PUBLIC ARCHAEOLOGICAL PROJECT FULHAM PALACE WALLED GARDEN BISHOP'S AVENUE LONDON SW6 L B OF HAMMERSMITH & FULHAM

ASSESSMENT OF AN ARCHAEOLOGICAL EXCAVATION

FPW 12

MAY 2013

PRE-CONSTRUCT ARCHAEOLOGY

DOCUMENT VERIFICATION

FULHAM PALACE WALLED GARDEN PUBLIC ARCHAEOLOGICAL PROJECT BISHOP'S AVENUE LONDON SW6 LONDON BOROUGH OF HAMMERSMITH & FULHAM

EXCAVATION

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FULHAM PALACE WALLED GARDEN: PUBLIC ARCHAEOLOGICAL PROJECT, BISHOP'S AVENUE, FULHAM, LONDON BOROUGH OF HAMMERSMITH AND FULHAM, SW6 6EA

AN ARCHAEOLOGICAL ASSESSMENT REPORT

Site Code:	**FPW12**
Central NGR:	**TQ 2419 7600**
Local Planning Authority:	**London Borough of Hammersmith and Fulham**
DCMS SMC Reference:	**S00037549**
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1 ABSTRACT

1.1 An archaeological investigation was undertaken by Pre-Construct Archaeology Limited from 25th June-10th August 2012 at the Walled Garden at Fulham Palace, Bishop's Avenue, Fulham, London Borough of Hammersmith and Fulham, SW6 6EA.

1.2 The work formed part of a Public Archaeological project designed to provide data relating to the historical layout of the 18th-19th-century working kitchen garden prior to its restoration. Its dual-aim was also to provide members of the public with an opportunity to engage with an archaeological project and to impart knowledge and learning regarding the history of the Fulham Palace site.

1.3 The results of the excavation revealed a series of features generally comprising planting holes for trees and plants, linear planting beds, rubbish pits and horticultural soil horizons. Six phases of activity dating from the mid-late 18th century, through the 19th century and into the 20th century were established through an analysis of artefactural spot dating and spatial and stratigraphic relationships within the trenches. Two of three bee boles located on the exterior side of the enclosure wall of the garden (facing the palace) that were bricked up during the late 18th-early 19th century were also restored and recorded as part of the project.

1.4 In addition to the locating and recording of features, the recovery of artefacts from the soil horizons and fills of various features have assisted to create a valuable collection of cultural artefacts related to the historical activities undertaken in the garden and the people who lived and worked there.

2 INTRODUCTION

2.1 An archaeological investigation was undertaken by Pre-Construct Archaeology Limited from 25th June-10th August 2012 at the Walled Garden at Fulham Palace, Bishop's Avenue, Fulham, London Borough of Hammersmith and Fulham, SW6 6EA (Figure 1). The project was commissioned by Sian Harrington on behalf of the Fulham Palace Trust and managed by Chris Mayo of Pre-Construct Archaeology Ltd. The site work was supervised by Iain Bright, assisted by Stuart Watson and Kari Bower.

2.2 The excavation comprised two trenches measuring approximately 25m x 25m and 25m x 15m respectively (Figure 2). The project was undertaken as a community dig, enlisting volunteer members of the public and allowing access to school groups, families and any other interested parties at various times throughout the week and for three weekends. It was initiated as part of the restoration works that were being undertaken at Fulham Palace, with the primary aim the reinstatement of a working kitchen garden, known to exist historically within the walled garden from the late 18th century.

2.3 The purpose of the excavation was to provide archaeological data to inform the layout of various garden features (such as planting holes, linear beds, pathways, etc) through the various stages of its developments between the 18th-20th centuries in an effort to restore it as closely and practically as possible. The secondary aim was to provide an opportunity for members of the public to engage with the history of Fulham Palace and open the practice of archaeology up to a wider audience.

2.4 The Walled Garden had previously been the subject of a number of archaeological investigations. In July 2009, a metal detecting survey on a 5m grid was undertaken in the Walled Garden by volunteer detectorists John Cole and Bill Meads under the supervision of Gifford (Brown & Emery 2009). Also in July 2009 a geophysical survey was undertaken by Archaeophysica which indicated the survival of elements of the historic arrangement of the garden (Roseveare 2009), and these results informed the design of the archaeological evaluation trenching within the Walled Garden, which was undertaken by Pre-Construct Archaeology in August and September 2009 (Payne & Fairman 2009). From October 2010 to 2012 Pre-Construct Archaeology undertook archaeological works to monitor the Stage 2 groundworks within Fulham Palace and Bishops Park. Of relevance to the Walled Garden was extensive work completed around the Vinery and Bothy to allow them to be returned to practical use. Elements of the subterranean structure of the Vinery within the Walled Garden was found, including culverts considered to have facilitated underfloor heating. A watching brief was maintained during the excavation of the new pathways within the Walled Garden which follow the perimeter circuit and crossing. These trenches revealed the locations of the historic path layout within the Garden (Bright in prep.).

2.5 Prior to the archaeological fieldwork, Pre-Construct Archaeology had prepared a Written Scheme of Investigation document for the project (Mayo 2012) which was

approved by the Inspector of Ancient Monuments and advisor to the local authority, Jane Sidell of English Heritage. Works were overseen/monitored by Phil Emery, Heritage Trustee of the Fulham Palace Trust.

2.6 The site is located within the Fulham Palace moated site, which is scheduled as an Ancient Monument (No. 134) under the Ancient Monuments and Archaeological Areas Act 1979, amended by the National Heritage Act 1983. Scheduled Monument Consent for the work was applied for by the client and granted.

2.7 It is centred at NGR TQ 2419 7600. and positioned towards the south-eastern end of the ancient monument.

2.8 The fieldwork was undertaken using the site code FPW12.

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Figure 1
Site Location
1:20,000 at A4

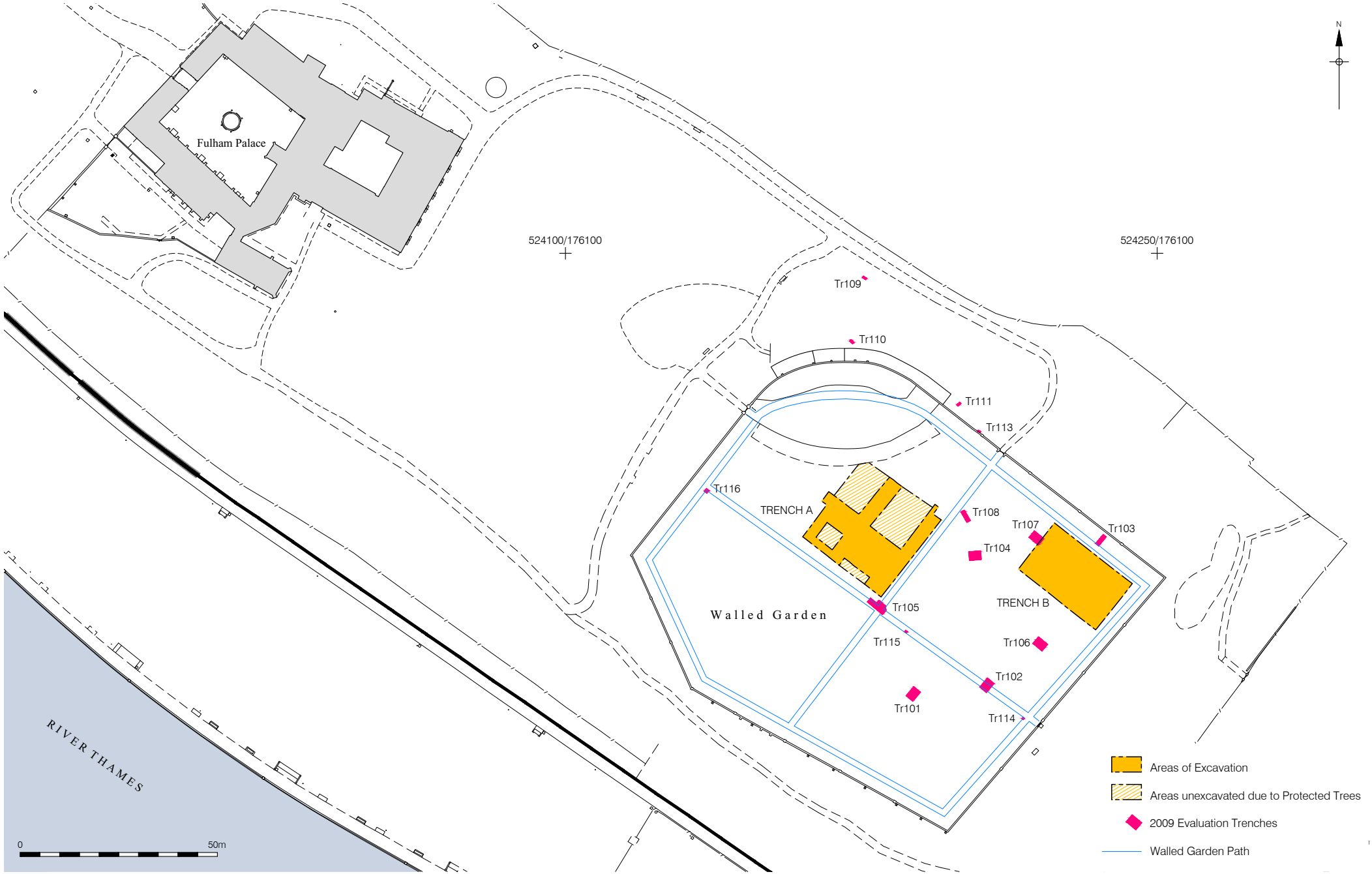

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Figure 2
Trench Location
1:1,250 at A4

3 PLANNING BACKGROUND

3.1 The proposed development of the site is subject to planning guidance and policies contained within the National Planning Policy Framework (NPPF), The London Plan and policies of the London Borough of Hammersmith and Fulham, which fully recognise the importance of the buried heritage for which they are the custodians.

3.2 Regional Policy: The London Plan

3.2.1 The London Plan, published July 2011, includes the following policy regarding the historic environment in central London:

POLICY 7.8 HERITAGE ASSETS AND ARCHAEOLOGY

Strategic

A London's heritage assets and historic environment, including listed buildings, registered historic parks and gardens and other natural and historic landscapes, conservation areas, World Heritage Sites, registered battlefields, scheduled monuments, archaeological remains and memorials should be identified, so that the desirability of sustaining and enhancing their significance and of utilising their positive role in place shaping can be taken into account.

B Development should incorporate measures that identify, record, interpret, protect and, where appropriate, present the site's archaeology.

Planning decisions

C Development should identify, value, conserve, restore, re-use and incorporate heritage assets, where appropriate.

D Development affecting heritage assets and their settings should conserve their significance, by being sympathetic to their form, scale, materials and architectural detail.

E New development should make provision for the protection of archaeological resources, landscapes and significant memorials. The physical assets should, where possible, be made available to the public on-site. Where the archaeological asset or memorial cannot be preserved or managed on-site, provision must be made for the investigation, understanding, recording, dissemination and archiving of that asset.

LDF preparation

F Boroughs should, in LDF policies, seek to maintain and enhance the contribution of built, landscaped and buried heritage to London's environmental quality, cultural identity and economy as part of managing London's ability to accommodate change and regeneration.

3.3 Local Policy: The London Borough of Hammersmith and Fulham Unitary Development Plan

3.3.1 Local planning policies relating to development and the archaeological resource are contained within the London Borough of Hammersmith and Fulham Unitary Development Plan (UDP) amended in September 2007. The UDP is currently being replaced by the Local Development Framework (LDF) but the relevant policies pertaining to archaeology and development in the Borough are amongst those saved

from the UDP:

POLICY EN7: NATIONALLY AND LOCALLY IMPORTANT ARCHAEOLOGICAL REMAINS

1. There will be a presumption against proposals which would involve significant alteration of, or cause damage to, Archaeological Remains of National Importance, whether scheduled or not. There will also be a presumption against proposals which have a significant and harmful impact on the setting of visible Archaeological Remains of National Importance whether scheduled or not.
2. Development affecting sites of Archaeological Remains of Local Interest and their settings will only be permitted if the need for the development outweighs the local value of the remains.
3. Applicants will be required to arrange for archaeological field evaluation of any such remains within the archaeological priority areas defined on the proposals map before applications are determined or if found during development works in such areas or elsewhere. Proposals should include provision for the remains and their settings to be protected, enhanced or preserved. Where it is accepted that physical preservation in situ is not merited, planning permission may be subject to conditions and/or formal agreement requiring the developer to secure investigation and recording of the remains, and publication of the results.

Justification

Archaeological remains are regularly discovered in the borough, from prehistoric Roman, Saxon, medieval and the early industrial period. The most recent find was part of a Saxon settlement discovered in Fulham Reach in 1990. They are a major part of the surviving evidence of the borough's past, and therefore a valuable and irreplaceable asset to the community. Such remains are very vulnerable to modern development, and once destroyed they are lost forever. The need to preserve them is recognised as a material consideration when determining planning applications. PPG 16 indicates that there will be a presumption in favour of preservation in-situ, where the remains are of national importance. In other cases this is desirable, but must be weighed against other factors. These will include the need for the proposed development, as well as the potential national importance of remains that may be found in the Archaeological Priority Areas. (Glossary) It is therefore important for developers to consult English Heritage at an early stage, particularly for developments that would impact upon the scheduled Ancient Monument at Fulham Palace or for developments in or near the Archaeological Priority Areas.

New buildings will normally destroy any archaeological remains and therefore these should be excavated by a qualified archaeological unit before work commences. This is because the context of any archaeological find is an essential part of the historical value of any remains. The council considers it is reasonable for a person thus threatening part of the community's heritage to fund adequate excavation, the subsequent academic and popular reports, as well as publicity both for the excavation and the reports. The council will encourage developers to inform local archaeological societies of the start of any archaeological excavation and to make arrangements for public viewing of excavations in progress, wherever possible, and for subsequent analysis, interpretation and presentation to the archaeological societies and the public of any archaeological results and finds. The council welcomes the value to all parties of the Code of Practice drawn up by the British Archaeologists' and Developers' Liaison Group setting out mutual responsibilities.

3.4 The site is located in the grounds of Fulham Palace Moated Site, Scheduled Ancient Monument (No. 134) under the Ancient Monuments and Archaeological Areas Act 1979, amended by the National Heritage Act 1983.

3.5 Government guidance provides a framework which:

- Protects Scheduled Ancient Monuments
- Protects the settings of these sites
- Has a presumption in favour of in-situ preservation of nationally important remains
- In appropriate circumstances seeks adequate information (from field evaluation) to enable informed decisions
- Provides for the excavation and investigation of sites not important enough to merit in-situ preservation.

4 GEOLOGICAL AND TOPOGRAPHY

4.1 Geology

4.1.1 The Ordnance Survey geological map shows that the site lies on the First Terrace Gravels of the Thames floodplain. These comprise stratified layers of sand and gravels.

4.2 Topography

4.2.1 The site is situated approximately 100m to the north-east of the Thames.

4.2.2 The overall topography within the palace grounds is flat, but the ground rises towards the north to Fulham Palace Road.

4.2.3 The ground surface across the site ranges from grassed areas, tarmac and gravel surfaces, concrete and paving slabs.

4.2.4 Within the walled garden specifically, the ground slopes gradually from a height of 4.21m OD in the northern quadrant to 3.42m OD in the southernmost corner.

5 ARCHAEOLOGICAL & HISTORICAL BACKGROUND

5.1 What follows is a synthesis of historical and archaeological data collected over recent years to give a broad overview of the background of the Fulham Palace moated site. This overview includes data collected by FARG, the Museum of London and Pre-Construct Archaeology over the recent decades up to and including the recent Stage 2 Restoration works (2010-2012).

5.2 General

5.2.1 The origin of the moat is unknown although theories suggesting an Iron Age or Danish provenance having been postulated. The palace was founded in medieval times but not on the site of the present building which dates from the early post-medieval period. An archaeological excavation to the south of the moated enclosure found Neolithic and Roman activity (Arthur & Whitehouse 1978). While survival of earlier structures and features on the site is believed to be high, modern landscaping has masked the position and extent of features such as the moat itself in places. As part of the recent Stage 2 Restoration works a portion of the moat was restored to the immediate north and south sides of the Moat Bridge. Although only excavated to a depth that keeps within the early 20th-century backfill (see below), the shape and form of the moat along with its relationship with the bridge, as it may have once existed, has been carefully reconstructed.

5.3 Prehistoric

5.3.1 Residual artefacts have been recovered from excavations across the moat dating to the Mesolithic, Neolithic, Bronze and Iron Age. Excavations to the north of the palace have also produced residual material dating to the Neolithic and Iron Age. It is considered likely that the origins of the enclosure, now delimited by the moat, lie in the later prehistoric or Roman period.

5.3.2 In addition, it is known that the terrace gravels of the Thames flood plain were widely exploited in the Mesolithic, Neolithic, Bronze and Iron Age periods. Transitory hunting and fishing in the area gave way to early farming settlements but the location of these settlements in the vicinity of the study area is not known. However, Fulham and Putney are situated on one of the few places along the Thames where the stable terrace gravels are not overlain by alluvial deposits and this, combined with their location at the extreme south of a large meander in the Thames are thought to make this area of strategic importance throughout the prehistoric period.

5.3.3 The origins of occupation appear to be centred on a prehistoric ford across the river, a little up-river of the present Putney Bridge. This lay at the southern end of the conjectured route of a contemporary trackway, thought to run to the northeast along the line of Fulham Road. The conjectured line for this trackway is emphasised by a series of high quality finds dating from the Neolithic to the early Roman period which have been

recovered from dredging of the River Thames.

5.4 **Roman**

5.4.1 Until 1972, the evidence for Roman activity in Fulham was limited to the discovery of the 1st century AD 'Fulham Sword' recovered from the Middlesex bank of the river in 1887. In 1972-73 excavations across the moat produced evidence of fourth-century Roman occupation of the palace site. This took the form of a bank and gravel surfaces. This was preceded by a destruction / demolition phase which in turn was preceded by a possible construction phase.

5.4.2 Excavations in the grounds immediately to the north of the palace produced evidence for 4th century occupation with a boundary ditch and demolition debris deriving from a Roman building (SMR Number 051004).

5.4.3 In addition a number of finds of Roman / Romano-British pottery have been recorded from the within the moat. The SMR records a find of Romano-British pottery from the throw of a tree to the south of the walled garden. Investigations by FARG in 1975 in the Walled Garden revealed evidence of Roman occupation with a ploughed–up gravel surface (road?), 4th century ditch and debris and coins (Bloice 1976). A 2009 PCA evaluation (Payne & Fairman 2009) proved the existence of surviving Roman features and archaeological layers within the area of the Walled Garden. A NE-SW aligned Roman ditch was observed to the north of the east lawn during the Stage 2 Restoration works in 2011 (Bright in prep.).

5.5 **Saxon and Medieval**

5.5.1 During the Saxon and medieval periods the manor of the bishops of London was established on the site, almost certainly to the west of its current position within what is known as the 'homestead moat', a double ditched rectangular enclosure in the south-west of the main moated site. This feature was found in the Fulham Palace Phase I archaeological investigations (Leary 2009).

5.5.2 In addition a number of finds of artefacts exist from this period, most particularly in the extreme north of the moat where an assemblage of Saxon pottery was recovered.

5.5.3 The house was rebuilt during the 13th century to the east of the homestead enclosure when a less restricted site was needed for a larger residence. It was sited around the eastern courtyard and was thought to be associated with the formal delineation of the great moated enclosure, giving rise to the claim that this was the largest medieval moated enclosure in England. The earliest documentary reference to the moat was a mention of the 'magna fossa' (Great Ditch) in 1392.

5.5.4 A number of isolated pits, linears and irregularly shaped cut features were observed during the Stage 2 restoration works which contained pottery dated to the 11th-14th centuries. In addition a mortared ragstone wall foundation, located close to the later housekeepers wing was observed (Bright in prep.).

5.5.5 During the 14th century the loose arrangement of buildings forming the manor house

were restyled into one coherent structure set around the eastern courtyard. The later 15th century saw the erection of the great hall and service rooms.

5.5.6 The SMR also contains an entry for the medieval bridge and gate piers although those visible today are clearly Victorian. In the paddock area in the north-west corner of the moated grounds evidence of medieval occupation was provided by gravel surfaces, ditches and pits. The Stage 2 watching brief provided an opportunity to excavate a sondage within a restored portion of the moat, on the north side of the bridge. Uncovered within were a series of timber planks and beams which, from their discarded arrangement, appeared to form the remains of an earlier bridge that formed the crossing over the moat before being superseded by a later structure. Dendrochronological analysis of the timbers suggests that, assuming they were neither re-used or later repairs, they would date to between *c.*1249 and *c.*1285 (Bright in prep.).

5.6 Tudor & Early Post-Medieval

5.6.1 The early post-medieval period saw substantial alteration and enlargement during this period. The three-storey porch at the western end of the screens passage was added in *c.*1500 when the western courtyard was developed.

5.6.2 Between 1506 and 1522 the bishop in residence was Fitzjames who built a new service range along the south side of the west court along with enclosing the walled garden to the east of the house. One of the gateways into this garden survives on the north-west side.

5.6.3 Also during the 16th and early 17th centuries, a state wing was added to the north side of the east court and a long gallery projecting from the east side of the same court. The latter was supported on a stone-built garden gallery. These additions resulted in the creation of two further minor courtyards. The housekeeper's wing was also added to the north-west corner of the main building and the granary and a pre-cursor to the later stable buildings were established. This is thought to be the maximum size of the palace as during the 18th and 19th century the palace was massively rebuilt and contracted in size as a result.

5.6.4 Excavations carried out to the north and east of the palace during the Stage 1 and 2 works produced evidence for the state wing, the housekeeper's wing, the stable building, the granary and the 17th-century gardens (Leary 2009; Bright in prep.).

5.7 Eighteenth & Nineteenth Centuries

5.7.1 In 1715 the state wing on the north side of the east court was demolished to make way for a new north range.

5.7.2 Bishop Sherlock was responsible for a radical remodelling of the great hall. In *c.*1750 he demolished the early parlour and solar block at the north end and built a grand new dining room.

5.7.3 During the occupancy of Bishop Terrick the eastern part of the house was completely redeveloped with the demolition of the medieval chapel and restructuring of the east

court which was embellished with the trappings of the new and fashionable "Strawberry Hill Gothic" style. As was then the fashion, the various walled gardens and plots, and many of the trees, greenhouses and exotic plants, were swept away in favour of long walks around a great lawn, through shrubberies, along the banks of the Moat and through the Warren (now the site of the allotments). The Tudor walled orchard was only partially demolished, with a section of its wall being reused to form the western part of the present Walled Garden.

5.7.4 It is thought that the Walled Garden was created during the tenure of Bishop Terrick (1764-77). The first documentary evidence is a 1765 reference in the accounts to bricklayers working on the Walled Garden indicates that it was being constructed in this year (Rodwell 1988). Analysis of the brick fabrics in the lower portion of the wall dividing the vinery and bothy supports this mid-18th century date. The 2009 PCA evaluation confirmed soil horizons and garden features dated to the 18th-19th centuries (Payne & Fairman 2009). During the 2010-2012 Stage 2 restoration works the original late 18th/early 19th century garden pathways were encountered and restored as close to the original layout as the modern topography of the garden would allow. During the same phase of works elements of the subterranean structure of the Vinery was found, including culverts considered to have facilitated underfloor heating (Bright in prep.).

5.7.5 During the early 19th century Bishop Howley largely undid the ornamentation carried out by Terrick, He also demolished the medieval kitchens and had an entirely new range on the north side of the west court.

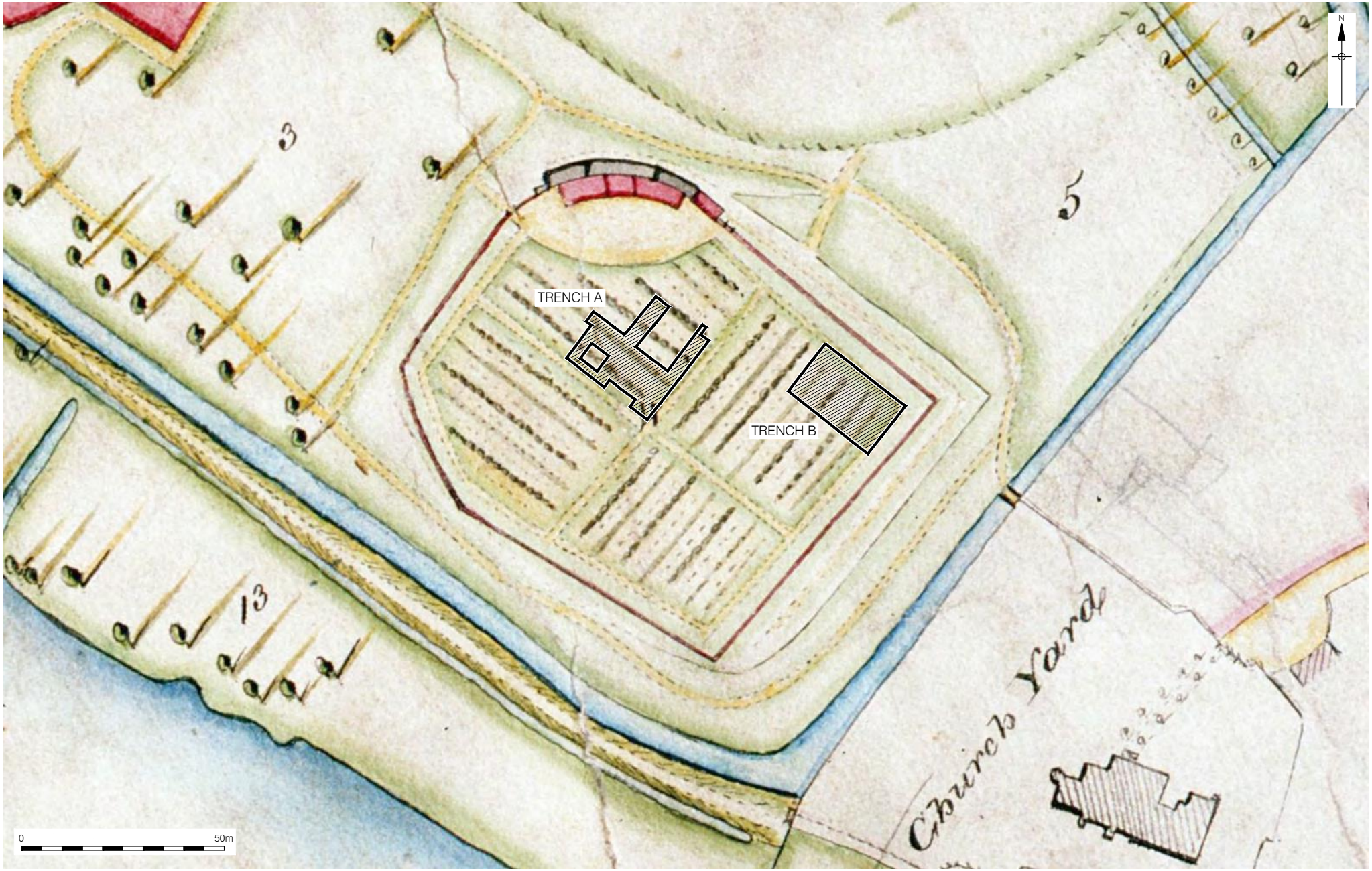
5.7.6 The Walled Garden was depicted in a series of 19th-century maps of 1831, 1860 and 1869 which depicts paths, planting beds and trees (Figures 3, 4 & 5).

5.7.7 The 1869 inventory of Fulham Palace contains an entry referring to the contents of the kitchen garden, which provides a little insight into some of what was being grown there at the time. Under the heading 'in garden', there were 75 pots of chrysanthemums, 30 vines in pots, six propagating pans, a very large number of pots in various sizes, pea sticks, 21 dahlia sticks, hollyhock stakes, 25 kale pots (for blanching seakale) and iron stakes for training roses.

5.7.8 In 1866 the last major development was undertaken on the house when a new chapel was constructed as a projecting limb from the junction of the courts.

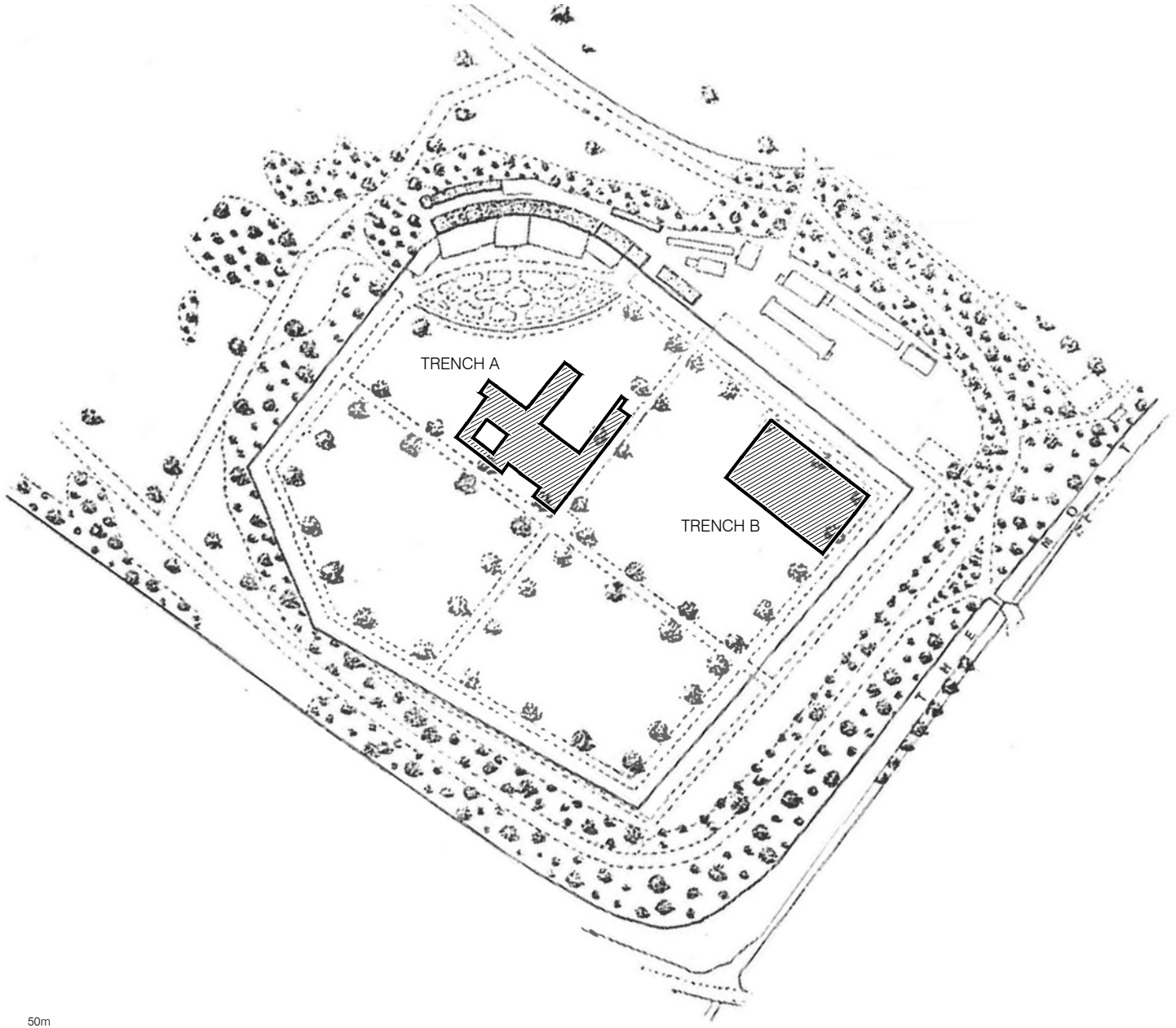
5.8 Twentieth Century

5.8.1 Between 1921 and 1924, the Bishop in Residence systematically infilled the moat, charging local builders and contractors a fee per load to dump demolition rubble and builders waste.



HB 19/12/12

Figure 3
Estate Map of 1831
1:1,250 at A4



HB 19/12/12

Figure 4
Extract from James Wyld's map of Fulham (c 1860)
1:1,250 at A4

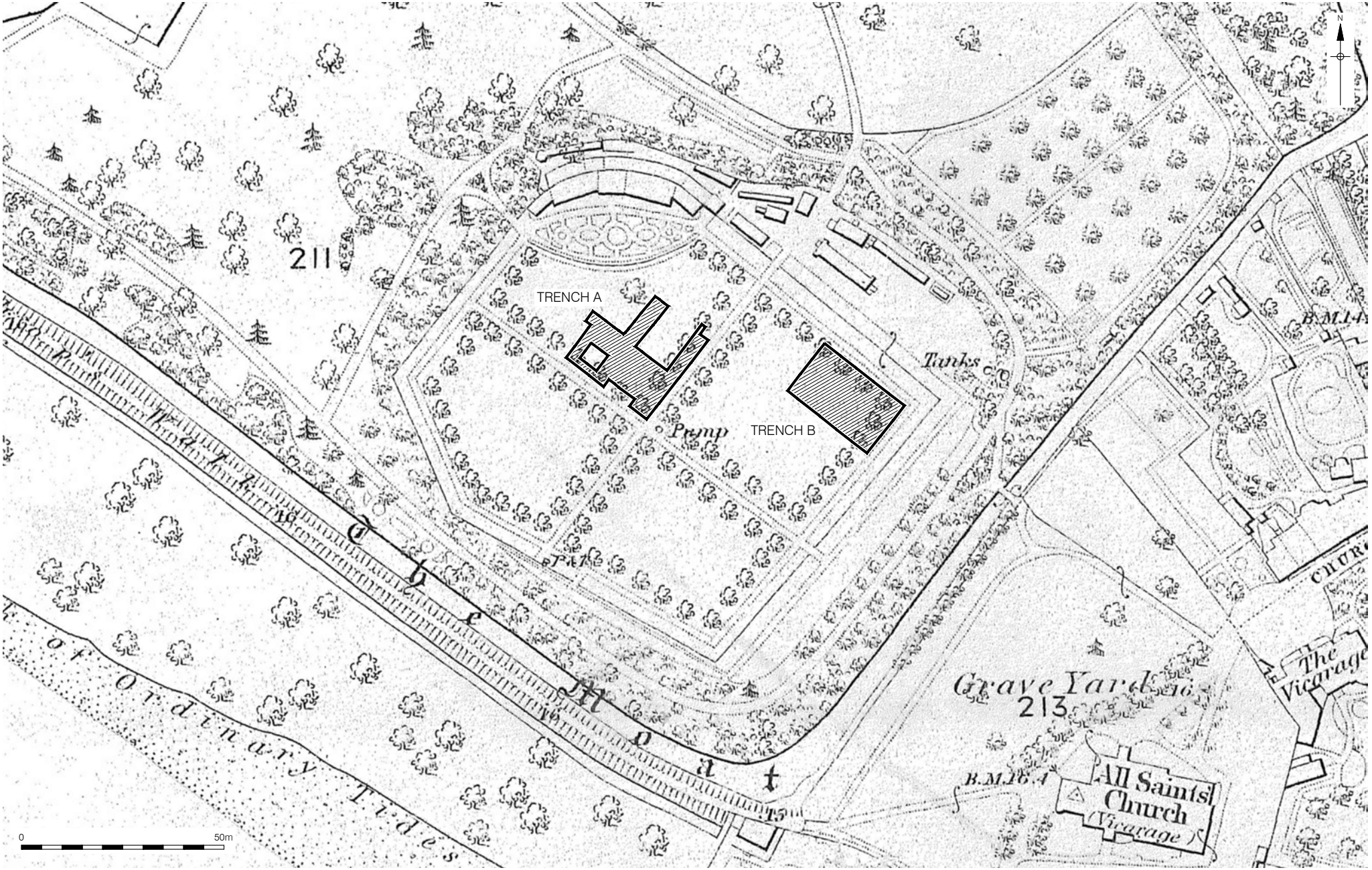


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Figure 5
County Series OS map 1869
1:1,250 at A4

6 ARCHAEOLOGICAL METHODOLOGY

6.1 The Fulham Palace Trust secured Scheduled Monument Consent (English Heritage reference: S00037549) to undertake a public archaeological project wherein two trenches were to be excavated within the walled garden under the direction and control of professional archaeologists from PCA but involving volunteers from the wider community. The trenches were investigated with excavation limited to those features relating to the site's usage as a Walled Garden and although some investigation of potentially earlier features may have been granted to prove their position within the phasing of the site, none were encountered during the works.

6.2 The aim of the project was to uncover further archaeological evidence of the Walled Garden layout through a community excavation, and to spread learning about the site's history by involving members of the public (including families, schools and local organisations) as volunteers and students as trainees. The client will utilise the archaeological evidence to inform the planting of a section of the Walled Garden as authentically as possible.

6.3 The project was intended to involve the archaeological excavation of two trenches each measuring 25m by 25m. Trench A was located tight to the new path arrangement at the centre of the Walled Garden, within the northern quadrant. Trench B was located tight to the new path arrangement at the internal perimeter corner of the Garden, within the eastern quadrant (Figure 2). The area investigated in the vicinity was subsequently reduced due to the presence of protected trees. Time constraints, caused in part by several breakdowns of the mechanical excavator and dumper trucks alongside the presence of heavy rooting, led to the size of Trench B being reduced to 25m by 15m.

6.4 A mechanical excavator fitted with a 1.8m wide flat ditching bucket was used under the supervision of an archaeologist to remove non-archaeological deposits down to the highest archaeological horizon or natural level. The size of the machine was pre-determined by the requirement for it to access and exit the site through the north-west gate. Following the opening of the trenches these were cleaned and all features identified were investigated by hand. Investigation was intended to identify the extent and nature of the deposits and to recover dating evidence. The deposits, fills, and features were assigned individual context numbers.

6.5 In addition two areas were machine excavated to investigate the lower component of the horticultural sequence. Environmental samples were taken of the fills of the planting features encountered in the hope that further analysis could identify plant species and thus further assist the restoration of the garden as accurately as possible.

6.6 All finds were retrieved for on-site processing simultaneous to the fieldwork. This and all other site work was overseen by a senior archaeologist (Iain Bright) assisted by two experienced field archaeologists (Stuart Watson and Kari Bower). Lending further

assistance, as necessary, were an archaeological surveyor and selected PCA finds specialists to engage the volunteers and provide insight into the artefacts which were being recovered.

6.7 All exposed archaeological horizons and spoil were metal-detected by Phil Emery and Iain Bright who had been granted a section 42 licence.

6.8 Heights above Ordnance Datum were established on site by traversing a bench mark from a known point within the walled garden (the cover level of a manhole near the south perimeter wall). A temporary bench mark (TBM) was established at the central crossing of the pathways, the value of which was 3.86m OD.

7 Phased Archaeological Sequence

7.1 The following section attempts to detail a chronological account of the archaeological features and deposits encountered during the excavation. It enables a sequence of activity relating to the past use of the garden soils within the previous two to three centuries to be built (see subsequent chapter).

7.2 **Phase 1: Mid-Late 18th Century (1764-1780)**

7.2.1 In Trench A the earliest context countered comprised a soft light orange/brown sandy silt [26] which represented a mid 18th century horticultural soil horizon (Section 20, Figure 16). It contained occasional sub-rounded to sub-angular flint pebbles, fragments of CBM, pottery dated to 1760-1830 and fragments of clay tobacco pipe dated to 1730-1780. It was recorded as occurring between 3.05m OD and 2.80m OD.

7.2.2 This soil horizon was encountered at a slightly higher level in Trench B, at 3.42-3.50m OD. It consisted of the same light reddish brown fine sandy silt with darker brown mottling. It contained moderate amounts of CBM fragments, clay tobacco pipe (dated to 1770-1780), glass, metal small finds, sub-rounded to sub-angular flint pebbles, charcoal and pottery (1760-1780).

7.2.3 Into this layer were cut numerous linear planting beds, planting holes and potential post holes, two of which have been dated specifically to the mid/late 18th century (Figure 7). Planting bed [174] measured 5.56m in length by 1.28m at the widest point and approximately 0.13m deep. It was recorded as a NE-SW aligned linear with gradual, concave sides and a relatively flat base and was filled by a soft, light reddish brown silty sand [175] that contained occasional bone, glass, CBM, clay tobacco pipe stems and pottery dated to the 18th century. It was observed at 3.43m OD and likely extended further south but was not perceptible due to bioturbation of the subsoil. An additional planting bed [176] was observed running half a metre to the west of bed [174], measuring 5.37m in length, 1.21m in width and 0.44m in depth. It is likely that the bed also originally continued to the south and possibly to the north. Its primary fill [191] was composed of a firm mid brownish grey silty clay measured 0.13m in thickness and contained moderate flint nodules and pebbles. The upper fill [177] was a friable, dark greyish brown sandy silt; 0.31m thick and contained fragments of animal bone, clay tobacco pipe and pottery dated to the same period. A level taken on the top fill was recorded as 3.49m OD (Section 127, Figure 16).

7.3 **Phase 2: Late 18th Century (1780-1800)**

7.3.1 The earliest features observed in Trench A (Figure 8) were a group of linear planting beds [46] orientated diagonally in relation to the central pathways on an almost E-W axis. Truncating the earlier horticultural horizon [26] these beds were only visible after the machine excavation of the central area of Trench A. The beds [42], [44] and [48] were only partially visible in plan due to the highly bioturbated nature of the soil. Where seen

they measured between 2.50m and 5.11m in length, 0.40m-0.45m in width and averaging around 0.20m in depth. The sides were steep and the bases flat. It is likely that they continued into the south-western limit of excavation of the trench. They were filled with a friable dark greyish brown sandy silt [43], [45] & [48] respectively. The fills contained occasional pottery (1720-1780), CBM, struck flint, stone and clay tobacco pipe stems. They were recorded at 3.23m OD (Section 22, Figure 16).

7.3.2 Additional linear planting beds, holes and post holes were observed during this phase in Trench B (Figure 9). Eight cut features have been interpreted as planting holes, although it is feasible one or more of them could constitute postholes. They were filled with a mid yellow/grey brown silty clayey sand and a number of them contained pottery dated from the 16th-18th centuries. A number of the planting holes are aligned as such that they could represent a planting line (or a fence line if they were indeed postholes). The relevant data concerning these planting holes has been tabulated below.

Cut	Fill	N-S	E-W	Depth	Top Level
[137]	[136]	0.27m	0.26m	0.21m	3.50m OD
[139]	[138]	0.32m	0.34m	0.20m	3.50m OD
[143]	[142]	0.40m	0.35m	0.14m	3.42m OD
[147]	[146]	0.30m	0.31m	0.12m	3.45m OD
[151]	[150]	0.28m	0.30m	0.12m	3.50m OD
[161]	[160]	0.35m	0.25m	0.20m	3.48m OD
[163]	[162]	0.40m	0.40m	0.38m	3.48m OD
[168]	[167]	0.42m	0.42m	0.13m	3.46m OD

Table 1: Phase 2 Planting holes in Trench B.

7.3.3 Up to six linear planting beds were identified in Trench B and attributed to the late 18th century, the details of which are presented in the table below.

Cut	Fill	N-S	E-W	Depth	Top Level
[126]	[125]	3.00m	0.48m	0.40m	3.74m OD
[159]	[158]	9.17m	0.40m	0.17m	3.46m OD
[169]	[185],[164],[186]	9.54m	0.90m	0.50m	3.59m OD
[172]	[173]	2.50m	0.70m	0.14m	3.47m OD
[187]/[189]	[188],[190],[197]	5.07m	0.26m	0.23m	3.48m OD
[178]	[179]	5.05m	0.20m	0.30m	3.49m OD

Table 2: Phase 2 Linear Planting Beds in Trench B.

7.3.4 Four of the beds contained one fill each which generally consisted of a mottled greyish/reddish brown sandy silt [125], [158], [173] and [179]. They contained occasional flint gravel and charcoal flecks, roots and rootlets, clay deposits and pottery dated to the 18th century. Features [169] and [189] contained an additional fill each. In the case of the former the primary fill [186] comprised of a lighter/reddish silty sand which was approximately 70mm thick, whilst the latter's initial fill [197] comprised a firm mid

brownish grey silty clay that measuring 0.12m in thickness.

7.4 Phase 3: Early 19th Century (1800-1830)

7.4.1 Sealing the late 18th-century features in Trench A was a layer of horticultural soil [5] & [28] which consisted of a soft medium reddish brown sandy silt that contained occasional fragments of bone, stone, CBM metal objects, rounded to angular flint nodules, clay tobacco pipe (1800-1900) and pottery (1820-1900). The layer was observed between 3.62m-3.71m OD and was around 0.40m thick (Sections 3 & 20, Figure 16).

7.4.2 A number of planting features dated to this phase were observed cutting the early 19th century horticultural soil (Figure 10). Two linear planting beds [38] & [40] were located to the north of the trench, likely forming a row that continues to the north-west of the limit of excavation. Both beds measure approximately 2.45m in length, 0.31m-0.40m in width and 0.15m-0.30m deep and were orientated NE-SW with gradual sides and concave bases. They were filled with a soft, light reddish brown sandy silt, [39] & [41], which contained occasional fragments of glass, pottery (1770-1830) and clay tobacco pipe stems. They were recorded at 3.67m OD and 3.58m OD respectively.

7.4.3 The remainder of the features during this phase comprised a series of planting holes. Features [11], [13], [15], [29] and [34] formed a NE-SW orientated tree line, with cuts [6] and [31] hinting at potential NW-SE offshoots. They were vertically sided and concave at the base. Dimension data for these planting holes are displayed in Table 3, below.

Cut	Fill	N-S	E-W	Depth	Top Level
[6]	[7]	1.24m	1.16m	0.30m	3.33mOD
[11]	[12]	0.56m	0.55m	0.28m	3.51mOD
[13]	[14]	0.57m	0.67m	0.29m	3.52mOD
[15]	[16]	0.67m	0.58m	0.22m	3.46mOD
[29]	[30],[36],[37]	1.08m	0.93m	0.49m	3.59mOD
[31]	[32],[33]	0.95m	0.62m	0.50m	3.58mOD
[34]	[35]	0.74m	0.75m	0.31m	3.62mOD

Table 3: Phase 3 Planting Holes in Trench A.

7.4.4 A majority of the planting holes were filled by a soft dark greyish brown silty sand [7], [12], [14], [16], [30], [32] & [35]. They contained occasional fragments of pottery, glass, mortar, CBM, animal bone and clay tobacco pipe dated 1730-80. The pottery assemblage ranged in date from the late 18th to early 19th century. Planting hole [29] contained two addition fills; a firm dark brown bioturbated silt [36] which was approximately 0.22m thick overlying a very firm dark brown clayey silt which was 0.36m thick at the maximum point. Planting hole [31] also contained an addition fill [33] which was recorded as a firm dark greyish brown clayey silt measuring 0.25m in thickness and formed the primary fill of the hole.

7.4.5 A large number of planting features dated to this period were also observed in Trench B (Figure 11). Five tree planting holes [108], [141], [156], [166] & [195] were seen to be

running parallel with and adjacent to the perimeter path of the walled garden, with a further three smaller planting holes [181], [183] & [192] set a little further back towards the south-east corner of the trench.

Cut	Fill	N-S	E-W	Depth	Top Level
[108]	[107]	0.80m*	1.10m	0.38m	3.63m OD
[141]	[140]	0.70m*	1.20m	0.38m	3.51m OD
[156]	[152], [153]	0.72m*	1.30m	0.49m	3.66m OD
[166]	[165]	0.40m*	1.08m	0.23m	3.60m OD
[181]	[182]	0.66m	0.68m	0.32m	3.58m OD
[183]	[184]	0.50m	0.60m	0.17m	3.58m OD
[192]	[193], [194]	0.45m	0.25m	0.19m	3.53m OD
[195]	[196], [198]	1.17m	0.60m	NFE	3.42m OD

Table 4: Phase 3 Planting Holes in Trench B (Not fully excavated)*

7.4.6 The planting holes were circular or sub-circular in shape with sometimes sharp vertical sides and in other instances more concave edges. The bases were generally flat, although sometimes concave. They were all filled with a mottled greyish brown silty clay [107], [140], [152], [165], [182], [184], [194] & [198] which contained occasional sub-angular flint nodules, flecks of charcoal, CBM, animal bone, nails, mortar, glass, clay tobacco pipe stems and pottery dating to the late 18th-early 19th centuries. Three of the planting holes contained an additional fill comprising a lighter yellowish brown silty sandy [153], [193] & [196] which varied in thickness from 0.18-0.30m (Sections 102 & 111, Figure 16).

7.4.7 Three linear planting beds were also identified; [114]/[118]/[122], [124] & [132]. The beds [114]/[118]/[122], [124] and [132] were narrow furrow like features orientated NW-SE. The edges were irregularly shaped, at times concave and others convex. The base was uneven.

Cut	Fill	N-S	E-W	Depth	Top Level
[114],[118],[122]	[113],[117],[121]	0.24m	10.04m	0.20m	3.66m OD
[124]	[123]	0.20m	1.00m	0.15m	3.46m OD
[132]	[131]	0.22m	4.24m	0.13m	3.69m OD

Table 5: Phase 3 Linear planting furrows in Trench B

7.4.8 The backfill [113], [117], [121], [123] & [131] of these linear planting beds was composed of a friable mid yellowish brown silty clay which contained occasional fragments of glass, metal, animal bone, CBM, slag/coke/clinker, charcoal flecks, oyster shells, clay tobacco pipe stems and pottery dated to the late 18th-early 19th centuries.

7.4.9 It was during this phase that a large pit [133], encountered towards the south-eastern end of Trench B, was dug. It was sub-circular in plan with irregular sides and a concave base measuring 1.80m N-S by 1.48m E-W with a depth of 0.40m. It contained two fills [128] and [127]. The primary fill consisted of a firm light reddish brown slightly silty sand

[128] which contained occasional flecks of chalk, mortar and plaster, small sub-rounded pebbles and occasional rootlets. It was approximately 0.10m thick. Overlying this was a 0.26m thick dump of clayey silt [127] and Stucco plaster, believed to date to the 18th century. The frequency of the plaster within the dump suggests that it was deliberately buried following the demolition of a nearby structure and that this feature therefore represents a rubbish pit (as opposed to relating to the planting arrangements within the kitchen garden). It was observed at 3.72m OD.

7.5 Phase 4: Mid 19th Century (1830-1870)

7.5.1 The middle of the 19th century was represented in Trench A by two additional planting holes [17] & [24] and a large rubbish pit [21] (Figure 12). The two planting holes, seemingly occurring as an offshoot of the Phase 3 tree line, respect the central pathway. The holes measured approximately 0.68m and 0.95m in diameter and were 0.45m and 0.24m deep respectively. Their fills consisted of a very firm medium greyish brown silty sand and contained occasional small rounded flint pebbles, glass, CBM, metal and pottery dated to the early-mid 19th century. They were observed between 3.51m OD – 3.61m OD.

7.5.2 The rubbish pit [21] was more substantial in size, measuring 2.00m in length and 1.37m in width (into the south-eastern LOE). It was sub-rectangular in plan with vertical sides and a flat base. The primary fill [23] was recorded as a firm dark greyish brown silty clay containing a very frequent amount of pottery dated 1820-1900, bone, and CBM with moderate amounts of glass and occasional metal objects. It was 0.27m thick and underlay a secondary fill [22] which consisted of a soft dark brown sandy silt containing moderate to frequent amounts of pottery dated 1820-1900, bone, CBM, organic matter, metal, glass and flint pebbles. It was 0.22m thick and was recorded at 3.40m OD (Section 10, Figure 16).

7.5.3 Three more planting holes [110], [112] & [170] were observed in Trench B (Figure 13). They appeared to represent a tree line that respects the alignment of the walled garden path to the north-east. They were sub-circular in shape with gradual, sloping sides and flat bases. It is possible in one of more instances that they were horizontally truncated due to be been imperceptible in plan during the machining of the trench.

Cut	Fill	N-S	E-W	Depth	Top Level
[110]	[109]	1.20m	1.11m	0.10m	3.66m OD
[112]	[111]	1.10m	0.56m	0.16m	3.66m OD
[170]	[171]	1.15m	1.00m	0.35m	3.66m OD

Table 6: Phase 4 planting holes in Trench B

7.5.4 The fills [109], [111] & [171] were comprised of a firm reddish/yellowish brown silty clay that contained occasional root/rootlets, sub-rounded medium sized flint pebbles, charcoal flecking, animal bone, clay tobacco pipe stems and pottery (late 18th to mid 19th

century).

7.5.5 In addition to the above planting holes two very large pits [135] & [157] were observed along the north-western limit of excavation of the trench, one of which [135] had previously been encountered in Trench 107 of the evaluation conducted in 2009 (Payne & Fairman 2009).They measured approximately 2.80m in diameter, although they were not perfectly circular, and between 0.90m-1.00m deep. They each contained three distinct fills. The primary fills [134] & [155] consisted of a firm dark grey sandy silt of between 0.10-0.30m thickness. It contained fragments of early to mid 19th-century pottery and occasion sub-rounded to sub-angular pebbles. It was sealed by a 0.80m-0.85m thick fill, [130]/[149] & [154], comprising a firm to plastic mid to dark grey clay which contained occasional CBM, oyster shells, clay tobacco pipe stems and mid 19th-century pottery sherds (1830-1850).The upper fills, [129]/[148] & [144], measured 0.20-0.30m in thickness and comprised a firm mid greyish brown sandy silt containing occasional CBM, oyster shells flint pebbles, coal, charcoal, clay tobacco pipe and pottery dated to the same mid 19th-century period. The pits were recorded at 3.42m OD-3.57m OD (Sections 109 & 117, Figure 16).

7.6 **Phase 5: Late 19th Century (1870-1900)**

7.6.1 A linear planting bed [8] characterises the late 19th century in Trench A (Figure 14). It measured 10.08m in length, up to 0.72m in width and around 0.20m in depth. It had gradual, concave sides and a rounded base and was recorded at 3.46m OD. Its fill, [9], was comprised of a firm, medium greyish brown silty sand containing very occasional small rounded pebbles, glass, CBM and bone, pottery dated to 1790-1900 and clay tobacco pipe stems.

7.6.2 A layer of horticultural soil, [2], composed of a soft medium greyish brown sandy silt sealed this and the aforementioned features. The layer contained moderate amounts of CBM fragments, angular flint nodules, numerous metal small finds, pottery (dated to the late 19th century), and clay tobacco pipe dated 1820-60. It was recorded between 4.07m OD and 3.97m OD and was between 0.40m and 0.50m thick.

7.6.3 In Trench B a single linear planting bed [104] was also observed combined with an interface layer of horticultural soil [104] (Figure 15). The planting bed measured 10.75m in length (extending into the south-western limit of excavation) by 0.93m wide and 0.19m deep. The cut had steep sides with a sharp break of slope and a flat base. It was filled with a moderately compacted mid greyish brown silty clay [103] which contained occasional flint pebbles/nodules, CBM, clay tobacco pipe (dated to the late 18th century) and pottery dating to between 1820-1900. It was recorded at 3.63m OD.

7.6.4 Sealing the earlier features in Trench B was an interface layer of horticultural soil [101] which was described as firm, dark greyish brown sandy silt. It contained moderate amounts of CBM, glass, clay tobacco pipe (1770-1845), charcoal, sub-angular and sub-rounded pebbles, mortar, slate, roots and rootlets and pottery (1825-1900). This layer

was approximately 0.05m thick at around 4.05m OD.

7.7 **Phase 6: Modern (20th-21st Century)**

7.7.1 In both trenches a layer of modern topsoil [1] sealed all earlier archaeological horizons. It was soft, dark brown and composed of a sandy silt which contained moderate amounts of rounded to angular pebble inclusions, CBM, pottery and modern detritus. The layer was recorded at around 4.15m OD in Trench A and 4.10m OD in Trench B. It was between 0.10m and 0.30m thick.

7.8 **Unphased: The Bee Boles**

7.8.1 Three bricked up recesses were present in the north-west wall of the garden, located on the outer side facing the palace. It was believed that the recesses were originally bee boles used to house a skep; a coiled-straw hive used by beekeepers in Britain before the introduction of the modern wooden hive in the late 19th century (IBRA 2012).

7.8.2 As part of the restoration of the walled garden, a conservator was employed to restore the bee boles by removing the later bricks that had been mortared into the alcove of each recess. Prior to doing this, as part of the public archaeology event, volunteers were asked to draw elevations of two of the three bee boles whilst bricked up, as to preserve this particular manifestation of their history as a written and drawn record. The elevation of one of the bee boles is included in this report (Figure 17).

7.8.3 Upon completion of the restoration work each recess varied in size somewhat, although all conform to the widely accepted dimensions of confirmed bee boles, as recorded by the International Bee Research Association who keep a register of all reported bee boles across the United Kingdom.

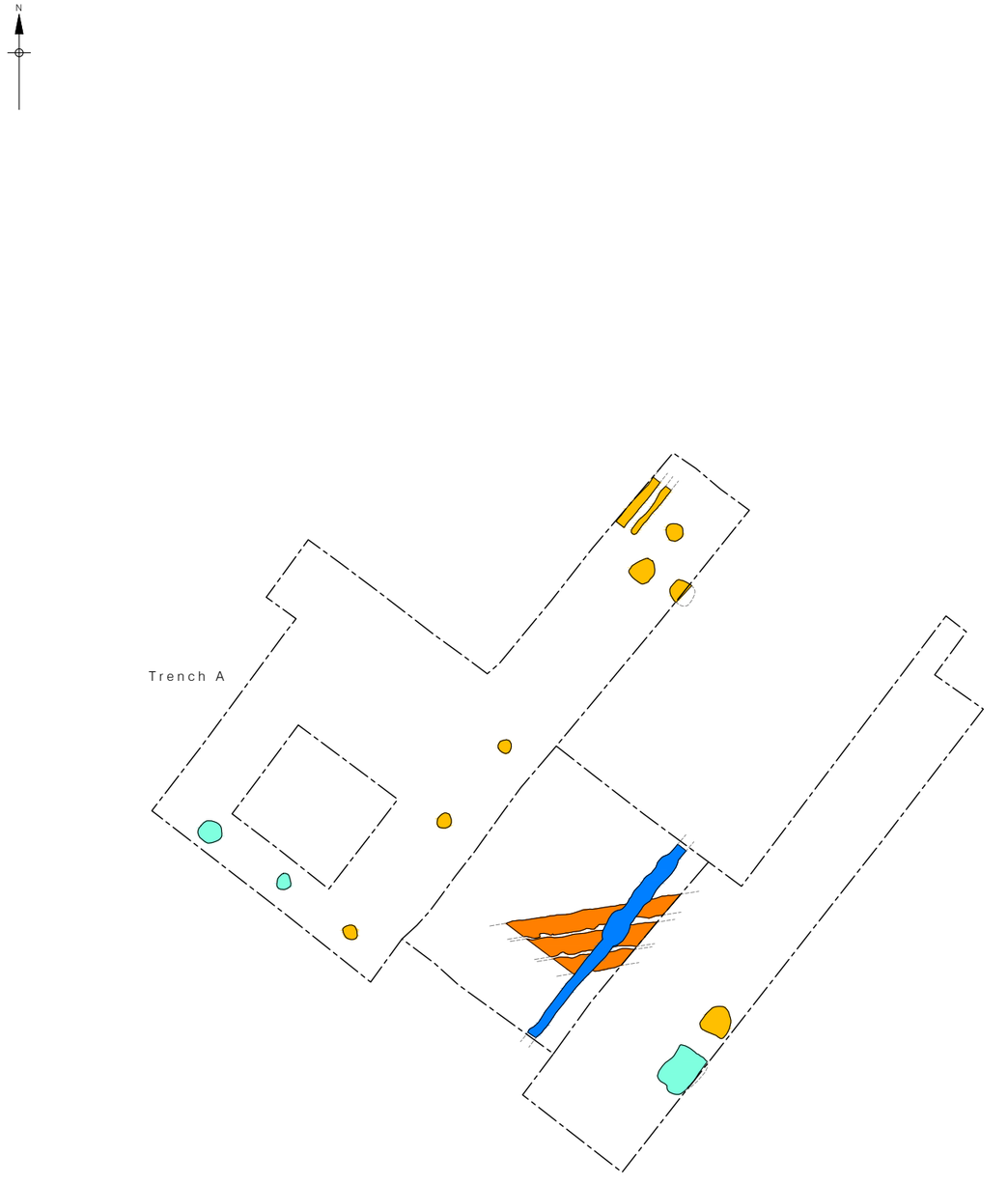
Recess	Section	Height	Width	Depth
A	n/a	50.80cm	40.60cm	25.40cm
B	S1	41.90cm	41.90cm	25.40cm
C	S2	44.50cm	38.10cm	25.40cm

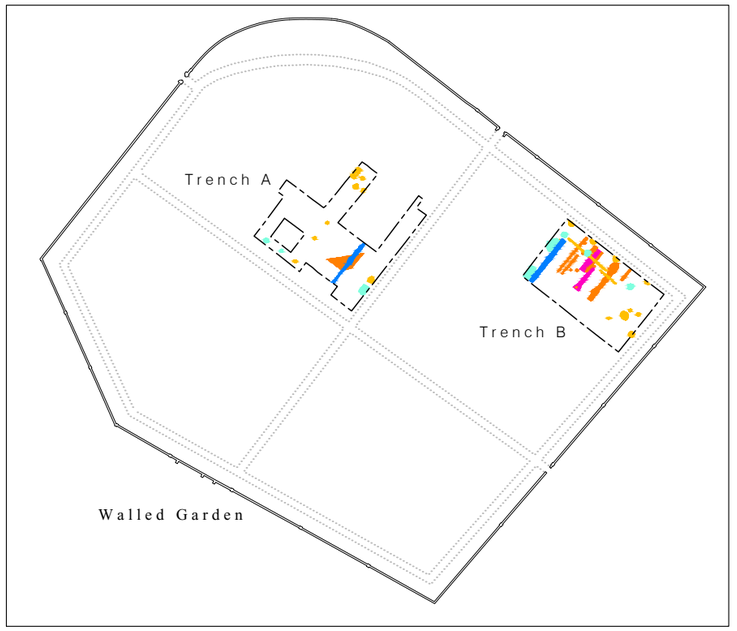
Table 7: Dimensions of Bee Boles in perimeter wall of Walled Garden

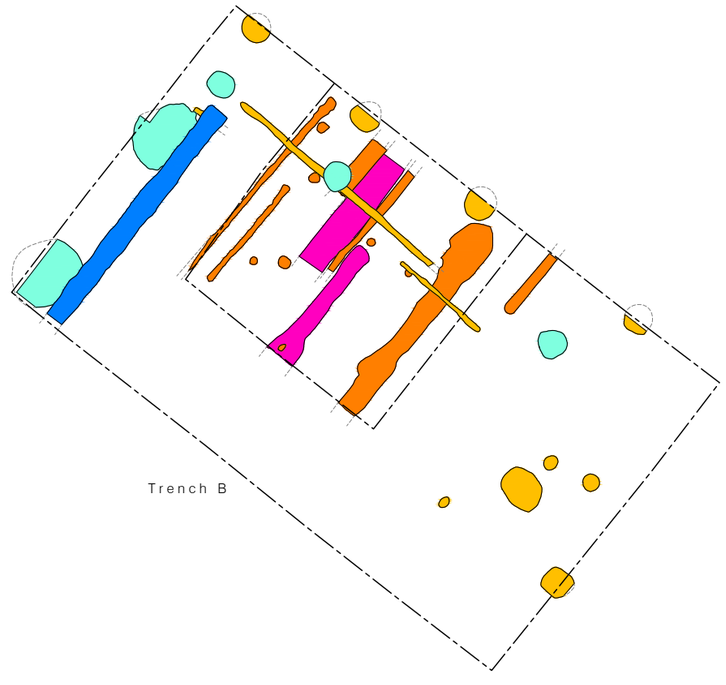
7.8.4 It was noted that the bricks removed from the recess were shorter in length than the surrounding brickwork and that the harder mortar used had led to some loss of the fire-skin of the surrounding brickwork. Scratch marks present on the mortar below one of the bee boles could have been indicative of an earlier lime render. Although the wall into which the bee boles were constructed originally dates to the Tudor period, it is clear that it has been subjected to a great deal of repair in the centuries that followed. The bricks and mortar used to seal the recess were dated to the late 18th-early 19th century.

7.8.5 The bee boles at Fulham Palace were previously recorded for the IBRA Register in 2010 as Register No.1502

(http://ibra.beeboles.org.uk/search_detail.php?beebolelBRARegNo=1502&Record_detail=Record+detail).







Phase 1, 1764-1780 garden features

Phase 2, 1780-1800 garden features

Phase 3, 1800-1830 garden features

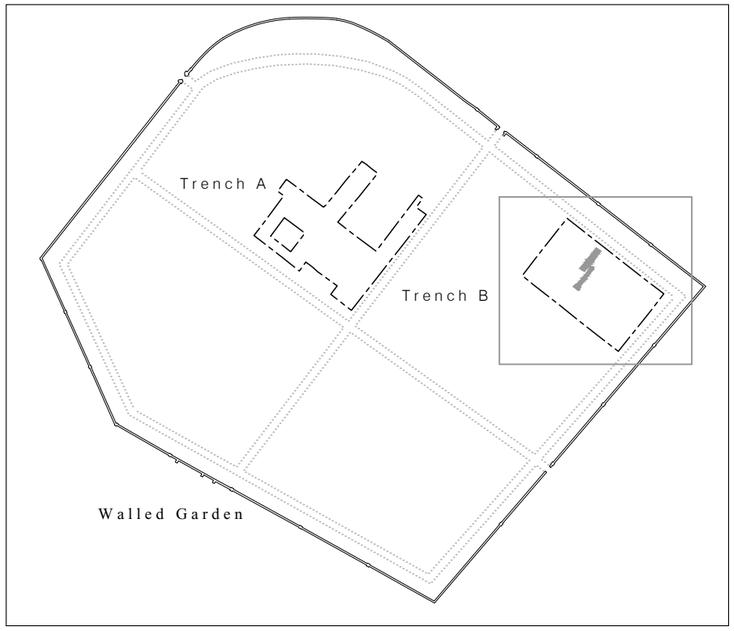
Phase 4, 1830-1870 garden features

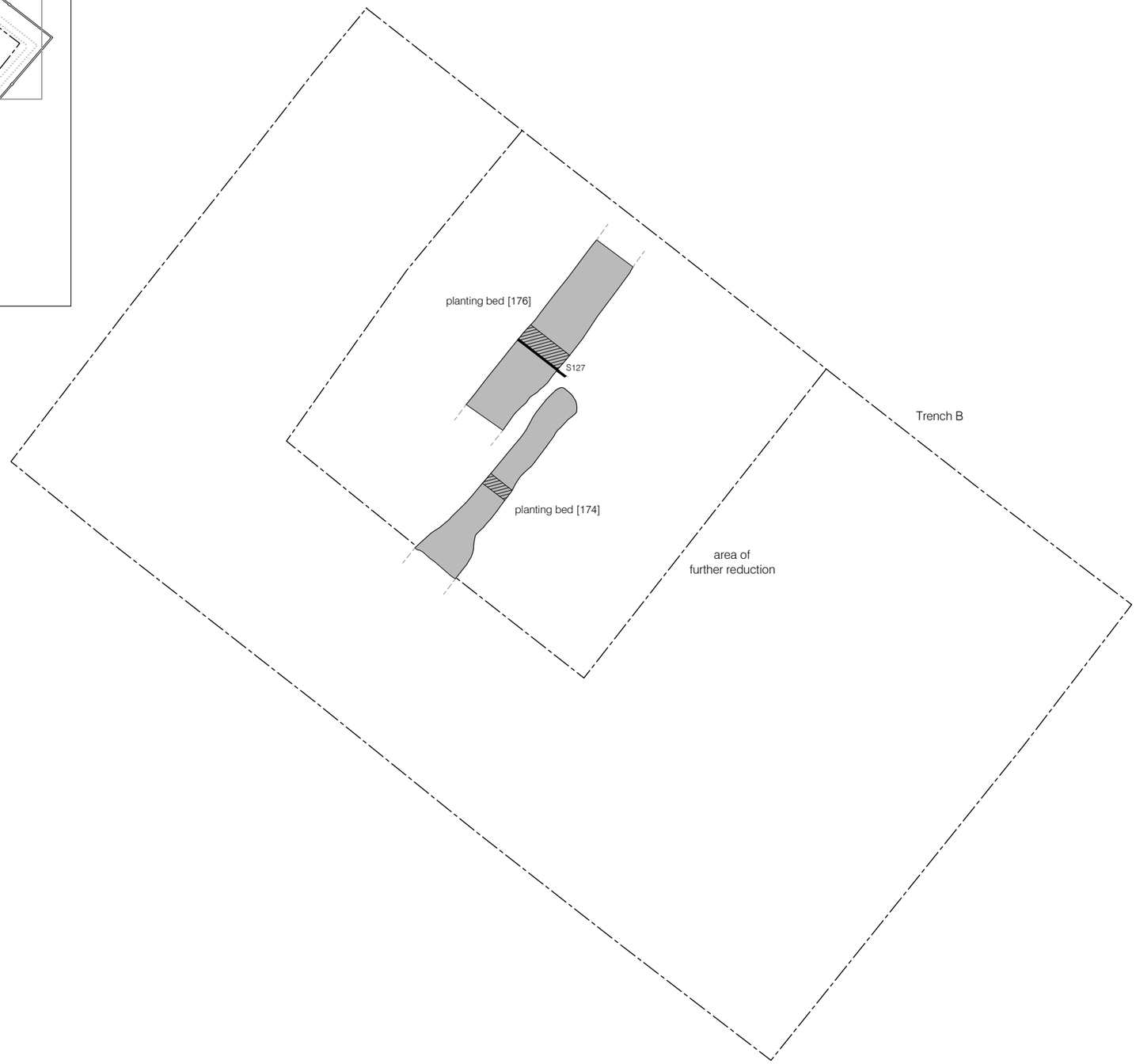
Phase 5, 1870-1900 garden features

0 10m

31/10/12 HB

Figure 6
Multi-phase plan of features in Trenches A & B
1:250 at A3





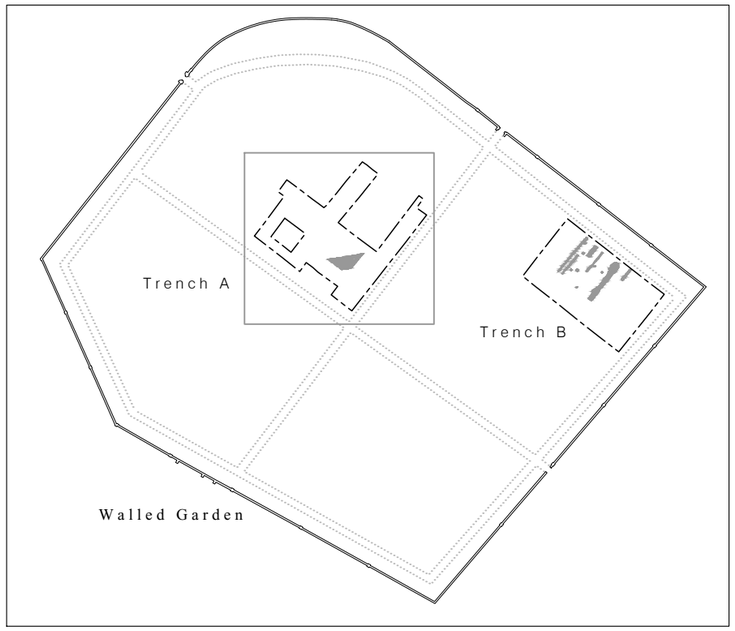
Excavated slot

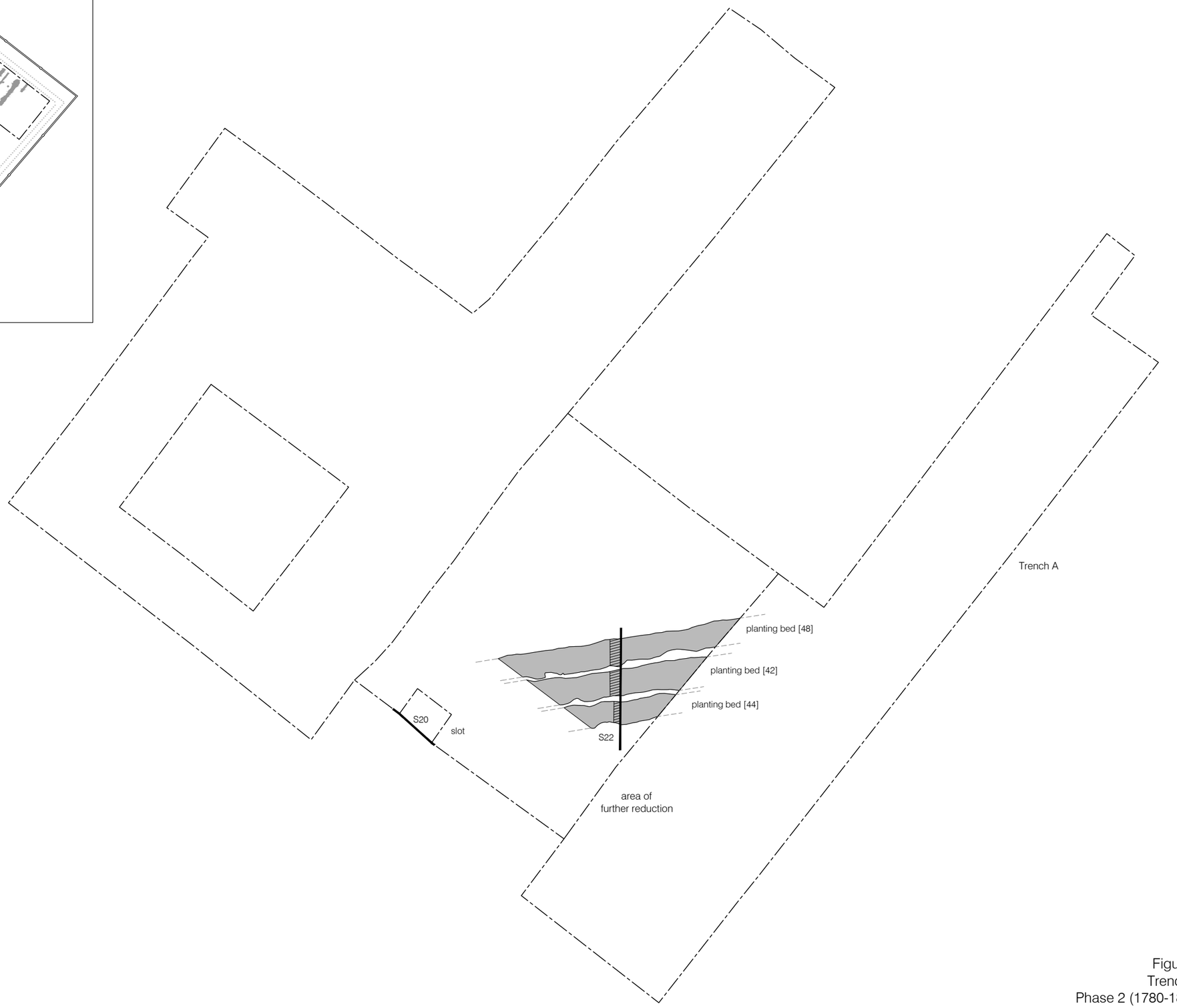
Phase 1; 1764-1780 garden features

0 5m

30/10/12 HB

Figure 7
Trench B
Phase 1 (1764-1780)
1:125 at A3





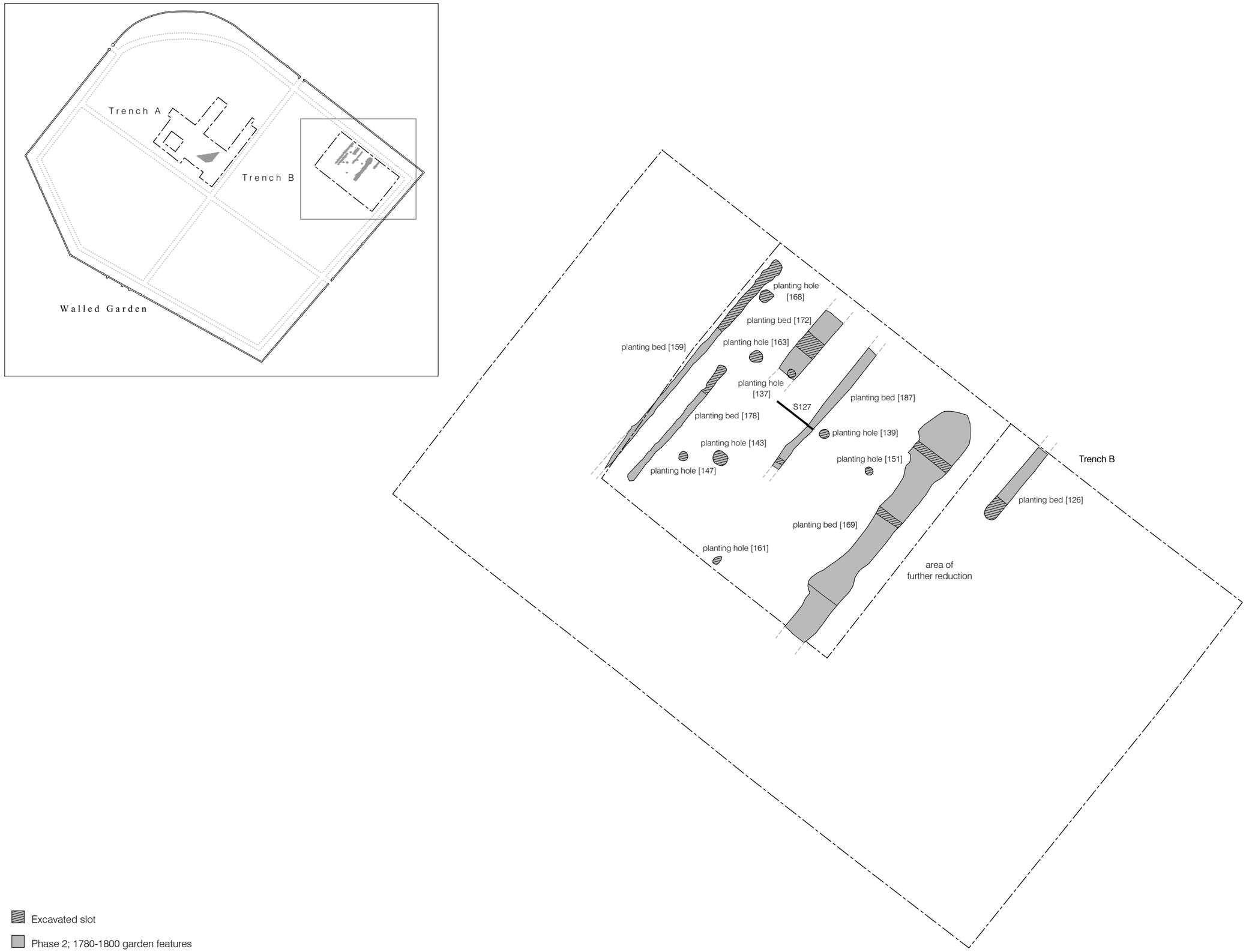
Excavated slot

Phase 2; 1780-1800 garden features

0 5m

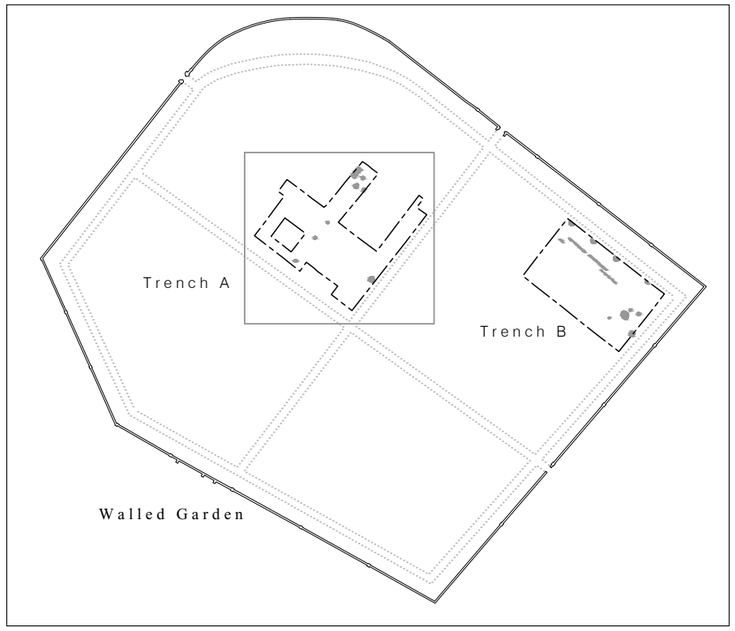
30/10/12 HB

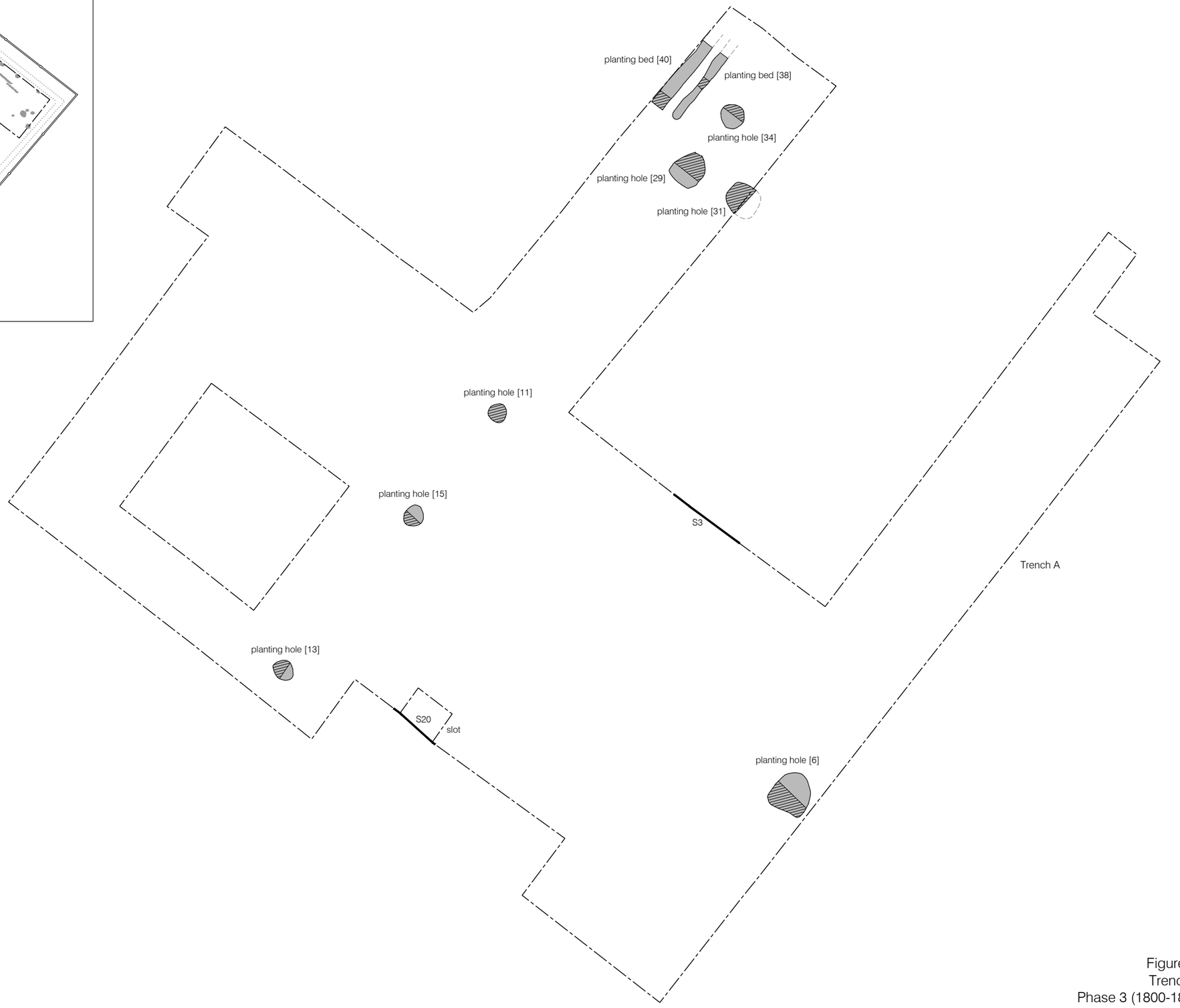
Figure 8
Trench A
Phase 2 (1780-1800)
1:125 at A3



30/10/12 HB

Figure 9
Trench B
Phase 2 (1780-1800)
1:125 at A3





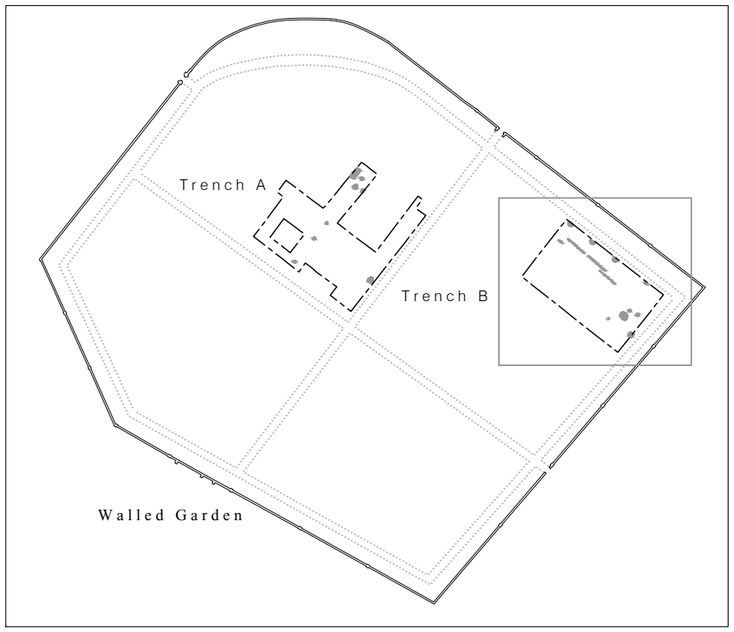
Excavated slot

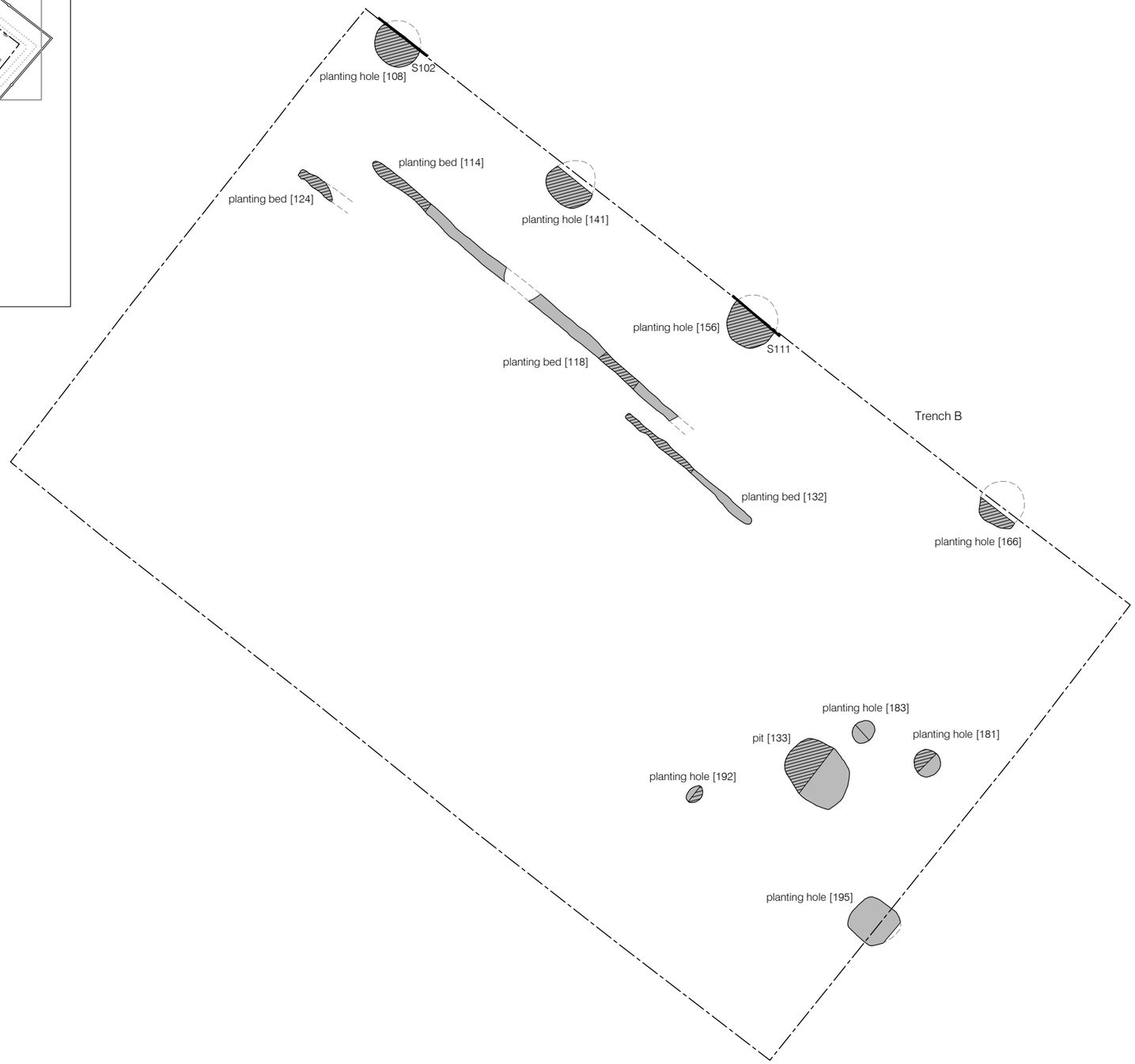
Phase 3; 1800-1830 garden features

0 5m

30/10/12 HB

Figure 10
Trench A
Phase 3 (1800-1830)
1:125 at A3





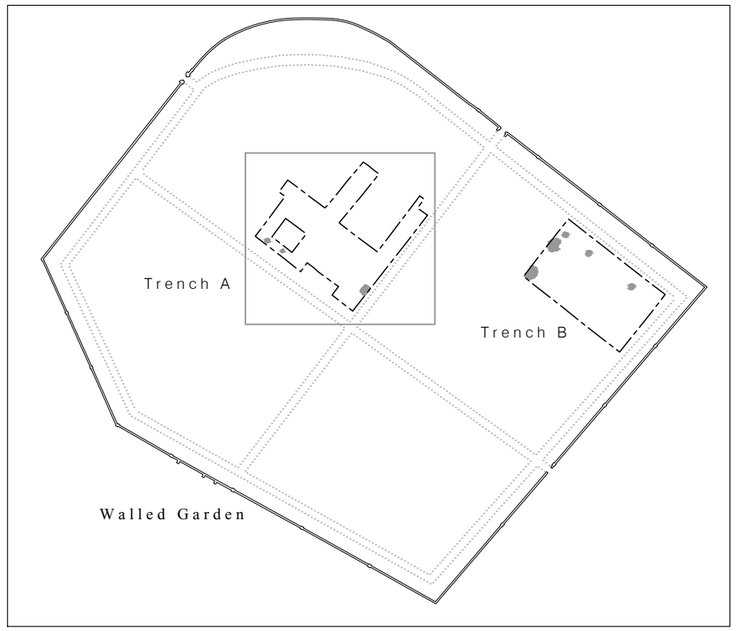
Excavated slot

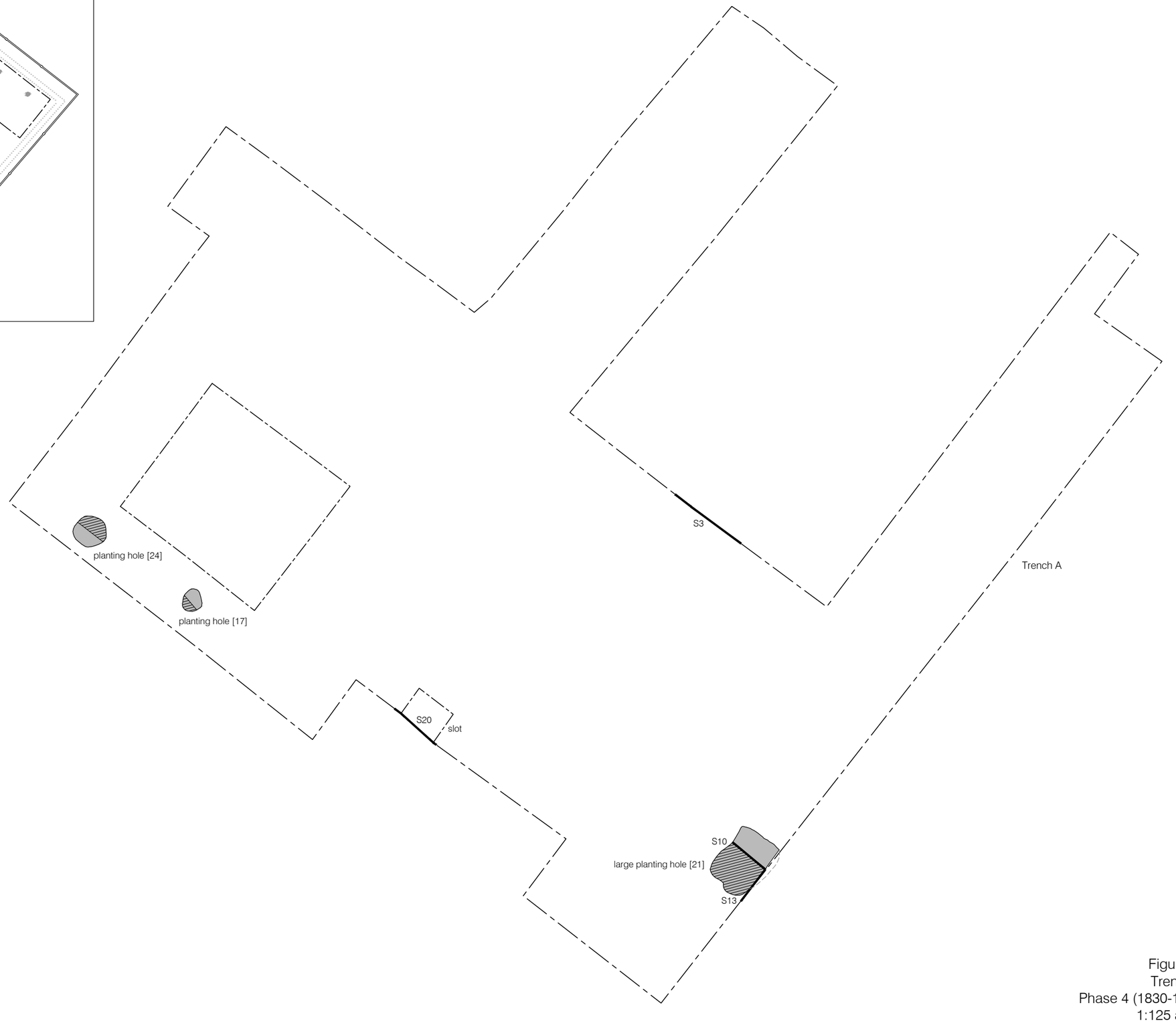
Phase 3; 1800-1830 garden features

0 5m

30/10/12 HB

Figure 11
Trench B
Phase 3 (1800-1830)
1:125 at A3





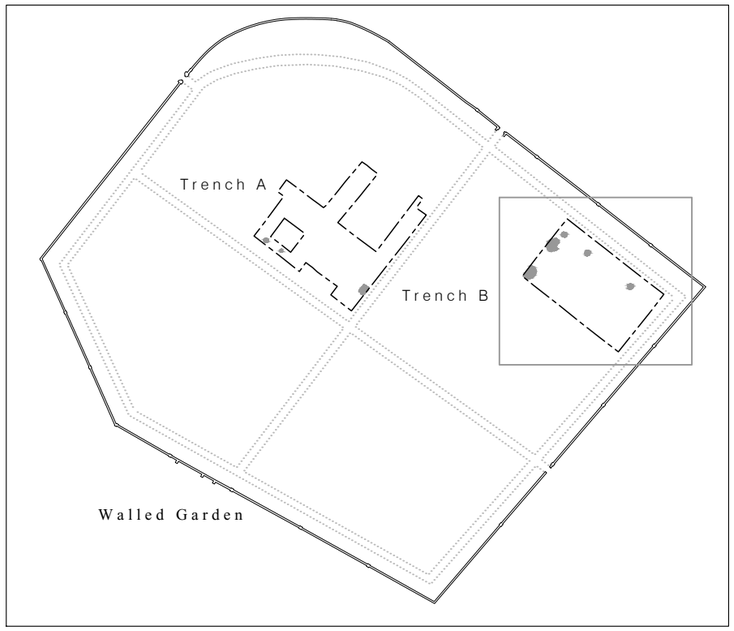
Excavated slot

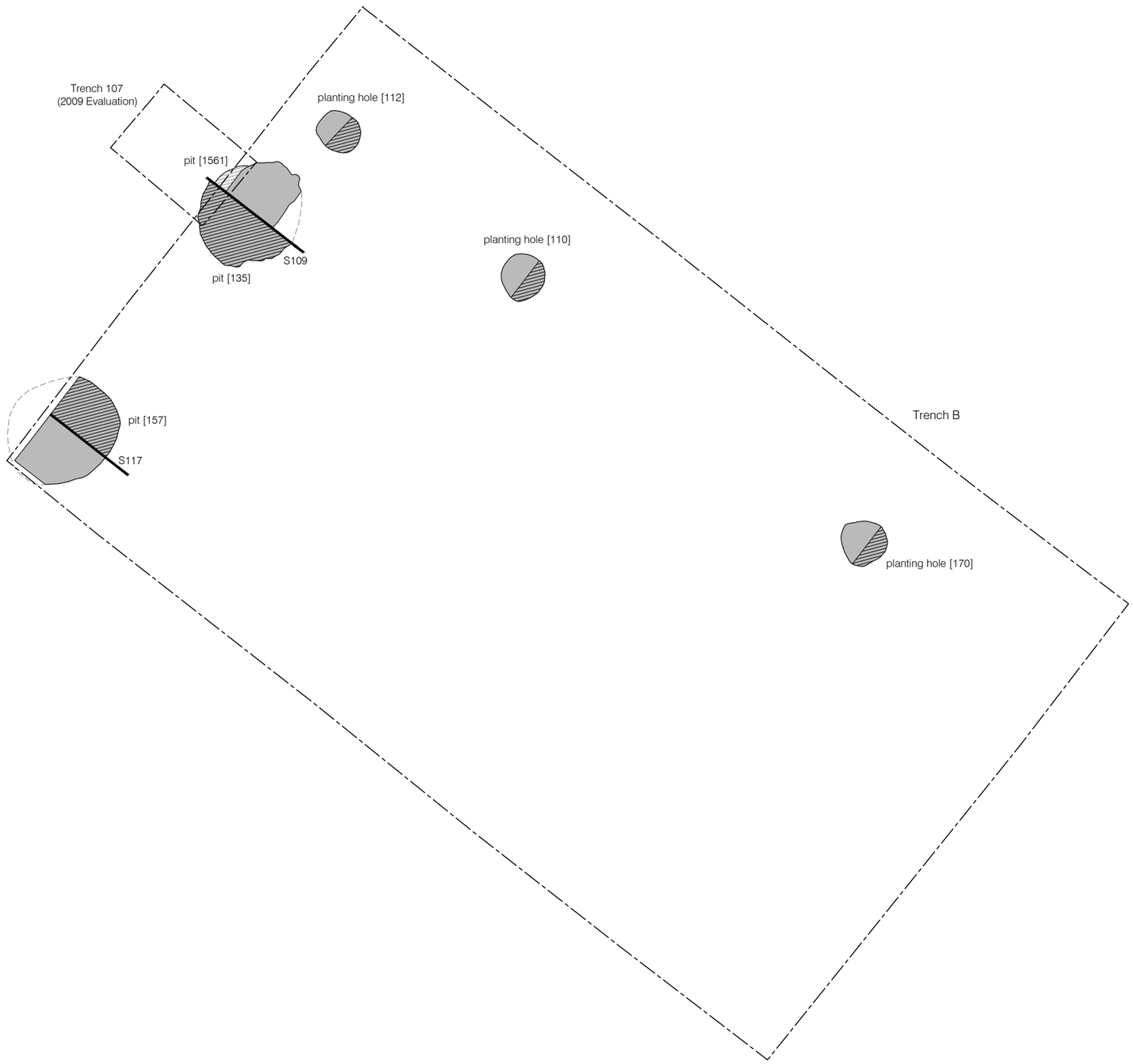
Phase 4; 1830-1870 garden features

0 5m

30/10/12 HB

Figure 12
Trench A
Phase 4 (1830-1870)
1:125 at A3





Excavated slot

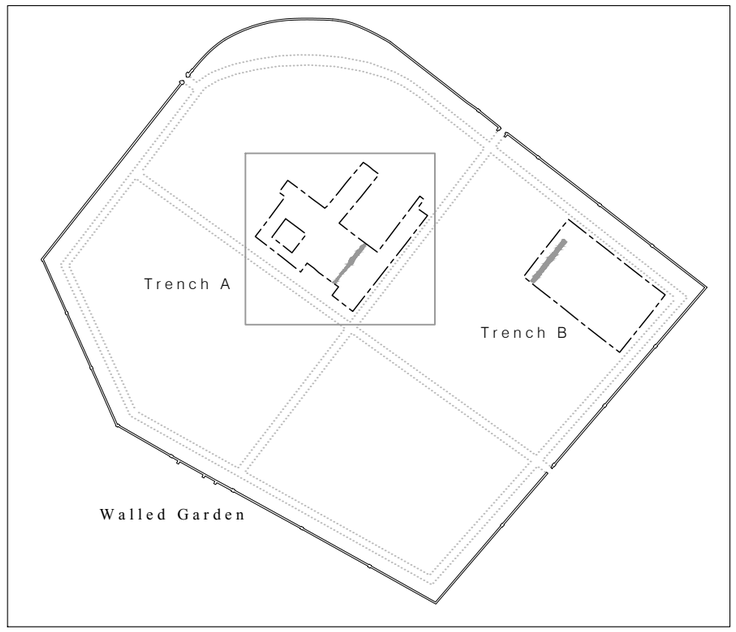
Phase 4; 1830-1870 garden features

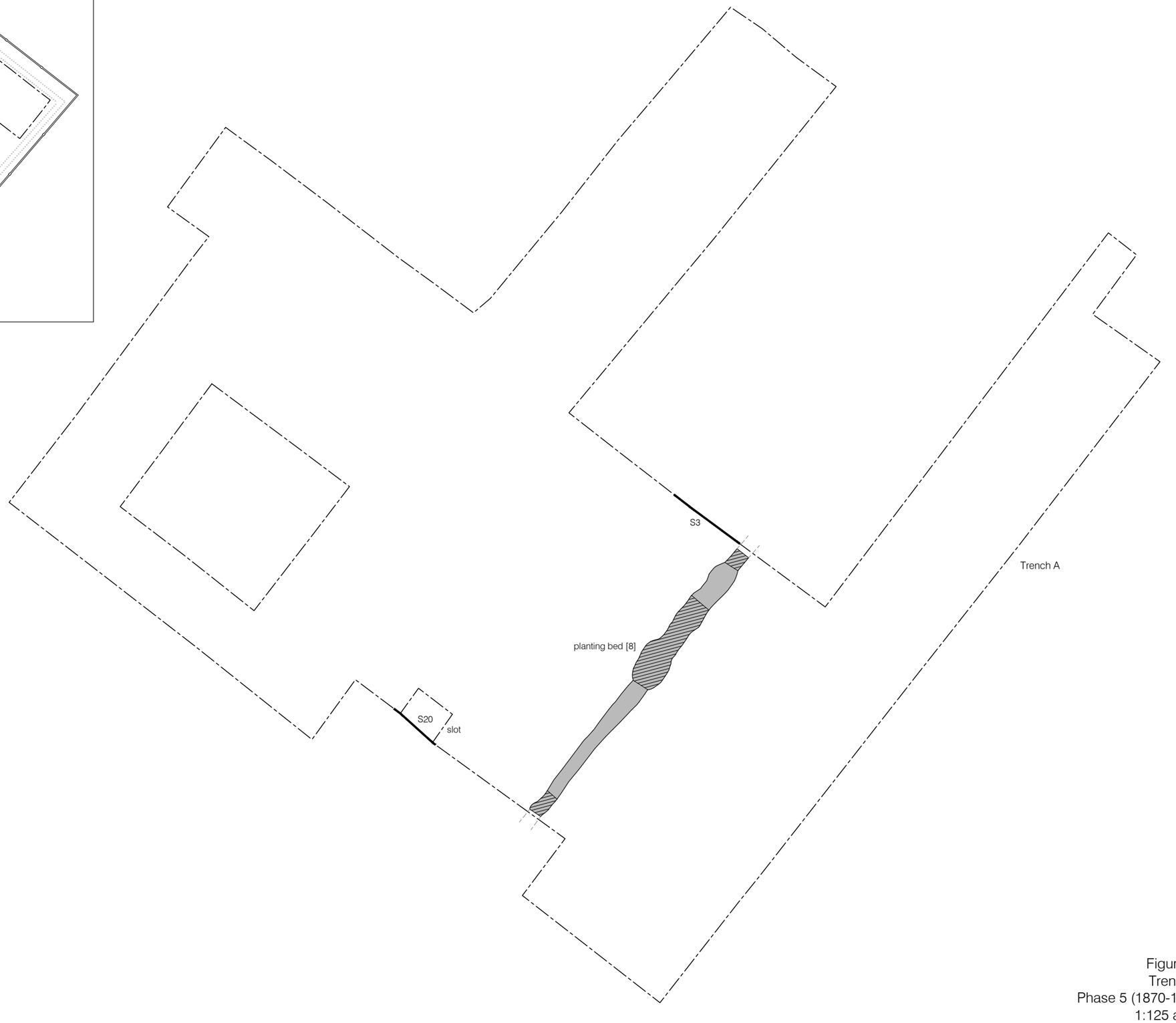
Phase 4; 1830-1870 garden feature excavated in 2009 Evaluation

0 5m

30/10/12 HB

Figure 13
Trench B
Phase 4 (1830-1870)
1:125 at A3





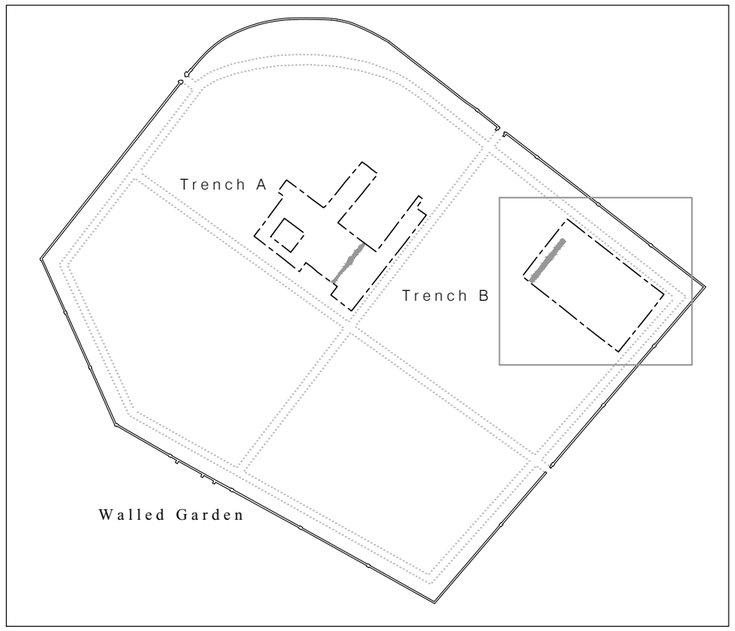
Excavated slot

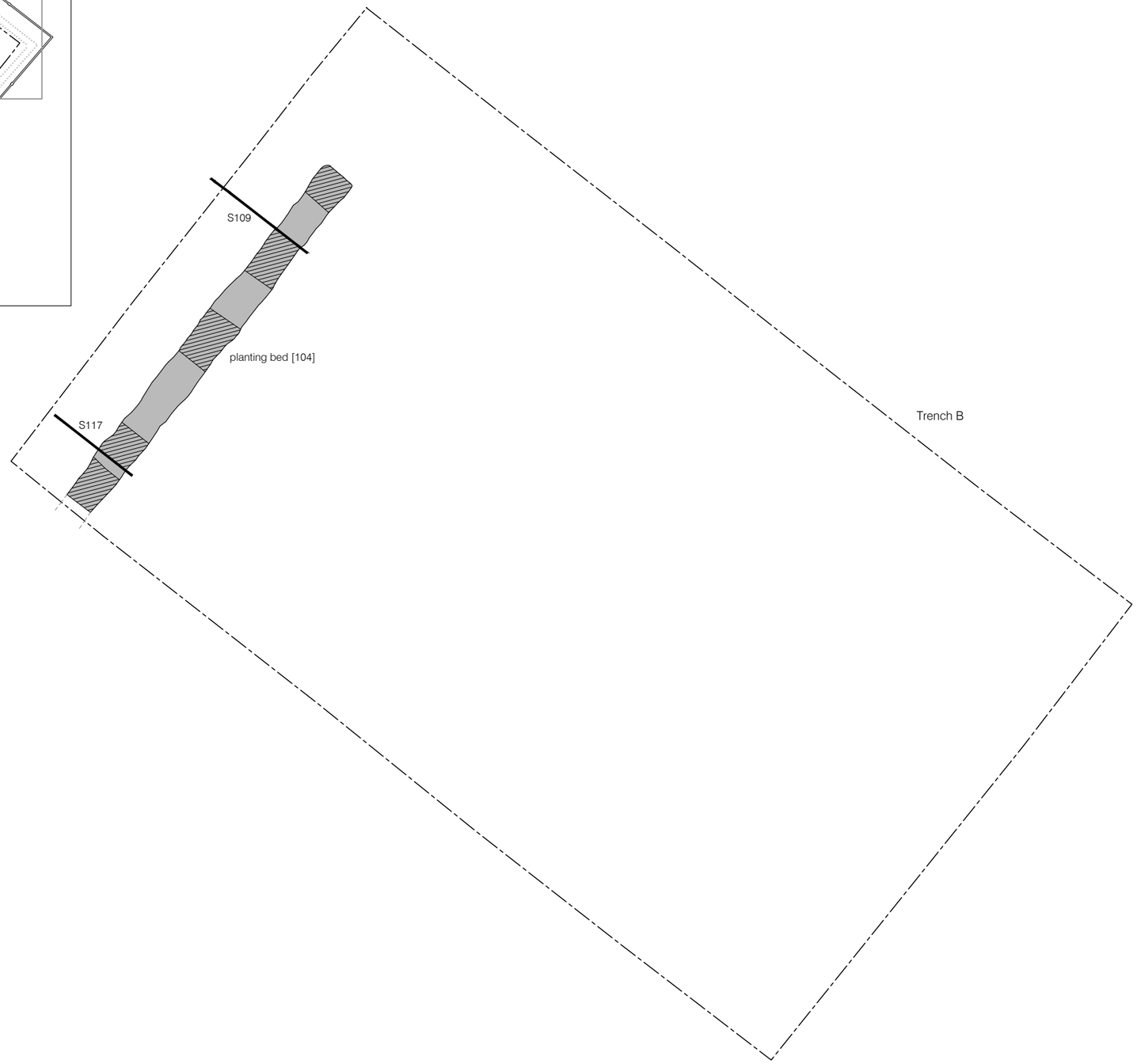
Phase 5; 1870-1900 garden features

0 5m

30/10/12 HB

Figure 14
Trench A
Phase 5 (1870-1900)
1:125 at A3





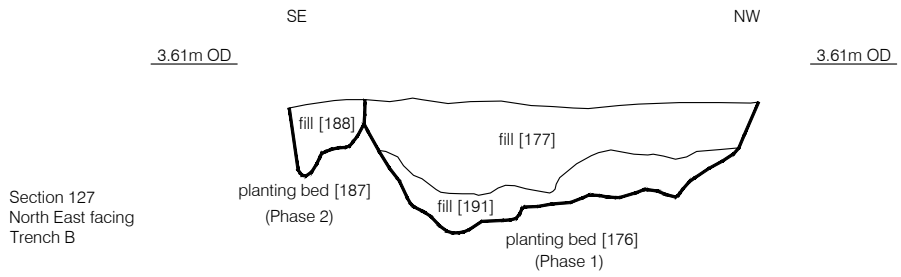
Excavated slot

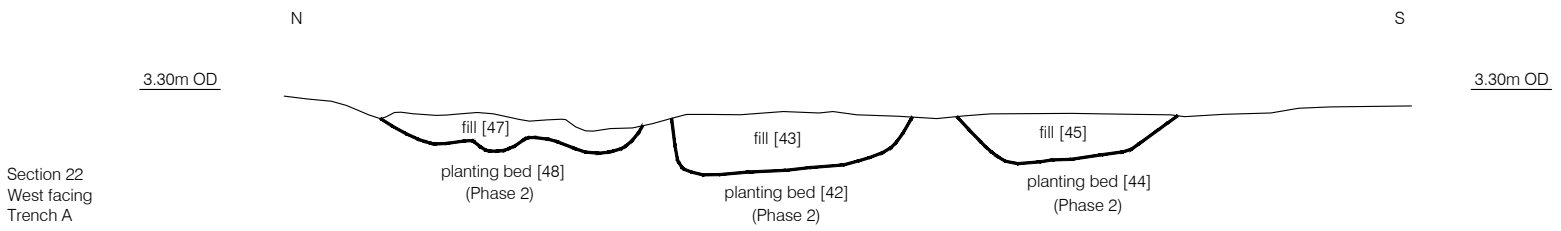
Phase 5; 1870-1900 garden features

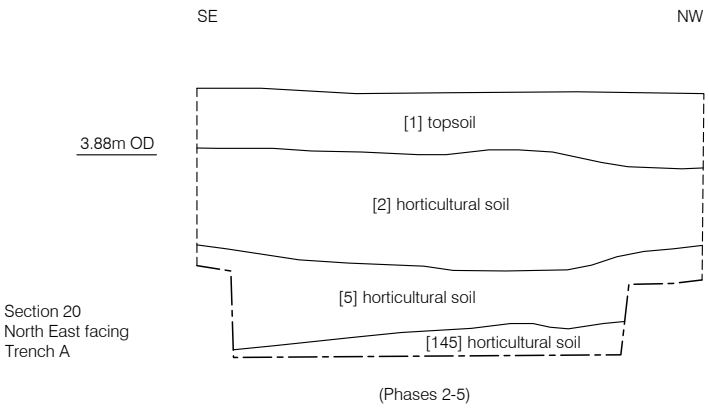
0 5m

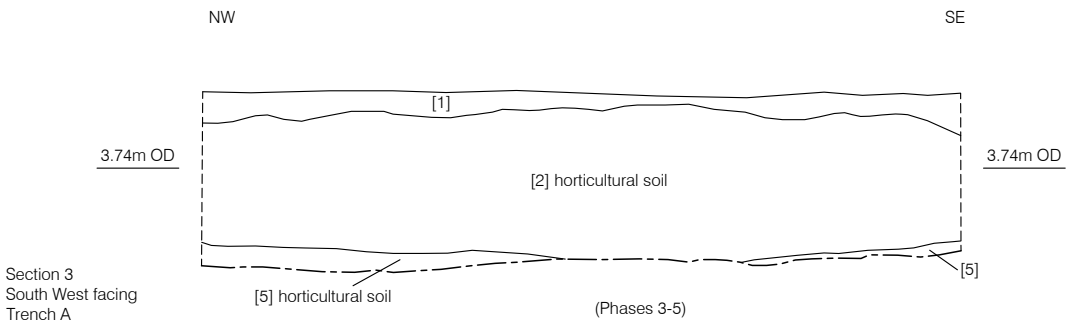
30/10/12 HB

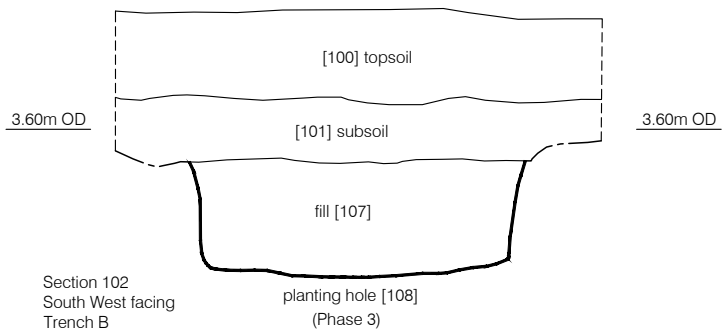
Figure 15
Trench B
Phase 5 (1870-1900)
1:125 at A3

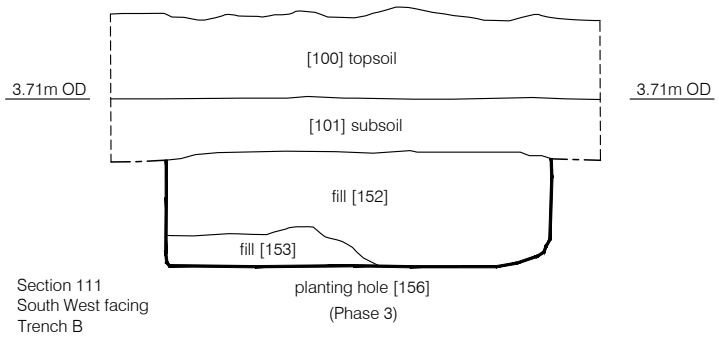


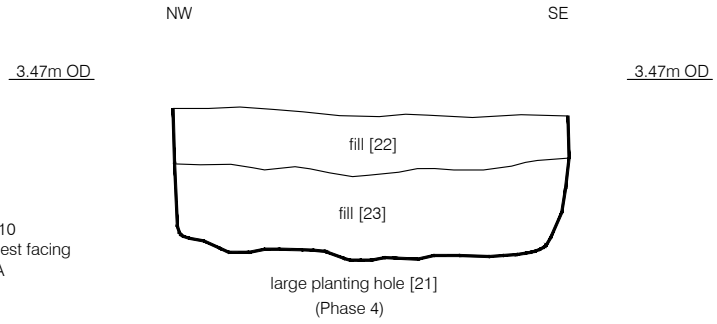


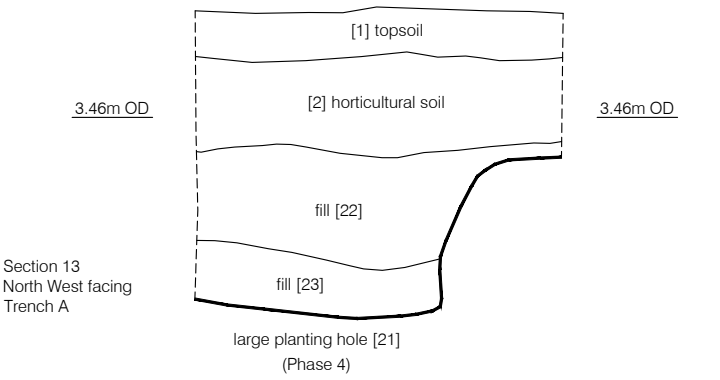


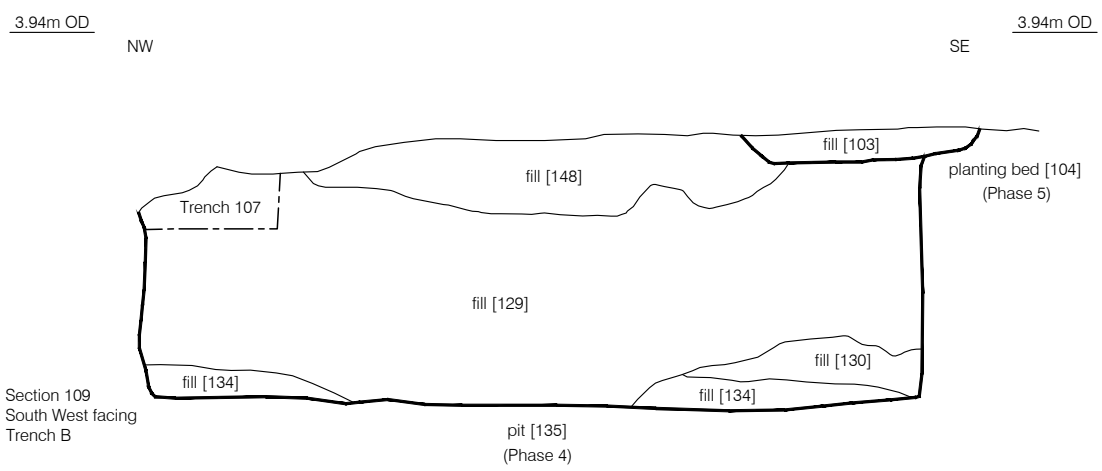


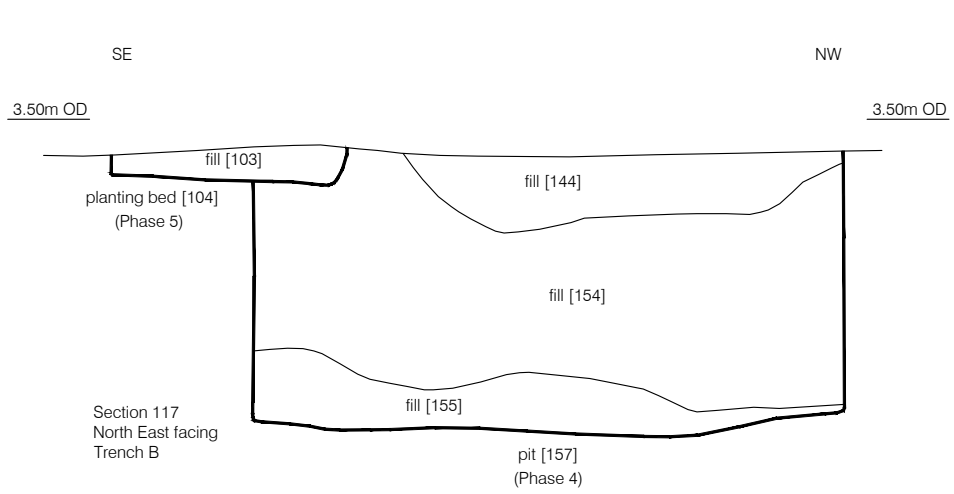






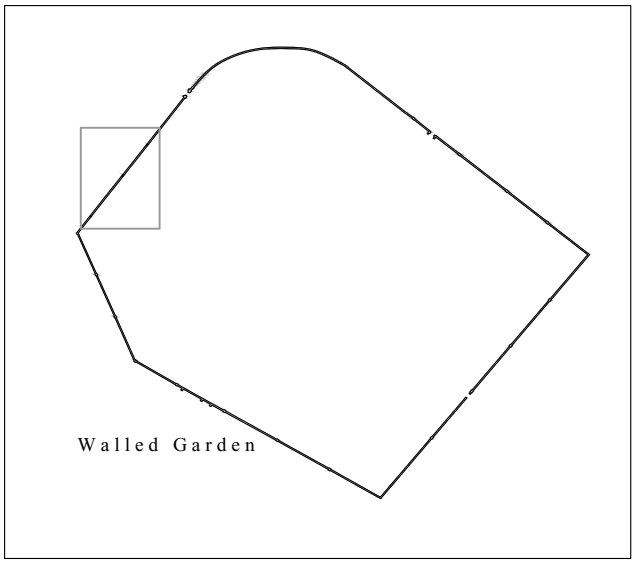


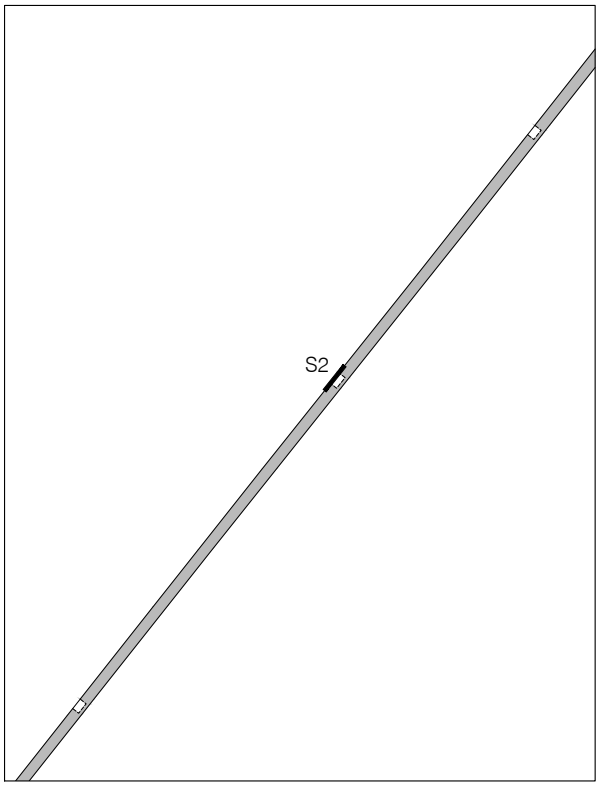




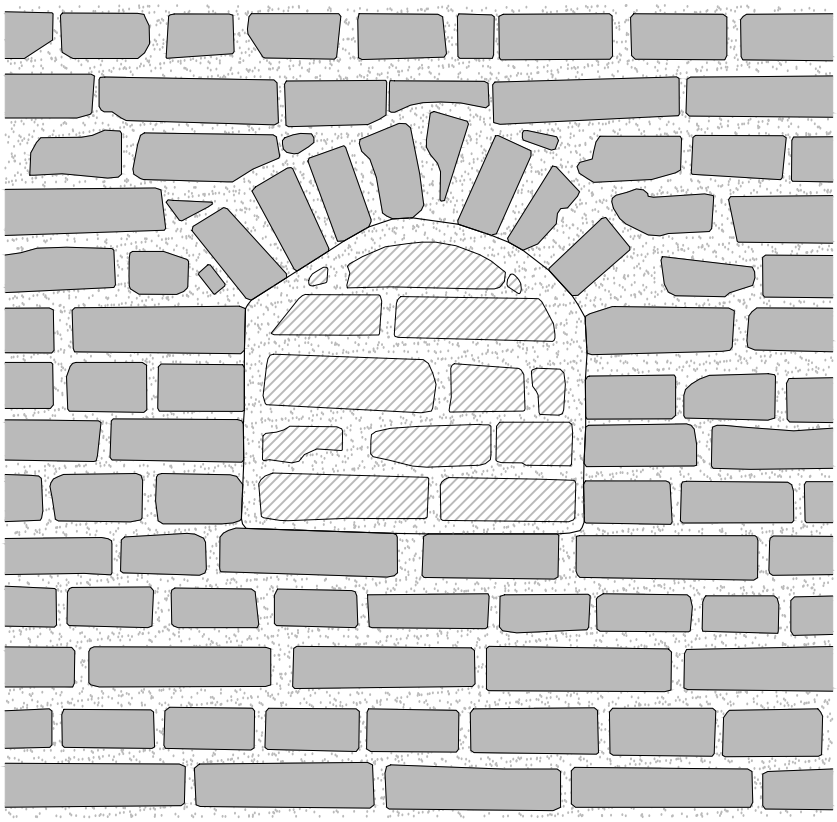
30/10/12 HB

Figure 16
Trench A & B Sections
1:25 at A3





NE SW



Section 2
North West facing
Elevation of Bee Bole on outer face of Western Garden Wall

Original Garden Wall with Bee Bole

Later Blocking

0 0.5m

30/10/12 HB

Figure 17
Elevation showing Bee Bole prior to restoration
1:10 at A4

Plate 1: Volunteers cleaning back in Trench B (east facing view).

Plate 2: A volunteer being taught how to take levels in Trench A (west facing).

Plate 3: :Late 18th Century Linear planting beds in Trench A being recorded (south-west facing view).

Plate 4: The conservator carefully restoring Bee Bole A (east facing).

8 ARCHAEOLOGICAL PHASE DISCUSSION

8.1 This chapter discusses the chronological history of the walled garden as encountered archaeologically within the two areas of excavation, through a synthesis of the data presented above, contemporary theory relating to garden archaeology and available historical sources pertaining to the palace itself.

8.2 **Phase 1: Mid-Late 18th Century (1764-1780)**

8.2.1 It is believed Bishop Terrick (1764-77) was responsible for the establishment of a walled kitchen garden on its present site, which was previously occupied by a Tudor period orchard (Campbell *et al* 2009). Although a number of small finds dated to the orchard phase were recovered residually from later contexts, no features or soil horizons that could be firmly attributed to this period were observed during the course of the excavation. As such the earliest soil horizon can be attributed to the mid-late 18th century and the earliest planting beds were encountered in Trench B. These two early beds were orientated NE-SW, respecting the alignment of the nearby wall by running perpendicular to it.

8.3 **Phase 2: Late 18th Century (1780-1800)**

8.3.1 Further planting beds of differing shapes and sizes were established by the end of the 18th century. Of particular note is the orientation of the beds in Trench A, running E-W, or 'diagonally' in relation to alignment of the walls. Although no precise dating has yet been provided for the original construction of the garden pathways, it is reasonable to assume they were implemented fairly early on in the lifetime of the walled garden. As such if they were present and laid out as they are now, these diagonal planting beds would if mirrored in the remaining three quadrants, create a diamond effect shape around the central crossing.

8.3.2 The beds in Trench B continue to respect the NE-SW alignment, established here previously. In addition to the beds were isolated planting holes. It is likely that the holes either formed planting rows for which the neighbouring holes were not perceptible or that they lay in beds not visible in plan. The beds varied in size, perhaps indicating that a variety of different produce was being cultivated by this period.

8.4 **Phase 3: Early 19th Century (1800-1830)**

8.4.1 By the early 19th century a reasonably substantial layer of horticultural soil had built up and/or been deposited, sealing the earlier features. This event seems to coincide with a break with the planting alignments established previously and indeed it has been documented at other sites (such as the Best Garden at Castle Bromwich) that the historic gardeners had a tendency to prefer dumping one layer on top of an older design, and starting again (Currie 2005). In Trench A a series of planting holes and two small linear planting beds were orientated NE-SW. It is possible that the series of planting holes

represented a line of trees.

8.4.2 In Trench B the orientation of the linear planting beds changed by 90 degrees to align onto a NW-SE axis. At this time a series of tree planting holes appeared, lining the north-eastern outer path in a manner represented on the slightly later *c.*1860 James Wyld map of Fulham (Figure 4) and the OS map of 1869 (Figure 5). Evidence of a continuation of this tree line was also seen following the south-eastern outer path. The area towards the south-east end of the trench showed a distinct lack of any formalised planting activity, aside from a few isolated planting holes. A dump of 18th-century plaster located in a 19th-century pit was also observed in this area, an event which could indicate a time of neglect for this area of the quadrant or subsequent abandoned use.

8.4.3 It is interesting to note that the contemporary estate map of 1831 (Figure 3) shows the planting alignments of both quadrants to be at odds with what was uncovered archaeologically. This could be due to artistic licence employed during the drawing of the map and indeed the literal interpretation of pictorial sources can be dangerous as drawings and paintings are often known to contain inaccuracies or idealisations in depictions of gardens (Currie 2005). Alternatively it could simply indicate a return to a NE-SW alignment has already taken place by the time of its publication, as partially indicated by the archaeology of the proceeding phase. Indeed it is important to note that the boundaries defining each phase are relatively arbitrary and should not be considered immutable.

8.5 Phase 4: Mid 19th Century (1830-1870)

8.5.1 New planting bed activity appears to have become limited by the mid 19th century in the area of Trench A. In fact by this time this part of the northern quadrant seems to have been utilised for the growing of trees as indicated by the planting holes which seem to line the central pathways. A rubbish pit encountered in the south-east corner of the trench could once again point to a period of declining horticultural use in this area. It is entirely possible, however, that evidence for planting activity towards the centre of the trench in this period have been lost due to the extensive rooting that was observed during the investigation.

8.5.2 A series of planting holes appears during this phase, slightly stepped back and offset from the earlier tree planting holes which line the pathway. Additionally two substantial pits were encountered, seemingly NE-SW aligned, at the north-west end of the trench. Although they could potentially be interpreted as quarry activity or rubbish pits, the inclusion of a thick deposit of clay within the fill suggests that one aim was to keep these pits suitably moist, suggesting that they were perhaps utilised to plant fruit bearing species.

8.6 Phase 5: Late 19th Century (1870-1900)

8.6.1 Little was observed that could be attributed to the late 19th century exclusively. Two planting beds running NE-SW were observed, one in each trench. It seems unlikely that

this would be the extent of planting activity during this phase and it is more likely that other, earlier beds were still in use at this time or, alternative other-coexisting beds were not perceptible in plan due to bioturbation and other processes.

8.7 Phase 6: Modern (20th-21st Century)

8.7.1 The modern topsoil provided an equally good opportunity to amass a good collection of residual artefacts dated from this and earlier phases. Such finds, along with those from earlier layers, can provide a greater opportunity to obtain more of an understanding of the people who lived and worked on site and of the tools and practices employed by them to cultivate the grounds within the walled garden.

9 RESEARCH OBJECTIVES

9.1 Original Aims and Objectives of the Investigation

9.1.1 The investigation's aims and objectives, as defined prior to the fieldwork (Mayo 2012) are presented here along with responses based upon the data and analysis provided and undertaken as part of the project.

9.2 **To produce a more coherent overview allowing us to place the previous observations from the 2009 evaluation into context;**

9.2.1 The report detailing the 2009 Walled Garden evaluation (Payne & Fairman 2009) noted that within the context of a series of relatively small and isolated evaluation trenches it was difficult to place any of the features identified into a broader context. The location of the public archaeology trenches in relation to the earlier evaluation trenches prohibits us from being able to fulfil this objective. The most notable exception is a feature identified as pit [1561] in Trench 107 of the evaluation which was re-encountered during the community dig in Trench B (as pit [135]). Given the additional space within which to operate it was possible to ascertain the true extent and depth of this feature and derive from the data gleaned that it is likely to represent one of two substantial planting pits located in this quadrant of the walled garden.

9.3 **To provide an enhanced prospect for mapping surviving fragments of any historic formal designs, should they have been implemented;**

9.3.1 The evaluation report, once again, has already noted that historic formal designs are unlikely to be identified on the scale as witnessed in other projects (notably at Hampton Court Palace or Castle Bromwich, West Midlands) due to their nature at Fulham as a working kitchen garden. However, it was possible to identify the location and alignments of pits and linear planting beds and extrapolate this data with an analysis of their stratigraphic relationships and the dating material recovered from within them. This enabled the planting arrangements within a temporal and spatial framework to be mapped. It must be noted, however, that historic gardens, more so than many other forms of archaeology, have evolved greatly over their lifetime and are as such difficult to 'fossilise' as one would the structural remains of a building for instance (Currie 2005). The results obtained from this investigation, therefore, are likely to only a partial representation of any formal designs that were implemented historically.

9.4 **To provide an enhanced prospect for interpreting a phased sequence and ascribing individual features to phases;**

9.4.1 It was possible to demonstrate a phased sequence of events in relation to the utilisation of the working kitchen garden from its establishment in the mid-late 18th century through to the present day. Six phases of activity were identified during the excavations:

Phase 1: Mid/Late 18th century (1764-1780)
Phase 2: Late 18th century (1780-1800)
Phase 3: Early 19th century (1800-1830)
Phase 4: Mid 19th century (1830-1870)
Phase 5: Late 19th century (1870-1900)
Phase 6: Modern (1900-Present Day)

9.4.2 Within this chronology it has been possible to ascribe every feature encountered to a single phase with some degree of certainty. Where dating evidence was unavailable to achieve this, consideration of their spatial and stratigraphic relationships was employed.

9.4.3 It should be noted that residual prehistoric, Roman and medieval artefacts (such as pottery, coins and CBM) were encountered within the subsoil and the fills of later features, attesting to activity on site within those periods (see specialist appendices for further details).

9.5 **To provide an enhanced statistical basis for providing an absolute chronology of the sequence through dating of artefacts;**

9.5.1 Substantial quantities of artefacts were retrieved from the various layers, deposits and features encountered during the excavation. Those that can provide valuable insights into the dating of the archaeological contexts (such as pottery, CBM, clay tobacco pipe and in some instances the small finds) have been examined by the relevant specialists who have provided 'spot dates' for the contexts from which they originate. This methodology, when employed alongside others already discussed, can assist in building an absolute chronology of the sequence, as best as can be expected. The transient nature of garden archaeology, alongside natural processes such as bio-turbation of the soils, means that artefacts can be displaced over time. As such a consideration of residual and intrusive material culture has been made when constructing the chronological sequence.

9.6 **To provide an insight into the types and character of features (e.g beds, structures, surfaces etc) by phase;**

9.6.1 It was possible to establish the presence of linear planting bed and planting pits in both Trenches during the excavation. It is believed linear beds were utilised for the growing of vegetables, in addition to some varieties of flowers and shrubs (such as box edging) which also tended to be planted in lines (Currie 2005). Once the archaeological sequence was established it was possible to deduce that the alignments of these planting features changed between the mid-late 18th century, through and up to the end of the 19th century. It must be accepted that the ephemeral nature of horticultural features renders their detection difficult and in some cases impossible. As such it is highly unlikely that the features observed during the works constitute the whole story and that many may have been imperceptible to the naked eye.

9.6.2 Soil samples were taken from the fills of the planting features in the hope that information could be obtained as to what had been cultivated within them. In an effort to assess the potential of being able to achieve this, a small number of the samples were sent to Quaternary Scientific (QUEST) for detailed analysis. The results demonstrated that it was indeed difficult to identify the actual plants grown within the garden, and the exercise was not deemed to be successful. Although evidence for consumable plants such as elderberry and blackberry/raspberry was obtained, it has to be accepted that their presence in the garden may be the result of imported soil. A full account of the macrofossil and pollen remains observed within the samples can be found in the relevant appendices to this report (see Appendix 11 & 12).

9.7 **To provide insights into techniques historically applied to adapting to soil conditions;**

9.7.1 The environmental samples recovered on site and sent for analysis did provide some information regarding the preparation of soils during the late 18th – mid 19th century, although this is of a very limited nature. Further details can be found in Appendix 10.

9.7.2 Additionally, during the course of the excavation, it was possible to ascertain that the use of clay for its water retaining qualities was employed, particularly during the 19th century.

9.8 **To recover all diagnostic artefacts - potentially shedding light on techniques, spatial organisation;**

9.8.1 The identification of small finds encountered during the investigation may provide further insights into the tools utilised during this period. Due to the nature of a number of the small finds (many constitute little more than broken elements or mechanisms from hitherto unidentified tools and devices) it is likely further work will be required to research the origin and function of many of the artefacts recovered.

9.9 **To provide evidence of water management;**

9.9.1 No direct evidence was encountered during the interventions that related to the water management techniques employed (other than the aforementioned use of clay) by the gardeners during the 18th and 19th centuries. Metal detector surveys of the topsoil produced tap and hose fittings of a likely 20th-century date.

9.10 **To provide inferences regarding historic ground levels and depths of cultivation.**

9.10.1 Levels taken within the trenches of earlier cultivation layers suggest parity with the modern topography of the walled garden. Horticultural soils were encountered at higher levels in the northern and eastern areas of the garden, falling away marginally towards the south. This was most clearly evident in Trench B where machining became progressively deeper to the south and west (away from the pathways). It should be noted that due to the subtle nature of difference between soil horizons and given the constraints of a large open area public archaeological project undertaken within a

relatively compressed period of time, it is undoubtedly likely that some intermediate cultivation layers are not accounted for in the archaeological record. As such this makes it difficult to ascertain with 100% certainty that the data provided regarding historic ground levels and depth of cultivation presents the whole picture.

9.11 **To educate the volunteering public about professional archaeological techniques and practises;**

9.11.1 A major objective of this project was to engage meaningfully with members of the public. This was achieved in three ways: through the 'recruitment' of volunteers to work with a small team of professional archaeologists during the week; the invitation to local schools to visit the site and take part by recovering artefacts from a designated area of Trench A and through the establishment of weekend 'drop-in' sessions aimed at families and other interested parties who could also excavate part of the trench and process any finds that had been recovered. During the course of the excavation and throughout the visits the archaeological team would seek to teach individuals archaeological methods and practices (from field excavation techniques to creation of the paper archive) in an effort to engage with and educate them.

9.12 **To provide a beneficial and enjoyable archaeological experience for the volunteers;**

9.12.1 In addition to the presence of three professional field archaeologists to provide beneficial expertise to the experience of the volunteers, a number of specialists were also invited to spend a day or more on site. During their visit, short 'talks' were arranged whereby the specialists would impart knowledge of their specialist field (be it, post-Roman pottery, CBM or small finds) and allow the volunteers to view and handle finds from previous excavations undertaken by PCA at Fulham and other sites in London. Mindful that the volunteers were giving up their free time to assist in a genuine archaeological excavation we aimed to maintain a relaxed and enjoyable atmosphere throughout the course of the project.

9.13 **To operate entirely within a methodology which ensures the safety of all staff and volunteers participating in the project;**

9.13.1 In addition to the methodology included in the WSI a full risk assessment was undertaken and maintained throughout the duration of the excavation. New volunteers were given a full health and safety induction by a member of the PCA team and Fulham Palace staff. The latter also provided safety information to the school groups and during the weekend drop-in sessions information was given to individuals who wished to participate who signed a form to state they understood the health and safety requirements.

10 IMPORTANCE OF THE RESULTS, FURTHER WORK AND PUBLICATION OUTLINE

10.1 Importance of the Results

10.1.1 The core aim of the Public Archaeological project at Fulham Palace was two-fold. Primarily the work was fulfilling the obligations associated with any planned excavation work on a scheduled ancient monument (or any area of archaeological significance). As the aim was to restore a working kitchen garden to the grounds of Fulham Palace, the benefits of an archaeological investigation to inform a design based on historical precedent was clear. The secondary aim was for the palace to engage its visitors by encouraging participation, thereby promoting not only the restoration of the kitchen garden to the general public, but also providing them with an opportunity to learn something of the history of the site as a whole.

10.1.2 With reference to the primary aim; the results of the excavation have provided a partial representation of the historic layout of the kitchen garden within a sequence of five distinct phases. It has been stated in relation to previous garden restoration projects that a single phase approach is undesirable (Currie 2005). As such the data provided from the archaeological investigation should provide a good grounding for the restoration of a new kitchen garden which can utilise different aspects from the various phases of activity presented within this report. This is beneficial in that it provides the gardeners and their designers at the palace certain flexibility whilst still fulfilling a desired objective to respect the historic spatial arrangements.

10.1.3 With regard to public involvement during the project, both the response of the visitors during the project and the successful results achieved from the archaeological work undertaken indicate that this endeavour has been beneficial for all involved. Keen to promote the importance of archaeology as a professional discipline and as an important vehicle for learning, the event undertaken at Fulham Palace during the summer of 2012 can be seen in a highly positive light. If further such excavations were to be undertaken on the site in the future, it would be desirable to do so on a grander scale, turning a volunteer dig into a training dig run by a larger team of professional archaeologists offering members of the public to book a place for 1, 3 or 5 days at a time. This would be beneficial for both the archaeological project as a whole (as the individual would increase their value through increased knowledge and experience) and also for the volunteers themselves who would receive a richer overall experience. It would also provide an excellent opportunity to promote both the subject of archaeology to a wider audience and Fulham Palace itself as a valuable historical and cultural asset. Investigation of the many, as yet, fully or partially unexplored archaeological features located within the site (i.e: the moat, the dovecote, the chapel on the east lawn, the Roman features in the walled garden) would greatly increase its chance of being able to fulfil this objective.

10.2 **Further Work**

10.2.1 The archaeological results from this phase of works will be incorporated with those results of archaeological works that have been undertaken by PCA at Fulham Palace in the last decade. All finds from this investigation will be considered together with artefacts recovered from other phases of works.

10.2.2 In relation to the archaeological data obtained from this excavation; listed below are the recommendations of further work as identified in the specialist assessments (see appendices);

10.3 Roman Pottery

10.3.1 No further work is required on this assemblage. However, these finds will be considered and briefly described with the rest of the Roman pottery from Fulham Palace in the proposed sitewide publication.

10.4 Post Roman Pottery

10.4.1 A short publication on the Post-Roman pottery assemblage from the area of the walled garden should be under taken, concentrating on the status of the pottery and its methods of disposal. None of the pottery requires illustration.

10.5 Building Material

10.5.1 This moderately sized group of building materials recovered from both the interior of the 18th- and 19th-century walled garden and the infill of the bee-boles along this wall have few individual items of intrinsic interest. With the Roman materials, further research should be done on their distribution in Fulham Palace and in light of other discoveries.

10.6 Roman Coins

10.6.1 The coins should be published alongside the coins from FLB03 and a statistical analysis undertaken for all of the Roman coin finds from Fulham Palace.

10.7 Small and Metal Finds

10.7.1 The metal and small finds from The Walled Garden form a significant part of the material recovered from the Walled Garden and should, where relevant, be included, together with earlier phases of work, in any further publication of the site. This should focus on the assemblages of garden related finds and other distinct categories. A number of finds would benefit from further research and require x-ray and/or cleaning.

10.8 Clay Tobacco Pipes

10.8.1 A publication report should be written for the clay tobacco pipes from the site. Two bowls need illustrating to supplement the text.

10.9 Glass

10.9.1 There are no recommendations for further work and if a publication is required then the

information should be taken from this report.

10.10 Lithics

10.10.1 The report included in the appendices is all that is required of the material for the purposes of the archive and no further analytical work is proposed. It is recommended that the presence of prehistoric flintwork is recorded with the local Historic Environment Record. A short description of the struck flint should also be included in any published accounts of the fieldwork.

10.11 Animal Bone

10.11.1 It is recommended that these post-medieval collections deserve further analysis, with the exception of those from Phase 6, although with an emphasis on the 19th-century assemblages. Comparisons should be made with contemporary London collections, including of course the assemblages from other parts of Fulham Palace and, by way of contrast, assemblages from 18th- and 19th-century terrace housing, as at Bermondsey Abbey.

10.12 Environmental Samples

10.12.1 The environmental remains from the Fulham Palace Walled Garden were not successful in providing evidence regarding the plants grown in the garden. It is deemed that no further work with the samples will be forthcoming. The results of the environmental and pollen assessments should be included in any future publication that encompasses work undertaken within the scheduled ancient monument.

10.13 **Publication Proposal**

10.13.1 The results of the investigation at the Walled Gardenwill be published initially as an entry in the London Archaeologist 'Round Up'. It is also expected that the results of the community excavation will be incorporated into a monograph which will seek to synthesise data from all archaeological works conducted by Pre-Construct Archaeology at the Fulham Palace Moated Site between 2003-2012.

10.13.2 The entire site archive will be deposited at the Fulham Palace Museum (within the standards applied by the London Archaeological Archive and Research Centre (LAARC)) under site code FPW12, following approval of this report. PCA will provide a copy to the local studies library, to the Greater London Historic Environment Record and the Archaeology Advisor of the London Borough of Hammersmith and Fulham.

11 CONTENTS OF THE ARCHIVE

11.1 The contents of the archive are:

11.1.1 The paper archive:

	Scale	Drawings	Sheets
Context Sheets	-	-	138
Plans	1:20	36	90
Sections	1:10	51	56

11.1.2 The photographic archive:

Black and White Negative Film (35mm)	2 Films	67 shots
Colour Transparency Film (35mm)	2 Films	67 shots
Digital Format		121 shots

11.1.3 The finds archive:

Pot	6 boxes
Building Material	11 boxes
CTP	1 box
Bone	4 boxes
Glass	1 box
Small Finds	220 objects
Lithics	1 box

(Box – standard archive box = 0.46m x 0.19m x 0.13m)

11.1.4 The environmental archive:

Samples	35	76 buckets

12 ACKNOWLEDGEMENTS

12.1 Pre-Construct Archaeology Limited thanks Sian Harrington of Fulham Palace Trust for commissioning the works and for her co-operation and assistance throughout the project. We also thank Jane Sidell of English Heritage for her advice and for monitoring the project on behalf of the London Borough of Hammersmith & Fulham.

12.2 The supervisor would like to thank Stuart Watson and Kari Bower for their hard work and assistance during the community dig, Chris Cooper for organising the logistics, Kevin Hayward, Chris Jarrett and Märit Gaimster for dating of the finds and for visiting site, assisting the volunteers and providing talks. Thanks also to Kevin Rielly, Katie Anderson, James Gerrard and Barry Bishop for further finds analysis; K. Le Hégarat & Rob Batchelor of QUEST for environmental and pollen assessment; Hayley Baxter for the illustrations; Chris Mayo for project management and Jon Butler for post-excavation management and editing of this report.

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APPENDIX 1: CONTEXT INDEX

Site Code	Context	Type	Trench	Section	Description	Date	Phase
FPW12	1	Layer	A	S3	Topsoil	Modern	6
FPW12	2	Layer	A	S3	Horticultural soil	Late C19 (1870-1900)	5
FPW12	3	Masonry	n/a	S1	NW Facing Garden Wall/Bee Bole	n/a	n/a
FPW12	4	Masonry	n/a	S2	NW Facing Garden Wall/Bee Bole	n/a	n/a
FPW12	5	Layer	A	S3	Horticultural soil	Early C19 (1800-1830)	3
FPW12	6	Cut	A	S5	Planting Hole	Early C19 (1800-1830)	3
FPW12	7	Fill	A	S5	Fill of [6]	Early C19 (1800-1830)	3
FPW12	8	Cut	A	S6,11,12	Linear Planting Bed	Late C19 (1870-1900)	5
FPW12	9	Fill	A	S6,11,12	Fill of [8]	Late C19 (1870-1900)	5
FPW12	10	n/a	n/a	n/a	VOID	n/a	n/a
FPW12	11	Cut	A	S9	Planting Hole	Early C19 (1800-1830)	3
FPW12	12	Fill	A	S9	Fill of [11]	Early C19 (1800-1830)	3
FPW12	13	Cut	A	S4	Planting Hole	Early C19 (1800-1830)	3
FPW12	14	Fill	A	S4	Fill of [13]	Early C19 (1800-1830)	3
FPW12	15	Cut	A	S7	Planting Hole	Early C19 (1800-1830)	3
FPW12	16	Fill	A	S7	Fill of [15]	Early C19 (1800-1830)	3
FPW12	17	Cut	A	S8	Planting Hole	Mid C19 (1830-1870)	4
FPW12	18	Fill	A	S8	Fill of [17]	Mid C19 (1830-1870)	4
FPW12	19	n/a	n/a	n/a	VOID	n/a	n/a
FPW12	20	n/a	n/a	n/a	VOID	n/a	n/a
FPW12	21	Cut	A	S10,11	Rubbish Pit	Mid C19 (1830-1870)	4
FPW12	22	Fill	A	S10	Upper Fill of [21]	Mid C19 (1830-1870)	4
FPW12	23	Fill	A	S10	Primary Fill of [21]	Mid C19 (1830-1870)	4
FPW12	24	Cut	A	S14	Planting Hole	Mid C19 (1830-1870)	4
FPW12	25	Fill	A	S14	Fill of [24]	Mid C19 (1830-1870)	4
FPW12	26	Layer	A	S10,13	Earlier Horticultural Soil	Mid/Late C18 (1764-1780)	1
FPW12	27	n/a	n/a	n/a	VOID	n/a	n/a
FPW12	28	Layer	A	S13	Horticultural soil	Early C19 (1800-1830)	3
FPW12	29	Cut	A	S15	Planting Hole	Early C19 (1800-1830)	3
FPW12	30	Fill	A	S15	Fill of [29]	Early C19 (1800-1830)	3
FPW12	31	Cut	A	S16	Planting Hole	Early C19 (1800-1830)	3
FPW12	32	Fill	A	S16	Upper Fill of [31]	Early C19 (1800-1830)	3
FPW12	33	Fill	A	S16	Primary Fill of [31]	Early C19 (1800-1830)	3
FPW12	34	Cut	A	S17	Planting Hole	Early C19 (1800-1830)	3
FPW12	35	Fill	A	S17	Fill of [34]	Early C19 (1800-1830)	3
FPW12	36	Fill	A	S15	Fill of [29]	Early C19 (1800-1830)	3
FPW12	37	Fill	A	S15	Primary Fill of [29]	Early C19 (1800-1830)	3
FPW12	38	Cut	A	S19	Linear Planting Bed	Early C19 (1800-1830)	3
FPW12	39	Fill	A	S19	Fill of [38]	Early C19 (1800-1830)	3
FPW12	40	Cut	A	S18	Linear Planting Bed	Early C19 (1800-1830)	3
FPW12	41	Fill	A	S18	Fill of [40]	Early C19 (1800-1830)	3
FPW12	42	Cut	A	S22	Linear Planting Bed	Late C18 (1780-1800)	2

FPW12	43	Fill	A	S22	Fill of [42]	Late C18 (1780-1800)	2
FPW12	44	Cut	A	S22	Linear Planting Bed	Late C18 (1780-1800)	2
FPW12	45	Fill	A	S22	Fill of [44]	Late C18 (1780-1800)	2
FPW12	46	Group	A	S22	Group of Linear Planting Beds [42], [44], [48]	Late C18 (1780-1800)	2
FPW12	47	Cut	A	S22	Linear Planting Bed	Late C18 (1780-1800)	2
FPW12	48	Fill	A	S22	Fill of [47]	Late C18 (1780-1800)	2
FPW12	49-99	n/a	n/a	n/a	UNUSED	n/a	n/a
FPW12	100	Layer	B	S102	Topsoil	Modern	6
FPW12	101	Layer	B	n/a	Interface layer	Late C19 (1870-1900)	5
FPW12	102	Layer	B	n/a	Horticultural soil	Early C19 (1800-1830)	3
FPW12	103	Fill	B	S100,101	Fill of [104]	Late C19 (1870-1900)	5
FPW12	104	Cut	B	S100,101	Linear Planting Bed	Late C19 (1870-1900)	5
FPW12	105	n/a	n/a	n/a	VOID	n/a	n/a
FPW12	106	n/a	n/a	n/a	VOID	n/a	n/a
FPW12	107	Fill	B	S102	Fill of [108]	Early C19 (1800-1830)	3
FPW12	108	Cut	B	S102	Tree Planting Hole	Early C19 (1800-1830)	3
FPW12	109	Fill	B	n/a	Fill of [110]	Mid C19 (1830-1870)	4
FPW12	110	Cut	B	n/a	Planting Hole	Mid C19 (1830-1870)	4
FPW12	111	Fill	B	n/a	Fill of [112]	Mid C19 (1830-1870)	4
FPW12	112	Cut	B	n/a	Planting Hole	Mid C19 (1830-1870)	4
FPW12	113	Fill	B	S104	Fill of [114]	Early C19 (1800-1830)	3
FPW12	114	Cut	B	S104	Linear Planting Bed	Early C19 (1800-1830)	3
FPW12	115	n/a	n/a	n/a	VOID	n/a	n/a
FPW12	116	n/a	n/a	n/a	VOID	n/a	n/a
FPW12	117	Fill	B	n/a	Fill of [118]	Early C19 (1800-1830)	3
FPW12	118	Cut	B	n/a	Linear Planting Bed	Early C19 (1800-1830)	3
FPW12	119	Fill	B	n/a	Fill of [124]	Early C19 (1800-1830)	3
FPW12	120	n/a	n/a	n/a	VOID	n/a	n/a
FPW12	121	Fill	B	n/a	Fill of [122]	Early C19 (1800-1830)	3
FPW12	122	Cut	B	n/a	Linear Planting Bed	Early C19 (1800-1830)	3
FPW12	123	Fill	B	n/a	Fill of [124]	Early C19 (1800-1830)	3
FPW12	124	Cut	B	n/a	Linear Planting Bed	Mid C19 (1830-1870)	4
FPW12	125	Fill	B	n/a	Fill of [126]	Late C18 (1780-1800)	2
FPW12	126	Cut	B	n/a	Linear Planting Bed	Early C19 (1800-1830)	3
FPW12	127	Fill	B	S118	Plaster dump within [133]	Early C19 (1800-1830)	3
FPW12	128	Fill	B	S118	Primary Fill of [133]	Early C19 (1800-1830)	3
FPW12	129	Fill	B	S109	Upper Fill of [135]	Mid C19 (1830-1870)	4
FPW12	130	Fill	B	S109	Fill of [135]	Mid C19 (1830-1870)	4
FPW12	131	Fill	B	S103	Fill of [132]	Early C19 (1800-1830)	3
FPW12	132	Cut	B	S103	Linear Planting Bed	Early C19 (1800-1830)	3
FPW12	133	Cut	B	S118	Rubbish Pit?	Early C19 (1800-1830)	3
FPW12	134	Fill	B	S109	Primary Fill of [135]	Mid C19 (1830-1870)	4
FPW12	135	Cut	B	S109	Large Planting Pit	Mid C19 (1830-1870)	4
FPW12	136	Fill	B	S105	Fill of [137]	Late C18 (1780-1800)	2
FPW12	137	Cut	B	n/a	Posthole	Late C18 (1780-1800)	2
FPW12	138	Fill	B	S106	Fill of [139]	Late C18 (1780-1800)	2
FPW12	139	Cut	B	S106	Posthole	Late C18 (1780-1800)	2

FPW12	140	Fill	B	S107	Fill of [141]	Early C19 (1800-1830)	3
FPW12	141	Cut	B	S107	Tree Planting Hole	Early C19 (1800-1830)	3
FPW12	142	Fill	B	S108	Fill of [143]	Late C18 (1780-1800)	2
FPW12	143	Cut	B	S108	Planting Hole	Late C18 (1780-1800)	2
FPW12	144	Fill	B	S117	Upper Fill of [157]	Mid C19 (1830-1870)	4
FPW12	145	Layer	B	n/a	Earlier Horticultural Soil	Mid/Late C18 (1764-1780)	1
FPW12	146	Fill	B	S110	Fill of [147]	Late C18 (1780-1800)	2
FPW12	147	Cut	B	S110	Planting Hole	Late C18 (1780-1800)	2
FPW12	148	Fill	B	S109	Fill of [135]	Mid C19 (1830-1870)	4
FPW12	149	Fill	B	n/a	Slumping within [135]	Mid C19 (1830-1870)	4
FPW12	150	Fill	B	S112	Fill of [151]	Late C18 (1780-1800)	2
FPW12	151	Cut	B	S112	Posthole	Late C18 (1780-1800)	2
FPW12	152	Fill	B	S111	Fill of [156]	Early C19 (1800-1830)	3
FPW12	153	Fill	B	S111	Fill of [156]	Early C19 (1800-1830)	3
FPW12	154	Fill	B	S117	Fill of [157]	Mid C19 (1830-1870)	4
FPW12	155	Fill	B	S117	Fill of [157]	Mid C19 (1830-1870)	4
FPW12	156	Cut	B	S111	Tree Planting Hole	Early C19 (1800-1830)	3
FPW12	157	Cut	B	S117	Large Planting Pit	Mid C19 (1830-1870)	4
FPW12	158	Fill	B	S114	Fill of [159]	Late C18 (1780-1800)	2
FPW12	159	Cut	B	S114	Linear Planting Bed	Late C18 (1780-1800)	2
FPW12	160	Fill	B	n/a	Fill of [161]	Late C18 (1780-1800)	2
FPW12	161	Cut	B	n/a	Post Hole	Late C18 (1780-1800)	2
FPW12	162	Fill	B	n/a	Fill of [163]	Late C18 (1780-1800)	2
FPW12	163	Cut	B	n/a	Posthole	Late C18 (1780-1800)	2
FPW12	164	Fill	B	S121,122	Primary Fill of [169]	Late C18 (1780-1800)	2
FPW12	165	Fill	B	S116	Fill of [166]	Early C19 (1800-1830)	3
FPW12	166	Cut	B	S116	Tree Planting Hole	Early C19 (1800-1830)	3
FPW12	167	Fill	B	n/a	Fill of [168]	Late C18 (1780-1800)	2
FPW12	168	Cut	B	n/a	Post Hole	Late C18 (1780-1800)	2
FPW12	169	Cut	B	S121,122	Linear Planting Bed	Late C18 (1780-1800)	2
FPW12	170	Cut	B	S119	Planting Hole	Mid C19 (1830-1870)	4
FPW12	171	Fill	B	S119	Fill of [170]	Mid C19 (1830-1870)	4
FPW12	172	Cut	B	n/a	Linear Planting Bed	Late C18 (1780-1800)	2
FPW12	173	Fill	B	n/a	Fill of [172]	Late C18 (1780-1800)	2
FPW12	174	Cut	B	S120	Linear Planting Bed	Mid/Late C18 (1764-1780)	1
FPW12	175	Fill	B	S120	Fill of [174]	Mid/Late C18 (1764-1780)	1
FPW12	176	Cut	B	S127	Linear Planting Bed	Mid/Late C18 (1764-1780)	1
FPW12	177	Fill	B	S127	Fill of [176]	Mid/Late C18 (1764-1780)	1
FPW12	178	Cut	B	n/a	Linear Planting Bed	Late C18 (1780-1800)	2
FPW12	179	Fill	B	n/a	Fill of [178]	Late C18 (1780-1800)	2
FPW12	180	Fill	B	S119	Primary Fill of [170]	Mid C19 (1830-1870)	4
FPW12	181	Cut	B	S123	Planting Hole	Early C19 (1800-1830)	3
FPW12	182	Fill	B	S123	Fill of [181]	Early C19 (1800-1830)	3
FPW12	183	Cut	B	S125	Planting Hole	Early C19 (1800-1830)	3
FPW12	184	Fill	B	S124	Fill of [183]	Early C19 (1800-1830)	3
FPW12	185	Fill	B	S122	Fill of [169]	Late C18 (1780-1800)	2
FPW12	186	Fill	B	S122	Primary Fill of [169]	Late C18 (1780-1800)	2
FPW12	187	Cut	B	S127	Linear Planting Bed	Late C18 (1780-1800)	2

FPW12	188	Fill	B	S127	Fill of [187]	Late C18 (1780-1800)	2
FPW12	189	Cut	B	S127	Linear Planting Bed (same as [187])	Late C18 (1780-1800)	2
FPW12	190	Fill	B	S127	Fill of [137]	Late C18 (1780-1800)	2
FPW12	191	Fill	B	S127	Fill of [176]	Mid/Late C18 (1764-1780)	1
FPW12	192	Cut	B	S126	Planting Hole	Early C19 (1800-1830)	3
FPW12	193	Fill	B	S126	Fill of [192]	Early C19 (1800-1830)	3
FPW12	194	Fill	B	S126	Fill of [192]	Early C19 (1800-1830)	3
FPW12	195	Cut	B	S128	Tree Planting Hole	Early C19 (1800-1830)	3
FPW12	196	Fill	B	S128	Fill of [195]	Early C19 (1800-1830)	3
FPW12	197	Fill	B	S127	Fill of [189]	Late C18 (1780-1800)	2
FPW12	198	Fill	B	S128	Fill of [195]	Early C19 (1800-1830)	3

APPENDIX 2: ROMAN POTTERY ASSESSMENT

Katie Anderson

An assemblage totalling 36 sherds of Roman pottery, weighing 487g was recovered from all the phases of excavation. The assemblage comprised small to medium sized sherds, with a mean weight of 13.5g. The majority of the material was poorly preserved and abraded. All of the pottery was residual, recovered from later dating features. The pottery ranged in date from the early to the later Roman period, although there was a peak in the later Roman period at AD250. A range of vessel fabrics were identified, with sources including Alice Holt, Oxfordshire, BB2 and Nene Valley colour-coats. There was also one possible Portchester D sherds, indicative of 4th-century AD activity. The Roman pottery is therefore broadly in keeping with the material collected from previous phases of activity (Gerrard 2009 in Payne and Fairman), indicative of a peak in activity in the late Roman period.

Recommendations

No further work is required on this assemblage. However, these finds will be considered and briefly described with the rest of the Roman pottery from Fulham Palace in the proposed sitewide publication.

Bibliography

Payne, J. & Fairman, A., 2009. An Archaeological Evaluation within the Walled Garden at Fulham Palace, London Borough of Hammersmith & Fulham. Pre-Construct Archaeology unpublished report

The table below lists the contexts within which pottery dated to the Roman period was recovered during the excavation. Listed alongside are the date ranges of the pottery

Context	Assemblage Spotdate
1	AD320-420
2	AD240-400
9	AD200-275
18	AD200-400
26	AD200-400
101	AD250-400
103	AD250-400
107	AD100-400
109	AD200-400
145	AD200-400
162	AD100-400

APPENDIX 3: POST ROMAN POTTERY ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of pottery was recovered from the site (six boxes). The pottery dates from the medieval and post-medieval periods. A number of sherds show evidence for abrasion (3.3% by sherd count), laminated (4.5% by sherds) or burnt (0.2% by sherds) and these probably reflect depositional conditions associated with horticultural activity. Consequently much of the pottery is fragmentary, although some complete profiles of vessels do survive. A small proportion of the pottery was probably deposited into rubbish pits fairly rapidly after breakage, while notable quantities was derived from horticultural soils and were therefore subject to redeposition. Residual sherds are as 6.3% by sherd count and intrusive material is low as 0.1%. The pottery was quantified by sherd count and estimated number of vessels (ENV), besides weight. Pottery was recovered from 54 contexts and individual deposits produced small (fewer than 30 sherds) medium (less than 100 sherds) and three large (over 100 sherds) groups of pottery.

All the pottery (1,366 sherds, 974 ENV, and weighing 16,581g, of which 30 sherds, 24 ENV and 1092g are unstratified) was examined macroscopically and microscopically using a binocular microscope (x20), and recorded in an ACCESS database, by fabric, form and decoration. The classification of the pottery types is according to the Museum of London Archaeology. The pottery is discussed by types and its distribution.

The Pottery Types

The quantification of the pottery for each post-Roman archaeological period is as follows:
Medieval: 11 sherds, 11 ENV, 158g; Post-medieval: 1,355 sherds, 963 ENV, 16,423g

Medieval pottery types

There is a limited range of pottery types in the assemblage, dating from the late 11th century through to the 15th century (see Table 1). The main sources are as London glazed red earthenwares (Pearce *et al.* 1985) and Surrey whitewares (Pearce & Vince 1988). All of the pottery from this period is residual, although it could be derived from on site sources and from medieval activity associated with the Bishop's Palace. Jars and jugs were the only forms that could be identified in the medieval pottery (see Table 2).

The range of forms found in the medieval pottery types are shown in Table 2 and quantified by MNV and shows that there only two identifiable types: jars and jugs.

Post-Medieval pottery types

English Earthenwares

The English post-medieval earthenwares present are typically those found in the London area and consist of mainly Surrey-Hampshire border red and whitewares (Pearce 1992), coarse London redwares (Nenk and Hughes 1999) and delftwares (Orton 1988), besides a small quantity of non-local wares with sources mostly located in the Midlands (see Table 3). The forms are typically those that occur in the repertoire of each industry (see Table 4), although as would be expected for a walled garden, flower pots are the main form represented. The flower pots are mostly present in PMR, besides a non-local redware (MISC PMRED).

Industrial finewares

A variety of industrial finewares occurs in the assemblage (see Table 5) and is more frequent than other pottery types. These wares date to after 1740 and their frequency almost certainly reflects chronologically the most intensive period of activity within the area of the walled garden. The forms represented in the industrial finewares (see Table 6) are typically those types associated with these wares and consist of mostly table ware and tea ware forms. The sources of the pottery are probably associated with Fulham Palace and its ancillary buildings.

English Stonewares

The English stonewares occur in the assemblage as a wide range of types (see Table 7) and as mostly types frequently found in the London area, although SMEAR and WHIST are rarer types. A small number of waster LONS sherds were derived from the local Fulham Pottery (Green 1999), such as a bottle. The forms (see Table 8) represented in these stonewares are notably as containers: bottles and jars, although table wares are typically in mid 18th-century SWSG and ubiquitous teapots are found in BBAS.

English porcelains

The English porcelains are typically small in quantity (see Table 9); although they do contain some, expensive for the time, late 18th-century wares (ENPO BW). The only forms identified in the English porcelains are a dish and three saucers.

Imported pottery

The imported pottery (Hurst *et al.* 1986) occurs in a limited range of pottery types (see Table 10) and mostly as Chinese porcelains and a little Westerwald stoneware. These reflect the limited range of pottery types being imported into England during the 18th and 19th centuries as a result of taxes on foreign ceramics resulting from the Navigation Acts dating from the 1660s. Some 17th-century Frechen stoneware is represented. The forms (see Table 11) are typically as tea and table wares in the Chinese porcelains and seltzer bottles (in WEST) and jugs in the German stonewares. 'Cheap and cheerful' Continental porcelain bowls also occur.

Distribution and dating

Table 12 shows the contexts containing pottery, the phase they occur in, the size/number of sherds, ENV and weight, the earliest and latest date of the most recent pottery type (Context ED/LD), and a considered (spot) date for the group. All of the Post-Roman pottery was recovered from Phases 1 to 6 dated deposits.

Significance of the collection

The pottery has little significance at a local level. The pottery-types in the assemblage are on the whole in keeping with the ceramic profile for the London area. The medieval ceramics are residual and confirm this period of activity associated with Fulham Palace and much more informative groups of pottery dated between 900-1500 were recovered from other excavation trenches located within the grounds of this high status residence (FLB03: Jarrett in prep.). Pottery types dated to the 16th and 17th centuries also appear to be residual and only 18th- and 19th-century groups of pottery appear to reflect contemporary activity. These late post-medieval pottery groups probably represent domestic refuse from Fulham Palace and its ancillary buildings and therefore contain both high and low socio-economic wares reflecting the inhabitants of the main building and its servants, besides other workers living and working within the grounds of the palace. The flower pots and other gardening ceramics are of some interest for demonstrating horticultural activity within the area of the walled garden.

Potential

The pottery has the potential to date the features in which it was found and to provide a sequence for them. None of the pottery merits illustration or photographing. The later post-medieval pottery has some potential to determine what sources (i.e. socio-economic status ones) it was derived from and possibly illuminate upon the activities of the gardeners. These groups of pottery may also be able to say something of the disposal mechanisms (or taphonomic processes) of ceramic refuse within the area of the walled garden.

Recommendations for further work

A short publication on the Post-Roman pottery assemblage from the area of the walled garden should be under taken, concentrating on the status of the pottery and its methods of disposal. None of the pottery requires illustration.

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Pottery type	Fabric Code	Earliest date	Latest date	SC	ENV	Weight (g)
Coarse London-type ware	LCOAR	1080	1200	1	1	84
London-type ware	LOND	1080	1350	1	1	12
Kingston-type ware	KING	1240	1400	4	4	24
Coarse Surrey-Hampshire border ware	CBW	1270	1500	3	3	28
Cheam whiteware	CHEA	1350	1500	2	2	10

Table 1. FPW12. Quantification of medieval pottery types by sherd count (SC), ENV and weight in grams.

	Forms			
Fabric code	Jar	Jug	Unidentified	Total
CBW			3	3
CHEA			2	2
KING	1	2	1	4
LCOAR		1		1
LOND		1		1

Table 2. FPW12: Quantification of the medieval pottery types and the forms present in each type.

Pottery type	Fabric code	Earliest date	Latest date	SC	ENV	Weight (g)
Surrey-Hampshire border wares						
Surrey-Hampshire border whiteware	BORD	1550	1700	1	1	18
Surrey-Hampshire border whiteware with brown glaze	BORDB	1600	1700	1	1	25
Surrey-Hampshire border whiteware with green glaze	BORDG	1550	1700	3	3	20
Surrey-Hampshire border green-glazed whiteware flat-rimmed chamber pot	BORDG CHP2	1650	1750	1	1	12
Surrey-Hampshire border whiteware with olive glaze	BORDO	1550	1700	1	1	3
Surrey-Hampshire border whiteware with yellow glaze	BORDY	1550	1700	3	3	46
Surrey-Hampshire border redware	RBOR	1550	1900	99	70	1672
Surrey-Hampshire border redware with brown glaze	RBORB	1580	1800	1	1	68

Pottery type	Fabric code	Earliest date	Latest date	SC	ENV	Weight (g)
Surrey-Hampshire border redware with green glaze	RBORG	1580	1800	3	2	27
Surrey-Hampshire border redware with slip-trailed decoration	RBORSL	1580	1800	1	1	14
London area coarse red earthen wares						
London-area post-medieval redware	PMR	1580	1900	291	138	6313
London-area post-medieval slipped redware with green glaze	PMSRG	1480	1650	1	1	12
Tin-glazed earthen ware						
English tin-glazed ware	TGW	1570	1846	6	6	37
Tin-glazed ware with plain pale-blue glaze	TGW BLUE	1630	1846	31	29	258
Tin-glazed ware with plain white glaze (Orton style C)	TGW C	1630	1846	6	6	32
Tin-glazed ware with external lead glaze/polychrome painted (Orton style D)	TGW D	1630	1680	2	2	6
Tin-glazed ware with pale blue glaze and dark blue decoration (Orton and Pearce style H)	TGW H	1680	1800	14	14	109
Late tin-glazed ware	TGW LATE	1745	1846	1	1	42
Miscellaneous						
Miscellaneous unsourced post-medieval pottery	MISC	900	1900	1	1	8
Miscellaneous post-medieval redware	MISC PMRED			1	1	4
Miscellaneous unsourced post-medieval slipwares	MISC SLIP	1480	1900	1	1	4
Non-local pottery types						
Midlands late medieval orange ware	MORAN	1400	1820	1	1	2
Blackware	BLACK	1600	1900	1	1	22
Rockingham mottled brown-glazed ware	ROCK	1800	1900	1	1	6
Staffordshire-type black-glazed ware	STBL	1740	1780	1	1	28
Staffordshire-type mottled brown-glazed ware	STMO	1650	1800	2	2	20
Combed slipware	STSL	1660	1870	12	10	223
Sunderland-type coarseware	SUND	1800	1900	8	8	227
Sunderland-type coarseware with brown mottled glaze	SUND MOT	1775	1850	1	1	16
Plain yellow ware	YELL	1820	1900	23	23	362
Yellow ware with industrial slip decoration	YELL SLIP	1820	1900	22	21	233

Table 3: FPW12. Quantification of English earthenware pottery types by SC, ENV and weight (g)

Forms

Basic fabric type	Albarello	Bowl	Chamber pot	Dish	Flower pot	Jar	Jug	Lid	Ointment pot	Paint pot	Pipkin	Plate	Porringer	Tripod pipkin	Teapot	Unidentified	Total
Surrey-Hampshire border wares																	
BORD		2	1										1	1		5	10
RBOR		1	1	2		14		1		2	3					50	74
Coarse London																	

Forms

Basic fabric type	Albarello	Bowl	Chamber pot	Dish	Flower pot	Jar	Jug	Lid	Ointment pot	Paint pot	Pipkin	Plate	Porringer	Tripod pipkin	Teapot	Unidentified	Total
redwares																	
PMR		3	2	2	96	6										29	138
PMSRG																1	1
Miscellaneous redwares					1												1
Delftware																	
TGW	1	1	2	2					7			9				36	58
Non-local wares																	
MORAN																1	1
BLACK																1	1
ROCK								1									1
STBL															1		1
STMO		1														1	2
STSL				7									1			2	10
SUND		8														1	9
YELL		12		3			3									26	44

Table 4. FPW12, quantification of the form types for each basic English earthenware fabric types by ENV

Pottery type	Fabric code	Earliest date	Latest date	SC	ENV	Weight (g)
Bone china	BONE	1794	1900	21	19	121
Creamware with developed pale glaze	CREA DEV	1760	1830	331	165	2340
Early creamware	CREA EAR	1750	1770	1	1	24
Creamware with polychrome painted decoration	CREA PNTD	1760	1800	3	3	8
Creamware with industrial slip decoration	CREA SLIP	1775	1830	1	1	1
Pearlware	PEAR	1770	1840	35	30	183
Pearlware with under-glaze blue painted decoration	PEAR BW	1770	1820	20	16	79
Pearlware with under-glaze polychrome painted decoration (earth colours)	PEAR ERTH	1790	1820	11	11	34
Pearlware with under-glaze painted decoration	PEAR PNTD	1770	1840	2	1	6
Pealrware with industrial slip decoration	PEAR SLIP	1775	1840	9	7	95
Pearlware with under-glaze transfer-printed decoration	PEAR TR	1770	1840	71	66	376
Refined red earthenware	REFR	1740	1800	2	2	3
Plain refined white earthenware	REFW	1805	1900	37	36	264
Refined white earthenware with under-glaze painted decoration (chrome colours)	REFW CHROM	1830	1900	4	3	30
Refined white earthenware with sponged or spattered decoration	REFW SPON	1805	1900	1	1	1
Transfer-printed refined whiteware	TPW	1780	1900	55	51	313

Pottery type	Fabric code	Earliest date	Latest date	SC	ENV	Weight (g)
Transfer-printed refined whiteware with 'flow blue' decoration	TPW FLOW	1830	1900	4	4	25
Brown or black transfer-printed refined whiteware (type 3)	TPW3	1810	1900	2	2	3
Transfer-printed refined whiteware with new colour decoration (type 4)	TPW4	1825	1900	7	7	17
Transfer-printed refined whiteware with three colour decoration (type 5)	TPW5	1848	1900	1	1	3
Transfer-printed refined whiteware with under-glaze printed and over-glaze painted decoration (type 6)	TPW6	1840	1900	3	3	27

Table 5: FPW12. Quantification of industrial fineware pottery types by SC, ENV and weight (g)

Forms

Basic fabric type	Bowl	Chamber pot	Dish	Jar	Jug	Lid	Mug	Plate	Saucer	Tea bowl	Tea cup	Tea pot	Unidentified	Total
BONE			1					2	7		5		4	19
CREA	18	17	8	2	2			72		1		1	49	170
PEAR	12		3		1		2	38	13	1	10		51	131
REFR							1						1	2
REFW	2	1	1	3	1			13	2				17	40
TPW	2		1			1		20	2		7		35	68

Table 6. FPW12, quantification of the form types for each basic industrial fineware fabric types by ENV

Pottery type	Fabric code	Earliest date	Latest date	SC	ENV	Weight (g)
Black basalt stoneware	BBAS	1770	1900	7	5	111
Derbyshire stoneware	DERBS	1700	1900	4	4	75
English stoneware	ENGS	1700	1900	14	14	198
English stoneware with Bristol glaze	ENGS BRST	1830	1900	11	11	153
London stoneware	LONS	1670	1926	67	60	1350
Midlands purple ware	MPUR	1400	1750	2	2	35
Nottingham stoneware	NOTS	1700	1800	4	4	16
Glazed red stoneware	RESTG	1760	1780	1	1	8
Smear-glazed white stoneware	SMEAR	1795	1900	1	1	3
White salt-glazed stoneware	SWSG	1720	1780	27	26	216
White salt-glazed stoneware with polychrome painted decoration	SWSG PNTD	1750	1780	1	1	5
White salt-glazed stoneware with scratch blue decoration	SWSG SCRB	1740	1780	1	1	3
Dipped white salt-glazed stoneware	SWSL	1710	1760	2	1	13
White stoneware	WHIST	1790	1900	1	1	2

Table 7: FPW12. Quantification of English stoneware pottery types by SC, ENV and weight (g)

Fabric basic	Bottle	Bowl	Chamber pot	Jar	Jug	Lid	Plate	Saucer	Tankard	Teapot	Unidentified	Total
BBAS										4	1	5
DERBS				1							3	4
ENGS	18					1					6	25
LONS	13			1	16				2		28	60
MPUR				1							1	2
NOTS											4	4
RESTG										1		1
SMEAR											1	1
SWSG		2	2				5	3			16	28
SWSL									1			1
WHIST											1	1

Table 8. FPW12, quantification of the form types for each basic English stoneware fabric types by ENV

Pottery type	Fabric code	Earliest date	Latest date	SC	ENV	Weight (g)
English porcelain with under-glaze blue painted decoration	ENPO BW	1745	1830	2	2	5
English porcelain with over-glaze transfer-printed decoration	ENPO OTR	1755	1800	1	1	8
English porcelain with under-glaze blue transfer-printed decoration	ENPO UTR	1760	1900	1	1	8

Table 9: FPW12. Quantification of English porcelain pottery types by SC, ENV and weight (g)

Pottery type	Fabric code	Earliest date	Latest date	SC	ENV	Weight (g)
China						
Chinese porcelain	CHPO	1580	1900	2	2	5
Chinese porcelain, Batavian ware	CHPO BATV	1700	1750	1	1	2
Chinese blue and white porcelain	CHPO BW	1590	1900	18	18	122
Chinese Imari porcelain	CHPO IMARI	1680	1900	3	3	46
Chinese porcelain with famille rose decoration	CHPO ROSE	1720	1800	4	4	13
Chinese porcelain with famille verte decoration	CHPO VERTE	1690	1730	2	2	7
Continent						
Continental porcelain	CONP	1710	1900	4	2	92
Germany						
Frechen stoneware	FREC	1550	1700	7	7	68
Westerwald stoneware	WEST	1590	1900	4	4	34
Westerwald stoneware with purple and blue decoration	WEST PURP	1665	1750	1	1	3

Table 10: FPW12. Quantification of imported pottery types by SC, ENV and weight (g)

Fabric basic	Bottle	Bowl	Jar	Jug	Plate	Saucer	Tea bowl	Unidentified	Total
China									

Fabric basic	Bottle	Bowl	Jar	Jug	Plate	Saucer	Tea bowl	Unidentified	Total
CHPO		1	1		13	7	5	3	30
Continent									
CONP		2							2
Germany									
FREC				6				1	7
WEST	3			1				1	5

Table 11. FPW12, quantification of the form types for each basic imported pottery type by ENV

Context	Trench	Phase	Assemblage size	SC	ENV	Weight (g)	Context ED	Context LD	Context considered date
1	A	6	M	58	55	555	1830	1900	Late 19th century
2	A	5	M	215	153	2878	1830	1900	Late 19th century
5	A	3	M	56	48	694	1820	1900	1820-1900
7	A	3	S	20	20	290	1770	1840	1770-1800
9	A	5	S	13	11	139	1780	1900	1790-1900
12	A	3	S	7	7	44	1805	1900	1805-1840
14	A	3	S	1	1	7	1805	1900	1805-1840
16	A	3		4	4	19	1780	1900	1780-1846
18	A	4	S	7	7	25	1830	1900	1830-1900
22	A	4	S	50	40	770	1820	1900	1820-1900
23	A	4	S	44	35	594	1820	1900	1820-1900
25	A	4	S	3	3	115	1820	1900	1770-1840
26	A	1	S	6	6	122	1825	1900	1825-1900
30	A	3	S	3	3	8	1825	1900	1825-1900
32	A	3	S	15	11	126	1830	1900	1830-1900
33	A	3	S	31	29	376	1770	1840	1770-1830
35	A	3	S	5	5	21	1790	1830	1790-1820
37	A	3	S	4	4	18	1820	1900	1820-1900
39	A	3	S	5	5	38	1770	1830	1770-1830
41	A	3	S	1	1	4	1794	1900	19th century
43	A	2	S	8	7	82	1720	1780	1720-1780
101	B	5	S	276	148	3222	1830	1900	1825-1900
102	B	3	S	58	47	928	1830	1900	1830-1900
103	B	5	S	46	28	323	1820	1900	1820-1900
107	B	3	S	9	9	74	1770	1840	Early 19th century
109	B	4	S	2	2	23	1760	1830	Early 19th century
111	B	4	S	2	2	6	1770	1840	1770-1840h century
113	B	3	S	11	10	47	1820	1900	1820-1900
123	B	3	S	5	5	27	1760	1830	1760-1830
125	B	2	S	3	3	4	1720	1780	1720-1780
127	B	3	S	5	5	33	1805	1900	1805-1900

Context	Trench	Phase	Assemblage size	SC	ENV	Weight (g)	Context ED	Context LD	Context considered date
129	B	4	S	121	53	1075	1830	1900	1830-1850
134	B	4	S	1	1	1	1760	1830	1760-1830
136	B	2	S	1	1	4	1630	1846	18th-early 19th century
138	B	2	S	1	1	1	1550	1900	1550-1900
140	B	3	S	7	5	51	1770	1840	1770-1840
144	B	4	S	50	26	510	1770	1840	Early 19th century
145	B	1	S	59	51	944	1760	1830	1760-1780*
149	B	4	S	3	3	38	1720	1800	1720-1800
152	B	3	S	4	4	52	1770	1840	1790-1810
154	B	4	S	8	7	68	1760	1830	1760-1830
155	B	4	S	7	6	45	1760	1830	1760-1830
158	B	2	S	4	4	15	1660	1900	18th century
164	B	2		9	9	39	1760	1830	1760-1800
165	B	3		11	8	161	1770	1840	Early 19th century
167	B	2		3	3		1760	1830	1760-1800
171	B	4		6	6	45	1805	1900	1805-1870
175	B	1		1	1	2	1580	1900	18th-19th century
177	B	1		10	10	41	1740	1780	1740-1780
180	B	4		3	3	8	1760	1830	1760-1830
182	B	3		2	2	26	1630	1846	18th century
188	B	2		2	2	2	1720	1780	1720-1780
196	B	3		50	30	751	1805	1900	1805-1830

Table 12. FPW12: Distribution of pottery types showing individual contexts containing pottery, what phase the context occurs in, the number of sherds (SC), ENV and weight, the date range of the latest pottery type (Context ED/LD), the fabrics present and a suggested deposition date.

APPENDIX 4: BUILDING MATERIAL ASSESSMENT

Kevin Hayward

Introduction and Aims

Ten boxes and seven large bags of ceramic building material, stone, plaster and mortar were retained from the Fulham Palace Walled Garden: Public Archaeological Project. This moderate sized assemblage (1,105 examples, 106.5kg) was assessed in order to:

- Identify (under binocular microscope) the fabric and forms of the Roman, medieval, post-medieval ceramic building material recovered within the area of the walled garden in order to provide spot dates and fabric types.
- Identify the fabric and form of whole bricks and mortar used in block up three bee-boles – A, B, C from the north-west facing garden wall.
- Identify the fabric of the worked stone objects in order to determine what the material was made of and from where it was coming from.
- Make recommendations for further study.

Methodology

A site visit during July 2012, taught volunteers how to identify and differentiate between types of building material (stone; mortar; brick; tile) as well as periods of use (Roman; medieval; post-medieval) at the high-status multi-period excavation at Fulham Palace. Emphasis was placed on materials associated with post-medieval walled gardens. During the course of the excavation, all examples of building material were collected.

For the material used to infill the three Bee-Boles (A; B; C) all the whole brick and mortar was retained in order to provide a more in-depth analysis of these features.

The application of a 1kg mason's hammer and sharp chisel to each example ensured that a small fresh fabric surface was exposed. The fabric was examined at x20 magnification using a long arm stereomicroscope or hand lens (Gowland x10). Matches were then made with the London fabric collection.

Ceramic Building Material

Roman 16 Examples 566g

Sandy Fabric Group 2815 (AD50-160)
2452 (AD55-160) 2459a (AD50-160)
Radlett iron oxide group 3060 (AD50-120)
Wealden silty group 3238 (AD71-100)

Small fragments of early (mid first to early second century) abraded Roman roofing material including curved imbrex and flanged tegulae are occasionally present. The exception is a solitary brick fragment. These form a minor residual group within the 18th- and 19th-century garden sequence, but concentrate more in Phase 1-4 levels in Trench B [143] [144] [145] [149] [152] [158]. Roman features yielding fragments of ceramic building material have recently been recorded close by the walled garden in Trench 165 (Hayward in prep a.)

As expected the common sandy group predominates, supplemented by one imbrex in the Radlett fabric from a Phase 3 fill of a tree-planting hole [152] and a coarse banded silty Wealden example *3238* from a late Victorian horticultural layer [2].

Medieval 44 examples 1.3kg

It is likely that much of this abraded ceramic building material assemblage originally came from construction materials used in the 13th-century Homestead Manor and later 14th- and 15th-century enlargements and modifications.

Roofing Tile 43 examples 1.3kg
Peg tile fabrics *2271* (1180-1450)
*2587 (*1240-1450)
3205 (1180-1800)
Examples of broken up thin, abraded medieval peg tile characterised by coarse moulding sand and occasional splash glaze form an important background component to the 18th- and 19th-century sequence. There is, however, little or no definable pattern in its distribution in Trench A or B. Most of it having been dispersed by early horticultural activity (manure), earth worm action and cultivation. The fine sandy fabric with a reduced core *2271* (1180-1450) is fairly common although the slightly later red iron oxide *2587* accounts most 60% by weight. The absence of the early *2272* fabric may be significant as this was manufactured between 1135 and 1220 prior to the construction of the Homestead Manor.

Finally, an individual example of the rare yellow Wealden silty fabric *3205* was recovered from a Phase 5 interface layer [101].

Floor Tile Fabrics
1 example 26g Westminster plain-glazed floor tile *2892* (1225-1275)
A solitary brown-glazed 13th-century Westminster floor tile fragment was recovered from the Phase 1 fill of linear planting bed [175] and was perhaps a surprising find. It is possible; of course, that it could once formed part of the flooring of the 13th-century Homestead Manor.

Post-medieval 661 examples 38.5 kg

Excluding the infill of the bee-bole, which forms a separate section (see below) the broken up post-medieval ceramic component forms by far the greatest proportion by number (92%) and weight (5%) of the ceramic building material assemblage in Trenches A and B. This is to be expected given the early 18th-century to late 19th-century dates associated with the development of the walled garden.

Brick 182 examples 16kg

Unlike the Bee-Bole (see below) where only complete bricks were recovered, the material from Trenches A and B is fragmentary or at best defined by two worked edges [7] [14] [22]. Thus little can be gleaned from brick size to estimate period of use and original structure. Here, brick fabric will be mainly used to gauge period of use. The large variety of fabric types listed below must also be seen in terms of the site's proximity to the River Thames.

Early Post-medieval Reds 76 examples 3.2 kg

3033 (1450-1800)

3046 (1450-1800)

3039 (1450-1800)

3065 (1450-1800)

Outside of the city of London and Southwark, care must be taken not to date all the red brick to an early post-medieval period of manufacture (1450-1700). This is because the tradition of using local red brickearth to produce a range of brick fabrics including *3033* (compact sandy); *3046* (loose sandy); *3039* (silt inclusions); *3065* (burnt flint inclusions) continues unabated into the 18th century. Thus the origin of a large number of small red fragmentary bricks throughout the sequence in both Trench A and B may not necessarily relate to debris from the Tudor Fulham Palace (Hayward 2009) or the 1506-1522 walled garden but with later 18th-century additions. Traces of the Type 1 lime mortar are often found attached as with group identified used in the Phase 1 mid-late 18th-century horticultural layer of Trench B [145]

Intermediate Forms *3032nr3033* (1664-1725) 1 example 52g

A solitary fragment of brick made from the maroon early post-Great Fire fabric *3032nr3033* (1664-1725) was recovered from the Phase 2 primary fill of a linear planting bed [164]. More examples of this intermediate fabric were re-used in the Bee-Bole (see below).

Post-Great Fire *3032; 3034; 3032nr3065* (1664-1900) 97 examples 11.8kg

A larger group of bricks recovered throughout the sequence are the clinker rich, purple, brown and red bricks assigned as post-Great Fire bricks, produced from the 1660s until 1900 in London.

Unlike the red group, fragments are larger and some, as with examples from [7] [14] [23], have more than one worked edge making it possible to estimate dimension and thus date. Here the bricks are narrow (95-102mm) and thick (62-65mm), conforming to the sizes required by the brick regulation tax, introduced after 1770. What is more some have a frog as with the Phase 3 fill [23] of planting pit [22], a characteristic of brick after 1750 or are bonded by a hard type 2 19th-century concrete mortar in another Phase 3 garden fill [14]. Many are likely to represent weathered or damaged fragments from the late 18th-century perimeter garden wall.

Two sub-types have been recorded. First the conventional maroon *3032* and *3034* bricks produced in London and then a red vuggy clinker variant *3032nr3065*, possibly locally produced. These are both very common and have comparable narrow dimensions suggesting both were manufactured after 1770.

Yellow London 1 example 52g
3035 (1780-1940)
Examples of yellow frogged bricks, manufactured in large quantities out of North Kent estuarine clay to meet demands for housing, service and industrial construction in Victorian London and beyond was only observed in a solitary example from the late 19th-century Phase 5 horticultural soil [2].

Dutch Paving Brick 5 examples 0.6kg
3036 (1600-1800)
Narrow, small (160 x 690 x 32mm) green-grey Dutch paving bricks were ideally suited for use in 17th- and 18th-century garden pathways as well as delineating garden borders. They have been used in ornamental gardens as for example at Bushy Park and Chiswick House (Hayward pers. obs.). Thus their common occurrence in Phase 2 primary fill of a linear planting bed [164] and Phase 3 planting hole fills [152] [196] from the Fulham Palace was not unexpected.

Red Paving Brick 1 example 52g
3047 (1690-1900)
A solitary post-medieval red paving brick fragment, also possibly associated with garden pathways was recovered from a Phase 4 primary fill of a rubbish pit [23].

Roofing Tile 451 examples 19.8kg
Large quantities of (largely) broken up post-medieval roofing tile are numerically by far the most common type of building material recovered from the sequence.

Peg Tile 437 examples 19kg
Sandy London fabrics *2276* (1480-1900); 2 variants

Vuggy *2276* (thicker 15mm) uneven and pitted; small ridges (1480-1800)

Fine *2276* (thinner 12mm) condensed fine moulding sand (1700-1900)
As was the case elsewhere in Fulham Palace (Hayward 2009) and London as a whole the very common sandy peg roofing tile fabric *2276* (1480-1900), pre-dominates. All of these peg tiles have two small (8-10mm) circular nail holes punched at one end, to which nails were used to attach the tile to the roof.

Two very common sub-types can be identified. First, those with a vuggy fabric are both poorly made and much thicker (15mm) than type 2 a finer (12mm) more condensed variant with fine moulding sand. Type a should be assigned to an earlier period of roofing (1480-1900), whilst type b is later post-medieval (1700-1900) as finer moulding sand characterises this period. They are all, with the exception of the Phase 5 horticultural layer [2] intermixed through repeated phases of cultivation and horticultural activity. Horticultural layer [2], however, contains over 8kg of the fine type b peg tile including five complete examples which have a burnt underside. It has not been possible to establish a source though they may well have been reclaimed from a damaged garden outbuilding adjoining the walled garden.

Pan tile 14 examples 0.8kg
Sandy fabrics *2279* (1630-1850)
2271 (1630-1800)
The introduction of thick (17mm) curved (or pan) tile for roofing from the Low Countries in London only began after the first quarter of the 17th century. Therefore the dispersal of a small quantity of fragmentary tile, throughout the sequence in both Trench A [22] [23] [45] and Trench B [101] [143] [165] [196] should not be seen as surprising.

Floor Tile 8 examples 0.7kg
Unglazed Flemish silty floor tiles fabric *2850*; *3080*; *1977* (1600-1850) 7 examples 0.4 kg
Sandy paving brick *3047* (1690-1900) 1 example 0.3kg
Low countries imports of large unglazed silty floor tiles, which were manufactured only after the start of the 17th century are scattered in small quantities throughout the sequence. Of interest is the presence of the rare fabric *3080* characterised by cream grog inclusions up to 15mm across, common red iron oxide and black iron oxide. In the walled garden this is the most common fabric, concentrating more in Trench B [129] [140] [143] [145] [165] than Trench A. They may well have been used as 18th-century paving slabs.

One exception is a solitary tile made from a local sandy group 3047 (1690-1900) from a Phase 3 early 19th-century horticultural soil layer in Trench A [5].

Tile Drain 1 example 45g
2276 fabric (1480-1900)

A smooth lipped edged fragment of ceramic building material made from the post medieval sandy fabric *2276* and recovered from a Phase 5 horticultural soil layer [5] is identical in form to some complete tile drains recovered nearby. These were stamped Registered 23rd October 1848 John Roberts 34 Eastcheap London. Thus a place and period of manufacture can be established.

Garden border 1 example 0.4kg

3261 (1850-1950)

A garden border fragment undulating in form, with a brown glaze and made from the same Coal Measure Upper Carboniferous clays as those used in Victorian Drains and kiln bricks was recovered from the topsoil [1] of Trench A. It was clearly used as a border to the late Victorian pathways within the walled garden.

Mortar, Plaster & Concrete

A summary of mortar types and concrete as well as their period of use from the excavations at FPW12 are given below (Figure 1).

Mortar/Concrete Type	Description	FPW12
T1 White lime mortar	Fairly soft lime mortar, containing small flecks of quartz and very occasional small 1mm flecks of red ceramic building material	Associated with common post medieval peg tile fragments 2276; red brick and occasional post-Great Fire brick probably 1700-1800
T2a Fine hard dark shelly brown concrete T2b dark grey version of T2a	A fine hard dark grey/ brown concrete fine (with angular brown, black and white (burnt flint) rock fragments) and small complete nacreous curved (gastropod) shell Dark-grey version of above	Occasionally present in re-pointed post-Great Fire brick from Phase 5 horticultural soil [2] and Phase 4 upper fill of planting pit [144] Found re-pointed onto early-mid 19th century T3 mortar on a l9th century post-Great Fire brick from Bee-bole A Both 1830-1900
T3 Light cream nodular mortar	Fine light-cream nodular concretionary (lime) mortar	Found bonding the late 18th-19th-century brick blocking Bee-boles A;B;C 1775-1900
P1 Painted Plaster	Arricio – pale grey, shelly with occasional burnt flint 35mm, thick Intonaco - 1mm white plaster Fresco – White (brush marks) 50%; pale lime green 35%; pale yellow 15%	8kg Recorded in-situ from a single Phase 3 plaster dump [127] within a large rubbish area of Trench B
P2 Stucco Plaster	Pink and White very fine broken up (Stucco?) plaster lumps pure chalky white	Associated with Painted wall plaster from [127] within a large rubbish area of Trench B and curved examples from the primary Phase 3 fill [128]

Figure 1 list of mortar types identified from evaluation phase at the walled garden excavation (FPW12)

Stone 12 examples 1.7kg

A very small group of worked stone fragments were revealed; their geological character, source and use are summarised below:

- Reigate stone *3107* Fine low density lime green glauconitic limestone. Lower Cretaceous (Upper Greensand) Reigate-Mertsham. Walling material 1 fragment from a Phase 3 Horticultural soil [5]
- Kentish ragstone/Hassock stone *3105*/*3106* hard dark grey calcareous sandstone (Kent Ragstone); – coarse grained glauconitic sandstone (Hassock stone) - Hythe Beds. Lower Cretaceous (Lower Greensand) Maidstone area, North Downs. Walling material 1 fragment from a Phase 3 Horticultural soil [102]
- Cornish (Delabole) Slate *3120* fissile maroon metamorphosed mudstone. Devonian North Cornwall (Padstow-Wadebridge). This roofing material is the most common rock type from the walled garden excavations 5 examples 349g. Identified in Phase 4 upper fill of planting pit [129]; Phase 5 horticultural soil [2] and Phase 3 fill of planting hole [7].
- Purbeck limestone *3126* dark shelly oyster fragments set in a fine dark micritic limestone matrix Upper Jurassic (Purbeckian) Isle of Purbeck e.g. Winspit Quarry/St Aldheim's Head. One 31mm thick paving slab from a Phase 2 fill of a liner planting bed [43].
- Kimmeridge Oil Shale Upper Jurassic (Kimmeridgian) Dorset coast fissile dark-grey-black carbonaceous shale. Used as a fuel from a Phase 3 linear fill of planting bed [113].
- Nediermendig lavastone *3123R* dark grey hard coarse vesicular lavastone – Tertiary Eifel Mountains, Rhineland. Part of a thick (45mm) rotary quernstone fragment sf 170 from a Phase 4 primary fill of rubbish pit [23].
- Ardingley sandstone – hard calcareous greensand – Wealden (Lower Cretaceous) Kent. Part of a large (35mm) thick hone sf 169 recovered from a Phase 1 horticultural layer [145].

On the basis of rock type it is easy to subdivide the assemblage up into two small groups. The first, consists of very common medieval and post-medieval material in London types including construction materials Kentish ragstone; Reigate stone; roofing material - Cornish slate, paving - Purbeck limestone and fuel – Kimmeridge oil shale. All have been recorded in the medieval and post-medieval development of Fulham Palace (Hayward 2009). The Purbeck limestone paver may well be associated with pathway development within the walled garden.

Of greater interest is a second (Roman) group. This consists of two portable stone objects; a German lava stone quern [23] sf 170 and a large whetstone made of Ardingley Sandstone [145] sf 169. Both are common material types for Roman London and as such probably derive from the same early features (Trench 165) (Hayward in prep. a) that the small group of Roman tile also came from. A millstone grit quern was also recovered from the fill of a Roman cut [1370] from an earlier phase of excavation (Hayward 2009).

The Bee-Bole Infills

42 examples of brick and mortar 54kg

3032; 3034; 3032R; 3034R; 3034n3035; 3032nr3033; 3046; 3065; Mortar Type 3

The form and fabric of the large quantities of whole brick as well as the mortar retained from the infill of the three bee-boles (A, B & C) were assessed to determine their spot dates (see distribution).

First, the brick from all three bee-boles was rendered with the same type of fine light-cream nodular concretionary (lime) mortar (Type 3) which indicated that all three were in-filled at exactly the same time. When this occurred is also easy to determine as they all contained examples of the same very narrow (95-103mm), and thick (65mm) and small (215mm) post-Great Fire bricks made from a variety of fabrics *3032; 3034; 3032R; 3034R; 3032nr3065*. These dimensions conform with the brick tax introduced after 1770 which continued into the mid 19th century. A date of 1780 (1800) to 1900 is suggested, as there is some later yellow *3034nr3035* brick present as well as a well-made later 19th-century *3065* red both from bee-bole C. Indeed, the presence of some hard concrete mortar (type 2), overprinting type 3 from bee-bole A would at least indicate further piecemeal repairs continued into latter half of the 19th century.

In terms of form two plinth bricks made from older maroon *3032nr3033* (1664-1725) and red *3046* (1600-1800) fabrics as well as a post-Great Fire example were incorporated in the infill of bee-bole A and B respectively. These along with a post-Great Fire voussoir example again from bee-bole B were almost certainly once used to decorative the uppermost course of the early 16th-century garden wall or possibly the surround of the 1506 to 1522 gate entrance, before being reincorporated (through damage or weathering) as fill into the 19th-century fill of the bee-bole.

Phase Summary

The intermixed and dispersed nature of the Roman, medieval and post-medieval ceramic building material and stone due to early horticultural activity (manure), earth worm action and cultivation of the Roman and medieval features makes it difficult to subdivide the garden sequence (on the basis of building materials) into six phases. Furthermore, there is the problem of dating the bricks by form from Trenches A and B as so many are in a fragmentary condition and also by fabric as the red 3033 and 3046 bricks continue to be manufactured into the 18th century outside of the City of London. Furthermore, undiagnostic post-Great Fire bricks are produced between 1664 and 1900 which extends beyond the confines of the Fulham Palace garden sequence. Rather it is better to summarise the main findings in the potential/recommendations section below.

Distribution

Spot Dates of Bee-Bole Infill

Feature	Fabric code	Description	No	Date	Suggested spot date cbm	Spot date latest mortar
Bee-Bole A	3101; 3032nr3033; 3032;3034; 3032R	T3 hard shelly mortar T2 hard grey mortar; narrow post-Great Fire bricks and 1 wider intermediate plinth brick	7	1664-1900	1770-1900	1830-1900
Bee-Bole B	3101; 3034; 3046; 3034R;	T3 hard shelly mortar narrow post-Great Fire bricks and 1 narrow local red 2 plinth bricks	10	1450-1900	1770-1900	1775-1900
Bee-Bole C	3101; 3065; 3032R; 3034nr3035; 3046; 3034; 3034R; 3065; 3032nr3033	T3 hard shelly mortar; narrow post-Great Fire bricks; one yellow London stock ; 2 local reds	11	1450-1900	1780-1900	1775-1900

Spot Dates FPW 12

Context	Fabric code	Description	No	Date	Suggested spot date cbm	Spot date latest mortar
1	3036; 3261; 2276	Dutch paving brick; Kiln brick border; fine post-medieval peg tile	4	1480-1900	1850-1900	
2	2276; 3238; 2452; 3033; 3039; 3032nr3065; 3032; 3035; 2587; 3101; 3120; 2271; 3080	Unglazed floor tile; silty Roman and early sandy tile; early post-medieval peg tile; medieval peg tile; Cornish slate; post-Great Fire brick; yellow London; T1 and T2 mortar reused on brick	69	50-1940	1780-1900	1830-1900
5	3107; 2271; 2587; 2276; 3047; 3032nr3065; 3101	Reigate stone fragment, medieval and post-medieval peg tile; sandy floor tile; post-Great Fire brick variant Type 1 mortar	23	1050-1900	1700-1850	1700-1850
7	3120; 2452; 3100; 2276; 2279; 3032nr3065; 3032; 3101	Cornish roofing slate; Roman tile; pan tile; post-Great Fire brick; T1 mortar	15	55-1900	1700-1850	1700-1850
9	3032nr3065; 2271; 2276; 2452	Roman brick; vuggy post-medieval tile; post-Great Fire brick variant	11	55-1900	1700-1850	
12	3033; 3032nr3065; 2276; 2587	Medieval peg tile; early post-medieval brick and post-Great Fire variant; vuggy post-medieval peg tile	4	1240-1900	1700-1850	

14	2276; 3032; 3101	Coarse dark-grey concrete type 2a mortar; narrow post-Great Fire brick and peg tile; vuggy	6	1480-1900	1775-1900	1830-1900
16	2276; 3032	Post-Great Fire brick and post-medieval vuggy peg tile	7	1480-1900	1664-1800	
18	3046; 3032; 2276	Vuggy peg tile; post-Great Fire and post-medieval brick	6	1480-1900	1664-1900	
22	3032; 3046; 2276; 2279; 3034; 3039; 3032nr3065; 3101	Type 1 mortar; post-Great Fire brick; post-medieval brick; pan tile; peg tile	18	1450-1900	1700-1850	1700-1850
23	2276; 3032nr3065; 3123R; 3032; 3033; 3047; 3046; 3032; 2271; 2279	Deep frogged post-Great Fire brick; post-medieval brick; pan tile, paving brick; fine post-medieval peg tile; German Lavastone quern – Roman	33	50-1900	1850-1900	
25	2587; 3032nr3065; 3033	Medieval peg tile; post-medieval brick; Variant post-Great Fire brick	3	1240-1900	1700-1850	
26	2276	Burnt vuggy post-medieval peg tile	3	1480-1900	1480-1800	
30	2276; 3101	Reused Vuggy post-medieval peg tile T1 mortar	2	1480-1900	1480-1800	1700-1850
33	2276; 3101	Post medieval peg tile fine moulding sand; T1 mortar	3	1480-1900	1700-1900	1700-1850+
37	2271; 2276; 2587; 3046	Post-medieval peg tile; medieval peg tile; early post-medieval brick	6	1180-1900	1700-1900	
39	2271	Thick early post-medieval peg tile	1	1180-1800	1400-1800	
43	3126; 2276; 2279; 3033; 3039	Purbeck limestone paving; flecks of early post-medieval brick; pan tile fine post-medieval peg tile	9	1400-1950	1700-1900	
45	2276	Post-medieval peg tile fine moulding sand	2	1480-1900	1700-1900	
101	2271; 2276; 2587; 3036; 3205; 3046; 3034; 2279; 3080	Medieval and early post-medieval peg tile, pan tile, early post-medieval and post-Great Fire brick – Dutch paving brick; Flemish unglazed floor tile	54	1180-1900	1700-1900	
102	3105; 2271; 2279; 2276; 3032nr3065; 3046	Kentish rag fragment; medieval peg tile; fine post-medieval peg tile and pan tile; post-Great Fire brick variant; post-medieval brick	26	50-1900	1700-1850	
103	2276; 2271;	Medieval peg tile; early post-	20	1500bc-1900	1700-1850	

	3102; 3046; 3032nr3065	medieval red and later 18th-century clinker brick; green daub Compact and vuggy post-medieval peg tile				
107	2271; 2276; 3046; 2587; 3032; 3101	Medieval peg tile; early post-medieval and post-Great Fire brick; compact and vuggy sandy peg tile and medieval peg tile; T1 mortar	16	1180-1900	1700-1900	1700-1850
109	2587; 2276 2271	Vuggy post-medieval peg tile; thick variant of 2271 peg tile medieval peg tile	5	1180-1800	1480-1800+	
111	2271	Thick variant of this sandy peg tile	2	1180-1800	1500-1800+	
113	2276; 3032; 3046; 3120	Post-medieval peg tile fine moulding sand; early post-medieval and post-Great Fire brick; burnt Kimmeridge Shale	9	1450-1900	1700-1900	
123	2276 3032nr3065	Post-medieval peg tile fine moulding sand L18th-century brick	3	1480-1900	1750-1850	
124	2276	Post-medieval peg tile fine moulding sand	2	1480-1900	1700-1900	
125	2276	Post-medieval peg tile fine moulding sand	2	1480-1900	1700-1900	
127	3100; 3104	Painted and plain wall plaster and stucco	306	1500-1900	1700-1850	
128	3100	Stucco plaster mould	1	1500-1900	1700-1850	
129	3032; 3120; 2276; 3032nr3065; 3101; 3046; 3080; 2271;	T1 white mortar; post-Great Fire brick and variant; early post-medieval brick; medieval peg tile; Flemish unglazed floor tile; Cornish Slate	136	1180-1950	1700-1900	1700-1850
130	2276; 3046	Post-medieval peg tile fine moulding sand; early post-medieval brick	4	1480-1900	1700-1900	
134	2276	Post-medieval peg tile fine moulding sand	3	1480-1900	1700-1900	
140	2276; 2271; 3046; 3080	Fine post-medieval peg tile; medieval peg tile; Flemish unglazed floor tile; early post-medieval brick	15	1180-1900	1700-1900	
143	2276; 3032; 3046; 1977; 3101	T1 lime mortar; fine peg tile post-medieval; post-Great Fire brick and early post-medieval brick	14	1450-1900	1700-1900	1700-1850
144	2271; 2276; 2459a; 2452;	T2 hard cement; Roman tile; post-Great Fire brick; early	51	50-1900	1700-1900	1830-1900

	3032nr3065; 3032; 3101	post-medieval brick medieval peg tile; post-medieval peg tile				
145	3120; 3080; 2271; 3046; 2276; 3032nr3065; 3101; 3032; 2279; 2815	Ardingley sandstone hone; unglazed Flemish floor tile; post-medieval peg tile; post-Great Fire brick variant; T1 mortar; Roman tile; pan tile; post-Great Fire brick	59	50-1900	1700-1850	1700-1850
149	2276; 2459a; 3032nr3065	Vuggy early post-medieval peg tile; and post-Great Fire brick; Roman imbrex	6	50-1850	1700-1850	
152	3034; 2587; 3036; 3046; 3060; 2276; 3101	Post-Great Fire and early post-medieval brick; Roman imbrex; Dutch paving brick; medieval peg tile; post-medieval peg tile Mortar type 1	12	50-1900	1700-1900	1700-1850
154	2276; 3032nr3065; 3101	Mortar type 1; variant post-Great Fire brick; fine peg tile post-medieval	6	1480-1900	1700-1850	1700-1850
155	3034; 3046; 2276; 3101; 3101	Mortar type 1 post-Great Fire brick; red sandy brick peg tile post-medieval fine	6	1450-1900	1700-1900	1700-1850
158	2452; 2587; 3034; 3046; 3101	Mortar type 3; post-Great Fire brick; early post-medieval brick; Roman tile and medieval peg tile	7	55-1900	1700-1900	1775-1900
164	3032; 3036; 3032nr3065; 3046; 2276	Post-Great Fire Brick and variant; early post-medieval brick and Dutch paving brick,	13	1480-1900	1700-1850	
165	2276; 2279; 2850	Pan tile and post-medieval peg tile; Flemish unglazed floor tile	4	1450-1900	1630-1850	
175	2276; 2892	Westminster Glazed floor tile and early medieval peg tile	2	1225-1900	1480-1800	
179	2271; 2276	Medieval and early post-medieval peg tile	3	1180-1900	1480-1800	
180	2271	Early post-medieval peg tile	1	1180-1800	1400-1800	
184	2276	Peg tile post-medieval	1	1480-1900	1480-1800	
188	3102	Orange Daub	1	1500bc-1664	50-1664+	
196	2815; 3046; 3032nr3065; 3032; 2587; 2271; 3036; 2276; 2279	Roman Tile; early post-medieval brick; post-Great Fire brick; medieval peg tile; Dutch paving brick; pan tile	38	50-1900	1700-1850	

Recommendations/Potential

This moderately sized group of building materials recovered from both the interior of the 18th- and 19th-century walled garden and the infill of the bee-boles along this wall have few individual items of intrinsic interest.

Of these there are three (all of which should be illustrated). With the Roman materials – further research should be done on their distribution in Fulham Palace and in light of other discoveries (Arthur & Whitehouse 1978; Hayward 2009; in prep. a).

First, a rotary quern fragment in German lavastone sf 170 from the Phase 4 primary fill of rubbish pit [23], which is almost certainly Roman in date. Another Roman quern, this time in millstone grit from the fill of a Roman cut was recovered from the fill of a Roman cut [1380][from an earlier phase of excavation (Hayward 2009).

Next a large whetstone made from Ardingley sandstone sf 169 from a Phase 1 horticultural layer [145]. This rock-type is associated with Roman use in London (e.g. Hayward in prep b.).

Finally there is a large spread of of lime green; yellow and white painted wall plaster from a single context; the early 19th-century Phase 3 plaster dump [127] within a large rubbish area of Trench B. This also contained white and pink Stucco mould. As a group they must represent demolition debris from the interior of Fulham Palace although it is not possible to specify a date other than post-medieval. However, quantities (70kg) of dumped wall and possible ceiling plaster were also present in the BSDR excavations at Fulham Palace (Hayward 2009). These had quantities of ornate rope and scallop decoration [593] [615] and significantly a tiny proportion of which had traces of the same pale green paint as the wall plaster from [127]. A similar source is suggested. One possibility could be the demolition in 1750 of the parlour.

As a group, however, the residual tegulae and imbrex coupled with the later glazed roofing and flooring tile provide further evidence for Roman and later extensive medieval occupation alongside this part of the Thames. Roman features nearby including the pits and ditches from Trench 164 (Hayward in prep. a), whilst abraded medieval peg tile attaining to the presence of Homestead Manor has been recovered from medieval and later post-medieval features elsewhere (Hayward 2009; in prep. a).

The post-medieval component has small quantities of 18th-19th-century building materials (stone paving; Dutch paving bricks; floor tile; glazed decorative borders; tile drains) that relate directly to the decoration of the pathways and garden borders in the area to which they are found.
Finally, most of the brick fragments from Trenches A and B is likely to have derived from repair and weathering of the later 1765 perimeter wall of the entire garden; whilst evidence from the brick and mortar show that the bee-boles were in-filled during the 19th century at a time when the modern wooden hive was becoming fashionable.

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APPENDIX 5: ROMAN COINS ASSESSMENT

James Gerrard

The excavations in Fulham Palace Gardens yielded twelve Roman coins. Ten of these coins are fourth-century nummi and the remaining two are late third-century radiates. Interestingly four of the coins are issues struck by the House of Valentinian. This brings the total number of Valentinianic coins from Fulham Palace to sixteen (including coins from FLB03 and those listed in Arthur and Whithouse 1978). These late Roman coins indicate that Fulham Palace were active and integrated into the money using economy during the late fourth century.

Sixty-seven coins were listed by Arthur and Whitehouse (1978, 58) and these twelve are useful additions to that coin list and to the six coins discovered at FLB03.

These coins should be published alongside the coins from FLB03 and a statistical analysis undertaken for all of the Roman coin finds from Fulham Palace. It would be helpful if SF162 could be cleaned before publication.

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Site Code	SF	Context	Date	Obv	Rev	Obv wear	Rev Wear	Ref	Diam (mm)	Comments
FPW12	162	+	270-290	Radiate	VIC[...], winged victory L.	C	S		14	This needs cleaning for a ful identification. It looks regular.
FPW12	164	1	330-335	CONSTANTINOPOLIS	Victory on a prow	VW	VW	As LRBCI, 52	12	Copy
FPW12	29	2	364-378	House of Valentinian	SECVRITAS REIPVBLICAE	EW	EW	As LRBCII, 477	15	
FPW12	30	2	354-361	House of Constantine	[FEL TEMP REPARATION] Falling horseman	EW	VW	As LRBCII, 249	9	Copy
FPW12	3	2	364-378	DN VALEN-S PF AVG	SECVRITAS REIPVBLICAE	SW	SW	As LRBCII, 276	17	
FPW12	165	2	335-341	House of Constantine	GLORIA EXERCITVS, 1 Standard	W	W	As LRBCI, 99	12	copy
FPW12	166	2	364-378	House of Valentinian	[SECVRITAS REIPVBLICAE]	EW	EW	As LRBCII, 276	17	
FPW12	167	2	270-273	IMP TETRICVS PF AVG	Illegible	EW	EW		17	Worn in centre of flan
FPW12	168	2	364-378	DN VALENTINIANVS PF AVG	GLORIA ROMANORVM	SW	S	As LRBCII, 296	17	Mintmark off flan
FPW12	98	2	324+	Diademed head	Illegible	EW	EW		17	Too worn for an ID
FPW12	163	+	364-378	[DN VALENTINIANVS PF AVG]	[GLORIA ROMANORVM]	EW	EW	As LRBCII, 296	17	Almost worn flat

APPENDIX 6: METAL AND SMALL FINDS ASSESSMENT

Märit Gaimster

In all, some 220 individual metal and small finds were retrieved through archaeological excavation, including activities from school children and the public, and a metal-detection programme. The finds are listed in Table 1 and 2; a further handful of unstratified finds without trench location are listed below. The vast majority of finds were retrieved from topsoil and horticultural soil layers, with a smaller proportion from the fill of planting holes and planting beds. Chronologically, the material dates predominantly from the 19th and early 20th centuries; however, a handful may represent residual objects dating from as early as the 16th/17th and 18th centuries.

As with previous investigations within the walled garden (cf. Gaimster 2009), particular categories of finds may be identified. One such category is garden-related objects, where the 2012 season produced further fragments of copper-alloy sheet plant tags (sf 41 and 97) and a possible dibber of copper alloy (sf 140), along with hose fittings and a tap key. Possible garden-related features (all from Trench A) may also be a triangular cast copper-alloy tag marked '130' (sf 44), three objects of triangular-shaped folded lead sheet (cf. sf 28) and fragments of copper-alloy wire with recurved ends (sf 52 and 89). A couple of circular copper-alloy hole reinforcements from Trench B may originate from sacks or tarpaulin. Three lead cloth or bale seals (sf 45, 142–43) should also be seen in the context of the provision of garden-related goods.

Another category of finds is represented by fixtures and fittings where, again, numerous furniture fittings, mostly in the form of small knob handles from chests of drawers or similar, were recovered (cf. sf 4, 25, 32, 46, 57, 63–64). There are also a few pieces of lead window came (cf. sf 37) and a copper-alloy key (sf 53). A few finds relate to kitchen and cooking activities, such as the bone scale from a cutlery handle (sf 85) and a lead vessel repair patch (sf 12), while broader household activities are reflected in an ivory paper knife (sf 86), a delicately carved ivory implement with a long handle and bifurcated finial (sf 155) and two thimbles (sf 69 and 144). Numerous pieces of lead waste, the second most frequent individual category of finds from the site, may relate to a variety of functions in buildings or in the garden.

By far the largest group of finds is represented by dress accessories, with the over 60 buttons the most frequent individual category. The buttons, almost all of copper alloy, consist largely of dished suspender buttons with four eyes, and flat blazer or livery button with a single wire loop for fixing. Related to the buttons is a bone collar stud (sf 17). With the exception of a handful of examples, the buttons are all plain and utilitarian; a number of them are stamped with product information, usually the name of the company that ordered the buttons rather than the actual button manufacturer (cf. Biddle and Cook 1990, 573). Three buttons are military, comprising a general military button (Trench A, unstratified) and three of the Royal Navy (sf 152–53 and unstratified); there is also a small rectangular tag, inscribed 'fulham corps'. In addition, there are three livery buttons. One (sf 159)

features a lion with a coronet above; an identical button, backmarked ?BIRMINGHAM, was recovered from previous work in the Walled Garden (Gaimster 2009, 55: grid square O3). The other feature a double inverted C with a coronet above (sf 161), and a ?lion within garter (sf 158), respectively. A railway button carries the legend '?hymney railway company' (sf 154).

Besides buttons, ten buckles were recovered, including a group of characteristic copper-alloy buckles, mostly with the frame protruding beyond the set-back strap bar (sf 10, 145–47 and 151). The sturdy construction of these buckles, clearly designed for rather thick leather straps show that they were designed for hard wear; they may, in spite of their modest size, perhaps be harness- rather than belt buckles. Undisputed dress accessories are three small knee or garter buckles (sf 20, 62 and 76) and two shoe buckles (sf 141 and 160); the size and style of all of these indicate a date in the 18th century (cf. Whitehead 2003, 104 no. 666 and 107 no. 687 for the shoe buckles, and 112 no. 715 for the knee buckle sf 62). A copper-alloy stud or button with moulded front (sf 106) is reminiscent of the 19th-century and later collar studs, such as the one above; this was retrieved from an earlier horticultural layer with late 18th-century pottery, as well as a 17th-century private halfpenny token (sf 105, below). Of a clearly early modern form, however, is a sturdy copper-alloy pin associated with pinning up head-dresses and clothing (sf 93; cf. Egan 2005, 51; Woodfield 1981, fig. 5.35 an 40). A rather flimsy copper-alloy hooked tag, embossed with the image of a ?boar, is likely to be later (sf 150), as is certainly the Girl Guide badge (sf 40) which must date after the formation of the Girl Guides in 1910.

A particularly interesting find is represented by a small oval domed clasp with serrated edges and a hinged flat back plate (sf 26); the centre of the back plate is formed of a tongue that would presumably act as a spring. The front of the clasp is decorated with a quatrefoil floral design, with a saltire cross with decorative ends. The design has some parallels in 17th-century buttons and cloak fasteners (cf. Read 2005, 40 no. 134), but significant is also that the clasp is covered in a now-black surface coating. Originally a reddish-brown lacquer, this black coating is characteristic of dress accessories, including buckles, lace-chapes and scabbard fittings, from the late 16th and 17th centuries (Egan and Forsyth 1997, 217; cf. Haslam et al. 2008/2009, 75). A small globular button is also covered with the same black residue (sf 27), and may be of the same date (cf. Egan 2005, fig. 33).

In addition to the possible harness buckles, above, the working-day related activities of the Walled Garden are also reflected in two specially designed copper-alloy fittings, and likely to also represent harness fittings. One, designed to be fixed to leather by a small and sturdy mount (sf 19), has a narrow tongue-shaped protrusion curving downwards and a small corresponding lug protruding upwards, suggesting some form of strap divider. The other consists of a small rectangular buckle with a recurved tongue forming a long attachment hook in the manner of a strap-end (sf 99); an almost identical fitting, but with shorter tongue, is known from previous work in the Walled Garden (Gaimster 2009, 55: grid square N10). Several fragments of horseshoes were also recovered, as was an incomplete iron snaffle bit (sf 156). The long cheek pieces suggest it belonged to a riding horse rather

than a working animal, and it should perhaps be seen in the occasional military presence on site, seen in the buttons above. Other finds that may or may not have a military association are the dozen or so lead shots and copper-alloy cartridges retrieved, which may simply reflect the warding-off of pests and unwanted animal intruders.

Among the many accidental losses reflected in the assemblage are also a lead toy, featuring an incomplete horse from a set of cast toy soldiers (sf 43), and part of a possible copper-alloy pipe tamper (sf 138). As in previous investigations in the Walled Garden, fragments of lead strips with cut-out tongues, reminiscent of the reedplate of a harmonica, was also retrieved (Trench, E4; cf. Gaimster 2009, 53 and 54: grid square F11 and F14). Here, coins provide the third largest individual finds category, with 22 issues retrieved, ranging in date from Roman to a 1955 sixpence. The eleven Roman coins (see Gerrard Appendix 5), almost all from Trench A, form the largest group, followed by eight of the 19th century, including a gold half-sovereign of George IV (sf 88). A private halfpenny token from Trench B dates from the 17th century (sf 105). Inscribed 'my half peny', and the date ?1669, it belongs to the prolific output of private farthings and halfpennies in response to the need for small change in the second half of the 17th century (Dickinson 1986, 2–15 . The private tokens were struck for a range of traders and keepers of shops, inns, taverns and alehouses, and usually had a limited geographic circulation; this is reflected in farthing tokens retrieved from excavations at nearby Putney Bridge Road (Sayer *et al*. 2007, 279). The Walled Garden token was retrieved from an earlier horticultural soil, context [145], with pottery dating from the late 18th century (Jarrett Appendix 3); a further corroded ?farthing (sf 104) also came from this context. Possibly associated with the early modern period is also a lead bifacial token inscribed with the initials '?mi // wc' (sf 149; cf. Mitchiner and Skinner 1985, pl. 16–21; Egan 2005, fig. 165).

Recommendations

The metal and small finds from The Walled Garden form a significant part of the material recovered from the Walled Garden and should, where relevant, be included, together with earlier phases of work, in any further publication of the site. This should focus on the assemblages of garden related finds and other distinct categories such as dress accessories and harness fittings where parallels and closer dating should be established. The earlier finds, including the possible Tudor clasp and button, as well as the 17th-century private halfpenny token are of particular interest and would benefit from further research. For the purpose of further work, a number of finds (18) require x-ray and/or cleaning (3); this is annotated in the finds tables. The Roman coins need to be further identified, and the slag should also be seen by a specialist. The iron nails and undiagnostic metal fragments can be discarded.

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sf	material	object	category	description	inscription	date	action
	iron	horseshoe	horse	incomplete		pmed	x-ray
	lead	shots	military	three of varying size		pmed	
	copper	button	dress	dished suspender button diam. 18mm	..ROUSE . ..TING HILL	pmed	
	copper	button	military	machine-stamped face of a composite Royal Navy button; crowned fouled anchor with rope surround; diam. 24mm			
142	lead	seal	trade	two-disc ?cloth seal	LONDON // UNITED, with ?AYLSFORD around followed by (illegible)...DON PL	pmed	further id
	copper	?handle	furniture	moulded copper-alloy drawer handle or finial, with integral screw		pmed	

Table 1: FPW12: Unstratified finds with no trench location

trench	context	sf	grid ref	material	object	category	description	inscription	date	complete	action
Trench A	+	162	B3	copper	coin	trade	to be identified		Roman	yes	further id
Trench A	+		B3	lead	waste						
Trench A	+		B3	lead	button	dress	dished suspender button; diam. 16mm	BEST SOLID . EYELET	pmed	yes	
Trench A	+		B4	lead	waste						
Trench A	+		B4	copper	mount	furniture	keyhole mount; ?for chest of drawers; 20 x 23mm		pmed		
Trench A	+		B4	copper	fittings		tapering strap; hole reinforcement and ?small ferrule, diam. 10mm				
Trench A	+		B4	copper	button	dress	livery/blazer button with wire loop, diam. 23mm		pmed	yes	
Trench A	+		B4	copper	button	dress	dished suspender button; diam. 13mm		pmed	yes	
Trench A	+		B4	copper	button	dress	dished suspender button; diam. 16mm		pmed	yes	
Trench A	+		B5	copper	button	military	general military button with the Royal Coat of Arms of England; composite with u-shaped wire loop; diam. 24mm		pmed	yes	
Trench A	+		B5	copper	unident		sheet/vessel				
Trench A	+		B5	lead	waste						
Trench A	+		C3	copper	button	dress	dished suspender button; diam. 15mm	EDGAR . 8 BRADMORE LANE . W	pmed	yes	

Trench A	+	139	C3	copper	tag		rectangular with pierced lug; 25 x 28mm	FULHAM CORPS ...	pmed	yes	clean
Trench A	+		C3	copper	rivet		hollow; L 20mm		pmed		
Trench A	+		C4	copper	pin		drawing pin		pmed	yes	
Trench A	+		C4	copper	unident		several fragments and objects		pmed		
Trench A	+		C4	lead	waste						
Trench A	+		C5	lead	button	dress	dished suspender button; two eyes only; diam. 16mm	IMPROVED PATENT	pmed	yes	
Trench A	+		C5	compos	button	dress	copper-alloy backing with raised lug; ?glass/paste setting with bone ring; diam. 13mm		pmed	yes	
Trench A	+		C5	copper	unident		disc with two internal plugs for fixing; diam. 62mm		pmed		
Trench A	+		C5	copper	ferrule		chape/ferrule; L 85mm			yes	
Trench A	+		C5	lead	fitting	?garden	triangular fitting of folded sheet; central ridge for fixing; L 95mm		pmed	yes	further id
Trench A	1	40		copper	badge	dress	Girl Guides; three-leaf clover over scroll; 20 x 20mm	G' in two leaves below five-pointed star	post-1910	yes	further id
Trench A	1	41		copper	plant tags	garden	sheet plant tags; several fragments with rounded finials		pmed		
Trench A	1	46		iron	?handle	furniture	possible remnants of ?lead furniture handle/knop with iron fixing, now heavily fragmented		pmed		discard
Trench A	1	90		lead	shot	miltary			pmed	yes	

Trench A	1	91		bone	button	dress	dished bone button; diam. 18mm		pmed	yes	
Trench A	1	95		copper	button	dress	dished suspender button; diam. 17mm	BEST . RING (?EDGE)	pmed	yes	
Trench A	1	138		copper	?pipe tamper	leisure	fragment of flat-cast T-shaped copper-alloy object; narrow straight bar finished with a transverse head with concave edge; L 24mm+; W 13mm; ?incomplete pipe tamper		pmed		further id
Trench A	1			iron	unident		cast-iron component soldered to iron sheet; L 120mm; part of ?machinery		pmed		
Trench A	1			iron	unident		bar/handle; incomplete; L 340mm		pmed		discard
Trench A	1			iron	?heel iron	dress	fragment only		pmed		x-ray
Trench A	1			iron	unident		fragment of ring/wire				discard
Trench A	1			lead	waste						
Trench A	1			copper	button	dress	livery/blazer button with wire loop, diam. 14mm		pmed	yes	
Trench A	1		A2	metal	bottle cap	kitchen	thin cap with indentions for wire; ?champagne cork		pmed	yes	
Trench A	1		A2	lead	waste						
Trench A	1		A2	copper	pulley wheel				pmed		
Trench A	1		A2	copper	button	dress	dished suspender button; diam. 16mm		pmed	yes	
Trench A	1		A3	metal	unident		white-metal flat ?machine fittings		modern		discard

Trench A	1		A3	copper	button	dress	dished suspender button; diam. 15mm		pmed	yes	
Trench A	1		A3	copper	coin	trade	Victoria farthing, Old head issue (1895-1901)		pmed	yes	
Trench A	1		B1	copper	nut		hexagonal with circular edge; diam. 35mm		pmed	yes	
Trench A	1		B1	copper	button	dress	dished suspender button; diam. 16mm	BEST RING . EDGE	pmed	yes	
Trench A	1		B1	copper	shot	military	cartridge		pmed		
Trench A	1		B2	iron	unident		iron ?object with attached lead tag	..EDURE . 2 . ..VER	pmed		further id
Trench A	1		B2	copper	coin	trade	George V halfpenny, 1936		modern	yes	
Trench A	1		B2	copper	coin	trade	George VI farthing, 1946		modern	yes	
Trench A	1		B3	iron	unident		fragment of ?object				discard
Trench A	1		B3	metal	shot	military	cartridge		pmed		
Trench A	1		B3	lead	waste						
Trench A	1	143	B3	lead	cloth seal	trade	plain?two-disc seal		pmed		further id
Trench A	1		B3	silver	coin	trade	George VI sixpence, 1936		modern	yes	
Trench A	1		B4	iron	nut		hexagonal; diam. 45mm; heavily corroded		pmed	yes	discard
Trench A	1		B4	lead	waste						
Trench A	1		B4	copper	wing nut				pmed	yes	

Trench A	1		B4	copper	mount		length of edge mount with two integral rivets for fixing; W 6mm; L 60mm+		pmed		
Trench A	1		B5	lead	fitting	?garden	fitting of folded sheet with central ridge for fixing; same type as triangular fitting from C5?		pmed		further id
Trench A	1	44	C2	copper	tag	?garden	triangular with two short feet; W 45mm; ht. 52mm	130	pmed	yes	further id
Trench A	1		C2	iron	fitting		threaded iron tube; diam. 33mm; L 40mm		pmed	yes	
Trench A	1		C2	copper	fitting		disc with central row of three perforations; diam. 20mm		pmed	yes	
Trench A	1		C2	compos	eye glasses		yellow-metal wire frame		modern		
Trench A	1		C3	lead	waste						
Trench A	1		C5	?plastic	unident		fragment only		modern		discard
Trench A	1		D1	copper	hinge	fixtures	rectangular plates; copper-alloy screws		pmed	yes	
Trench A	1		D1	copper	unident		rectangular mount/fitting with two holes for fixing at end; rectangular recess at break; W 23mm; L 60mm+		pmed		
Trench A	1		D1	copper	mount		hole reinforcement; diam. 20mm				
Trench A	1		D1	copper	?shrapnel	military	?WW2 anti-aircraft shell shrapnel		modern		
Trench A	1	43	D2	lead	toy	leisure	flat-cast horse with military saddle		pmed		
Trench A	1		D2	lead	waste						

Trench A	1		D2	lead	button	dress	dished suspender button; two eyes only; diam. 16mm; cf. C5 above	IMPROVED PATENT	pmed	yes	
Trench A	1		D2	copper	unident		thick disc with central pin and threaded edge; diam. 17mm; mechanical part?		pmed		
Trench A	1		D2	copper	?shrapnel	military	?WW2 anti-aircraft shell shrapnel; cast fragment with broad shallow ribs		modern		
Trench A	1	42	D3	copper	coin	trade	George III; new coinage (1816-20) ?halfpenny		pmed	yes	
Trench A	1		D3	lead	waste						
Trench A	1		D3	copper	button	dress	dished suspender button; diam. 16mm; heavily encrusted		pmed	yes	
Trench A	1		D3	copper	button	dress	dished suspender button; diam. 16mm	EXCELSIOR above star	pmed	yes	
Trench A	1		E1	lead	pipe	fixtures	diam. 13mm; L 170mm+				
Trench A	1		E1	copper	button	dress	dished suspender button; diam. 17mm	BEST RING . EDGE	pmed	yes	
Trench A	1		E1	copper	button	dress	livery/blazer button with wire loop and embossed decoration; diam. 26mm; heavily corroded		pmed	yes	x-ray/clean
Trench A	1	151	E1	copper	buckle	?dress	D-shaped; round-section frame protruding beyond set-back strap bar; notched front and iron pin; W 30mm; L 27mm		pmed	yes	
Trench A	1	45	E2	lead	cloth seal	trade	two-disc seal		pmed	yes	further id
Trench A	1		E2	lead	waste						

Trench A	1		E2	copper	button	dress	dished suspender button; diam. 15mm	DAVIS & CO . 12 REGENT STREET	pmed	yes	
Trench A	1		E3	lead	waste						
Trench A	1		E3	?silver	disc		heavily abraded on one side; ?button or coin; diam. 24mm		pmed		x-ray
Trench A	1		E3	lead	shot	military			pmed		
Trench A	1		E3	?pewter	?handle	furniture	domed ?furniture handle with iron ?stem; diam. 15mm; possibly button?		pmed	yes	further id
Trench A	1		E3	copper	mount		hole reinforcement; diam. 25mm		pmed	yes	
Trench A	1	152	E3	copper	button	military	military button; Royal Navy embossed with fouled anchor with rope surround; diam. 20mm; post-1774		pmed	yes	
Trench A	1	144	E3	copper	thimble	production	decorative indentation of diamonds in circles; diam. 15mm; ht. 20mm		pmed	yes	
Trench A	1		E3	cupro-nickel	coin	trade	Elizabeth II sixpence, 1955		modern	yes	
Trench A	1		E4	iron	unident		fragment of cast object				x-ray
Trench A	1		E4	lead	waste						
Trench A	1		E4	lead	mount		thin rectangular sheet mount with holes for fixing; now folded; W 70mm				

Trench A	1		E4	lead	?harmonica	leisure	lead strips with partly cut-out narrow tongues of differing length; W 25mm; cf. Earlier finds from Walled Garden; ?reedplate for harmonica		pmed		
Trench A	1		E4	copper	?shrapnel	military	?WW2 anti-aircraft shell shrapnel; cast fragment with broad shallow ribs; cf. D2 above		modern		
Trench A	1		E4	copper	fitting	dress	small double oval fastener with central pin; ?part of stocking suspenders; 16 x 17mm		modern	yes	
Trench A	1		E4	copper	hose fitting	garden	threaded with pair of pin handles for turning; diam. 35mm		pmed	yes	
Trench A	1		E4	copper	tap key	garden	rectangular aperture; ht. 45mm		pmed	yes	
Trench A	1		E4	copper	button	dress	flat button with wide folded edge and fine wire loop; diam. 8mm		pmed	yes	
Trench A	1		E4	copper	button	dress	dished suspender button; diam. 16mm	.. HOBSON ...	pmed	yes	
Trench A	1		E4	copper	button	dress	dished suspender button; diam. 14mm	EXCELSIOR above star	pmed	yes	
Trench A	1	164	E4	copper	coin	trade	to be identified		Roman	yes	further id
Trench A	1		E5	iron	?scissors		heavily corroded centre part only		pmed		x-ray
Trench A	1		E5	iron	unident		corroded strap with perforated end		pmed		x-ray
Trench A	1		E5	lead	waste						
Trench A	1		E5	copper	nail	structural	wire nail, post-1890		modern	yes	discard
Trench	1		E5	copper	fitting	?garden	?hole reinforcement; diam. 25mm		pmed	yes	

A											
Trench A	1		E5	copper	button	dress	livery/blazer button with perforated lug; diam. 17mm		pmed	yes	
Trench A	1		E5	copper	button	dress	livery/blazer button with wire loop; diam. 26mm		pmed	yes	
Trench A	1		E5	copper	button	dress	livery/blazer button with ?wire loop; diam. 18mm		pmed	yes	
Trench A	1	154	E5	copper	button	transport	composite button with embossed front and wire loop; diam. 17mm	?HYMNEY RAILWAY COMPANY	pmed	yes	
Trench A	1	153	E5	copper	button	military	military button; Royal Navy; embossed cover only with fouled anchor in shield; crown above to the left and two below to the right; diam. 22mm		pmed	yes	further id
Trench A	1		E5	copper	button	dress	dished suspender button; diam. 13mm	?INGOLD	pmed	yes	
Trench A	2	11		lead	shot	military			pmed	yes	
Trench A	2	12		lead	vessel repair	kitchen	vessel repair patch; 35 x 50mm		?med	yes	
Trench A	2	13		lead	waste						
Trench A	2	14		copper	button	dress	domed cover of ?composite button; diam. 22mm		pmed	yes	
Trench A	2	15		copper	button	dress	dished suspender button; diam. 17mm		pmed	yes	
Trench A	2	16		copper	vessel	kitchen	curved fragment only				
Trench A	2	17		bone	collar stud	dress			pmed	yes	

Trench A	2	18		iron	mount		rectangular with one hole at end for fixing; W 30mm; L 65mm+		pmed		
Trench A	2	19		copper	mount	?horse	small oval vertical attachment plate with narrow tongue-shaped protrusion curved downwards; small corresponding oval lug protruding upwards; ?strap divider; L 55mm		pmed	yes	further id
Trench A	2	20		copper	buckle	dress	small subrectangular knee or garter buckle with drilled frame for separate spindle and double-spiked tongue; W 20mm		18th c	yes	
Trench A	2	21		lead	strip						
Trench A	2	22		tin	?handle	kitchen	fragment of strap with rolled edges; W 12mm; ?from tin cup		pmed		
Trench A	2	23		copper	button	dress	?livery button; crown above chained lion standing; diam. 16mm		pmed	yes	further id
Trench A	2	24		copper	button	dress	livery/blazer button with wire loop; diam. 26mm		pmed	yes	
Trench A	2	25		copper	?handle	furniture	domed ?furniture handle with iron ?stem; diam. 15mm; possibly button?		pmed	yes	
Trench A	2	26		copper	clasp/badge	dress	small oval domed clasp with serrated edges and a hinged flat back plate; the centre of the back plate is formed of a tongue that would act as a spring; black laquer residue present; quatrefoil floral design of a saltire cross with decorative ends; W 15mm; L 23mm; ?Tudor hat badge		?Tudor	yes	further id

Trench A	2	27		copper	button	dress	globular hollow-cast button with wire loop; black laquer residue; diam. 9mm		?Tudor	yes	further id
Trench A	2	28		lead	sheet	?garden	strips of folded sheet with central ridge for fixing; same type as triangular fitting from C5?		pmed		
Trench A	2	29		copper	coin	trade	to be identified		Roman	yes	further id
Trench A	2	30		copper	coin	trade	to be identified		Roman	yes	further id
Trench A	2	32		copper	handle	furniture	curved D-section fragment; tapering to curved end; L 45mm+; from chest/chest of drawers?		pmed		
Trench A	2	33		iron	scabbard chape		short tapering chape of plain iron sheet; leather present; L 35mm		pmed		
Trench A	2	34		lead	waste						
Trench A	2	35		lead	waste						
Trench A	2	36		flint	flake		small flake of struck flint		prehist		
Trench A	2	39		lead	?window came	fixtures	flat join four four glass panes/sheets		pmed		
Trench A	2	64		copper	handle	furniture	drop handle with S-curved sides with narrowed pins for fixing		pmed		
Trench A	2	65		copper	button	dress	livery/blazer button with wire loop, embossed with striding horse; diam. 15mm	DOGGETT & REYNOLDS . LONDON	pmed	yes	
Trench A	2	66		lead	waste						
Trench A	2	67		copper	button	dress	livery/blazer button with wire loop; diam. 12mm		pmed	yes	

Trench A	2	68		iron	nail						discard
Trench A	2	69		copper	thimble	production	partly squashed; ht. 18mm		pmed		
Trench A	2	70		lead	shot	military			pmed	yes	
Trench A	2	71		lead	waste						
Trench A	2	72		lead	?handle	kitchen	round-section fragment only				
Trench A	2	73		iron	split-pin		circular head; diam. 17mm		pmed		
Trench A	2	74		lead	reinforcement		for base of 10 x 70mm plank		pmed		
Trench A	2	75		lead	waste						
Trench A	2	77		copper	button	dress	livery/blazer button with wire loop; diam. 17mm		pmed	yes	
Trench A	2	78		copper	button	dress	dished suspender button; diam. 13mm		pmed	yes	
Trench A	2	79		lead	waste						
Trench A	2	80		copper	unident		fragment of cast object				
Trench A	2	81		lead	waste						
Trench A	2	82		iron	ring		fragment only; diam. 30mm				discard
Trench A	2	83		lead	waste		folded strip; W 7mm				
Trench A	2	84		iron	strap		strap of iron sheet with folded ends; W 50mm; L 200mm		pmed		discard

Trench A	2	85		bone	handle	kitchen	D-section scale from cutlery handle; tapering with flat end and iron rivets; L 93mm		pmed	yes	
Trench A	2	86		ivory	paper knife	writing	thin ivory blade; incomplete but curving towards end; parts of narrowed handle extant; W 23mm; L 85mm+		pmed		
Trench A	2	92		copper	button	dress	dished suspender button; diam. 17mm		pmed	yes	
Trench A	2		D1	iron	nail						discard
Trench A	2		D1	copper	sheet		possibly corner of mount				
Trench A	2		D1	lead	waste		folded strip; W 11mm				
Trench A	2		D2	copper	button	dress	dished suspender button; diam. 16mm		pmed	yes	
Trench A	2	3	E1	copper	coin	trade	to be identified		Roman	yes	further id
Trench A	2	4	E1	copper	handle	furniture	globular on raised concave collar; diam. 13mm		pmed	yes	
Trench A	2	5	E1	lead	shot	military			pmed	yes	
Trench A	2	6	E1	copper	cartridge	military	?cap for paper cartridge; diam. 12mm		pmed		
Trench A	2	8	E1	lead	?handle	kitchen	round-section fragment only				
Trench A	2		E1	iron	nails		three incomplete				discard
Trench A	2	10	E2	copper	buckle	?dress	single loop; round-section frame protruding beyond strap bar; traces of iron pin; W 35mm; L 30mm		pmed	yes	

Trench A	2	1	E5	silver	coin	trade	George III shilling, 1819		1819	yes	
Trench A	2	2	E5	copper	button	dress	livery/blazer button with wire loop; raised edge and embossed with decorative wavy design within raised egdediam.	on back; illegible	pmed	yes	
Trench A	2	9	G2	copper	button	dress	livery/blazer button with wire loop; diam. 13mm		pmed	yes	
Trench A	2		100/200	silver	coin	trade	George III sixpence, 1819		1819	yes	
Trench A	2	165	100/205	copper	coin	trade	to be identified		Roman	yes	further id
Trench A	2	166	105/200	copper	coin	trade	to be identified		Roman	yes	further id
Trench A	2	167	105/205	copper	coin	trade	to be identified		Roman	yes	further id
Trench A	2	168	105/205	copper	coin	trade	to be identified		Roman	yes	further id
Trench A	2	96	105/220	lead	button	dress	dished suspender button; diam. 17mm	?SMITH & WRIGHT	pmed	yes	
Trench A	2	102	110/210	lead	shot	military			pmed	yes	
Trench A	2		110/210	lead	waste						
Trench A	2	99	110/215	copper	?strap hook	?horse	small rectangular buckle with recurved tongue forming a long hook; L 55mm; ?harness fitting		pmed	yes	further id
Trench A	2	98	110/220	copper	coin	trade	to be identified		Roman	yes	further id
Trench A	5	49		iron	bar		rectangular-section 30 x 35mm fragment only				discard
Trench	5	50		lead	waste						

A											
Trench A	5	51		copper	ring		round section/wire; diam. 40mm				
Trench A	5	53		copper	key	fixtures	rotary key with kidney-shaped bow; hollow shank end with shallow propeller-like extension on both sides; L 60mm		pmed	yes	
Trench A	5	55		lead	mount		large circular perforation for fixing; W 37mm; L 40mm+		pmed		
Trench A	5	56		lead	waste		cast fragment				
Trench A	5	57		copper	handle	furniture	domed on raised concave collar; diam. 15mm; ?drawer handle		pmed	yes	
Trench A	5	58		lead	waste		cut strip; W 20mm; L 50mm				
Trench A	5	59		copper	coin	trade	?Victoria halfpenny-size; illegible		pmed	yes	
Trench A	5	60		copper	unident		curved fragment only; ?cylinder				
Trench A	5	61		copper	button	dress	dished suspender button; diam. 16mm		pmed	yes	
Trench A	5	62		copper	buckle	dress	knee buckle; sub-rectangular with drilled frame for spindle; frame moulded with oblique ribs; W 19mm; L 23mm; 18th c		18th c		
Trench A	5	63		lead	handle	furniture	heavily corroded finial on raised concave collar; L 25mm		pmed		
Trench A	5	89		copper	pin/wire	?garden	wire ?linchpin; recurved end with remnants of copper-alloy ring; L 70mm		pmed		
Trench A	5		105/220	lead	waste						

Trench A	5		110/220	lead	waste						
Trench A	5			iron	nails		two incomplete				discard
Trench A	5	155		ivory	implement		flat oval-section handle with rounded end; narrow end fragment with small bifurcated finial; W 12mm; L 100mm+		pmed		further id
Trench A	7	54		copper	?button		?livery/blazer button with (missing) wire loop; diam. 21mm		pmed		x-ray
Trench A	7			iron	nails		three incomplete				discard
Trench A	9	52		copper	pin/wire	?garden	wire ?linchpin; recurved end; L 55mm+				
Trench A	9			iron	nails		two incomplete				discard
Trench A	14			iron	nail						discard
Trench A	18			iron	nails		four incomplete				discard
Trench A	21			iron	fitting		large angular fitting with parallel arms fixed with ?crossbolt; ?machine part; 50 x 105mm		pmed		x-ray
Trench A	22	156		iron	bridle bit	horse	snaffle bit with long cheek-piece; L 140mm; cf. Ward Perkins Type C		med/pmed		x-ray
Trench A	23			iron	straps		numerous fragments				x-ray
Trench A	23			slag			?fuel ash slag				further id
Trench A	26			iron	nail						discard
Trench	32			iron	nails		two incomplete				discard

A											
Trench A	37			iron	nail						discard
Trench A	43			iron	nail						discard
Trench B	+			iron	nut		rectangular; 25 x 25mm				discard
Trench B	+			lead	waste						
Trench B	+	163		copper	coin	trade	to be identified		Roman	yes	further id
Trench B	+	157		copper	button	dress	livery/blazer button with ?wire head; embossed with basket-weave pattern; diam. 24mm		pmed	yes	
Trench B	+	141		copper	shoe buckle	dress	rectangular shoe buckle with drilled frame for separate spindle; openwork frame interspersed with floral motifs; W 40mm; L 50mm; 18th c		18th c		
Trench B	+	145		copper	buckle	?dress	single loop; D-section frame with notched front protruding beyond set-back strap bar; W 27mm; L 18mm		pmed	yes	
Trench B	+		505/605	lead	waste		three pieces				
Trench B	+		505/605	copper	handle	furniture	small ring handle with iron screw for fixing; diam. 30mm		pmed	yes	
Trench B	+	146	505/605	copper	buckle	?dress	single loop; D-section frame protruding beyond strap bar; W 30mm; L 20mm		pmed	yes	
Trench B	+		505/605	copper	button	dress	livery/blazer button with wire loop; heavily corroded; diam. 16mm		pmed	yes	

Trench B	+	158	505/605	copper	button	dress	livery/blazer button with ?pierced lug; ?lion within garter; diam. 16mm	on back; illegible	pmed	yes	
Trench B	+		505/610	iron	nail		with lead cap				
Trench B	+		505/610	lead	?handle	kitchen	round-section fragment only				
Trench B	+		510/600	lead	?vessel	kitchen	fragment of thin sheet with folded edge				
Trench B	+		510/600	copper	button	dress	livery/blazer button with wire loop; heavily corroded; diam. 16mm		pmed	yes	
Trench B	+		510/600	copper	button	dress	dished suspender button; diam. 16mm		pmed	yes	
Trench B	+		510/605	lead	waste						
Trench B			510/605	copper	button	dress	?hollow globular button with wire loop; diam. 10mm		pmed	yes	
Trench B	+		510/610	lead	waste		three pieces				
Trench B	+		510/610	metal	washer		white-metal		modern		discard
Trench B	+		510/610	copper	unident		small fragment of cast object				
Trench B	+		510/610	lead	shot				pmed	yes	
Trench B	+		510/610	copper	?handle	furniture	domed ?furniture handle with iron ?stem; diam. 10mm; possibly button?				
Trench B	+	159	510/610	copper	button	dress	livery button; heraldic crest depicting demi lion holding ?Tudor rose, coronet above; slightly domed with wire loop; diam. 26mm		?19th c	yes	
Trench	+		515/610	iron	fitting		rectangular sheet; one lug with		pmed		x-ray

B							tubular extension; 60 x 135mm; ?part of machinery				
Trench B	+		520/600	lead	waste						
Trench B	+	147	520/605	copper	buckle	?dress	rectangular buckle with central set-back bar and iron pin; W 20mm; L 22mm		pmed	yes	
Trench B	+		520/610	copper	?handle	kitchen	flat-section ?handle/tang widening to blade; W 7mm; L 70mm+		pmed		x-ray
Trench B	+		520/610	copper	button	dress	livery/blazer button with wire loop; diam. 16mm		pmed	yes	
Trench B	+		520/610	iron	nail						discard
Trench B	100		500/600	iron	unident		fragment of cast-iron ?object				x-ray
Trench B	100		500/600	lead	shot	military			pmed	yes	
Trench B	100		500/600	lead	?token		now folded over; diam. 23mm; possibly just waste patch		pmed		
Trench B	100		500/600	copper	sheet		fragment only				
Trench B	100		500/600	copper	rivet		circular; complete with back plate and remnants of leather; diam. 8mm		pmed	yes	
Trench B	100		500/600	copper	mount	?garden	?hole reinforcement; diam. 30mm		pmed	yes	
Trench B	100		500/600	copper	button	dress	dished suspender button; heavily corroded; diam. 16mm		pmed	yes	
Trench B	100		500/600	copper	button	dress	back only of composite button with iron wire loop; diam. 15mm		pmed		
Trench B	100		500/600	lead	button	dress	dished suspender button; diam. 16mm	SUSPENDER	pmed	yes	

Trench B	100		505/595	lead	waste						
Trench B	100		505/600	iron	horseshoe	horse			pmed		x-ray
Trench B	100		505/600	lead	waste		two pieces				
Trench B	100			iron	horseshoe	horse			pmed		x-ray
Trench B	100			iron	machine tag		cast-iron machine tag with pierced lug for fixing; red paint; diam. 65mm	GEORGE KENT LTD . LONDON & LUTON	modern	yes	
Trench B	100			lead	?harmonica	leisure	lead strip with partly cut-out narrow tongues of differing length; fragment only; cf. Earlier finds from Walled Garden; ?reedplate for harmonica		pmed		
Trench B	100			lead	waste		numerous pieces				
Trench B	100			lead	shot	military			pmed	yes	
Trench B	100			copper	unident		numerous pieces and fragments of objects				
Trench B	100	160		copper	shoe buckle	dress	part of frame only; sub-rectangular with tinned surface; 18th c		18th c		
Trench B	100			copper	cartridges	military	two; ?caps for paper cartridge; diam. 21mm		pmed		
Trench B	100			copper	handle	furniture	disc-shaped with integral copper-alloy screw for fixing; diam. 25mm; for chest of drawers		pmed	yes	
Trench B	100			copper	handle	furniture	bulbous with long straight neck; diam. 13mm; L 20mm		pmed	yes	

Trench B	100			copper	?wall hook	fixtures	curving arm protruding from concave collar; iron ?screw for fixing		pmed		
Trench B	100			copper	mount	?garden	?hole reinforcement; diam. 35mm		pmed	yes	
Trench B	100			copper	coin	trade	George V halfpenny, 1943; ?ship on obverse; partly cut		modern		
Trench B	100			copper	coin	trade	Victoria halfpenny, 1876		1876	yes	
Trench B	100			copper	?button		small disc with circle marking broad collar; diam. 15mm; ?possibly farthing		pmed	yes	
Trench B	100			copper	button	dress	livery/blazer button with ?wire loop; silver-plated; diam. 13mm	EXTRA STRONG PLATRD	pmed	yes	
Trench B	100			copper	button	dress	?hollow globular button with wire loop; diam. 12mm		pmed	yes	
Trench B	100			copper	button	dress	livery/blazer button with raised cone for wire loop; heavily corroded; diam. 18mm		pmed	yes	
Trench B	100			copper	button	dress	dished suspender button; diam. 12mm	on front; illegible	pmed	yes	
Trench B	100	161		copper	button	dress	livery button with double inverted C below crown; slightly domed with ?wire loop; diam. 26mm	?RYAN & CO LIMITED . LONDON	pmed	yes	
Trench B	101	37		lead	window came	fixtures	fragment only		pmed		
Trench B	101	38		copper	ring		flat-section; diam. 30mm; ?curtain ring		pmed		
Trench B	101			iron	?horseshoe				pmed		x-ray
Trench	101			iron	nails		numerous				discard

B											
Trench B	102	107	505/600	copper	button	dress	livery/blazer button with ?wire loop; diam. 13mm		pmed	yes	
Trench B	102	148	505/605	lead	weight	trade	disc weight; diam. 33mm; wt. 74g			yes	
Trench B	102	149	505/605	lead	token	trade	bifacial; diam. 20mm	?MI // WC	pmed	yes	
Trench B	102	140	505/610	copper	?dibber	garden	dibber or ?ferrule; tapering with flat collar and solid globular point; L 95mm		pmed	yes	further id
Trench B	102	150	510/600	copper	dress hook	dress	dress hook with decorative embossed plate featuring a boar; probably 19th c?		pmed	yes	further id
Trench B	102	76		copper	garter buckle	dress	small subrectangular buckle with drilled frame for separate spindle and double-spiked tongue; W 12mm		pmed	yes	
Trench B	102	88		gold	coin	trade	George IV half-sovereign, 1824		pmed	yes	
Trench B	102			iron	nails		three incomplete				discard
Trench B	102			lead	waste						
Trench B	102			lead	coil		L 150mm				
Trench B	103			iron	?chain link		L 75mm				xray
Trench B	103			iron	nails		five incomplete				discard
Trench B	103			slag			?fuel ash slag				further id
Trench	111			iron	nail						discard

B											
Trench B	113			iron	nails		two incomplete				discard
Trench B	123			iron	nails		three incomplete				discard
Trench B	125	101		copper	pin	production	tinned sewing pin with small globular head; L 30mm		pmed	yes	
Trench B	127			iron	nails		wire nails		modern		discard
Trench B	128			silver	coin	trade	Victoria threepence, 1850		pmed	yes	
Trench B	129	48		copper	button	dress	livery/blazer button with ?wire head; diam. 17mm		pmed		
Trench B	129			iron	nails		seven incomplete				discard
Trench B	131	100		bone	button	dress	bone ?backing for composite button; single central hole; diam. 11mm		pmed	yes	
Trench B	136			iron	nail						discard
Trench B	140			iron	nails		two incomplete				discard
Trench B	144			iron	nails		two incomplete				discard
Trench B	145	104	510/605	copper	coin	trade	heavily corroded ?farthing		pmed		x-ray/clean
Trench B	145	105	505/610	copper	token	trade	private halfpenny token	MY HALF PENY . ?1669	17thc	yes	further id
Trench B	145	106	505/610	copper	?collar pin	dress	stud or collar pin with domed, moulded front; diam. 11mm		pmed	yes	further id
Trench B	145	97		copper	?plant tag	garden	rectangular fragment		pmed		

Trench B	145			lead	waste						
Trench B	145			iron	nails		eight incomplete				discard
Trench B	149			iron	unident		sheet fragment				discard
Trench B	152			iron	?heel iron				pmed		x-ray
Trench B	154			iron	nail						discard
Trench B	155	87		lead	strap		W 12mm; L 70mm				
Trench B	155			iron	nail						discard
Trench B	158	94		iron	unident		ring/fitting; 35 x 50mm				x-ray
Trench B	158			iron	nail						discard
Trench B	162	93		copper	pin	dress	sturdy head-dress pin; head missing and shank bent at angle from use; L 55mm; ?16th/17th c		16th/17th c		
Trench B	175	103	505/605	lead	shot				pmed	yes	
Trench B	175			copper	handle	furniture	domed on raised concave collar; diam. 15mm; ?drawer handle		pmed	yes	
Trench B	188			iron	nails		three incomplete				discard
Trench B	196			iron	unident		diam. 50mm				x-ray

Table 2 Small Finds from Trenches A & B

APPENDIX 7: CLAY TOBACCO PIPE ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of tobacco pipes was recovered from the site (one box). The clay tobacco pipe bowls are in a variable state of fragmentation, some are complete and were probably deposited rapidly after being discarded, while others are fragmentary and have been subjected to redeposition and horticultural activities, i.e. repeated digging of soils. Some groups of tobacco pipes also contained variable quantities of residual material. Clay tobacco pipes occur in 40 contexts, as small (under 30 fragments) and medium (30-100 fragments) groups.

All of the clay tobacco pipes (379 fragments and none are unstratified) were recorded in an ACCESS database and classified by Atkinson and Oswald's (1969) typology (AO) and 18th-century examples are by Oswald's (1975) typology and prefixed OS. All decorated and maker marked pipes were given a unique registered find number. The pipes are further coded by decoration and quantified by fragment count. The degree of milling on 17th-century examples has been noted and recorded in quarters, besides their quality of finish. The tobacco pipes are discussed by their types and distribution.

The Clay Tobacco Pipe Types

The clay tobacco pipe assemblage from the site consists of 59 bowls, 313 stems and five nibs (mouth parts). The clay tobacco pipe bowls range in date between 1640 and 1860. All of the bowls show evidence for being smoked.

1640-1660

A single bowl is of a size dating to *c.*1640-60, although its rim is damaged and the heel and spur are missing, so it was not possible to date it to type. It was recovered from context [37].

1660-1680

AO13: two heeled bowls with a rounded profile and of a fair and a good finish. One bowl has a damaged rim and has evidence of milling (context [145]), while the other bowl has full milling (context [196]). The bowls are variants as they have less rounded profiles and are not dissimilar to the AO18 contemporary type with straight-sides. This could be a trait of the local industry where it is not so easy to distinguish between the AO13 and AO18 bowls and this has been noted at a nearby site: Fulham Island (VAC01: Jarrett in prep. a).

1680-1710

AO20: four heeled bowls with rounded profiles, all of a fair finish and all with damaged or missing rims and therefore it were not possible to distinguish the extent of milling. The bowls were recovered from contexts [1], [2], [101] and [164].

AO22: one heeled bowls with straight sides and of a fair finish. Milling occurs as a quarter of the bowl rim and could be considered as more of a cursory scratched line. The bowl was found in context [129].

1700-1740

OS10: four heeled, upright bowls and all are damaged to varying extents. None are maker marked. Singular examples were found in contexts [101] and [1664], while two came from deposit [102].

1730-1780

OS12: eight heeled, upright bowls with thin stems and of a fair finish. Six of the bowls have makers' marks on the heel:

M: one bowl with the forename missing, context [2], sf 119.
N A: one bowl, context [26], sf 121. The pipe maker is not known in London.
H B: one bowl, context [177], sf 135. Possibly made by Henry Blundell (2), 1745-72, Unicorn Alley, Borough (Oswald 1975, 131; Hammond 2004)
G E: two bowls, context [32], sf 122, context [103], SF103 the latter with the 'E' reversed. The pipe maker with these initials is currently not documented for this time.
V W: one bowl, context [101], sf 123. Probably made by Valentine Watts, 1749 (Oswald 1975, 149).

The two unmarked examples came from contexts [26] and [129]

1760-1780

AO27T: two damaged bowls of an upright, tall type with square heels and both have on the back of the bowl the name 'WEBB' as a linear incuse stamp in serif lettering. These bowls were found in context [130], sf 129 and context [145], sf 136. A number of related pipe makers with the surname Webb were working in the Westminster and Strand areas during the mid to late 18th century and three bowls from the British Museum were initialled 'E B' and one had the 'WEBB' stamp. Consequently, at the British Museum the stamp was assigned to Edward Webb, 1749, Bedfordbury (Jarrett 2011).

1770-1840

AO27: ten heeled, upright short bowls with squared heels and nine is maker marked.
* *: One bowl with flowers on the heel, oak leaf borders and fluting of different sizes, context [101], sf 124.
C B: one bowl with oak leaf borders and fluting of different sizes and writing around the rim 'BROWN WES.DR'. The last name 'B' initial appears to be incised over an earlier letter. It was recovered from context [33], sf 109. From the same bowl type is a fragment with '[BROW]N' AND 'W[ES.DR]' surviving and it was retrieved from context [2], SF117. It is uncertain as to who made these bowls.

G C: two bowls, one survives as a heel, context [102], sf 128, while the second one from context [101], sf 127 is decorated with fluting of the same size, below drapes with tassels found around the rim. The bowl mould appears to have been remoulded as the fluting would have originally continued to the rim. These bowls were probably made by the local Fulham and Hammersmith pipe maker George Clark who was working between 1813 and the 1860s (Hammond n.d.).
I C: one plain bowl partially damaged and the 'C' is not clearly moulded. A number of London pipe makers could have made this bowl, none of which are particularly local (Oswald 1975, 133-4).
I P: two bowls, one decorated with fluting of the same size, context [101], SF126 and the second with fluting of different sizes, context [144], sf 134. A number of pipe makers could have made these bowls and none are particularly local (Oswald 1975, 143).
H S: one bowl surviving as a heel, context [140], sf 131. No local pipe makers are known with these initials although other London contemporary pipe makers from further afield are documented (Oswald 1975, 145).
I W: one bowl decorated with fluting of the same size and drapes with pendants around the rim. The initial 'I' appears to have been incised over an earlier initial, possibly an 'H', while the fluting also appears to have been remoulded in the same way as the AO27 'G C' marked bowl above. The bowl (sf 125) was recovered from context [101]. The bowl was possibly made by Mrs Jane Ward, 1847-72, Chelsea, especially if she had obtained clay tobacco pipe moulds from other members of her family working in the same area. However, other contemporary pipe makers with these initials are known in London (Oswald 1975, 147).

1820-1860

AO28: four spurred upright bowls and all are maker marked.

I B: one bowl surviving as a heel, context [2], sf 115. A possible local pipe maker who made this bowl was (Haylett) James Barber, who was working in Hammersmith during 1841-51 (Hammond n.d.).
J C: one bowl survives only as a spur, context [2], sf 116. There are several London pipe makers who could have made this bowl (Oswald 1975, 133-4).
T P: one bowl surviving as a heel although there is evidence for fluting, context [2], sf 114. Several London pipe makers with these initials could have made this bowl, although none are known to be local (Oswald 1975, 143).
J W: one short bowl and poorly finished, context [1], sf 110. Possible local pipe makers for this bowl were John Woolfe, 1836, Westminster and Mrs Jane Ward, 1847-62, Chelsea (Oswald 1975, 148).

Bowl fragments

There are fragments from some 24 bowls that could not be assigned to type. There are possibly fragments from 1660-80 dated spurred AO15 bowls, recovered from context [101], while parts of probable 18th-century bowls were noted in contexts [2] and [5]. Other bowl pieces have 19th-century fluting on them and were found in context [1]: sf 113 and context [144]: sf 132. Another bowl part from context [5], sf 120 has a 19th-century oak leaf border.

Decorated stems

Five stems were given registered find numbers and four were decorated. The earliest was recovered from context [145], sf 137 and consists of a medium thick stem with an incuse stamp 'RICH/ARD.S/AYER'. This is not a typical London tradition for maker marking clay tobacco pipes and a Richard Sayer is documented in Winchester, Hampshire in 1696 (Oswald 1975, 173). The three other decorated or maker marked stems all date to the 19th century. The first from context [2], sf 118 has repeating 'arrow head' borders and 'CLARK' and 'HAMMERSMITH' in relief on either side of the stem. This pipe was made by either George Clark (see AO27 entry above) or his son Benjamin Clark, working in Fulham in the 1860s and 1870s (Hammond, n.d.). Two other stems both have relief lozenges containing 'CORK' found on each side of the stem. These were both recovered from context [1]: sf 111 and sf 112. The stems were both derived from AO33 type bowls which date to after 1840 and were made locally with the immigrant Irish community in mind. A fourth, plain stem was highly burnished and blackened by a fire and was mistaken for a bead. It was derived from context [45], sf 108.

Distribution

The tobacco pipes are found in Phases 1 to 6 and their distribution is shown in Table 1.

Context	Trench	Phase	No. of fragments	Assemblage size	Context ED	Context LD	Context considered date
1	A	6	31	M	1840	1910	1840+
2	A	5	59	M	1840	1860	1820-1860
5	A	3	14	S	1800	1900	19th century
7	A	3	2	S	1580	1910	1580-1910
9	A	5	6	S	1580	1910	1580-1910
18	A	4	2	S	1580	1910	1580-1910
22	A	4	6	S	1580	1910	1580-1910
23	A	4	1	S	1580	1910	1580-1910
26	A	1	3	S	1730	1780	1730-1780
32	A	3	1	S	1730	1780	1730-1780
33	A	3	5	S	1780	1845	1780-1845
37	A	3	2	S	1640	1660	1640-1660
41	A	3	1	S	1580	1910	1580-1910
43	A	2	1	S	1580	1910	1580-1910
45	A	2	1	S	1580	1910	1580-1910
101	B	5	71	M	1770	1845	1770-1845
102	B	3	13	S	1770	1845	1770-1845
103	B	5	8	S	1730	1780	1730-1780

Context	Trench	Phase	No. of fragments	Assemblage size	Context ED	Context LD	Context considered date
107	B	3	1	S	1580	1910	1580-1910
109	B	4	2	S	1580	1910	1580-1910
113	B	3	7	S	1580	1910	Mid 18th-19th century
123	B	3	1	S	1580	1910	1580-1910
125	B	2	2	S	1580	1910	Mid 18th-19th century
127	B	3	3	S	1580	1910	1580-1910
129	B	4	21	S	1770	1910	18th-19th century
130	B	4	1	S	1580	1910	1580-1910
138	B	2	4	S	1580	1910	1580-1910
140	B	3	1	S	1770	1845	1770-1845
144	B	4	12	S	1770	1845	1770-1845
145	B	1	63	M	1770	1780	1760-1780
152	B	3	1	S	1580	1910	1580-1910
154	B	4	1	S	1580	1910	1580-1910
158	B	2	4	S	1580	1910	1580-1910
162	B	2	2	S	1580	1910	1580-1910
164	B	2	8	S	1700	1710	1680-1710
165	B	3	1	S	1580	1910	1580-1910
167	B	2	2	S	1580	1910	1580-1910
175	B	1	2	S	1580	1910	1580-1910
177	B	1	5	S	1580	1910	1730-1780
196	B	3	6	S	1580	1910	1660-1680

Table 1. FPW12. Distribution of the clay tobacco pipes showing the phase, trench, number of fragments for each context clay tobacco pipes occur in. The size of the group, the date range of the clay tobacco pipes, the dates of the latest clay tobacco pipe bowl present (Context ED and LD) and a considered deposition spot date for each context.

Significance of the collection

The clay tobacco pipes are of significance at a local level and it is assumed that the assemblage is derived from sources on the site. The bowl types present on the site fit mostly to within the typology for London and local 19th-century clay tobacco pipe makers are represented in the assemblage, such as George or Benjamin Clark. Other non-local local pipe makers and the Winchester pipe maker Richard Sayers, may represent the possessions of visitors to the Bishop's Palace. There is no evidence for clay tobacco pipe production on the site.

Potential of the collection

The main potential for the tobacco pipes is as an aide to dating the contexts in which they were found and to provide a sequence for them. Two of the pipe bowls merit illustration. Other local pipe assemblages have been recovered from other excavations at Fulham Palace (Jarrett in prep. b), the Fulham Pottery (Pearcey 1999) and Fulham Island (Jarrett in prep. a). These assemblages add to the knowledge of the local clay tobacco pipe industry and their marketing to the end users on the site.

Research aims

One research aim can be suggested as an avenue of research for the clay tobacco pipe assemblage from FPW12.

How does the clay tobacco pipe assemblage from FPW12 compare to other local sites and what does that inform temporally on the local clay tobacco pipe industry?

Recommendations for further work

A publication report should be written for the clay tobacco pipes from the site. Two bowls need illustrating to supplement the text.

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APPENDIX 8: GLASS ASSESSMENT

Chris Jarrett

Introduction

A small assemblage of glass was recovered from the site (one box). The glass dates entirely to the post-medieval period. The assemblage is on the whole in a fragmentary state with only four intact vessels being recorded. Some of the glass was probably discarded fairly rapidly after breakage while a notable quantity was recovered from horticultural soils and so was probably subject to garden digging and redeposition. Many of the glass fragments do have natural weathering deposits resulting from being buried. The glass was quantified by the number of fragments and weight. The assemblage was recovered from 40 contexts and individual deposits produced small (fewer than 30 shards) and medium (less than 100 shards) sized groups.

All of the glass (288 fragments, weighing 51,060g, of which three fragments and 150g are unstratified) was recorded in an ACCESS database, by type, colour, form and manufacturing technique. The assemblage is discussed by the vessel shapes, etc. and its distribution.

Vessel types

Bottles

There are two fragments (19g) of bottles that cannot be further assigned to a specific type. A green soda glass bottle fragment from context [2] has embossed on it '...WE....' and dates from the mid 19th century onwards, while from context [103] is the flared neck of a vessel in aquamarine glass, which could only be dated generally to the post-medieval period.

Case bottle

From context [7] was recovered the wall and corner of an aquamarine coloured soda glass case bottle. This form dates from the late 16th century onwards.

Cylindrical bottles

Three body fragments (62g) of non-specific shaped cylindrical bottles occur in bright green glass (context [12]) and as two thick walled aquamarine coloured glass fragments (contexts [30] and [39]) and are all dated from *c.*1830.

Flat bottles

There are six fragments, probably from the same number of vessels (86g) from flat bottles and most survive as panelled wall sherds in contexts [2], [22] and [101]. They are in olive green natural glass or the aquamarine soda type. Two bases survive, one from context [103] is in olive green natural glass and the other in aquamarine soda glass was recovered from context [123]. The datable forms represented are of 19th-20th century types.

Oval bottles

A near intact (109g) mould blown oval cross-section bottle was recovered from context [2]. It has a prescription type rim finish and dates to the 19th or 20th century.

Sauce bottle

A moulded, square sectioned sauce bottle in clear soda glass was recovered from context [2]. It has embossed on it '... ?Y SA[UCE]' and dates to the 19th or 20th century.

Wine bottles

There are a total of 60 fragments (632g) of wine bottles fragments that cannot be assigned to specific shapes. They were made in natural glass and occur in colours ranging from olive green and dark olive green and were found in a number of contexts (see Table 1). These wine bottle fragments can only be broadly dated from the mid 17th century onwards, although a small number of more closely dated rims were represented in this group. A *c.*1670 dated string finish rim was noted in context [2] and two *c.*1800-10 type rims were found in contexts [5] and [101].

English cylindrical wine bottles

There are 31 fragments, weighing 634g of cylindrical shaped wine bottles occurring in olive green to dark olive green coloured natural glass. The types represented here have mostly characteristics dated to the late 18th and early 19th century and are found in contexts [23], [33], [129], [144] and [145]. An example from context [2] had a rim string finish dated *c.*1800.

Phial

Two fragments (29g) of a cylindrical, free-blown greenish-blue natural glass phial were recovered from context [2]. Despite being broken, it is intact from the shoulder to the kicked base and it dates to the 18th or 19th centuries.

Bowl

An unstratified, small flared bowl in clear soda glass has a rounded rim and recessed base embossed on the underside '47'. It was probably used as a container for a food product and dates to the 19th or 20th century.

Bowl or lid

A simple rim of a bowl or lid in clear soda glass was recovered as a single fragment (19g) from context [101]. The vessel is decorated with a horizontal band of rounded facets and an engraved repeating motif of three vertical curving lines with a cross bar located between the facets. It dates to the 19th or 20th century.

Stopper

An intact bottle stopper in blue-green soda glass was found in context [1]. The stopper has a flat top, ridged side and tapering plug with three evenly spaced vertical ridges. The item weighs 33g and dates to the 19th-20th century.

Vessel glass

There are thirty-three fragments (95g) of glass that can only be broadly assigned to a general vessel shape category and was found in a number of contexts (see Table 1). The material occurs in a wide range of colours, in either natural or soda glass. Of note from context [11] was an optically blown, dark blue fragment with an embossed diamond gridded pattern, dated to the 19th and 20th centuries

Wine glass

A single wine glass fragment (87g), possibly a champagne flute was unstratified. It was made in clear soda glass and survives as a base sherd with a pontil scar, below a long tapering stem to a flared bowl. It dates to the 19th or 20th century.

Window Glass

A total of 143 fragments (328g) of window glass were recovered from 30 contexts. This material is in a wide range of colours: clear, aquamarine, besides pale blue, green and grey colours. The window glass could only be broadly dated to the post-medieval periods.

Distribution

The distribution of the glass is shown in Table 1 which also gives information on what forms occur in each context it was found in and a deposition date.

Context	Trench	Refined Phase	No. frags	Assemblage size	Weight (g)	forms	context considered date
1	A	6	2	S	37	stopper, vessel	19th-20th century
2	A	5	32	M	483	bottle: flat, oval, sauce, wine bottle; cylindrical, phial, vessel, window	19th-20th century
5	A	3	20	S	102	English wine bottle, vessel, window	19th-20th century
7	A	3	5	S	59	case bottle, English wine bottle, window	c.1800-1810
9	A	5	6	S	18	English wine bottle, window	post-medieval
12	A	3	5	S	21	cylindrical bottle, English wine bottle, vessel, window	19th-20th century
14	A	3	1	S	1	window	post-medieval
18	A	4	1	S	2	English wine bottle	post-medieval
22	A	4	8	S	34	flat bottle, English wine bottle, vessel, window	post-medieval
23	A	4	6	S	91	English wine bottle; cylindrical, vessel, window	late 18th-e19th century
26	A	1	1	S	11	English wine bottle	post-medieval

Context	Trench	Refined Phase	No. frags	Assemblage size	Weight (g)	forms	context considered date
30	A	3	1	S	37	cylindrical bottle	1830+
33	A	3	5	S	62	English cylindrical wine bottle, window	mid 18th century onwards
39	A	3	3	S	24	cylindrical bottle, vessel, window	1830 onwards
41	A	3	2	S	6	English wine bottle, window	post-medieval
101	B	5	50	M	280	small flared bowl, bowl/lid, English wine bottle, vessel, window	19th-20th century
102	B	3	6	S	60	English wine bottle, vessel, window	post-medieval
103	B	5	25	S	87	bottle; flat, English wine bottle, vessel, window	19th century
107	B	3	3	S	12	English wine bottle	post-medieval
111	B	4	6	S	17	English wine bottle, window	post-medieval
113	B	3	3	S	12	English wine bottle	post-medieval
123	B	3	1	S	28	flat bottle	19th-20th century
124	B	4	1	S	2	vessel	post-medieval
125	B	2	3	S	9	English wine bottle, window	post-medieval
127	B	3	10	S	52	vessel, window	post-medieval
129	B	4	24	S	291	cylindrical English wine bottle, window	mid 18th to early 19th century
138	B	2	1	S	1	vessel	19th-20th century
144	B	4	7	S	62	cylindrical English wine bottle, vessel, window	mid 18th to early 19th century
145	B	1	19	S	97	cylindrical English wine bottle, vessel, window	mid 18th to early 19th century
149	B	4	1	S	1	vessel	post-medieval
154	B	4	1	S	1	vessel	post-medieval
158	B	2	1	S	1	window	post-medieval
164	B	2	1	S	1	vessel	post-medieval
165	B	3	3	S	6	vessel, window	post-medieval
167	B	2	1	S	8	vessel	19th-20th century
175	B	1	1	S	2	window	post-medieval
177	B	1	4	S	10	vessel, window	post-medieval
179	B	2	1	S	4	window	post-medieval
182	B	3	1	S	3	vessel	post-medieval
196	B	3	13	S	42	English wine bottle, vessel, window	post-medieval

Table 1. FPW12: Distribution of the glass showing each context it occurs in, the phase, trench and quantification by number of fragments and weight (g). The glass forms are shown for each context they occur in and a considered deposition date is shown for the deposit.

Significance, potential and recommendations for further work

The glass assemblage has very little significance at a local level owing to its largely fragmentary state. The glass forms are typically as those types found in London during the post-medieval period. The only potential of the glass is as a dating tool, although its fragmentary state does not allow for close

dating. None of the glass requires illustrating. There are no recommendations for further work and if a publication is required then the information should be taken from this report.

APPENDIX 9: LITHICS ASSESSMENT

Barry Bishop

Introduction

The archaeological investigations conducted at the above site resulted in the recovery of six struck flints and a small quantity of unworked burnt stone fragments (Table 1). This report follows the methodology and recommendations encapsulated in both MAP2 and MoRPHE (English Heritage 1991; 2006). Its aims are to quantify and describe the material, assess its significance in terms of its potential to contribute to the stated research aims and objectives, and to identify any further work needed in order that the material can achieve its full research potential.

All of the material was recovered from a series of garden features that can be dated to the post-medieval period. The struck flint is of prehistoric date and therefore can be regarded as residually deposited.

Quantification

Context	Decortication Flake	Flake	Chip <15mm	Flake Fragment	Burnt Stone (no.)	Burnt Stone (wt:g)	Colour	Cortex	Condition	Recortication	Date	Comments
2					3	33	Unknown	None	Burnt	Unknown	Undated	Heavily burnt flint
9					1	12	Unknown	Alluvial pebble	Burnt	Unknown	Undated	Heavily burnt flint
12					1	3	Unknown	None	Burnt	Unknown	Undated	Heavily burnt flint
30				1			Translucent Black	Alluvial pebble	Chipped	None	Undated	Shattered flake fragment
102		1					Translucent Black	Weathered	Chipped	None	Meso-Neo	Struck from a keeled core or possible bifacial core tool
108					1	3	Unknown	N/A	Burnt	Unknown	Undated	Burnt slate or coal
113				1			Translucent Brown	None	Chipped	None	Meso-ENeo	Probable prismatic medial blade segment
145					1	8	Unknown	N/A	Burnt	Unknown	Undated	Burnt slate or coal
149		1					Opaque dark	None	Good	None	Neo - EBA	Edge

							grey					trimmed platform, hinged distal termination
155					1	7	Unknown	None	Burnt	Unknown	Undated	Heavily burnt flint
164			1				Translucent Brown	Alluvial pebble	Good	None	Undated	Small platform preparation flake of a rounded pebble
164	1						Translucent Brown	Thermal	Chipped	None	Undated	Primary flake, platform is either retouched or the flake struck from a keeled core

Table 1: Quantification of Lithic Material from Fulham Palace Walled Garden

Burnt Stone

Eight fragments of burnt stone weighing a total of 66g were recovered from six separate contexts. Six of the fragments comprise flint and the other two pieces consist of shale or, more likely, coal. All of the pieces have all been intensively burnt, changing their colour and structure, as would be consistent with incorporation into a hearth or other fire.

Struck Flint

Six struck pieces were recovered. These all consists of flakes; no cores or retouched pieces are present. They were recovered from five separate contexts and no concentrations are apparent. The assemblage is made from good quality flint of a variety of colours, cortex indicates the use of small rounded pebbles and alluvially abraded cobbles. The raw materials are most likely to have been obtained from the local gravel terraces.

Due to the size of the assemblage and the lack of typologically diagnostic pieces, any attempts to date the assemblage must rely on considerations of its technological attributes. The probable blade from context [113] is of prismatic form and unlikely to have been made after the Early Neolithic. The flake from context [102] is small but has an acutely keeled striking platform. Although not conclusive, this does suggest the possibility that it is a sharpening flake, struck from a bifacial core tool such as a Mesolithic transverse axe. The other flakes are even less diagnostic and could potentially date from the Mesolithic through to the Early Bronze Age. Taken as a whole, this would suggest that the

material most likely belongs to the Mesolithic or Early Neolithic, although of course it is entirely possible that it was made over a longer period of time.

Discussion

The burnt flint is undateable and although possibly deriving from the prehistoric occupation at the site might equally have been created during garden activities such as during the use of bonfires. The shale/coal is also undateable but it is unlikely to have got to the site prior to the post-medieval period.

The struck flint indicates occupation at the site occurring during the prehistoric period, most probably during the Mesolithic or Early Neolithic although additional later activity cannot be discounted. There were no knapping scatters or other evidence for in-situ flintworking noted and this assemblage most likely represents sporadic or low-key occupation within the area. The assemblage's size and the lack of diagnostic pieces means it can contribute little to further understandings of the nature of the activity conducted at the site.

Significance

The prehistoric assemblage is small and the lack of associated contexts limits its interpretational value. Nevertheless, it does add to the slowly increasing, although similarly ephemeral, evidence for prehistoric activity identified at a number of sites in the vicinity (e.g. Bishop 2009). It therefore has the potential to contribute to a more comprehensive understanding of settlement and landscape use and could add to any future syntheses of the prehistory of this area. So far there is only limited evidence for prehistoric activity on this part of the north bank of the Thames and occupation here remains poorly understood. More substantial evidence has been recorded form along the south bank, particularly in the vicinity of the confluence of the river Wandle, testifying to an intensively occupied landscape focussing around the river margins throughout much of prehistory (e.g. Jarrett *et al.* 2012)

Recommendations

Due to its size and lack of secure contextual associations, this report is all that is required of the material for the purposes of the archive and no further analytical work is proposed. The material does contribute to the body of evidence for activity in the area and it is recommended that the presence of prehistoric flintwork is recorded with the local Historic Environment Record. A short description of the struck flint should also be included in any published accounts of the fieldwork.

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APPENDIX 10: ANIMAL BONE ASSESSMENT

Kevin Rielly

Introduction

An excavation, comprising 2 trenches (A and B), was undertaken within the walled garden in the grounds of Fulham Palace. This revealed a series of garden features, as planting holes, planting beds and horticultural soil horizons as well as a few rubbish pits and postholes. Six phases of activity were recognised dating from the middle of the 18th through to the 20th century. Animal bones were found throughout this occupation sequence with particular concentrations within Phases 3 and 4. All of the bones were recovered by hand.

Methodology

The bone was recorded to species/taxonomic category where possible and to size class in the case of unidentifiable bones such as ribs, fragments of longbone shaft and the majority of vertebra fragments. Recording follows the established techniques whereby details of the element, species, bone portion, state of fusion, wear of the dentition, anatomical measurements and taphonomic including natural and anthropogenic modifications to the bone were registered.

Description of faunal assemblage

The site provided a grand total of 392 hand collected animal bones, all of which have been assigned to their respective phases. Notably, the dating is relatively good with little mixing of dateable artefacts between phases. The bones tend towards a good level of preservation (referring to surface condition) though the degree of fragmentation is moderately high. This is demonstrated by the proportion of bones in each phase assemblage which are less than 25% complete, generally 55-65% (rising to 90% in phase 2). There is little damage related to scavenger activity, with bones showing dog gnawing accounting for no more than 5% of each phase collection.

Phase:	**1**	**2**	**3**	**4**	**5**
Feature type					
Soil	40		39		55
Pit			4	87	
Planting Bed	8	26	59	3	11
Planting hole		2	51	4	
Grand Total	**48**	**28**	**153**	**94**	**66**

Table 1. Distribution of bones by feature type and phase

The majority of the site assemblage was taken from the various horticultural soils and planting features (see Table 1), although a good proportion was taken from separate, presumably, rubbish pits. The distribution of these bones will be described by century and then by phase, mentioning the location of bones by feature and trench where necessary.

Mid to late 18th century (Phases 1 and 2)

Most of the Phase 1 collection was found in Trench B (46 out of 48 bones), especially from the horticultural soil layer [145] with 38 bones and the remainder taken from two planting beds. Those from Phase 2 (late 18th century) were again mainly limited to Trench B (24 out of 28 bones), with all of the Trench A collection and most of that recovered from Trench B derived from planting beds. Each phase provided a general mix of major mammalian domesticates alongside a minor quantity of chicken bones. There was a cattle femur fragment from a relatively large individual from soil [26] (Trench A) and a sawn cattle scapula fragment, fashioned into a 2 centimetre thick strip, from soil [145] (Trench B). The greater size of the domesticates and the presence of sawing (for butchery purposes) can be equated with late post-medieval sites, dating from the late 18th century (see below).

Period:	**1**	**2**	**3**	**4**	**5**	**6**
Species						
Cattle	8	2	14	14	5	
Equid			1			
Cattle-size	10	6	44	21	13	1
Sheep/Goat	9	3	40	19	20	
Pig	2		4	9		1
Sheep-size	17	16	33	27	20	
Dog			3	2		
Cat			1	1		
Hare			4		1	
Rabbit			1		2	
Rat			1			
Small mammal						1
Chicken	2		2	1	4	
Chicken-size		1	2			
Goose			1			
Mallard			1			
Turkey					1	
Dove			1			
Grand Total	**48**	**28**	**153**	**94**	**66**	**3**

Table 2. Hand collected species abundance by phase

19th century (Phases 3 to 5)

The next two phases provided the major part of the site assemblage, these dating to the early (Phase 3) and mid (Phase 4) 19th century. The earlier collection is clearly biased towards Trench A (109 out of 153 bones) while the reverse is true for Phase 4 (Trench B with 70 out of 94 bones). Most of the bones from these two phases were provided by garden features and pitfills respectively, the latter from two large 'rubbish' pits [135] and [157]. The latest of the 19th-century collections was almost entirely derived from Trench A (62 out of 66 bones), in turn mainly taken from horticultural soil level [2] with 55 bones.

Each phase assemblage produced a major domesticate collection dominated by sheep/goat and accompanied by a rather minor proportion of pig bones. Large cattle and sheep were represented throughout and several of the domesticate bones had been sawn. There was a relatively wide array of other food species, particularly in Phase 3, with each of the major poultry species (including turkey in Phase 5) as well as some wild game, hare, rabbit and dove, although the last two may in fact be domesticates. In addition there were minor quantities of dog and cat, as well as single instances of equid and rat (both in Phase 3).

Modern, 20th/21st century (Phase 6)

This phase provided just three bones taken from topsoil [1], comprising a cattle-size rib, a pig humerus and a small mammal sacrum.

Conclusions and recommendations for further work

It was mentioned that the level of fragmentation is moderately high, which would perhaps be expected where the majority of the bones are either from horticultural soils or various garden features. However, it is notable that the Phase 4 collection, largely taken from rubbish pits, showed a similar level of fragmentation. This perhaps suggests that the breakage pattern is related more to the division of the carcasses and usage of the bones rather than to post-deposition damage. Certainly there is little sign of poor preservation which might also be expected with heavy disturbance. It can also be mentioned that the dating evidence is very good, allowing for rather discrete groupings within the major 19th-century collections.

While it can be tentatively stated that the nature of the site has not unduly affected the potential value of these bone collections, there is little doubt that the greater part of this 'value' lies in the 19th-century phased assemblages. It will certainly be possible to estimate the importance of the major domesticates throughout this period, although it will be necessary to combine data from subsequent phases, as for example Phases 3 and 4, to gain any insights into the exploitation of these species. However, it was noticed that all three phases, and indeed the late 18th-century phase 2, provided evidence for the non-industrial use of the saw and for the presence of large cattle and sheep. These traits are typical of late post-medieval sites in London and demonstrate a nationwide trend (see Rielly in prep. a; Albarella 2003, 74; Rixson 2000, 215). The presence of larger animals is of particular interest, here denoting the use of improved breeds. Such finds at this site and elsewhere in London should be able to suggest just when these 'breeds' began entering the London meat markets.

A final point concerns the high status of this site, here assuming that the bone collections found in the walled garden represents domestic waste derived from the Palace. There are no obvious 'high status' traits amongst these collections, with the possible exception of the turkey. However, this bird had become a major celebratory food item by the 19th century and while its presence would signify the availability of sufficient funds, it would not necessarily be limited to high status households.

In conclusion it is recommended that these post-medieval collections deserve further analysis, with the exception of those from Phase 6, although with an emphasis on the 19th-century assemblages. Comparisons should be made with contemporary London collections, including of course the assemblages from other parts of Fulham Palace (Rielly in prep. b) and, by way of contrast, assemblages from 18th- and 19th-century terrace housing, as at Bermondsey Abbey (Rielly in prep. c).

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APPENDIX 11: CHARCOAL AND MACROFOSSIL ASSESSMENT

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Introduction

This report summarises the findings arising out of the environmental archaeological assessment undertaken by Quaternary Scientific (University of Reading) in connection with archaeological excavations at Fulham Palace Walled Garden (Site Code: FPW12). Bulk soil samples were collected during archaeological excavations at the site for environmental archaeological analysis. A rapid post-excavation assessment revealed no botanical remains in the residues and small quantities of charcoal and macroplant remains in the flots (Snape 2012). Four samples were selected for further detailed analysis of their macrofossil remains. This selection was based on the potential of the material for further understanding the character of the archaeological features and the different types of plants grown in the garden. Sample <11> came from furrow [44], a feature dated to the late 18th century (1770-1800). Two samples came from features dated to the early 19th century (1800-1830); sample <100> came from tree bole [108] and sample <105> from planting pit [135]. A single sample was extracted from mid 19th-century (1830-1870) planting pit [157].

Methods

The samples were originally processed by Pre-Construct Archaeology Ltd. in a flotation tank with the flots retained on a 300µm mesh. These were submitted for analysis as dried flots. Flots selected for analysis were measured and weighed before being passed through a stack of geological sieves of 4, 2, 1mm, 500µm and 250µm mesh sizes. Each of the size fractions >250µm were examined under a stereozoom microscope at x7-45 magnification and any plant remains were extracted and put in glass vials. Identifications were based on morphological characteristics using modern comparative specimens and reference manuals (Cappers *et al.* 2006; Jacomet 2006; NIAB 2004). Results are recorded in Table 1 by period. The term 'seed' is used in the text to encompass a range of fruiting bodies such as nutlets and achenes as well as true seeds. Cf. denoting 'compares with' is used to precede identifications that are considered most similar to a specific taxon but do not display sufficient anatomical features for secure identification. Habitat information and nomenclature used follows Stace (1997) for native species.

Results

Late 18th century

Sample <11> - fill [45] of furrow [44]

Small flot (12ml) contained infrequent charred wood fragments. These were mainly small-sized and vitrified. A single extremely pitted charred grain of barley (Hordeum vulgare) was present. Evidence

for non-cereal crop was limited to a single potential charred pulse (vetch / bean / pea (Vicia / Pisum sp.)). Damage to the hilum and testa prevented any identification beyond the genus level. Indeterminate charred plant remains were also recorded. Uncharred macroplant remains were found in low concentration, seeds of goosefoot (Chenopodium spp.) being the most frequent. Robust seeds of elderberry (Sambucus nigra) and blackberry / raspberry (Rubus fruticosus agg. / idaeus) were also present as well as a single possible nightshade (cf. Solanum sp.).

Early 19th century

Sample <100> - fill [107] of tree bole [108]

Charred wood fragments were uncommon from the samples and were mainly found vitrified in the flot from sample <100>. A single charred grain of bread / rivet free-threshing wheat (Triticum aestivum / turgidum – type) was the only charred crop. An indeterminate charred seed and indeterminate charred plant remains were also present. Uncharred macroplant remains were slightly more numerous but the assemblage was not very diverse. The sample contained a small amount of robust seeds of elderberry and very low numbers of blackberry / raspberry, goosefoot, silver birch (Betula pendula), possible celery-leaved buttercup (cf. Ranunculus sceleratus) and a possible seed from the carrot (Apiaceae) family. Other biological remains in the flot included occasional waterflea (Daphnia sp.) egg cases, mammal bones and fish remains.

Sample <105> - fill [129] of planting pit [135]

The flot from sample <105> contained very few charred plant remains, consisting of scarce, principally small-sized, charred wood fragments, an indeterminate seed and three indeterminate plant remains. A moderate quantity of uncharred seeds was recorded in the flot; the array of uncharred seeds was similar to the previous sample. Elderberry were the most frequent seeds found followed by a small amount of goosefoot. Single seeds of blackberry / raspberry and prickly sow-thistle (Sonchus asper) were also present. Uncommon mammal bones, fish remains and a fly puparium were also identified.

Mid 19th century

Sample <114> - fill [155] of planting pit [114]

Charred plant remains were very uncommon in the flot from sample <114> including infrequent small-sized wood fragments, a single poorly preserved grass (Poaceae) caryopsis, four indeterminate seeds and indeterminate plant remains. The sample contained a small amount of uncharred seeds comprising, infrequently of goosefoot and elderberry and also of single seeds of blackberry / raspberry, celery-leaved buttercup, black nightshade (Solanum nigrum) and possible cinquefoil / tormentil (cf. Potentilla sp.). Two uncharred fruits of silver birch and an immature whole hazel nutshell (Corylus avellana) were also present. Fly puparia were recorded.

Table 1: Analysis of the dry flots from Fulham Palace Walled Garden (Site Code: FPW12).

		Period	1770-1800	1800 - 1830	1800 - 1830	1830 - 1870
		Sample Number	11	100	105	114
		Feature Number	44	108	135	157
		Context Fill Number	45	107	105	155
		Feature Type	Furrow	Tree bole	Planting pit	Planting pit
		Flot volume (ml)	12	70	75	45
		Flot weight (g)	6	18	16	16
Taxonomic Identification	**Common name**	Habitat Codes				
Crop Cereals						
Triticum aestivum / turgidum – type	bread / rivet free threshing wheat - type	C*		[1]		
Hordeum vulgaresp.	hulled barley	C*	[1]			
Non-cereal crops						
cf. Vicia / Pisum sp.	possible vetch / bean / pea	C*	[1]			
Other plants						
R. sceleratus L.	celery-leaved buttercup	MROw				1
cf. R. sceleratus L.	possible celery-leaved buttercup	MROw		1		
Betula pendula Roth	silver birch - fruit	WEa		1		2
Corylus avellana L.	hazel - whole nut shell	HSW				1
Chenopodium spp.	goosefoot	AArDn	9	5	12	23
cf. Potentilla sp.	cinquefoil / tormentil	-				1
Rubus fruticosus agg. L. / idaeus L.	blackberry / rasberry	WSHD*	2	4	1	1
cf. Apiaceae	possible carrot family	-		1		
Solanum nigrum L.	black nightshade	DA				1
cf. Solanum sp.	possible nightshade	-	1			
Sambucus nigra L.	elder	HWS	2	53	75	10
Sonchus asper (L) Hill	prickly sow-thistle	ADY			1	
Poaceae	grass caryopses (medium seeded)	-				1
Inteterminate or Unidentified Plant parts						
Indeterminate plant remains			[1]	[1]	[3]	[1]
Indeterminate weed seed				[1]	[1]	[4]

		Period	1770-1800	1800 - 1830	1800 - 1830	1830 - 1870
		Sample Number	11	100	105	114
		Feature Number	44	108	135	157
		Context Fill Number	45	107	105	155
		Feature Type	Furrow	Tree bole	Planting pit	Planting pit
		Flot volume (ml)	12	70	75	45
		Flot weight (g)	6	18	16	16
Taxonomic Identification	**Common name**	Habitat Codes				
indet leaf frag.						1
Others						
Charcoal >4mm			*	*	*	*
Charcoal <4mm			**	**	**	*
Fly puparia					*	*
Egg resting bodies				2		
Mammal bones				*	*	
Fish remains				*	*	
LSS					*	*
Industrial debris			**	**	**	**
Total count (fragment or item)			17	68	93	46
Sample volume (in litres)			11	7	22	15
Processed soil (in litres)			11	7	22	15
Count density (items per litre of processed soil)			1.54	9.71	4.22	3.06

Key: All remains are uncharred unless in brackets ([ ] = charred); quantification (* = 1-10, ** = 11-50, *** = 51-250, **** = >250); Habitat characteristics: A - Weeds of cultivated grounds, Ar - Arable weeds, C - Cultivated plants, D - Ruderals, weeds of waste and disturbed places, E - Heath, G - Grassland, H - Hedgerows, M -Marsh/bog, R - Plants of running waters, O - Plants of open water, S - Scrub, W - Woods, Y – Waysides; Soils/ground conditions: a – acidic, c – calcareous, d – dry, b – base rich, n – nutrient rich, o – open ground, s – shaded, w – wet/damp soils, h – heavy soils.

Discussion

Flots from these samples contained a large proportion of uncharred roots, small to moderate quantities of uncharred seeds and infrequent poorly preserved charred plant remains. Other biological remains were also present including mammal bones, fish remains, occasional fly puparia and waterflea egg cases. Fuel remnants in the form of small pieces of coal and friable dark brown

vesicular clinker-like material were recorded. The latter were also present in the residues (Snape 2012).

Formation processes involved in the samples

Uncharred plant remains and charred wood fragments are relatively uncommon in the samples. This is perhaps surprising given that the samples originate from a garden. Their paucity could be caused by taphonomic processes or, probably more likely, their lack of deposition. For instance, if vegetables were growing in the walled garden, the final fresh products containing the seeds (if already produced) would have certainly been harvested and removed.

Their scarcity could also be caused by post-depositional bias such as unsuitable depositional environment. Evidence for plants that grew in the sampled features including the furrow [44] and both planting pits ([135] and [114]) would come either from uncharred seeds and/or fruits that dropped from the plants, or from charred macroplant remains which would represent garden waste burnt in-situ. In the case of tree bole [108], large quantities of charred wood fragments could indicate that the tree had been burnt in-situ. It is possible that some of the remains present in the flots are contemporary with the sampled features and small assemblages can still be valuable in contributing to the interpretation of the garden. Nonetheless, the material from the four features was affected by several post-depositional processes that would have significantly influenced not only the preservation but also the distribution of the remains. These factors are associated with the nature of the site itself and the high level of rooting.

Uncharred remains can be preserved by waterlogging or in anoxic conditions. However, the four samples derived from deposits which were moist and not waterlogged. The uncharred seeds would have dropped in horizons "O" (humic) and "A" (accumulation of organic matter in a mineral horizon), and these would not have been well sealed. These horizons represent (or represented) active soils and normally any uncharred plant remains that dropped in them would simply have decayed. Nonetheless, although small fragile botanical remains would not have preserved, given that the deposits are relatively recent, woody seeds and coarse fruit stones may have survived. The presence of elderberry, blackberry / raspberry could therefore represent the seeds of plants growing in the garden. Both plants provide edible fruits. It is also possible that some of these remains were not deliberately cultivated. In addition, the immature hazel nutshell recovered from planting pit [114] could indicate that a hazel tree was growing close-by.

The presence of fine and woody roots was a recurrent pattern in the flots. They provide evidence for potential sources of disturbance and cross contamination. Later activities undertaken in the garden, including successive digging and working of the soils as well as soil faunal activities, could be a cause of further mixing and contamination.

Likely provenance of the macroplant remains

While the flots have produced small assemblages of plant remains, sampling has confirmed the presence of domestic and industrial waste material such as fly puparia, fish remains, mammal bones, CBM, fuel remnants (coal, clinker and vitrified charred wood fragments) and spherical hammerscales. The presence of domestic debris mixed with occasional plant material suggests that domestic waste was turned into compost or was directly dumped onto the soil. During this period nutrients from various origins were used instead of chemical fertilisers to enrich the soils. It is therefore likely that the plant remains in the flots originate from further afield (domestic waste and animal dung for example), and the presence of charred grains of barley and free-threshing wheat could provide limited evidence for the use of cereals. Evidence for other consumable plants such as elderberry and blackberry / raspberry may also have been imported to the garden. Finally, macroremains of celery-leaved buttercup and waterflea egg cases could indicate that sludge from garden ponds or other water features may have also been dumped into the soil.

Conclusions

Although the archaeological work was successful in revealing earlier features and the layout of the garden, sampling has demonstrated that it is more difficult to identify the actual plants grown in the garden. Limitations regarding survival of evidence and problems regarding the interpretation of remains from garden sites have been discussed by Murphy and Scaife (1991). The environmental remains from Fulham Palace Walled Garden were not successful in providing evidence regarding the plants grown in the garden. Nonetheless, they have provided limited information regarding the preparation of the soils during the late 18th century-mid 19th century.

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APPENDIX 12: POLLEN ASSESSMENT

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Introduction

This report summarises the findings arising out of the pollen assessment undertaken by Quaternary Scientific (QUEST), University of Reading in connection with archaeological investigations carried out at Fulham Palace (FPW12). Sub-samples were taken for pollen assessment from the sealed contexts within the Walled Garden by Pre-Construct Archaeology.

Methods

Pollen assessment

Four sub-samples were extracted for the assessment of pollen content, and was extracted as follows: (1) sampling a standard volume of sediment. Due to the nature of the sediment (soil) this represented a large volume (6gms); (2) adding two tablets of the exotic clubmoss Lycopodium clavatum to provide a measure of pollen concentration in each sample; (3) deflocculation of the sample in 1% Sodium pyrophosphate; (4) sieving of the sample to remove coarse mineral and organic fractions (>125µ); (5) acetolysis; (6) removal of finer minerogenic fraction using Sodium polytungstate (specific gravity of 2.0g/cm3); (7) mounting of the sample in glycerol jelly. Each stage of the procedure was preceded and followed by thorough sample cleaning in filtered distilled water. Quality control is maintained by periodic checking of residues, and assembling sample batches from various depths to test for systematic laboratory effects. Pollen grains and spores were identified using the University of Reading pollen type collection and the following sources of keys and photographs: Moore et al (1991); Reille (1992). Plant nomenclature follows the Flora Europaea as summarised in Stace (2005). The assessment procedure consisted of scanning the prepared slides, and recording the concentration and preservation of pollen grains and spores, and the principle taxa on four transects (10% of the slide) (Table 1). The addition and counting of Lycopodium spores has also permitted the calculation of total land pollen grains/cm3.

Results of the Pollen Assessment

The results of the assessment indicate that the concentration of pollen is variable in samples from the walled garden. Within samples <45> (context [11]) and <114> [155], the concentration was low and in a moderate state of preservation. Both of these samples are dominated by pollen grains that are particularly resistant to decay (e.g. Lactuceae – dandelion family), and thus the assemblage is thought to be biased towards these types.

The concentration of pollen in samples <100> (context [107]) and <105> (context [105]) was much higher with a diverse range of taxa including: Pinus (pine), Quercus (oak), Ulmus (elm), Alnus (alder), Corylus type (hazel), Poaceae (grass family; most frequent), Cereale type (e.g. barley), Chenopodium type (e.g. fat hen) and Lactuceae (dandelion family). In addition, a few pollen grains that were not immediately identifiable were recorded.

Interpretation and Recommendations

Samples such as <100> and <105> have a higher potential for pollen analysis, with both assemblages dominated by native tree, shrub and herb pollen taxa. However, all soils suffer from some form of natural bioturbation (including animal and plant disturbance) and cultural processes (such as the use of tools, deliberate planting and the addition of lime or manure). Any pollen will have been moved around within the profile by any of these processes, or could even have been derived from an external source. Therefore, although pollen is present, it may represent mixing of contemporaneous and post-burial pollen; indeed, whilst grass and weed taxa may have grown in the former garden it also currently grows at or around the margins of the site (e.g. the grasses and weeds; Butler pers. comm.).

It is possible that a higher pollen count might identify pollen from plants more likely to have been planted in the garden, but on the basis of the samples assessed, it is anticipated that this would represent at most, a very minor component of the assemblages.

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Table 1: Pollen-stratigraphic assessment of samples from Fulham Palace Walled Garden

Sample number	Context number	Main pollen taxa			Concentration 0-5	Concentration grains/cm3	Preservation 0- 5	Microcharcoal 0 - 5
		Latin name	Common name	Number				
45	11	Lactuceae	dandelion family	14	2	568	3	4-5
		Unknown	-	1				
100	107	Pinus	pine	3	5	1829	3	4-5
		Quercus	oak	1				
		cf Ulmus	cf elm	1				
		Alnus	alder	2				
		Corylus type	e.g. hazel	2				
		Poaceae	grass family	19				
		Cereale type	e.g. barley	2				
		Chenopodium type	e.g. fat hen	3				
		Lactuceae	dandelion family	2				
		Rumex acetosa/acetosella	sorrel	1				
		Plantago type	plantain	1				
		Asteraceae	daisy family	2				
		Unknown	-	4				
105	105	Pinus	pine	2	4	2469	3	4-5
		Alnus	alder	2				
		Ulmus	elm	2				
		Poaceae	grass family	10				
		Cyperaceae	sedge family	3				
		Lactuceae	dandelion family	4				
		Cereale type	e.g. barley	2				
		Chenopodium type	e.g. fat hen	1				
		Unknown	-	3				
114	155	Poaceae	grass family	3	1-2	465	3	2-3
		Lactuceae	dandelion family	3				
		cf Centaurea nigra	cf knapweed	1				
		Cereale type	e.g. barley	1				

Key:

Concentration: 0 = 0 grains; 1 =1-75 grains, 2 = 76-150 grains, 3 = 151-225 grains, 4 = 226-300, 5 = 300+ grains per slide

Preservation: 0 = none, 1 = very poor, 2 = poor, 3 = moderate, 4 = good, 5 = excellent

Charcoal: 0 = none, 1 = negligible, 2 = occasional, 3 = moderate, 4 = frequent, 5 = abundant

APPENDIX 13: OASIS FORM

OASIS ID: preconst1-139594	
Project details	
Project name	Fulham Palace Walled Garden Public Archaeological Project, Bishops Avenue, Fulham, LB of Hammersmith and Fulham
Short description of the project	An archaeological investigation was undertaken by Pre-Construct Archaeology Limited at the Walled Garden at Fulham Palace, Bishop's Avenue, Fulham, London Borough of Hammersmith and Fulham, SW6 6EA. The work formed part of a Public Archaeological project designed to provide data relating to the historical layout of the 18th-19th century working kitchen garden prior to its restoration. Its dual-aim was also to provide members of the public an opportunity to engage with an archaeological project and to impart knowledge and learning regarding the history of the Fulham Palace site. The results of the excavation revealed a series of features generally comprising planting holes for trees and plants, linear planting beds, rubbish pits and horticultural soil horizons. Six phases of activity dating from the mid-late 18th century through the 19th and into the 20th were established through an analysis of artefactural spot dating and spatial and stratigraphic relationships within the trenches. Two of three bee boles located on the exterior side of the enclosure wall of the garden (facing the palace) that were bricked up during the late 18th - early 19th century were also restored and recorded as part of the project. In addition to the locating and recording of features, the recovering of artefacts from the soil horizons and fills of various features have assisted to create a valuable collection of cultural artefacts related to the historical activities undertaken in the garden and the people who lived and worked there.
Project dates	Start: 25-06-2012 End: 10-08-2012
Previous/future work	Yes / Not known
Any associated project reference codes	FPW12 - Sitecode
Type of project	Recording project
Site status	Scheduled Monument (SM)
Current Land use	Other 10 - Orchard
Current Land use	Cultivated Land 1 - Minimal cultivation
Current Land use	Other 14 - Recreational usage
Monument type	PLANTING BED Post Medieval
Monument type	PLANTING PIT Post Medieval
Monument type	PIT Post Medieval
Significant Finds	STRUCK FLINT Late Mesolithic
Significant Finds	STRUCK FLINT Neolithic

Significant Finds	COIN Roman
Significant Finds	COIN Post Medieval
Significant Finds	CLASP Post Medieval
Significant Finds	PLANT TAGS Post Medieval
Significant Finds	TOKEN Post Medieval
Significant Finds	POT Roman
Significant Finds	POT Medieval
Significant Finds	POT Post Medieval
Significant Finds	CBM Roman
Significant Finds	CBM Medieval
Significant Finds	CBM Post Medieval
Investigation type	"Full excavation","Full survey","Part Excavation","Systematic Metal Detector Survey","Test-Pit Survey","Watching Brief"
Prompt	Scheduled Monument Consent
Project location	
Country	England
Site location	GREATER LONDON HAMMERSMITH AND FULHAM FULHAM Fulham Palace Walled Garden Public Archaeological Project, Bishop's Avenue, Fulham, London Borough of Hammersmith and Fulham, SW6 6EA
Postcode	SW6 6EA
Study area	0 Square metres
Site coordinates	TQ 2419 7600 51 0 51 28 07 N 000 12 42 W Point
Project creators	
Name of Organisation	PCA
Project brief originator	Ramboll
Project design originator	Phil Emery/Chris Mayo
Project director/manager	Chris Mayo
Project supervisor	Iain Bright
Type of sponsor/funding	Fulham Palace Trust

body	
Project archives	
Physical Archive recipient	Fulham Palace Museum
Physical Archive ID	FPW12
Physical Contents	"Animal Bones","Ceramics","Glass","Metal","Worked stone/lithics"
Digital Archive recipient	Fulham Palace Museum
Digital Archive ID	FPW12
Digital Contents	"none"
Digital Media available	"Database","Images raster / digital photography","Spreadsheets","Survey","Text"
Paper Archive recipient	Fulham Palace Museum
Paper Archive ID	FPW12
Paper Contents	"none"
Paper Media available	"Context sheet","Drawing","Matrices","Photograph","Plan","Report","Section","Survey"
Project bibliography 1	
Publication type	Grey literature (unpublished document/manuscript)
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