similarly to other Gore-period features. This path, which was later used as the eastern edge of the curvilinear garden, does fall at the mid-way point between the central path and the eastern extent of the planting features. It is aligned with the end of the eastern hyphen, as is the central path depicted on Lee's map of the Gore period garden (Fig. 1.9).

We do not have evidence of how beds were edged, since we found no internal edges. Garden beds did not have to have brick or stone edging and could simply abut areas of grass or paths. EU2234 suggests that there were some internal hedges or fences separating different parts of the garden, and the linear features in the northwest corner of EU2239 may also be trenches for hedges. Inside the beds, we have evidence for multiple rows of small plants, interspersed with several larger plantings (see Fig. 2.21). This mixture of plants of multiple sizes follows Leighton's description that beds were planted with a mixture of flower and herb species, often with a central shrub.

Garden Boundaries

We have good archaeological evidence that the south edge of the garden was marked with something that left multiple long, parallel soil stains. These stains exist at two elevations and two orientations; the later features (appearing at a higher elevations) are associated with several post holes. One interpretation of these is that they are the ar-

chaeological signature of planting hedges. Hedges were a common way to edge garden beds and, according to William Cobbett (2003 [1821]: 15-19), were planted in a narrow trench, often with a second parallel trench/row of hedges. From a letter quoted in Viens, we know that Gore had English white thorn hedges (Viens 2010: 4). White thorn, also called hawthorne, are the type of hedges that Cobbett advised for creating a "quick set" hedge around a garden (2003 [1821]: 15-19). Cobbett specifies the spacing for planting the hedge seedlings and calculates that to surround a 300 x 150 ft garden would take 1800 hedge seedlings, which would grow to a five foot tall hedge in six years.

As discussed above, the southern boundary of the garden was changed at some point to make the southern edge square to the eastern edge. Previously, it has existed at an acute angle to the eastern edge, possibly following the curve of a driveway. There are posts associated with the shallower/later edge features, which might mark boundaries or corners, or may be part of a wooden fence constructed to protect young, growing hedges as period manuals advised.

Even if there was a hedge along the southern boundary, there seem to have been several larger shrubs on the south (outside) of it based on soil stains south of the long linear features.

We did not see any evidence of a brick or stone encloser wall like those that surrounded the greenhouse yard (Fig. 3.13). If something like this existed, we would have expected to find architectural debris separating the soil preparation features and the planting features in EUs 2235 and 2242, but nothing like this was evident. If there was an eastern edge, it may have been made of something less substantial, such as a fence, but we did not see any traces of it. Beds may just have ended in a grassy area, with the edge indicated by trees or large shrubs suggested by the larger features in 2103 and 2116.

What was Grown

We have no way of knowing from the archaeological evidence what plants were grown in the outdoor beds. Documentary evidence is also lacking. As summarized in Chapter 1, Christopher Gore discusses trees, field crops, fruit trees, strawberries, and garden vegetables, but it is not clear that any of these would have been grown in the formal garden. Estate accounts at Rebecca Gore's death only specifically mentions plants that would have been grown in the greenhouse for at least part of the year – roses, geraniums, and citrus trees.

With access to the Cambridge Botanical Garden and interaction with the other members of the MSPA, the Gores likely had knowledge of and access to a very wide range of plants from around the globe. The Cambridge Botanic Garden plant list of 1818 lists 996 species, for example (Loeb et al. 2022: 70). However, this knowledge of a wide range of species does not tell us what the Gores chose to plant. Cobbett's manual (2003 [1821]: 189-209) presents a list of 60 trees, shrubs, and flowers, annuals and perennials, that he would choose in a flower garden.

Leighton (1987: 222) suggests that perennials were common in gardens of this period, and the clear feature plan suggests a single episode of planting. Repeated planting and re-planting would probably have resulted in a much more disturbed appearance in the feature plan. The fact that we see a clear set of planting features indicates that the garden was planned and planted with annuals in a single episode. This may have taken place following the Gores' construction of their house in 1806, or after they shifted to using the property year round in the 1816. Either Lyman or Greene shifted the ornamental plantings to the curvilinear garden in the center of the area north of the house in the mid 1830s or in the 1840s, suggesting that the Gore-period layout existed for about 25 years or less if they did not establish the garden prior to 1816.

Evidence from other gardens and documentary sources suggests that the beds would have had a mixture of types of plants, and despite the contemporary emphasis on flowers, these would probably have included shrubs, herbs, and maybe even fruiting plants (see White 2016, for example). The planting features that we have indicate east-west rows of small plants, presumable of the same or similar types, interspersed with larger plants, possibly a central shrub. At the northwestern edge of our excavation area (EU2239), long linear stains suggest an internal border or row, possibly for an

Table 3.1. Densities for bone and shell, nails, glass, and ceramics for all of the 2021 and 2022 excavation units. All artifacts of these types were collected, while materials such as brick and coal were sampled.

Unit	Area	Unit Area (sq m)	Bone/shell per sq m	Nails per sq m	Glass per sq m	Ceramics per sq m
EU2102	Southeast corner, inside	3	23.7	27.7	16.7	98.3
EU2102ext	Southeast corner, inside	1	39.0	42.0	19.0	94.0
EU2103	Southeast corner, outside	3	17.0	21.0	38.0	112.7
EU2104	Southeast corner, outside	2	15.0	17.0	33.5	74.5
EU2105	Southeast corner, outside	3	6.0	19.0	57.0	77.7
EU2112	Pathway	2	19.0	16.5	49.5	45.0
EU2113	Southeast corner, inside	1.5	20.7	32.7	21.3	102.0
EU2114	Southeast corner, inside	2	11.5	28.0	18.0	86.5
EU2116	Southeast corner, outside	1	4.0	18.0	65.0	217.0
EU2118	Southeast corner, inside	4.1	9.3	10.7	12.2	54.4
EU2231	West edge	3	24.7	12.7	42.3	83.3
EU2231ext	West edge	1	147.0	8.0	17.0	84.0
EU2233	Southeast corner, inside	3	6.3	10.3	15.0	70.7
EU2234	Southeast corner, inside	3	8.7	40.3	31.0	110.7
EU2235	Southeast corner, inside/outside split	2.5	4.8	14.8	32.0	108.8
EU2236	East edge	3	21.3	18.7	40.7	59.3
EU2238	Southeast corner, outside	2	11.5	26.0	80.5	334.0
EU2239	Southeast corner, inside	3	12.0	15.0	31.3	80.7
EU2240	West edge	3	32.0	9.7	10.3	56.3
EU2241	Southeast corner, outside	2	11.0	12.5	40.5	163.5
EU2242	Southeast corner, inside/outside split	2.5	18.4	21.6	30.8	102.0
EU2243	Southeast corner, inside	2.5	14.4	12.0	15.2	49.2
All units		53.1	17.8	18.9	31.4	95.6

internal hedge surrounding the bed, or a row of bulbs (Fig. 3.11).

Applying Science to Horticulture: Soil Amendments

Christopher Gore was one of the founding members of the Massachusetts Society for Promoting Agriculture (MSPA, founded in 1792), an elite organization whose members were interested in scientific agriculture, such as seeking to improve crop yields through selective propagation or soil enrichment or importing new livestock and plant breeds (Thornton 1989). Ways to enrich and lighten the soil were one aspect of scientific agriculture (Wulf 2011: 119-120), much discussed in period gardening manuals, with a considerable amount of debate and experimentation on what materials to use (e.g., Spurrier 1793: 30-53). The additions were not always of material that we might expect. For example, Beaudry (1994) encountered soils containing many more cobbles that expected for a garden at the Spencer-Pierce-Little property, and garden soil at the Vale sat over an intentionally laid bed of gravel, sand, and rocks (at the Vale (Pinello and White 2000: 11-12). The Gores' use of soil amendments is visible across the

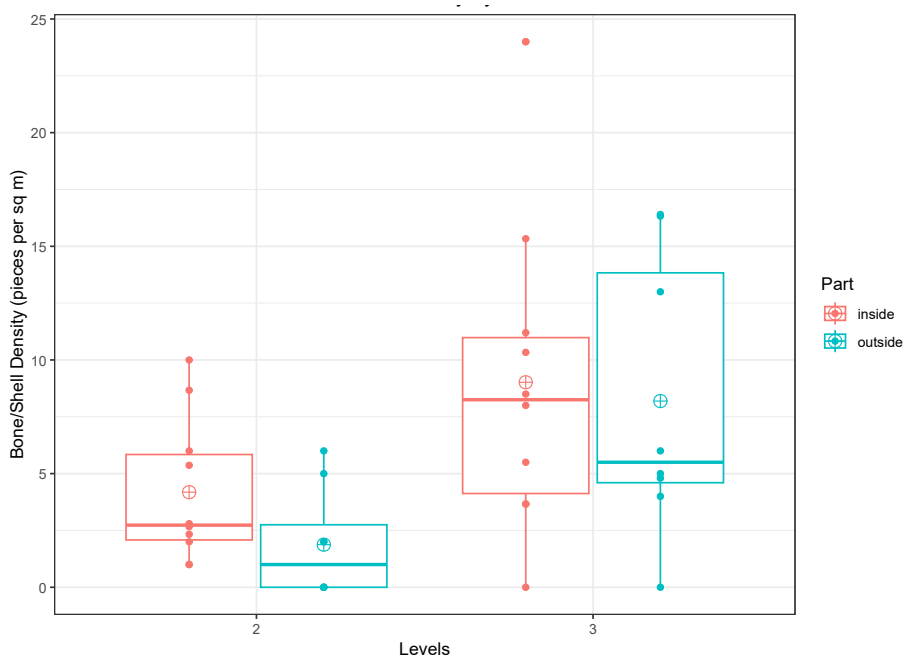


Figure 3.14. Box plot of bone and shell density by level.

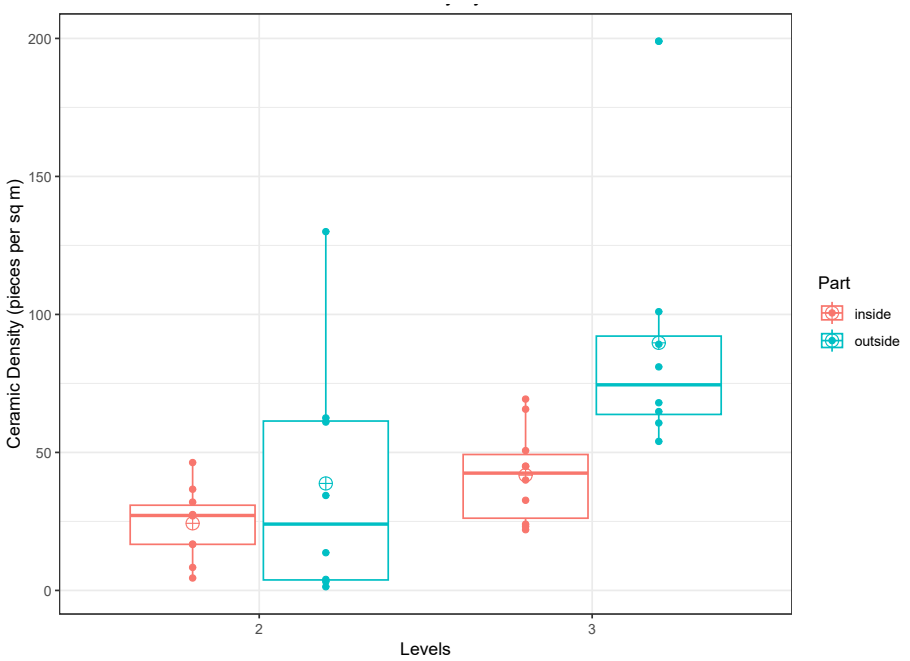


Figure 3.15. Box plot of ceramic density by level.

property, but displayed particularly dramatically in the formal garden.

From many seasons of fieldwork at Gore Place, we have found extensive evidence of the Gores' commitment to scientific agriculture, horticulture, and agricultural experimentation and improvement, including the practice of adding materials to enhance the soils. The widespread incorporation of specialized compost across the property speaks to his level of commitment to this practice. Eighteenth and nineteenth-century agricultural and gardening manuals advised adding

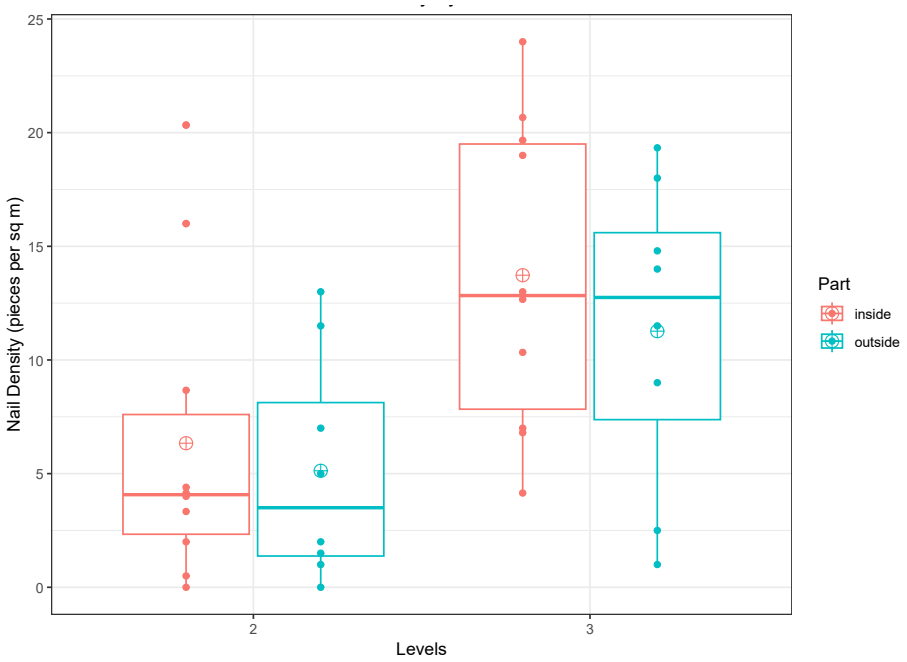


Figure 3.16. Box plot of nail density by level.

Table 3.2. Ceramic densities for shovel test pits on different parts of the property, compared to the average ceramic density of the garden units (Table 3.1) which ranged from 45 to 334 ceramic sherds per sq m, with a mean aboce 90.

Site area	No. of STPs	Ceramic density	Standard deviation
Drive Circle	16	59.7	41.3-0.6
Fruit Wall	4	153	65.4-3.0
Library Walk	17	29.3	22.5-0
North Field	27	35.7	42-0
South Lawn	82	24.1	24.4-0

various things to improve soil properties for growing, though the specific advice for what should be added varied. The mixture to be added could be called manure, which was different from animal dung, and could include rotten vegetation, lime, ashes, dung, burnt clay, or other material such as seaweed or shell (Spurrier 1793; Cobbett 2003:9-11). Neither Cobbett (2003 [1821]) or Spurrier (1793) specifically advise adding household trash such as glass and ceramics, nails, and other inorganic materials. However, doing so seems to have been a widespread strategy for enriching soils in the late 18th and early 19th centuries and has been documented at other properties such as Poplar Forest, one of Thomas Jefferson's properties (Gary and Proebsting 2016: 72-74) and George Washington's Mt. Vernon, in addition to here at Gore Place. Archaeologists working at Poplar Forest have identified Jefferson's soil additives as lime, wood ash, animal dung, rotten vegetation, and household trash, as well as charcoal. They hypothesized that the addition of household trash might have been intended to lighten the soil and promote good drainage (Gary and Proebsting 2016), though that would have been more of a concern in the dense clayey soils of Virginia than in the sandy Massachusetts environment.

We have found a mixture of charcoal, calcined and crushed bone, nails, and broken household glass and ceramics, many fragments of which have been burned, in test pits and excavation units across the property in varying densities. One of the first places that we observed this was in test pits on the South Lawn and Straight Walk (Smith, Beranek, and Steinberg 2010: 69-71). The units excavated in 2021 and 2022 in the formal garden areas produced a similar mixture of material, but in higher densities (Tables 3.1-3.2). Archaeological excavations have identified multiple places on the property where soil enrichment materials

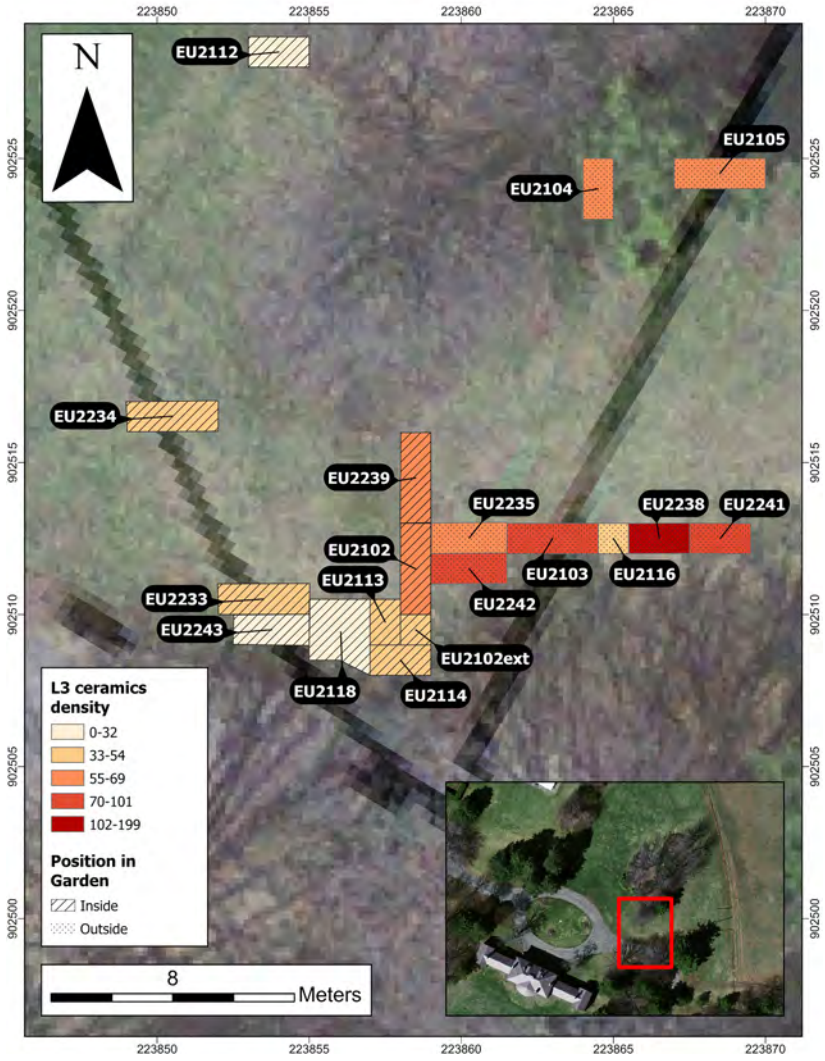


Figure 3.17. Density of ceramic sherds in level 3 in units in the southeast corner of the garden, showing the difference in density between the units that are inside versus outside the garden. Map by Trace Podder.

were prepared and stored, and examination of the densities and distributions of this material suggests that different kinds of amendments were added in varying quantities depending on the intended use of the land.

Production and Storage of Soil Amendments

We know that Gore also used the Carriage House basement to produce compost, referred to as "manure" in period descriptions. The following section is reproduced from Beranek, Smith, and Steinberg 2011: 11-13:

> Apart from the normal function of housing at least some of Gore's horses, tack, feed, and carriages, the Carriage House and its immediate environs served a variety of additional uses as evidenced from the account book of Jacob Farwell, one of Gore's farm managers between 1810 and 1830. Christopher Gore maintained a keen interest in farming and in the latest developments in farm management and agricultural production. An aspect of this interest was Gore's firm belief that New England soils could be made as productive as any other locality through the addition of compost that increased organic content and improved soil structure. Compost was referred to as manure in the early 19th century and was composed of

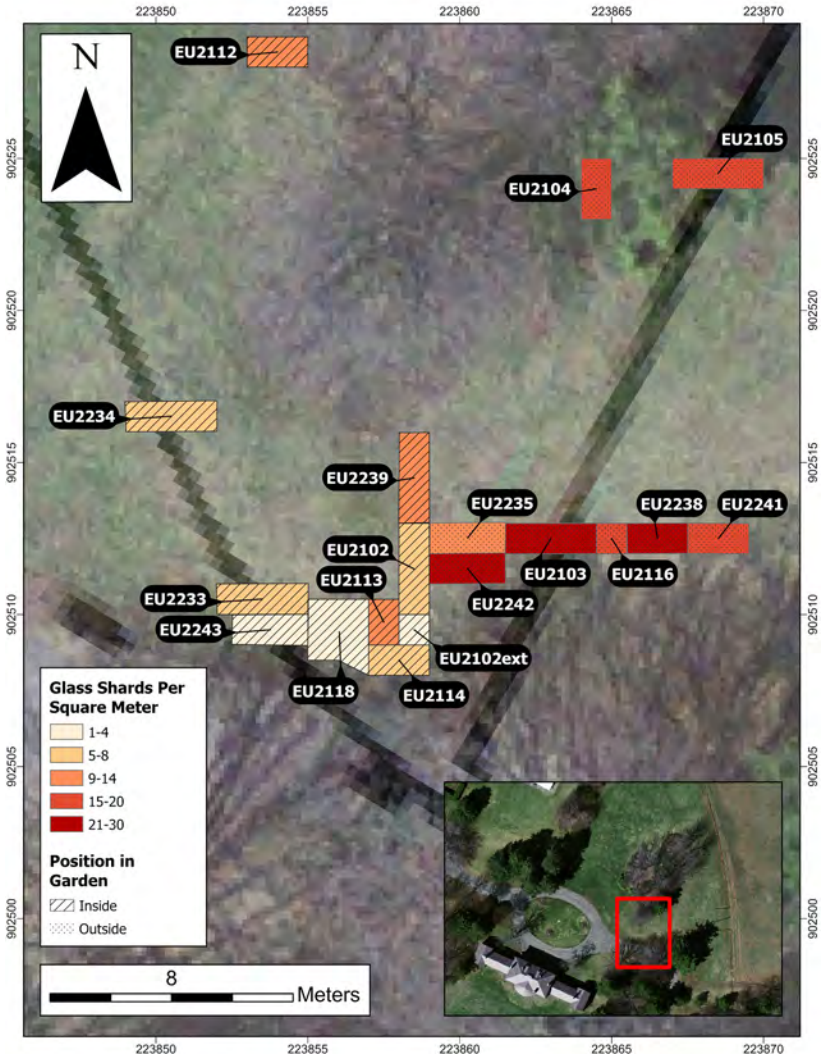


Figure 3.18. Density of glass fragments in level 3 in units in the southeast corner of the garden, showing the difference in density between the units that are inside versus outside the garden. Map by Trace Podder.

a variety of ingredients, some of which were experimental. Thus, manure was not limited to animal dung, but consisted largely of decomposed vegetable matter that was frequently brought to the farm from the market in Boston. To this could be added dung, ashes, leaves, pulverized and/or burned bone, and household refuse. Some of these materials were plowed directly into the fi elds or were combined and allowed to decompose further before application. The coach house cellar appears to have been the primary location for the production of a specific type of manure, which likely made use of animal waste in combination with other ingredients. The seasonal nature of manure production and use is indicated by the entries that show manure was loaded into the cellar in the winter and spring and was removed for use in the late summer and fall.

However, we know that Gore added much more than vegetable matter and animal dung to the soil. Farwell's journal mentions carting loads of manure, bark, leached ashes, leaves, rubbish, seaweed, and lime; while these had other uses, all of them could also be soil additives or elements in specialized planting beds. Bone was identified archaeologically as an additive.

While the Carriage House was one location

Table 3.3. Ceramic densities by level for all units with a shared stratigraphy.

Unit	Area (sq m)	Density by level		
		L1	L2	L3
EU2102	3	8.7	16.7	69.3
EU2102ext	1	11.0	32.0	45.0
EU2103	3	0.3	1.3	101.0
EU2104	2	0.5	4.0	68.0
EU2105	3	3.0	13.7	60.7
EU2112	2	5.0	4.5	22.0
EU2113	1.5	14.7	36.7	50.7
EU2114	2	8.0	27.5	45.0
EU2116	1	19.0	130.0	54.0
EU2118	4.1	3.2	27.3	23.2
EU2233	3	2.7	27.0	40.0
EU2234	3	28.3	46.3	32.7
EU2235	2.5	6.8	34.4	64.8
EU2238	2	1.5	62.5	199.0
EU2239	3	4.0	8.3	65.7
EU2241	2	13.5	61.0	81.0
EU2242	2.5	4.0	3.2	89.2
EU2243	2.5	4.4	16.8	24.0

for the storage and production of manure, resource pits or piles for other components existed elsewhere on the property. Michelle Styger analyzed the large assemblage (1067 specimens) of animal bones found around the greenhouse and determined that they represented a specialized collection of large mammal limb and body bones, not the distribution of remains that would be expected from either whole farm animals or household food waste (Beranek, Smith, and Steinberg 2011: 75-83). Styger's interpretation was that they were being intentionally stockpiled for use in fertilizer. She surveyed American literature on the use of bone as fertilizer and found that although it was commonly discussed in England in the early 19th century, references to it did not appear in local publications until the late 1830s. Thus, Gore's mention in an 1820 letter to Rufus King that he was in search of a bone mill indicates how progressive he was in adopting experimental agricultural practices.

In 2021, we located a large pit behind the fruit wall filled with a deposit that was 60% or more charcoal (see Chapter 2, EUs 2115 and 2117). The pit extended at least 30 cm into the subsoil and extended 6 m from the back of the fruit wall. The outlines of the pit also seem to be visible in the GPR (Fig. 3.4) suggesting that the charcoal deposit extends a much as 9 meters along the back side of the east wing of the fruit wall, for a total possible dimension of 6 x 9 (20 x 30 ft), though this would need to be confirmed with additional test units to be certain. The charcoal in the pit comes from a range of tree species (beech, birch, and maple), and is in large, un-crushed pieces that come from tree limbs not structural timbers. Our interpretation is that this was an area where charcoal to be added to the soil was cached and stored.

Soil Amendments in the Formal Garden

The soils in the formal garden were being enhanced, and the distributions and densities of these artifacts suggest that the additions were intentional, not simply a background scatter of domestic material. Much of the material had been processed before it was added to the soil: bones were calcined (burned to a high temperature) and then broken into small pieces. Charcoal, which we found in large pieces in the pit behind the fruit wall, had been broken into small fragments. Many of the ceramics had been burned; in some units, 17% of the ceramics were not identifiable to type because they had been burned beyond recognition. On the other hand, in some areas there were multiple pieces of the same ceramic vessel, suggesting that this was a primary deposition site for some material. For example, units 2241, 2238, and 2116 contained multiple fragments of the same industrial slip decorated vessel and a shell edged and hand painted plate (Fig. 2.18). All of the datable items in the garden soils date to the late 18th and early 19th centuries, suggesting that the Gores were responsible for adding the artifacts to the garden soils as they established the garden.

Deposition in the southeast corner of the formal garden was significantly denser than elsewhere on the property (Table 3.1 compared to Table 3.2). For example, the average ceramic density in the South Lawn test pits was 24 ceramics

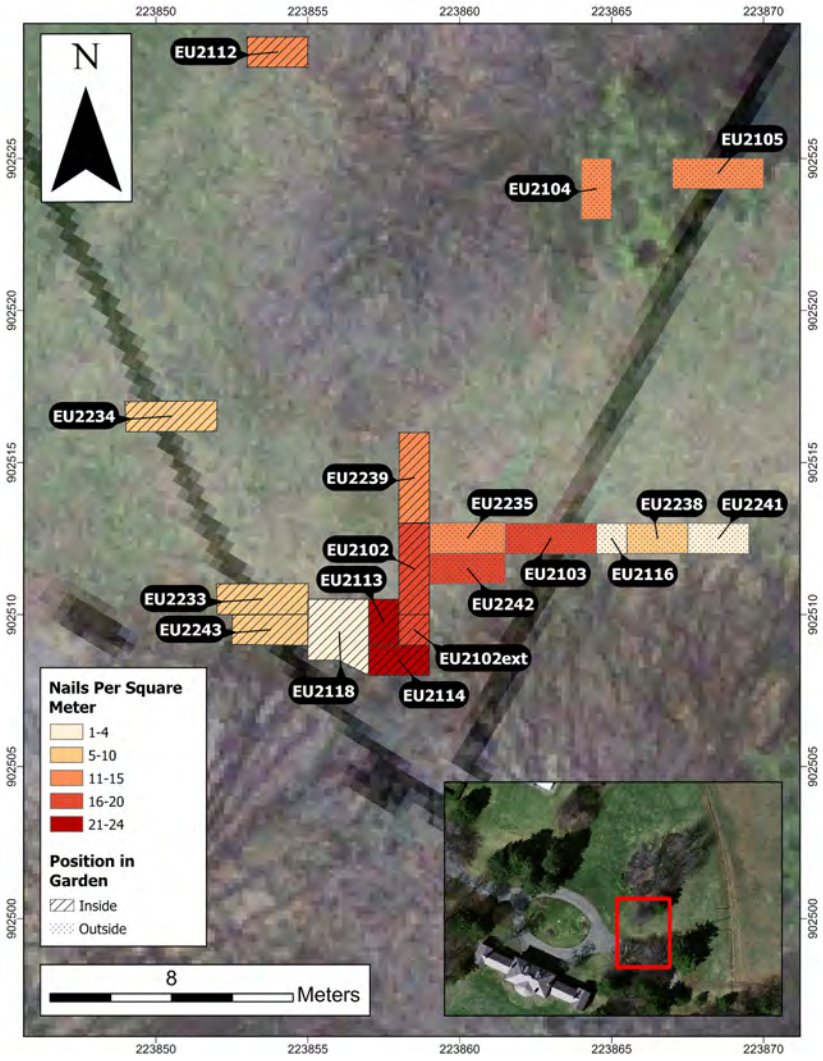


Figure 3.19. Density of nails in level 3 in units in the southeast corner of the garden. Unlike glass and ceramics, this difference does not seem to be patterned by inside vs outside. Map by Trace Podder.

per square meter; average ceramic density in the garden area units excavated in 2021 and 2022 was 96 ceramics per square meter. Although this figure varies considerably by unit, not even the units at the east and west edges of the garden have artifact densities as low as the South Lawn test pits. This feature—high ceramic densities in the soils in a formal landscape—is not necessarily what would be expected.

Artifact density was not uniform over space, either horizontally or vertically, and there were noticeable differences between the density inside and outside the garden and between strata. Inside versus outside in this case was determined by the types of underlying features (no features or soil preparation vs planting features).

Artifact density was higher in level 3 than in level 2 in most units (Table 3.3; Figs. 3.14-3.16). Additionally, glass and ceramic density in level 3 was higher in the units that fell outside the garden than inside (Figs. 3.17 and 3.18). However, the same is not true for nails (Fig. 3.19), which are concentrated in a central cluster of the units, or bone (Fig. 3.20) where there is little evident patterning. The fact that these items were not distributed in the same way suggests that differ-

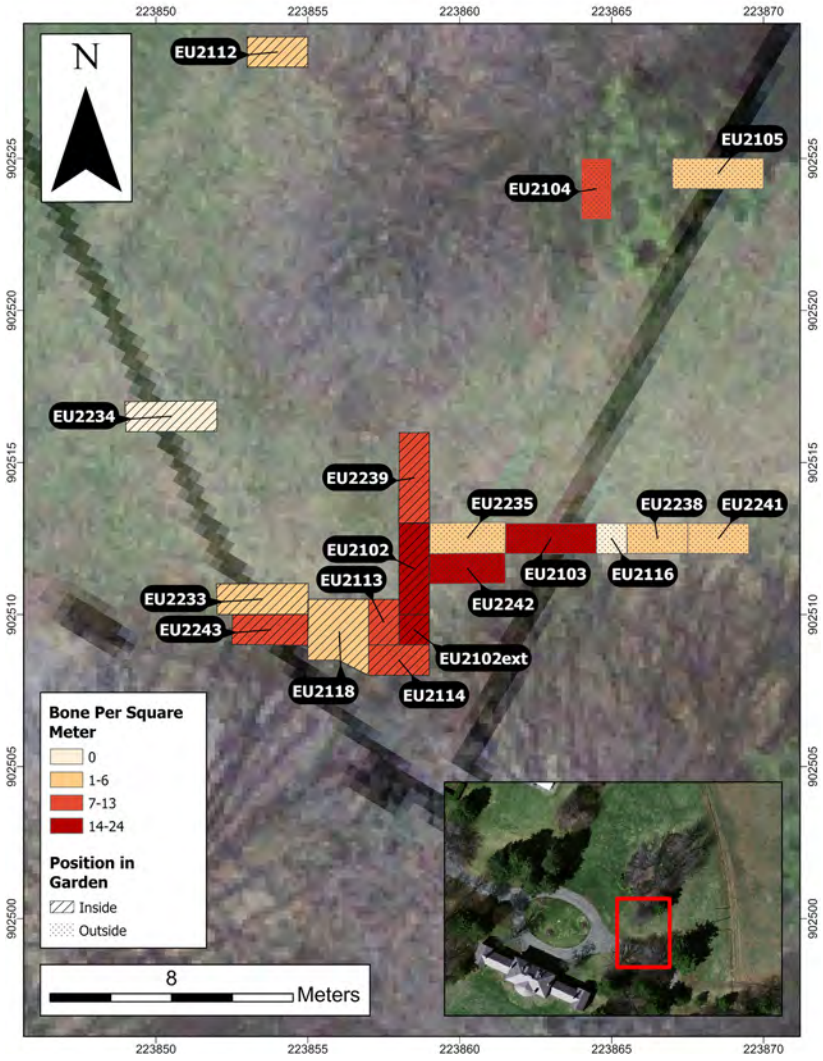


Figure 3.20. Density of bone fragments in levels 3 in units in the southeast corner of the garden. Unlike glass and ceramics, this difference does not seem to be patterned by inside vs outside. Map by Trace Podder.

ent additives were added to the soil individually, ie bone was added through a different mechanism than glass and ceramics.

It is not completely clear what formation processes would have resulted in the patterns that we are seeing. There are two possible ways in which the artifact density in level 3 could be higher. One is that the soil amendments were spread across the surface and then thoroughly turned in when the soil was initially prepared by "double digging" which results in the former topsoil being turned to the bottom. The other possibility is that the material was evenly mixed through the garden soil, and then additional organic material was added to the upper part (level 2), during the life of the garden, essentially "diluting" the concentration of artifacts in the upper levels.

Additionally, density maps and statistical analysis of the different material densities between level 2 and 3 suggests that not all materials were added evenly across all units, ie., a higher overall artifact density did not necessarily correspond with a higher number all artifact types. This suggests that different material types were added separately, not as part of one homogenous compost mixture.

Post-Gore Changes

The combination of the GPR data, the exca-

vation data, and the historic maps also makes it clear that the installation of the curvilinear garden marked a substantial change in the arrangement of the landscape from earlier periods. The fruit wall, as a massive, pre-existing brick structure, continued to determine the width and location of the north end of this formal space. However, the overlay of the Lyman map and the curvilinear garden plan (see Fig. 1.8) makes it clear that the space in front of the fruit wall was reshaped when the curvilinear garden was installed. The irregular, solid line of the Lyman map seems to represent a real division of the property, probably remaining from the Gore period, while the dotted line seems to represent a planned or in-progress change. Lyman seems to have planned to extend and simplify the outline of the formal landscape in front of the fruit wall. How much progress he made towards this goal during his four year occupation is unclear.

What is not certain is who is responsible for the layout of the curvilinear garden. It seems likely that the new garden bed layout was only one of several landscaping changes after the Gore period, including the installation of the oval in the driveway, new paths along the north edge of that oval, and associated changes to the southern border of the enclosure. The curvilinear garden plan crosses over the solid line on the Lyman map, meaning that the older divisions of the landscape north of the mansion were changed when the curvilinear garden was installed.

Traditionally, Lyman has been credited with the layout of the curvilinear garden (Brockway 2001: 31; Romo 2017: 31; HABS map), and the interpretation of the Lyman map presented above supports the idea that Lyman began changing the layout of the landscape north of the house. However, Lyman owned the property for a relatively short time (1834-1838). It is not clear whether the new layout, including the curvilinear garden paths and the driveway oval, clearly seen in the GPR (Fig. 1.8) and in more general terms on the 1841 Greene map (Fig. 1.7) was completed by Lyman or by Greene. The fact that the dotted line on the Lyman map runs through the driveway oval and several of the associated pathways placed during the Greene period (Fig. 1.8) suggests that there was some difference between the plan Lyman envisioned (at least as captured on the Lyman map) and the plan that was eventually completed under Greene. Robert Murray worked as a gardener for both households, so it is likely more accurate to credit Murray with the new plan, and to assign the date to the 1834 to 1841 period more broadly, rather that attributing it to either Lyman or Greene.

Greene's map is the first to depict a bend in the eastern enclosure edge, another variation from the Lyman plan that suggests the landscape continued to be altered during the Greene period. This angle seems to be designed to visually minimize the offset between the house and the formal landscape. The same angle was mirrored by the eastern pathway of the curvilinear garden, visible in both the GPR results and the HABs map.

The Work of Gardening

The archaeological excavations provide information not just on how the garden was laid out but also on the huge investment of labor that went into creating and maintaining it. Although we call this the Gore garden -- and in this and other reports we have tried to include Christopher and Rebecca both as potential contributors – the design, creation, and maintenance of the formal landscape and its fruit trees, grape vines, greenhouse plants, and gardens would have involved the labor of other individuals. This section breaks down the kinds of investments that the Gores made in creating the garden and also recognizes that much of that investment was the specialized labor of other people whose work and skills should be acknowledged. The reports on the greenhouse (Beranek, Smith, and Steinberg 2011; Romo and Beranek 2014: 25-26, 87; Romo 2017) described some of the tasks needed to maintain that structure and its plants, which would have required round the clock tending in some seasons. That is not repeated here, but is relevant to considering full scope and skill level of the labor put into the formal landscape at Gore Place.

The Gore's employed a farm manager, Jacob Farwell, after 1810 (Viens 2010: 6) and also a series of professional gardeners: William Hay, Robert Toohey, and William Heathcot (or Heathcoat) (Brockway 2001: 23-24). Brockway believes that Heathcot worked for the Gores from 1806 until

1818 or later, and may be the gardener with a family of five children referenced in an 1806 letter from Gore to King (Brockway 2001: 25). Subsequent owners of Gore Place, Lyman and Greene, both employed Robert Murray.

In this regard, Gore and Lyman are similar to other members of the MSPA who also employed professional gardeners. John and Nathaniel Tracy, also MSPA members, employed George Heussler, a European gardener, to build a terraced garden with a hot house and fruit trees as well as potential other landscape design work (Moore 1988 ;Beaudry 1994: 64-67). Moore's (1988) biography of Heussler suggests that early in Heussler's career, he worked primarily as an estate gardener for the Tracys, with a side business selling seeds. After Tracy's bankruptcy, Heussler shifted to other clients, possibly working for multiple estates in Newburyport and Salem rather than a single client. Heathcot's career may have been similar, working solely or primarily for Gore between 1806 and 1818. The need for a full time professional gardener is indicative of the extent of the horticultural activities at Gore Place (and other properties).

By the time that the Massachusetts Horticultural Society was founded in 1829, there were enough practicing professional gardeners in Massachusetts that they had their own membership class in the society and frequently took on leadership roles in the organization (Lanman 1998: 265-266). The gardeners were part of a developing profession of individuals who ran nurseries, provided estates with plants and seeds, and designed gardens and greenhouses. Lanman (1998) traces the development of gardening as a profession in 19th-century England, and also discusses the movement of English gardeners to Massachusetts (Lanman 1998). She notes that professional English and Scottish gardeners emigrated and worked in Massachusetts gardens from at least the mid-18th century onwards; more individuals are known from the early 19th century and following, especially after 1865 which is Lanman's period of focus (Lanman 1998: 258-262). She cites a small number of known gardeners who would have been contemporary with the Gore occupation: Mr. Bell who worked for Lyman at the Vale ca. 1790 and a number of other men who worked on estates in Beverly, Newbury, Roxbury, and Salem in the first half of the 19th century.

Of the gardeners who worked on the Gore property, the most information is available about Robert Murray who worked on the estate under Lyman and Greene (ca. 1837-1856). Murray and his family lived in a house located just across Grove Street, to the south, later moved onto the main Gore Place property and still occupied by the farm manager. The original site of this house was tested archaeologically in the early 2000s (Smith 2007). This lot was not owned by Gore, but was added to the estate by Lyman (Smith 2007: 14). Robert Murray (b. in Scotland in 1805), his wife Esther, and their children (Mary, Robert, William, Esther, Margaret, and Henry) lived in the house, appearing with a Watertown address on the 1840 and 1850 Federal census and the 1855 State census. When a profession is indicated, Robert Murray is listed as a gardener. On all of these censuses, the Murrays share the house with a number of unrelated laborers. On the 1840 census, there are six men and a woman between the ages of 20 and 29 who are not part of the family. All of the men are listed as working in agriculture. On the 1850 census, there are eight men and one woman listed by name, mostly Irish and one Scottish (George Cruckshanks, Patrick Cannon, Patrick McAlastor, Patrick Hogan, John Welsh, Patrick Farney, Hugh Gilson, Judy Ryan, and Jeremiah Sullivan). All of the men are in their early 20s. The 1855 State census indicates that there were still six additional men in their 20s living in the household. By the time of the 1860 census, Robert and Esther Murray had moved to Waltham, no longer with such a large household of unrelated laborers. It is not clear if the other men living in the Murray household in the 1840s and 1850s were all laborers on Gore Place lands or did farm labor on other properties, but it is possible that they were among the people who maintained the formal landscape during that period.

All of the agricultural and landscaping work at Gore Place would have required additional labor, though who exactly performed it under what conditions is not well known. Presumably there would have been additional laborers hired under the farm manager and the gardener, either

full time, seasonally, or by the day. It is clear that setting up a garden, in particular, would have required a large investment of labor. Some of the period gardening manuals, such as William Cobbett's American Gardener, are explicit about calculating and justifying the amount of labor required for specific garden features.

Cobbett's (2003 [1821]: 20) calculation for planting and pruning hedges to surround a 300 by 150 foot garden, for example, comes out to $53, using the following calculations:

> The cost of the plants is, then, four dollars. The pruning of the roots and planting is done, in England, for about three half pence a rod, that is to say three cents. Let us allow twelve cents here…In 900 feet there are 54 rods and a few feet over: and therefore the planting of the hedge would cost about seven dollars. To keep it clean from weed would require two days work in a year for five or six years: twelve dollars more. To do the necessary clipping in the same time would require about thirty dollars…And thus are a fence, shelter, and shade of everlasting duration, for a garden containing an acre of land, to be obtained for this trifling sum!

At a time when a male laborer probably earned about a dollar a day (Cobbett also assumes this as a pay rate), and a women much less than that, $53 was a significant investment of money (and then of working time). Even after planting the hedge, it required about eight days of weeding and trimming a year. This may not sound like much, but keep in mind that that is just to maintain a border hedge. Cobbett's estimate for turning the soil to prepare an acre of ground for planting is $40, or 40 days of work (Cobbett 2003 [1821]: 7-8). Although this would take twice the time of plowing, and therefore cost as extra $20, Cobbett writes, "A garden is made to last for ages; what then in such a case is the amount of twenty dollars?" For a sense of scale, the area enclosed inside the solid line on the Lyman map is just under 2 acres and the southern projection, where we know that there was intensive soil preparation and planting is slightly less than half an acre. Extrapolating out to the labor required for planting and maintaining the garden beds, the grape vines, fruit trees, greenhouse plants, and agricultural fields, and one can imagine that the Gores' landscape required vast amounts of work to create and maintain.

The plants in the formal garden and the surrounding hedges and trees would have also required an investment to acquire. These may have been purchased from a nursery or botanical garden, either locally or regionally. Craigie's correspondence, for example, indicates that he purchased many of his trees from a nursery on Long Island (Evans 1993: 23). Plants were also frequently exchanged between people, so some of the plants may have made their way to Gore Place through the networks that Christopher Gore developed through his membership in the MSPA or via correspondence. Gore's letters to Rufus King are full of reference to seeds, seedlings, and young trees that Gore had either received or sent to other individuals. In this case, the exchange of plants and seeds was not for money, but an investment in the personal networks and relationships that intertwines sociability, politics, and horticulture.

Finally, the addition of soil amendments across the property, and particularly in the formal garden, would have been very labor intensive. Archaeological excavations have shown that the soil improvements extended over a very large area, even beyond the area covered by the garden itself, and were carried out to various degrees across the property (see Table 3.1). The 2021 and 2022 excavations suggest that the whole area surrounding the garden was first subject to soil preparation, digging trenches to turn and loosen the soil and to incorporate compost. Even if just the half acre of the southern projection was treated in this manner, that was a 20 person-day project, using Cobbett's estimates. If the whole two acres enclosed on the Lyman man was similarly treated, that would have been 80 person-days just to turn the soil. The compost or manure added to this area was a mixture of materials, each of which had to be gathered, prepared, and stored before being added to the soil. These range from household trash which was gathered and burned; to organic material gathered by the cart load from Boston and stored and turned in the carriage house cellar; to bone that was gathered, burned at a high temperature, then

crushed; to charcoal that was purposefully created and stored in a large pit before being added to the soil. The planning and work involved in preparing and adding these materials to the soil illustrate both Gore's commitment to scientific agriculture and the amount of resources, in terms of planning, money, and labor, that he was willing to invest in the formal landscape.

Christopher Gore's letters to Rufus King are much more concerned with the field crops and fruit trees; they never mention an ornamental garden. They do show the depth of his commitment to scientific agriculture, as he writes looking for information on new technology, for pamphlets, and information, and to exchange seeds and plants. The results of that commitment to scientific agriculture can be seen in the soil improvements and in the vast landscaping for the formal grounds north of the Mansion. Even if the gardens are not mentioned in Christopher Gore's surviving letters, the level of investment they required shows that they were an important feature of the Gore Place landscape. Further research could continue to develop more specific information on the amount of work involved given what we know about the scale of the garden, greenhouse, and fruit wall and grapery at Gore Place. How many additional laborers would be needed, at what times of year? How did the seasonal schedule of labor for the formal landscape relate to the work required for the agricultural landscape? What more can be learned about early 19th-century professional gardeners in general (or about the people employed at Gore Place specifically), in terms of their training and areas of expertise.

Landscape Management at Gore Place

Features from the Gore period garden are well preserved over a large area in the southeast corner and western edge of the enclosure depicted on the Lyman map because of careful stewardship by the Gore Place Society for the past 90 years. This has important management implications for this part of the property since a very delicate series of features, visible only as soil stains, from the Gore period exists just 30 cm (ca. 1 ft) below the modern surface. These are very well preserved in areas that fall outside of the curvilinear garden beds. Preservation of Gore-period deposits under the beds for the curvilinear garden is not known since we did not test that area.

The fruit wall, evidence of specialized planting beds, and likely the evidence of structures constructed against the wall are also well preserved, beginning at about 18 inches below the surface. While the central and western sections likely contain architectural debris from the structures that were added there later, the east wing seems to relate primarily to the Gore period. This is one of the areas where additional excavation could yield significant additional information about the use of the wall in Gore's period.

The whole area between the Mansion and the fruit wall contains important archaeological deposits related to the Gore period and later landscapes, so any activity in this area that disturbs the ground has the potential to disturb or erase that information. As part of managing the landscape, our recommendation is that the Gore Place Society considers whether an area's archaeological resources have been well enough documented before proceeding with any ground disturbing activity such as tree planting, utility installation, or other kinds of landscaping or construction. Given the large area covered by these features, there is definitely additional information that could be learned about the layout with future excavation. Since Gore Place is a protected landscape, these features can be preserved for future generations if the Society continues to take a thoughtful approach to landscape use and management.

Bibliography

Baugher, Sherene, and Lu Ann De Cunzo. 2002. "Archaeological Perspectives On and Contributions To the Study of Colonial American Gardens." *Landscape Journal* 21 (1): 68–85.

Beaman Jr., Thomas E. 2002. "The Archaeology of Morley Jeffers Williams and the Restoration of Historic Landscapes at Stratford Hall, Mount Vernon, and Tryon Palace." *North Carolina Historical Review* 79 (3): 347.

Beaudry, Mary C. 1994. "Archaeology of the Spencer-Peirce-Little Farm, Newbury, Massachusetts. Interim Report No. 4. Results of Testing in Proposed Location for a Dry Well, August, 1994." Massachusetts Historical Commission Archaeological Survey and Mitigation Reports 25–1404.

Beranek, Christa M., Joseph P. Aramini, and John M. Steinberg. 2022. "Interim Report on the 2021 Field Season, Formal Garden and Fruit Wall, Gore Place, Waltham, MA." Andrew Fiske Memorial Center for Archaeological Research, Cultural Resource Management Study No. 88. Boston, Massachusetts: University of Massachusetts Boston.

Beranek, Christa M., and Alexandra U. Crowder. 2016. "Archaeological Investigations of the Drive Circle and West Hyphen at Gore Place, Waltham, Massachusetts." Andrew Fiske Memorial Center for Archaeological Research, Cultural Resource Management Study No. 74. Boston, Massachusetts: University of Massachusetts Boston. https://www.fiskecenter.umb.edu/Pdfs/74_Gore2015%20report%20final%20w%20catalog.pdf.

Beranek, Christa M., J. N. Leith Smith, and John M. Steinberg. 2011. "Data Recovery Excavations of the Carriage House, Greenhouse, and Greenhouse/ Carriage House Well at Gore Place, Waltham, Massachusetts." Andrew Fiske Memorial Center for Archaeological Research, Cultural Resource Management Study No. 45. Boston, Massachusetts: University of Massachusetts Boston. https://www.fiskecenter.umb.edu/Pdfs/Gore%20greenhouse%20complete_small.pdf.

Beranek, Christa M., J. N. Leith Smith, John M. Steinberg, and Michelle G. S. Garman. 2009. "Growing Things 'Rare, Foreign, and Tender': The Early Nineteenth-Century Greenhouse at Gore Place, Waltham Massachusetts." *Northeast Historical Archaeology* 38 (1): 70–99. https://doi.org/10.22191/neha/vol38/iss1/4.

Binzen, Timothy L., F. Timothy Barker, and Martha Pinello. 2002. "Results of an Archaeological Site Examination in 2000 for Historic Landscape Restorations at The Mount, Lenox, Massachusetts." Massachusetts Historical Commission Archaeological Survey and Mitigation Reports 25-2192.

Brockway, Lucinda A. 2001. "Landscape History, Gore Place, Waltham, MA." Past Designs for The Halvorson Group.

Camp, Stacey L. 2021. "The Future of Japanese Diaspora Archaeology in the United States." *International Journal of Historical Archaeology* 25 (3): 877–94.

Carlo, Laura. n.d. "Lost Gardens of New England." Online. Accessed January 9, 2025. https://www.historicnewengland.org/visit/exhibitions/lost-gardens-of-new-england/.

Cobbett, William. 2003. *The American Gardener.* New York: Modern Library.

DeForest, Rita A. 2010. "'A Good Sized Pot': Early 19th Century Planting Pots from Gore Place, Waltham, Massachusetts." MA thesis, Boston, Massachusetts: University of Massachusetts Boston. https://scholarworks.umb.edu/masters_theses/16/.

Dimmick, Frederica R. 1996. "Archaeological Investigations for the Handicapped Ramp at Longfellow National Historic Site 1988–1989." Massachusetts Historical Commission Archaeological Survey and Mitigation Reports 25-1788.

Evans, Catherine. 1993. “Cultural Landscape Report for Longfellow National Historic Site. Volume 1: Site History and Exiting Conditions.” Cultural Landscape Publication No. 2. Boston, Massachusetts: National Park Service, North Atlantic Region, Division of Cultural Resources Management.

Gary, Jack, and Eric Proebsting. 2016. “The Multiple Landscapes of Thomas Jefferson’s Poplar Forest.” *Historical Archaeology* 50 (1): 61–79.

Goodwin, Conrad McCall, Karen Bescherer Metheny, Judson Kratzer, and Anne Yentsch. 1995. “Recovering the Lost Landscapes of the Stockton Gardens at Morven, Princeton, New Jersey.” *Historical Archaeology* 29 (1): 35–61. https://doi.org/10.1007/BF03374207.

Historic New England. “Garden Plan, Rundlet-May House, Portsmouth, N.H. | Historic New England.” n.d. Accessed January 10, 2025. https://www.historicnewengland.org/explore/collections-access/capobject/?gusn=201322.

Hood, J. Edward. 1992. “Archaeological Survey at the Manse, Northampton, Side and Front-Side Yards.” Massachusetts Historical Commission Archaeological Survey and Mitigation Reports 25-1208.

Kelso, William M., and Rachel. Most, eds. 1990. *Earth Patterns: Essays in Landscape Archaeology*. Charlottesville: University Press of Virginia.

Kratzer, Judson. 1995. “The Graperies of Andalusia: An Archaeological Study of a Bygone Agricultural Phenomenon.” MA thesis, Georgia: Armstrong State College.

Lanman, Susan Warren. 1998. The Rise of the Industrial Garden. Dissertation, Denver, Colorado: University of Denver.

Leighton, Ann. 1987. *American Gardens of the Nineteenth Century: “For Comfort and Affluence.”* Amherst: University of Massachusetts Press.

Leone, Mark P., James M. Harmon, and Jessica L. Neuwirth. 2005. “Perspective and Surveillance in Eighteenth-Century Maryland Gardens, Including William Paca’s Garden on Wye Island.” *Historical Archaeology* 39 (4): 138–158. https://doi.org/10.1007/BF03376708.

Loeb, Robert E., Taylor N. Walborn, Alaina J. Leasure, Joelle D. Manners, Richard P. Massimino, and Olivia A. Mcgraw. 2022. “Spanning the Globe for Diversity: Species Selection in Early Nineteenth Century United States Botanical Gardens.” *Studies in the History of Gardens & Designed Landscapes* 42 (2): 67–119. https://doi.org/10.1080/14601176.2022.2097429.

Louden, J. C. 1824. *The Green-House Companion; Comprising a General Course of Green-House and Conservatory Practice Throughout the Year.* London: Harding, Triphood, and Lepard.

Maryland Archaeological Conservation Laboratory. n.d. “Diagnostic Artifacts in Maryland.” Accessed March 18, 2025. https://apps.jefpat.maryland.gov/diagnostic/.

Mitchem, Alexandria. 2020. “Unearthing the Roots of the Past: Archaeology at Historic Bartram’s Garden.” *Expedition Magazine,* 2020. https://www.penn.museum/sites/expedition/unearthing-the-roots-of-the-past/.

Moore, Margaret B. 1988. “‘The Laudable Art of Gardening’: The Contributuions of Salem’s George Heussler.” *Essex Institute Historical Collections* 124 (2): 125–141.

Pauly, Philip J. 2007. *Fruits and Plains : The Horticultural Transformation of America*. Cambridge, Mass: Harvard University Press.

Pendery, Steven R., Michael K. Haynie, and Rachel Sexton. 2003. “Management Summary, Longfellow Garden Excavations, 2001-2002, Longfellow National Historic Site, Cambridge, Massachusetts.” Lowell, MA: National Park Service, Northeast Region Archeology Program.

Pinello, Martha. 1999. “An Archaeological Site Examination of the Peach Wall at the Vale, the Lyman Estate, Waltham, Massachusetts.” Massachusetts Historical Commission Archaeological Survey and Mitigation Reports 25–1814.

Pinello, Martha, and Carolyn White. 2000. "An Archaeological Site Examination for the Historic Plant Nursery at The Vale, the Lyman Estate, Waltham, Massachusetts." Massachusetts Historical Commission Archaeological Survey and Mitigation Reports 25–1952.

Romo, Sean P. 2017. "Identity Behind Glass: The Second Gore Place Greenhouse." MA thesis, University of Massachusetts Boston. https://scholarworks.umb.edu/masters_theses/458/.

Romo, Sean P., and Christa M. Beranek. 2014. "The 1806 Greenhouse at Gore Place, Waltham, Massachusetts." Andrew Fiske Memorial Center for Archaeological Research, Cultural Resource Management Study No. 66. Boston, Massachusetts: University of Massachusetts Boston. https://www.fiskecenter.umb.edu/Pdfs/66_Gore%202012%20final.pdf.

Sellers, Vanessa Bezemer. 2003. "From Geometric to Informal Gardens in the Eighteenth Century | Essay | The Metropolitan Museum of Art | Heilbrunn Timeline of Art History." The Met's Heilbrunn Timeline of Art History. 2003.

Smith, J. N. Leith. 2007. "Final Report on the Archaeological Site Examination of the Robert Murray Farmhouse Complex on the Gore Place Society Property, Waltham and Watertown, Massachusetts." Andrew Fiske Memorial Center for Archaeological Research, Cultural Resource Management Study No. 20. Boston, Massachusetts: University of Massachusetts Boston.

Smith, J. N. Leith. 2011. "The Archaeological Site Examination of the Cistern Room, Furnace Room and Blower Unit Locations in the Mansion House Cellar at Gore Place, Waltham, Massachusetts." Andrew Fiske Memorial Center for Archaeological Research, Cultural Resource Management Study No. 39. Boston, Massachusetts: University of Massachusetts Boston.

Smith, J. N. Leith, Christa M. Beranek, and John M. Steinberg. 2010. "Archaeological Site Examination of the Field East of the Grapery/Greenhouse, Drive Circle, Straight Walk, and South Lawn at Gore Place, Waltham, Massachusetts." Andrew Fiske Memorial Center for Archaeological Research, Cultural Resource Management Study No. 36. Boston, Massachusetts: University of Massachusetts Boston. https://www.fiskecenter.umb.edu/Pdfs/Gore%20Ag%20Per%20rpt%20compressed.pdf.

Smith, J. N. Leith, and Gregory R. Dubell. 2006. "Report on the Archaeological Site Examination of the Entrance Drive, Carriage House, Greenhouse, Vegetable Garden, Flower Garden, and Grapery at Gore Place, Waltham, Massachusetts." Andrew Fiske Memorial Center for Archaeological Research, Cultural Resource Management Study No. 17. Boston, Massachusetts: University of Massachusetts Boston. https://www.fiskecenter.umb.edu/Pdfs/17_Gore%20Site%20Exam%202006.pdf.

Smith, J. N. Leith, and Katherine Howlett. 2004. "Archaeological Site Examination, North Yard of the Loring-Greenough House, Jamaica Plain, Boston." Andrew Fiske Memorial Center for Archaeological Research, Cultural Resource Management Study No. 11. University of Massachusetts Boston. https://www.fiskecenter.umb.edu/Pdfs/LORING-GREENOUGH%202004%20report.pdf.

Speechly, William. 1791. *A Treatise on the Culture of the Vine, Exhibiting New and Advantageous Methods of Propagating, Cultivating, and Training That Plant, so as to Render It Abundantly Fruitful. Together With New Hints on the Formation of Vineyards in England*. Dublin: P. Wogan, P. Byrne, J. Moore, A. Grueber, W. Jones, and R. White.

Spencer-Wood, Suzanne M., and Sherene Baugher. 2010. "Introduction to the Historical Archaeology of Powered Cultural Landscapes." *International Journal of Historical Archaeology* 14 (4): 463–74.

Spurrier, John. 1793. *The Practical Farmer: Being a New and Compendious System of Husbandry, Adapted to the Different Soils and Climates of America. : Containing the*

Mechanical, Chemical and Philosophical Elements of Agriculture. : With Many Other Useful and Interesting Subjects. Wilmington, Delaware: Brynberg and Andrews. https://name.umdl.umich.edu/N20002.0001.001.

Steinberg, John M., Christa M. Beranek, John Schoenfelder, and Kathryn A. Catlin. 2010. "Loring-Greenough House North Yard Archaeogeophysics, Jamaica Plain, Massachusetts." Andrew Fiske Memorial Center for Archaeological Research, Cultural Resource Management Study No. 40. Boston, Massachusetts: University of Massachusetts Boston. https://www.fiskecenter.umb.edu/Pdfs/Loring%20Greenough%20geophysics_small.pdf.

Sussman, Lynne. 1997. *Mocha, Banded, Cat's Eye, and Other Factory-Made Slipware. Studies in Northeast Historical Archaeology* 1. Northeast Historical Archaeology.

Thornton, Tamara Plakins. 1989. *Cultivating Gentlemen: The Meaning of Country Life Among the Boston Elite, 1785-1860*. New Haven, CT: Yale University Press.

Viens, Katheryn P. 2010. "'In the Course of Their Cultivation': Federal-Era Farming at Gore Place." Waltham, MA: Report submitted to Gore Place.

Watters, Margaret S. 2012. "Geophysical and Laser Scan Surveys at the Longfellow House - Washington's Headquarters National Historic Site."

Weber, Carmen A. 1996. "The Greenhouse Effect: Gender-Related Traditions in Eighteenth-Century Gardening." In *Landscape Archaeology: Reading and Interpreting the American Historical Landscape*, edited by Rebecca Yamin and Karen Bescherer Metheny, 32–51. Knoxville: University of Tennessee Press.

White, Esther C. 2016. "'As It Was Originally Laid Out by the General': George Washington and His Upper Garden." *Historical Archaeology* 50 (1): 45–60. https://doi.org/10.1007/BF03377175.

Wickham, Louise. 2012. *Gardens in History: A Political Perspective*. Oxford, UK: Windgather Press.

Wilder, Marshall P. 1879. *Address Delivered at the Semi-Centennial Anniversary of the Massachusetts Horticultural Society, September 12, 1879*. Boston, Massachusetts: Rand, Avery, and Co.

Wulf, Andrea. 2011. *Founding Gardeners : The Revolutionary Generation, Nature, and the Shaping of the American Nation*. New York: Alfred A. Knopf.

Yamin, Rebecca, and Karen Bescherer Metheny, eds. 1996. *Landscape Archaeology: Reading and Interpreting the American Historical Landscape*. Knoxville: University of Tennessee Press.

Yentsch, Anne E., Naomi F. Miller, Barbara Paca, and Dolores Piperno. 1987. "Archaeologically Defining the Earlier Garden Landscapes at Morven: Preliminary Results." *Northeast Historical Archaeology* 16:1–29. https://doi.org/10.22191/neha/vol16/iss1/1.

Zierden, Martha. 2010. "Landscape and Social Relations at Charleston Townhouse Sites (1770-1850)." *International Journal of Historical Archaeology* 14 (4): 527–546.

Appendix A: Artifact Catalog

Gore Place 2021-2022
Artifact Totals by Unit

Unit	Area	Total Artifacts	Earthenware	Stoneware	Porcelain	Glass	Nails	Pipes	Bone/shell	Other Materials
EU2102	Formal Garden	752	286	3	6	50	83	9	71	244
EU2102ext	Formal Garden	359	90	2	2	19	42	0	39	165
EU2103	Formal Garden	658	321	2	6	114	62	6	50	97
EU2104	Formal Garden	371	143	5	1	67	34	5	30	86
EU2105	Formal Garden	574	225	4	4	171	57	9	18	86
EU2111	Formal Garden	180	50	1	3	64	18	0	4	40
EU2112	Formal Garden	406	90	0	0	99	33	1	38	145
EU2113	Formal Garden	405	146	1	6	32	49	6	31	134
EU2114	Formal Garden	448	169	3	1	36	56	7	23	153
EU2115	Fruit Wall	853	240	3	2	268	31	0	129	180
EU2116	Formal Garden	359	214	2	1	65	18	4	4	51
EU2117	Fruit Wall	782	193	1	0	99	23	3	293	170
EU2118	Formal Garden	494	212	5	6	50	44	6	38	133
EU2119	Fruit Wall	1375	293	2	2	324	61	3	217	473
EU2231	Formal Garden	542	246	2	3	127	38	6	74	46
EU2231ext	Formal Garden	268	84	0	0	17	8	2	147	10
EU2233	Formal Garden	393	206	1	2	45	31	9	19	80
EU2234	Formal Garden	750	323	4	5	93	121	7	26	171
EU2235	Formal Garden	479	261	4	7	80	37	3	12	75
EU2236	Formal garden	477	175	1	2	122	56	10	64	47
EU2238	Formal Garden	1047	657	6	5	161	52	9	23	134
EU2239	Formal Garden	470	225	6	4	94	45	6	36	54
EU2240	Formal Garden	600	164	1	4	31	29	2	96	273
EU2241	Formal Garden	604	310	4	2	81	25	11	22	149
EU2242	Formal Garden	472	242	3	10	77	54	1	46	39
EU2243	Formal Garden	302	120	1	2	38	30	6	36	69
STP21_05	Fruit Wall	130	19	0	0	17	4	0	25	65
STP21_06	Fruit Wall	154	37	0	0	10	4	0	4	99
STP21_08	Fruit Wall	161	59	0	0	27	5	0	6	64
STP21_13	Fruit Wall	263	37	0	1	45	8	1	19	152

Gore Place 2021-2022
Artifact Totals by Context

Context	Unit	Level	Ceramics	Glass	Pipes	Bone/Shell	Nails	Other Materials	Artifact Total
5001	EU2102	1	21	6		8	2	31	68
5002	EU2105	1	9	45				3	57
5003	EU2102		5	7	1		3	23	39
5004	EU2102			1			1	8	10
5005	EU2105		14	43			7	14	78
5006	EU2105		27	36		6	8	14	91
5007	EU2102		37	8	1	7	7	48	108
5008	EU2102		13	8			5	12	38
5009	EU2104	1	1	10			3	2	16
5010	EU2105		182	46	9	12	42	55	346
5011	EU2104	2	8	25			3	4	40
5012	EU2104	3	62	6	1	13	9	30	121
5013	EU2102		208	19	6	46	59	99	437
5014	EU2104	4	74	25	4	13	14	37	167
5015	EU2104	5	4	1		4	5	13	27
5016	EU2104	6							0
5017	EU2105		1	1					2
5018	EU2103	1	1	3				5	9
5019	EU2103	2	4	40			3	5	52
5020	EU2103	3	303	71	6	49	58	63	550
5021	EU2111			8				4	12
5022	EU2111		12	34			10	7	63
5023	EU2102ext		11	4		2	1	12	30
5024	EU2111		42	22		4	8	29	105
5025	EU2102ext		32	11		10	16	41	110
5026	EU2102ext		45	1		24	19	107	196
5027	EU2112		10	9		2	2	11	34
5028	EU2102		3	1		1	1	9	15
5029	EU2102ext		2			2	2		6
5030	EU2112			2				1	3
5031	EU2112		9	54		2	1	11	77
5032	EU2103	4	9			1	1	13	24
5033	EU2102ext		2			1		1	4
5034	EU2102		4		1	3		5	13
5035	EU2112		1	6		2		6	15
5036	EU2112		44	22	1	11	26	81	185
5037	EU2102					4		8	12
5038	EU2103							6	6
5039	EU2113		22	10	4	6	5	37	84
5040	EU2112		2			1		8	11
5041	EU2112		11				4	1	16
5042	EU2113		55	7	1	13	13	24	113
5043	EU2113		76	15	1	12	31	65	200
5044	STP21_08	1 (0-48 cmbs)	47	23		6	4	61	141
5045	STP21_08	2 (48-60 cmbs)	10	4				2	16
5046	STP21_08	3 (60-75 cmbs)	2				1	1	4
5047	STP21_06	1	19	8		2	3	14	46
5048	STP21_06	2	18	2		2	1	85	108
5049	STP21_06	3							0
5050	STP21_05	1 (0-50 cmbs)	14	16		4	2	13	49
5051	STP21_05	2 (50-80 cmbs)	5	1		17	2	50	75
5052	EU2113								0
5053	EU2112							9	9
5054	EU2112		8	4					12
5055	STP21_13	1 (0-50 cmbs)	29	40	1	4	3	79	156
5056	STP21_13	2 (50-75 cmbs)	6	5		15	3	17	46
5057	STP21_13	3 (75-81 cmbs)					1	51	52

Gore Place 2021-2022
Artifact Totals by Context

Context	Unit	Level	Ceramics	Glass	Pipes	Bone/Shell	Nails	Other Materials	Artifact Total
5058	STP21_13	4 (81-96 cmbs)	3				1	5	9
5059	EU2114		16	6			2	20	44
5060	EU2103								0
5061	EU2103		9					3	12
5062	EU2112		5	2		20		17	44
5063	EU2114		55	13	3	4	4	21	100
5064	EU2115		146	151		11	13	94	415
5065	EU2112								0
5066	EU2112								0
5067	EU2114		90	15	4	17	48	81	255
5068	EU2114		11	1		1	2	27	42
5069	EU2115		92	114		35	14	41	296
5070	EU2116		19	21	3	2	2	8	55
5071	EU2116		130	19	1	2	13	27	192
5072	EU2114		1	1		1		1	4
5073	EU2114								0
5074	EU2116		54	20			1	7	82
5075	EU2116		11	4			1	8	24
5076	EU2115	3	6	3		82	3	44	138
5077	STP21_05	3 (80 cmbs)				4		2	6
5078	EU2116			1					1
5079	EU2115	4					1		1
5080	EU2115		1			1		1	3
5081	EU2114								0
5082	EU2116								0
5083	EU2114								0
5084	EU2117		160	84	3	10	9	83	349
5085	EU2116		3				1	1	5
5086	EU2114							3	3
5087	EU2118		13	13	1	1	8	13	49
5088	EU2118		112	24	5	22	17	53	233
5089	EU2117		8	3		4	2	31	48
5090	EU2117		16	10		271	10	42	349
5091	EU2117		3	1		4	2	7	17
5092	EU2117		2	1				2	5
5093	EU2118		95	12		15	17	61	200
5094	EU2118		3	1			2	6	12
5095	EU2118								0
5096	EU2119		153	308	1	48	28	210	748
5097	EU2117		1						1
5098	EU2117		2			1		2	5
5099	EU2118								0
5100	EU2118								0
5101	EU2119		33	5		9	5	33	85
5102	EU2119		3	4	1	3	2	36	49
5103	EU2119					75		3	78
5104	EU2102ext		2	3			4	4	13
5105	EU2119		96	5		78	21	124	324
5106	EU2119								0
5107	EU2113							8	8
5108	EU2117		2			3		3	8
5109	EU2119							14	14
5110	EU2119		12	2	1	3	2	44	64
5111	EU2119					1	1	5	7
5112	EU2119						2	4	6
5113	EU2102		3			2	3		8
5114	EU2103		3					2	5

Gore Place 2021-2022
Artifact Totals by Context

Context	Unit	Level	Ceramics	Glass	Pipes	Bone/Shell	Nails	Other Materials	Artifact Total
5115			2	1				1	4
5116	EU2102		1				2	1	4
5120	EU2235	1	17	34				13	64
5121	EU2233	1 + Topsoil	8	3	1			10	22
5122	EU2233	2	81	21	5	8	10	20	145
5123	EU2235	2	86	16				13	115
5124	EU2235	3	162	30	2	12	37	49	292
5125	EU2233	3	3	3				5	11
5126	EU2233	3	117	18	3	11	21	45	215
5127	EU2234	1	85	39	2	7	21	26	180
5128	EU2235	4	7		1				8
5129	EU2234	2	139	30	2	18	61	48	298
5131	EU2231	1	220	118	6	40	38	33	455
5132	EU2234	3	98	21	2		31	96	248
5133	EU2234		5	3			4	1	13
5134	EU2234		4			1	4		9
5135	EU2236	1	25	91	1	6	8	15	146
5136	EU2231	2	31	9		30		12	82
5137	EU2234	4	1		1				2
5138	EU2238	1	3	32			4	30	69
5139	EU2231					4		1	5
5142	EU2238	2	125	55	5	12	23	63	283
5143	EU2238	3	398	60	4	10	18	34	524
5144	EU2231ext	1	71	10		137	4	1	223
5145	EU2238		47	6		1	2		56
5146	EU2238	4	95	8			5	7	115
5147	EU2231ext	2	11	6	1	10	4	9	41
5148	EU2236	2	142	30	9	51	45	32	309
5149	EU2231ext	3	2	1	1				4
5150	EU2236	3	11	1		7	3		22
5151	EU2239	1	12	13			4	9	38
5152	EU2239	2	21	39		3		9	72
5153	EU2240	1	111	19	2	80	17	164	393
5154	EU2240	2	49	10		7	9	91	166
5155	EU2239	3	194	41	4	31	38	30	338
5156	EU2241	1	27	29			6	22	84
5157	EU2242	1	10	7			4	2	23
5158	EU2240	3	9	2		9	3	18	41
5159	EU2239	feature	8	1	2	2	3	1	17
5160	EU2242	2	8	14			5	2	29
5161	EU2242	3	223	55	1	41	45	32	397
5162	EU2241	2	116	21	4	10	14	78	243
5163	EU2241	3	157	31	7	12	5	44	256
5164	EU2242	4	14	1		5		3	23
5165	EU2241	4	16					5	21
5166	EU2243	1	11	7	1		1	28	48
5167	EU2239							5	5
5168	EU2243	2	42	18		7	11	11	89
5169	EU2243	3	60	9	5	28	17	25	144
5170	EU2243	4/feature	10	4		1	1	5	21

Unit-context	Count	Class	Object	Description
- 5115 - Backdirt				
	1	Architectural	brick	
	2	Ceramic	Earthenware, coarse	Redware
	1	Glass	flat, undetermined	
EU2102 - 5001 -				
	9	Architectural	brick	
	4	Architectural	other asphalt	
	1	Ceramic	Earthenware, coarse	
	1	Ceramic	Earthenware, coarse	Redware
	8	Ceramic	Earthenware, coarse	Redware
	10	Ceramic	Earthenware, refined	
	1	Ceramic	Stoneware, coarse	
	8	Faunal		Unanalyzed bone
	10	Fuel and furnace	charcoal	
	3	Fuel and furnace	coal	
	4	Glass	curved, undetermined	
	2	Glass	flat, undetermined	
	1	Metal	ferrous object	
	4	Metal	ferrous other	
	2	Nails		
EU2102 - 5003 -				
	3	Architectural	brick	
	12	Architectural	other asphalt	
	4	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, refined	
	5	Fuel and furnace	charcoal	
	2	Fuel and furnace	slag	
	4	Glass	curved, undetermined	
	3	Glass	flat, undetermined	
	3	Nails		
	1	Organic	wood	charred
	1	Pipe	stem	
EU2102 - 5004 -				
	1	Architectural	brick	
	1	Fuel and furnace	charcoal	

Unit-context	Count	Class	Object	Description
	1	Glass	flat, undetermined	
	1	Nails		
	6	Organic	wood	charred
EU2102 - 5007 -				
	12	Architectural	brick	
	2	Architectural	other asphalt	
	4	Ceramic	Earthenware, coarse	Redware
	9	Ceramic	Earthenware, coarse	Redware
	22	Ceramic	Earthenware, refined	
	2	Ceramic	Porcelain	
	7	Faunal		Unanalyzed bone
	29	Fuel and furnace	charcoal	
	4	Fuel and furnace	coal	
	1	Fuel and furnace	slag	
	6	Glass	curved, undetermined	
	2	Glass	flat, undetermined	
	7	Nails		
	1	Pipe	stem	
EU2102 - 5008 -				
	2	Architectural	brick	
	8	Ceramic	Earthenware, coarse	Redware
	5	Ceramic	Earthenware, refined	
	3	Fuel and furnace	charcoal	
	1	Fuel and furnace	slag	
	5	Glass	curved, undetermined	
	3	Glass	flat, undetermined	
	5	Nails		
	6	Organic	wood	charred
EU2102 - 5013 -				
	22	Architectural	brick	
	1	Ceramic	Earthenware, coarse	Buckley Ware Body burned
	1	Ceramic	Earthenware, coarse	Indeterminate earthenware Body burned
	12	Ceramic	Earthenware, coarse	Redware Base Body

Unit-context	Count	Class	Object	Description
	1	Ceramic	Earthenware, coarse	Redware Rim
	45	Ceramic	Earthenware, coarse	Redware Unglazed Body
	5	Ceramic	Earthenware, coarse	Redware Unglazed Body burned
	5	Ceramic	Earthenware, coarse	Redware Unglazed Body Rim
	3	Ceramic	Earthenware, coarse	Tin Glazed Body Rim burned
	38	Ceramic	Earthenware, refined	Creamware Body Rim
	6	Ceramic	Earthenware, refined	Creamware Body Rim burned
	3	Ceramic	Earthenware, refined	Indeterminate-factory-made Engine turned / rouletted Body
	17	Ceramic	Earthenware, refined	Indeterminate earthenware Base Body burned
	10	Ceramic	Earthenware, refined	Indeterminate earthenware Body
	36	Ceramic	Earthenware, refined	Pearlware Body
	2	Ceramic	Earthenware, refined	Pearlware Body burned
	7	Ceramic	Earthenware, refined	Pearlware Body Handle Rim burned
	3	Ceramic	Earthenware, refined	Pearlware Body Rim
	2	Ceramic	Earthenware, refined	Pearlware Rim
	1	Ceramic	Earthenware, refined	Pearlware Rim
	1	Ceramic	Earthenware, refined	Pearlware Rim burned
	2	Ceramic	Earthenware, refined	Pearlware Shell-edge Body Rim
	1	Ceramic	Earthenware, refined	Pearlware Shell-edge Rim burned
	1	Ceramic	Earthenware, refined	Pearlware Shell-edge Rim burned
	1	Ceramic	Porcelain	Body
	1	Ceramic	Porcelain	Body
	1	Ceramic	Porcelain	Body
	2	Ceramic	Stoneware, coarse	Westerwald Body
	46	Faunal		Unanalyzed calcined bone
	16	Fuel and furnace	charcoal	

Unit-context	Count	Class	Object	Description
	19	Glass	curved, undetermined	
	32	Metal	ferrous other	
	59	Nails		
	24	Organic	wood	charred
	6	Pipe	stem	
	2	Small finds	adornment buttons	
	1	Small finds	needlework and sewing thimble	
	1	Small finds	other slate pencil fragment	
	1	Utensils/tools/hardware	furniture hardware copper alloy furniture tack	
EU2102 - 5028 -				
	3	Architectural	brick	
	2	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, refined	
	1	Faunal		Unanalyzed calcined bone
	5	Fuel and furnace	charcoal	
	1	Glass	curved, undetermined	
	1	Metal	ferrous other	
	1	Nails		
EU2102 - 5034 -				
	2	Architectural	brick	
	3	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, coarse	Redware Lead-glazed
	3	Faunal		Unanalyzed calcined bone
	3	Fuel and furnace	charcoal	
	1	Pipe	stem	
EU2102 - 5037 -				
	3	Architectural	brick	
	4	Faunal		Unanalyzed calcined bone
	5	Fuel and furnace	charcoal	
EU2102 - 5113 -				
	2	Ceramic	Earthenware, refined	
	1	Ceramic	Porcelain	

Unit-context	Count	Class	Object	Description
	2	Faunal		Unanalyzed calcined bone
	3	Nails		
EU2102 - 5116 -				
	1	Ceramic	Earthenware, refined	
	1	Metal	ferrous other	
	2	Nails		
EU2102ext - 5023 -				
	9	Architectural	brick	
	1	Architectural	other	asphalt
	1	Ceramic	Earthenware, coarse	Redware
	2	Ceramic	Earthenware, coarse	Redware
	8	Ceramic	Earthenware, refined	
	2	Faunal		Unanalyzed bone
	2	Fuel and furnace	charcoal	
	2	Glass	curved, undetermined	
	2	Glass	flat, undetermined	
	1	Nails		
EU2102ext - 5025 -				
	14	Architectural	brick	
	4	Ceramic	Earthenware, coarse	Redware
	10	Ceramic	Earthenware, coarse	Redware
	16	Ceramic	Earthenware, refined	
	2	Ceramic	Porcelain	
	10	Faunal		Unanalyzed bone
	10	Fuel and furnace	charcoal	
	5	Fuel and furnace	slag	
	4	Glass	curved, undetermined	
	7	Glass	flat, undetermined	
	11	Metal	ferrous other	
	16	Nails		
	1	Organic	wood	charred
EU2102ext - 5026 -				
	40	Architectural	brick	
	2	Architectural	other	asphalt

Unit-context	Count	Class	Object	Description
	9	Ceramic	Earthenware, coarse	Redware Body
	2	Ceramic	Earthenware, coarse	Redware Body
	9	Ceramic	Earthenware, coarse	Redware Body
	4	Ceramic	Earthenware, coarse	Redware Body
	3	Ceramic	Earthenware, coarse	Redware Body Rim burned
	7	Ceramic	Earthenware, refined	Creamware Body
	2	Ceramic	Earthenware, refined	Creamware Body burned
	2	Ceramic	Earthenware, refined	Indeterminate earthenware Body
	3	Ceramic	Earthenware, refined	Indeterminate earthenware Body burned
	1	Ceramic	Earthenware, refined	Pearlware Body
	1	Ceramic	Earthenware, refined	Pearlware Body
	1	Ceramic	Stoneware, coarse	Westerwald Rim
	1	Ceramic	Stoneware, refined	Jackfield Type Body burned
	24	Faunal		Unanalyzed calcined bone
	53	Fuel and furnace	charcoal	
	1	Glass	flat, undetermined	
	11	Metal	ferrous object	
	19	Nails		
	1	Small finds	adornment pin	
EU2102ext - 5029 -				
	1	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, refined	burned
	2	Faunal		Unanalyzed calcined bone
	2	Nails		
EU2102ext - 5033 -				
	1	Architectural	brick	
	1	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, refined	burned

Unit-context	Count	Class	Object	Description
	1	Faunal		Unanalyzed calcined bone
EU2102ext - 5104 -				
	3	Architectural	brick	
	1	Architectural	other	slate
	1	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, coarse	Redware
	1	Glass	curved, undetermined	
	2	Glass	flat, undetermined	
	4	Nails		
EU2103 - 5018 -				
	1		unknown	light, green coloring on exterior, circular
	1	Ceramic	Porcelain	
	3	Glass	curved, undetermined	
	2	Metal	ferrous object bottle cap fragments	
	2	Synthetic	plastic comb fragments	
EU2103 - 5019 -				
	3	Architectural	brick	
	1	Ceramic	Earthenware, coarse	Redware
	2	Ceramic	Earthenware, refined	
	1	Ceramic	Porcelain	
	1	Fuel and furnace	charcoal	
	33	Glass	curved, undetermined	
	7	Glass	flat, undetermined	
	1	Metal	ferrous object key	
	3	Nails		
EU2103 - 5020 -				
	31	Architectural	brick	
	1	Architectural	other	slate
	8	Ceramic	Earthenware, coarse	burned
	21	Ceramic	Earthenware, coarse	Redware

Unit-context	Count	Class	Object	Description
	4	Ceramic	Earthenware, coarse	Redware
	4	Ceramic	Earthenware, coarse	Redware burned
	3	Ceramic	Earthenware, coarse	Redware burned
	24	Ceramic	Earthenware, coarse	Redware Lead-glazed
	8	Ceramic	Earthenware, coarse	Redware Lead-glazed burned
	189	Ceramic	Earthenware, refined	
	37	Ceramic	Earthenware, refined	burned
	2	Ceramic	Porcelain	
	2	Ceramic	Porcelain	burned
	1	Ceramic	Stoneware, coarse	
	2	Faunal		Unanalyzed bone
	47	Faunal		Unanalyzed calcined bone
	14	Fuel and furnace	charcoal	
	6	Fuel and furnace	coal	
	42	Glass	curved, undetermined	
	27	Glass	flat, undetermined	
	2	Glass	tableware	
	10	Metal	ferrous other	
	57	Nails		
	1	Pipe	bowl	
	5	Pipe	stem	
	1	Small finds	adornment button	
	1	Spike		
EU2103 - 5032 -				
	13	Architectural	brick	
	4	Ceramic	Earthenware, coarse	Redware
	3	Ceramic	Earthenware, coarse	Redware burned
	2	Ceramic	Earthenware, coarse	Redware Lead-glazed
	1	Faunal		Unanalyzed calcined bone
	1	Nails		
EU2103 - 5038 -				
	6	Architectural	brick	

Unit-context	Count	Class	Object	Description
EU2103 - 5061 -				
	3	Architectural	brick	
	5	Ceramic	Earthenware, coarse	Redware
	4	Ceramic	Earthenware, coarse	Redware burned
EU2103 - 5114 -				
	2	Architectural	brick	
	2	Ceramic	Earthenware, refined	
	1	Ceramic	Stoneware, coarse	
EU2104 - 5009 -				
	1	Ceramic	Earthenware, refined	
	2	Fuel and furnace	coal	
	6	Glass	curved, undetermined	
	4	Glass	flat, undetermined	
	3	Nut		
EU2104 - 5011 -				
	3	Architectural	brick	
	1	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, coarse	Redware
	6	Ceramic	Earthenware, refined	
	1	Fuel and furnace	charcoal	
	12	Glass	curved, undetermined	
	13	Glass	flat, undetermined	
	3	Nails		
EU2104 - 5012 -				
	14	Architectural	brick	
	1	Architectural	other slate	
	9	Ceramic	Earthenware, coarse	Redware Body
	1	Ceramic	Earthenware, coarse	Redware Handle burned
	5	Ceramic	Earthenware, coarse	Redware Unglazed Body
	12	Ceramic	Earthenware, coarse	Redware Unglazed Body Rim
	1	Ceramic	Earthenware, coarse	Tin Glazed Body

Unit-context	Count	Class	Object	Description
	1	Ceramic	Earthenware, coarse	Tin Glazed Body burned
	3	Ceramic	Earthenware, coarse	Tin Glazed Body Handle
	12	Ceramic	Earthenware, refined	Creamware Body Rim
	1	Ceramic	Earthenware, refined	Indeterminate earthenware Body
	4	Ceramic	Earthenware, refined	Indeterminate earthenware Body burned
	1	Ceramic	Earthenware, refined	Pearlware Body
	4	Ceramic	Earthenware, refined	Pearlware Body
	3	Ceramic	Earthenware, refined	Pearlware Body Rim
	1	Ceramic	Porcelain	Rim
	1	Ceramic	Stoneware, coarse	British Brown (Fulham) Brown exterior Body
	1	Ceramic	Stoneware, coarse	Undetermined buff paste Body burned
	2	Ceramic	Stoneware, coarse	Westerwald Body Rim
	13	Faunal		Unanalyzed calcined bone
	15	Fuel and furnace	charcoal	
	2	Glass	curved, indet.	
	4	Glass	flat, undetermined	
	9	Nails		
	1	Pipe	bowl	
EU2104 - 5014 -				
	30	Architectural	brick	
	1	Architectural	other slate	
	3	Ceramic	Earthenware, coarse	Redware Body
	6	Ceramic	Earthenware, coarse	Redware Body
	1	Ceramic	Earthenware, coarse	Redware Body burned
	2	Ceramic	Earthenware, coarse	Redware Body burned
	6	Ceramic	Earthenware, coarse	Redware Body Rim
	1	Ceramic	Earthenware, coarse	Staffordshire Slipware Body burned

Unit-context	Count	Class	Object	Description
	18	Ceramic	Earthenware, refined	Creamware Body Rim
	3	Ceramic	Earthenware, refined	Indeterminate earthenware Body
	6	Ceramic	Earthenware, refined	Indeterminate earthenware Body Rim burned
	1	Ceramic	Earthenware, refined	Pearlware Body
	9	Ceramic	Earthenware, refined	Pearlware Body Rim
	14	Ceramic	Earthenware, refined	Pearlware Body Rim
	2	Ceramic	Earthenware, refined	Pearlware Shell-edge Rim
	1	Ceramic	Earthenware, refined	Pearlware Shell-edge Rim
	1	Ceramic	Stoneware, coarse	Undetermined buff paste Body
	13	Faunal		Unanalyzed calcined bone
	5	Fuel and furnace	charcoal	
	5	Glass	curved, undetermined	
	20	Glass	flat, undetermined	
	1	Metal	ferrous other	
	14	Nails		
	2	Pipe	bowl	
	2	Pipe	stem	
EU2104 - 5015 -				
	4	Architectural	brick	
	1	Ceramic	Earthenware, coarse	Redware
	3	Ceramic	Earthenware, refined	
	4	Faunal		Unanalyzed bone
	9	Fuel and furnace	charcoal	
	1	Glass	flat, undetermined	
	5	Nails		
EU2105 - 5002 -				
	1	Ceramic	Earthenware, coarse	
	2	Ceramic	Earthenware, coarse	Redware
	5	Ceramic	Earthenware, refined	

Unit-context	Count	Class	Object	Description
	1	Ceramic	Porcelain	
	23	Glass	curved, undetermined	
	22	Glass	flat, undetermined	
	1	Small finds	adornment	
	1	Small finds	toys and games	
	1	Synthetic	plastic measuring tape	
EU2105 - 5005 -				
	1	Architectural	other asphalt	
	1	Ceramic	Earthenware, coarse	Redware
	8	Ceramic	Earthenware, coarse	Redware
	4	Ceramic	Earthenware, refined	
	1	Ceramic	Porcelain	
	6	Fuel and furnace	coal	
	33	Glass	curved, undetermined	
	10	Glass	flat, undetermined	
	3	Metal	ferrous other	
	1	Metal	nonferrous other	
	7	Nails		
	1	Small finds	toys and games golf tee	
	1	Small finds	toys and games marble	
	1	Synthetic	plastic tooth comb	
EU2105 - 5006 -				
	3	Architectural	brick	
	3	Architectural	mortar	
	1	Bolt		
	1	Ceramic	Earthenware, coarse	
	3	Ceramic	Earthenware, coarse	Redware
	7	Ceramic	Earthenware, coarse	Redware
	16	Ceramic	Earthenware, refined	
	4	Faunal		Unanalyzed bone
	2	Faunal		Unanalyzed shell
	2	Fuel and furnace	coal	

Unit-context	Count	Class	Object	Description
	2	Fuel and furnace	slag	
	28	Glass	curved, undetermined	
	8	Glass	flat, undetermined	
	1	Metal	ferrous other	
	7	Nails		
	1	Small finds	adornment button	
	2	Synthetic	plastic comb teeth	
EU2105 - 5010 -				
	28	Architectural	brick	
	2	Architectural	other	slate
	23	Ceramic	Earthenware, coarse	Redware Lead-glazed Body
	6	Ceramic	Earthenware, coarse	Redware Lead-glazed Body burned
	1	Ceramic	Earthenware, coarse	Redware Missing glaze Body burned
	13	Ceramic	Earthenware, coarse	Redware Unglazed Body
	46	Ceramic	Earthenware, coarse	Redware Unglazed Body
	5	Ceramic	Earthenware, coarse	Redware Unglazed Body burned
	5	Ceramic	Earthenware, coarse	Redware Unglazed Body burned
	1	Ceramic	Earthenware, coarse	Staffordshire Slipware Body
	25	Ceramic	Earthenware, refined	Creamware Base Body
	10	Ceramic	Earthenware, refined	Creamware Body burned
	5	Ceramic	Earthenware, refined	Indeterminate earthenware Body
	13	Ceramic	Earthenware, refined	Indeterminate earthenware Body burned
	1	Ceramic	Earthenware, refined	Indeterminate earthenware Rim burned
	1	Ceramic	Earthenware, refined	Manganese mottled Lead-glazed Body
	10	Ceramic	Earthenware, refined	Pearlware Body
	1	Ceramic	Earthenware, refined	Pearlware Body
	7	Ceramic	Earthenware, refined	Pearlware Body Rim

Unit-context	Count	Class	Object	Description
	2	Ceramic	Earthenware, refined	Pearlware Shell-edge Body Rim
	1	Ceramic	Earthenware, refined	Pearlware Shell-edge Rim
	1	Ceramic	Porcelain	Chinese Base
	1	Ceramic	Porcelain	Indeterminate porcelain Body
	1	Ceramic	Stoneware, coarse	British Brown (Fulham) Body
	1	Ceramic	Stoneware, refined	Indeterminate stoneware Body burned
	2	Ceramic	Stoneware, refined	White Salt Glazed Base Body
	12	Faunal		Unanalyzed calcined bone
	14	Fuel and furnace	charcoal	
	2	Fuel and furnace	slag	
	19	Glass	curved, undetermined	
	3	Glass	curved, undetermined	
	24	Glass	flat, undetermined	
	2	Metal	ferrous object	
	6	Metal	ferrous other	
	1	Metal	nonferrous object	
	42	Nails		
	5	Pipe	bowl	
	4	Pipe	stem	
EU2105 - 5017 -				
	1	Ceramic	Earthenware, coarse	Redware
	1	Glass	flat, undetermined	
EU2111 - 5021 -				
	2	Architectural	other	slate
	7	Glass	curved, undetermined	
	1	Glass	flat, undetermined	
	1	Metal	ferrous other	
	1	Small finds	toys and games golf tee	
EU2111 - 5022 -				
	2	Ceramic	Earthenware, coarse	Redware
	4	Ceramic	Earthenware, coarse	Redware

Unit-context	Count	Class	Object	Description
	6	Ceramic	Earthenware, refined	
	1	Fuel and furnace	charcoal	
	32	Glass	curved, undetermined	
	2	Glass	flat, undetermined	
	6	Metal	ferrous other	
	10	Nails		
EU2111 - 5024 -				
	24	Architectural	brick	
	3	Ceramic	Earthenware, coarse	Redware Body
	9	Ceramic	Earthenware, coarse	Redware Body
	5	Ceramic	Earthenware, coarse	Redware Body burned
	4	Ceramic	Earthenware, coarse	Tin Glazed Body
	3	Ceramic	Earthenware, refined	Creamware Body
	6	Ceramic	Earthenware, refined	Indeterminate earthenware Body burned
	2	Ceramic	Earthenware, refined	Pearlware Body
	1	Ceramic	Earthenware, refined	Pearlware Body
	3	Ceramic	Earthenware, refined	Pearlware Body
	1	Ceramic	Earthenware, refined	Pearlware Rim burned
	1	Ceramic	Earthenware, refined	Pearlware Shell-edge Rim burned
	1	Ceramic	Porcelain	Body burned
	1	Ceramic	Porcelain	Rim
	1	Ceramic	Porcelain	Rim
	1	Ceramic	Stoneware, refined	White Salt Glazed Body
	4	Faunal		Unanalyzed calcined bone
	4	Fuel and furnace	charcoal	
	20	Glass	curved, undetermined	
	2	Glass	flat, undetermined	
	1	Metal	ferrous other	
	8	Nails		
EU2112 - 5027 -				

Unit-context	Count	Class	Object	Description
	4	Architectural	brick	
	7	Ceramic	Earthenware, coarse	Redware
	3	Ceramic	Earthenware, refined	
	2	Faunal		Unanalyzed shell
	5	Fuel and furnace	charcoal	
	1	Fuel and furnace	slag	
	7	Glass	curved, undetermined	
	2	Glass	flat, undetermined	
	1	Metal	ferrous object	
	2	Nails		
EU2112 - 5030 -				
	1	Architectural	brick	
	2	Glass	flat, undetermined	
EU2112 - 5031 -				
	2	Architectural	brick	
	2	Ceramic	Earthenware, coarse	Redware
	4	Ceramic	Earthenware, coarse	Redware
	3	Ceramic	Earthenware, refined	
	2	Faunal		Unanalyzed calcined bone
	3	Fuel and furnace	charcoal	
	2	Fuel and furnace	coal	
	53	Glass	bottle, beverage	
	1	Glass	flat, undetermined	
	1	Lithic, other	non-architectural stone rim	
	1	Metal	nonferrous other	
	1	Nails		
	1	Small finds	other pencil eraser	
	1	Synthetic	plastic	hollow, cylindrical
EU2112 - 5035 -				
	1	Ceramic	Earthenware, coarse	Redware
	2	Faunal		Unanalyzed bone
	2	Fuel and furnace	coal	
	4	Fuel and furnace	slag	

Unit-context	Count	Class	Object	Description
	6	Glass	flat, undetermined	
EU2112 - 5036 -				
	49	Architectural	brick	
	2	Architectural	other	slate
	1	Ceramic	Earthenware, coarse	burned
	21	Ceramic	Earthenware, coarse	Redware
	12	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, coarse	Redware burned
	4	Ceramic	Earthenware, refined	
	5	Ceramic	Earthenware, refined	burned
	1	Faunal		Loose Teeth
	10	Faunal		Unanalyzed calcined bone
	6	Fuel and furnace	charcoal	
	11	Fuel and furnace	coal	
	4	Fuel and furnace	slag	
	1	Glass	curved, indet.	
	7	Glass	curved, undetermined	
	14	Glass	flat, undetermined	
	9	Metal	ferrous other	
	26	Nails		
	1	Pipe	stem	
EU2112 - 5040 -				
	1	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, refined	
	1	Faunal		Unanalyzed bone
	3	Fuel and furnace	coal	
	5	Fuel and furnace	slag	
EU2112 - 5041 -				
	4	Ceramic	Earthenware, coarse	Redware
	7	Ceramic	Earthenware, refined	
	1	Fuel and furnace	slag	
	4	Nails		
EU2112 - 5053 -				

Unit-context	Count	Class	Object	Description
	9	Metal	ferrous other	
EU2112 - 5054 -				
	4	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, coarse	Redware burned
	2	Ceramic	Earthenware, refined	
	1	Ceramic	Earthenware, refined	burned
	2	Glass	curved, undetermined	
	2	Glass	flat, undetermined	
EU2112 - 5062 -				
	4	Architectural	brick	
	2	Ceramic	Earthenware, coarse	Redware
	3	Ceramic	Earthenware, refined	
	20	Faunal		Unanalyzed calcined bone
	12	Fuel and furnace	charcoal	
	2	Glass	flat, undetermined	
	1	Lithic, other	non-architectural stone fire cracked rock	
EU2113 - 5039 -				
	NA			
	8	Architectural	brick	
	1	Architectural	mortar	
	9	Architectural	other	asphalt
	2	Ceramic	Earthenware, coarse	
	12	Ceramic	Earthenware, coarse	Redware
	6	Ceramic	Earthenware, refined	
	2	Ceramic	Porcelain	
	6	Faunal		Unanalyzed bone
	7	Fuel and furnace	coal	
	1	Fuel and furnace	slag	
	10	Glass	flat, undetermined	
	2	Metal	ferrous object hose faucet knob	
	4	Metal	ferrous other	

Unit-context	Count	Class	Object	Description
	2	Metal	nonferrous object pull tab	
	5	Nails		
	4	Pipe	bowl	
	1	Small finds	other slate pencil	
	2	Synthetic	plastic	
EU2113 - 5042 -				
	9	Architectural	brick	
	8	Architectural	other	asphalt
	1	Ceramic	Earthenware, coarse	
	7	Ceramic	Earthenware, coarse	Redware
	30	Ceramic	Earthenware, coarse	Redware
	15	Ceramic	Earthenware, refined	
	2	Ceramic	Porcelain	
	13	Faunal		Unanalyzed bone
	2	Fuel and furnace	charcoal	
	3	Fuel and furnace	coal	
	1	Fuel and furnace	slag	
	3	Glass	curved, undetermined	
	4	Glass	flat, undetermined	
	1	Lithic, other	non-architectural stone fire-cracked	
	13	Nails		
	1	Pipe	stem	
EU2113 - 5043 -				
	34	Architectural	brick	
	21	Ceramic	Earthenware, coarse	Redware Body
	7	Ceramic	Earthenware, coarse	Redware Body
	10	Ceramic	Earthenware, coarse	Redware Body burned
	2	Ceramic	Earthenware, coarse	Redware Body burned
	9	Ceramic	Earthenware, refined	Creamware Body
	1	Ceramic	Earthenware, refined	Indeterminate-factory-made Engine turned / rouletted Body

Unit-context	Count	Class	Object	Description
	10	Ceramic	Earthenware, refined	Indeterminate earthenware Body Rim burned
	1	Ceramic	Earthenware, refined	Manganese mottled Body
	9	Ceramic	Earthenware, refined	Pearlware Body
	1	Ceramic	Earthenware, refined	Pearlware Rim burned
	2	Ceramic	Earthenware, refined	Pearlware Shell-edge Rim
	2	Ceramic	Porcelain	Body Rim
	1	Ceramic	Stoneware, refined	Jackfield Type Knob
	12	Faunal		Unanalyzed calcined bone
	24	Fuel and furnace	charcoal	
	2	Fuel and furnace	coal	
	5	Glass	curved, undetermined	
	10	Glass	flat, undetermined	
	5	Metal	ferrous other	
	31	Nails		
	1	Pipe	stem	
EU2113 - 5107 -				
	3	Architectural	brick	
	3	Architectural	other	asphalt
	1	Fuel and furnace	charcoal	
	1	Fuel and furnace	coal	
EU2114 - 5059 -				
	4	Architectural	brick	
	7	Architectural	mortar	
	5	Architectural	other	asphalt
	1	Ceramic	Earthenware, coarse	Redware
	7	Ceramic	Earthenware, coarse	Redware
	8	Ceramic	Earthenware, refined	
	1	Fuel and furnace	coal	
	1	Fuel and furnace	slag	
	2	Glass	curved, undetermined	
	4	Glass	flat, undetermined	
	2	Metal	ferrous other	

Unit-context	Count	Class	Object	Description
	2	Nails		
EU2114 - 5063 -				
	9	Architectural	brick	
	2	Architectural	other	asphalt
	1	Ceramic	Earthenware, coarse	Redware
	40	Ceramic	Earthenware, coarse	Redware
	10	Ceramic	Earthenware, refined	
	1	Ceramic	Porcelain	
	3	Ceramic	Stoneware, coarse	
	4	Faunal		Unanalyzed bone
	9	Fuel and furnace	charcoal	
	1	Fuel and furnace	coal	
	10	Glass	curved, undetermined	
	3	Glass	flat, undetermined	
	4	Nails		
	2	Pipe	bowl	
	1	Pipe	stem	
EU2114 - 5067 -				
	45	Architectural	brick	
	2	Architectural	other	asphalt
	25	Ceramic	Earthenware, coarse	Redware Body
	1	Ceramic	Earthenware, coarse	Redware Body
	2	Ceramic	Earthenware, coarse	Redware Body burned
	17	Ceramic	Earthenware, coarse	Redware Body burned
	9	Ceramic	Earthenware, coarse	Redware Body Rim
	3	Ceramic	Earthenware, refined	Creamware Body
	4	Ceramic	Earthenware, refined	Creamware Body burned
	12	Ceramic	Earthenware, refined	Indeterminate earthenware Body burned
	1	Ceramic	Earthenware, refined	Indeterminate earthenware Body burned
	12	Ceramic	Earthenware, refined	Pearlware Body

Unit-context	Count	Class	Object	Description
	1	Ceramic	Earthenware, refined	Pearlware Body
	3	Ceramic	Earthenware, refined	Pearlware Body
	1	Faunal		Loose Teeth
	16	Faunal		Unanalyzed calcined bone
	33	Fuel and furnace	charcoal	
	7	Glass	curved, undetermined	
	8	Glass	flat, undetermined	
	1	Lithic, other	non-architectural stone	potentially heat treated
	48	Nails		
	3	Pipe	bowl	
	1	Pipe	stem	
EU2114 - 5068 -				
	NA			
	2	Architectural	brick	
	5	Ceramic	Earthenware, coarse	Redware
	6	Ceramic	Earthenware, refined	
	1	Faunal		Unanalyzed calcined bone
	16	Fuel and furnace	charcoal	
	3	Fuel and furnace	coal	
	1	Fuel and furnace	slag	
	1	Glass	curved, indet.	
	1	Metal	ferrous object potential hinge	
	4	Metal	ferrous other	
	2	Nails		
EU2114 - 5072 -				
	1	Architectural	brick	
	1	Ceramic	Earthenware, coarse	Redware
	1	Faunal		Unanalyzed shell
	1	Glass	flat, undetermined	
EU2114 - 5086 -				
	3	Metal	ferrous other	
EU2115 - 5064 -				
	36	Architectural	brick	
	1	Architectural	mortar	

Unit-context	Count	Class	Object	Description
	1	Architectural	other	slate
	3	Ceramic	Earthenware, coarse	Redware
	106	Ceramic	Earthenware, coarse	Redware
	33	Ceramic	Earthenware, refined	
	1	Ceramic	Porcelain	
	3	Ceramic	Stoneware, refined	
	11	Faunal		Unanalyzed bone
	1	Fuel and furnace	charcoal	
	15	Fuel and furnace	coal	
	26	Fuel and furnace	slag	
	15	Glass	curved, undetermined	
	136	Glass	flat, undetermined	
	1	Metal	ferrous object	
	13	Nails		
	12	Organic	wood	charred
	1	Synthetic	plastic	
EU2115 - 5069 -				
	17	Architectural	brick	
	2	Ceramic	Earthenware, coarse	Redware
	66	Ceramic	Earthenware, coarse	Redware
	23	Ceramic	Earthenware, refined	
	1	Ceramic	Porcelain	
	35	Faunal		Unanalyzed bone
	12	Fuel and furnace	charcoal	
	9	Fuel and furnace	slag	
	9	Glass	curved, undetermined	
	105	Glass	flat, undetermined	
	2	Metal	ferrous object	
	14	Nails		
	1	Synthetic	plastic	
EU2115 - 5076 -				
	13	Architectural	brick	
	4	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, coarse	Redware burned

Unit-context	Count	Class	Object	Description
	1	Ceramic	Earthenware, refined	burned
	82	Faunal		Unanalyzed bone
	22	Fuel and furnace	charcoal	
	3	Fuel and furnace	slag	
	1	Glass	curved, undetermined	
	2	Glass	flat, undetermined	
	1	Lithic, other	non-architectural stone	heat treated
	3	Metal	ferrous object	originally labeled button in field
	2	Metal	ferrous other	
	3	Nails		
EU2115 - 5079 -				
	1	Nails		
EU2115 - 5080 -				
	1	Architectural	brick	
	1	Ceramic	Earthenware, coarse	Redware
	1	Faunal		Unanalyzed bone
EU2116 - 5070 -				
	1	Architectural	mortar	
	1	Ceramic	Earthenware, coarse	Redware
	7	Ceramic	Earthenware, coarse	Redware
	9	Ceramic	Earthenware, refined	
	1	Ceramic	Porcelain	
	1	Ceramic	Stoneware, refined	
	2	Faunal		Unanalyzed bone
	2	Fuel and furnace	charcoal	
	3	Fuel and furnace	coal	
	1	Fuel and furnace	slag	
	21	Glass	curved, undetermined	
	2	Nails		
	3	Pipe	stem	
	1	Small finds	coin wheat penny	
EU2116 - 5071 -				
	17	Architectural	brick	
	1	Architectural	other	slate

Unit-context	Count	Class	Object	Description
	4	Ceramic	Earthenware, coarse	
	8	Ceramic	Earthenware, coarse	Redware
	14	Ceramic	Earthenware, coarse	Redware
	104	Ceramic	Earthenware, refined	
	2	Faunal		Unanalyzed bone
	5	Fuel and furnace	charcoal	
	12	Glass	curved, undetermined	
	7	Glass	flat, undetermined	
	1	Lithic, other	non-architectural stone	fire cracked
	1	Metal	ferrous other	
	1	Metal	nonferrous other	lead
	13	Nails		
	1	Pipe	stem	
	1	Small finds	adornment button	
EU2116 - 5074 -				
	4	Architectural	brick	
	3	Ceramic	Earthenware, coarse	
	2	Ceramic	Earthenware, coarse	burned
	22	Ceramic	Earthenware, coarse	Redware
	4	Ceramic	Earthenware, coarse	Redware burned
	21	Ceramic	Earthenware, refined	
	1	Ceramic	Earthenware, refined	burned
	1	Ceramic	Stoneware, refined	
	12	Glass	curved, undetermined	
	8	Glass	flat, undetermined	
	3	Lithic, other	non-architectural stone	burned
	1	Nails		
EU2116 - 5075 -				
	8	Architectural	brick	
	3	Ceramic	Earthenware, coarse	Redware

Unit-context	Count	Class	Object	Description
	1	Ceramic	Earthenware, coarse	Redware burned
	4	Ceramic	Earthenware, refined	
	3	Ceramic	Earthenware, refined	burned
	4	Glass	curved, undetermined	
	1	Nails		
EU2116 - 5078 -				
	1	Glass	curved, undetermined	
EU2116 - 5085 -				
	2	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, coarse	Redware Burned
	1	Metal	ferrous other	
	1	Nails		
EU2117 - 5084 -				
	38	Architectural	brick	
	1	Architectural	other	slate
	1	Ceramic	Earthenware, coarse	
	2	Ceramic	Earthenware, coarse	Redware
	118	Ceramic	Earthenware, coarse	Redware
	39	Ceramic	Earthenware, refined	
	8	Faunal		Unanalyzed bone
	2	Faunal		Unanalyzed shell
	3	Fuel and furnace	charcoal	
	4	Fuel and furnace	coal	
	33	Fuel and furnace	slag	
	8	Glass	curved, undetermined	
	76	Glass	flat, undetermined	
	3	Metal	ferrous object	
	9	Nails		
	1	Pipe	bowl	
	2	Pipe	stem	
	1	Small finds	rod	Glass
EU2117 - 5089 -				
	6	Architectural	brick	

Unit-context	Count	Class	Object	Description
	6	Ceramic	Earthenware, coarse	Redware
	2	Ceramic	Earthenware, refined	
	4	Faunal		Unanalyzed bone
	19	Fuel and furnace	charcoal	
	6	Fuel and furnace	slag	
	3	Glass	flat, undetermined	
	2	Nails		
EU2117 - 5090 -				
	11	Architectural	brick	
	2	Architectural	mortar	
	5	Ceramic	Earthenware, coarse	Redware
	8	Ceramic	Earthenware, coarse	Redware
	3	Ceramic	Earthenware, coarse	Redware burned
	269	Faunal		Unanalyzed bone
	1	Faunal		Unanalyzed calcined bone
	1	Faunal		Unanalyzed shell
	18	Fuel and furnace	charcoal	
	3	Fuel and furnace	coal	
	3	Fuel and furnace	slag	
	3	Glass	curved, undetermined	
	7	Glass	flat, undetermined	
	4	Metal	ferrous other	
	10	Nails		
	1	Organic	leather strap	
EU2117 - 5091 -				
	5	Architectural	brick	
	1	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, refined	
	1	Ceramic	Stoneware, refined	
	4	Faunal		Unanalyzed bone
	2	Fuel and furnace	charcoal	
	1	Glass	flat, undetermined	
	2	Nails		
EU2117 - 5092 -				

Unit-context	Count	Class	Object	Description
	1	Architectural	brick	
	2	Ceramic	Earthenware, refined	
	1	Fuel and furnace	coal	
	1	Glass	flat, undetermined	
EU2117 - 5097 -				
	1	Ceramic	Earthenware, refined	
EU2117 - 5098 -				
	2	Architectural	brick	
	1	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, refined	
	1	Faunal		Unanalyzed bone
EU2117 - 5108 -				
	3	Architectural	brick	
	2	Ceramic	Earthenware, refined	
	3	Faunal		Unanalyzed bone
EU2118 - 5087 -				
	3	Architectural	brick	
	1	Ceramic	Earthenware, coarse	Redware
	9	Ceramic	Earthenware, coarse	Redware
	3	Ceramic	Earthenware, refined	
	1	Faunal		Unanalyzed calcined bone
	5	Fuel and furnace	coal	
	4	Glass	curved, undetermined	
	9	Glass	flat, undetermined	
	7	Nails		
	1	Pipe	bowl	
	1	Small finds	coin 1965 quarter	
	2	Small finds	toys and games small disk	potentially a golf ball marker
	1	Synthetic	plastic comb	
	1	Synthetic	plastic small wheel	
	1	Tack		
EU2118 - 5088 -				
	40	Architectural	brick	

Unit-context	Count	Class	Object	Description
	4	Ceramic	Earthenware, coarse	
	18	Ceramic	Earthenware, coarse	Redware
	37	Ceramic	Earthenware, coarse	Redware
	44	Ceramic	Earthenware, refined	
	5	Ceramic	Porcelain	
	4	Ceramic	Stoneware, refined	
	22	Faunal		Unanalyzed bone
	7	Fuel and furnace	coal	
	11	Glass	curved, undetermined	
	13	Glass	flat, undetermined	
	5	Metal	ferrous other	
	17	Nails		
	2	Pipe	bowl	
	3	Pipe	stem	
	1	Small finds	toys and games toy soldier leg	green plastic
EU2118 - 5093 -				
	42	Architectural	brick	
	24	Ceramic	Earthenware, coarse	Redware Body
	6	Ceramic	Earthenware, coarse	Redware Body burned
	8	Ceramic	Earthenware, coarse	Redware Body burned
	13	Ceramic	Earthenware, coarse	Redware Body Rim
	1	Ceramic	Earthenware, coarse	Staffordshire Slipware Body burned
	1	Ceramic	Earthenware, coarse	Tin Glazed Body burned
	8	Ceramic	Earthenware, refined	Creamware Body Rim
	1	Ceramic	Earthenware, refined	Indeterminate-factory-made Body burned
	3	Ceramic	Earthenware, refined	Indeterminate earthenware Body
	10	Ceramic	Earthenware, refined	Indeterminate earthenware Body Rim burned

Unit-context	Count	Class	Object	Description
	7	Ceramic	Earthenware, refined	Pearlware Body
	1	Ceramic	Earthenware, refined	Pearlware Body burned
	8	Ceramic	Earthenware, refined	Pearlware Body Rim burned
	2	Ceramic	Earthenware, refined	Pearlware Shell-edge Rim burned
	1	Ceramic	Porcelain	Rim burned
	1	Ceramic	Stoneware, coarse	British Brown (Fulham) Base
	15	Faunal		Unanalyzed calcined bone
	14	Fuel and furnace	charcoal	
	1	Fuel and furnace	coal	
	6	Glass	curved, undetermined	
	1	Glass	curved, undetermined	milkglass
	5	Glass	flat, undetermined	
	3	Metal	ferrous other	
	16	Nails		
	1	Small finds	toys and games marble	
	1	Tack		
EU2118 - 5094 -				
	5	Architectural	brick	
	1	Architectural	mortar	
	1	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, coarse	Redware burned
	1	Ceramic	Earthenware, refined	
	1	Glass	curved, undetermined	
	2	Nails		
EU2119 - 5096 -				
	99	Architectural	brick	
	6	Architectural	mortar	
	5	Architectural	other	slate
	1	Ceramic	Earthenware, coarse	
	1	Ceramic	Earthenware, coarse	Redware

Unit-context	Count	Class	Object	Description
	108	Ceramic	Earthenware, coarse	Redware
	41	Ceramic	Earthenware, refined	
	1	Ceramic	Porcelain	
	1	Ceramic	Stoneware, coarse	
	2	Faunal		Loose Teeth
	45	Faunal		Unanalyzed bone
	1	Faunal		Unanalyzed shell
	46	Fuel and furnace	charcoal	
	27	Fuel and furnace	coal	
	14	Fuel and furnace	slag	
	34	Glass	curved, undetermined	
	274	Glass	flat, undetermined	
	1	Lithic, Native	chipping debris (flakes/shatter)	
	10	Metal	ferrous other	
	1	Metal	nonferrous object	
	1	Metal	nonferrous other	
	25	Nails		
	1	Pipe	stem	
	2	Spike		
	1	Washer		
EU2119 - 5101 -				
	25	Architectural	brick	
	2	Architectural	mortar	
	3	Ceramic	Earthenware, coarse	Redware
	15	Ceramic	Earthenware, coarse	Redware
	14	Ceramic	Earthenware, refined	
	1	Ceramic	Stoneware, refined	
	4	Faunal		Unanalyzed bone
	5	Faunal		Unanalyzed shell
	5	Fuel and furnace	coal	
	1	Fuel and furnace	slag	
	2	Glass	curved, undetermined	
	3	Glass	flat, undetermined	
	5	Nails		
EU2119 - 5102 -				

Unit-context	Count	Class	Object	Description
	11	Architectural	brick	
	9	Architectural	mortar	
	1	Ceramic	Earthenware, coarse	Redware
	2	Ceramic	Earthenware, refined	
	3	Faunal		Unanalyzed bone
	12	Fuel and furnace	charcoal	
	4	Glass	flat, undetermined	
	3	Metal	ferrous other	
	2	Nails		
	1	Pipe	bowl	
	1	Small finds	coin buffalo nickel	
EU2119 - 5103 -				
	75	Faunal		Unanalyzed bone
	1	Fuel and furnace	charcoal	
	1	Fuel and furnace	coal	
	1	Metal	ferrous other	
EU2119 - 5105 -				
	100	Architectural	brick	
	13	Architectural	mortar	
	1	Ceramic	Earthenware, coarse	Redware
	68	Ceramic	Earthenware, coarse	Redware
	6	Ceramic	Earthenware, coarse	Redware burned
	17	Ceramic	Earthenware, refined	
	3	Ceramic	Earthenware, refined	burned
	1	Ceramic	Porcelain	
	4	Faunal		Unanalyzed bone
	12	Faunal		Unanalyzed calcined bone
	62	Faunal		Unanalyzed shell
	4	Fuel and furnace	coal	
	5	Fuel and furnace	slag	
	3	Glass	curved, undetermined	
	2	Glass	flat, undetermined	
	1	Metal	ferrous object	
	1	Metal	nonferrous other	

Unit-context	Count	Class	Object	Description
	21	Nails		
EU2119 - 5109 -				
	3	Architectural	brick	
	5	Architectural	mortar	
	6	Fuel and furnace	charcoal	
EU2119 - 5110 -				
	30	Architectural	brick	
	7	Architectural	mortar	
	11	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, refined	
	3	Faunal		Unanalyzed shell
	3	Fuel and furnace	coal	
	2	Glass	curved, undetermined	
	4	Metal	ferrous other	
	2	Nails		
	1	Pipe	stem	
EU2119 - 5111 -				
	5	Architectural	brick	
	1	Faunal		Unanalyzed shell
	1	Nails		
EU2119 - 5112 -				
	4	Architectural	brick	
	2	Nails		
EU2231 - 5131 -				
	NA			
	1	Architectural	brick	
	1	Ceramic	Earthenware, coarse	Buckley Ware Base
	99	Ceramic	Earthenware, coarse	Redware
	23	Ceramic	Earthenware, coarse	Redware incl 1 large rim piece
	2	Ceramic	Earthenware, coarse	Staffordshire Slipware
	90	Ceramic	Earthenware, refined	
	3	Ceramic	Porcelain	1 likely a piece of a figurine or doll
	1	Ceramic	Stoneware, coarse	American Buff
	1	Ceramic	Stoneware, refined	Jackfield Type

Unit-context	Count	Class	Object	Description
	34	Faunal		Unanalyzed bone
	6	Faunal		Unanalyzed shell
	5	Fuel and furnace	charcoal	
	23	Fuel and furnace	coal and furnace products, unseparated	
	35	Glass	curved, undetermined	
	83	Glass	flat, undetermined	
	1	Lithic, Native	chipping debris (flakes/shatter)	
	1	Lithic, other		
	2	Metal	ferrous object	
	38	Nails		
	2	Pipe	bowl	
	4	Pipe	stem	
EU2231 - 5136 -				
	4	Architectural	brick	
	16	Ceramic	Earthenware, coarse	Redware
	3	Ceramic	Earthenware, coarse	Redware
	12	Ceramic	Earthenware, refined	
	3	Faunal		Loose Teeth
	26	Faunal		Unanalyzed bone
	1	Faunal		Unidentified shell
	3	Fuel and furnace	charcoal	
	5	Fuel and furnace	coal and furnace products, unseparated	
	4	Glass	curved, undetermined	
	5	Glass	flat, undetermined	
EU2231 - 5139 -				
	4	Faunal		Unanalyzed bone
	1	Fuel and furnace	coal and furnace products, unseparated	
EU2231ext - 5144 -				
	25	Ceramic	Earthenware, coarse	Redware
	19	Ceramic	Earthenware, coarse	Redware

Unit-context	Count	Class	Object	Description
	27	Ceramic	Earthenware, refined	
	125	Faunal		turtle/tortoise skeleton
	9	Faunal		Unanalyzed bone
	3	Faunal		Unanalyzed shell
	5	Glass	curved, undetermined	
	5	Glass	flat, undetermined	
	4	Nails		
	1	Synthetic	plastic sunglasses	
EU2231ext - 5147 -				
	1	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, coarse	Redware
	9	Ceramic	Earthenware, refined	
	10	Faunal		Unanalyzed bone
	2	Fuel and furnace	charcoal	
	2	Fuel and furnace	coal and furnace products, unseparated	
	3	Glass	curved, undetermined	
	3	Glass	flat, undetermined	
	5	Metal	ferrous object	
	4	Nails		
	1	Pipe	stem	
EU2231ext - 5149 -				
	1	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, refined	
	1	Glass	flat, undetermined	
	1	Pipe	stem	
EU2233 - 5121 -				
	3	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, coarse	Redware
	4	Ceramic	Earthenware, refined	
	6	Fuel and furnace	coal and furnace products, unseparated	

Unit-context	Count	Class	Object	Description
	2	Glass	curved, indet.	
	1	Glass	flat, undetermined	
	2	Organic	wood	
	1	Pipe	stem	
	2	Synthetic		
EU2233 - 5125 -				
	2	Ceramic	Earthenware, coarse	
	1	Ceramic	Earthenware, coarse	Redware
	1	Fuel and furnace	coal and furnace products, unseparated	
	2	Glass	curved, undetermined	
	1	Glass	flat, undetermined	
	4	Organic	wood	
EU2233 - 5126 -				
	1	Ceramic	Earthenware, coarse	
	12	Ceramic	Earthenware, coarse	Redware
	8	Ceramic	Earthenware, coarse	Redware glazed
	60	Ceramic	Earthenware, coarse	Redware several burned
	35	Ceramic	Earthenware, refined	
	1	Ceramic	Stoneware, refined	White Salt Glazed
	1	Faunal		Loose Teeth
	10	Faunal		Unanalyzed bone
	NA	Faunal		Unanalyzed shell
	27	Fuel and furnace	charcoal	
	6	Fuel and furnace	coal and furnace products, unseparated	
	12	Glass	curved, undetermined	
	6	Glass	flat, undetermined	
	7	Metal	ferrous object	
	3	Metal	ferrous other	
	21	Nails		ferrous
	2	Organic	wood	
	2	Pipe	bowl	
	1	Pipe	stem	

Unit-context	Count	Class	Object	Description
EU2233 - 5122 -				
	1	Architectural	other asphalt	
	1	Architectural	other marble	
	1	Architectural	other slate	
	1	Ceramic	Earthenware, coarse	
	52	Ceramic	Earthenware, coarse	Redware
	9	Ceramic	Earthenware, coarse	Redware
	17	Ceramic	Earthenware, refined	
	2	Ceramic	Porcelain	
	8	Faunal		Unanalyzed bone
	10	Fuel and furnace	coal and furnace products, unseparated	
	2	Fuel and furnace	slag	
	10	Glass	curved, undetermined	
	1	Glass	curved, undetermined	
	10	Glass	flat, undetermined	
	10	Nails		
	2	Pipe	bowl	
	3	Pipe	stem	
	1	Small finds	adornment button	round, white, 4 hole sew through
	1	Synthetic	other rubber	
	3	Synthetic	plastic	
EU2234 - 5127 -				
	NA			
	1	Bolt		
	8	Ceramic	Earthenware, coarse	
	44	Ceramic	Earthenware, coarse	Redware
	9	Ceramic	Earthenware, coarse	Redware
	22	Ceramic	Earthenware, refined	many burned
	1	Ceramic	Porcelain	
	1	Ceramic	Stoneware, refined	White Salt Glazed w brown rim
	7	Faunal		Unanalyzed bone

Unit-context	Count	Class	Object	Description
	15	Fuel and furnace	coal and furnace products, unseparated	
	24	Glass	curved, undetermined	
	15	Glass	flat, undetermined	
	4	Metal	ferrous object	
	5	Metal	ferrous other	
	20	Nails		ferrous
	2	Pipe	stem	
	2	Synthetic	plastic	
EU2234 - 5132 -				
	39	Architectural	brick	
	4	Architectural	stone	slate
	58	Ceramic	Earthenware, coarse	Redware
	9	Ceramic	Earthenware, coarse	Redware
	30	Ceramic	Earthenware, refined	
	1	Ceramic	Stoneware, refined	
	38	Fuel and furnace	charcoal	
	4	Fuel and furnace	coal and furnace products, unseparated	
	NA	Glass		
	12	Glass	curved, undetermined	
	9	Glass	flat, undetermined	
	10	Metal	ferrous object	
	31	Nails		
	1	Organic	wood	
	1	Pipe	bowl	
	1	Pipe	stem	
EU2234 - 5133 -				
	2	Ceramic	Earthenware, coarse	Redware
	3	Ceramic	Earthenware, refined	
	1	Fuel and furnace	charcoal	
	3	Glass	curved, undetermined	
	4	Nails		
EU2234 - 5134 -				

Unit-context	Count	Class	Object	Description
	4	Ceramic	Earthenware, coarse	Redware
	1	Faunal		Unanalyzed bone
	4	Nails		
EU2234 - 5137 -				
	NA			
	NA			
	NA			
	NA			
	NA	Ceramic		
	1	Ceramic	Stoneware, refined	Jackfield Type
	NA	Glass		
	NA	Glass		
	1	Pipe		
EU2234 - 5129 -				
	NA	Ceramic		
	70	Ceramic	Earthenware, coarse	Redware
	9	Ceramic	Earthenware, coarse	Redware
	55	Ceramic	Earthenware, refined	
	4	Ceramic	Porcelain	
	1	Ceramic	Stoneware, refined	
	14	Faunal		Unanalyzed bone
	4	Faunal		Unanalyzed bone
	16	Fuel and furnace	charcoal	
	7	Fuel and furnace	coal and furnace products, unseparated	
	18	Glass	curved, undetermined	
	12	Glass	flat, undetermined	
	12	Metal	ferrous object	incl 1 lg U shaped staple
	5	Metal	ferrous other	
	5	Metal	nonferrous object	1 pc lead scrap, 3 Cu alloy thin curls, 1 Cu alloy chain corroded together
	61	Nails		
	1	Organic	wood	
	2	Pipe	stem	

Unit-context	Count	Class	Object	Description
	1	Small finds	adornment bead, glass	white
	1	Utensils/tools/hardware	furniture hardware tack head, Cu alloy	
EU2235 - 5120 -				
	1	Architectural	brick	
	11	Ceramic	Earthenware, coarse	Redware
	6	Ceramic	Earthenware, refined	
	6	Fuel and furnace	coal and furnace products, unseparated	
	28	Glass	curved, undetermined	
	6	Glass	flat, undetermined	
	1	Metal	ferrous object	
	3	Metal	ferrous other	
	2	Synthetic	plastic	
EU2235 - 5123 -				
	39	Ceramic	Earthenware, coarse	Redware
	9	Ceramic	Earthenware, coarse	Redware
	36	Ceramic	Earthenware, refined	
	1	Ceramic	Porcelain	
	1	Ceramic	Stoneware, coarse	Base American or German, base of large vessel
	1	Fuel and furnace	charcoal	
	12	Fuel and furnace	coal and furnace products, unseparated	
	12	Glass	curved, undetermined	
	4	Glass	flat, undetermined	
EU2235 - 5124 -				
	NA			
	8	Architectural	brick	
	1	Architectural	stone slate	
	1	Ceramic	Earthenware, coarse	other earthenware Yellow printed brown ware; red body, white slip

Unit-context	Count	Class	Object	Description
				iint, fine designs in yellow on ext.
	57	Ceramic	Earthenware, coarse	Redware
	12	Ceramic	Earthenware, coarse	Redware
	83	Ceramic	Earthenware, refined	
	6	Ceramic	Porcelain	
	3	Ceramic	Stoneware, refined	
	12	Faunal		Unanalyzed bone
	7	Fuel and furnace	charcoal	
	5	Fuel and furnace	coal and furnace products, unseparated	
	15	Glass	curved, undetermined	
	15	Glass	flat, undetermined	
	19	Metal	ferrous object	
	37	Nails		
	7	Organic	wood	
	1	Pipe	spur	
	1	Pipe	stem	
	2	Small finds	adornment Button	copper, decorated, flat discs missing shanks
EU2235 - 5128 -				
	5	Ceramic	Earthenware, coarse	Redware
	2	Ceramic	Earthenware, refined	
	1	Pipe	stem	
EU2236 - 5135 -				
	1	Architectural	mortar	
	10	Ceramic	Earthenware, coarse	Redware
	4	Ceramic	Earthenware, coarse	Redware
	10	Ceramic	Earthenware, refined	
	1	Ceramic	Porcelain	
	6	Faunal		Unanalyzed bone
	6	Fuel and furnace	coal and furnace products, unseparated	

Unit-context	Count	Class	Object	Description
	85	Glass	curved, undetermined	
	6	Glass	flat, undetermined	
	2	Metal	nonferrous object	
	8	Nails		
	1	Pipe	stem	
	3	Small finds	coin	1963 nickel and dime
	3	Synthetic	plastic bottle cap	
EU2236 - 5148 -				
	17	Architectural	brick	
	1	Architectural	mortar	
	1	Architectural	stone sandstone	
	3	Architectural	stone slate	
	44	Ceramic	Earthenware, coarse	Redware
	10	Ceramic	Earthenware, coarse	Redware
	82	Ceramic	Earthenware, refined	
	4	Ceramic	Earthenware, refined	Yellow Ware
	1	Ceramic	Porcelain	
	1	Ceramic	Stoneware, refined	White Salt Glazed
	50	Faunal		Unanalyzed bone
	1	Faunal		Unanalyzed shell
	4	Fuel and furnace	coal and furnace products, unseparated	
	1	Fuel and furnace	slag	
	13	Glass	curved, undetermined	
	17	Glass	flat, undetermined	
	3	Metal	ferrous other	
	45	Nails		
	1	Organic	wood	
	3	Pipe	bowl	
	6	Pipe	stem	
	1	Small finds	other pastel	“princess natural”
EU2236 - 5150 -				
	8	Ceramic	Earthenware, coarse	Redware
	3	Ceramic	Earthenware, refined	

Unit-context	Count	Class	Object	Description
	6	Faunal		Unanalyzed bone
	1	Faunal		Unanalyzed shell
	1	Glass	flat, undetermined	
	3	Nails		
EU2238 - 5138 -				
	1	Ceramic	Earthenware, coarse	Redware
	2	Ceramic	Earthenware, refined	
	3	Fuel and furnace	coal and furnace products, unseparated	
	32	Glass	curved, undetermined	
	1	Metal	ferrous object	
	5	Metal	nonferrous other tinfoil	
	4	Nails		
	9	Organic	wood	
	4	Small finds	coin	
	8	Synthetic	plastic	
EU2238 - 5142 -				
	28	Architectural	brick	
	17	Ceramic	Earthenware, coarse	Redware
	16	Ceramic	Earthenware, coarse	Redware
	87	Ceramic	Earthenware, refined	
	2	Ceramic	Porcelain	
	3	Ceramic	Stoneware, refined	includes 1 pc black basalt
	12	Faunal		Unanalyzed bone
	14	Fuel and furnace	charcoal	
	7	Fuel and furnace	coal and furnace products, unseparated	
	40	Glass	curved, undetermined	
	15	Glass	flat, undetermined	
	2	Metal	nonferrous other tin foil	
	23	Nails		
	1	Organic	leather	fragment, w square hole

Unit-context	Count	Class	Object	Description
	6	Organic	wood	includes at least 1 pencil fragment
	1	Pipe	bowl	
	4	Pipe	stem	
	2	Small finds	adornment button	2 hole sew through, white
	1	Small finds	coin penny	
	1	Small finds	other	circular cap or button cover, relatively modern
	1	Small finds	other golf tee	
EU2238 - 5143 -				
	18	Architectural	brick	
	169	Ceramic	Earthenware, coarse	Redware
	7	Ceramic	Earthenware, coarse	Redware
	174	Ceramic	Earthenware, refined	
	43	Ceramic	Earthenware, refined	Creamware factory-made slipware (dipt ware) refit
	3	Ceramic	Porcelain	
	2	Ceramic	Stoneware, refined	
	9	Faunal		Unanalyzed bone
	1	Faunal		Unanalyzed shell
	16	Fuel and furnace	charcoal	
	44	Glass	curved, undetermined	
	16	Glass	flat, undetermined	
	18	Nails		
	4	Pipe	stem	
EU2238 - 5145 -				
	22	Ceramic	Earthenware, coarse	Redware
	4	Ceramic	Earthenware, coarse	Redware
	21	Ceramic	Earthenware, refined	
	1	Faunal		Unanalyzed bone
	3	Glass	curved, undetermined	
	3	Glass	flat, undetermined	
	2	Nails		
EU2238 - 5146 -				

Unit-context	Count	Class	Object	Description
	2	Architectural	brick	
	1	Architectural	brick	burned
	73	Ceramic	Earthenware, coarse	Redware
	21	Ceramic	Earthenware, refined	
	1	Ceramic	Stoneware, refined	
	4	Fuel and furnace	charcoal	
	4	Glass	curved, undetermined	
	4	Glass	flat, undetermined	
	5	Nails		
EU2239 - 5151 -				
	NA			
	7	Ceramic	Earthenware, coarse	Redware
	2	Ceramic	Earthenware, coarse	Redware
	3	Ceramic	Earthenware, refined	
	3	Fuel and furnace	coal and furnace products, unseparated	
	11	Glass	curved, undetermined	
	2	Glass	flat, undetermined	
	3	Nails		
	3	Organic	wood	
	1	Rivet		
	1	Small finds	coin 2005 dime	
	2	Synthetic	plastic	
EU2239 - 5152 -				
	3	Architectural	stone	
	1	Architectural	stone marble	
	1	Arms and ammunition	ammunition casing	
	3	Ceramic	Earthenware, coarse	Indeterminate earthenware 2 redware, 1 unided
	11	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, coarse	Staffordshire Slipware
	4	Ceramic	Earthenware, refined	Pearlware

Unit-context	Count	Class	Object	Description
	1	Ceramic	Earthenware, refined	Pearlware blue decorated
	1	Ceramic	Porcelain	
	3	Faunal		Unanalyzed bone
	31	Glass	curved, undetermined	
	8	Glass	flat, undetermined	
	1	Small finds	other pencil lead	
	3	Synthetic	plastic	
EU2239 - 5155 - NA				
	3	Architectural	brick	
	46	Ceramic	Earthenware, coarse	Redware
	5	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, coarse	Redware
	6	Ceramic	Earthenware, coarse	Tin Glazed some frags paste only, some glaze only
	63	Ceramic	Earthenware, refined	Creamware
	1	Ceramic	Earthenware, refined	Creamware
	2	Ceramic	Earthenware, refined	Creamware factory-made slipware (dipt ware) brown, orange, yellow banding
	18	Ceramic	Earthenware, refined	Indeterminate earthenware burned
	1	Ceramic	Earthenware, refined	Indeterminate earthenware polychrome
	23	Ceramic	Earthenware, refined	Pearlware
	5	Ceramic	Earthenware, refined	Pearlware
	3	Ceramic	Earthenware, refined	Pearlware Green glaze
	2	Ceramic	Earthenware, refined	Pearlware Rim
	3	Ceramic	Earthenware, refined	Pearlware Shell-edge blue and green
	6	Ceramic	Earthenware, refined	Whiteware

Unit-context	Count	Class	Object	Description
	3	Ceramic	Porcelain	Indeterminate porcelain
	3	Ceramic	Stoneware, coarse	Rhenish blue on grey
	3	Ceramic	Stoneware, refined	White Salt Glazed Base tea bowl
	31	Faunal		Unanalyzed bone
	4	Fuel and furnace	charcoal	
	1	Fuel and furnace	slag	
	25	Glass	curved, undetermined	
	16	Glass	flat, undetermined	
	18	Metal	ferrous other	
	1	Metal	nonferrous object	
	38	Nails		
	2	Pipe	bowl	
	2	Pipe	stem	
	3	Small finds	other	
EU2239 - 5159 -				
	4	Ceramic	Earthenware, coarse	Redware
	4	Ceramic	Earthenware, refined	
	2	Faunal		Unanalyzed shell
	1	Glass	curved, undetermined	
	3	Nails		
	1	Organic	wood	
	1	Pipe	bowl	
	1	Pipe	stem	
EU2239 - 5167 -				
	2	Fuel and furnace	charcoal	
	3	Metal	ferrous object	
EU2240 - 5153 -				
	96	Architectural	brick	
	5	Architectural	stone slate	
	15	Ceramic	Earthenware, coarse	
	19	Ceramic	Earthenware, coarse	Redware
	29	Ceramic	Earthenware, coarse	Redware
	43	Ceramic	Earthenware, refined	

Unit-context	Count	Class	Object	Description
	4	Ceramic	Porcelain	
	1	Ceramic	Stoneware, refined	
	77	Faunal		turtle/tortoise Unanalyzed bone
	3	Faunal		Unidentified shell
	6	Fuel and furnace	charcoal	
	51	Fuel and furnace	coal and furnace products, unseparated	
	12	Glass	curved, undetermined	
	7	Glass	flat, undetermined	
	3	Metal	ferrous other	
	2	Metal	nonferrous object	
	17	Nails		
	1	Pipe	bowl	
	1	Pipe	stem	
	1	Synthetic		
EU2240 - 5154 -				
	37	Architectural	brick	
	15	Ceramic	Earthenware, coarse	Redware
	13	Ceramic	Earthenware, coarse	Redware
	21	Ceramic	Earthenware, refined	
	6	Faunal		Unanalyzed bone
	1	Faunal		Unanalyzed shell
	31	Fuel and furnace	coal	
	16	Fuel and furnace	coal and furnace products, unseparated	
	4	Glass	curved, undetermined	
	6	Glass	flat, undetermined	
	3	Metal	ferrous other	
	1	Metal	nonferrous object context stake	
	9	Nails		
	3	Organic	wood	
EU2240 - 5158 -				
	5	Architectural	brick	
	4	Ceramic	Earthenware, coarse	Redware

Unit-context	Count	Class	Object	Description
	5	Ceramic	Earthenware, refined	
	9	Faunal		Unanalyzed bone
	5	Fuel and furnace	charcoal	
	7	Fuel and furnace	coal and furnace products, unseparated	
	1	Glass	curved, undetermined	
	1	Glass	flat, undetermined	
	3	Nails		
	1	Organic	wood	
EU2241 - 5156 -				
	4	Architectural	brick	
	7	Ceramic	Earthenware, coarse	Redware
	3	Ceramic	Earthenware, coarse	Redware burned
	16	Ceramic	Earthenware, refined	
	1	Ceramic	Porcelain	
	5	Fuel and furnace	coal and furnace products, unseparated	
	25	Glass	curved, undetermined	
	4	Glass	flat, undetermined	
	2	Lithic, other	non-architectural stone quartz	shatter
	6	Nails		
	8	Organic	wood	
	1	Small finds	adornment bead	round, green plastic
	1	Small finds	adornment comb fragment	plastic
	1	Synthetic	plastic	possible bottle cap/liner fragment
EU2241 - 5162 -				
	51	Architectural	brick	
	43	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, coarse	Redware
	23	Ceramic	Earthenware, refined	Creamware
	8	Ceramic	Earthenware, refined	Indeterminate earthenware

Unit-context	Count	Class	Object	Description
	1	Ceramic	Earthenware, refined	Indeterminate earthenware could be yellow ware or Staffordshire slip; slight pref to Staffordshire, but little surface remains
	16	Ceramic	Earthenware, refined	Pearlware
	3	Ceramic	Earthenware, refined	Pearlware
	6	Ceramic	Earthenware, refined	Pearlware
	3	Ceramic	Earthenware, refined	Pearlware
	1	Ceramic	Earthenware, refined	Pearlware
	3	Ceramic	Earthenware, refined	Pearlware
	1	Ceramic	Earthenware, refined	Pearlware Shell-edge
	1	Ceramic	Earthenware, refined	Pearlware Shell-edge
	1	Ceramic	Earthenware, refined	Whiteware
	1	Ceramic	Earthenware, refined	Whiteware
	1	Ceramic	Stoneware, coarse	other delt tile, blue handpainted
	1	Ceramic	Stoneware, coarse	Rhenish Rim blue on grey
	2	Ceramic	Stoneware, refined	Black Basalt Handle also 1 body piece
	10	Faunal		Unanalyzed bone
	8	Fuel and furnace	charcoal	
	4	Fuel and furnace	coal and furnace products, unseparated	
	11	Glass	curved, undetermined	
	10	Glass	flat, undetermined	
	14	Metal	ferrous object	
	14	Nails		
	2	Pipe	bowl	
	2	Pipe	stem	
	1	Small finds	adornment button?	very small flat metal disc

Unit-context	Count	Class	Object	Description
EU2241 - 5163 -				
	22	Architectural	brick	
	1	Architectural	stone	1 pcs flat, grey stone
	1	Ceramic	Earthenware, coarse	other earthenware indeterminate
	75	Ceramic	Earthenware, coarse	Redware
	14	Ceramic	Earthenware, coarse	Redware
	12	Ceramic	Earthenware, coarse	Redware
	22	Ceramic	Earthenware, refined	Creamware
	1	Ceramic	Earthenware, refined	Creamware
	2	Ceramic	Earthenware, refined	Creamware factory-made slipware (dipt ware) Engine turned / rouletted brown
	5	Ceramic	Earthenware, refined	Indeterminate earthenware
	3	Ceramic	Earthenware, refined	Indeterminate earthenware burned
	12	Ceramic	Earthenware, refined	Pearlware
	2	Ceramic	Earthenware, refined	Pearlware
	1	Ceramic	Earthenware, refined	Pearlware
	3	Ceramic	Earthenware, refined	Pearlware Shell-edge
	1	Ceramic	Earthenware, refined	Whiteware
	2	Ceramic	Earthenware, refined	Whiteware
	1	Ceramic	Porcelain	polychrome
	11	Faunal		Unanalyzed bone
	1	Faunal		Unanalyzed shell
	13	Fuel and furnace	charcoal	
	20	Glass	curved, indet.	
	11	Glass	flat, undetermined	
	7	Metal	ferrous object	
	1	Metal	nonferrous other	small Cu alloy sheet frag
	5	Nails		
	2	Pipe	bowl	

Unit-context	Count	Class	Object	Description
	1	Pipe	bowlspur	
	4	Pipe	stem	
EU2241 - 5165 -				
	3	Architectural	brick	
	12	Ceramic	Earthenware, coarse	Redware
	4	Ceramic	Earthenware, refined	
	1	Fuel and furnace	charcoal	
	1	Fuel and furnace	coal and furnace products, unseparated	
EU2242 - 5157 -				
	7	Ceramic	Earthenware, coarse	Redware
	3	Ceramic	Earthenware, refined	
	1	Fuel and furnace	coal and furnace products, unseparated	
	3	Glass	curved, indet.	
	4	Glass	flat, undetermined	
	4	Nails		
	1	Synthetic	other	
EU2242 - 5160 -				
	1	Ceramic	Earthenware, coarse	
	6	Ceramic	Earthenware, refined	
	1	Ceramic	Porcelain	
	12	Glass	curved, undetermined	
	2	Glass	flat, undetermined	
	1	Metal	ferrous other	
	5	Nails		
	1	Small finds	other synthetic bottle top, w logo or decoration	
EU2242 - 5161 -				
	46	Ceramic	Earthenware, coarse	Redware
	19	Ceramic	Earthenware, coarse	Redware
	147	Ceramic	Earthenware, refined	

Unit-context	Count	Class	Object	Description
	2	Ceramic	Earthenware, refined	
	4	Ceramic	Porcelain	Chinese
	2	Ceramic	Porcelain	Chinese
	1	Ceramic	Stoneware, coarse	American Buff Handle
	1	Ceramic	Stoneware, refined	Black Basalt
	1	Ceramic	Stoneware, refined	White Salt Glazed
	41	Faunal		Unanalyzed bone
	1	Fuel and furnace	coal and furnace products, unseparated	
	34	Glass	curved, undetermined	
	21	Glass	flat, undetermined	
	28	Metal	ferrous other	
	45	Nails		
	1	Organic	wood	
	1	Pipe	stem	
	1	Small finds	adornment button, black, faceted	glass, w copper alloy shank, cone shaped w decorative lines around body
	1	Small finds	other wire loop, Cu alloy	
EU2242 - 5164 -				
	1	Architectural	brick	
	5	Ceramic	Earthenware, coarse	Redware
	6	Ceramic	Earthenware, refined	
	3	Ceramic	Porcelain	1 underglaze blue, 2 overglaze polychrome
	2	Faunal		
	3	Faunal		Unanalyzed bone
	1	Glass	flat, undetermined	
	2	Metal	ferrous other	
EU2243 - 5166 -				
	NA	Ceramic		
	3	Ceramic	Earthenware, coarse	Redware
	4	Ceramic	Earthenware, coarse	Redware

Unit-context	Count	Class	Object	Description
	4	Ceramic	Earthenware, refined	
	8	Fuel and furnace	coal and furnace products, unseparated	
	4	Glass	curved, undetermined	
	3	Glass	flat, undetermined	
	1	Metal	ferrous other	
	12	Metal	nonferrous other	
	1	Nails		
	2	Organic	wood	
	1	Pipe	stem	
	5	Synthetic	plastic	
EU2243 - 5168 -				
	6	Architectural		
	9	Ceramic	Earthenware, coarse	Redware
	6	Ceramic	Earthenware, coarse	Redware
	27	Ceramic	Earthenware, refined	
	7	Faunal		Unanalyzed bone
	4	Fuel and furnace	charcoal	
	7	Glass	curved, undetermined	
	11	Glass	flat, undetermined	
	1	Lithic, other	non-architectural stone	
	11	Nails		
EU2243 - 5169 -				
	9	Ceramic	Earthenware, coarse	Redware
	16	Ceramic	Earthenware, refined	
	4	Ceramic	Earthenware, refined	burned
	3	Ceramic	Earthenware, refined	burned
	25	Ceramic	Earthenware, refined	doll/statuette
	2	Ceramic	Porcelain	
	1	Ceramic	Stoneware, refined	White Salt Glazed
	27	Faunal		Unanalyzed bone
	1	Faunal		Unanalyzed shell

Unit-context	Count	Class	Object	Description
	6	Fuel and furnace	charcoal	
	4	Glass	curved, undetermined	
	5	Glass	flat, undetermined	
	15	Metal	ferrous other	
	2	Metal	nonferrous object	metal tag
	17	Nails		
	2	Pipe	bowl	
	3	Pipe	stem	
	2	Synthetic	plastic	bottle cap
EU2243 - 5170 -				
	1	Architectural	stone slate	
	3	Ceramic	Earthenware, coarse	
	3	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, coarse	Redware
	3	Ceramic	Earthenware, refined	
	1	Faunal		Unanalyzed shell
	2	Glass	curved, undetermined	
	2	Glass	flat, undetermined	
	4	Metal	ferrous object	
	1	Nails		
STP21_05 - 5050 -				
	6	Architectural	brick	
	6	Ceramic	Earthenware, coarse	Redware
	8	Ceramic	Earthenware, refined	
	4	Faunal		Unanalyzed shell
	3	Fuel and furnace	coal	
	4	Fuel and furnace	slag	
	2	Glass	curved, undetermined	
	14	Glass	flat, undetermined	
	2	Nails		
STP21_05 - 5051 -				
	14	Architectural	brick	
	1	Ceramic	Earthenware, coarse	Redware

Unit-context	Count	Class	Object	Description
	4	Ceramic	Earthenware, coarse	Redware
	17	Faunal		Unanalyzed bone
	36	Fuel and furnace	charcoal	
	1	Glass	flat, undetermined	
	2	Nails		
STP21_05 - 5077 -				
	2	Architectural	brick	
	4	Faunal		Unanalyzed shell
STP21_06 - 5047 -				
	2	Architectural	brick	
	14	Ceramic	Earthenware, coarse	Redware
	5	Ceramic	Earthenware, refined	
	2	Faunal		Unanalyzed bone
	4	Fuel and furnace	charcoal	
	4	Fuel and furnace	coal	
	4	Fuel and furnace	slag	
	3	Glass	curved, undetermined	
	5	Glass	flat, undetermined	
	3	Nails		
STP21_06 - 5048 -				
	1	Architectural	brick	
	12	Ceramic	Earthenware, coarse	Redware
	6	Ceramic	Earthenware, refined	
	2	Faunal		Unanalyzed bone
	81	Fuel and furnace	charcoal	
	3	Fuel and furnace	slag	
	2	Glass	flat, undetermined	
	1	Nails		
STP21_08 - 5044 -				
	20	Architectural	brick	
	1	Ceramic	Earthenware, coarse	Redware
	35	Ceramic	Earthenware, coarse	Redware
	11	Ceramic	Earthenware, refined	
	6	Faunal		Unanalyzed bone

Unit-context	Count	Class	Object	Description
	21	Fuel and furnace	charcoal	
	12	Fuel and furnace	coal	
	4	Fuel and furnace	slag	
	2	Glass	curved, undetermined	
	21	Glass	flat, undetermined	
	1	Metal	ferrous object	
	3	Metal	ferrous other	
	4	Nails		
STP21_08 - 5045 -				
	8	Ceramic	Earthenware, coarse	Redware
	2	Ceramic	Earthenware, refined	
	1	Fuel and furnace	coal	
	1	Fuel and furnace	slag	
	4	Glass	flat, undetermined	
STP21_08 - 5046 -				
	1	Architectural	brick	
	2	Ceramic	Earthenware, coarse	Redware
	1	Nails		
STP21_13 - 5055 -				
	44	Architectural	brick	
	1	Architectural	mortar	
	1	Ceramic	Earthenware, coarse	
	2	Ceramic	Earthenware, coarse	Redware
	23	Ceramic	Earthenware, coarse	Redware
	2	Ceramic	Earthenware, refined	
	1	Ceramic	Porcelain	
	4	Faunal		Unanalyzed bone
	13	Fuel and furnace	charcoal	
	12	Fuel and furnace	coal	
	7	Fuel and furnace	slag	
	4	Glass	curved, undetermined	
	36	Glass	flat, undetermined	
	1	Metal	ferrous object chain	
	1	Metal	ferrous other	

Unit-context	Count	Class	Object	Description
	3	Nails		
	1	Pipe	stem	
STP21_13 - 5056 -				
	13	Architectural	brick	
	3	Architectural	mortar	
	5	Ceramic	Earthenware, coarse	Redware
	1	Ceramic	Earthenware, refined	
	2	Faunal		Unanalyzed bone
	13	Faunal		Unanalyzed shell
	1	Fuel and furnace	charcoal	
	1	Glass	curved, undetermined	
	4	Glass	flat, undetermined	
	3	Nails		
STP21_13 - 5057 -				
	15	Architectural	brick	
	36	Architectural	mortar	
	1	Nails		
STP21_13 - 5058 -				
	3	Architectural	brick	
	1	Architectural	mortar	
	3	Ceramic	Earthenware, refined	
	1	Metal	ferrous other	
	1	Spike		