

**84-90B FULHAM HIGH STREET
FULHAM
LONDON SW6**



**AN ARCHAEOLOGICAL
ASSESSMENT**



**LOCAL PLANNING AUTHORITY: LB
HAMMERSMITH & FULHAM**

PCA REPORT NO: 13261

SITE CODE: FHS15

MAY 2018



PRE-CONSTRUCT ARCHAEOLOGY

**84-90B FULHAM HIGH STREET
FULHAM
LB HAMMERSMITH & FULHAM**

EXCAVATION

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**An Archaeological Assessment of an Archaeological Excavation at
84-90b Fulham High Street, Fulham, London Borough of
Hammersmith and Fulham**

Site Code: FHS 15

Central National Grid Reference: TQ 2437 7605

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1 ABSTRACT

- 1.1 An archaeological watching brief and excavation was undertaken between September 2015 and May 2016 at 84-90b Fulham High Street, Fulham, SW6 3LF. The works were commissioned by Modebest Builders Ltd on behalf of Meyer Bergman. The site lies on the west side of Fulham High Street towards the corner of Fulham High Street and Church Gate, behind the Temperance Public House. It is bounded on the west by Steeple Close and to the north by Parkview Court and All Saint's Hall.
- 1.2 The archaeology was multi-phase with the features dating to several historic periods: medieval (1150-1450), early post-medieval (1450-1600), post-medieval: 17th century, 18th century and 19th century.
- 1.3 The underlying natural geology was encountered in all the areas excavated and this comprised sandy gravels described by the British Geological Survey as the Kempton Park Gravel Formation.
- 1.4 Natural flood deposits and river channels were encountered across the site providing evidence of an early wet marshy landscape with a large channel thought to be the Fulham Stream located along the far eastern side of the site. A small assemblage of worked flint thought to date from the late Neolithic to early Bronze Age was recovered from an early flood deposit.
- 1.5 Medieval activity was comprised of some activity relating to the Fulham Palace Moat in the north-eastern end of the site. A series of scattered pits were also recorded across the western side of the site with several sherds of pottery recovered from the fills. A large pit thought to be a potential pond was also encountered.
- 1.6 The early post-medieval period was initially represented by management of the area around the meeting of the moat and the stream. The remains of timber structures thought to be dams and revetments were recorded which were thought to control the flow of water and support the eastern bank of the stream prior to its development as Fulham High Street. Timber remains of a simple pedestrian bridge was also recorded which originally would have spanned the moat.
- 1.7 The management of the moat and the stream continued throughout the post-medieval period with the remains of further revetments and timber structures being encountered at various locations along its banks. Analysis has shown that many of timbers used in these structures were re-used from boats such as Thames river barges. Nearby boat yards on the banks of the Thames are thought to be a likely source of this timber.
- 1.8 Early evidence of the development of Fulham came from the southern part of the excavation which revealed a large masonry wall. This wall was predominantly built of re-used medieval stone with masons' marks and other tool marks, some of the stone also had distinct mouldings,

as well as some elements of brick. It is likely that the stone could have come from either the demolition of parts of the nearby All Saint's church during rebuilding during the 15th century. The wall itself is possibly the remains of a former cellar of an inn or tavern thought to be located in this area.

- 1.9 During the middle and late post-medieval period as Fulham High Street developed and the previously marshy ground was reclaimed. Evidence of backfilling and dumping of material into the stream channel was noted during the excavation as well as dumping and further land reclamation on the western bank of the stream. The stream would eventually be completely formalised with evidence of a substantial brick-lined culvert which fed into the moat; a curved brick wall retaining the south-eastern bank of the moat was recorded retaining the moat as an open channel. The culvert ran north-south to the rear of the properties established in the 18th century which fronted the High Street. Some evidence of these properties was encountered consisting of the scant remains of foundations and brick/stone external yard surfaces.
- 1.10 In the north-east corner of the site it is thought commercial gardening was taking place as an agricultural soil was encountered with several cut features thought to be associated with planting and irrigation. It is known from historic maps that the land to the rear of the properties along the High Street was used for market gardening formally established in the 19th century. By the early 20th century the moat was filled in completely and bypassed by the expanded culvert / drainage system.
- 1.11 Eventually the plots of land and the buildings fronting the High Street were demolished as the road was widened during 20th century and the site was developed for the territorial army barracks which previously occupied the site.

2 INTRODUCTION

- 2.1 This report details the results and working methods of an archaeological field excavation undertaken by Pre-Construct Archaeology Ltd. Between September 2015 and April 2016 at 84-90b Fulham High Street, Fulham, SW6 3LF, TQ 2437 7605 (Fig. 1). These works took place in advance of a proposed redevelopment of the site comprising the construction of residential properties, a retail element and associated basement car parking and landscaping.
- 2.2 The site was located on land occupied by a former territorial army barracks, a school building and a garage. The main archaeological excavation was located in a large area towards the eastern portion of the site. The site lies on the west side of Fulham High Street towards the corner of Fulham High Street and Church Gate, behind the Temperance Public House. It is bounded on the west by Steeple Close and to the north by Parkview Court and All Saint's Hall (Fig. 2).
- 2.3 The site occupies an area of approximately 3667m² within an archaeological priority area as designated by the local planning authority, the London Borough of Hammersmith and Fulham. Fulham Palace Scheduled Monument lies to the west of the site and adjoins part of the northern site boundary. The Grade II Listed Temperance public house and two Grade II Listed buildings lie adjacent to the southern site boundary, with Fulham High Street to the east.
- 2.4 The site has been archaeologically examined several times in the recent past. The first phase of archaeological investigations was undertaken by the Fulham Archaeological Rescue Group in the 1970s. They recorded archaeological remains during the construction of petrol tanks for a new garage. In 2003 the Museum of London Archaeology Service carried out an archaeological evaluation in open areas of the site between existing buildings (Harward 2004). In 2011 the Museum of London also produced a historic environment assessment document for the site (MOLA 2011). In 2014 Archaeological Solutions Ltd carried out a watching brief on geotechnical investigations and carried out a historic buildings survey. The results of these investigations were written in two reports (Archaeological Solutions 2014a; 2014b).
- 2.5 Following the work by Archaeological Solutions Ltd a Brief for an Archaeological Excavation was produced by Historic England (then English Heritage) in 2013 (King 2013). In addition to this an archaeological Project Design (Cotswold Archaeology 2014) on the site was written in 2014, and a further supplementary report in 2015 (Cotswold Archaeology 2015).
- 2.6 Along with this Project Design the current fieldwork methodology was detailed in a Written Scheme of Investigation (Mayo 2015a) and a site-specific Health and Safety Method Statement & Risk Assessment (Mayo 2015b) were prepared prior to the fieldwork and approved by the local authority.

- 2.7 The complete archive comprising written, drawn and photographic records will be deposited at the London Archaeological Archive (LAA), 46 Eagle Wharf Road, London N1 7ED.
- 2.8 The site was assigned the unique Museum of London site code FHS15.



Figure 1
 Site Location
 1:20,000 at A4

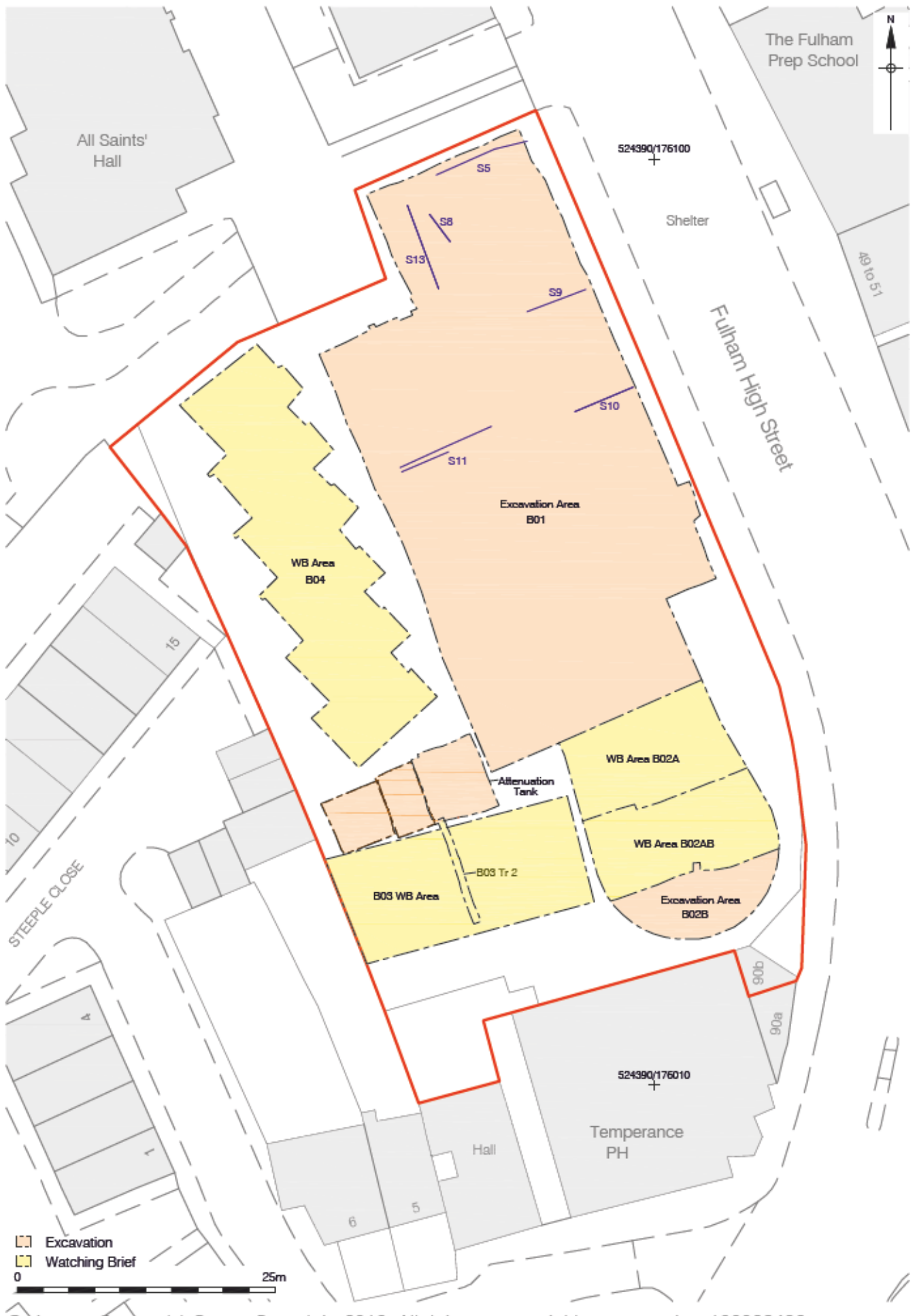


Figure 2
Trench Location
1:500 at A4

3 PLANNING BACKGROUND

3.1 National Planning Policy Framework

3.1.1 The National Planning Policy Framework (NPPF) was adopted on March 27th 2012, and now supersedes the Planning Policy Statements (PPSs). The NPPF constitutes guidance for local planning authorities and decision-takers both in drawing up plans and as a material consideration in determining applications.

3.1.2 In considering any planning application for development the local planning authority will be guided by the policy framework set by the NPPF, by current Local Plan policy and by other material considerations.

3.2 Regional Policy: The London Plan

3.2.1 The relevant Strategic Development Plan framework is provided by "The London Plan, Spatial Development Strategy for Greater London Consolidated with Alterations since 2004" (Feb 2008). It includes the following policy relating to archaeology within central London:

Policy 4b.15 Archaeology

The Mayor, in partnership with English Heritage, the Museum of London and Boroughs, will support the identification, protection, interpretation and presentation of London's archaeological resources. Boroughs in consultation with English Heritage and other relevant statutory organisations should include appropriate policies in their DPDs for protecting Scheduled Ancient Monuments and archaeological assets within their area.

3.3 Local Policy: Archaeology in the London Borough of Hammersmith and Fulham

3.3.1 The London Borough of Hammersmith and Fulham's Unitary Development Plan (UDP) was adopted in August 2003. The document sets out the local authority's policies in relation to archaeology. The policy adheres to the principles of national planning guidance (see above). Following the Planning and Compulsory Purchase Act 2004, Planning Authorities were given 3 years to replace their Unitary Development Plans, Local Plans and Supplementary Planning Guidance with a new system of Local Development Frameworks (LDFs). While LDF documents are being developed a number of policies from the UDP have been 'saved' and will continue to form the basis for planning policy in the Borough. In most cases archaeology policies are likely to be 'saved' because there have been no significant changes in legislation or advice at a national level. The relevant policy in relation to archaeology for Hammersmith & Fulham has been saved and it is set out below:

3.3.2 Policy EN2: Development in Conservation Areas

Development within conservation areas, including alterations or additions to existing buildings, will only be permitted if the character or appearance of the conservation area is preserved or enhanced. Particular regard will be given in the design of new developments to details such as the scale, massing, bulk, height, materials, colour, vertical and horizontal emphasis, and the relationship to adjoining buildings, the street building line and open spaces. (Glossary) New developments in conservation areas must, where possible, respect the historic context, volume, scale, form, materials and quality. These will be matters of particular importance to the historic context.

3.3.3 Policy EN2B: Effect of Development on the Setting of Conservation Areas and Views in and out of them

Development (including development outside conservation areas) will only be permitted if the character or appearance of the conservation areas in terms of their setting and views into or out of them is preserved or enhanced.

3.3.4 Policy EN3: Listed Buildings

The council will protect buildings of special architectural or historic interest which are contained in the Department of Culture, Media and Sport's statutory list. The presumption in favour of preserving listed buildings will be reflected by not normally permitting their demolition, nor will alterations or extensions to them be permitted where their special architectural or historic interest would be adversely affected. Permission will not normally be granted for any development which would not preserve the setting of any listed building. Further buildings may be recommended to the Department of Culture, Media and Sport for listing.

3.3.5 Policy EN7: Nationally and Locally Important Archaeological Remains

The Council will protect the archaeological heritage of the Borough, and encourage its investigation and presentation to the public. This policy will apply throughout the Borough but particularly in the Archaeological Priority Areas identified on the Proposals map. The Council will implement this policy using planning conditions and legal agreements. In addition:

- (i) The Council endorses the Code of Practice of the British Archaeologists and Developers Liaison Group, and expects developers to act in accordance with its principles.
- (ii) Developers are encouraged to consult English Heritage before submitting a planning application. Where development proposals may affect the buried heritage the Council will expect applicants to have properly assessed and planned for the archaeological implications. The Council may require a preliminary archaeological site evaluation before proposals are considered.

- (iii) The preservation of archaeological remains in-situ will normally be required for remains of national importance, and should be carefully considered for other sites. Excavation should be considered only as a last resort where the need for the development overrides the importance of maintaining the remains in-situ, and should be carried out by an approved archaeological organisation, before groundworks begin.
- (iv) The Council will encourage developers to make arrangements for public viewing of excavations in progress, wherever possible, and for subsequent analysis interpretation and presentation to the public of any archaeological results and finds.

3.3.6 The Council has designated 14 Archaeological Priority Areas in the borough. The site lies within the Archaeological Priority Area of Fulham Village as defined by local authority. The site is adjacent to, but not within the Scheduled Monument of Fulham Palace (GL134). In addition the site has been previously subjected to limited archaeological works which showed that archaeological remains were present on the site.

4 GEOLOGY AND TOPOGRAPHY

4.1 Geology

- 4.1.1 The Site lies some 200m to the north of the current position of the River Thames within an area characterised by clay and silt bedrock London Clay, formed during the Palaeogene Period some 55 million years ago. This has been observed in boreholes extracted from the Site and the depths of the London Clay recorded ranged from 1.14m OD to -2.44m OD, indicating a slight downward slope toward the north of the Site in the underlying geology. The Ordnance Survey Geological Survey (sheet 270) indicates the underlying drift geology as quaternary aged periglacial gravels which are identified as the First River terrace gravels. These Sand and Gravels of the Kempton Park Gravel Formation were deposited up to 2 million years ago.
- 4.1.2 Above these gravels are often sequences of sandy silts commonly referred to as brickearth and formed by periglacial processes of deposition. The observed natural geology at the nearby site of 69a Fulham High Street was of brickearth at a height of 2.84m OD and at 31-35 Fulham High Street was recorded at 3.28m OD. These brickearth deposits were not encountered during this investigation. Instead a sequence of alluvial deposits was encountered overlying the sands and gravels on this site.
- 4.1.3 These alluvial deposits were recorded across the Site, overlying the natural sands and gravels, representing periods of inundation. Investigations conducted in 2014 indicate that alluvial deposits recorded may represent two groups, with a lower group representing Holocene flood events associated with the River Thames, and the upper and later alluvial deposits within certain areas of the site representing an alluvial sequence formed from periodic flooding of a watercourse known as the Fulham Stream.

4.2 Topography

- 4.2.1 Current ground level lies between 4.10m OD and 4.40m OD, the top of the gravels (discussed above) within the site are recorded at between - 0.91m OD to approximately 0.7m OD. Even the highest level is considerably lower than those recorded from the surrounding area.
- 4.2.2 The recorded deposits also indicate that the gravel surface within the site has considerable undulations, reflected in the different levels at which this surface has been encountered in archaeological investigations.
- 4.2.3 The site appears to have lain within an area of low lying gravels comparative to the surrounding area, and alluvial deposits with evidence of floodplain layers and clays within and adjacent to the site indicate that the site was characterised by wetland conditions, with a nearby watercourse the Fulham Stream lying both within the eastern part of the site and continuing to

the east beyond the eastern site boundary. Molluscs and flora from the site indicate slow moving freshwater within the vicinity, with periods of vegetation development.

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 Previous archaeological studies at the site

5.1.1 There have been two previous investigations on the site and a number in the surrounding area.

5.1.2 In 1974 an excavation at the Tanner's Brothers Garage in the south-eastern part of the site recorded later medieval masonry, replaced by a 16th- or 17th-century brick building and a contemporary culvert which discharged into a ditch, this ditch was thought to represent early traces of the stream which flowed along the High Street.

5.1.3 In 2003 MoLAS undertook an archaeological evaluation of the current site. the evaluation recorded further evidence of the stream which ran along the line of the modern High Street. Deposits associated with this stream revealed a prehistoric flint, and Roman and late medieval ceramics. A gravel surface and other associated features in the southern part of the site represent later medieval or early post-medieval activity. Evidence suggested the site would have been too marshy for occupation before ground raising in the 17th century, when a brick building was constructed on the site. evidence associated with the backyards of 18th-century properties fronting onto Church Gate was also recorded (Harward 2004).

5.1.4 In 2014 Archaeological Solutions Limited carried out a watching brief on geotechnical investigations and a historic building survey. This investigation observed deposits extracted from boreholes across the site with sands and gravels recorded at 0.91m OD and 0.7m OD. Overlying this was a sequence of natural alluvium which was divided into two main units of lower and upper alluvium. There investigations also observed deposits thought to have derived from a watercourse- fills from a stream / ditch feature down the eastern side of the site in both the north and the south. Further archaeological recorded deposits were dated to the 17th and 19th centuries (Archaeological Solutions 2014a).

5.2 The following is summarised from the project design (Cotswold Archaeology 2015) and information on the Fulham Palace Moat from the PCA assessment report on the Fulham Palace Excavations (Bright 2014).

5.3 Prehistoric

5.3.1 No Mesolithic remains are recorded within the site and its immediate area however Mesolithic stone tools have been recorded on the Thames foreshore. Artefacts recovered from the foreshore environments can represent redeposited remains and thus may not be indicative of Mesolithic activity within the vicinity.

5.3.2 Mesolithic remains have also been recorded by excavations recorded at Fulham Palace in 1972 (Arthur and Whitehouse 1978). These remains comprise a series of flints, recorded from within

alluvial deposits, and are thought to represent Mesolithic activity within the area.

- 5.3.3 The 1972 excavation at Fulham Palace recorded evidence of Neolithic activity within the wider vicinity of the site. The remains recorded comprise Neolithic flints and a small amount of pottery of was recovered from a shallow ditch / gully. Further cut features such as pits and postholes were also excavated. The location of the artefactual material, overlooking the River Thames, is comparable to Neolithic occupation sites of which examples are known situated along the flood plain of the Thames. The nature of the material also appears to be suggestive of Neolithic occupation.
- 5.3.4 A possible prehistoric soil horizon has been identified by a watching brief within the area of Fulham Palace (Bright 2014), associated with a single sherd of Late Bronze Age to Iron Age Pottery. A Bronze Age object and Iron Age pottery was also recorded from the 1972 excavations.
- 5.3.5 A range of objects recorded from the Thames foreshore span the Neolithic period to the Iron Age and maybe indicative of the deliberate or accidental deposition of artefacts, suggestive of contemporary activity within the vicinity.
- 5.3.6 Virtually all of this represented by a foreshore survey in the area to the west of Putney Bridge. The River Thames is a rich source of archaeological finds, possibly as the river regime at Fulham represents a deposition bank, but also with respect to the Bronze Age material that may represent votive offerings. Such offerings are often concentrated where tributary streams meet the Thames (such as Hammersmith and Vauxhall).
- 5.3.7 The adjacent foreshore survey to the east of Putney Bridge made reference to a Late Iron Age coin hoard.
- 5.3.8 The concentration of prehistoric finds in this area have given rise to the theory that there was a crossing point on the Thames around the location of the present Putney Bridge, dating from the Bronze Age onwards. It would be usual for a small settlement to have developed around the crossing point, along with associated communication routes.

5.4 Roman

- 5.4.1 It is likely that, if there was a prehistoric crossing of the Thames in this area, that this would have continued into the Roman period. The recovery of Roman period pottery from various sites in the vicinity does suggest occupation in the general area. However, the absence of

definite Roman features in the area indicate this occupation may have been fairly limited in extent.

- 5.4.2 Roman settlement has been identified on the south side of this possible crossing, at Putney. Remains of Roman settlement, including remains indicative of a substantial structure with associated features, and a large bank and ditch, have also been identified by the 1972 excavations on the bank of the River Thames, in the area around Fulham Palace, westward of the site a series of phases were recorded. The initial phase of activity was represented by a posthole, ditch terminal, gravel surface and a pit containing a dog and horse skull. The second phase of activity included localised burnt deposits, a V-shaped ditch with domestic waste contained within its fills, and a U-shaped trench with a posthole at the base. The third, and final phase of Roman activity was represented by a bank associated with a gravel surface (Arthur and Whitehouse 1978).
- 5.4.3 Further excavations at Fulham Palace have recorded further evidence of Romano-British activity. These remains comprised pits, ditches and deposits dated to the 3rd-4th centuries with a concentration of activity and late Roman finds found in the Walled Garden area (Bright 2014).
- 5.4.4 Roman artefacts, including pottery and coins, have also been recorded at several locations within the study area. Additionally, three fragments of the same pot, dating AD 120-250 and a further pot and amphora fragment have also been recorded from alluvial deposits within the site.

5.5 Early Medieval - Saxon

- 5.5.1 The name of Fulham is thought to be of Saxon origins, which may stem from *Fulla*, a personal name, and *ham*, relating to land 'hemmed in by water of marsh suggesting that the derivation for the place name related to higher ground such as at Fulham Place which may have been a fluvial island.
- 5.5.2 The Bishop of London is known to have been granted the estate of Fulham during the 7th century, with the land of Fulham Palace gained by the Bishop in the 8th century, although no related building work is known in the area until the 11th century.
- 5.5.3 It has been suggested that the bank and ditch recorded in the 1972 excavations at Fulham Palace may have been represented a fortified area, and that these possible fortifications may have been used as an autumn base for Viking raiders involved in invasion and trade on the European mainland. Suggestions have also been made that the fortifications may have had origins in the early medieval period. A radiocarbon date obtained from the area of the moat c. 150m to the north of the site, observed in excavations at the Kings Head pub indicates the presence of a Middle Saxon ditch which may have re-used earlier earthworks. It has also been

suggested that fortifications may have been constructed by the Viking raiders, and the form of the Fulham Palace moated enclosure is comparable to other known Viking riverside camps.

- 5.5.4 Analysis of the evidence for this Danish presence has been reviewed in detail, concluding that a band of Viking raiders congregated at Fulham in AD 878, with the late Roman fortifications at Fulham Palace acting as a muster point for a growing band. The evidence for this event comes primarily from literary sources, with the Anglo-Saxon Chronicle recording that 'a gang of Vikings gathered and settled (sojourned?) at Fulham on the Thames'. Material, including pottery, dating to the Anglo-Saxon period has been recorded within the Fulham Palace enclosure, in the north and south-west corners. A spear of this period has also been recovered from the Thames, downstream of Fulham.
- 5.5.5 References in AD 950 to a property at *Fullenham* under the ownership of Bishop *Theodred* may suggest the presence of a manor house in the vicinity of Fulham Palace.

5.6 Medieval

- 5.6.1 Fulham is recorded within the Domesday book, and this area is clearly marked as a ferry crossing point of the Thames, and the basic road layout (Fulham High Street, Fulham Road, Kings Road, Burlington Road) was probably established in the medieval period.
- 5.6.2 In the 14th century the site is located in an area of almhouse, two cottages and five tenements, or property units suggesting residential buildings.
- 5.6.3 Fulham Palace is known to have been extant from the mid-11th century, with records indicating the presence of a moat from the 14th century. The area of Fulham Palace and the encircling moat are Scheduled, with associated Listed buildings and Registered Parks and Gardens. The boundary of the Scheduled Monument lies adjacent to the northern part of the site and follows the line of the moat.
- 5.6.4 The parish church of All Saints dating to 1194, lying to the south-west of the site lay within a complex including a graveyard, and vicarage first mentioned in 1460.
- 5.6.5 Remains recorded from within the site comprise later medieval stonework re-used in footings for a 16th-17th-century building recorded during the 1974 excavations toward the south-east corner of the site. The masonry comprised of polished marble and has been suggested to derive from Fulham Church.
- 5.6.6 The 2003 MoLAS evaluation recorded limited evidence for activity possibly dating to this period, comprising a gravel surface and possible structural support which may represent an external yard surface and adjacent wall, with underlying medieval soils. These results led to the conclusion that the majority of the site would not have seen occupation activity due to its marshy

character, but may have been used for agriculture, or as an area of dumping. The former would have necessitated drainage, of which a possible ditch recorded in one of the trenches may represent.

- 5.6.7 Watermills and wharves are also referred to, which may have been situated either on the possible Fulham High Street stream or River Thames.
- 5.6.8 Settlement may have been present within the south-eastern corner of the site, adjacent to Fulham High Street possibly leading to the development of post-medieval structures as recorded in 1974. The western and northern parts of the site, away from the street frontages, were characterised by a marshy, wetland environment during this period.

5.7 The Moat

- 5.7.1 The origin of the moat is unknown although theories suggesting an Iron Age background have been put forward. An archaeological investigation by FARG in 1984 at the Kings Head Public House revealed an unrecorded moat or ditch that appeared to run parallel with the main moat infilled in 1921-24. C14 dating of organic matter beneath a clay lining gave a date of AD 570-80. A further 0.60m of silt fill deposits beneath this suggested an earlier date for the ditch.
- 5.7.2 The earliest surviving documentary evidence for the moat dates from 1392, when it is referred to as a 'great ditch' (*magna fossa*).

5.8 Post-Medieval to Modern

- 5.8.1 An alehouse is recorded on the site of the King's Arms in 1526. It is again recorded in 1636, when the establishment had become an important coaching inn on the route from London to the south coast. This period from the 1670s, also witnesses the development of the Fulham pottery, which was located about 100m to the east of the site (still visible by Kiln House on Burlington Road).
- 5.8.2 In 1746 the site on Rocque's map appears to be partially occupied by a row of properties, some with frontages, on the north-west corner of the crossroads to the east of the church. With garden areas or horticultural areas to the rear, with the north-western and western parts of the site.
- 5.8.3 This picture is repeated in Maclure's 1853 Map of Fulham the First Edition Ordnance Survey map of 1872. The northern and western areas of the site were in use as market gardens into the late 19th century.
- 5.8.4 The western side of the Fulham High Street was widened significantly in 1909 for the laying out of tramlines, with this modification the site underwent major changes which led to the demolition

of properties along its western side. This suggests that some of the original frontages are situated below the present pavements.

- 5.8.5 Following this event other structures were built within the site, relating to a drill hall, riding school, Territorial Army centre, garage and a series of other buildings.

The Moat in the 20th Century

- 5.8.6 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.

6 ARCHAEOLOGICAL METHODOLOGY

6.1 Project Design, Sequence and Duration

- 6.1.1 The archaeological works was undertaken according to a Written Scheme of Investigation (Mayo 2015) which was approved in advance by Gill King, GLAAS, archaeological adviser to the London Borough of Hammersmith and Fulham.
- 6.1.2 The excavation area was divided into two distinct areas B01 to the north and B02 to the south. B01 made up the main part of the excavation area and was excavated first. A further strategy was employed in this excavation area and involved excavating a series of slots by machine and by hand down the eastern side of the site to investigate the fills of a north-south channel. Alluvial deposits located across the western side of the site were machined off in spits and where possible the slots through the channel were extended to investigate these alluvial deposits.
- 6.1.3 B02 was excavated in three separate phases as this area occupied the main site entrance and a large part of this area had been truncated by 20th-century petrol tanks which had been removed under archaeological supervision. B02A and B02AB were the main areas affected by truncation from these petrol tanks and have been investigated as an archaeologically supervised watching brief. The presence of hydro-carbons in the underlying deposits created a level of ground contamination that made it difficult to hand excavate. Area B02B had relatively little truncation and could be fully excavated.
- 6.1.4 Further work was carried out outside of the B01 and B02 main excavation area. This work took the form of the excavation of an area where there was to be the construction of an Attenuation Tank. A watching brief was also undertaken for the excavation of ground beams in an area of the site known as B03.
- 6.1.5 The WSI highlighted another watching brief area known as B04 in the western portion of the site. Internal ground-beam trenches were excavated to just below formation levels across the footprint of this area but showed only modern made ground and no archaeology. After consultation with the archaeological advisor, Gill King, it was decided that no further work was required in the B04 area and this area will not be discussed further in this report.
- 6.1.6 Across the site all excavations were initially undertaken by a mechanical 360° excavator with a toothless bucket under archaeological supervision in controlled spits of up to 100mm until archaeological deposits, features or structures were encountered. These were then cleaned, investigated and recorded by archaeological staff using hand tools.
- 6.1.7 All site records were identified using the unique Museum of London site code FHS15, which was allocated to the site by the London Archaeological Archive (LAA) in 2015 at the start of the archaeological works.

- 6.1.8 The investigation of all significant archaeological deposits, features and structures were undertaken by full-time archaeologists employed by PCA. All significant deposits and features were assigned individual context numbers and recorded using the standard Museum of London single context recording system. Context information was recorded on pro-forma context sheets and all plans and sections were drawn at a scale of 1:20 and 1:10 respectively on polyester based drawing film (permatrace).
- 6.1.9 A full photographic record of the site was maintained in HQ digital photography.
- 6.1.10 All finds from the site were retained for off-site assessment. Samples were taken from appropriate contexts for off-site processing and assessment.
- 6.1.11 A grid was established in the main excavation areas in all the other areas baselines were established and surveyed using GPS survey equipment. All planning systems of site grid and baselines that were used during the project were located using a Total Station and were tied into the Ordnance Survey Grid.
- 6.1.12 Site levels and datums were established from spot heights and Temporary Bench Marks (TBMs) were established on the site by the PCA surveyor using GPS survey equipment.
- 6.1.13 Upon completion of all phases of work the archive will be submitted to LAA for deposition under the FHS15 site code.

7 PHASED ARCHAEOLOGICAL SEQUENCE

7.1 Introduction

7.1.1 The following text is an overview of the archaeological sequence recorded during the excavation. Full individual context description and Ordnance Datum levels are detailed in Appendix 1.

7.2 Phase 1: Natural Sand / Gravel

B01 - Excavation Area

Sand and Gravels [47], [183], [197], [203], [257], [268], [548], [619] (Fig. 12 Sections 5, 8, 9, 10, 11 & 13)

7.2.1 The earliest deposit recorded across this excavated area was a layer which varied between soft dark yellow orange sand with no inclusions to soft mid yellowish grey sand with gravel inclusions and a yellow reddish sand with gravel. This deposit was consistent with the known underlying geology as described by the British Geological Survey as the Kempton Park gravel formation. The deposit was recorded at highest levels of 1.29m OD and 1.18m OD to the north of the south and 1.05m to the south in B02B. However, it was also seen at levels between 0.42m OD and 0.73m OD across the western part of the site and 0.49m OD to 0.70m OD in the eastern central part of the site.

Layers of Sandy Clay [269] & [344]

7.2.2 Deposits of sandy clay were also recorded sealing these sandy gravels. These natural layers were mid greyish brown sandy clay with yellow lenses of sand [269] and [344] at a maximum level of 0.75m OD and a minimum level of 0.70m OD.

7.2.3 Layer [269] was a soft mid yellowish green with patches of orangey yellow sandy clay with overall dimensions of 13m in length, 9.7m wide and a thickness of 0.40m, it was recorded at a level of 0.96m OD.

7.2.4 Recovered from this deposit were flint flakes and an end scraper dated to the Mesolithic/Neolithic in addition a piece of flint interpreted as a core dated to the Neolithic/Bronze Age (Appendix 11).

B02 - Excavation Area

Sand and Gravels [619]

- 7.2.5 The earliest deposit recorded in this excavation area was context [619] which was a layer of soft mid blue grey sand, it was recorded at 1.05m OD.

7.3 Phase 2: Natural Alluvium and Small River Channels

B01 - Excavation Area

Alluvium [54], [254], [255], [256], [259], [262], [263], [285], [290], [601] (Fig. 12 Section 11)

- 7.3.1 As seen in previous geoarchaeological investigations on this site alluvial deposits were recorded across the site; these natural deposits were overlying the natural sands and gravels. Some of these deposits were recorded in section in the various long sondages excavated in targeted locations across this main excavation area.
- 7.3.2 The main lower alluvial layer was a complex sequence of deposits but was predominantly seen as a firm blue grey silty clay with occasional lenses of fine sand. It was seen across the site at a highest level of 1.27m OD and a lowest level of 0.79m OD.

Small Channels: Fill [272] & Cut [273], Fill [260] & Cut [261]

- 7.3.3 As well as a sequence of alluvial deposits this phase is also made up of various small/medium channels [273], [261] and their fills [272], [260]. These features were largely recorded from sections in targeted locations.
- 7.3.4 Cut [261] of this channel was linear in plan with steep sides and a slightly concaved base (Fig. 12 Section 11). It had estimated dimensions of 15.00m in length, recorded dimensions of 3.00m wide and a depth of 0.30m. It had a highest level of 1.33m OD at the top of the cut and 0.83m OD on the base.
- 7.3.5 The fill [260] was a soft light yellowish brown clay silt with a recorded thickness of 0.50m and a highest level of 1.33m OD.
- 7.3.6 The cut [273] of this channel was linear in plan with a sharp break of slope at the top of the cut slightly concave sides and a concave base. It had recorded dimensions of 1.45m wide and a depth of 0.85m. It had a highest level of 1.55m OD at the top of the cut and 0.66m OD on the base.
- 7.3.7 The fill [272] was a soft mid greyish brown silty clay with occasional shells, small sub-rounded stones and patches of sand and it had a recorded thickness of 0.85m and a highest level of 1.55m OD.

Organic Alluvium [270], [271], [274], [276]

- 7.3.8 Sealing these channels and the main alluvial sequence were further layers of alluvium and sandy deposits. Some of these alluvial deposits were very similar to the main body of alluvium discussed above but had a more organic content [270]. In addition to these more organic deposits there were also alluvial deposits that had a higher sand content [271], [274] and [276] so have been recorded separately. Most of these deposits were located between the Phase 2 alluvium and Phase 3 alluvial flood deposits but were not deemed significant enough to warrant a separate phase or sub phase. They were recorded in section.
- 7.3.9 These deposits were consistently described as soft light grey to mid orangey brown sandy clay with dark brown organic lenses, patches of loose sand and occasional small stones. They had a highest level of 1.42m OD and a lowest level of 1.31m OD.

B02 - Excavation Area

Alluvium [601]

- 7.3.10 In this area at the south of the site there was one layer of alluvium [601] in this phase which was a firm mid blue grey sandy clay recorded at a level of 1.90m OD and which had a thickness of 0.75m.

Attenuation Tank - Excavation Area

Alluvium [511], [512], [540], [545]

- 7.3.11 The earliest deposits recorded in this part of the site were various layers of clay alluvium [511], [512], [540] and sandy alluvium [545]. These deposits were compact orangey yellow grey green clay and soft green grey sand and were c. 1m thick and recorded at levels of between 1.07m OD and 0.85m OD.

7.4 Phase 3: Natural River Channels / Fulham Stream and Flood Deposits (Fig. 3)

B01 - Excavation Area

Large North-South Channel

Cut of Channel [343], Fills [216], [217]

- 7.4.1 This phase predominantly consists of a large channel thought to be the original course of the
-

Fulham Stream.

- 7.4.2 This large north-south aligned channel recorded largely in section in various sondages across the eastern part of the site. It was recorded as cuts [343] with fills [216] and [217].
- 7.4.3 The cut had overall dimensions of c. 33.00m in length, 3.00m in width and a depth of 1.00m. It was encountered at 1.21m OD on top of the cut and was recorded at 0.21m OD on the base. Its width represented a truncated width as it has been truncated to the east by a later phase of the channel.
- 7.4.4 The fills were generally light yellowish grey alluvial sandy clay.
- 7.4.5 This natural feature originally ran north-south down the eastern side of the site parallel with the modern Fulham High Street. Only the western bank of this channel was revealed on site and the opposite eastern bank would have continued somewhere under the aforementioned thoroughfare.

Channel - Cut [208], [299], [472] (Fig. 12 Section 5)

- 7.4.6 To the north a possible continuation of this channel was revealed in section only. It was recorded as three separate features [208], [472] and [299] which probably reflects its natural course as it migrated to the east over time.
- 7.4.7 Context [208] was recorded in section with only a small part remaining it had very gradual concave sides which continued beyond the limit of excavation. With recorded dimensions of 0.70m wide and a depth of 0.60m. It was encountered at 0.45m OD.
- 7.4.8 [299] was also recorded in section with a gradual break of slope at the top with uneven concave sides and a sharp break of slope to a flat base. With recorded dimensions of 2.86m wide and a depth of 0.75m. It was encountered at 0.90m OD.
- 7.4.9 [472] had a western edge which is moderately sloped with a gentle break of slope at the top and towards a flat base. It had an estimated width of 4.38m width and a depth of 0.35m. It was encountered at 0.95m OD.

Fills [207], [206], [205], [204], [300], [301]

- 7.4.10 Channel [208] was filled with a primary fill of soft light grey brown alluvial clay [207] up to 0.20m thick and a secondary fill of mid reddish yellow sand with lenses of alluvial clay [206] up to 0.40m thick.
- 7.4.11 The upper fill of [472] was [204] a loose grey yellowish brown silty sandy clay with frequent

small shells, occasional charcoal flecks and fragments of wood. It had a recorded thickness of 0.20m and it was encountered at 0.98m OD. The primary [205] fill was a firm dark brown clay silt with frequent small whole shells and shell fragments. It had an estimated thickness of 0.20m and it was encountered at 0.75m OD.

- 7.4.12 The primary fill of cut [299] consisted of a mid reddish grey brown sandy clay [300] with occasional shell fragments up to 0.05m thick and its secondary fill was light yellow grey brown silty sandy clay [301] up to 0.65m thick.

Small River Channel - Cut [228], Fill [227]

- 7.4.13 An additional channel [228] was also recorded parallel and to the west of the main channel. It was probably a typical feature associated with a natural unmanaged wetland environment. It had overall dimensions of approximately 16m in length, 2.40m wide and a depth of 0.72m, and was recorded at 1.80m OD. It possibly continued to the south as gully [476] (see below).
- 7.4.14 The fill [227] of this channel [228] was a soft dark blueish silty clay with frequent patches of organic material and frequent fragments of shell. A few fragments of burnt flint were recovered from this fill.

Alluvium [181], [464], [465], [468], [469] [535], [536] (Fig. 12 Section 13)

- 7.4.15 Further deposits of natural alluvium were recorded in section to the north of the site. Some of these silty clay deposits would seem to derive from overbank flooding of the Fulham Stream as well as possibly from the Thames. They were recorded at levels of between 1.03m OD and 0.89m OD. Fragments of burnt flint and a fragment of worked flint were recovered from flood deposit [181]. As well as pottery dated to between 1270-1500.

Sand [463], [467], [470] (Fig. 12 Section 13)

- 7.4.16 These sandy flood deposits were also recorded in section and seem to be part of the same overall movement of material by flooding and water flow.
- 7.4.17 They are described as soft mid grey yellow silty sand with a thickness of between 0.20m - 0.25m. It was encountered at a highest recorded level of 1.46m OD.

B02A - Watching Brief Area

Small River Channels

Small Channel - Cut [476], Fill [475]

- 7.4.18 Orientated north-south was a small channel towards the western side of the watching brief area it was approximately 15m to the south of linear channel [228]. It appeared to be on the same linear alignment as this feature so there is a strong possibility that it was part of the same channel. The southern end of this channel continues beyond the limit of the excavation area.
- 7.4.19 Cut [476] was linear in plan with shallow sloping concave sides and a concave base. It had overall dimensions of 8.00m in length, 1.60m in width and a depth of 0.10m and was recorded at a top level of 1.33m OD.
- 7.4.20 The fill [475] was a firm light brownish grey silty clay with no obvious inclusions.

Small Channel - Cut [474], Fill [473]

- 7.4.21 A small curvilinear channel orientated east-west was located to the west of channel [476], the eastern end appeared to cut the fill of [476] but [474] may have been contemporary flowed into it.
- 7.4.22 The cut of this channel [474] had with shallow sloping concave sides and a concave base. it has overall dimensions of 4.00m in length, 0.60m in width and a depth of 0.10m and had a top level of 1.40m OD.
- 7.4.23 The fill [473] was firm mid brownish grey silty clay with some root disturbance and very occasional charcoal flecks.

Small Channel - Cut [478], Fill [477]

- 7.4.24 An additional channel was recorded in this area approximately 2m to the east of channel [476]. It followed an irregular roughly south-west by north-east course.
- 7.4.25 The cut [478] had moderately sloping concave sides with a shallow concave base. It had overall dimensions of 7.00m in length, 1.30m in width and a depth of 0.20m with a top level of 1.33m OD.
- 7.4.26 It was filled with soft mid brownish grey silty clay with moderate sub-angular and sub-rounded flint gravels [477]. It had recorded dimensions of 1.26m in length, 0.90m in width and a depth of 0.20m with a top height of 1.33m OD. Fragments of CBM were recovered from this fill and was dated to between AD 55-160.
- 7.4.27 Most of the fills of these features were from natural silting / infilling or flooding events rather than deliberate backfilling or human activity.

B02 - Excavation Area

Small River Channels - Cut of Channels [600], [604], [618]

- 7.4.28 Further small channels [618], [600] and [604] were recorded in section only in this excavation area. [600] recorded in section was steep sided with a concave base and [604] had shallow sides with a sharp break of slope at the top and a gentle break of slope towards a concave base. They were identified at between 1.9m OD and 1.33m OD and both filled with alluvial sandy clays.

Attenuation Tank - Excavation Area

Alluvium [510]

- 7.4.29 In this area of the site sealing the layers of alluvium from Phase 2 was a further layer of alluvium [510]. This layer was slightly different and was a compact blue clay recorded at 1.46m OD.

7.5 Phase 4: Medieval (Fig. 4)

B01 - Excavation Area

Moat / Curvilinear Channel [180] (Fig. 12 Sections 5 and 13)

- 7.5.1 Cutting the natural deposits in the north-eastern part of the site was substantial ditch running east-west before curving to the north. This feature was moderate in the steepness of its sides with a sharp break of slope at the top and a gentle break at the base with a flat base. Recorded at 1.76m OD this section of the ditch had dimensions of 8m in length, 4.6m wide and a depth of 0.50m.
- 7.5.2 This feature was investigated with a hand-dug slot orientated north-south to capture its profile and record the fills.

Fills [172], [173], [174], [175], [176], [177], [178], [179], [184], [466] (Fig. 12 Sections 5 and 13)

- 7.5.3 The fills of this section of the moat seem to show signs of natural silting over a prolonged period rather than deliberate backfilling associated with land reclamation or abandonment.
- 7.5.4 There are some attempts to line the edges of the ditch with clay [174] and [173] for either waterproofing or to maybe manage the flow of water along this section of the watercourse as well as preventing slumping and erosion as the water hits the bend of the ditch. Whatever the

motivation for lining this feature it is clear that there are some attempts to manage this section of the channel during the medieval period.

- 7.5.5 This clay fill [174] was encountered at 0.92m OD and contained dating evidence in the form of pottery dated between 1270-1400.
- 7.5.6 The primary fill [179] of the ditch also contained several sherds of medieval pottery dated to 1270-1350 as well as some scraps of medieval shoe leather.
- 7.5.7 The rest of the fills did not contain any finds or cultural material.

Medieval Pits

Pit - Cut [346], Fill [345]

- 7.5.8 Located towards the far north-west corner of the excavation area was cut [346], a medium sized pit. It was circular in plan with steep sides and a flat base. It had overall dimensions of 0.80m in diameter by 0.33m in depth and was recorded at 0.95m OD.
- 7.5.9 The fill [345] of the cut [346] was soft mid reddish brown silty sandy clay with some traces of organic material.

Pit - Cut [359], Fill [358]

- 7.5.10 Approximately 5m to the south of pit [346] was cut [359]. This pit was sub-circular shape in plan with steep sides and a slightly sloping base. It had overall dimensions of 0.70m in length, 0.65m in width and 0.20m in depth and was recorded at 0.62m OD.
- 7.5.11 The single fill [358] was soft dark brownish grey silty clay with traces of organic material and some very small fragments of pot, which were dated to 1000-1300.

Large Pit / Pond - Cut [226], Fill [225]

- 7.5.12 Cutting the natural deposits towards the western part of the excavation area, approximately 5.50m to the south of pit [346] was a large square pit, [226].
- 7.5.13 The cut was square in plan with steep vertical sides and a flat base, it had overall dimensions of 9.00m in length, 8.00m in width and 0.60m in depth with a highest level of 1.3m OD.
- 7.5.14 The cut [226] was filled with [225] a firm dark greyish black silty clay with lenses of organic material, frequent fragments of decayed timber including branches and leaves. A small assemblage of pottery dated to 1000-1300 was recovered from this fill.

7.5.15 The large square man-made pit suggests something more than just quarrying. It is possible that it was remains of a fish pond that may have provided a regular supply of fish to the bishop's residence in nearby Fulham Palace.

Associated Timbers - Plank [266], Post [267] (not illustrated)

7.5.16 Seemingly related to the large pit [226] and roughly in the same location was the remains of a plank [266] and associated post [267], thought to be the remains of a collapsed structure.

7.5.17 Plank [266] was rectangular in shape and found horizontally orientated north-south; but it is thought not to be in its original setting. This timber had overall dimensions of 1.17m in length, 0.35m in width and a thickness of 0.32m and was encountered at 1.36m OD.

7.5.18 Laying below the plank [266] and seemingly attached was the remains of a collapsed timber post [267]. It was found and recorded set horizontally; although it was not thought to be in its original setting. It had overall dimensions of 1.24m in length and a diameter of 0.11m and had a highest recorded level of 1.36m OD.

Flood deposits / Alluvium [252], [253] and [258] (Fig. 12 Section 11)

7.5.19 Various flood deposits were also associated with this phase which were very similar to other layers of alluvium across the site; these deposits had concentrations of cultural material and sherds of medieval pottery recovered from them.

7.5.20 Deposit [252] was a soft reddish brown silty clay with frequent flecks of burnt clay, charcoal and occasional larger fragments of charcoal. It had recorded dimensions of 25.00m in length by 20.00m in width and a thickness of 0.10m. It was encountered at 1.09m OD. The pottery recovered was dated to between 1000-1300. Some fragments of burnt flint were also retrieved.

7.5.21 Layer [253] was a soft light brownish grey silt clay with no recorded inclusions. It had overall dimensions of 12.00m in length, 8.00m in width and a recorded thickness of 0.12m. It was encountered at 0.98m OD. Pottery dated to 1170-1350 and CBM dated to AD 50-160 was recovered from this deposit; although the CBM is thought to be residual.

7.5.22 Alluvial layer [258] was a soft light yellowish brown clay silt with very occasional small fragments of CBM. It had recorded overall dimensions of 15.00m in length, 3.50m in width and thickness of 0.26m. It was encountered at 1.35m OD.

7.6 Phase 5: Early Post-Medieval 1450-1600 (Figs. 5 and 6)

B01 - Excavation Area

Moat - Management of The Moat

- 7.6.1 The moat located in the far northern part of the excavation area was still an open channel in this phase but there is evidence that some sections of the channel were starting to be managed. There is some evidence of potential cleaning at various points along its length, but it is difficult to say if this was in direct preparation for construction of the timber structures described below or part of general maintenance along the entire length of the moat.

Moat - Curvilinear Cut [302] (Fig. 12 Section 5; Plate 3) Fills [303], [304], [305] and [306]

- 7.6.2 The curvilinear re-cut [302] of the moat was recorded running for a length of approximately 8.00m and it continued beyond the excavation limit to the north and west. Recorded at a top level of 2.00m OD, the moat ranged from 2.30m to 2.50m wide and was c. 0.80m deep. From one of its four fills, [303], contained a small assemblage of pottery dated to 1580-1600 and post-medieval roofing tile were recovered.

Small Bridge / Crossing Point

Timber Structure Number - [357]: Baseplate [221], Post [324], Supporting Planks [337] & [430]

- 7.6.3 In the far northern part of the excavation area towards the western edge of the L.O.E, there was some management of this southern bank of the moat. In this location the remains of a timber structure [357], consisting of a baseplate [221], a single timber post [324] and two supporting timber planks [337] and [430], was revealed.
- 7.6.4 The main element of this structure was a large rectangular elm plank [221] set horizontally and orientated east-west. There were two notches cut on either end of the plank for mortise and tenon joints. This wooden plank measured 2.30m in length, 0.50m in width and 0.06m thick and was recorded at 0.96m OD.
- 7.6.5 Sitting in one of the mortises was a timber post [324]. This oak post was square in shape and set vertically. This post had overall dimensions of 0.20m in length, 0.20m in width and a surviving length of 0.50m, it was recorded at 1.12m OD.
- 7.6.6 Laying across the bottom of the baseplate [221] at the eastern end was a rectangular plank [337] set diagonally orientated east-west which seemed to hold [221] in place. There is a notch towards the eastern end cut to fit timber post [324]. This plank had recorded dimensions of 1.20m in length, 0.30m in width and a thickness of 0.04m and had a highest level of 1.12m OD.

7.6.7 Also laying across the bottom of the baseplate [221] but at the western end was an additional oak plank [430] set horizontally. It was roughly rectangular in shape but had been cut to form a wedge to holding [221] in place. This timber measured 0.70m in length, 0.20m in width and 0.07m thick with a highest level of 0.93m OD.

7.6.8 This structure located on the southern bank of the moat has been interpreted as being part of a crossing or small bridge across feature. The interpretation has been suggested by the presence of the baseplate and the fact that the structure did not continue along the full length of the bank together with presence of associated posts spanning from one side of the bank to the other (see Appendix 11).

Associated Postholes and Timber Posts

Postholes - Cuts [314], [318], [320], [326], [328], [330], [331], [332], [333], [334], [432]

Fills [313], [317], [319], [325], [327], [329], [251], [249], [250], [240], [431]

Timber Posts [244], [315], [316], [321], [361]

7.6.9 Associated with this timber structure was a series of postholes and timber posts which were recorded cutting into the fill at this section of the moat / east-west channel. There was a cluster near the structure towards the southern bank then spanning out towards the northern bank. They will be described together rather than as individual contexts.

7.6.10 The timber posts themselves were dotted around in this group and varied in diameter between 0.08m and 0.18m and had an average length of approximately 0.50m. They were all encountered between 1.84m OD and 1.94m OD.

7.6.11 In addition to these timber posts were the remains of postholes located in the same area. They had various in diameter between 0.08m and 0.15m, had depths of between 0.18m and 0.30m and were encountered at a highest level of 1.94m OD and a lowest level of 1.50m OD.

7.6.12 Filling these postholes was a soft dark brownish silty clay with fragments of rotten wood and occasional flecks of charcoal. The fragments of wood are probably the remains of the rotted-out posts.

7.6.13 Although there were no obvious alignments in this assemblage of timber posts and postholes, their proximity to the timber structure located on the southern bank might suggest that they are associated with this structure.

Brick Structure

Brick Lining [53], Backfill [50] & [356], Construction Cut [51]

7.6.14 In this same location, although slightly to the south and higher up the bank, was a possible attempt to strengthen this bank with a brick structure. Consisting of a very roughly coursed brick lining/ structure [53] with surrounding clay backfill [50] and [356]. It was constructed of dark red orange unfrosted bricks bonded dated to 1450-1700 with a light yellowish sandy mortar and measured 1.35m in length, 0.40m in width and a height of 0.30m and was recorded at 1.39m OD.

7.6.15 The purpose of this brick lining is somewhat unclear as there is so little of it remaining, but one possibility could be to strengthen the bank on this side of the moat and to prevent erosion as the water flows across this section of the bank. There is also the remote possibility that it could be the remains of an early drain but with so little of the structure remaining it is difficult to ascertain what form it would have taken.

Timber Posts [236], [237], [238], [239], [241], [242], [286], [287]

7.6.16 Approximately 3m to the east of structure [357] was a series of timber posts aligned north-south across the moat. Post [236] was the northernmost post whilst [287] was the southernmost in this group. This group of posts covered an area of c. 3.5m in length north-south. The timber posts varied in diameter between 0.04m and 0.15m and were recorded at levels between 1.10m OD and 1.00m OD. All the post tapered to a point and were driven into the ground.

7.6.17 The exact function of this line of posts is unknown but as it spans the width of the moat it could be part of a structure associated with a crossing or even a means of damming or regulating water supply.

Timber Posts [245], [246], [247], [248], [279], [282], [283], [284]

7.6.18 Located approximately 1.5m to the east was another group of timber posts. This cluster of posts were spread over a sub-circular area measuring c. 2.00m in diameter. The posts varied in diameter between 0.12m and 0.18m and were recorded at a level of 1.05m OD.

7.6.19 The exact function of this group is harder to interpret but their location at the junction of the moat and the Fulham Stream to the east might suggest that its function relates to some kind of water management in this part of the site.

Management of N-S Channel

7.6.20 During this phase the north-south channel located along the eastern side of the site was still an open stream with associated timbers structures along its length suggesting that management

of the watercourse was not restricted to the moat. As with the earlier phases of this particular watercourse its formation and change over time is difficult to fully interpret. A wild channel will meander and move over time so the western edge that has been identified within the site may possibly just show evidence for its shifting further east by natural processes rather than a complete re-cut along its length. The management will be some attempts at keeping it open and the banks maintained.

N-S Channel / Fulham Stream [194], Fills [192], [193], [537] (Figs. 5, 6 & 12 Section 10)

- 7.6.21 Cutting the clay fill of the early channel was channel [194] which was located slightly further to the east and ran north-south for approximately 34.00m. This feature was recorded at a highest level of 1.76m OD and had a width of approximately 5.00m and a maximum depth of 1.09m. It continued beyond the limit of excavation to the east and south, while at the northern end it met the moat and there it is postulated that they became one channel continuing beyond the northern limit of excavation. The primary organic fill [193] contained ceramic building material dated to 1480-1900. Deposit [537] to the north of timber structure [530] (see below) which was a dark silty clay and another fill of the channel yielded a small assemblage of pottery dated to between 1550-1650.

Timber Structure - Plank [492], Posts [493], [494], [495], [496], [497], [505], [506], [507], [547]

- 7.6.22 Located in the far northern part of the excavation area towards the eastern limit of excavation were some timber remains from a collapsed revetment. The whole structure of planks and posts was orientated north-south and have overall dimensions of 5.30m in length and approximately 1.40m in width.
- 7.6.23 The main structural element, [492], was the remains of a fragile rectangular timber plank in a horizontal setting orientated north-south studded with iron nails holding some of the fragments together. It measured 4.40m in length, 0.40m in width and 0.05m thick and was encountered at 1.23m OD.
- 7.6.24 Associated with this timber plank was a line of nine timber posts orientated north-south along the western edge of [492] and driven in vertically. They varied in diameter between 0.10m and 0.20m and were recorded at a level of between 1.21m OD and 1.28m OD
- 7.6.25 This timber structure seems to be part of a collapsed revetment as one of the main structural elements [492] was lying flat rather than in its presumed original setting of on edge. This structure's close proximity to the western bank of this part of the Fulham Stream would suggest that it was associated with this bank and was the remains of a section of revetment along the

water course, either to protect this side of the bank from collapse / erosion or to begin to reclaim the land in this part of Fulham.

Timber Dam - Structure [530] (Plates 1 & 2)

- 7.6.26 Located less than half a metre to the south of [492], was the remains of another timber structure [530], orientated east-west across the width of the channel [194] as seen which consisted of a large plank and six posts.
- 7.6.27 This structure was fragmentary but consisted of the remains of a large section of planking orientated east-west, set on edge but having fallen slightly to the south. It was constructed from elm timber and joined together with other elements using iron nails. This section of planking had recorded dimensions of 4.30m in length, 0.50m in width and a thickness of 0.30m and was encountered between 1.38m OD and 0.65m OD. At various locations along the planking piercings / holes had been created to form a rudimentary filter, perhaps to stop debris floating into or from the moat.
- 7.6.28 Six vertical oak timber posts were also associated with this planking, located behind it to the south aligned east-west and evenly spaced approximately 0.50m between each post. They survived to lengths of between 1.91m and 1.08m with diameters of between 0.15m and 0.18m and were encountered at 1.38m OD and 0.65m OD.
- 7.6.29 These fragmentary timber remains have been interpreted as some kind of dam structure across the north-south channel. The pierced planking could be a debris screen to prevent matter (flotsam and jetsam) moving south down the channel.

B02 - Excavation Area

Timber Stakes [594], [595] (not illustrated)

- 7.6.30 Two timber stakes were observed cutting into alluvium [601] in the southern part of the site. These small stakes had a maximum length of 0.55m and measured between 0.10m and 0.15m in diameter and were recorded at 1.70m OD. Their isolated nature makes interpretation difficult to determine.

Alluvium / Flood Deposit [605]

- 7.6.31 Flood deposit [605] was a firm mid yellow brown silty clay recorded only in section with overall dimensions of 0.70m wide and a thickness of 0.08m. It was encountered at 1.94m OD.

7.6.32 It has been interpreted as representing a flood event that took place during the 16th century.

Channels

Channel [600], Fill [599]

7.6.33 A series of possible channel fills was recorded in section only in the southern part of the site. Fill [599] of channel [600] was a firm dark brownish grey silty clay with occasional small sub-angular stones, charcoal flecks and oyster shells, which measured 1.40m wide and 0.75m deep and was encountered at 1.90m OD.

Channel [6004], Fills [602] & [603]

7.6.34 Channel [604] has two fills, primary fill [603] which was firm light grey brown sandy clay and measured 1.35m wide by 0.12m deep at 1.45m OD.

7.6.35 The upper fill [602] was firm mid grey yellow sandy clay with occasional small sub-angular stones measuring 1.65m wide by 0.35m deep at 1.85m OD.

7.7 Phase 6: Post-Medieval 17th Century (Figs. 7 and 8)

B01 - Excavation Area

Curvilinear Channel - Moat

Cleaning / Recut - Cut [43], Fill [156] (Fig. 12 Section 5)

7.7.1 This curvilinear re-cut of the moat was recorded running for a length of approximately 8.00m and continued beyond the northern and western limits of excavation. Recorded between 2.49m OD and 1.27m OD, the moat ranged from 3m to 4m wide and was c. 1.40m deep. A small assemblage of pottery, clay tobacco pipe and glass were recovered from fill [156]. With much of the pottery dated to 1670-1700, CTP dated between 1660-1680 and glass dated 1550-1650.

North-South Channel - Fulham Stream

Cut [194], Fills [192], [532], [566] (Fig. 12 Section 10)

7.7.2 Fill [566] was soft dark greyish black clay with organic material, occasional fragments of CBM, frequent fragments of timbers and branches. It was encountered at 1.21m OD. Pottery dated to 1630-1650 and CBM dated to 1480-1900 was recovered from this fill.

Timber Revetment - Posts [163], [164], [165], [166], [167], [168], [170], [292], Planks [161], [291], Beam [160], [162], [171]

- 7.7.3 Located in the south-east corner of this part of the site was a timber structure thought to be a revetment. It consisted of several posts, planks and other structural elements. The whole remains of this structure was 5m in length, approximately 1m in width and a height of 0.44m.
- 7.7.4 The row of vertical posts/piles were mostly aligned north-south, with one or two that are slightly further to the east but were still part of the overall structure/group. These posts were relatively evenly spaced, with about 0.65m between each post. They have survived to various lengths with the longest being 1.49m and the shortest being 0.82m, with diameters of between 0.10m and 0.18m; they were encountered at a level of between 1.46m OD and 1.91m OD.
- 7.7.5 Along the line of these posts was a row of timbers set on edge which in some places were attached to the posts. In other places along this structure they had collapsed and were just loose bits of wood (see below). The planks were various sizes but had overall dimensions of 4.40m in length, 0.20m in width and heights of approximately 0.20m and were recorded at a level of 1.94m OD.
- 7.7.6 The remains of three timber beams were also associated with these timber remains, originally thought to be collapsed posts they have since been interpreted as being deliberately laid horizontally as part of this structure. They were various sizes between 0.90m and 1.60m in length, diameters of between 0.72m and 0.95m and were encountered at a level of between 1.50m OD and 1.65m OD.
- 7.7.7 Nearly all the timbers in this structure were constructed out of reused timbers from various types of Thames barge/clinker-built vessels; mostly from floor timbers or the main frame from the bottom of the barge (Appendix 11).
- 7.7.8 This structure seems to be a combination of posts and planks that form a revetment towards the western bank of the channel thought to be the Fulham Stream. This structure could also be associated with controlling the flow of the water along the stream for fishing / fish traps or a small jetty / platform for accessing the water itself.

Associated Deposits - Fills [106], [107], Dumps [105], [186], [265], Sand [104]

- 7.7.9 The eastern backfill [106] behind revetment [161] was a firm dark brown grey sandy silt with frequent angular, rounded small pebbles, chalk flecks and mortar flecks with overall dimensions of 4m in length, 1.10m in width and 0.30m thick, which was encountered at 1.90m OD. Dating

evidence recovered from this deposit consisted of pottery dated to 1670-1750, CBM 1700-1800, CTP 1680-1710 and glass 1680-1730.

7.7.10 A similar fill, [107], to the west of the structure was encountered at 2.03m OD and had dating evidence in the form of pottery dated to 1680-1700, CBM dated 1800-1900, CTP dated 1680-1710 and glass dated 680-1730.

7.7.11 Layer [265] was also located to the west of timber revetment [161] and was encountered at 1.59m OD and contained pot dated to 1680-1700, CBM dated 1800-1900, CTP dated 1680-1710 and glass dated 1680-1730.

Timber Posts [371], [372], [373], [374], [377]

7.7.12 A group of timber posts was recorded in the eastern part of the site within the large east-west channel. They were aligned north-south approximately 14m to the north of revetment [161] and roughly along the same alignment. This group had overall dimensions of approximately 5m in length with a recorded height of 0.20m.

7.7.13 There were five posts in total in this group and all had tapered ends and were driven vertically into the fills of the channel. The size of these posts varies between 0.16m and 0.18m in diameter with an overall recorded length of 0.50m and they were recorded at a level of 1.20m OD.

7.7.14 There were no associated planks but it is possible that they were associated with the revetment to the south and could be part of the same overall structure.

Timber Posts [362], [363], [364], [365], [366], [367], [368], [369], [370], [375], [376], [378], [379], [380]

7.7.15 Approximately 3m to the west of the above timbers was another group of timber posts running parallel with the group to the east on a roughly north-south alignment. They were located on the western landward side of the channel of the Fulham Stream. This group of post / piles covered an area measuring 15m in length.

7.7.16 There were fifteen posts in this group, all tapering to a point and driven vertically in to the ground. They varied in diameter between 0.14m and 0.22m; most were not recovered from the ground but had an average length of 0.50m and were recorded at a level of between 1.00m OD and 1.20m OD.

7.7.17 This group runs parallel with to the east and it is possible that they fulfilled a similar function of revetting the edge of the channel. As the channel migrated new revetments would have been required.

Timber Revetment [520] & [522] (Plate 14)

- 7.7.18 Located approximately 8m to the above timber posts on the eastern side of the site was the remains of a timber structure [520]. Originally thought to be vertical it had collapsed and was found lying horizontal and was approximately 3.75m in length, 1.30m in width and was recorded at a level of 1.32m OD.
- 7.7.19 The overall structure was made up of several rectangular planks orientated north-south overlain by long posts orientated east-west. The individual elements were various sizes and are mostly broken or show signs of damage. The worse damage was at the northern and southern ends of the structure. It seemed to be once part of a much larger structure that might have continued further to the south and the north even linking with the timber structures and timber posts found further to the south.
- 7.7.20 These fragmentary timber remains provide further evidence that management of the north-south channel / Fulham Stream was taking place during this period. It is probably not a coincidence that Fulham High Street was starting to develop during this period and the management of the eastern bank would be an important part of this development.

Timber Structure (Causeway): Postholes [382], [384], [386], [388], [390], [392], [394], [396], [398], [400], [402], [406], [408], [410], [412], [414], [416], [418], [420], [422], [424], [426], [438], [440], [442], [446], [448], [450], [452], [454], [517], Timber Posts [482], [498], [499], [508], [509], Structure / Shuttering [479], [480], [481], Timber Baseplate [483], [488], Clay Packing [428], Clay Lining [461], [460], Cut [458], [459]

- 7.7.21 Found less than a metre away was a complicated timber structure orientated east-west across the channel of the Fulham Stream (Plate 13). It was cut [459] into the bank on the western side of the channel and the remains of the cut continued into the eastern limit of excavation which might suggest it was linking either side of the channel.
- 7.7.22 The structure itself consists of two pile and plank revetments, [479] and [481], to north and south with a central structure [480]/[488] built very differently as a simple timber framed revetment with tenoned posts set into a mortised sill beam. Both pile and plank revetments might have formed a pair supporting a partial dam and causeway across the north-south water channel and may have subsumed the earlier structure (see Appendix 11). These structures had a total length of c. 4-5m and were about a 1.5m wide and 0.40m high. They were recorded at a level of 1.11m OD.

- 7.7.23 Holding the planks in place would have been timber posts the evidence for this being the cuts of the postholes with the occasional decayed timber / remains of a post. These were spaced along the length of the structure at regular intervals but were more densely packed along the middle planks and northern planks when compared with the southern side of planks. These postholes were recorded at 1.42m OD they were various sizes but were roughly between 0.15m and 0.10m in diameter and had a depth of 0.32m.
- 7.7.24 The fills of these postholes were soft mid brownish grey silty sandy clay with occasional fragments of CBM and were encountered at a highest level of 1.44m OD. From fill [381] fragments of CTP dated to 1660-1680 were recovered, fill [394] had CTP dated to 1580-1700, [396] CBM dated to 1480-1900 and CTP dated to 1580-1700, fill [405] had pottery dated to 1550-1700 and CTP dated to 1580-1700.
- 7.7.25 Infilling the timber structure and contained within the shuttering were deposits of clean clay [427] and [428]. This deposit was a moderately compact light to mid yellowish brown silty clay with moderate CBM flecks and small pebbles as inclusions. Contained within [428] was pottery dated to the early 18th century and clay tobacco pipe dated to 1660-1680. This deposit was 5.86m in length, 1.50m wide and between 0.20m-0.30m thick at a top height of 1.44m OD.
- 7.7.26 At the base of this structure was deposit [461] which was a moderately compact dark grey brown clay silt with occasional small pebbles and was encountered at 1.07m OD. Pottery dated to 1580-1700 was recovered from this deposit.
- 7.7.27 The function of this structure is slightly puzzling in that even though its orientation is east-west and it is straddling across the channel / ditch it is in roughly the same location as the earlier structure [530] thought to be a dam. It is hard to see how this is a later continuation of that structure but it could be a causeway across the Stream from Fulham High Street on the eastern side of the stream to land on the western side of the stream. This land is possibly less prone to flooding as management of the various watercourses started in the previous century was beginning to bear fruit, so access was important as this land was available for grazing or small-scale agriculture. There is still the possibility that this structure could have served as a dam or weir, but there is not enough survival of the upper part of this structure to be sure of this interpretation. There is also the chance that this structure served both this functions with some management of the water at this point and as a crossing point to land to the west or to the land immediately surrounding Fulham Place itself. At this point it is hard to say for sure but when associated with timber structures and timber remains to the south it shows there was further man management of this water course taking place during this century.

Main Alluvial Layer [109] (Fig. 12 Section 10)

7.7.28 On the western side of the site was a large area covered by alluvium [109] which was moderately compact mid brownish orange silty clay with frequent charcoal flecks, moderate CBM flecks and shell fragments. It has overall recorded dimensions of 30.00m in length, 30.00m in width and a thickness of 1.00m and was encountered at 2.60m OD.

7.7.29 Dating this deposit as with a lot of the alluvium is problematic as recovered from it are various finds associated with several different historical periods. The pottery encountered was dated 1140-1350, the CBM dated to 1480-1900, glass dated to the post-medieval period whilst burnt flint and several musket balls were also recovered from the deposit.

Pit - Cut [45], Fill [44]

7.7.30 Recorded only in section in the far north-western part of the excavation area was cut [45] which had a sharp break of slope at the top, moderately steep sides with a sharp break of slope to a flat base. It has recorded dimensions of 0.70m in width and a depth of 0.85m with a highest level of 2.49m OD. It was filled with [44], a loose mid grey brown sandy silt with occasional charcoal and CBM flecks.

7.7.31 The function of this pit is unknown but one possible interpretation is that it was for small-scale quarrying of clay.

Additional Deposits [471], [200], [201], [211] (Fig. 12 Section 9)

7.7.32 Organic fill [201] of the main north-south channel along the eastern side of the site was encountered at 1.17m OD with dating evidence from pottery dated between mid to late 18th century, CBM dated 1780-1900, CTP dated to 1680-1710 and glass dated to 1680-1730.

7.7.33 The channel fill was covered by a dump deposit [200] encountered at 1.62m OD which contained pottery dated to 1670-1700 and glass dated to 1630-1680.

7.7.34 Surrounding timber structure [479] / [481] was context [471] which was a moderate mixed deposit of mid grey and dark grey brown silty clay with moderate charcoal flecks, small to medium pebbles, CBM fragments and occasional coal fragments. It has a recorded thickness of 0.30m and was encountered at 1.44m OD. It contained pottery dated to 1670-1750, CBM dated to 1664-1900, CTP dated to 1680 and fragments of post-medieval glass.

B02A - Watching Brief Area

Brick Wall [515]

7.7.35 Located along the western side of the watching brief area was the remains of an east-west brick wall [515] which was constructed of red unfrosted bricks dated 1450-1700 with a light sandy grey mortar with only one course surviving. It had overall dimensions of 1.66m in length, 0.35m in width and a height of 0.10m.

Brick Well [519], Timber Base / Frame [518], Backfill of Well [521]

7.7.36 Approximately 2m north of wall [515] was the remains of a brick-lined well [519] constructed on a timber raft [518]. The brick-lining was constructed of red and yellow unfrosted bricks dated to 1666-1900 with no obvious bonding material set in a header bonding pattern. It had an overall diameter of 1.60m and a recorded height of 0.20m.

7.7.37 The brick lining [519] was sitting on a timber base/frame [518] which was constructed out of individual rectangular planks that were cut to form a circular shape in plan they were held together with small iron nails. It had an overall diameter of 1.70m and a recorded thickness of 0.05m and was recorded at 3.07m OD.

B02 - Excavation Area

Mixed Stone and Brick Wall [558], Construction Cut [598], Construction Backfill [596] and [597] (Plate 9)

7.7.38 Recorded in the middle of the southern excavation area was the remains of a substantial mixed north-south aligned stone and brick wall [558]. It was mainly constructed from Kent Ragstone, but also included Sandstone, Portland stone, Caen stone and Reigate stone. Some of the more interesting elements included stone that showed signs of architectural moulding. Many of these stone elements were re-used from medieval and early post-medieval walls and structures (see Appendix 8). Brick and tile recovered from the wall were dated to 1480-1900. This wall measured 5.80m in length, 0.60m in width and survived to a height of 2.70m. It was encountered at 3.27m OD. This section of wall was truncated at the northern end and continued beyond the limit of excavation to the south.

7.7.39 As this wall stands alone; without any obvious surrounding structures or associated structural elements (floors, wall return etc) interpreting its exact function problematic. Its location next to southern end of Fulham High Street means it could part of the foundations and cellar wall of a building in this location but to use such substantial building material would suggest that it is part of a fairly large building; maybe the cellar wall of a roadside tavern/inn.

Brick-lined Cess Pit - Brick Lining [561], Construction Cut [564] and Primary Fill [591]

- 7.7.40 Recorded in the western half of this excavation area approximately 3.25m from wall [558] was a brick-lined [561] cess pit and within construction cut [564].
- 7.7.41 The rectangular cut/pit [564] was lined with dark orange red unfrosted broken and half-bat bricks dated to 1450-1700 with a yellowish brown sandy mortar with an irregular coursing/bond pattern. The brick work measured 2.40m in length, 1.20m in width and 1.45m in depth and was encountered at 3.12m OD.
- 7.7.42 The primary fill [591] of this feature was a soft mid reddish brown silty clay with frequent fragments of CBM, patches of crumbled shell, occasional fragments of wood and occasional small bone fragments. The fill contained pottery and glass dated to the late 17th century.
- 7.7.43 This feature is the best evidence of 17th-century domestic activity on this part of the site and would have been located in a backyard behind properties fronting onto Fulham High Street.

Additional Deposits - Fill [617]

- 7.7.44 This backfill of a small channel [618] was located in the south-eastern section of the excavation area to the eastern side of wall [558]. Fill [617] was moderately compact dark brownish grey sandy silt with frequent small sub-angular pebbles. Pottery dated to 1670-1800 and CBM dated to 1630-1850 was recovered from this deposit.

Attenuation Tank

Large Cut / Quarry Pit - Cut [539] & Fill [538]

- 7.7.45 In the eastern side of the attenuation tank excavation area was the eastern edge of a linear cut [539]. Only this eastern edge was identified, and this edge continued beyond the limits of excavation to north and south.
- 7.7.46 The surviving edge [539] had a steep slope to the west before shelving off about halfway down and falling gradually to a flat base. It had recorded dimensions of 7.20m in length, 6.00m in width and 0.74m in depth and was recorded at 1.02m OD.
- 7.7.47 The fill [538] was moderately compact dark brown sandy silt with occasional CBM fragments, patches of orange gavel and frequent small sub angular stones and contained pottery dated to 1670-1800, CBM dated to 1664-1900 and CTP dated to 1580-1700.

Large Cut / Quarry Pit - Cut [555], Fills [503], [500]

7.7.48 To the west of cut [539] was the edge of another similar feature or more likely the western edge of the same feature.

7.7.49 This surviving edge [555] was the only one exposed so the full extent and of shape this cut is unknown, but this edge had a gradual slope with a flat base. It had recorded dimensions of 6.46m in length, 3.10m in width and a depth of 0.81m, which would make the complete feature c. 9.10m wide. It was recorded at 2.20m OD at the top of the cut and was excavated to a depth of 1.39m OD but was not bottomed.

7.7.50 The fills [500] and [503] were moderately compact mid brown silty clay with frequent small stones, moderate amounts of chalk flecks and occasional fragments of oyster shell which had an overall thickness of 0.86m. Pottery dated to 1650-1700, CTP dated to 1660-1680 and glass dated to the mid 17th century were recovered from these fills.

Dump Layers

Dump Layer: [501]

7.7.51 Sealing the upper fill of pit [555] was dump layer [501] which consisted of a firm orange yellow sandy clay with recorded dimensions of 6.46m in length, 0.64m in width and a thickness of 0.86m at a level of 2.25m OD.

Dump Layer [534]

7.7.52 Sealing the upper fill of pit [539] was dump layer [534] which consisted of a moderately compact mid brown sandy silt with very frequent sub-angular stones, lenses of orange sand, occasional charcoal flecks and shell fragments. It had recorded dimensions of 7.20m in length, 5.50m in width and an estimated thickness of approximately 0.50m and was encountered at 1.69m OD.

7.8 Phase 7: Post-Medieval 18th Century (Figs. 9 and 10)

B01 - Excavation Area

Timber Structural Raft - Construction Cut [188], Planks [230], [231], [232], [233], [234], [235], [307], [308], [339], [340], Posts/Piles [309], [310], [311], Brick Wall [108] (Plates 5 & 6)

7.8.1 Located in the south-eastern corner of the excavation area was a timber structure consisting of planks and posts. It was roughly orientated east-west with a north-south return at its western end and consisted of a timber raft to support brick wall [108].

7.8.2 The main timber structure itself consisted mainly of planks lying horizontal with a series of

planks orientated north-south then a series of planks laying east-west over the top of the north-south planks forming a rough lattice pattern/formation. The planks were all rectangular and varied in size with the larger planks being about 2m in length and 0.20m wide and the shorter pieces being about 0.50m long and 0.20m wide. They were recorded at a level of between 1.4m OD and 1.34m OD.

- 7.8.3 Associated with this main timber structure was a series of timber posts that were driven in vertically beneath the planks of the main structure. They were all roughly 0.10m in diameter and were recorded at 1.33m OD. The main function of these posts, despite the small size, seemed to be as piles to support the raft and to stop it sinking in to the mud of the newly reclaimed land of the former Fulham Stream.
- 7.8.4 The brick wall [108] sitting on top of this timber structure was orientated east-west and about 4m in length, 0.40m in width and 1.09m high. It was constructed of dark red unfrogged bricks dated to 1750-1900 with a sandy lime mortar and laid with an English bond. It was recorded at 2.47m OD and represented the foundation of a building fronting onto Fulham High Street.

Associated Deposits - Dump Layer [169], Construction Backfill [189], [190]

- 7.8.5 Associated with this structure were various construction deposits and dump layers.
- 7.8.6 The construction backfill [189] and [190] in construction cut [188] was firm whitish yellow silty sand mixed with a frequent amount of white mortar. This deposit has overall dimensions of 5m in length, 1.60m in width and a thickness of 0.64m, with a highest level of 1.48m OD.
- 7.8.7 Dump layer [169] was firm dark brown coarse silty sand with some rubble and fragments of CBM measuring 9.75m in length, 7.12m in width and 0.50m thick.
- 7.8.8 Recovered from this deposit were sherds of pottery dated to 1685-1700 and fragments of CTP dated to 1660-1670.

Brick Wall [56]

- 7.8.9 Approximately 30m north of wall [108] on the eastern side of the excavation area was the remains of another brick structure. It was roughly U-shaped in plan and continued beyond the eastern limit of excavation. It was constructed of yellowish pink frogged bricks dated to 1450-1800 with a creamy grey chalk mortar with flecks of sand and was laid with a course of headers. This brick structure measured 3.50m in length by 2.60m in width and was 0.62m high with a top level of 2.64m OD. No obvious construction cut was recorded which suggests that it was possibly trench built.

- 7.8.10 These fragmentary wall remains were probably part of a cellars or basement of a property that fronted onto Fulham High Street during the later part of the 18th century.

Curvilinear Channel - Moat

Fills [86], [127], [144], [146], [147], [148]

- 7.8.11 From fill [144] dating evidence was recovered this took the form of pottery dated to 1740-1830, CBM dated to 1480-1900, CTP dated to 1760-1780 and glass dated to 1725-1760.
- 7.8.12 Fill [148] had dating evidence from sherds of pottery dated to 1810-1830, fragments of CTP dated to 1730-1780 and glass dated to 1725-1760.

Moat Brick Revetment on South-eastern Bank: Curved Brick Wall [187] & [349], Additional Wall [153], Timber Raft / Baseplate [221], [222], [223] & [224], [335], Timber Posts / Piles [336], [354], [355], [436], Construction Backfill [294], [352], [353] & [435], Construction Cut [293], [350]

- 7.8.13 The main structural element of this reinforced bank was brick walls [187] and [349] both located in the far north-eastern corner of the excavation area approximately 8.50m north of brick structure [56]. This brick structure was constructed to support the land on the south-eastern curve of the bank. As properties started to develop along the Fulham High Street support of this bank would be needed to halt the erosion of this bank and prevent the collapse of the yards and gardens into this watercourse.
- 7.8.14 The construction cut [350] was irregular / curvilinear in plan with a sharp break of slope with vertical sides and a flat base. only the south-east edge was visible as it was cut into the bank. It had overall dimensions of 3.20m in length, 2.40m in width, a depth of 0.65m and was encountered at a highest level of 1.51m OD.
- 7.8.15 Lining the base of the construction cut [350] was backfill [435] which was a loose dark greyish brown silty sandy clay with occasional fragments of coal, charcoal, sub-angular gravels and lenses of sand. It was 0.20m thick with a highest level of 1.05m OD. Dating evidence recovered from this fill consisted of pottery dated to the late 17th century and CTP dated to 1660-1680.
- 7.8.16 Sitting on top of [435] was a rubble bedding layer [352] of firm light pink reddish brown coarse sandy silt with crushed CBM rubble and occasional larger fragments of bricks and lenses of mortar. It was 0.10m thick and had a highest level of 1.12m OD. CBM from the rubble was dated to 1664-1725.
- 7.8.17 Driven into the construction backfill [352] were two small timber posts / piles with tapered ends

which were roughly orientated north-south and driven vertically into the ground. They were 0.10m in diameter 0.90m long and had a top level of 1.18m OD.

- 7.8.18 Sitting on top of these timber posts/piles [354], [355] and construction backfill/bedding [352] were four wooden planks baseplates [221], [222], [223] and [224] these planks were laid horizontally overlapping to form a narrow raft and orientated to form a northeast-southwest curve. The individual timbers were cut to various sizes but overall measured 9.00m in length, 0.60m in width and 0.06m thick with a highest level of 1.20m OD. These planks were very thin and decayed band formed a foundation for the brick structure above.
- 7.8.19 The curving brick element was found to have two parts [187] formed a lower foundation base and [349] formed the main upper part of the wall (Plate 4). It was constructed of dark red unfrosted bricks dated to 1750-1900 with a yellow sandy mortar and an English Cross bonding pattern. It measured 3.20m in length, 0.60m in width and was 0.50m high with a highest level of 1.50m.
- 7.8.20 Immediately to the north of this curving brick wall was an additional section of brick wall [153] orientated north-south which was constructed of similarly dated dark red unfrosted bricks with a yellow sandy mortar and an English Cross bond (Fig. 12 Section 5; Plate 4). It measured 2.30m in length, 0.70m in width and was 0.80m high with a highest level of 1.87m OD.
- 7.8.21 This main structural element seems to be retaining the bank at this section of the moat to prevent the erosion of the bank and subsequently the land washing away / falling into the moat.

Drainage Features

Brick Drain [30]

- 7.8.22 Located in the north-eastern part of the excavation area approximately 5m to north of brick wall [56] was a brick drain [30] orientated north-west by south-east.
- 7.8.23 Constructed of dark red bricks dated to 1666-1900 with light grey sandy mortar with an irregular bond pattern, it has measured 2.60m in length, 0.60m in width and was 0.20m high with a highest level of 2.54m OD sloping down to the west with a lowest level of 2.24m OD.

Brick Lining [26], Construction Cut [27]

- 7.8.24 Another brick drain was located c. 6m to the west of brick structure [56]. It consisted of a brick lining within a construction cut [27]. It was constructed of dark red frosted bricks dated to 1666-1900 with light grey sandy mortar with an irregular bonding pattern and measured 2.10m in length, 1.10m in width and was 0.35m high with a top level of 2.55m OD.

7.8.25 The backfill of the construction cut contained pottery dated to 1794-1840 and CTP date to 1730-1910.

Pit: Cut [113], Fill [112]

7.8.26 Located in the far western part of the excavation area c. 15m to the south-west of brick drain [26] and cutting the alluvium was a medium sized shallow pit [113].

7.8.27 This pit was rectangular in plan with a gradual break of slope at the top and gradually sloping sides with a gradual break of slope to a flat base. It measured 2.38m in length, 1.40m in width and was 0.26m deep with a highest level of 2.31m OD.

7.8.28 The pit [113] was filled with [112] a loose / friable dark greyish brown, with mid greyish yellow mottling, silty clay that contained frequent flecks of mortar, CBM, charcoal inclusions and lenses of charcoal and sherds of pottery dated to 1580-1650.

7.8.29 The function of this pit is unknown but given its location away from the main activity on the site it could be a quarry pit for obtaining clay.

Pit: Cut [133], Fill [132]

7.8.30 Approximately 8m south-east of pit [113] was another small shallow pit [133] which was semi-circular in shape with a sharp break of slope, vertical sides and a flat base. This pit measured 1.40m in length, 0.70m in width and was 0.30m deep with a highest level of 2.40m OD.

7.8.31 The pit was filled with [132] a soft mid blackish brown silty clay with fine sub-angular gravel, occasional fragments of CBM, mortar and occasional fragments of coal.

Pit: Cut [135], Fills [134], [136]

7.8.32 This particular feature was recorded in section only (Fig. 12 Section 5) and was located towards the far north-eastern corner of the excavation area.

7.8.33 The cut [135] itself had very steep sides with a concave base and measured 0.95m wide by 0.45m deep with a highest recorded level of 2.43m OD.

7.8.34 The primary fill [136] was soft dark greyish brown clay silt with lenses of fine sub-rounded gravel, occasional fragments of coal, stone cobbles, flecks of coal, CBM and mortar, which was 0.20m thick.

7.8.35 The upper fill [134] was soft mid blackish brown silty clay with lenses of fine sand, sub-angular gravel, occasional flecks of CBM, mortar, oyster shell and charcoal, which was 0.45m thick.

Pits: Cut [542], Fill [541], Cut [544], Fill [543]

- 7.8.36 Two pits were recorded in section only in the far north-western corner of the excavation area.
- 7.8.37 Pit [542] had a sharp break of slope at the top, very steep sides and a gradual break of slope to a concave base and measured 1.00m wide by 0.60m deep with a highest level of 2.55m OD.
- 7.8.38 The fill, [541], was friable dark grey brown clay silt with occasional CBM fragments and charcoal flecks.
- 7.8.39 Pit [544] had a sharp break of slope at the top, vertical sides and a gradual break of slope to a concave base. It has measured 0.40m wide by 1.05m deep with a highest level of 2.53m OD.
- 7.8.40 The fill [543] was friable dark grey brown clay silt with occasional charcoal flecks and CBM flecks.

Additional Deposits - Dumps [100], [127], [131], [198], [199]

- 7.8.41 Various dump deposits associated with this phase were recorded in section across the site.
- 7.8.42 [100] was friable dark brown grey clay silt with moderate charcoal flecks and occasional CBM fleck, measuring 0.35m wide and 0.05m thick at 1.75m OD. It contained pottery dated to 1600-1900 and CTP dated to 1680-1710.
- 7.8.43 Deposit [198] was a loose dark reddish brown gravel sand with occasional fragments of CBM, measuring 8.50m in length, 1.45m in width and 0.25m thick with a highest level of 1.62m OD.
- 7.8.44 Dump layer [199] was a firm dark brownish grey silty clay with occasional fragments of CBM and small sub-rounded gravel, measuring 8.50m in length, 2.40m in width and 0.45m thick with a highest level of 1.62m OD.

B02A - Watching Brief Area

Brick Well [490], Construction Cut [491], Fill [489]

- 7.8.45 Located towards the southern end of the site was a brick-lined well [490] constructed of red unfrosted bricks date to 1700-1900 with no visible bonding material. This brick-work had overall dimensions of 1.45m in diameter and a height of 1.00m with a top level of 1.63m OD.
- 7.8.46 The backfill [489] of the well consisted of a hard light grey concrete with aggregate inclusions.

B02 - Excavation Area

Brick Foundations - Wall [560], Brick Arch [568], Construction Cut [592], Brick Wall [569]

- 7.8.47 Located to the south of the site in the far eastern corner of the excavation area was a combination of brick structural elements that formed a wall foundation, probably for a building that fronted onto Fulham High Street.
- 7.8.48 This brick structural element [560] was located 6m to the east of the large wall [558] in the eastern side of the site and was orientated north-south. It was constructed of dark red unfrogged bricks dated to 1450-1600 with friable light reddish grey lime mortar in an English bond. It measured 2.10m in length, 0.29m in width and a height of 0.40m and was encountered at 2.95m OD.
- 7.8.49 Located about 1m to the north of [560] was another structural element [569] orientated east-west. It was constructed out of dark red unfrogged bricks with friable light reddish grey mortar and an English bond and measured 1.60m in length, 0.45m in width and was 1.10m high with a top level of 2.91m OD.
- 7.8.50 Spanning these two brick walls [560] and [569] was a north-south aligned brick arch [568], which was constructed of unfrogged dark red bricks with friable light reddish grey lime mortar and an irregular coursing / bond. With dimensions of 0.90m in length, 0.22m in width and a height of 0.11m, it was recorded at a level of 2.93m OD. The construction cut [592] for this arch was cut into the brickwork of walls [560] and [569] and was 0.22m wide and 0.13m deep. This brick arch provided extra strength and support between the wall foundations [560] and [569], as these wall foundations were built on previously soft and wet ground.
- 7.8.51 This structure was fairly fragmentary and heavily truncated by later activity, so it is hard to determine the type of building but its location on the western side of the excavation area would suggest it relates to brick buildings and structures fronting onto Fulham High Street.

Attenuation Tank

Quarry Pit - Cut [528], Fill [529]

- 7.8.52 Located towards the north-east corner of this part of the excavation area was the remains of a large shallow pit [528] which was sub-circular in plan with steep sides and a flat base and measured 2.20m in length, 2.18m in width and 0.15m in depth with a top level of 2.19m OD.
- 7.8.53 The fill [529] was a friable dark brown sandy silt with frequent small sub-angular stones, patches of degraded wood and frequent flecks of charcoal which contained pottery dated to 1720-1780 and CTP dated to 1760-1780.

Additional Deposits - Dump Layer [484]

- 7.8.54 Dump layer [484] was a friable mid brown sandy silt with moderate amounts of CBM fragments, small sub-angular stones and oyster shells and was 0.17m thick with a top level of 2.42m OD. Pottery recovered from the deposit was dated to 1670-1750.

7.9 Phase 8: Late Post-Medieval 19th Century (Fig. 11)

- 7.9.1 This landscape and the site had undergone much change from the late 18th into the 19th century and this change continued as the area rapidly becomes more urbanised. By now it was possible that the Fulham Stream was filled in and had been replaced in the 18th century with a brick lined drain / culvert. The orientation of this drain roughly followed the same course as the previous stream. The moat itself was still an open channel up until the mid-19th century, with the main brick drain feeding into it, but the moat was eventually filled in and was bypassed with this main brick drain continuing north.

B01 Excavation Area

Filling of Moat

Fills [24], [42], [145], [210], Associated Fills [143], [149]

- 7.9.2 One of the main fills of [43] was [24] which had a recorded thickness of 1.40m and a highest level of 2.49m OD. Dating evidence was present in this fill was predominantly from the 19th century with pottery dated to 1850-1900, CTP date to 1800-1820 and glass dated to 1810-1900.
- 7.9.3 Fill [42] had a thickness of 1.40m and was encountered at 2.49m OD. Dating evidence took the form of pottery dated to 1770-1800 and CTP dated to the 1830s

Brick Culvert [66] & [76], Bedding Plank [209], Rubble [212], Construction Cut [103] (Plate 5)

- 7.9.4 Located down the eastern side of the excavation area running almost the entire length 40m north-south was a brick drain / culvert.
- 7.9.5 The brick lining of the culvert had two basic elements which consisted of the lower brickwork [76] which includes the base and an upper part which formed the arch [66].
- 7.9.6 The lower part [76] was constructed of two different types of bricks; dark red bricks which were unfrogged and pinkish yellow bricks which were frogged both dated to 1800-1900 with bonding

material of soft light grey lime mortar (Fig. 12 Sections 9 & 10). It was recorded at 1.56m OD on the top of the structure. The levels on the base showed a fall to the south with a highest recorded level of 1.32m OD and a lowest recorded level of 1.00m OD.

- 7.9.7 The upper part [66] was constructed of dark orange red bricks dated to 1825-1900 with a light grey yellow mortar and was recorded at 2.65m OD on top of the structure.
- 7.9.8 The overall dimensions of this drain were 40.00m in length, 1.40m in width and 1.33m in height
- 7.9.9 The lower brick structure [76] sat on timber planks [209] and rubble [212] acting as a raft/levelling to stabilise the main brickwork of the culvert. This levelling deposit had an estimated length of 40.00m, was 1.50m wide and 0.50m thick and had a highest level of 1.06m OD. Levelling deposit [212] had dating evidence in the form of pottery dated to 1700-1800.

Other Structural Elements: Brick Buttresses [116], [118], Associated Brick Remains [185]

- 7.9.10 Along the length of this brick culvert various additional structural elements were encountered. Two brick buttresses were recorded [116] on the eastern side of the culvert and [118] located on the western side.
- 7.9.11 Brick remains [116] was constructed of dark red and reddish yellow unfrosted bricks dated to 1780-1900 with a yellowish sandy mortar with occasional flecks of chalk and an irregular bond pattern. It measured 0.45m in length, 0.29m in width and was 0.35m high with a top level of 2.78m OD.
- 7.9.12 Brick remains [118] was constructed of dark red and reddish yellow unfrosted bricks dated to 1780-1900 with a yellowish sandy mortar with occasional flecks of chalk and an irregular bond pattern. It measured 0.74m in length, 0.66m in width and was 0.48m high with a top level of 2.91m OD.
- 7.9.13 Layer [185] (not illustrated) was constructed of orangey red unfrosted bricks and occasional pink frosted bricks with a soft creamy grey sandy mortar and an irregular bond pattern. It measured 1.10m in length, 0.80m in width and was 0.10m high and was encountered at 1.32m OD and appeared to be a dump of brick rubble.

Fills [67], [68], [69], [191], Associated Fills [70], [71], [72], [196]

- 7.9.14 There was some infilling of the drain when it went out of use either through silting or material falling from above through collapsed sections in the arch.
- 7.9.15 The primary fills [69] and [191] was formed thorough natural silting when the drain was in use and was a dark brownish grey friable clay silt with occasional flecks of charcoal. It was 0.45m

thick with a top level of 1.40m OD.

- 7.9.16 Dating evidence recovered from [191] took the form of pottery dated to 1805-1830.
- 7.9.17 Fills [66] and [68] were a friable mid orange brown grey clay silt with lenses of gravel, occasional CBM flecks and were up to a 1.00m thick.
- 7.9.18 Rubble fill within drain [66] was dated by recovered fragments of CTP to 1840-1910.

Brick Sluice: [75], Construction Back-Fill [117], Associated Deposit [98] (Plate 11)

- 7.9.19 At the far northern end of brick culvert [76] and [66] was some additional brick-work [75] which probably acted as a sluice to allow waste water to flow into the moat.
- 7.9.20 This sluice/manhole was constructed of frogged dark red bricks dated to 1800-1900 with a yellowish sandy mortar. It formed a rough T-shape with overall dimensions of 1.30m in length, 0.50m in width and was 1.14m high at 2.62m OD on top of the structure.
- 7.9.21 The backfill in the sluice [117] had dating evidence in the form of pottery dated to 1835-1900, CBM dated to 1480-1900, CTP dated to 1841-1856 and early 19th century glass.

Additional Sewer: Brick Culvert [74], Construction Backfill [85], Infilling [84] (Plate 11)

- 7.9.22 This circular brick culvert [74] lay to the north of masonry [75] and is thought to be a later addition to this section of the overall drainage system. It was constructed of brownish red frogged bricks dated to 1800-1900 with a yellowish grey sandy lime mortar, with an English bonding pattern, the lower arc was constructed with a single course and the upper arc was reinforced with a double course. This section had overall dimensions of 5.00m in length, 1.20m in width and was 1.05m high with a top level of 2.50m OD.

Box Drain - Brick Lining [157], Construction Cut [158]

- 7.9.23 Located on the far western side of the site running parallel to the main brick culvert [76] c. 15m to the west was a long linear brick box-drain.
- 7.9.24 A relatively simple structure the brick-lining [157] was constructed of unfrogged yellowish red bricks dated to 1780-1900 with a light yellowish white sandy mortar. It was constructed with a single course for a base, three courses formed the sides and a single course formed the top with the overall structure being that of a long linear box. The brickwork measured 27.00m in length, 0.55m in width and was 0.36m high with a top level of 2.12m OD.

Brick Walls for Cellars, Internal Surface and External Surface for Structures Fronting onto Fulham High Street

7.9.25 Located down the far eastern side of the excavation were a series of brick structures. The land has been stabilised and consolidated enough for brick buildings to be constructed along Fulham High Street as the general area becomes more urbanised during the 19th century. Although the upstanding brick structures did not survive, the subterranean structural elements such as foundations and the remains of cellars/basements were encountered. Brick structure [57] from the previous phase continued in use during this period as did brick structure [108] but the north-south orientated wall was incorporated into the brick-lining of the main north-south drain / culvert [66] / [76].

Brick Wall / Foundation: [95], Bedding Layer: [348], Construction Cut [347]

7.9.26 This wall was located along the western side of the excavation area approximately 7m from the south-east corner, running parallel with brick drain [76]. It was truncated at the northern and south-western end by modern activity - presumably during the widening of Fulham High Street during the early part of the 20th century.

7.9.27 The wall was constructed of frogged light red bricks with a yellowish grey sandy mortar and an English Cross bond pattern. There were occasional patches of plaster/render on the western internal face of the wall. The wall was slightly wider at the southern end where there were the remains of a return heading to the east. It had overall dimensions of 11.80m in length, 1.45m in width and was 1.46m high and had a top level of 2.79m OD.

7.9.28 This wall sat on a cemented / firm bedding layer [348] which was very dark yellowish red with fragments of CBM, mortar and sand within the base of the construction cut [347].

Brick Wall / Foundation [82], Construction Backfill: [101], Construction Cut [102], Internal Floor [81] (Plate 10)

7.9.29 Located c. 3m north of brick wall [95] was another brick structure [82] and internal floor [81] aligned north-south parallel with brick drain [76] and continued beyond the eastern limit of excavation.

7.9.30 Constructed out of orange red frogged bricks dated to 1800-1900 with a soft greyish brown sandy mortar with an English Garden Wall Bond pattern. These wall [82] remains were E-shaped in plan forming two rooms with the remains of a partition in the middle. It had overall

dimensions of 6.95m in length, 2.15m in width and was 0.78m high with a highest level of 3.01m. This wall [82] sat on a concrete bedding layer / stepped foundation encountered at 2.13m OD.

- 7.9.31 Associated with this structure was a brick and stone floor / surface [81] thought to be the remains of an internal floor in the northern portion of brick structure [82]. Roughly rectangular in plan it is constructed of yellow sandstone slabs and pinkish red frogged bricks dated to 1800-1900 and yellow sandy mortar. The bond pattern was irregular but seems to be laid with the stone slabs in the middle and the bricks placed around the edges. It measured 2.10m in length, 1.20m in width and was 0.10m thick with a highest level of 2.35m OD.
- 7.9.32 The construction backfill [101] was a friable mid brownish grey sand, clay and silt with frequent fragments of mortar, coal and fine gravel and contained pottery dated to 1780-1900 and CBM dated to 1666-1900.

Brick Wall [79], [125], Yard Surfaces / External Floor [77], [78], [80], Surface Bedding Layer [126], [110], [111]

- 7.9.33 To the south-west of brick structure [82] were the remains of various walls and brick and stone surfaces which represented the remains of an external building and yard surfaces at the back of the properties fronting onto Fulham High Street.
- 7.9.34 Located to the south-west of brick structure [82] was the remains of an east-west aligned brick wall [79] constructed of red and yellow frogged bricks dated to 1800-1925 with a hard grey cement mortar. This wall had overall dimensions of 1.95m in length, 1.38m in width and was 1.45m high with a top level of 3.07m OD.
- 7.9.35 Keyed into this wall [79] at the western end was another section of wall [125] orientated north-south and also constructed of red and yellow frogged bricks with a hard grey cement mortar. This formed the west wall of the structure which measured 1.95m in length, 1.38m in width and 1.45m in height.
- 7.9.36 Associated with these walls were the remains of various stone and brick surfaces [77], [78], [80]. Within the walls was floor surface [80] constructed of rectangular stone slabs on a bedding layer of loose greyish brown silty sand with occasional fragments of CBM, charcoal flecks, small sub angular stones and occasional mortar patches. The floor measured 1.16m in length, 0.80m in width and was 0.06m thick with a level of 2.64m OD.
- 7.9.37 To the north of brick structure [79] / [125] was floor surface [78] which was also constructed of stone slabs that were roughly rectangular in shape with an irregular bond. The remains of this

floor were patchy but had overall dimensions of 2.08m in length, 0.82m in width and were 0.08m thick at a level of between 2.93m OD and 2.89m OD.

- 7.9.38 Immediately to the north of [78] was floor surface [77] which was constructed of yellowish red frogged bricks dated to 1800-1900 with an irregular bond pattern. It measured 1.50m in length, 1.05m in width and was 0.065m thick and was encountered at 2.86m OD.
- 7.9.39 Floor surface [77] and [78] was constructed on a bedding layer [110] which was a loose mid greyish brown silty sand with frequent mortar flecks, CBM flecks, Charcoal fragments, small sub-angular stones and shards of glass, up to 0.10m thick at 2.85m OD.
- 7.9.40 Under bedding layer [110] was rubble layer [111] which was a soft mid brown grey silt clay with frequent CBM fragments, flecks of charcoal, mortar and small sub-angular stones. It had an overall thickness of 0.32m and it was recorded at 2.78m OD. Dating evidence recovered was pottery with a date range of 1670-1700 and CTP with a date range of 1580-1740.

Yard Surfaces / External Brick Surfaces [90], [93], [94], [97]

- 7.9.41 The patchy remains of brick surfaces were located along the eastern side of the site towards the north-eastern corner, c. 8m to the north of brick wall [82]. They probably represented further remains of external surfaces at the back of properties fronting onto Fulham High Street either used as back-yards or the surface of alleys / pathways between properties to access yard areas.
- 7.9.42 The remains of a brick surface, [94], was constructed of dark red bricks of various sizes dated to 1450-1900 with no apparent bonding material and an irregular bonding pattern. It had dimensions of 1.10m in length, 0.84m in width and was c. 0.10m thick at a level of 2.40m OD.
- 7.9.43 To the north-east of [94] was brick surface [93] which was constructed of dark orange red and yellow bricks dated to 1780-1900 with no apparent bonding material and a regular stretcher laid bond pattern. It had dimensions of 1.20m in length, 0.55m in width and was c. 0.10m thick at 2.45m OD.
- 7.9.44 Immediately to the north of [93] was [97] which was constructed of orange red bricks and yellow pinkish red bricks dated to 1780-1900 with no apparent bonding material and an irregular stretcher laid bond pattern. It had dimensions of 1.60m in length, 1.15m in width and was c. 0.10m thick at 2.41m OD.
- 7.9.45 To the immediate west of [93] was [90] which was constructed of orange red bricks dated to 1780-1900 with no apparent bonding material laid in a stretcher bond pattern. It had dimensions of 1.20m in length, 0.60m in width and was c. 0.10m thick at 2.47m OD.

7.9.46 All these patchy surfaces were more than likely parts of the same surface.

Brick Surface [28], Wall [29]

7.9.47 In the north-eastern corner of the excavation area further brick remains survived consisting of a remnant of brick wall [29] and associated floor [28].

7.9.48 Brick floor [28] was constructed of dark red bricks dated to 1780-1900 with a light grey sandy bonding material and no apparent bonding pattern. It had overall dimensions of 0.80m in length, 0.80m in width and was c. 0.06m thick at 2.34m OD. This brick surface sloped to the west so might represent the base of a drain rather than an external surface.

7.9.49 A small brick wall [29] was recorded immediately to the west of [28] and was constructed of dark red bricks dated to 1800-1900 with a light grey sandy bonding material. It had overall dimensions of 0.60m in length, 0.40m in width and was 0.06m thick at 2.40m OD. Given its association with [28] it might also be part of the same drain.

Drainage Remains [31], [32], [33], [34], [92]

7.9.50 With the appearance of more properties and the general urbanisation of the wider area as well as the construction of a better municipal drainage and sewage system the appearance of small drainage features was probably to be expected given the proximity to a large sewer running through the site, this would allow waste water to feed into this brick drain that would be part of a larger network of culverts and pipes. Some of these features would take the appearance of open drains while others would be more subterranean. The re-use of some earlier drainage systems was also apparent as new elements of brickwork flowed into old drainage remains. Most of the brick drains that survived seem to be in the north-east corner of the excavation area.

7.9.51 About 5m north of brick structure [56] and associated with brick surfaces [90], [93] and [97] was the remains of a westward curving brick drain [92] that seems to feed in to an earlier drain [30]. It was constructed of dark red bricks dated to 1750-1900 with a light yellow sandy mortar that has occasional chalk flecks. It measured 2.00m in length, 0.40m in width and was 0.23m thick at 2.45m OD.

7.9.52 Drainage remains [31], [33] and [34] were more than likely part of the same drainage run, especially as they have a very similar orientation but as they were so fragmentary they have been recorded and discussed as separate elements.

7.9.53 Just to the north-west of [92] and immediately to the south of brick sluice [75] was the remains

of a brick drain [32] constructed of red bricks dated to 1800-1900 with a light grey sandy bonding material. It measured 0.70m in length, 0.70m in width and was 0.20m thick at 2.52m OD.

- 7.9.54 Immediately to the north-east of [32] was the narrow surface of a brick drain [34]. It was constructed of dark orangey red bricks with a light grey sandy bonding material. It measured 1.00m in length, 0.15m in width and was 0.15m thick at 2.52m OD.
- 7.9.55 To the north-east of drain [34] were the remains of a brick drain [33], which was constructed of dark orange red bricks dated to 1800-1900 with a light grey sandy bonding material. It measured 1.00m in length, 0.15m in width and was 0.15m thick at 2.47m OD.
- 7.9.56 To the north of [33] were brick remains [31] orientated north-south which was associated with the drainage remains to the south, [33] and [34]. It was constructed of dark orangey red bricks dated to 1800-1900 with a light grey sandy bonding. It measured 2.50m in length, 0.40m in width and was 0.20m thick at 2.47m OD.

Brick Drain [35]

- 7.9.57 At the extreme north of the excavation area was the remains of an east-west aligned brick drain [35], which fed into the northern extension of the main culvert [74]. It was constructed of yellowish pink frogged bricks dated to 1780-1900 with a compact creamy grey sandy mortar bonding material. At its eastern end the drain split into three separate channels, where it had a slate cover. The drain measured 4.20m in length, 2.00m (max.) in width and was 0.32m high with a top level of 2.48m OD sloping down to the west.

Brick Structural Remains / Out-House - Brick Surface [21], Brick Walls [22], [23]

- 7.9.58 Located in the northern part of the excavation area were the remains of an east-west brick wall [21] and [23] and a brick surface [21] to the north. The brick wall was interrupted and recorded as two sections with the gap possibly representing the remains of a doorway.
- 7.9.59 Brick surface [21] was constructed of yellow unfrogged bricks surrounding orangey red and reddish-purple bricks dated to 1850-1950 with a sooty / charcoal bonding material. The remains were fragmentary and irregular, measuring 1.55m in length, 1.15m in width and were 0.06m thick at 2.87m OD. It has been interpreted as the remains of an internal surface in a brick out-building.
- 7.9.60 Either side of this brick surface [21] to the south were brick walls [22] and [23] which had a gap between them which was probably the entrance to this structure.

7.9.61 Orientated east-west and to the west of [21], brick wall [22] was constructed of red unfrosted bricks and occasional red frosted bricks dated to 1666-1900 with a light grey sandy bonding material. It measured 2.80m in length, 0.35m in width and was 0.40m high with a top level of 3.22m OD.

7.9.62 To the east of [22] also orientated east-west was brick wall [23] constructed of red unfrosted bricks and red frosted bricks also dated to 1666-1900 with a light grey sandy bonding material. It had overall dimensions of 1.90m in length, 0.35m in width and was 0.40m thick at 3.07m OD.

Cut Features - Pit Fill [58], Pit [59], Square Pit Fill [60], Pit [61], Brick-lined Pit Fills [62], [64], Brick Lining [63], Construction Cut [65]

7.9.63 A cluster of cut features were observed c. 1.00m to the north of brick structure [22] and [23].

7.9.64 Brick-lined pit [63] was rectangular in shape with the brick lining constructed of dark red yellowish bricks and orangey red bricks dated to 1850-1900 with a light brownish grey sandy bonding material. It measured 0.85m by 0.83m and was 0.55m deep at 2.83m OD.

7.9.65 The cut [65] of the pit itself was rectangular in plan with vertical sides and a flat base and had dimensions of 1.06m in length, 0.94m in width and a depth of 0.60m.

7.9.66 Construction backfill [64] filled the space between the brick-lining and the cut and consisted of soft brownish grey sandy silt with occasional flecks of CBM up to 0.51m thick.

7.9.67 The pit was filled with a deposit which contained large amounts of broken glass [62] and occasional pottery dated to 1820-1900.

7.9.68 Cutting alluvial layer [109] was rectangular pit [61] which had vertical sides and a flat base and measured 0.87m by 0.74m and was 0.27m deep with a top level of 2.44m OD.

7.9.69 The fill [60] was a soft mid brownish grey sandy silt with occasional fragments of CBM and very occasional shell fragments, which contained pottery dated to the 18th-19th century.

7.9.70 Cutting the fill [60] was another pit [59] which was circular in plan with steeply sloping edges and a flat base, measuring 1.16m in length, 1.05m in width and 0.36m in depth at 2.80m OD.

7.9.71 Filling [58] this cut was a loose mid greyish brown sandy silt with occasional fragments of CBM and very occasional shell fragments.

Additional Cut Features - Pits - Cut [37], Fill [36], Cut [115], Fill [114], Well - Brick-lining [159], Construction Cut [130], Drain - Brick Lining [124], Construction Cut [123], Backfill [122], Cut [128], Fill [129]

7.9.72 Additional cut features were spread across the western side of the excavation area. The 1865

Ordnance Survey map shows that this portion of the site was relatively undeveloped with long strips of tree lined plots and open areas of planting - possibly market gardening. These features were possibly associated with horticultural activity - watering and drainage.

- 7.9.73 Located c. 7m south of brick building [22] on the western side of the excavation area was a medium sized pit [37]. It was roughly oval in plan with steep edges and a flat base and measured 2.90m in length, 1.00m in width and was 0.31m deep with a top level of 2.63m OD.
- 7.9.74 The fill [36] was a soft light greyish yellow clay sand with very occasional fine gravel, moderate flecks of CBM, charcoal, mortar and shell inclusions which contained pottery dated to 1480-1600.
- 7.9.75 To the south-west was located another pit [115] which was oval in plan with steep near vertical sides with a flat base and measured 1.37m in length, 0.48m in width and 0.72m in depth with a top level of 2.35m OD.
- 7.9.76 The fill [114] was a moderately compact mid orangey brown silty clay with occasional CBM fragments, which contained pottery dated to 1835-1900, CBM dated to 1770-1940 and CTP dated to 1840-1910.
- 7.9.77 To the east of pit [115] was located a brick-lined well. The construction cut [130] had a circular shape in plan with steep vertical sides but the base was not seen as it was deemed too deep to excavate. It measured 1.40m in diameter and was at least 4m in deep.
- 7.9.78 Approximately 5m to the south of pit [115] in the far western side of the excavation area was the remains of a brick-lined pit / drain. The cut had a stone and brick lining [124] with the bricks lining the edges and stone slabs lining the base, it was also partially capped with slates. The main brick elements were constructed of mid orange red bricks dated to the late 19th/early 20th century with a yellowish grey mortar. Rectangular paving stones lined the base with smaller pieces of brick and slate filling any gaps. These stone and brick elements had overall dimensions of 2.40m in length, 1.10m in width and a height of 0.15m with a top level of 2.43m OD.
- 7.9.79 The construction back fill [122] was friable dark brownish grey sandy silt with moderate charcoal flecks, moderate CBM flecks and occasional small sherds of glass. Pottery dated to the late 19th - early 20th century was also recovered.

Pit - Cut [41], Fills [39], [40]

- 7.9.80 This feature was recorded only in section but was located down the eastern side of the excavation area approximately 8m south of the far north-western corner. The cut [41] had a sharp break of slope at the top with vertical sides and a flat base, measuring 0.90m wide and

0.90m deep with a highest recorded level of 2.49m OD.

- 7.9.81 The fills [39] and [40] of this pit were light orangey brown silty clay and dark grey brown sandy silt with occasional rooting and occasional charcoal flecks.

B02A - Watching Brief Area

Brick Structures [513], [514]

- 7.9.82 Two brick structures were observed on the western side of the watching brief area both orientated east-west. The northern one was wall [513] which was constructed of red unfrosted bricks with some yellow stock bricks and a light grey lime mortar. It measured 1.60m in length, 0.44m in width and was 0.10m high at 3.27m OD.
- 7.9.83 To the south of [513] was arched brick drain [514] constructed of red unfrosted bricks with a light grey sandy lime mortar, which measured 2.60m in length, 0.36m in width and was 0.10m high at 3.27m OD.

Associated Deposit - Backfill [516]

- 7.9.84 Recorded in this watching brief area was a dump deposit encountered between the wall and drain [513] and [514]. It consisted of loose light grey brown silty sandy rubble with frequent CBM fragments and flecks of mortar.

B02 - Excavation Area

Culverts - Brick Culvert [557], Construction Cut [585], Brick Culvert [559], [576], Construction Cut [573]

- 7.9.85 In the middle of the excavation area to the east of stone wall [558] and orientated north-south was brick culvert [557]. It was constructed out of dark red unfrosted bricks dated to 1780-1900 with a grey lime mortar and a regular bonding pattern consisting of alternate rows of headers and stretchers. It measured 7.60m in length, 1.00m in width and was 1.00m high with a top level of 2.99m OD.
- 7.9.86 Approximately 3m to the west was another brick culvert [559], which was orientated north-south and continued beyond the limit of excavation to the south and was truncated to the north. It was constructed of dark red unfrosted red bricks dated to 1700-1900 with a grey lime mortar and a regular bonding pattern consisting of alternate rows of headers and stretchers. It measured 5.40m in length, 1.10m in width and was 0.45m high at 2.99m OD.

7.9.87 The brick lining was sitting on a tile base [576] which was constructed of a single course of dark red tiles with a light yellowish grey lime mortar. It measured 5.40m in length, 1.05m in width and was 0.04m high with a top level of 2.48m OD.

Associated Deposits - Fills [574], [575], [590], [563], [571], [589], [584]

7.9.88 The fill [563] within brick culvert [559] was moderately compact mid brown clay silt with very frequent small sub-angular stones, frequent CBM fragments, moderate amounts of oyster shell fragments and patches of mortar. OD. Pottery dated to 1825-1900 and glass dated to the 19th century was recovered from this fill.

7.9.89 The fill [571] within brick culvert [557] was loose light yellowish brown sandy silt with frequent gravel, moderate fragments of CBM, frequent flecks of mortar CBM and charcoal. Dating evidence recovered from this fill was pottery dated to 1760-1830 and CBM dated to 1480-1900.

Wall addition [572]

7.9.90 Located in the eastern part of the excavation area was a small wall [572] added to earlier wall remains [560], [568] and [569]. It was directly keyed into brick arch [568] and seems to add an extra addition to this structure. Unfortunately, these brick remains were too fragmentary to provide a full interpretation of their use.

7.9.91 Orientated east-west this section of wall was constructed of dark red unfrogged bricks with a hard light yellowish white sandy lime mortar. It had overall dimensions of 2.25m in length, 0.21m in width and a height of 1.20m with a top level of 2.93m OD.

Associated Deposits [593]

7.9.92 Rubble backfill [593] was present between walls [560], [569] and [568] and was a friable mid greyish brown sandy silty clay with frequent fragments of CBM and contained pottery dated to 1820-1900 and CTP dated to 1660-1680.

Backfill of Cess Pit [561] - Fill [562]

7.9.93 With the construction of a municipal sewage system brick-lined cess pits at the back of properties went out of use. Phase 6 cess pit [561] was probably backfilled in the early part of this phase.

7.9.94 The back-fill [562] consisted of rubble with a loose light brownish grey silty sand with frequent large chalk fragments, CBM fragments, occasional large pieces of mortar, lenses of charcoal and flecks of chalk. It contained pottery dated to 1670-1800, CBM dated to 1630-1850 and CTP dated to 1730-1910.

Brick Surface [546]

7.9.95 Located in the western side of this part of the excavation was the remains of a brick surface [546] which was constructed of dark purple red bricks dated to 1666-1900 with a dark grey brown ashy sandy bonding material with regular courses of a stretcher bonding pattern. It had overall dimensions of 3.60m in length, 3m in width and was 0.10m thick with a level of 3.75m OD.

7.9.96 This brickwork has been interpreted as an external surface and probably covered a much larger area than that which survived, maybe from a yard or wide alleyway accessing a yard.

Postholes - Cut [551], [553], Fills [550], [552], Timber Post [554]

7.9.97 Cutting brick surface [546] were two large postholes. Posthole [551] was sub-circular in plan with steep-sides and a flat base measuring 0.70m long, 0.60m wide and 0.30m deep with a top level of 3.66m OD. It was filled by [550] a loose dark brown grey coarse sandy rubble with frequent fragments of CBM and charcoal flecks.

7.9.98 To the east of [551] was posthole [553] which was also sub-circular in plan with steep sides and a flat base. It measured 0.70m long, 0.50m wide and 0.30m deep with a top level of 3.67m OD. It was filled by [552] a loose dark brown grey coarse sandy rubble with frequent fragments of CBM and occasional flecks of charcoal.

7.9.99 These postholes don't seem to have a wider alignment with other similar features but the direct relationship with each of the elements and the associated brick surface would suggest that they could have formed a gatepost and entrance to the yard represented by the brick surface.

Additional Deposits - Dump Layers [567], [579], [580], [581], [586]

7.9.100 Layer dumped [586] up against wall [558] and culvert [557] was soft dark grey brown clay silt with moderate mortar fragments, chalk fragments and charcoal flecks. Pottery recovered dated this deposit to 1630-1700.

Attenuation Tank - Excavation Area

Dump Deposits: [456], [485], [486], [487], [527]

- 7.9.101 Various dump deposits were encountered in this area of the excavation which were associated with general ground consolidation and build-up taking place during this period.
- 7.9.102 Dump layers [486] and [527] were firm mid dark brown sandy silt with moderate amounts of small stones, occasional shell, CBM flecks and patches of black sandy silt. These layers were encountered at 2.32m OD and 2.24m OD.
- 7.9.103 Dump layer [487] was a loose red whitish grey coarse silty sand with frequent fragments of red brick, other CBM fragments, mortar and slate. It was recorded at 2.42m OD.
- 7.9.104 Layer [485] was firm orangey brown sandy silt with occasional fragments of CBM and charcoal which was recorded at 2.42m OD.
- 7.9.105 Sealing most of these deposits was dump layer [456] which was moderately compact mid orangey brown silty clay with occasional sub-angular stone. It was 0.97m thick and was recorded at 2.83m OD.

Brick Culvert [455] (Plate 12)

- 7.9.106 Located down the centre of this area was a linear east-west aligned brick culvert [455]. It was constructed of dark red and orange bricks dated to 1780-1900 with a grey bonding material and a simple bonding pattern of alternate headers and stretchers; it had a curved brick arch top which had collapsed. The overall dimensions were 11.05m in length, 0.60m in width and 0.80m in height with a top level of 3.53m OD.
- 7.9.107 This particular brick feature provides further evidence of the general municipal drainage system being established during this century.

Rubbish Pit - Cut of Pit [533], Fill [523]

- 7.9.108 Recorded in this area was a large pit which continued beyond the southern limit of the excavation area. It was predominantly filled with construction rubble.
- 7.9.109 The full shape of the cut [533] was unclear but it has a curving western edge gradually sloping to a flat base. The overall dimensions were 5.60m in length, 0.90m in width and a depth of 0.59m with a top level of 2.26m OD.
- 7.9.110 The fill [523] was a soft friable reddish brown coarse sandy silt with fragments of CBM and patches of clean but coarse dark yellow sand. Pottery dated to 1700-1800 and CBM dated to

1666-1900 were recovered from this context.

B03 - Watching Brief Area

Trench 2

Brick Walls [606], [608], [611], [612]

7.9.111 The remains of several brick walls were recorded during a watching brief in this area of the site.

7.9.112 East-west aligned brick wall [606] was constructed of red frogged bricks with a light grey lime mortar. As seen it measured 0.75m in length, 0.35m in width and 0.10m in height with a top level of 3.46m OD.

7.9.113 To the north brick wall [608] was aligned north-south and was constructed of red unfrogged bricks dated to 1700-1900 with a light greyish lime mortar. This wall had overall dimensions of 2.60m in length, 0.55m in width and 0.10m in height with a top level of 3.17m OD.

7.9.114 The fragmented remains of wall [611] was aligned east-west and was constructed out of red frogged bricks with a yellowish sandy lime mortar. It measured 0.50m in length, 0.21m in width and 0.10m in height with a top level of 3.23m OD.

7.9.115 Wall [612] was aligned north-south and was constructed of red unfrogged bricks dated to 1700-1900 with a yellow sandy lime mortar. It measured 1.75m in length, 0.70m in width and 0.30m in height with a top level of 3.28m OD.

Stone Surface [609]

7.9.116 Located towards the southern end of the trench to the west of brick wall [608] was a floor surface [609] constructed of greenish grey sandstone slabs of various sizes with no obvious bonding material. It measured as seen 1.95m in length, 0.65m in width and 0.07m thick with a top level of 3.17m OD.

Brick Drains [607], [610]

7.9.117 Associated with these walls and stone surfaces were two brick drains.

7.9.118 In the southern part of the trench south of wall [606] was brick structure [607] which was constructed of red unfrogged bricks dated to 1700-1900 with a compact light greyish sandy lime mortar. It measured 0.75m in length, 0.40m in width and 0.19m in height with a highest level of 3.46m OD.

7.9.119 In the middle of the trench to the north of wall [608] was brick structure [610] which was constructed of red unfrosted bricks dated to 1700-1900 and red tiles of various sizes with a compact light greyish lime sandy mortar bonding material. It measured 1.05m in length, 0.70m in width and 0.19m in height with a highest level of 3.25m OD.

Additional Deposits: Made-Ground [613]

7.9.120 A layer of made-ground [613] encountered in this trench was soft dark brownish grey sandy clay silt which contained pottery dated to the late 19th - early 20th century.

Trench 3

Layers - Rubble Ground Consolidation [620], [623], Made-Ground [621], [624], Burnt Layer [622]

7.9.121 Several layers of made-ground and ground consolidating rubble were recorded in this trench.

7.9.122 Layer [620] was a soft dark greyish brown sand silt clay with lenses of gravel and moderate fragments of CBM. This layer had recorded dimensions of 11.20m in length, 1.00m in width and a thickness of 0.20m with a highest level of 3.70m OD.

7.9.123 Layer [621] was soft mid yellowish brown silty clay with frequent fragments of CBM, mortar, coal and charcoal. It measured 11.20m long, 1.00m wide and 0.20m thick with a highest level of 3.50m OD.

7.9.124 Layer [622] was a soft very dark brownish black silty clay with some organic lenses which measured 1.40m in length, 1.00m in wide and 0.05m thick with a highest level of 3.31m OD.

7.9.125 Layer [623] was a soft dark brownish grey sandy silty clay with frequent flecks of CBM, charcoal and mortar, measuring 9.60m in length, 1.00m in wide and 0.11m thick with a highest level of 3.33m OD.

7.9.126 Layer [624] was a soft mid greyish brown sandy silty clay with occasional fragments of oyster shell, fragments of CBM, flecks of charcoal and mortar. It has recorded dimensions of 11.20m in length, 1.00m in width and a thickness of 0.55m with a highest level of 3.28m OD.



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Figure 3
Plan of Phase 3
1:200 at A3



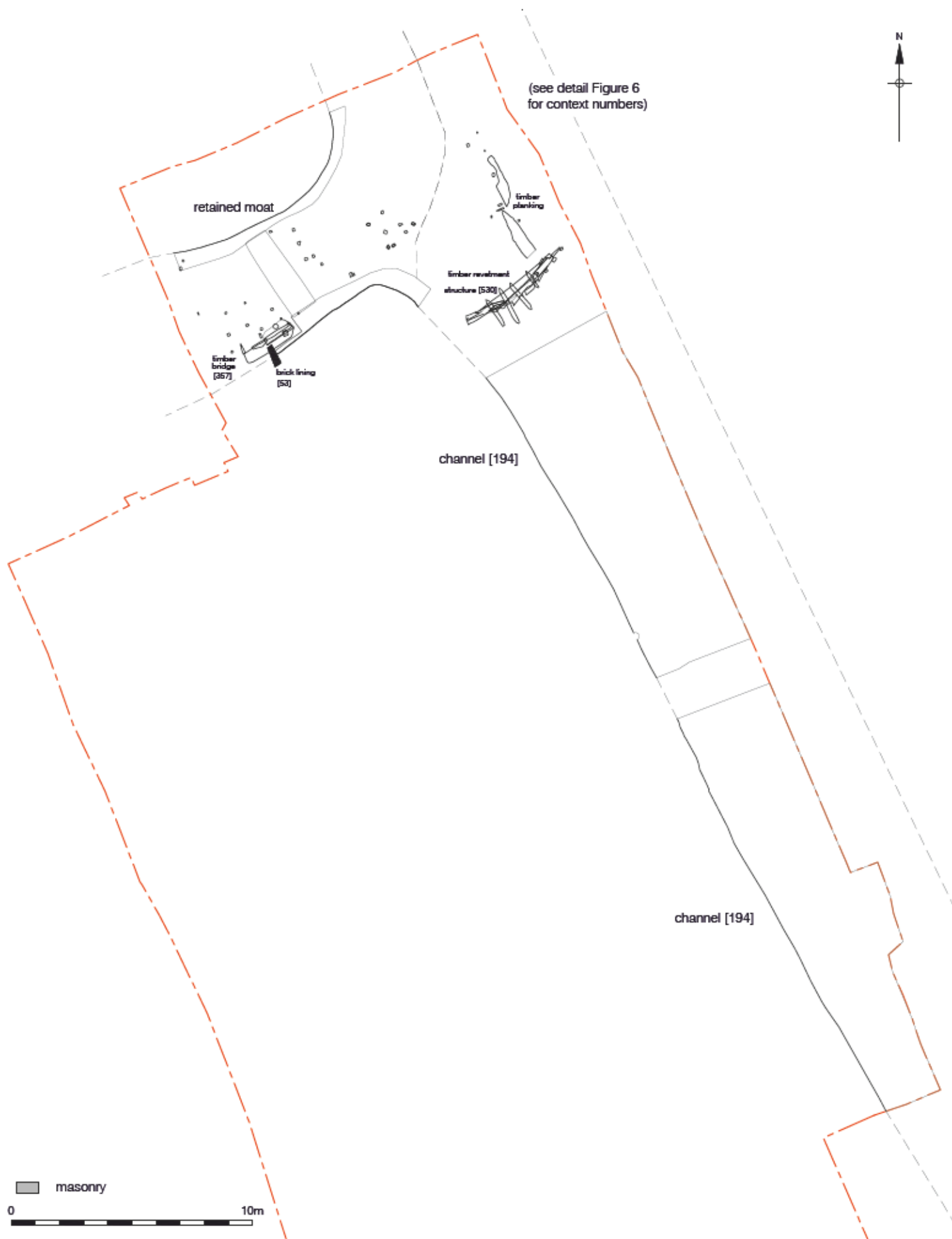


Figure 5
Plan of Phase 5
1:200 at A4



Figure 6
Phase 5: detail of revetments and timber structures
1:100 at A4

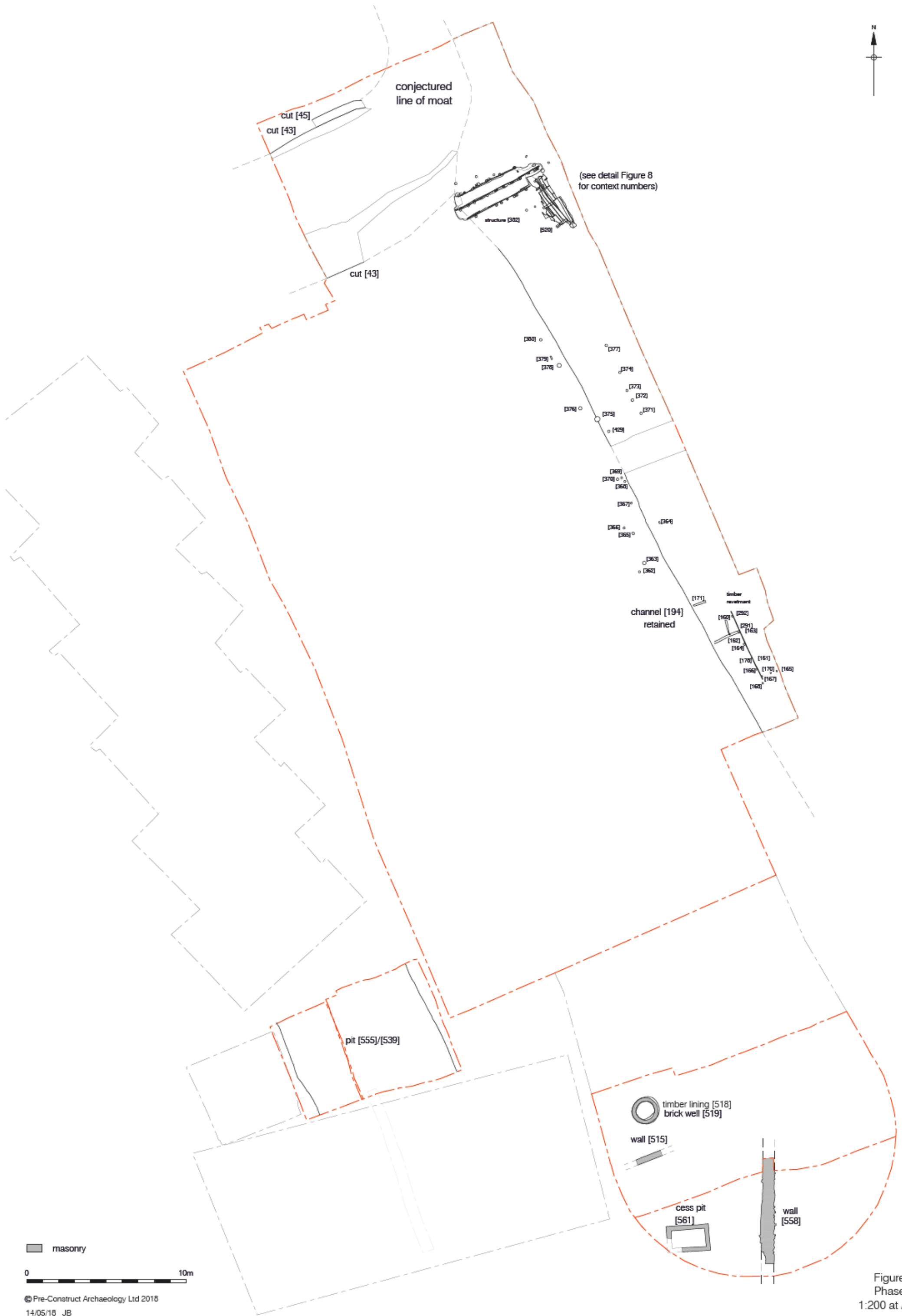
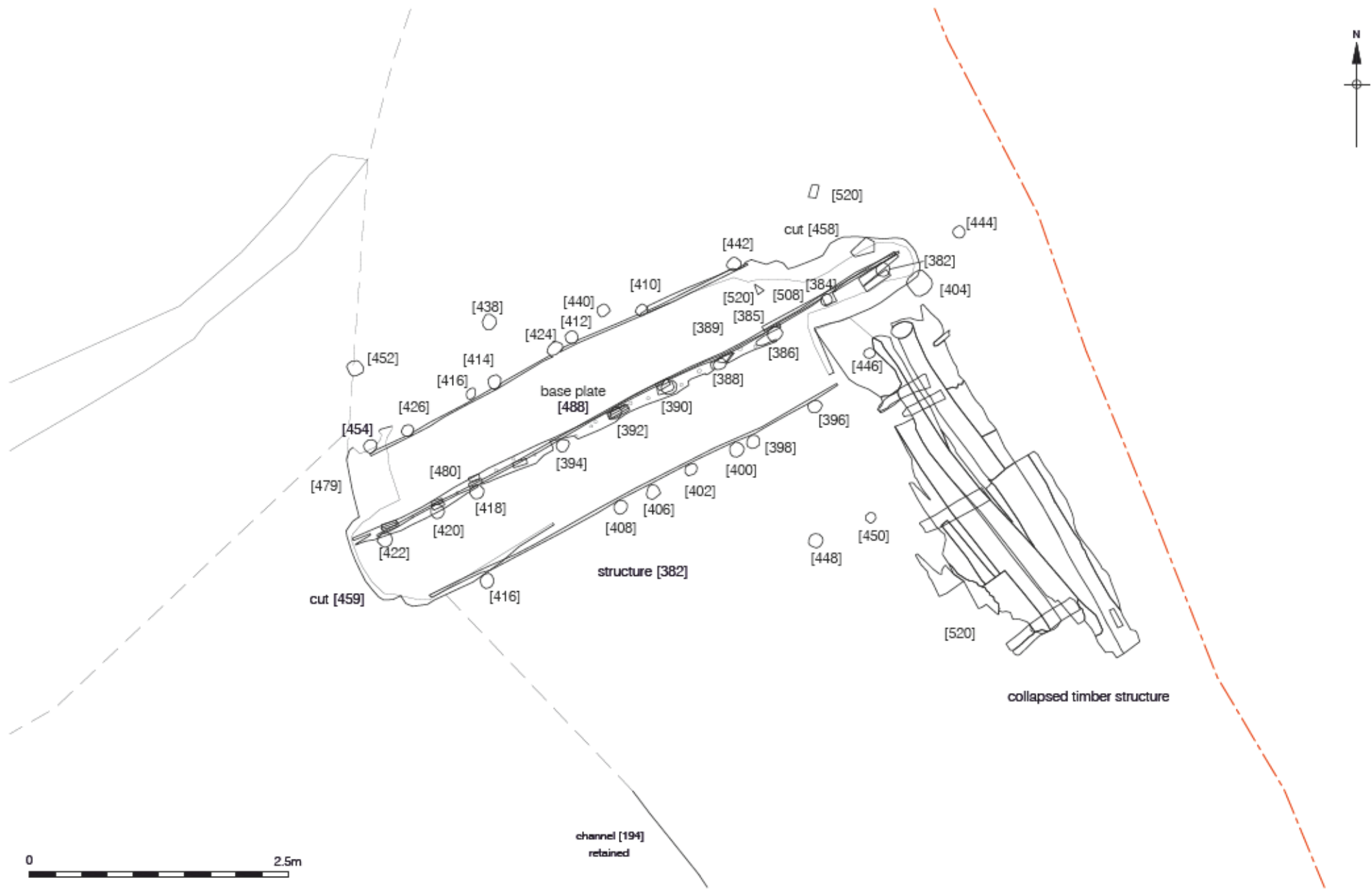


Figure 7
Phase 6
1:200 at A3



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Figure 8
 Phase 6 detail of timber structures
 1:50 at A4

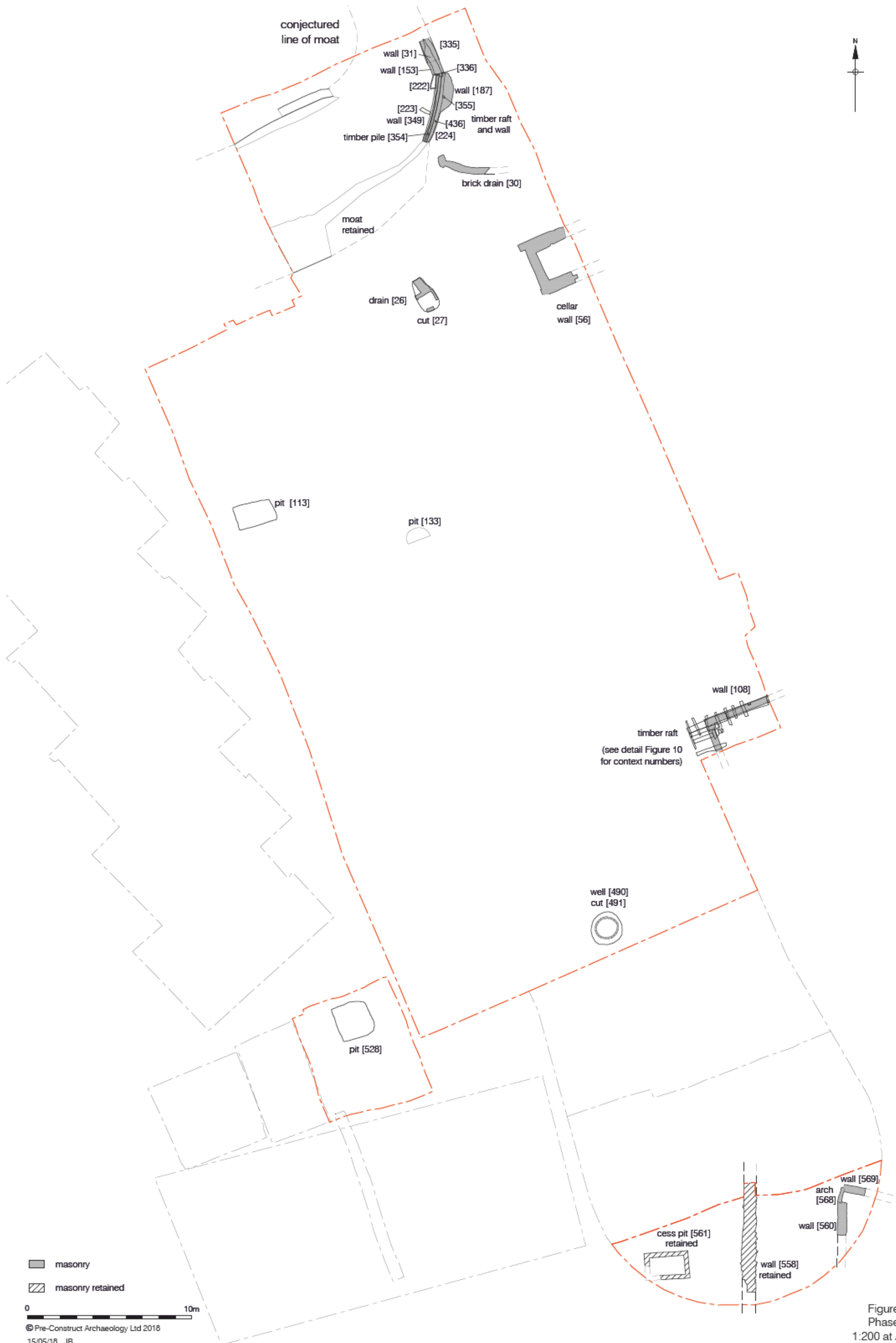
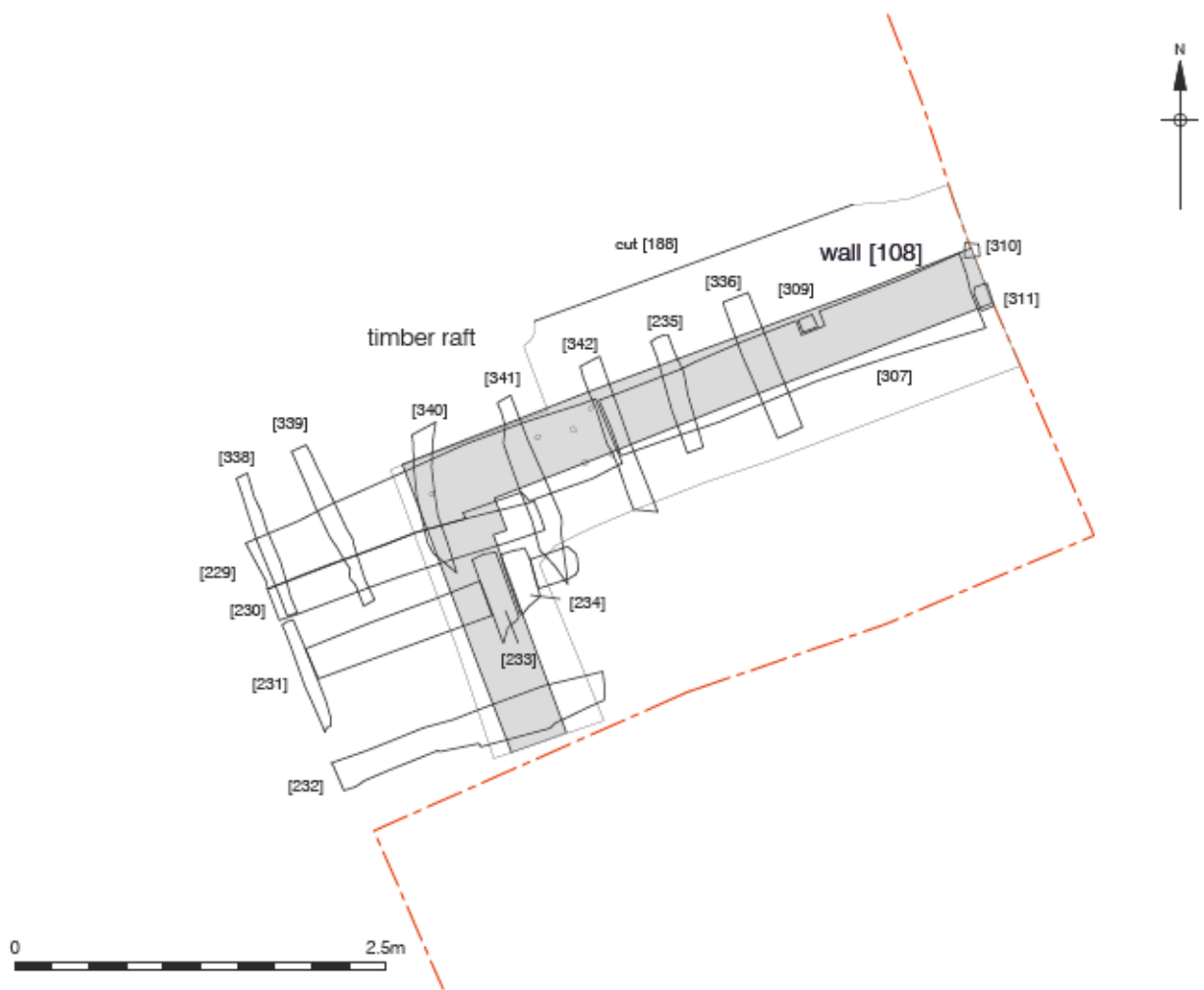
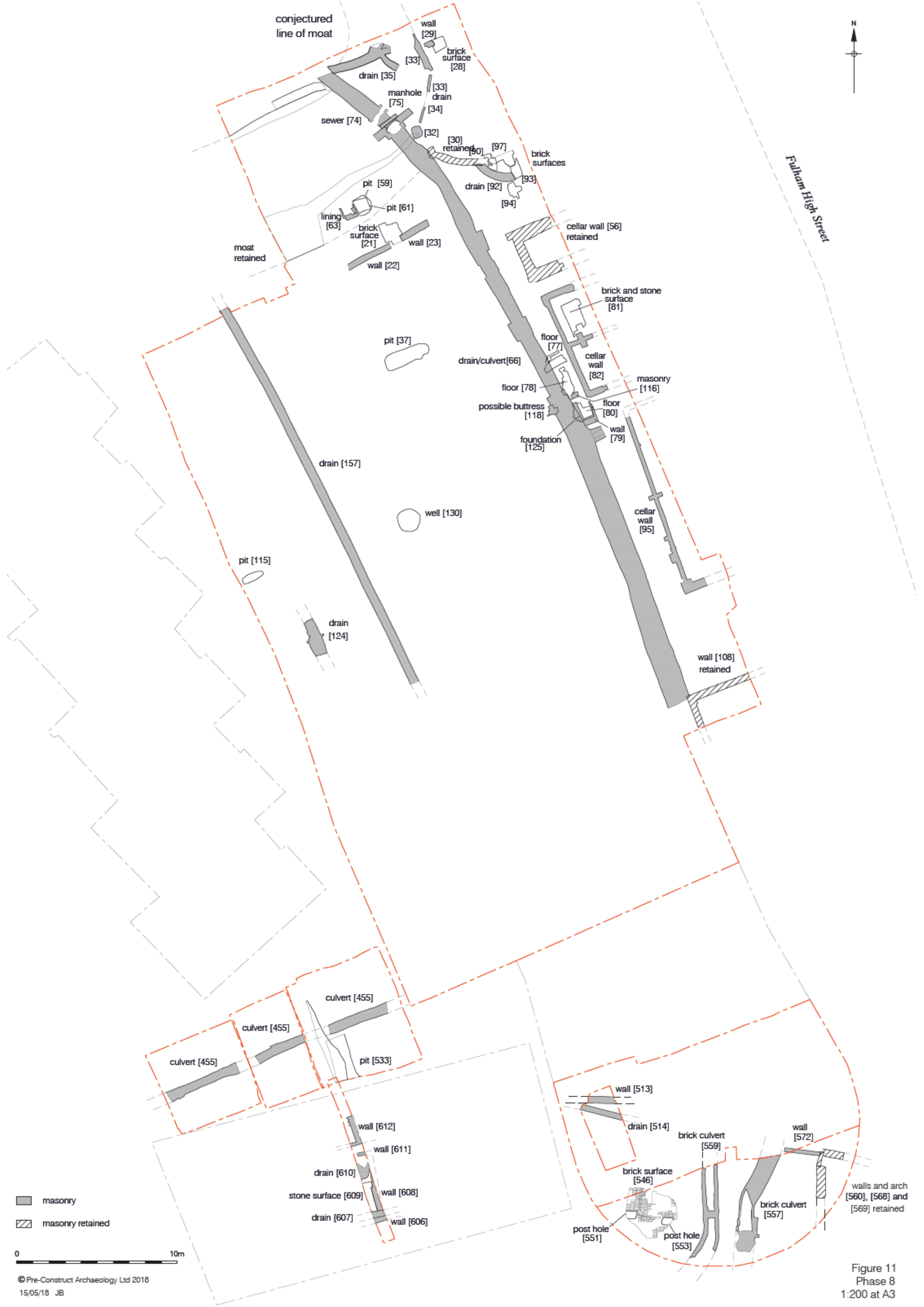


Figure 9
Phase 7
1:200 at A3



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Figure 10
 Phase 7 detail of timber raft and wall [108]
 1:50 at A4

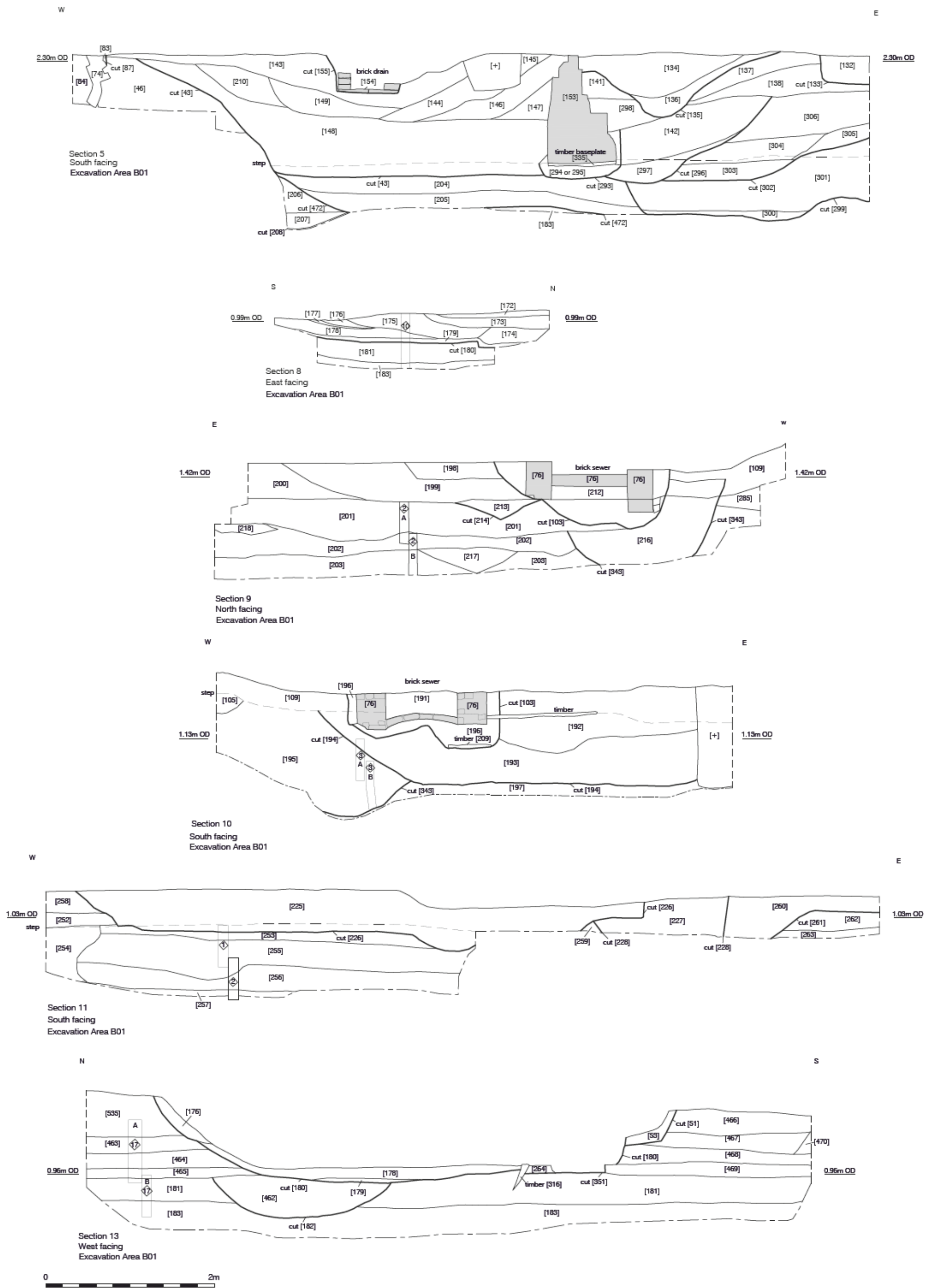


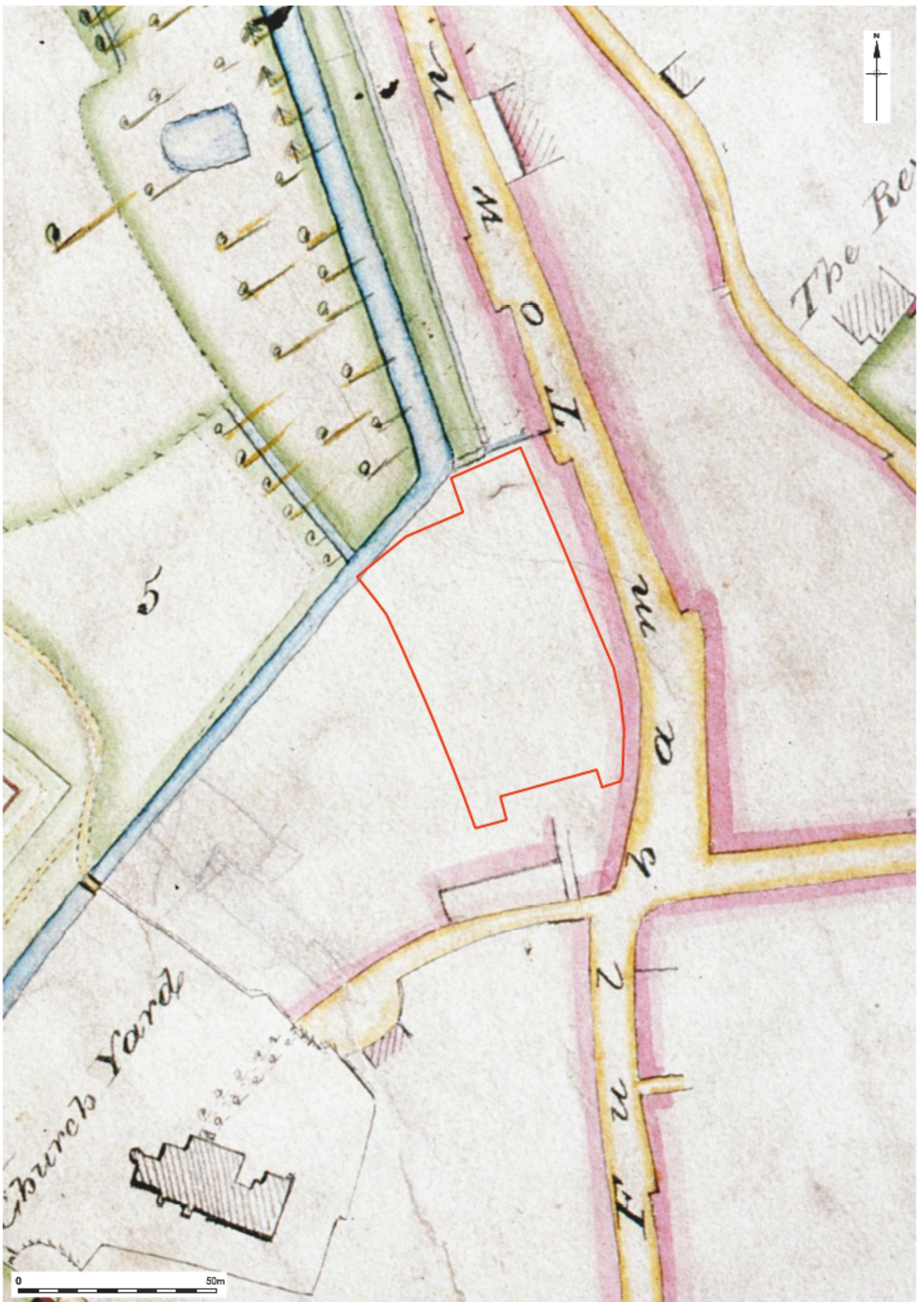
masonry
 masonry retained

0 10m

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Figure 11
Phase 8
1:200 at A3









Plates



Plate 1: Timber dam [530] - across the Fulham Stream, looking east



Plate 2: Timber dam [530], looking east



Plate 3: Multi-context aerial view of curvilinear moat, looking north



Plate 4: Curving brick revetment [349] for moat, looking east



Plate 5: Multi-phase shot of culvert [66], brick wall [108] and remains of timber structures, looking south-east



Plate 6: Close-up of brick wall [108] and remains of timber revetment, looking south-east.

Plate 7: Overall site shot of Fulham Stream and moat in relation to Fulham High Street, looking south.



Plate 8: Overall site shot of main excavation area; shows where the Fulham Stream and the moat intersect.





Plate 9: Large stone wall [558] in excavation area B02 - possible remains of cellar wall from an inn, looking west.



Plate 10: Cellar wall [82], brick and stone surface [81] from buildings fronting onto Fulham High Street, looking west.



Plate 11: Brick culvert [66], manhole [75] and later connecting sewer [74], looking south-east.



Plate 12: Brick culvert [455] - Attenuation Tank Excavation Area, looking east.



Plate 13: Timber structure [479], [480], [481] of possible causeway across the Fulham Stream, looking west



Plate 14: Collapsed remains of timber revetment [520], looking west.



Plate 15: Section through the moat - early deposits, looking east.

Plate 16: Alluvial deposits - watching brief area, looking north.



8 ARCHAEOLOGICAL PHASE DISCUSSION

8.1 Phase 1: Natural Sandy Gravel

8.1.1 Various natural sandy gravel deposits were recorded across all the excavation areas. These deposits were consistent with the known underlying geology of the site as described by the British Geological Survey as the Kempton Park gravel formation, sand and gravel, locally with lenses of silt, clay and peat. These sandy gravel deposits were recorded at highest levels of 1.29m OD and 1.18m OD to the north of the site and 1.05m to the south in B02B. However, they were also seen at levels between 0.42m OD and 0.73m OD across the western part of the site and 0.49m OD to 0.70m OD in the eastern central part of the site. All the observations of the natural sand were recorded in section and reflect largely truncated levels caused by the large number of stream channels and other water features across the site.

8.1.2 Layers of natural sandy clay were also recorded in this phase with possibly intrusive flakes of worked flint recovered from one deposit including an end scraper dated to the Mesolithic/Neolithic and a core dated to the Neolithic/Bronze Age. Given that previous archaeological investigations near the site found prehistoric artefacts it is not surprising that there were finds of a similar date on this site. These finds and other finds of a similar date show that there is prehistoric activity taking place in the vicinity of the site, but the nature of this activity is still unclear.

8.2 Phase 2: Natural Alluvium and Small River Channels

8.2.1 Alluvial deposits were recorded across the site together with several small natural channels which were observed in section. The alluvial deposits most likely represent flood deposits from the major channel that ran across the eastern part of the site, the Fulham Stream. Although it possible that flooding from the Thames may also be responsible for some of the alluvium was suggested by the diatom evidence of a brackish environment (see Appendix 14). The alluvial deposits and analysis of the environmental samples would suggest that the site was characterised as a tidal mudflat, prone to flooding with a large number of small streams running across it.

8.3 Phase 3: Natural River Channels / Fulham Stream and Flood Deposits

8.3.1 The evidence would suggest that a north-south aligned large feature was located across the eastern part of the site continuing beyond the eastern limit of excavation which may represent the Fulham Stream. In the central part of the main excavation area (B01) as seen in Sections 9 and 10 (Fig. 12) only the western edge of the feature measuring c.2.20m in width was

revealed as the eastern edge was cut by later phases of the channel which apparently had migrated to the east. However, at the north and south of the site a more complex sequence was revealed with up to three phases of natural channel revealed also apparently migrating to the east. Another smaller stream was also present to the west of the main feature and at least two gullies were also recorded in plan to the south of the site.

- 8.3.2 The presence of the stream channels, gullies and thick alluvial deposits would suggest that the area was low lying marginal land and prone to flooding as supported by the plants, snails, water flea eggs and diatoms and ostracods which preferred a wet environment (see Appendix 14).

8.4 Phase 4: Medieval

- 8.4.1 During the medieval period the area of the site lay just outside the now established Fulham Palace which lay within a large moated enclosure. The land was thought to be still characterised by a marshy, wetland environment during this period. This appeared to be the case across the vast majority of the site with no evidence of settlement activity encountered during this excavation but there is some evidence of medieval activity across the site.
- 8.4.2 The main north-south stream channel would have continued to occupy the eastern part of the site but it would appear that part of the stream was diverted to form a north-east to south-west channel to the east. This curvilinear channel reflects the alignment of the Fulham Palace moat as depicted on historic maps such as Rocque 1741-5, but it was thought to lie further to the west as shown on maps of the 19th century including the First Edition Ordnance Survey map of 1869 (Figs. 13-15). Pottery recovered from the fills would suggest that the feature was in use in the 13th/14th century. This date is significant since it was during the 13th century that the Palace itself was rebuilt outside the old homestead moat (Rodwell 1988; LBHF 1999, 10) and it may be that at the same time work on the moat was undertaken. The exact form that the moat surrounding Fulham Palace took during this period is difficult to determine as it has been investigated in so few locations and most of the time the results have given very little evidence of the medieval origins of this feature, with the significant exception of the medieval bridge (Bright 2014) and have told us more about its later maintenance and backfilling. It is possible this may be part of a double ditched moat as suggested by Rodwell to lie on the northern and eastern sides of the enclosure in the 13th century (Rodwell 1988, fig. 16) or that rather than representing part of the moat itself it represents a small section of man made ditch linking the main channel of the Fulham stream to the east to the moat to the west to provide water to both fill and clean the moat. The Estate Map of 1831 apparently shows such a narrow channel immediately to the north of the site (Fig. 13). It is also possible that it is part of another watercourse given that there are possible theories of a medieval water mill in the area (Rodwell 1988, fig. 16; LBHF 1999, appendix 9) this channel could have been part of a wider network of

mill-races and channels feeding this water mill. But given that the majority of mill races are straight and not curved; as any deviation from a straight course leads to loss of force to power the mill, it is less likely that a mill race is the purpose of this ditch.

- 8.4.3 Over to the western side of the site were a small cluster of features thought to be medieval quarry pits with some quarrying of the clay taking place as the pits don't go deep enough for gravel extraction. The main feature in this area of the site was a large square cut which may have been another larger quarry pit or could possibly be a pond. Fish ponds and other such features are often associated with large houses especially those located near to available water such as rivers and moats. A series of large ponds is depicted on the Rocque Map of 1741-5 within the northern part of the Fulham Palace moated enclosure. Fish was an important part of the medieval diet and a ready supply of fish from something like a fish pond would be an important feature in the landscape.

8.5 **Phase 5: Early post-medieval 1450-1600**

- 8.5.1 During the early post-medieval phase the management of both the main north-south stream channel and the moat was evident. It is highly likely that both the stream and the moat would have had some sort of general maintenance at various stages from the mid-16th century onwards. The moat especially would have been maintained in some form or another, although how often the maintenance occurred is subject to doubt as the moat is documented as containing stagnant water before 1618 when Dr Edwardes, Chancellor of the diocese of London left £10 'towards erecting a sluice to communicate with the river Thames, to preserve the moat from noisomeness' (Walford 1878).
- 8.5.2 The moat itself had evidence of a timber base plate thought to be part of a small bridge, which may have allowed pedestrian access from the palace grounds to the north onto the areas of land, probably open meadows/agricultural land, to the south. Lines and clusters of timber posts also hint at other kinds of management and use either associated with the bridge or possibly fish traps within the moat.
- 8.5.3 Evidence of the management of the stream came from more timber remains, which were confined to the far north-eastern part of the site where the stream and the moat met. The confluence of the moat and the stream seems to have been the primary focus of activity. This took the form of the remains of a collapsed north-south aligned revetment and an east-west pile and plank revetment across the stream channel. A post from the latter had a felling date of 1559-1583 which suggest that the structure was dated to the late 16th century at the earliest. The two revetments together may have helped to channel water into the curved channel 'moat' to the west but it is also possible that the east-west revetment formed a dam structure. The

planks of this structure exhibited signs of drilled holes through them which although suggesting that they were reused, may also indicate that they had been in fact deliberately selected to form some sort of filter arrangement to allow water to pass through the revetment to the south but trapping debris. It is also possible that this dam across the channel was designed to narrow the stream and improve the water flow perhaps to feed a mill to the south.

8.5.4 This concentration of timber structures at this northern end of the site could be associated with ownership and land division with Fulham Palace having to take responsibility of the management of the watercourses at this point as it directly affects the moat. Further to the south away from the moat there is no evidence of management of the stream during this period.

8.6 Phase 6: Post-Medieval 17th century

8.6.1 The moat seems to have no new evidence of direct management though some of the posts recorded in earlier phases could be associated with this phase. There would more than likely have been some general management of the moat as an open watercourse needed regular maintenance.

8.6.2 The north-south stream channel itself seems to have become more managed along its full length during this phase. The earliest finds recovered from the channel were dated to 1550-1600. The northern end where the stream and the moat met were still a focus of activity with the possible earlier dam now replaced by a more complex causeway structure. The remains recorded consisted of a series of three post and plank revetments one of which was set into baseplates which might suggest that at least two phases of construction occurred. It is thought that the flow of water south in the channel may have been continued either through a pipe or open narrow spaces within this structure to the east of the observed remains. Directly south of this causeway were the remains of a collapsed revetment which contained a post felled sometime after 1563 which provided further evidence of land management or reclamation on bank of the stream.

8.6.3 Further south along the western bank of the stream channel were north-south alignments of timbers posts which together with the remains of an in-situ timber revetment to the south might suggest that the whole western bank of the stream may have revetted and consolidated at this time.

8.6.4 The east-west (moat) channel was recut at this time with its fill containing pottery dated 1620-40 and clay tobacco pipe dated 1660-80 which suggests an early 17th-century date for the recut. This may have been part of the cleaning of the moat as part of the work which took place after 1618 with the construction of a sluice to the south (see above).

8.6.5 The evidence of more general settlement activity, maybe indicative of the wider development

of Fulham during the 17th-18th century, can be seen in the excavation area furthest to the south which had evidence of brick-lined cess pits and wells which were probably located in the backyards of properties starting to develop along Fulham High Street. Evidence for these properties came from the large stone and brick wall located in this area of site, which is thought to be a substantial building, possibly the remains of the cellar wall of an inn. The wall contained several pieces of reused medieval worked stone which may have originated from the church.

8.7 Phase 7: Post-Medieval 18th century

8.7.1 The wider area of Fulham seems to have developed more formally by the middle of the 18th century and this seems to be reflected on the site. There is evidence that the north-south stream had mostly been infilled either by dumping of material to reclaim the land, natural silting or a combination of the two. It is possible that the remains of this water course may have been no more than a narrow ditch possibly on the line of the later culvert which had removed all trace of it or else the surviving stream lay further east towards the high street perhaps flowing through a roadside ditch.

8.7.2 During this phase buildings started to appear where the course of the stream once ran along the eastern side of the site. The structure to the south was constructed on a timber raft in order to provide a firm foundation for the building on the soft waterlogged fills of the stream.

8.7.3 The curved east-west channel to the north was still a retained feature in the landscape with the curving bank to the east supported with a solid brick structure.

8.7.4 Activity across the site was less intense away from Fulham High Street with just a few pits and brick lined wells. Map evidence shows that horticultural and areas of light agriculture were developing within the western parts of the site while there was no clear evidence of informal garden plots or individual planting features these scattered pits might be associated with gardening activity.

8.8 Phase 8: Post-Medieval 19th century

8.8.1 This phase saw activity across the whole site with the development of buildings along the eastern and southern parts of the site and the construction of a local drainage system within brick culverts.

8.8.2 Much of the eastern side of the site was now developed with a series of brick cellars representing the rear of structures that would have fronted Fulham High Street (Fig. 15).

8.8.3 A large brick culvert ran along the course of the former north-south stream channel to the rear (west) of the buildings. This watercourse had by now been completely replaced on the site with

this municipal drainage system. At the northern end of this culvert there was evidence of a brick sluice which may have managed the flow of waste water between the culvert and the moat. The latest fills of the east-west channel were dated to the early 19th century with the pottery dated to the mid 19th century and the clay tobacco pipe to the 1830s suggesting that the feature had gone out of use by that date. After that it was bypassed with an additional section of brick culvert.

- 8.8.4 Scattered evidence of various forms of drainage was recorded along the eastern and southern parts of the site that seem to be from individual properties. These drainage remains all seem to be feeding into the main north-south brick culvert.
- 8.8.5 Across the rest of the site the features were less associated with buildings and maybe reflect the development of the horticultural activities such as market gardening discussed in the previous phase and seen on cartographic sources. There were the remains of a small brick structure which could be an out-house and small pits and cut features which could be associated with planting and irrigation.

9 ORIGINAL RESEARCH AIMS AND OBJECTIVES AND REVISED RESEARCH QUESTIONS

9.1 The Historic England (then English Heritage) brief (King 2013) and the project design (Dillon 2014) highlighted the following research aims and objectives. The list below is adapted from those research aims and is addressed accordingly:

Paleoenvironment, topography and hydrology

- **What is the evidence for different gravel sequences on the Site, and can an understanding of the interface between these gravels be established?**

9.2 The Natural Gravel Formation was recorded at various locations across the site at highest levels of 1.29m OD and 1.18m OD to the north of the south and 1.05m to the south in B02B. However, it was also seen at levels between 0.42m OD and 0.73m OD across the western part of the site and 0.49m OD to 0.70m OD in the eastern central part of the site. All the observations of the natural sand were recorded in section and reflect largely truncated levels caused by the large number of stream channels and other water features across the site.

- **What is the evidence of the presence and course of the Fulham Stream? Are any of these associated deposits and fills dateable, and what could these deposits tell us about the formation, hydrology, nature, extent, profile, composition of the fills and course of the stream?**

9.3 There is very strong evidence for the presence and course of the Fulham Stream. The channel running north-south down the eastern side of the site is thought to be that watercourse. There is some evidence that it has changed its course over time with; a slight drift to the east. Only the western bank was visible so it was not possible to capture its full profile. This stream was open and at some points managed for a considerable amount of time by means of timber revetments; it has therefore been influenced and affected by natural and man-made processes. Many of the fills of the channel were undated and radiocarbon dating of organic remains within the fills have been commissioned. The earliest pottery from the channel was dated to 1550-1600 with its final fill dated to 1775-1830.

- **Do any of the fills or evidence for stream banks indicate anthropogenic modification or input?**

9.4 The fills and the stream banks do show evidence of anthropogenic modification and input especially during the post-medieval periods. Through the remains of timber revetments, dams and simple bridges along its banks as well as some periodic cleaning of the stream itself and backfilling for land reclamation.

- **What evidence is there for the environmental conditions of the site as a whole in relation to the presence of this watercourse, considering the sequence of alluvial and floodplain deposits?**

9.5 It is thought that the general conditions of the site as a whole would be fairly waterlogged especially to the west of the Fulham Stream as thick alluvial deposits up to 1m thick were revealed. These conditions would be partly created by flooding from the stream itself but also possibly by some flooding from the Thames. Evidence from flood deposits and layers of alluvium have shown that a stable land surface was not created until as late as the mid-19th century in parts of the site. Evidence of a wet environment is also provided by the presence of such plants as nettles, duckweed, pondweed and water-milfoils, freshwater snails, waterflea eggs and both diatoms and ostracods. The environmental evidence is presented in depth in Appendix 14.

- **What evidence is there to indicate that the site lay in a marshy area, and can any phasing be established which can be used to understand the environmental conditions within the site over different periods?**

9.6 Environmental indicators from the samples taken across the site have given us evidence of the marshy conditions of the area. More detailed phasing of this sequence over time is challenging given the variety of processes influencing how those deposits have formed and survived. However, it is known that a large portion of the site was fairly marginal for a long period of time with only the latter parts of the post-medieval period giving us strong evidence that the area was becoming stable through management of the various channels and the reclamation of some of the marshy ground. Assessment of the environmental samples has provided evidence of a wet environment with the presence of such plants as nettles, duckweed, pondweed and water-milfoils, freshwater snails, waterflea eggs and both diatoms and ostracods. The environmental evidence is presented in depth in Appendix 14.

- **What is the evidence for seasonal flooding, overbank deposits and inundations from the nearby moat?**

9.7 The main eastern moat of Fulham Palace lay to the west of the site and it is possible that the section of east-west channel that lay in the north-west part of the site may be part of the moat or a double moated system. The alluvial deposits across the western part of the site are evidence of flooding but separating the flood deposits from the moat, the north-south stream and the Thames is very difficult to determine. The amount of alluvium across the site is probably due to the presence of several watercourses in a relatively small space. How this compares to flooding in the nearby Palace grounds which are adjacent to the moat would need to be investigated but this has not been the subject of much archaeological investigation. The

evidence from the diatoms would suggest a mixture of both brackish and fresh water on the site which might suggest a tidal mudflat environment caused by both flooding from the river Thames and from the north-south stream channel (Fulham Stream). The environmental evidence is presented in depth in Appendix 14.

Prehistoric

- **What was the environment of the site like over the prehistoric period?**

9.8 During the prehistoric period the site would have been low lying and marshy. With small river channels running across the site. Further study of the geo-archaeological record will provide a more accurate picture of this environment with possible radiocarbon dating of deposits refining the dating of the deposits.

- **Is there any evidence for buried prehistoric land surfaces?**

9.9 Some residual struck flints of prehistoric date were recovered from the site but no in situ prehistoric deposits were encountered.

- **What is the evidence for redeposited material? What does this material suggest in relation to prehistoric land use?**

9.10 A small quantity of prehistoric lithics were recovered residually from later deposits across the site. This accords with the findings within the Fulham Palace moated enclosure where a quantity of Mesolithic and Neolithic have been found together with residual sherds of Neolithic, Bronze Age and Iron Age pottery (Arthur and Whitehouse 1978; Bright 2014).

- **Are there any remains which would be capable of answering research questions about the putative prehistoric routeway and river crossing?**

9.11 The wider environmental and topographical evidence have shown that the site was a low lying marshy environment that could relate to access to the river and its crossing which could be reconciled with some kind of landscape modelling but on a more specific level no direct evidence of a prehistoric routeway or river crossing was seen or recorded.

Is there any evidence for prehistoric metalwork from the site?

9.12 There is no evidence of prehistoric metalwork from the site.

Roman remains

- **Is there any evidence for Roman occupation or landuse?**

9.13 There is no direct evidence for Roman occupation or land use but fragments of residual Roman CBM and pot sherds in some contexts suggest that there was some Roman activity taking place in the wider landscape, most likely centred on the walled garden area of Fulham Palace.

- **Is this evidence disturbed by later activity (such as ploughing)?**

9.14 There were no signs of Roman cut features or occupation layers to be disturbed by later activity.

Early Medieval remains

- **What are the origins of Fulham? Can evidence of Saxon remains be uncovered relating the moated site of Fulham Palace and its earthworks or is there possible evidence of continuity from an earlier period?**

9.15 No direct evidence of Saxon activity was recorded during this excavation but some of the environmental evidence recorded and gathered may be able to contribute to a wider understanding of the environmental conditions and the landscape during this period if relevant dating can be acquired.

- **Is there any evidence of a Viking presence within the area of Fulham Palace? How does this evidence contribute to our understanding the role of Vikings and settlement in the London region?**

9.16 During this excavation no evidence of a Viking presence was encountered within the area.

- **Can we date the alluvial sequence and how does it inform our understanding of the environment in the early medieval period?**

9.17 Samples were taken from the channel fills for radiocarbon dating with the results still awaited. Further samples could be taken from alluvial deposits if organic material is present to attempt to date alluvial deposits.

Medieval remains

- **What is the evidence for remains within the site which could further understanding of the Fulham Palace moat?**

9.18 The curvilinear channel excavated and recorded in the far northern part of the main excavation area has been interpreted as either a section of the moat itself, part of a double moat as suggested by Warwick (1988) or a channel feeding water from the large north-south stream to the Fulham Palace moat. This feature has furthered our understanding of this enigmatic earthwork. We know that the moat has at least early medieval origins and was probably the

adaption of a natural feature that has a direct connection with the Fulham Stream either as tributary or a modified channel. There is also evidence of modifying and management of this structure over time.

- **Is there evidence for seasonal flooding, overbank deposits and inundations on the site from the nearby moat?**

9.19 There is quite a complex sequence of alluvium and flood deposits on site and some of it may be evidence of flooding from the moat, see Appendix 14.

- **How do any such deposits contribute to the understanding of the Scheduled monument?**

9.20 The waterlain nature of the site which is immediately adjacent to the eastern moat of Fulham Palace and the evidence of diversion of water from the Fulham Stream to the moat would suggest that the moat was filled with water during periods of its life, whether it was flowing or stagnant. It is probable that there were many episodes of flooding within the Palace grounds both from flooding from the moat and the river Thames as suggested by the diatom evidence with both brackish and freshwater environments being present (see Appendix 14).

- **What was the date, nature and function of medieval activity on the site and does the structural evidence indicate the status of the occupants?**

9.21 A lot of the medieval activity encountered on the site is focused around the moat which was dated to the 13th/14th century but there were other features on site that are thought to provide evidence of medieval activity. A handful of pits provided a few sherds of medieval pottery and a large square pit thought to be a pond might relate to the Palace. The main area of the site would have been considered marginal in the wider environs of Fulham Palace and the settlement of Fulham.

- **Can the masonry previously recorded as being re-used in later foundations be connected with the nearby church? How does this re-use contribute to understanding the site and historic Fulham, in both the medieval and post-medieval periods?**

9.22 Further medieval masonry reused in a post-medieval wall was recovered from the site. It is possible that stone comes from Fulham church although other possibilities exist (see Appendix 8). Further research may determine if the stone is definitely from the church. In terms of understanding Fulham through this re-use it is interesting that there is a continuity of building material through the medieval and post-medieval period. A ready source of building material is often reused in the foundations of much later buildings (cf. reuse of church masonry at Rainham and Sittingbourne in Kent; Boyer 2014; Holden & Butler 2014). If the stone has come from further up the river which is one of the origin theories of this stone, it shows Fulham's connection with the river as a communication route and its wider setting with the rest of London.

Post-medieval

- **What evidence is there from post-medieval structures and artefacts on the site that reflect the development of Fulham?**

9.23 Numerous post-medieval artefacts and structures were recorded on site that reflected the development of this particular part of Fulham. The refining of the date of the buildings will help to determine when this part of Fulham became reclaimed from the flooded environment and occupied. The various water courses of the moat and the stream were managed and maintained throughout the late post-medieval period and were important for drainage and managing the waste of the rising domestic population. The complete overhaul of the drainage systems in the area reflect the changes going on in the wider landscape.

- **Is there any evidence relating to the Fulham Pottery?**

9.24 A quantity of pottery from the Fulham Pottery was recovered from the site including both wasters and kiln furniture suggesting that this marginal land was used to dump waste material from the Pottery.

- **Is there any evidence for the Inns recorded as being located on the site in documentary sources?**

9.25 There is a strong possibility of an Inn located on the site or very nearby. Although the pottery assemblage is a typically domestic assemblage there is a high proportion of drinking vessels that could relate to a tavern or inn on the High Street. The large wall recorded in the southern area of the site could also relate to the cellar of an inn or tavern. Further study of the documentary sources will be undertaken to confirm this.

- **Is there any evidence for other activities such as shops and markets in the area?**

9.26 There is no direct evidence of shops and markets at this stage of the project but again a closer look at the documentary sources could maybe provide some insight into the ownership of the remains of properties recorded fronting onto Fulham High Street which could reveal that shops were located in those buildings.

- **What is the evidence of post-medieval alluvial quarrying and its impact on earlier deposits?**

9.27 There is some evidence of alluvial quarrying during this period as there are a number of pits across the western side of the site that could have fulfilled this function. This would appear to have very limited impact on earlier deposits as there was no evidence of buried earlier landscapes.

- **What evidence for 18th-19th century market gardening in the western side of the site as suggested by the historical maps?**

9.28 In the far northern part of the excavation area there was some evidence of market gardening taking place. Although no evidence of formal garden features or clearly defined planting plots was found there were remains that could be related to market gardening such as outbuildings, informal planting beds and possible irrigation features. There was also a distinct garden soil across that part of the site that had fragments of flower pots recovered from this deposit and a quantity of window glass possibly from greenhouses was also found on the site.

9.29 The results of the archaeological excavation raised several new research questions relating to the archaeological remains uncovered.

- Can the formation of the earlier paleo-environment; the stream channels and the alluvium be determined?
- Would landscape/deposit modelling help to understand these early site formation processes?
- Can the alluvium sequence be more precisely understood with comparison to other sites in the upper floodplain of the Thames valley?
- Can a more accurate understanding of the flooding be determined and how much it is influenced by the Thames?
- Can documentary research help to further understand the origins, course and management of the Fulham Palace moat? Are there any historical references to its relationship with the Fulham Stream?
- Through old maps and other sources can the course of the Fulham Stream be traced?
- Can the phases of management along the Fulham Stream and the motivations behind them be better defined?
- Are there any cartographic or archive sources that can inform on the use and ownership of buildings fronting onto Fulham High street?
- Can these same resources help to determine the nature of the large stone wall and the building it belonged to, as well as the likely source of the re-used medieval stone?
- Can local boat building records help to identify the timbers re-used in the structures found on site including; the likely source of the timber and the vessel that they used to be part of?
- Can a precise year be determined for the back filling of the moat and was it all back filled at different times in different locations?

- Can the development of Fulham High Street be more accurately defined based on comparisons with sites in the wider area?
- Can the changes of the Fulham Stream and its deliberate infilling with the development of Fulham High Street be better dated?

10 IMPORTANCE OF THE RESULTS, FURTHER WORK AND PUBLICATION PROPOSALS

10.1 Importance of the results

10.1.1 The location of the site adjacent to the Scheduled Ancient Monument of the moated enclosure of Fulham Palace makes the results from the archaeological investigation of great significance.

10.1.2 The north-south channel which is most likely the Fulham Stream is of local importance as it is a water course that very little is known about, so any information regarding its origins, location and management is of significance.

10.1.3 The medieval origins of the moat are very important to the understanding of the ancient scheduled monument of Fulham Palace and will have local and maybe some regional importance. Whether the east-west channel is part of the moat system itself or is a channel dug to allow water from the north-south channel to flow into moat it is a significant finding.

10.1.4 The origins of the feature and different phases of recutting and consolidation of the banks are of importance and may be possible to link to events of rebuilding and work within the grounds of Fulham Palace.

10.1.5 If the large square feature is a fish pond and served the palace this will have local importance in relation to the wider landscape of the palace.

10.1.6 The timbers used in the various structures to manage the Fulham Stream are re-used boat timbers and have local and regional importance in the understanding of the construction, use and re-use of Thames river vessels of this type (see Appendix 11).

10.1.7 The structural evidence of buildings on site will help to determine how Fulham developed, when this part of the settlement became occupied and what form the buildings took and is thus of local importance.

10.1.8 The assemblage of pottery, wasters and kiln furniture from the Fulham Pottery is of local importance and adds to previous published evidence (Green 1999).

10.2 Further Work

10.2.1 A refining of the phases of the development of the paleo-environment will be attempted including the river channels that became the moat and the Fulham Stream together with the alluvial sequence across the site. The use and disuse of both the Fulham Stream could be better understood with a refining of the phases associated with its fills and the timber structures.

10.2.2 Further documentary and cartographic research needs to be undertaken on Fulham High Street

to understand the buildings and its occupants which were encountered on the site.

Pottery

- 10.2.3 In addition to providing dating evidence for the features from which it was recovered, the primary significance of the assemblage is local, specifically arising from the information it can provide about the inhabitants of this part of Fulham, particularly during the post-medieval period. Further work should include closer look at the distribution of the pottery and what this may be able to tell us about activities taking place in different areas of the site, how these change over time and if they can be related to any documented establishments or households on, or in the vicinity of site. It will also be important to look at the changing ceramic profile over time and what might be concluded about the socio-economic status of the end users. The assemblage should be considered alongside the other finds from site, most notably the glass, and should be set in context with other contemporary assemblages in Fulham, both from the Palace and the broader settlement. A parallel should also be sought for the pipeclay robed figurine to try and establish if it represents a devotional icon, or something more secular, and if the head was more likely to have been accidentally or deliberately removed. Up to 40 illustrations or plates will be required, although some of these will be group photographs.

Kiln structure and furniture

- 10.2.4 The kiln structure and furniture recovered from site is largely comprised of well-paralleled types and as such no further work is recommended. A brief summary of material should be included in any publication, possibly accompanied by one or two group photographs of the types represented.

Flint

- 10.2.5 The struck flint assemblage has been comprehensively catalogued and no further analytical work is recommended. Nevertheless, it does demonstrate prehistoric activity at the site. The palaeo-topography, Mesolithic/Neolithic finds from earlier excavations and additional work could provide interesting insights in the palaeo-environment and human activities in this area. The assemblage reported here should be re-documented in conjunction with additional flintwork from other sites in the vicinity such as Fulham Palace.

Glass

- 10.2.6 It is recommended that a short publication text is prepared on the glass and that this should be

supplemented with six illustrations and five photographs of the vessels.

Clay tobacco pipe

- 10.2.7 It is recommended that a publication report is written on the clay tobacco pipe assemblage. Additionally, the report should indicate what was marketed or distributed from elsewhere to this locality. It is recommended that seven bowls are illustrated to supplement the text.

Metal and small finds

- 10.2.8 Metal and small finds potentially provide key elements of domestic material culture and activities related to the investigated site, and relevant objects should be included in any further publication of the site. This should include also finds from the later post-medieval period, a time that is still frequently neglected in archaeological publications. For this purpose, some finds will require x-raying and further identification. Following publication, iron nails and undiagnostic metal may be discarded.

Ceramic building material

- 10.2.9 It is recommended that a publication report is produced examining the types of construction materials (brick, mortar, roofing tile, floor tile) used in the structures associated with the post-medieval expansion of this part of London. The tin glazed tiles and some Roman fabrics were retained and require photography and illustration at publication.

Stone

- 10.2.10 At publication it is recommended that accurate line drawings of at least two of the elements, the simple chamfered mullions and the flowing bar tracery are included. The former also has distinctive mason's marks. A section summarising the petrology and art-historical style of the architectural elements should be included as well as suggesting an origin for these elements.

Animal bone

- 10.2.11 It is recommended that further work be done on the post-medieval material in order to ascertain the eating habits of the nearby 18th century and early 19th century households (here bringing in the age data) as well as providing further data for the ongoing research concerning size changes in 18th/19th century domestic stock. The fish collection is clearly worthy of a detailed investigation, particularly searching for any comparable collections.

Timber

10.2.12 Two main foci appear obvious for the further analysis of the historic woodwork found and recorded from this site. Firstly, further analysis will help to reconstruct the appearance and likely functions of several of the structures set within the context of local tidal levels and historic water management. Secondly, the reused river barge timbers shed light on two distinct traditions of building such craft local to the Thames region and with further study and comparison with other recent finds from recent river bank excavations it should be possible to better reconstruct both types of vessels and the work of their builders in detail.

10.2.13 The identification of the 4 tarred hair and 2 paint samples would be useful, targeted documentary research on two themes would be useful, the management of the watercourses (Commissioners of sewers?) over the last 500 years and secondly the whereabouts and periods of operation of local barge building, repair and breaking yards. To graphically reconstruct some of the key structures and the evidence for a timber moat bridge and the partial dam/ causeway and checking the relevant OD levels of other structures could enable the management of the historic water channels to be investigated in relation to the adjacent tidal Thames. To provide targeted description of several key reused barge timbers and hull sections and set them into context and graphic reconstructions of both western barge type vessels, and clinker-built barges. The builders of both types of craft were to some extent rivals in the earlier post-medieval period though by the industrial period evolved forms of western barges had completely replaced the more ancient clinker-built vessels.

Environmental samples

10.2.14 An assessment of the environmental samples from Fulham High Street has indicated that the potential for recovery of ecofacts is significant on this site, both in terms of the bulk and the column samples, and that there is significant value to be had from a multi-proxy study of these remains with regard to enhancing our understanding of the sedimentary history and environment of the site and the surrounding landscape.

10.2.15 Additional environmental analysis is therefore recommended as follows: (1) Analysis of selected pollen and diatom samples from columns <2> and <11> and counting to publication standard, with a sample resolution of 5cm; (2) analysis of the sedimentology and environmental remains in selected samples from the remaining columns <3>, <10>, <13>, <16>, <17> with emphasis on the pollen and diatom record as only two samples could be selected for assessment; (3) a targeted programme of radiocarbon dating from suitable sediments to improve the chronological model for the environmental sequences on site; (4) analysis of the

malacological record if suitable contiguous samples are available; (5) particle size analysis on selected column samples, as this may enhance our understanding of the formation processes that may have created the channels and 'ponds' identified on site; (6) paraffin floatation of a sub-sample of the cess material from sample <20> to assess the potential for recovery of parasite eggs and cysts and (7) and a full analysis of the seeds and plant material contained within the ten viable bulk samples in order to better understand land use, diet, and environmental conditions across the occupation of the site. In addition, it may be suggested that samples for diatom analysis also be submitted for a study of the ostracods they may contain, as this is a suitable complimentary technique.

10.3 Publication Proposal

10.3.1 The results of the archaeological excavation will be published as an article in a peer review journal such as *Transactions of the London and Middlesex Archaeological Society*. This article will concentrate on the archaeological remains recorded of all periods and focus particularly on the paleo-environment of the site the development of the Fulham Stream and the moat as well as the alluvial sequence. The management of the stream and the moat throughout the post-medieval period and the development of the site and how it relates to the development of Fulham in its wider context. A section about the re-used timbers in the structures and the possible boat types they originally came from will be included. The format of the publication will follow that of a typical publication report:

- Abstract
- Introduction
- Geological and topographical background
- Archaeological background
- Archaeological evidence, by phase
- Documentary and cartographic evidence
- Finds assemblage reports
- Discussion

The illustrations will include:

- Location plans
- Phase plans
- Plans of features and groups of features
- Sections
- Photographs
- Finds illustrations

11 CONTENTS OF THE ARCHIVE

11.1 Paper Records

Context Sheets	624 sheets
Plans	750 sheets
Sections	51 sheets

11.2 The Finds

Pottery	35 boxes
Animal Bone	8 boxes
Fishbone	1 box
Ceramic Building Material	11 crates
Stone - architectural	30 fragments
Clay Tobacco Pipe	2 boxes
Glass	7 boxes
Metal and small finds	130 objects
Leather	1 box
Lithics / Flint	1 box
Timber	84 pieces
Environmental samples	13 bulk samples & 7 column samples

11.3 Digital archive

Photographs	1,227 digital images
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APPENDIX 1: CONTEXT INDEX

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
21	Masonry		B01	Brick surface	1.55	1.15	0.06	2.87	2.86	8
22	Masonry		B01	Brick wall	2.8	0.35	0.4	3.22	2.91	8
23	Masonry		B01	Brick wall	1.9	0.35	0.4	3.07	2.94	8
24	Fill	43	B01	Fill of [43]	4	4	1.4	2.49	2.14	8
25	Fill	27	B01	Backfill of drain [26]	2.1	1.1	0.35	2.55		7
26	Masonry	27	B01	Brick drain	2.1	1.1	0.35	2.55	2.23	7
27	Cut		B01	Construction cut for drain [26]	2.1	1.1	0.35	2.63	2.27	7
28	Masonry		B01	Brick surface	0.8	0.8	0.06	2.34	2.17	8
29	Masonry		B01	Wall remains	0.6	0.4	0.06	2.4		8
30	Masonry		B01	Brick remains - drainage	2.6	0.6	0.2	2.54	2.24	7
31	Masonry		B01	Brick remains - drainage	2.5	0.4	0.2	2.47	2.38	7
32	Masonry		B01	Brick remains - drainage	0.7	0.7	0.2	2.52	2.51	8
33	Masonry		B01	Brick remains - drainage	1	0.15	0.15	2.47		8
34	Masonry		B01	Brick remains - drainage	1	0.15	0.15	2.52		8
35	Masonry	38	B01	Brick drain	4.2	2	0.32	2.48	2.16	8
36	Fill	37	B01	Fill of pit	2.9	1	0.31	2.63	2.59	8
37	Cut		B01	Cut of pit	2.9	1	0.31	2.63	2.32	8
38	Cut	35	B01	Cut of drain	4.2	0.58	0.5	2.37	1.87	8
39	Fill	41	B01	Upper fill of pit Recorded in section	1.1		0.2	2.49		8
40	Fill	41	B01	Primary fill of [41] Recorded in section	1.05		0.75	2.39		8

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
41	Cut		B01	Cut of pit Recorded in section	1.1		0.9	2.49	1.59	8
42	Fill	43	B01	Fill of [43]	12	4	1.4	2.49	2.14	8
43	Cut		B01	Cut of pit	12	4	1.4	2.49	0.99	6
44	Fill	45	B01	Fill of pit [45]	0.7	0.7	0.85	2.49		6
45	Cut		B01	Cut of pit	0.7	0.7	0.85	2.49	1.84	6
46	Layer		B01	Clay alluvium - Flood deposit	9.2	3	0.6	2.49		3
47	Natural		B01	Natural sand Recorded in Section			0.05	1.29		1
48	Fill	51	B01	Upper fill of [51]	1.15	1.15	0.7	2.19		5
49	Void		B01							
50	Fill	51	B01	Backfill associated with masonry [53]	2.2	0.35	0.8	1.84	1.79	5
51	Cut		B01	Construction cut for masonry [53]	2.2	0.5	1.1	2.19	1.29	5
52	Fill	51	B01	Fill of disused drain [53]	1	0.4	0.3	1.29		5
53	Masonry	51	B01	Brick	1.35	0.4	0.3	1.39		5
54	Layer		B01	Layer of alluvium Recorded in section	1.4		0.2	1.09		2
55	Layer		B01	Clay layer - flood deposit Recorded in Section	1.5		1	2.44	2.24	5
56	Masonry		B01	Brick wall - part of cellar / basement	3.35	2.27	0.62	2.64	2.22	7
57	Layer		B01	Layer of Late 19th century made-ground	47	26				8
58	Fill	59	B01	Fill of pit [59]	1.16	1.05	0.36	2.8		8
59	Cut		B01	Cut of pit	1.16	1.05	0.36	2.8	2.44	8
60	Fill	61	B01	Fill of pit [61]	0.87	0.74	0.27	2.44		8
61	Cut		B01	Cut of pit	0.87	0.74	0.27	2.44	2.22	8

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
62	Fill	65	B01	Backfill of masonry [63]	0.94	0.8	0.3	2.59		8
63	Masonry	65	B01	Brick lining	0.85	0.83	0.55	2.83	2.22	8
64	Fill	65	B01	Construction backfill of [65]	0.53	0.2	0.51	2.83		8
65	Cut		B01	Construction cut for masonry [63]	1.06	0.94	0.6	2.8	2.2	8
66	Masonry		B01	Large brick sewer	40	1.3	0.8	2.65		8
67	Fill		B01	Rubble fill within drain [66]		0.8	0.5	2.25		8
68	Fill		B01	Fill within brick drain [66] Recorded in Section		0.8	0.25	1.75		8
69	Fill		B01	Silty fill within base of brick drain [66] Recorded in Section		0.8	0.15	1.4		8
70	Fill		B01	Backfill associated with construction of [66]		0.3	0.3	2.5		8
71	Fill		B01	Backfill associated with construction of [66]		0.15	0.15	2.2		8
72	Layer		B01	Clay dump deposit		0.1	0.2	2.05		8
73	Layer		B01	Dump deposit		0.3	0.65	2.45		8
74	Masonry		B01	Circular brick sewer	5	1.2	1.05	2.5	1.45	8
75	Masonry		B01	Brick manhole / sluice gate	1.3	0.26	1.14	2.62	1.47	8
76	Masonry		B01	Brick sewer	40.5	1.4	1.5	2.81	1.39	8
77	Masonry		B01	Brick surface	1.5	1.05	0.65	2.91	1.86	8
78	Masonry		B01	Stone surface	2.08	0.82	0.8	2.93	2.89	8
79	Masonry		B01	Brick wall	1.95	1.38	1.45	3.07	2.92	8
80	Masonry		B01	Stone floor inside [79]	1.16	0.8	0.8	2.64		8

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
81	Masonry		B01	Brick and stone surface	2.1	1.2	0.2	2.35	2.29	8
82	Masonry	102	B01	Brick wall - cellar / basement	6.95	2.15	0.78	3.01	2.92	8
83	Fill	87	B01	Construction backfill sealing sewer - [74]	5	1.2	0.9	2.5	1.53	8
84	Fill	74	B01	Construction backfill	5	0.65	0.6	2.03	1.48	8
85	Fill		B01	Construction backfill	5	1.2	0.25	1.63	1.53	8
86	Fill	43	B01	Backfill of [43]	5	1.2	0.05	1.42		7
87	Cut		B01	Construction cut associated with [74]	5	1.2	1.08	2.53	1.42	8
88	Fill	89	B01	Construction backfill of drain	1.3	0.6	0.85	2.47		8
89	Cut		B01	Construction cut for drain	1.3	0.6	0.85	2.47	1.62	8
90	Masonry		B01	Brick surface	1.2	0.6	0.1	2.47	2.44	8
91	Layer		B01	Bedding layer for brick surface [90]	1.2	0.6	0.15	2.47	2.32	8
92	Masonry		B01	Brick drain	2	1.76	0.23	2.45	2.22	8
93	Masonry		B01	Brick surface	1.2	0.55	0.2	2.45		8
94	Masonry		B01	Brick surface	1.1	0.84	0.2	2.4	2.32	8
95	Masonry		B01	Brick wall for basement / cellar	11.8	1.45	1.46	2.79	1.33	8
96	Fill		B01	Backfill of eastern ditch / channel	46	7				8
97	Masonry		B01	Brick Surface	1.6	1.15	0.09	2.41	2.32	8
98	Fill		B01	Backfill (construction cut not recorded)	1.8	0.65	1.2			8
99	Fill		B01	Post-demo backfill of brick sewer	40	1.5				8
100	Layer		B01	Dark layer		0.35	0.05	1.75		7
101	Fill	102	B01	Construction backfill of [102]	7.2	2.3	0.5	2.8	2.19	8

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
102	Cut		B01	Construction cut for wall [82]	7.2	2.3	0.5	2.8	2.03	8
103	Cut		B01	Construction cut for sewer [66]	40	3	0.34	2.07	1	8
104	Layer		B01	Flood deposit	1.7	1.15	0.2	2.1	2.03	6
105	Layer		B01	Sandy layer	1.7	1.15		1.7		6
106	Fill		B01	Backfill east of timber structure [161]	4	1.1		1.9	1.6	6
107	Fill		B01	Backfill west of timber structure [161]	6.5	2	0.44	2.03	1.65	6
108	Masonry		B01	Brick wall	4	0.4	1.09	2.47	2.1	7
109	Layer		B01	Clay alluvium	30	30	1	2.6	2.18	6
110	Layer		B01	Bedding layer	2.4	1.2	0.1	2.85	2.77	8
111	Layer		B01	Rubble levelling layer under bedding layer [110]	2.72	1.44	0.32	2.78	2.7	8
112	Fill	113	B01	Dumped backfill of [113]	2.38	1.4	0.26	2.31		7
113	Cut		B01	Shallow cut of pit	2.38	1.4	0.26	2.31	2.05	7
114	Fill	115	B01	Fill of [115]	1.37	0.48	0.72	2.35		8
115	Cut		B01	Cut of pit	1.37	0.48	0.72	2.35	1.63	8
116	Masonry		B01	Brick remains against sewer [66] - possible buttress	0.45	0.29	0.35	2.78	2.43	8
117	Fill		B01	Backfill in sewer [76]	0.97	0.77	1.14	2.62	1.47	8
118	Masonry		B01	Remains of brickwork against sewer [66] - possible buttress	0.74	0.66	0.48	2.91	2.8	8
119	Fill	121	B01	Metal pipe in cut [121]	1.98	0.08	0.08	2.55		8
120	Fill	121	B01	Construction backfill of [121]	1.18	0.44	0.27	2.75	2.7	8
121	Cut		B01	Construction cut	1.18	0.44	0.27	2.7	2.43	8

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
122	Fill	123	B01	Construction backfill of [124]	2.4	0.8	0.2	2.46		8
123	Cut		B01	Construction cut for masonry [124]	2.4	1.1	0.15	2.41	2.29	8
124	Masonry	123	B01	Brick and stone lining for drain	2.4	1.1	0.15	2.43	2.41	8
125	Masonry		B01	Brick wall foundation	1.26	0.48	0.36	3	2.92	8
126	Layer		B01	Bedding layer for floor [80]	1.16	1.14	0.1	2.58		8
127	Layer		B01	Dump deposit - machined	20	6				7
128	Fill	129	B01	Fill of [129]	0.74	0.64				8
129	Cut		B01	Construction cut for drain/soakaway	0.74	0.64				8
130	Cut		B01	Construction cut for well	1.4	1.4	4	2.28		8
131	Fill		B01	Channel fill - Recorded whilst machining	30	7				7
132	Fill	133	B01	Fill of [133]	0.7	0.7	0.3	2.4	2.07	7
133	Cut		B01	Cut of pit	0.7	0.7	0.3	2.4	2.07	7
134	Fill	135	B01	Upper fill of [135]	2	1.95	0.45	2.43	1.9	7
135	Cut		B01	Cut of pit	2	1.95	0.45	2.43	1.9	7
136	Fill	135	B01	Primary fill of [135]	2	1.7	0.2	2.45	1.7	7
137	Layer		B01	Dump layer	3	1.63	0.2	2.45	1.83	7
138	Layer		B01	Dump layer	3	2.4	0.3	2.3	1.65	7
139	Void		B01							
140	Void		B01							
141	Layer		B01	Dump layer	2	0.67	0.32	2.2	1.88	7
142	Fill	296	B01	Fill of cut [296]	5	1.4	0.38			6

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
143	Fill	43	B01	Backfill of [43]	5	3.45	0.5	2.48	1.75	8
144	Fill	43	B01	Backfill of [43]	5	1	0.35	2.15	1.6	7
145	Fill	43	B01	Backfill of [43]	5	0.95	0.25	2.4	1.85	8
146	Fill	43	B01	Backfill of [43]	5	1.9	0.35	2.39	1.6	7
147	Fill	43	B01	Backfill of [43] - collapse of [153]	5	0.85	0.6	2.22	1.72	7
148	Fill	43	B01	Backfill of [43]	6	3.6	0.1	1.72	1.5	7
149	Fill	43	B01	Backfill of [43]	6	1.57	0.3	2.12	1.62	8
150	Void		B01							
151	Void		B01							
152	Void		B01							
153	Masonry		B01	Brick lining supporting bank of moat [43]	2.3	0.7	0.8	1.87	1.32	7
154	Masonry	155	B01	Brick drain	0.8	0.75	0.2	2.17	1.95	8
155	Cut	154	B01	Construction cut for [154]	0.8	0.75	0.45	2.38	1.95	8
156	Fill	43	B01	Backfill of [43]	7.1	4.8	0.5	1.77	1.27	6
157	Masonry	158	B01	Brick drain	27	0.55	0.36	2.12	1.76	8
158	Cut		B01	Construction cut for brick drain [157]	27	0.6	0.36	2.08	1.65	8
159	Masonry	130	B01	Brick lining of well	0.37	0.37	4	2.28		8
160	Timber		B01	Timber beam	0.9	0.1	0.72	1.5		6
161	Timber		B01	Timber plank	3.56	0.76	0.03	1.94		6
162	Timber		B01	Timber beam	1.6	1.3	0.95	1.64	1.55	6
163	Timber		B01	Timber post	0.14	0.1		1.91		6
164	Timber		B01	Timber post	0.14	0.1		1.73		6
165	Timber		B01	Timber post - aligned with [170] and [167]	0.11	0.09		1.48		6

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
166	Timber		B01	Timber post - associated with timber revetment [161]	0.1	0.1		1.64		6
167	Timber		B01	Timber post - associated with timber structure [161]	0.16	0.08		1.46		6
168	Timber		B01	Timber post - associated with timber structure [161]	0.11	0.09		1.52		6
169	Layer		B01	Dump layer - south of wall [108]	9.75	7.12	0.5			7
170	Timber		B01	Timber post	0.1	0.09	0.1	1.41		6
171	Timber		B01	Horizontal timber beam	0.82	0.75	0.1	1.53		6
172	Fill	180	B01	Sandy fill of [180]	2	1.45	0.07	1.09		4
173	Fill	180	B01	Clay lining of [180]	4.06	2.1	0.15	1.09		4
174	Fill	180	B01	Clay lining of [180]	4	0.75	0.2	0.92		4
175	Fill	180	B01	Shell rich fill of [180]	4	1.5	0.15	0.95		4
176	Fill	180	B01	Clay fill of [180]	4	1.5	0.1	1.86	0.99	4
177	Fill	180	B01	Clay Fill of [180]	4	2	0.05	0.99		4
178	Fill	180	B01	Clay fill of [180]	4	1.9	0.1	1.36	0.79	4
179	Fill	180	B01	Sandy fill at base of [180]	4	2.8	0.05	0.89	0.74	4
180	Cut		B01	Early cut of moat	8	2.5	0.5	1.76	0.95	4
181	Layer		B01	Layer of alluvium Recorded in section		2.1	0.4	0.89	0.69	3
182	Cut		B01	Cut of channel	8.12	6.1	0.3	0.95	0.7	3
183	Natural		B01	Layer of natural sand	8.2	2.2	0.4	0.66	0.05	1
184	Fill	180	B01	Organic fill of [180]	2	1.45	0.15	1.2		4
185	Masonry		B01	Dump of bricks	1.1	0.8	0.1	1.32	1.26	8

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
186	Layer		B01	Dump layer - same as [265]	6.2	2.7		1.59		6
187	Masonry		B01	Curving wall - supporting bank of moat [43] and [180]	3	0.6	0.45	1.5	1.45	7
188	Cut		B01	Construction cut for wall [108]	5	2	0.64	1.48	1.23	7
189	Fill	188	B01	Construction back fill of cut [188] North side of wall [108]	4.1	1.6	0.64	1.87		7
190	Fill	188	B01	Backfill of construction cut [188] - south side of wall [108]	4.1	1.6	0.64	1.87		7
191	Fill		B01	Primary fill of sewer [76]	40	0.7	0.4	1.5		8
192	Fill	194	B01	Upper fill of ditch / channel [194]	40	2.33	0.78	1.76	0.96	6
193	Fill	194	B01	Fill of ditch / channel [194]	40	2.5	0.5	1.47	0.58	6
194	Cut		B01	Cut of ditch / channel	40	5	0.89	1.47	0.58	5
195	Fill		B01	Organic fill of channel	40	3	0.5	1.58	0.21	5
196	Fill	103	B01	Fill of [103]				1.68		8
197	Layer		B01	Layer of natural sand	20	5	0.2	0.63	0.17	1
198	Layer		B01	Dump layer	8.5	1.45	0.25	1.62		7
199	Layer		B01	Clay dump layer	8.5	2.4	0.45	1.62		7
200	Layer		B01	Dump layer	8.5	1.4	0.42	1.62		6
201	Fill		B01	Organic channel fill	8.5	4.5	0.48	1.17		6
202	Fill		B01	Clay fill of channel	8.5	3.9	0.3	0.89		5
203	Layer		B01	Layer of natural sand	8.5	4.55		0.7		1
204	Fill	472	B01	Silty fill at base of [472]	7.5	5	0.2	0.98		3

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
205	Fill	472	B01	Organic fill of [472]	7.5	5	0.2	0.78		3
206	Fill	208	B01	Sandy fill of [208]	2.2	0.7	0.4	0.95		3
207	Fill	208	B01	Clay fill of [208]	2.2	0.45	0.2	0.52		3
208	Cut		B01	Cut of natural channel	2.2	0.7	0.6	0.45		3
209	Timber		B01	Timber plank(s) - associated with [76]	40	1.5	0.05	1.06	1	8
210	Fill	43	B01	Fill of [43]	3	1.4	0.35	2.3		8
211	Layer		B01	Natural clay layer						6
212	Fill	103	B01	Bedding for sewer [76] in base of construction cut [103]	40	0.9	0.3	1.32	1	8
213	Fill	214	B01	Rubble fill of [214]	2	2	0.24	1.17		6
214	Cut		B01	Cut of pit	2	2	0.24	1.17	0.91	6
215			B01	Void						
216	Fill	343	B01	Fill of channel [343]	30.07	2.6	0.72	0.75		3
217	Fill		B01	Sandy fill of channel	30	1.1	0.32	0.58		3
218	Layer		B01	Sandy layer	30	0.75	0.1	0.89		5
219	Void		B01							
220	Void		B01							
221	Timber		B01	Timber plank - baseplate / raft	2.3	0.5	0.06	0.96	0.94	5
222	Timber		B01	Timber plank - baseplate / raft	0.8	0.6	0.02	1.2		7
223	Timber		B01	Timber plank - baseplate	0.51	0.2	0.02	1.05		7
224	Timber		B01	Timber plank - baseplate	4.8	0.6	0.03	1.05		7
225	Fill	226	B01	Fill of cut [226]	9	8	0.6	1.36	1.3	4
226	Cut		B01	Large square cut - possible pond	9	8	0.6	1.36	0.76	4

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
227	Fill	228	B01	Fill of channel [228]	30	2.1	0.72	1.8	1.53	3
228	Cut		B01	Cut of channel	30	2.1	0.72	1.8	1.53	3
229	Timber		B01	Timber plank - structural raft for brick wall [108]	2.56	0.5	0.1	1.4	1.29	7
230	Timber		B01	Timber plank - structural raft for brick wall [108]	1.88	0.22	0.1	1.4		7
231	Timber		B01	Timber plank - structural raft for brick wall [108]	2	0.26	0.1	1.3		7
232	Timber		B01	Timber plank - structural raft for brick wall [108]	1.92	0.2	0.1	1.36	1.29	7
233	Timber		B01	Timber plank - structural raft for brick wall [108]	0.6	0.18	0.1	1.34		7
234	Timber		B01	Timber plank - structural raft for brick wall [108]	0.42	0.18	0.1	1.34		7
235	Timber		B01	Timber plank - structural raft for brick wall [108]	0.24	0.13	0.1	1.24		7
236	Timber		B01	Timber post	0.08	0.07	0.79	1.1		5
237	Timber		B01	Timber post	0.13	0.1	0.62	1.1		5
238	Timber		B01	Timber post	0.12	0.12	0.26	1.1	0.66	5
239	Timber		B01	Timber post	0.08	0.02	0.47	1.1		5
240	Fill	334	B01	Fill of [334]	0.15	0.15	0.18	1.1		5
241	Timber		B01	Timber post	0.08	0.04	0.59	1.1		5
242	Timber		B01	Timber post	0.08	0.04	0.28	1.1		5
243	Void		B01							
244	Timber		B01	Timber post	0.1	0.1	0.5	1.94		5

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
245	Timber		B01	Timber post	0.14	0.1	0.45	1.05		5
246	Timber		B01	Timber post	0.12	0.08	0.75	1.05		5
247	Timber		B01	Timber post	0.1	0.05	1.02	1.05		5
248	Timber		B01	Timber post	0.12	0.05	0.98	1.05		5
249	Fill	332	B01	Fill of [332]	0.08	0.08	0.22	1.1	0.92	5
250	Fill	333	B01	Fill of [333]	0.06	0.06	0.18	1.1		5
251	Fill	331	B01	Fill of cut [331]	0.1	0.06	0.3	0.92		5
252	Layer		B01	Layer of clay - flood deposit	25	20	0.1	1.09	1.08	4
253	Layer		B01	Clay layer - alluvium	12	8	0.12	0.98	0.95	4
254	Layer		B01	Layer of clay - alluvium	15	3.5	0.65	0.93		2
255	Layer		B01	Layer of alluvium	12	8	0.47	0.84	0.79	2
256	Layer		B01	Layer of alluvium	12	8	0.3	0.48	0.37	2
257	Layer		B01	Natural sand /gravel	12	6	0.1	0.23		1
258	Layer		B01	Clay layer	15	3.5	0.26	1.35	1.34	4
259	Layer		B01	Clay layer	15	0.2	0.2	1		2
260	Layer		B01	Clay layer - flood deposit	15	3	0.5	1.33		2
261	Cut		B01	Cut of channel	15	3	0.3	1.33	0.83	2
262	Layer		B01	Clay layer	10	1.1	0.23	1.14	1.13	2
263	Layer		B01	Clay layer	10	1.2	0.1	0.95	0.9	2
264	Layer		B01	Layer - mixture of wood and clay alluvium	1.2	0.7	0.3	1.32	1.02	5
265	Layer		B01	Dump layer west of timber revetment	6.2	2.7	0.2	1.59	1.14	6
266	Timber		B01	Timber plank - remains of collapsed	1.17	0.35	0.32	1.36		4

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
				structure associated with post [267]						
267	Timber		B01	Timber post - remains of collapsed structure associated with plank [266]	1.24	0.11	0.11	1.36		4
268	Layer		B01	Layer of natural sand	13	8.4	0.25	0.73	0.48	1
269	Layer		B01	Layer of sandy clay	13	9.7	0.4	0.96	0.41	1
270	Layer		B01	Layer of clay - some organic lenses	12	2.1	0.58	1.31	0.72	2
271	Layer		B01	Sandy layer - associated with channel [273]	12	1.3	0.34	1.42	1.08	2
272	Fill	273	B01	Channel fill of [273] Recorded in Section	12	1.45	0.85	1.55	0.66	2
273	Cut		B01	Cut of channel Recorded in Section	35	1.45	0.85	1.55	0.66	2
274	Layer		B01	Layer of alluvium	8.5	2.5	0.2	1.42	1.28	2
275	Layer		B01	Clay flood deposit	8.5	2.5	0.77	1.51	0.71	2
276	Layer		B01	Layer of alluvium	8.5	4.5	0.5	1.48	0.83	2
277	Layer		B01	Flood deposit	8.5	0.6	0.28	1.1	0.82	2
278	Timber		B01	Timber post - associated with timber structure [161]	0.06	0.05	0.5	1.35		6
279	Timber		B01	Timber post	0.12	0.1	0.3	1.05		5
280	Void		B01							
281	Void		B01							
282	Timber		B01	Timber post	0.12	0.12	0.66	1.05		5
283	Timber		B01	Timber post	0.16	0.11	0.18	1.05		5
284	Timber		B01	Timber post	0.18	0.16	0.18	1.05		5
285	Layer		B01	Layer of alluvium	32.7	22.7	0.4	1.44	1.14	2

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
286	Timber		B01	Timber post - relates to [287]	0.16	0.1	0.5	1.2		5
287	Timber		B01	Timber post	0.1	0.06	0.5	1		5
288	Timber		B01	Timber beam - relates to timber [161]	1.3	0.12	0.5	1.32		6
289	Timber		B01	Timber post - associated with [161]	0.1	0.08	0.5	1.44		6
290	Layer		B01	Layer of alluvium	32.7	22.7	0.62	1.27	0.65	2
291	Timber		B01	Timber plank - associated with posts [163] and [292]	1.4	0.04	0.1	1.49		6
292	Timber		B01	Timber post - associated with timber structure [291]	0.11	0.09	0.5	1.47		6
293	Cut		B01	Construction cut for [153]	1.4	0.8	0.8	1.87	1.32	7
294	Fill	293	B01	Rubble bedding for brickwork [153] at the base of construction cut [293]	1.4	0.8	0.1	1.07		7
295	Fill	293	B01	Construction backfill of construction cut [293]	1.4	0.3	0.5	1.5		7
296	Cut		B01	Cut of channel - re-cut of moat [180]	8	3	1	2	1	6
297	Fill	296	B01	Fill of [296]	8	3	0.3	1.5		6
298	Layer		B01	Dump layer against wall [153]	3	0.6	0.4	1.9		7
299	Cut		B01	Cut of channel	6	2.7	0.75	0.9		3
300	Fill	299	B01	Fill of [299]	6	2.7	0.05	0.45		3
301	Fill	299	B01	Fill of [299]	6	2.7	0.65	1.45		3
302	Cut		B01	Cut of channel / moat	5.2	2.3	1	1.45	0.86	5
303	Fill	302	B01	Fill of [302]	5.2	2.3	0.25	1.19	1.11	5

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
304	Fill	302	B01	Fill of [302]	6	1.2	0.3	1.45		5
305	Fill	302	B01	Fill of [302]	6	1.2	0.2	1.6		5
306	Fill	302	B01	Fill of [302]	6	1.2	0.5	2		5
307	Timber		B01	Timber plank - foundation raft for wall [108]	2.6	0.5	0.1	1.3	1.28	7
308	Timber		B01	Timber plank - foundation raft for wall [108]	1	0.18	0.1	1.25		7
309	Timber		B01	Timber post - part of timber raft supporting brick wall [108]	0.1	0.1	0.5	1.41		7
310	Timber		B01	Timber post - part of timber raft supporting brick wall [108]	0.1	0.1	0.5	1.33		7
311	Timber		B01	Timber post - part of timber raft supporting brick wall [108]	0.16	0.1	0.5	1.37		7
312	Timber		B01	Timber post	0.06	0.06	0.5			5
313	Fill	314	B01	Fill of [314]	0.15	0.15	0.18	1.94		5
314	Cut		B01	Cut of posthole	0.15	0.15	0.18	1.94	1.76	5
315	Timber		B01	Timber post	0.08	0.06	0.48	1.84	1.36	5
316	Timber		B01	Timber post	0.08	0.08	0.28	1.34	1.06	5
317	Fill	318	B01	Fill of posthole [318]	0.15	0.15	0.18	1.94		5
318	Cut		B01	Cut of posthole	0.15	0.15	0.18	1.94	1.76	5
319	Fill	320	B01	Fill of posthole [320]	0.15	0.15	0.18	1.92		5
320	Cut		B01	Cut of posthole	0.15	0.15	0.18	1.92	1.74	5
321	Timber		B01	Timber post	0.12	0.12	0.42	1.84		5
322	Timber		B01	Timber post - possibly relates to [357]	0.08	0.08	0.5	1.84		5

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
323	Void		B01							
324	Timber		B01	Timber post - associated with timber [221]	0.2	0.2	0.5	1.12		5
325	Fill	326	B01	Fill of posthole [326]	0.06	0.06	0.1	2		5
326	Cut		B01	Cut of posthole	0.08	0.06	0.1	2	1.92	5
327	Fill	328	B01	Fill of posthole [328]	0.1	0.1	0.3	1.2		5
328	Cut		B01	Cut of posthole	0.1	0.06	0.3	1.5	1.2	5
329	Fill	330	B01	Fill of [330]	0.12	0.12	0.3	1.5		5
330	Cut		B01	Cut of posthole	0.12	0.12	0.3	1.5	1.2	5
331	Cut		B01	Cut of posthole	0.1	0.06	0.3	0.92	0.72	5
332	Cut		B01	Cut of posthole	0.08	0.08	0.22	1.1	0.92	5
333	Cut		B01	Cut of posthole	0.06	0.06	0.18	1.1	0.92	5
334	Cut		B01	Cut of posthole	0.15	0.15	0.18	1.1	0.92	5
335	Timber		B01	Timber baseplate for masonry [153]	1.4	0.8	0.02	1.15		7
336	Timber		B01	Timber post	0.12	0.08	0.3	1.25		7
337	Timber		B01	Timber plank - associated with [357]	1.2	0.3	0.04	1.12	0.96	5
338	Timber		B01	Timber plank - part of foundation raft for wall [108]	1	0.08	0.1	1.32		7
339	Timber		B01	Timber plank - part of foundation raft for wall [108]	1.1	0.14	0.1	1.32		7
340	Timber		B01	Timber plank - part of foundation raft for wall [108]	1	0.16	0.1	1.26		7
341	Timber		B01	Timber plank - part of foundation raft for wall [108]	1.3	0.16	0.1	1.26		7

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
342	Timber		B01	Timber plank - part of foundation raft for wall [108]	1.1	0.15	0.1	1.26		7
343	Cut		B01	Cut of channel	30.7	2.34	0.85	1.21	0.21	3
344	Layer		B01	Natural layer between [290] and [203]	16	9.6	0.2	0.75	0.7	1
345	Fill	346	B01	Fill of [346]	0.8	0.8	0.33	0.95		4
346	Cut		B01	Cut of pit	0.8	0.8	0.33	0.95	0.62	4
347	Cut		B01	Construction cut for [95]	7.5	0.7	2	0.87		8
348	Fill		B01	Bedding for [95] in base of construction cut [348]	7.5	0.7	0.1	0.87		8
349	Masonry		B01	Brick wall - added to [187]	3.2	0.4	0.06	1.5		7
350	Cut		B01	Construction cut for [187] and [349]	3.2	2.4	0.65	1.51	0.86	7
351	Cut		B01	Construction cut for [221] - part of structure [357]	1.6	0.7	0.4	0.97	0.57	5
352	Layer		B01	Rubble bedding layer for [187] and [224]	3	0.6	0.1	1.12		7
353	Fill	350	B01	Back fill of construction cut [350]	3	0.6	0.7	1.46		7
354	Timber		B01	Timber post within construction cut [350]	0.1	0.07	0.9	1.18		7
355	Timber		B01	Timber post within construction cut [350]	0.1	0.1	0.95	1.25		7
356	Fill	51	B01	Construction backfill in construction cut [51] and associated with masonry [53]	0.9	0.35	0.35	1.39		5
357			B01	Structure number - [264], [337], [324], [221], [430], [351]				1.12	0.96	5

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
358	Fill	359	B01	Fill of [359]	0.7	0.65	0.2	0.62		4
359	Cut		B01	Cut of pit	0.7	0.65	0.2	0.62	0.42	4
360			B01	Group number	5	2		1.22	0.99	6
361	Timber		B01	Timber post	0.18	0.18	0.5	1.84		5
362	Timber		B01	Timber post	0.14	0.14	0.5	1		6
363	Timber		B01	Timber post	0.22	0.22	0.5	1		6
364	Timber		B01	Timber post	0.14	0.06	0.5	1		6
365	Timber		B01	Timber post	0.14	0.14	0.5	1		6
366	Timber		B01	Timber post	0.12	0.12	0.5	1		6
367	Timber		B01	Timber post	0.13	0.13	0.5	1.02		6
368	Timber		B01	Timber post	0.14	0.14	0.5	1.02		6
369	Timber		B01	Timber post	0.14	0.14	0.5	1.02		6
370	Timber		B01	Timber post	0.16	0.16	0.5	1.02		6
371	Timber		B01	Timber post	0.17	0.17	0.5	1.21		6
372	Timber		B01	Timber post	0.18	0.18	0.5	1.21		6
373	Timber		B01	Timber post	0.16	0.16	0.5	1.21		6
374	Timber		B01	Timber post	0.16	0.16	0.5	1.21		6
375	Timber		B01	Timber post	0.5	0.32	0.5	1.21		6
376	Timber		B01	Timber post	0.22	0.22	0.5	1.21		6
377	Timber		B01	Timber post	0.18	0.18	0.5	1.12		6
378	Timber		B01	Timber post	0.26	0.26	0.5	1.12		6
379	Timber		B01	Timber post	0.14	0.08	0.5	1.12		6
380	Timber		B01	Timber post	0.16	0.16	0.5	1.12		6
381	Fill	382	B01	Fill of [382]	0.14	0.14	0.32	1.44		6
382	Cut		B01	Cut of posthole	0.14	0.14	0.32	1.44	1.12	6

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
383	Fill	384	B01	Fill of posthole [384]	0.1	0.1	0.31	1.44		6
384	Cut		B01	Cut of posthole	0.1	0.1	0.31	1.44	1.13	6
385	Fill	386	B01	Fill of posthole [386]	0.15	0.15	0.24	1.44		6
386	Cut		B01	Cut of posthole	0.15	0.15	0.24	1.44	1.2	6
387	Fill	388	B01	Fill of posthole [388]	0.12	0.12	0.24	1.44		6
388	Cut		B01	Cut of posthole	0.12	0.12	0.24	1.44	1.2	6
389	Fill	390	B01	Fill of posthole [390]	0.16	0.16	0.24	1.44		6
390	Cut		B01	Cut of posthole	0.16	0.16	0.24	1.44	1.2	6
391	Fill	392	B01	Fill of posthole [392]	0.12	0.12	0.24	1.38		6
392	Cut		B01	Cut of posthole	0.12	0.12	0.24	1.38	1.2	6
393	Fill	394	B01	Fill of posthole [394]	0.12	0.12	0.27	1.38		6
394	Cut		B01	Cut of posthole	0.12	0.12	0.24	1.38	1.14	6
395	Fill	396	B01	Fill of posthole [396]	0.14	0.14	0.28	1.37		6
396	Cut		B01	Cut of posthole	0.14	0.14	0.28	1.37	1.09	6
397	Fill	398	B01	Fill of posthole [398]	0.14	0.14	0.32	1.37		6
398	Cut		B01	Cut of posthole	0.14	0.14	0.32	1.37	1.05	6
399	Fill	400	B01	Fill of posthole [400]	0.16	0.16	0.32	1.37		6
400	Cut		B01	Cut of posthole	0.16	0.16	0.32	1.37	1.05	6
401	Fill	402	B01	Fill of [402]	0.12	0.12	0.3	1.37		6
402	Cut		B01	Cut of posthole	0.12	0.12	0.3	1.37	1.07	6
403	Fill	404	B01	Fill of posthole [404]	0.2	0.2	0.3	1.4		6
404	Cut		B01	Cut of posthole	0.2	0.2	0.3	1.4	1.1	6
405	Fill	406	B01	Fill of posthole [406]	0.12	0.12	0.32	1.37		6
406	Cut		B01	Cut of posthole	0.12	0.12	0.32	1.37	1.02	6
407	Fill	408	B01	Fill of posthole [408]	0.14	0.14	0.32	1.37		6

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
408	Cut		B01	Cut of posthole	0.14	0.14	0.32	1.37	1.02	6
409	Fill	410	B01	Fill of posthole [410]	0.12	0.12	0.32	1.27		6
410	Cut		B01	Cut of posthole	0.12	0.12	0.32	1.27	0.95	6
411	Fill	412	B01	Fill of posthole [412]	0.1	0.1	0.32	1.27		6
412	Cut		B01	Cut of posthole	0.12	0.12	0.32	1.27	0.95	6
413	Fill	414	B01	Fill of posthole [414]	0.12	0.12	0.08	1.38		6
414	Cut		B01	Cut of posthole	0.12	0.12	0.08	1.38	1.3	6
415	Fill	416	B01	Fill of posthole [416]	0.1	0.1	0.05	1.35		6
416	Cut		B01	Cut of posthole	0.1	0.1	0.05	1.35	1.3	6
417	Fill	418	B01	Fill of posthole [418]	0.16	0.16	0.2	1.44		6
418	Cut		B01	Cut of posthole	0.16	0.16	0.2	1.44	1.24	6
419	Fill	420	B01	Fill of posthole [420]	0.16	0.16	0.2	1.44		6
420	Cut		B01	Cut of posthole	0.16	0.16	0.2	1.44	1.24	6
421	Fill	422	B01	Fill of posthole [422]	0.16	0.16	0.2	1.44		6
422	Cut		B01	Cut of posthole	0.16	0.16	0.2	1.44	1.24	6
423	Fill	424	B01	Fill of posthole [424]	0.16	0.16	0.32	1.38		6
424	Cut		B01	Cut of posthole	0.16	0.16	0.32	1.38	1.06	6
425	Fill	426	B01	Fill of posthole [426]	0.14	0.14	0.95	1.29		6
426	Cut		B01	Cut of posthole	0.14	0.14	0.95	1.29	0.34	6
427	Fill		B01	Clay fill between timbers [479] and [480]	5.66	0.7	0.2	1.44	1.38	6
428	Fill		B01	Clay Fill between timbers [480] and [481]	5.86	0.8	0.2	1.44	1.38	6
429	Timber		B01	Timber post	0.16	0.16	0.5	1.21		6

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
430	Timber		B01	Timber plank - used as support wedge for timber [221]	0.7	0.2	0.07	0.93		5
431	Fill	432	B01	Fill of posthole [432]	0.15	0.15	0.18	1.1		5
432	Cut		B01	Cut of posthole	0.15	0.15	0.18	1.1	0.92	5
433	Fill		B01	Slumping at edge of channel - timber structure built against it	0.68	0.32	0.27	1.44		6
434	Void		B01							
435	Fill	350	B01	Fill of construction cut [350]	3.2	2.4	0.2	1.05		7
436	Timber		B01	Timber post / pile - associated with masonry [187].	0.1	0.1	0.9	0.98		7
437	Fill	438	B01	Fill of posthole [438]	0.16	0.16	0.32	1.4	1.38	6
438	Cut		B01	Cut of posthole	0.16	0.16	0.32	1.4	1.08	6
439	Fill	440	B01	Fill of posthole [440]	0.12	0.12	0.3	1.38		6
440	Cut		B01	Cut of posthole	0.12	0.12	0.3	1.38	1.08	6
441	Fill	442	B01	Fill of posthole [442]	0.14	0.14	0.3	1.4		6
442	Cut		B01	Cut of posthole	0.14	0.14	0.3	1.4	1.1	6
443	Fill	444	B01	Fill of posthole [444]	0.12	0.12	0.3	1.4		6
444	Cut		B01	Cut of posthole	0.12	0.12	0.3	1.4	1.1	6
445	Fill	446	B01	Fill of posthole [446]	0.12	0.12	0.3	1.4		6
446	Cut		B01	Cut of posthole	0.12	0.12	0.3	1.4	1.1	6
447	Fill	448	B01	Fill of posthole [448]	0.18	0.18	0.3	1.38		6
448	Cut		B01	Cut of posthole	0.12	0.12	0.3	1.38	1.08	6
449	Fill	450	B01	Fill of posthole [450]	0.1	0.1	0.3	1.38		6
450	Cut		B01	Cut of posthole	0.1	0.1	0.3	1.38	1.08	6

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
451	Fill	452	B01	Fill of posthole [452]	0.14	0.14	0.3	1.44		6
452	Cut		B01	Cut of posthole	0.14	0.14	0.3	1.44	1.14	6
453	Fill	454	B01	Fill of posthole [454]	0.12	0.12	0.3	1.27		6
454	Cut		B01	Cut of posthole	0.12	0.12	0.3	1.27	0.97	6
455	Masonry		Attenuation Tank	Brick culvert	11.05	0.6	0.8	3.53		8
456	Layer		Attenuation Tank	Dump layer	5.26	5	0.97	2.83	2.74	8
457	Layer		Attenuation Tank	Alluvium	5.9	5.46	2	1.86	1.85	6
458	Cut		B01	Construction cut for timber shuttering [480]	1.2	0.7	0.4	1.52	1.12	6
459	Cut		B01	Construction cut associated with timber shuttering [480]	0.86	0.38	0.39	1.52	1.13	6
460	Layer		B01	Mixed deposit at base of clay and timber structure [570]	5.86	0.8	0.3	1.07	1.06	6
461	Layer		B01	Mixed deposit at base of clay and timber structure [570]	5.66	0.7	0.3	1.07	1.06	6
462	Fill	182	B01	Fill of channel [182]	5	2	0.5	0.96		3
463	Layer		B01	Layer of alluvium	25	19	0.2	1.41	1.38	3
464	Layer		B01	Layer of alluvium	25	19	0.22	1.21		3
465	Layer		B01	Layer of alluvium	25	19	0.12	1.03		3
466	Fill		B01	Same as [48]	1.15	1.15	0.3	1.73	1.66	4
467	Layer		B01	Layer of alluvium	25	19	0.2	1.46		3
468	Layer		B01	Layer of alluvium	25	19	0.25	1.26		2
469	Layer		B01	Layer of alluvium	25	19	0.15	1.11	1.06	2
470	Layer		B01	Layer of sand	25	19	0.25	1.46		3

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
471	Layer		B01	Dump layer	7	6.3	0.3	1.44	1.21	6
472	Cut		B01	Cut of channel	12	7.5	0.35	0.95		3
473	Fill	474	B02A	Silty fill of gully [474]	4	0.6	0.1	1.4		3
474	Cut		B02A	Cut of shallow gully	4	0.6	0.1	1.4	1.3	3
475	Fill	476	B02A	Fill of gully [476]	0.6	0.5	0.1	1.33		3
476	Cut		B2A	Cut of shallow gully	8	1.6	0.1	1.33	1.23	3
477	Fill	478	B02A	Fill of gully [478]	1.26	0.9	0.2	1.33		3
478	Cut		B02A	Cut of gully - natural rivulet	1.26	0.9	0.2	1.33	1.23	3
479			B01	Structure / timber shuttering	4.4	0.3	0.24	1.3	1.06	6
480			B01	Structure / timber shuttering	5.75	0.15	0.32	1.43	1.11	6
481			B1	Structure / timber shuttering	4.5	0.2	0.35	1.42	1.07	6
482	Timber		B01	Timber post	0.12	0.08	0.13	1.11		6
483	Timber		B01	Timber - associated with structure [480]	1.58	2.1	0.05	1.11		6
484	Layer		Attenuation Tank	Dump layer	6.46	2.65	0.17	2.42		7
485	Layer		Attenuation Tank	Dump of CBM	1.46	1.1	0.3	2.42		8
486	Layer		Attenuation Tank	Dump layer	6.46	1.5		2.24		8
487	Layer		Attenuation Tank	Dump of CBM	1.06	0.94		2.42		8
488	Timber		B01	Timber baseplate - structure	5	0.13	0.1	1.24	1.2	6
489	Fill		B02A	Backfill of well [490]	1.2	1.2	2	1.63		7
490	Masonry		B02A	Brick lining for Well	1.45	1.45	1	1.63		7
491	Cut		B02A	Construction cut for well [490]	1.8	1.8	1	1.63	1.23	7

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
492	Timber		B01	Timber plank - collapsed revetment	4.4	0.4	0.05	1.23	1.2	5
493	Timber		B01	Timber post - part of collapsed revetment [492]	0.1	0.1	1.1	1.21		5
494	Timber		B01	Timber post - part of collapsed revetment [492]	0.1	0.1	1.1	1.26		5
495	Timber		B01	Timber post - part of collapsed revetment [492]	0.08	0.08	0.3	1.22		5
496	Timber		B01	Timber post - part of collapsed revetment [492]	0.2	0.08	0.3	1.28		5
497	Timber		B01	Timber post	0.16	0.14	0.4	1.13		5
498	Timber		B01	Timber post	0.12	0.12	0.5	1.25		6
499	Timber		B01	Timber post	0.12	0.12	0.95	1.25		6
500	Fill	555	Attenuation Tank	Fill of [555]	3.2	2.66	0.1	2.18		6
501	Layer		Attenuation Tank	Dump layer	6.46	0.64	0.86	2.25	1.39	6
502	Void		B01							
503	Fill	555	Attenuation Tank	Fill of [555]	5	3.4	0.76	2.08		6
504	Void		B01							
505	Timber		B01	Timber post - associated with timber revetment [492]	0.07	0.07	0.6	1.26		5
506	Timber		B01	Timber post - related to timber revetment [492]	0.12	0.1	0.86	1.26		5
507	Timber		B01	Timber post - related to timber revetment [492]	0.06	0.03	0.7	1.21		5

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
508	Timber		B01	Timber post - part of structure [480]	0.1	0.1	0.19	1.24		6
509	Timber		B01	Timber post - part of structure [480]	0.1	0.1	0.25	1.2		6
510	Layer		Attenuation Tank	Alluvium	5.85	1.75		1.46	1.39	3
511	Layer		Attenuation Tank	Alluvium	6.46	2.6	0.61	0.85		2
512	Layer		Attenuation Tank	Alluvium	6.46	1.06		0.85		2
513	Masonry		B02A	Brick wall	1.6	0.44	0.1	3.27		8
514	Masonry		B02A	Brick drain / culvert	2.6	0.36	0.1	3.27		8
515	Masonry		B02A	Brick wall	1.66	0.35	0.1	3.27		6
516	Layer		B02A	Dump layer between walls [514] and [515]	2.7	2.2	0.1	3.27		8
517	Cut		B01	Cut for post / stake within timber plank / shuttering [479]	0.35	0.23	1.1	1.25		6
518	Timber		B02A	Timber base/raft of well [519]	1.7	1.7	0.05			6
519	Masonry		B02A	Brick well	1.6	1.6	0.2			6
520	Timber		B01	Timber revetment - structure number	3.75	1.25	0.1	1.32	1.21	6
521	Fill		B02A	Fill at base of well [519]	1.6	1.6	0.2			6
522	Timber		B01	Sample of timber plank - from [520]	0.96	0.19	0.23	1.04		6
523	Fill	533	Attenuation Tank	Fill of [533]	2.8	1.24		2.26		8
524	Void		B01							
525	Layer		Attenuation Tank	Dump layer	7.21	4.5		2.26	2.19	7
526	Void		B01							

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
527	Layer		Attenuation Tank	Dump layer	3.24	2.56	0.13	2.32		8
528	Cut		Attenuation Tank	Cut of pit	2.2	2.18	0.15	2.19	2.04	7
529	Fill	528	Attenuation Tank	Fill of pit [528]	2.2	2.18	0.15	2.19		7
530	Timber		B01	Timber revetment - structure number	4.86	1.4	0.73	1.38	0.65	5
531	Fill		B01	Fill of channel	2	1.6	0.25	1.2	0.95	6
532	Fill		B01	Fill of channel	4.5	3	0.5	1.21	0.93	6
533	Cut		Attenuation Tank	Cut of pit	5.6	0.9	0.59	2.26	1.67	3
534	Layer		Attenuation Tank	Dump layer	7.2	5.5		1.69	1.67	6
535	Layer		B01	Layer of alluvium		9.5	0.3	1.48	1.18	3
536	Layer		B01	Layer of alluvium		3.5	0.25	1.18	0.94	3
537	Fill		B01	Fill of channel / moat	5.7	1.38	0.56	1.1	1.01	5
538	Fill	539	Attenuation Tank	Fill of [539]	7.2	6.6	0.74	1.07	1.02	6
539	Cut		Attenuation Tank	Cut of pit	7.2	6.6	0.74	1.02	0.28	6
540	Layer		Attenuation Tank	Alluvium	3.09	0.95	0.94	1.07	1.02	2
541	Fill	542	B01	Fill of [542]		1	0.6	2.55	1.92	7
542	Cut		B01	Cut of pit		1	0.6	2.55	1.92	7
543	Fill	544	B01	Fill of [544]		0.4	1.05	2.53	1.48	7
544	Cut		B01	Cut of pit		0.4	1.05	2.53	1.48	7
545	Layer		Attenuation Tank	Alluvium	4.6	2		0.11		2
546	Masonry		B02	Brick surface	3.6	3	0.1	3.75	3.55	8
547	Timber		B01	Timber post	0.1	0.1	0.35	1.03		5

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
548	Layer		B01	Sandy layer		0.7	0.45	1.18	0.74	1
549	Void		B01							
550	Fill	551	B02	Fill of posthole [551]	0.6	0.7	0.3	3.66		8
551	Cut		B02	Cut of posthole	0.7	0.6	0.3	3.66	3.36	8
552	Fill	553	B02	Fill of posthole [553]	0.7	0.5	0.3	3.67		8
553	Cut		B02	Cut of posthole	0.7	0.5	0.3	3.67	3.37	8
554	Timber	553	B02	Timber post	0.35	0.18		3.77		8
555	Cut		Attenuation Tank	Cut of pit	6.46	3.1	0.81	2.2	1.39	6
556	Void		B01							
557	Masonry		B02	Brick culvert	7.6	1	1	2.99	1.98	8
558	Masonry		B02	Large wall of mixed materials - brick and stone	5.8	0.6	2.7	3.27		6
559	Masonry		B02	Brick culvert	5.4	1.1	0.45	2.99		8
560	Masonry		B02	Brick wall - associated with [568] and [569]	2.1	0.29	0.4	2.97	2.95	7
561	Masonry	564	B02	Brick lining - for cess pit in cut [564]	2.4	1.2	1.45	3.12	1.67	6
562	Fill	564	B02	Backfill within cess pit [561]	2	1	1.04	3.09	1.97	8
563	Fill		B02	Fill within culvert [559]	5.5	0.45	0.52	3.16	2.88	8
564	Cut		B02	Construction cut for cess pit [561]	2.4	1.6	1.41	3.12	1.67	6
565	Void		B01							
566	Fill		B01	Fill of channel - to the south of timber structure [530]	4.5	3	0.5	1.21	1.12	6
567	Layer		B02	Dump layer	15	5		3.19		8
568	Masonry	592	B02	Brick arch between walls [560] and [569]	0.9	0.22	0.11	2.93	2.8	7

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
569	Masonry		B02	Brick wall	1.6	0.45	1.1	2.91	1.87	7
570	Timber		B01	Structure number causeway structure	6	1.5	0.4	1.52	1.12	6
571	Fill		B01	Fill in culvert [557]			0.9	2.88	1.98	8
572	Masonry		B02	Brick wall	2.25	0.21	1.2	2.93	1.7	8
573	Cut	559	B02	Construction cut for [559]	5.8	0.7	0.95	3	2.45	8
574	Fill	573	B02	Construction backfill for masonry [559]	5.8	0.05	0.55	3		8
575	Fill		B02	Primary fill of [559] - accumulation in culvert	5.8	0.6	0.07	2.32		8
576	Masonry		B02	Tile surface / base of brick culvert 559	5.4	1.05	0.04	2.48		8
577	Layer		B02	Layer of alluvium - east of [558]	6.6	4.8	0.8	2.74		7
578	Layer		B02	Rubble clay layer		2.35	0.3	3.04		7
579	Layer		B02	Dump layer		2.05	0.2	2.87		8
580	Layer		B02	Dump layer		2.05	0.35	2.84		8
581	Layer		B02	Dump layer		2.05	0.4	2.64		7
582	Layer		B02	Dump layer		1.45	0.35			7
583	Fill		B02	Backfill within masonry [572]		0.9	0.9	2.87		8
584	Fill	585	B01	Construction cut backfill		0.3	0.5	2.44		8
585	Cut		B02	Construction cut for culvert [557]	7.6	0.3	0.5	2.44	1.94	8
586	Layer		B02	Dump layer		1.45	0.5	2.94		8
587	Layer		B02	Dump layer		1.1	0.9	2.84		8
588	Layer		B02	Dump layer		0.65	0.6	2.57		7
589	Fill		B02	Backfill of [557]	7.6	1	1	2.99		8

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
590	Fill	573	B02	Backfill of construction cut [573] for culvert [559]		0.02	0.55	2.99		8
591	Fill	564	B02	Primary fill of cess pit [561]	1.9	1.2	0.3	1.97		6
592	Cut		B01	Construction cut for brick arch	0.9	0.22	0.13	2.93	2.8	7
593	Fill		B02	Rubble backfill between walls [560], [569], [568]	3	2.5	0.3	2.8	2.78	8
594	Timber		B02	Timber post	0.1	0.1	0.3	1.7		5
595	Timber		B02	Timber post	0.15	0.15	0.55	1.7		5
596	Fill	598	B02	Backfill of [598] for wall [558]	5.8	1.3	0.15	1.89		6
597	Fill	598	B02	Backfill of cut [598] for wall [558]	5.8	0.8	0.6	1.75	1.15	6
598	Cut		B02	Construction cut for wall [558]	6	1.3	0.75	1.9	1.15	6
599	Fill	600	B02	Fill of channel [600]		1.4	0.75	1.9		5
600	Cut		B02	Cut of channel		0.45	0.75	1.45	1.15	3
601	Layer		B02	Layer of alluvium		2.35	0.75	1.9	1.15	2
602	Fill	604	B02	Fill of channel [604]		1.65	0.35	1.85		5
603	Fill	604	B02	Fill of channel [604]		1.35	0.12	1.45	1.33	5
604	Cut		B02	Cut of channel		1.65	0.5	1.9	1.33	3
605	Layer		B02	Layer of alluvium		0.7	0.08	1.94	1.85	5
606	Masonry		B03	Brick-wall - Trench 2	0.75	0.35	0.1	3.46		8
607	Masonry		B03	Brick drainage channel - Trench 2	0.75	0.4	0.19	3.46	3.36	8
608	Masonry		B03	Brick wall - Trench 2	2.6	0.55	0.1	3.17		8
609	Masonry		B03	Stone surface - Trench 2	1.95	0.65	0.07	3.17		8

Context	Type	Fill of	Area	Interpretation	Length	Width	Depth	Levels high	Levels low	Phase
610	Masonry		B03	Drainage channel - Trench 2	1.05	0.7	0.19	3.25	3.12	8
611	Masonry		B03	Brick Wall - Trench 2	0.5	0.21	0.1	3.23		8
612	Masonry		B03	Brick Wall - Trench 2	1.75	0.7	0.3	3.28	3.04	8
613	Layer		B03	Layer of made ground - Trench 2	1.3	0.75		3.55		8
614	Fill		B03	Rubble backfill of construction cut - Trench 2	0.7	0.7		3.2		8
615	Layer		B03	Gravel layer - Trench 2	1.5	0.7		3.23		8
616	Layer		B03	Layer of made ground - Trench 2	4.2	0.7		3.01		8
617	Fill	618	B02	Fill of channel [618] - eastern side of wall [558]						6
618	Cut		B02	Cut of channel						3
619	Layer		B02	Layer of sand	5.2	4		1.05	1.02	1
620	Layer		B03	Rubble Layer - Trench 3	11.7	1	0.2	3.7		8
621	Layer		B03	Layer of made-ground - Trench 3	11.2	1	0.2	3.5		8
622	Layer		B03	Layer of burnt material - Trench 3	1.4	1	0.05	3.31		8
623	Layer		B03	Rubble layer - Trench 3	9.6	1	0.11	3.33		8
624	Layer		B03	Layer of made ground - Trench 3	11.2	1	0.55	3.28	3.2	8
625	Cut		B01	Cut same as [343] Ditch						3

APPENDIX 2: POTTERY ASSESSMENT

Berni Sudds

A medium sized assemblage of post-Roman pottery was recovered from the current excavations, amounting to 1482 sherds, representing an estimated 892 vessels (ENV) and weighing 128.324kg (of which 7 sherds are unstratified). The post-Roman pottery ranges in date from the 12th century to the 19th century, although by far the greatest quantity dates to the 17th and 18th century. Demonstrating an average sherd weight of over 86g, the majority of the assemblage is in very good condition, with little evidence for abrasion and was probably deposited fairly rapidly after breakage. A significant proportion is identifiable to vessel form and there are a significant number of complete profiles and vessels. Of the 65 contexts producing pottery, 51 are small (less than 30 sherds), 10 are of medium size (31-99 sherds) and four are large (over 100 sherds).

The assemblage 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 type series (MOLA 2014) and the forms were identified in accordance with the Medieval Pottery Research Group's guide to the classification of forms (MPRG 1998). The pottery was quantified by sherd count (SC), estimated number of vessels (ENV's) and weight. A table of the contexts containing pottery with date ranges and suggested spot dates appears at the end of the report (Table 4). A summary of the pottery types and forms appears below in Table 1 and the distribution of the pottery by phase and phase and ware type is presented in Tables 2 and 3.

Pottery types

Fabric code	Expansion	Date range		SC	ENV	Wg	Forms
MISC	miscellaneous unsourced medieval pottery	900	1500	10	8	304	Jar
MISC WW	miscellaneous unsourced medieval/post-medieval whiteware	900	1500	2	1	23	-
EMS	early medieval sandy ware	970	1100	6	1	154	-
LOND	London-type ware	1080	1350	3	3	49	Jug

Fabric code	Expansion	Date range		SC	ENV	Wg	Forms
SHER FL	south Hertfordshire-type flint-tempered greyware	1170	1350	1	1	6	-
KING	Kingston-type ware	1240	1400	2	2	26	Jug
SPGR	Spanish green-glazed ware	1250	1650	1	1	140	Storage jar
CBW	coarse Surrey-Hampshire border ware	1270	1500	8	6	203	Bowl/dish, jug/cistern
KING SBOSS	Kingston-type ware stamped boss decoration (except wheat ear)	1270	1350	9	1	300	Rounded jug
DUTR	Dutch red earthenware	1300	1650	1	1	210	-
CBW BUNG	coarse Surrey-Hampshire border ware bunghole jug	1340	1500	1	1	74	Jug, bunghole
MORAN	Midlands orange ware	1400	1820	3	1	262	-
MPUR	Midlands purple ware	1400	1750	11	8	1138	Jar
PIPECLAY	Pipeclay	1400	1850	1	1	90	Figurine
TGW IMP	Miscellaneous imported tin-glazed ware	1450	1900	1	1	27	Dish
MISC	miscellaneous unsourced post-medieval pottery	1480	1900	19	16	3084	Chafing dish, chamber pot, flared dish, flowerpot, handled bowl, rounded jug, plate
EBORD	early Surrey-Hampshire border whiteware	1480	1550	2	2	34	-
PMRE	London-area early post-medieval redware	1480	1600	54	14	3734	Handled bowl, cauldron, dish, flared dish, jar
PMSRG	London-area post-medieval slipped redware with green glaze	1480	1650	23	6	942	Carinated bowl/dish, rounded jug

Fabric code	Expansion	Date range		SC	ENV	Wg	Forms
PMSRY	London-area post-medieval slipped redware with clear (yellow) glaze	1480	1650	2	2	53	Jug
MART2	Martincamp-type ware type II flask (dark brown stoneware)	1500	1600	2	2	28	Globular flask
BORD	Surrey-Hampshire border whiteware	1550	1700	6	6	201	Upright candlestick, tripod pipkin
BORDG	Surrey-Hampshire border whiteware with green glaze	1550	1700	58	40	2113	Bowl, flanged dish, dish, chamber pot, costrel, porringer, skillet, tripod pipkin
BORDO	Surrey-Hampshire border whiteware with olive glaze	1550	1700	55	28	2502	Bowl, flanged dish, chamber pot, porringer, skillet, tripod pipkin
BORDY	Surrey-Hampshire border whiteware with clear (yellow) glaze	1550	1700	85	57	5718	Bedpan, bowl, flanged dish, dish, chamber pot, colander, porringer, skillet, tripod pipkin
FREC	Frechen stoneware	1550	1700	36	31	5107	Jug, rounded jug, Bartmann jug
FRECW	Frechen whiteware	1550	1700	5	5	254	Jug
NORS	Normandy stoneware	1550	1800	2	1	125	-
RBOR	Surrey-Hampshire border redware	1550	1900	87	64	8128	Bowl (carinated, handled, rounded), chamber pot, colander, double condiment dish, dish (flared, flanged), jar, carinated porringer, tripod pipkin

Fabric code	Expansion	Date range		SC	ENV	Wg	Forms
TGW	English tin-glazed ware	1570	1846	46	34	1951	Bottle, bowl, dish, storage jar, lid, plate, tea bowl, salt?
TGW A	London tin-glazed ware with blue- or polychrome-painted decoration and external lead glaze (Orton style A)	1570	1650	15	12	725	Bowl/dish, dish, storage jar, porringer
TGW BISC	London biscuit-fired tin-glazed ware	1570	1846	2	2	312	Dish, miscellaneous
PMBL	Essex-type post-medieval black-glazed redware	1580	1700	17	10	742	Jug, rounded mug, tyg
PMFR	Essex-type post-medieval fine redware	1580	1700	133	27	7277	Bowl, cauldron, chamber pot, flared dish, jug, rounded jug, pipkin
PMFRB	Essex-type post-medieval fine redware with brown glaze	1580	1700	2	2	20	-
PMR	London-area post-medieval redware	1580	1900	166	69	19644	Bowl (flared, handled and rounded), cauldron/pipkin, chafing dish, chamber pot, dish (dripping, flared, handled, rectangular and rounded), flowerpot, shouldered jar, storage jar, jug, rounded jug, lid, tripod pipkin
RBOR SLTR	Surrey-Hampshire border redware with slip-trailed decoration	1580	1800	4	4	223	Flanged dish

Fabric code	Expansion	Date range		SC	ENV	Wg	Forms
RBORB	Surrey-Hampshire border redware with brown glaze	1580	1800	6	4	227	Rounded mug
RBORG	Surrey-Hampshire border redware with green glaze	1580	1800	10	4	375	Bowl/dish, chamber pot
WERR	Werra slipware	1580	1650	1	1	10	Dish
CHPO BW	Chinese blue and white porcelain	1590	1900	7	6	173	Bowl, tea bowl, plate
CHPO SWAT	Swatow provincial porcelain	1590	1900	1	1	108	Dish
WEST	Westerwald stoneware	1590	1900	4	4	1041	Jug
BORDB	Surrey-Hampshire border whiteware with brown glaze	1600	1700	15	12	903	Bowl, flanged dish, mug
MART3	Martincamp-type ware type III flask (red earthenware)	1600	1650	5	4	84	Globular flask
POTG	Portuguese faience	1600	1700	1	1	13	Plate
METS	metropolitan slipware	1630	1700	38	19	3586	Flared, flanged and rounded dish, jug, rounded jug
TGW B	London tin-glazed ware with manganese-mottled glaze (Orton style B)	1630	1680	11	4	249	Rounded mug, mug
TGW BLUE	London tin-glazed ware with plain pale blue glaze	1630	1846	4	2	92	Chamber pot, ointment pot
TGW C	London tin-glazed ware with plain white glaze (Orton style C)	1630	1846	54	27	2089	Bowl, chamber pot, cup, dish, ointment pot, plate
TGW D	London tin-glazed ware with blue- or polychrome-painted decoration and external lead glaze (Orton style D)	1630	1680	23	13	1740	Bowl, dish, storage jar

Fabric code	Expansion	Date range		SC	ENV	Wg	Forms
BORDG CHP2	Surrey-Hampshire border green-glazed whiteware flat-rimmed chamber pot	1650	1750	23	11	1001	Type 2 chamber pot
BORDY CHP2	Surrey-Hampshire border yellow-glazed whiteware flat-rimmed chamber pot	1650	1750	3	1	195	Type 2 chamber pot
STSL	Staffordshire-type combed slipware	1660	1870	19	13	883	Cup, rounded dish
WEST PURP	Westerwald stoneware with purple and blue decoration	1665	1750	1	1	4	Jug
LONS	London stoneware	1670	1926	125	104	21849	Bottle (bellied, blacking, upright, ginger beer), bowl, industrial vessel, jar, shouldered jar, rounded jug, hunt jug, rounded mug, tankard
TGW F	London tin-glazed ware with 'Chinaman among grasses' decoration (Orton style F)	1670	1690	21	10	1360	Bowl, fluted dish, plate
LONS DWT	John Dwight's Fulham stoneware	1671	1703	54	33	15101	Bottle, shouldered jar, rounded jug, rounded mug, tankard
TGW H	London tin-glazed ware with pale blue glaze and dark blue decoration (Orton and Pearce style H)	1680	1800	3	2	87	Dish
CHPO BATV	Chinese porcelain, Batavian ware	1700	1750	1	1	14	Tea bowl
DERBS	Derbyshire stoneware	1700	1900	1	1	446	Bellied bottle
ENGS	English brown salt-glazed stoneware	1700	1900	8	8	2610	Blacking paste pot, bottle, blacking

Fabric code	Expansion	Date range		SC	ENV	Wg	Forms
							bottle, ginger beer bottle
TGW G	London tin-glazed ware with 'Lambeth polychrome' decoration (Orton and Pearce style G)	1701	1711	8	4	120	Fluted bowl, plate, tea bowl
SWSL	dipped white salt-glazed stoneware	1710	1760	2	2	150	Chamber pot
CHPO ROSE	Chinese porcelain with famille rose decoration	1720	1800	1	1	8	Bowl
SWSG	white salt-glazed stoneware	1720	1780	4	4	144	Egg cup, soup plate
REST	red stoneware	1730	1780	1	1	9	
CREA	creamware	1740	1830	13	11	726	Bowl, condiment dish, plate
SWSG COB	white salt-glazed stoneware with cobalt decoration	1740	1780	2	1	54	Chamber pot
CREA DEV	creamware with developed pale glaze	1760	1830	18	14	501	Bowl, bowl/dish, chamber pot, jug, plate
ENPO UTR	English porcelain with under-glaze blue transfer-printed decoration	1760	1900	4	2	61	Saucer
SWSG DSC	white salt-glazed stoneware with debased scratch blue decoration	1765	1785	1	1	82	Chamber pot
BBAS	black basalt ware	1770	1900	2	2	23	Teapot
PEAR	pearlware	1770	1840	5	2	145	Cylindrical jar, saucer
PEAR BW	pearlware with under-glaze blue-painted decoration	1770	1820	8	7	141	Plate, saucer

Fabric code	Expansion	Date range		SC	ENV	Wg	Forms
PEAR PNTD	pearlware with under-glaze painted decoration	1770	1840	1	1	11	Tea bowl
PEAR TR	pearlware with transfer-printed decoration	1770	1840	10	10	385	Bowl, cup, saucer, cream/milk jug
PEAR TR1	pearlware with under-glaze blue transfer-printed Chinese-style line-engraved decoration	1770	1810	4	4	110	Saucer, tea bowl
CREA SLIP	creamware with slip decoration	1775	1830	1	1	9	Bowl
SUND MOT	Sunderland-type coarseware with mottled glaze	1775	1850	2	2	249	Bowl
TPW	refined whiteware with under-glaze transfer-printed decoration	1780	1900	22	17	810	Oval dish, cream/milk jug, tureen lid, plate
PEAR EARTH	pearlware with under-glaze polychrome-painted decoration in 'earth' colours	1790	1820	1	1	5	Saucer
BONE	bone china	1794	1900	5	5	98	Cup
COLGE	coloured-glazed refined whiteware	1800	1900	2	1	217	Shouldered jar
ROCK	Rockingham ware with mottled brown glaze	1800	1900	2	2	890	Teapot, teapot lid
SUND	Sunderland-type coarseware	1800	1900	4	4	343	Bowl, rectangular dish
CONP	Continental porcelain	1805	1900	1	1	10	Dolls head
LUST	lustreware	1805	1900	1	1	48	-
REFW	refined white earthenware	1805	1900	7	7	661	Bowl, cup, egg cup, cylindrical jar, plate

Fabric code	Expansion	Date range		SC	ENV	Wg	Forms
REFW PNTD	refined whiteware with under-glaze painted decoration	1805	1900	3	3	132	Figurine
REFW SPON	refined white earthenware with sponged or spattered decoration	1805	1900	1	1	1	-
PEAR TR3	pearlware with under-glaze brown or black transfer-printed decoration	1810	1840	2	2	17	Saucer, tea bowl
TPW3	refined whiteware with under-glaze brown or black transfer-printed decoration	1810	1900	2	2	47	Baby bottle lid, plate
TPW6	refined whiteware with under-glaze transfer-printed and over-glaze painted decoration	1810	1900	3	2	84	Cup, saucer
DYE	dyed-bodied refined earthenware	1820	1900	1	1	35	Plate
YELL	yellow ware	1820	1900	2	2	46	-
YELL SLIP	yellow ware with slip decoration	1820	1900	3	2	106	Toilet
BONE TR3	bone china with under-glaze brown or black transfer-printed decoration	1825	1900	1	1	38	Bowl
BONE TR4	bone china with under-glaze colour transfer-printed decoration (green, mulberry, grey etc)	1825	1900	3	1	45	Bowl
TPW4	refined whiteware with under-glaze colour transfer-printed decoration (green, mulberry, grey etc)	1825	1900	1	1	16	-
ENGS BRST	English stoneware with Bristol glaze	1830	1900	3	3	1097	Cylindrical and shouldered jar

Fabric code	Expansion	Date range		SC	ENV	Wg	Forms
REFW CHROM	refined white earthenware with under-glaze polychrome-painted decoration in 'chrome' colours	1830	1900	1	1	12	Saucer
TPW FLOW	refined whiteware with under-glaze transfer-printed 'flow blue' decoration	1830	1900	3	2	531	Bowl, cup
MAJO	majolica	1850	1900	1	1	2	-

Table 1: Quantification of the assemblage by ware type. SC = Sherd count. ENV = Estimated number of vessels. Wg = Weight in grams.

Distribution

A breakdown of the distribution of pottery by phase is presented in Table 2 and by phase and ware type Table 3.

Phase	Sherd count	Estimated number of vessels	Weight (in grams)
2: Alluvium	2	1	119
3: River channels/ flood deposits	1	1	67
4: Medieval	38	20	1113
5: 1450-1600	38	10	2057
6: 17th century	702	319	51385
7: 18th century	212	135	19690
8: 19th century	476	395	52029
Unphased	14	12	1989

Table 2: Breakdown of the assemblage by phase.

Fabric	Phase							Unphased	Total
	2	3	4	5	6	7	8		
MISC			8		1		1		10
MISC WW			2						2
EMS			6						6
LOND			2		1				3
SHER FL			1						1
KING			2						2
SPGR					1				1
KING SBOSS			9						9
CBW		1	6				1		8
DUTR					1				1
CBW BUNG							1		1
MPUR					4	5	1		10
PIPECLAY							1		1
MORAN					1				1
TGW IMP						1			1
MISC					7	2	10		19
EBORD					1		1		2
PMRE				14	37	2	1		54
PMSRG				16	4	3			23
PMSRY					2				2

Fabric	Phase							Unphased	Total
	2	3	4	5	6	7	8		
MART2					1		1		2
BORD					3	3			6
BORDG				1	29	7	21		58
BORDO				1	45	5	3	1	55
BORDY				4	53	9	18	1	85
FREC					23	6	5	2	36
FRECW			1		2	1	1		5
NORS					3				3
RBOR				1	25	21	40		87
TGW A					12	1	2		15
TGW					22	9	14	1	46
TGW BISC					2				2
WERR					1				1
PMBL					13	3	1		17
PMFR	2			1	117	5	8		133
PMFRB					2				2
RBOR SLTR						3	1		4
RBORB							6		6
RBORG					5		5		10
PMR					71	46	49		166
CHPO BW					1		6		7
CHPO SWAT						1			1

Fabric	Phase							Unphased	Total
	2	3	4	5	6	7	8		
WEST					2	2			4
MART3					3		2		5
BORDB					13	1	1		15
POTG					1				1
TGW B					11				11
TGW D					13	2	8		23
METS					14	15	9		38
TGW BLUE							4		4
TGW C			1		40	5	7	1	54
BORDG CHP2					5	5	13		23
BORDY CHP2					3				3
STSL						5	14		19
WEST PURP					1				1
TGW F					19		2		21
LONS DWT					40	1	10	3	54
LONS					30	18	75	2	125
TGW H					1		2		3
CHPO BATV						1			1
DERBS								1	1
ENGS							8		8
TGW G						7	1		8

Fabric	Phase							Unphased	Total
	2	3	4	5	6	7	8		
SWSL					1		1		2
SWSG						2	2		4
CHPO ROSE							1		1
REST							1		1
SWSG COB					2				2
CREA						3	10		13
CREA DEV					9		9		18
ENPO UTR							4		4
SWSG DSC							1		1
PEAR TR1						3	1		4
PEAR BW						1	7		8
PEAR						4	1		5
PEAR PNTD						1			1
PEAR TR							10		10
BBAS							2		2
CREA SLIP							1		1
SUND MOT					1		1		2
TPW							22		22
PEAR ERTH							1		1
BONE						1	4		5
COLGE								2	2
ROCK							2		2

Fabric	Phase							Unphased	Total
	2	3	4	5	6	7	8		
SUND							4		4
CONP							1		1
LUST							1		1
REFW							7		7
REFW PNTD							3		3
REFW SPON							1		1
PEAR TR3						1	1		2
TPW3							2		2
TPW6							3		3
DYE							1		1
YELL							2		2
YELL SLIP							3		3
BONE TR3							1		1
BONE TR4							3		3
TPW4					1				1
ENGS BRST							3		3
REFW CHROM							1		1
TPW FLOW							3		3
MAJO							1		1

Table 3: Distribution of the pottery by ware type and phase (sherd count).

Phases 2 & 3: Alluvium, river channels and flood deposits

Three sherds of post-Roman pottery were recovered from Phase 2 and 3 deposits, considered to be intrusive, comprising a coarse Surrey-Hampshire border ware jug handle and two sherds from an Essex-type post-medieval fine redware thickened base.

Phase 4: Medieval

A fairly modest assemblage of medieval pottery was recovered, predominantly from lining and accumulation deposits in the base of the moat ([174], [179]), but also from the fill of a couple of pits ([225], [358]) and flood deposits ([252], [253]).

The earliest material recovered are the shell-tempered wares (MISC SHELL) recovered from the pits and flood deposits. These include two jar rims, one of which is fairly large ([252]). The latter has an everted, thickened rim with an external bevel and appears to have a wheel-finished rim luted onto a handmade body. The second rim has an everted, squared profile. A provisional date range from the 11th to 13th century is proposed, although the forming and rim profile of the latter are more suggestive of a 12th-century date. Furthermore, a sherd of south Hertfordshire-type flint-tempered greyware was also recovered from layer [253], post-dating c.1170. There are also a small number of shell and grog tempered body sherds that are likely to be of Roman date.

The larger group of pottery was recovered from the moat, some 29 sherds, representing 13 separate vessels. The pottery includes early medieval sandy ware (EMS), London-type ware (LOND), Kingston-type ware (KING; KING SBOSS) and coarse Surrey-Hampshire border ware (CBW). Nine sherds from the same Kingston-type ware rounded jug with stamped boss decoration (KING SBOSS) were found both in the clay lining [174] and accumulation deposit [179], dating from c.1270 to 1350. The combination of CBW and LOND suggest a similar date range, although a possible sherd from a CBW bunghole jug may suggest a deposition occurred during the mid 14th century. The latter is burnt and discoloured with some surface lamination, however, so identification of the form on the presence of red slip is somewhat tentative. Two sherds of post-medieval pottery were also recovered from the accumulation layer, a small sherd of English-tin glazed ware (TGW C) and the base of a Frechen whiteware jug (FRECW). It is possible the medieval pottery is re-deposited but the good condition of the material and presence of cross joining sherds might indicate the two post-medieval sherds are more likely to be intrusive. In either case the presence of multiple sherds of the same vessels suggest the pottery is unlikely to represent stray residual material. The medieval assemblage probably derives from contemporary domestic occupation in near vicinity, either deriving from Fulham Palace to the west or from the lay settlement focused to the east of the High Street (Harward 2003, 60).

Phase 5: Early post-medieval c.1450-1600

A slightly larger assemblage of early post-medieval pottery was recovered, although a proportion of this is residual in later features. Two groups are dated to the late 16th or late 16th to early 17th century, both from fills of the moat ([303]; [537]). Fill [303] contained London-area early post-medieval redware (PMRE) cauldrons and a dish, in addition to Surrey-Hampshire border whitewares and redwares (BORDY/G; RBOR), including a bowl and frying pan, and an Essex-type post-medieval fine redware (PMFR) flared dish. Fill [537] also contained sherds of Surrey-Hampshire border whiteware and redware, but in addition to a semi-complete (but fragmented) London-area post-medieval slipped redware rounded jug with a bib of white slip and green glaze (PMSRG). As with the medieval assemblage, this pottery was likely dumped from nearby contemporary occupation.

Phase 6: 17th century

Phase 6 deposits produced the largest quantity of pottery, amounting to 700 sherds from 319 vessels, recovered from dump layers and the fill of channels, timber structures and cesspits (Table 2). There is a significant component of early to mid 17th-century pottery on site but the majority of the pottery attributed to this phase was deposited during the late 17th or early 18th century, coinciding with the opening of Dwight's Fulham pottery 100m to the east of site. Notably, if perhaps unsurprisingly, stoneware products from the pottery are well-represented in deposits of this date, and indeed through later phases on site, with the pottery remaining in continuous operation on the same site until it moved to Battersea in 1986. Indeed, London stonewares, assuming most are from Dwight's, account for the second most frequent pottery by source for the site as a whole after Surrey-Hampshire border wares. There are also a number of sub-standard vessels, with slight warping or kiln scarring, probably representing seconds, sold on cheaply from the pottery.

Deposits dated to the late 17th or early 18th century are dominated by red earthenwares, predominantly 'Essex-type' post-medieval fine redwares (PMFR/B), but also London-area post-medieval redware (PMR), closely followed by Surrey-Hampshire border wares. English and London tin-glazed wares (TGW; TGWA/B/C/D/F) are the next most frequent and then London stoneware (LONS; LONS DWT), with smaller quantities of Essex-type post-medieval black-glazed redware (PMBL) and Metropolitan slipwares (METS). Imports account for 6% of the phase assemblage, largely from Germany in the form of Frechen stoneware (FREC/FRECW), but also including Westerwald stoneware (WEST/ WEST PURP) and Werra slipware (WERR). French wares are represented by Normandy stoneware (NORS) and Martincamp flasks (MART2/3) and there are single examples of Dutch redware (DUTR) and from the Iberian Peninsula, Portuguese faience (POTG) and Spanish green-glazed ware (SPGR).

Late 17th-century assemblages include those from dump layer [200], pit fill [156] and a large group from the fill of timber structure [161] ([106]; [107]). These contain a range of 17th-century types but also London stoneware and London tin-glazed ware with 'Chinaman among grasses' decoration (TGW F), post-dating c.1670. Fill [106] included a fragment from one of Dwight's early experimental imitation

Westerwald Krüge copies, a rounded drinking mug with applied moulded strips and cobalt and salt-glaze (Christopers *et al.* n.d., 9, fig. 7; Green 1999, 102-3). The London stonewares, probably all from the nearby pottery, are comprised of drinking forms comprised of rounded or bellied jugs, gorges and a small number of tankards. Residual or unstratified 17th-century vessels of note include a near complete small tankard with rilled decoration ([191] Green 1999, 115-6), and two decanters (unstratified; [504]). The latter were made to emulate contemporary wine bottles with a tall neck, bulbous body and a medallion high on the shoulder imitating the seal (Green 1999, fig. 92.164; fig. 98). They are an uncommon form and were for use at the table, rather than in the tavern (Green 1999, 112-4).

Most of the other Phase 6 assemblages are dominated by pottery of 17th-century date but include a small number of vessels that suggest they are unlikely to have been deposited or finally filled in until the early 18th century. These include dump layers [265] and [471], cesspit fill [591], fill [428] and channel fills [617] and [201]. Dump layer [265] has a further 17th-century London stoneware rilled tankard with a 'squab' handle terminal and a tapering, slightly inturned rim (Green 1999, fig. 99, 213-5) and a small jug or gorge with a Charles II crest of a lion statant guardant upon the royal crown dated to c.1675-6, or possibly a little later (Green 1999, 255-7). The layer also contained a couple of late 17th-century London tin-glazed ware plates with 'Chinaman among grasses' decoration, although unusually one has a border design typically dated to c.1700-1720. Cesspit fill [591] produced a complete Surrey Hampshire Border redware carinated bowl and porringer and a further London tin-glazed vessel with 'Chinaman among grasses' decoration, this time a bowl. A sherd of dipped white salt-glazed stoneware (SWSL) suggests a deposition date post c.1710. Channel fill [617] produced a small assemblage including material of 17th-century date but also an unusual tin-glazed ware pedestal vessel, possibly a salt. The vessel is heavily burnt so the possibility must be considered that it may be a waster from the Fulham Pottery, where they were experimenting with delft production in the mid 18th century (Green 1999, 142-3).

The range of forms recovered from Phase 6 deposits is largely consistent with domestic activity. Dump layer [471] contained 235 sherds, from 85 vessels, comprised mostly of dishes, bowls and tripod pipkins but also including two chafing dishes, porringers, skillets, a colander, a small number of drinking forms, namely flasks, jugs, mugs and a tyg, three chamber pots and single ointment pot. The majority is of 17th-century date including Surrey-Hampshire border wares, Essex-type post-medieval fine redware, London tin-glazed ware with blue- or polychrome-painted decoration or manganese mottled glaze (TGWA/B) and five Metropolitan slipware flanged dishes of varying size (one near complete). The layer also contained a Werra slipware dish, a Spanish green-glazed storage jar and two Martincamp flasks. There are also two London stoneware vessels and a London tin-glazed ware ointment pot dating to the early 18th century.

Channel fill [201] also produced a large assemblage, 120 sherds from 53 vessels, including a number of complete or near complete vessels. In contrast to the group from layer [471], a more limited range of

forms were recovered, dominated by drinking forms with 19 jugs and gorges, but also including dishes, bowls, jars, chamber pots and a couple of pipkins and a cauldron. Two unusual London-area post-medieval redware rounded jars were recovered from this group with upright handles extending up from the rim in the style of a bucket. The latter have thickened bases and thickened rims, one lid-seated and the other with a pouring lip. A non-local tin-glazed ware plate with a possible armorial or cartouche in black and grey, including a plume and bird, was also present. Again, the majority of the pottery dates to the late 17th century, although a small London stoneware gorge with an 'AR' ale measure stamp dates to the early 18th century and a white salt-glazed stoneware chamber pot with cobalt decoration (SWSG COB) to c.1740 to 1780. These may represent final infill if the deposit accumulated over some time, although given the high number of sherds from a relatively small number of vessels and level of completeness, much of the assemblage was likely deposited as one event, perhaps as part of a clearance episode. Furthermore, the high proportion of jugs and gorges may suggest drinking formed a key activity in the property or establishment from which the pottery originated.

Phase 7: 18th century

A smaller assemblage was recovered from Phase 7 deposits, collected from dump layers and the fill of channels, pits and construction cuts. A significant proportion of the pottery is again of 17th-century date, although a smaller component of diagnostic 18th-century types are also present. A large group was recovered from channel fill [131], comprised predominantly of 17th-century types, but also containing early 18th-century London tin-glazed ware with 'Lambeth polychrome' decoration (TGW G) and white salt-glazed stoneware post-dating c.1720. Dump deposit [127] produced a smaller assemblage including London stoneware and London-area post-medieval redware vessels but also an 18th-century Dorking-type Surrey Hampshire border redware bowl with a thickened base, folded thickened rim and an iron speckled glaze.

Developments are evident in the London stoneware repertoire on site. Tankards begin to replace gorges as the main drinking vessel during the 18th century (Green 1999, 157). Gorges are still common during the early 1700s, but tankards became increasingly popular as the century progresses. Bichrome glazing is also introduced where the upper body of vessels have a brown iron slip, and after the introduction of coal firing to the Fulham pottery c.1785, the mottled 'orange' peel glaze of the earlier products is replaced by a much more even golden-brown glaze and very dark brown slip (Green 1999, 147). A complete 18th-century quart mug/ tankard was recovered from a Phase 6 channel fill [142] with an iron-slipped upper body and a 'WR' excise mark.

Groups dated to the late 18th or early 19th century, including drain fill [27] and pit fill [148], contain factory made refined earthenwares that became widespread throughout London and the rest of the country during this period, namely Creamwares and Pearlwares (CREA/ PEAR BW/ PEAR PNTD/ PEAR TR). Pit fill [148] also produced Surrey Hampshire border redwares, English tin-glazed wares

and London stoneware in addition to a Batavian style Chinese porcelain (CHPO BATV) tea bowl and a Surrey-Hampshire border green-glazed whiteware flat-rimmed chamber pot (BORDG CHP2). A tin-glazed stoneware chamber pot was also recovered, likely representing a rare mid 18th-century Fulham 'delftstone' product (Green 1999, 142-3. A pearlware tea bowl with under-glaze brown or black transfer-printed decoration (PEAR TR3) represents the latest dated type from c. 1810 to 1840.

Phase 8: 19th century

Phase 8 deposits produced the second largest assemblage from site, recovered from the backfill of pits, channels, sewers and construction cuts and also dump layers and made ground. A significant proportion is residual, or was old when deposited, but London stonewares represent the single largest type represented, followed by London-area post-medieval redware and Surrey Hampshire border redware. The earliest 19th-century groups include Creamwares and Pearlwares with groups post-dating c. 1820/30 containing Yellow wares, London and English stonewares with a 'Bristol' glaze and late style transfer-printed wares, refined whitewares and Bone china. A large but fragmentary group of pottery was recovered from the upper fills of pit [43] ([24] and [42]; 210 sherds, 169 ENV). Both deposits contained residual pottery of 17th- and 18th-century date, with fill [42] including a small number of Pearlwares, Creamwares and Black basalt ware (BBAS). Fill [24] demonstrates a similar range, but also includes Sunderland-type ware, refined whitewares and a single sherd of Majolica, the latter post-dating c. 1850.

Late 19th-century groups include levelling layer [57] and sewer backfill [99]. The latter group includes a couple of complete small upright bottles with handles, one example stamped to the shoulder with 'W.NUNN, MERCERS ARMS, BELGRAVE ST, COMMERCIAL RD'. Given the size, the bottles are likely to have contained spirits, with a W. Nunn listed at the Mercers Arms in 1861 (pubhistory.com). The same deposit also produced two air-tight covered jars with notched rims to receive lid clasps (Green 1999, 362), and a sherd from a sprig-moulded hunt jug, dating to c. 1835-55 (Green 1999, 163). The hunt jug depicts the figure of 'Old Tom' seated on a chair with a pipe and pouring a drink from a jug. The Sunderland-type wares from backfill [99] include both the utilitarian wheel-thrown redware type with an all over internal white slip and glaze, probably made in the north Midlands as opposed to Sunderland, and a press-moulded, slip-trail decorated dish originating from the north-east, likely Sunderland or Newcastle (Cotter 2000, 254-6).

Levelling layer [613], dated to the late 19th or early 20th century, produced a black transfer printed lid (TPW3) from a baby feeding bottle marked 'THE ALEXANDRA FE[EDING B]OTTLE; *S. MAW & SON *LONDON'. The lid has a central hole and was designed to top a flattened circular glass bottle for use with a rubber tube and bone mouthpiece to enable babies to feed themselves. The bottles were a breeding ground for bacteria and were condemned by medical professionals but remained popular as a device of convenience, despite earning the nickname 'Murder bottles'. Mrs Beeton cannot have

helped child mortality rates by suggesting that it wasn't necessary to wash the mouthpiece for two or three weeks. S. Maw were pharmacists, based on Aldersgate Street between 1828 and 1918. The presence of '& Son' in the company logo and 'Alexandra' in the title, a marketing ploy taking advantage of the popularity of King Edward VII's new bride Alexandra of Denmark, would suggest it dates to the period c.1863 to 1870/75.

Fragments of four ceramic figurines were also recovered from Phase 8 deposits and a small continental porcelain dolls head ([114] SF 11). Three of the figurines are made from refined whiteware with under-glaze painted decoration, including a female figure ([114] SF 14) and a couple with a dog ([67] SF 3). The latter has a small hole to the front, possibly representing the base of a spill vase, designed to hold both tapers/ spills and matches. The fourth figurine is made from pipeclay, made from a two-part mould, and takes the form of a robed figure ([88] SF 4). The head is missing but the figure wears a long gown and a cloak or mantle, parted and fastened at the back with what appears to be a bow. There may also be letters to the plinth, possibly including a 'H' and an 'I'. In lieu of further research dating is difficult, although pipeclay figurines are known from London of pre-Reformation and late 17th to early 19th-century date, including devotional and lay figures, soldiers and possible chess pieces.

Potential and recommendations

The pottery attests to low level background activity in the medieval and early post-medieval period, suggesting the site, unlike others on the High Street with evidence for medieval and 16th- and 17th-century buildings (Harward 2003, 66), was not significantly exploited until the mid to late 17th century. By far the largest ceramic footprint dates from the late 17th to early 18th century, including at least one possible clearance group containing multiple whole vessels. There also significant amount of London stoneware and a small quantity of kiln structure and furniture (see Appendix 3), reflecting the proximity of the Fulham pottery. The assemblage is largely domestic in character, although at least one group produced a high proportion of jugs and gorges suggesting drinking formed a significant activity in the property or establishment from which the pottery originated. The Palace offers one potential source, although a tavern or inn on the High Street is perhaps a more probable option.

The range of pottery types recovered is generally in keeping with the ceramic profile for London. Determining status from ceramics can be problematic, although there is some suggestion, as with the glass assemblage, that there may have been some more affluent households in the vicinity of site. There are a couple of more unusual imports, two London stoneware decanters for use at the table and a Sack-type English tin-glazed ware wine bottle. On the face of it the dominance of better quality Essex-type redwares over London-area post-medieval redwares can be indicative of some prosperity, although the Essex potteries appear not to have been the only ones producing a fine bodied redware, with potential production taking place at nearby Brentford (C. Jarrett pers comm.). The PMFR category on site may thus encompass more than one source, with at least some being more locally manufactured

than is at first apparent. Fine redwares were also recorded in some quantity at Burlington Road (Blackmore 1983, 104).

In addition to providing dating evidence for the features from which it was recovered, the primary significance of the assemblage is local, specifically arising from the information it can provide about the inhabitants of this part of Fulham, particularly during the post-medieval period. Further work should include closer look at the distribution of the pottery and what this may be able to tell us about activities taking place in different areas of the site, how these change over time and if they can be related to any documented establishments or households on, or in the vicinity of site. It will also be important to look at the changing ceramic profile over time and what might be concluded about the socio-economic status of the end users. The assemblage should be considered alongside the other finds from site, most notably the glass, and should be set in context with other contemporary assemblages in Fulham, both from the Palace (Jarrett 2012; 2014) and the broader settlement (Blackmore 1983; 2003; Jarrett in prep.). A parallel should also be sought for the pipeclay robed figurine to try and establish if it represents a devotional icon, or something more secular, and if the head was more likely to have been accidentally or deliberately removed. Up to 40 illustrations or plates will be required, although some of these will be group photographs.

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Context	SC	Date range of the pottery		Latest dated pottery		Context considered date
0	7	1550	1926	1800	1900	-
24	121	1550	1926	1850	1900	1850 - 1900
25	5	1770	1900	1794	1900	1794 - 1840
36	3	1340	1600	1500	1600	1500 - 1600
42	89	1270	1926	1770	1840	1770 - 1830
57	11	1580	1900	1770	1840	L.19th century
60	1	1580	1900	1700	1900	1700 - 1900
62	4	1480	1900	1820	1900	1820 - 1900
67	1	1805	1900	1805	1900	1805 - 1900
88	1	50	1900	1400	1900	1400 - 1900
96	89	1550	1926	1830	1900	1830 - 1900
98	25	1580	1926	1805	1900	E/M.19th century
99	35	1550	1926	1830	1900	1870 - 1900
100	3	1550	1900	1550	1900	1600 - 1900
101	3	1570	1926	1780	1900	1780 - 1900
106	33	1550	1926	1670	1926	1670 - 1750
107	63	1300	1926	1670	1926	1680 - 1700
109	2	1080	1500	1140	1350	1140 - 1350
111	10	1550	1926	1670	1926	1670 - 1700
112	5	1480	1700	1580	1700	1580 - 1650
114	8	1580	1900	1805	1900	1835 - 1900
117	20	1580	1900	1820	1900	1835 - 1900
122	3	1580	1900	1850	1900	L.19th - E.20th century
127	9	1550	1926	1670	1926	18th century
131	118	1480	1926	1720	1780	1720 - 1780
140	2	1570	1846	1630	1846	1700 - 1800
142	13	1550	1926	1775	1900	1775 - 1830
144	5	1550	1900	1740	1830	1740 - 1830
148	46	1550	1926	1810	1840	1810 - 1830
156	10	1480	1703	1600	1700	1671 - 1700
169	4	1550	1900	1671	1800	1685 - 1700
174	6	1270	1350	1270	1400	1270 - 1400
179	23	1080	1846	1630	1846	1270 - 1400

Context	SC	Date range of the pottery		Latest dated pottery		Context considered date
181	1	1270	1500	1270	1500	1270 - 1500
191	18	1550	1926	1805	1900	1805 - 1830
193	1	900	1500	1480	1900	1480 - 1800
200	19	1550	1846	1630	1846	1670 - 1700
201	120	1480	1926	1740	1780	M/L. 18th century
212	13	1550	1926	1670	1926	1700 - 1800
225	1	900	1500	1000	1300	1000 - 1300
252	5	900	1500	1000	1300	1000 - 1300
253	2	1170	1500	1170	1350	1170 - 1350
265	63	1400	1926	1670	1926	1670 - 1720
290	2	1580	1700	1580	1700	1580 - 1700
303	20	1480	1700	1580	1700	1580 - 1600
358	1	900	1500	1000	1300	1000 - 1300
405	1	1550	1700	1550	1700	1550 - 1700
428	31	1550	1900	1650	1750	E. 18th century
435	9	1550	1926	1670	1926	E. 18th century
461	56	1580	1700	1580	1700	1580 - 1700
471	235	1250	1926	1670	1926	1670 - 1750
484	16	1450	1926	1670	1926	1670 - 1750
503	8	1550	1900	1580	1900	1650 - 1700
504	5	1550	1926	1670	1926	1670 - 1700
523	6	1550	1926	1670	1926	1700 - 1800
529	2	1550	1900	1720	1780	1720 - 1780
537	18	1480	1900	1550	1700	1550 - 1650
538	4	1570	1926	1670	1926	1670 - 1800
562	1	1670	1926	1670	1926	1670 - 1800
563	8	1550	1900	1825	1900	1825 - 1900
566	4	1480	1700	1630	1680	1630 - 1650
571	5	1580	1926	1760	1830	1760 - 1830
586	5	1550	1800	1630	1680	1630 - 1700
591	34	1550	1900	1710	1760	E. 18th century
593	13	1550	1926	1820	1900	1820 - 1900
613	4	1780	1900	1810	1900	L. 19th - E. 20th century
617	10	1550	1926	1670	1926	1670 - 1800

Table 4: Dating table. SC = Sherd count. U/S = Unstratified.

APPENDIX 3: KILN STRUCTURE AND FURNITURE ASSESMENT

Berni Sudds

A small assemblage of kiln structure and furniture originating from the Fulham pottery was recovered from the excavations, amounting to 46 fragments, from an estimated 39 objects, weighing 16.854kg. The fragments were scattered across dump layers and the fill of revetment features, channels, cesspits, tanks and pits from Phase 6 to Phase 8 (Table 1). Typologically, the majority date to the late 17th and 18th century.

Fabric

According to Green, the 17th- and 18th-century kiln furniture was made from a refractory clay with a high quartz sand content which resisted the accumulation of salt-glaze in the kiln and therefore enabled the fired wares to be more easily freed from the kiln (Green 1999, 181 and 188). A range of bodies is evident in kiln material from site. All appear to be made of a refractory clay but with varying degrees of sand and some higher fired than others. The bricks are formed of a less dense, sandy refractory body, either with or without the iron-rich inclusions present in the London-stoneware body, and sometimes with pockets of micaceous sand (REFRCT). The kiln blocks are made of a similar body, although are slightly denser, and some of the kiln furniture is also made of the sandy refractory clay including most of the spacers and a saggar lid. At the other end of the range is a 'stoneware' body that looks very much like the body of the stoneware pots being produced at Fulham (LONS), including the iron-rich specks, but which, dependent on the level of firing, demonstrate varying degrees of vitrification. This group includes most of the saggars and some of the wheel-thrown spacers.

Kiln structure

A small number of refractory bricks and blocks were identified that are likely to have lined the inside of the kilns. Most fragments are from brick shaped blocks. All are fragmentary, but the surviving dimensions suggest they were a similar, or slightly larger size, than house bricks. The fragments from cesspit fill [562] are bonded together using fireclay, a technique seen in other contemporary kilns (Sudds and Gaimster forthcoming). Similar sized refractory/stoneware bricks were made at the pottery to line Dwight's late 17th-century stoneware kilns, representing some of the earliest refractory bricks made, pre-dating mass-manufactured examples of the mid/late 18th and 19th century (ibid.). One example was recovered from a Phase 6 fill, with the rest from Phase 8 deposits. The dimension of two larger fragments suggest they may be cubic refractory blocks that were used to line the late 18th-century circular bottle kilns ([107] & [148]; C. Green pers comm.; Green 1999, 41-4, figs. 31 & 33), although one example was recovered from a late 17th-century deposit. All the refractory bricks and blocks had a thick green glaze to one surface, where facing the firebox or firing chamber.

Kiln furniture

The majority of the kiln furniture recovered is comprised of fragments from saggars for protecting vessels during firing, both from the weight of other vessels and from direct contact with the flames. These are all cylindrical with flat bases and have varying types of cut-outs to the body to enable the vessels to receive their salt glaze, and sometimes to accommodate a handle. Most of the examples from site are probably of 18th-century date with the long-round ended cut-outs (Green 1999, fig. 154), although some of the more fragmentary pieces with triangular cut-outs to the top of the rim or pointed ends to the body cut-outs could be of late 17th- or 18th-century date. A single 18th-century sagger lid was also recovered from a Phase 7 channel fill ([131]), with a stepped rim to fit snugly into the top of the sagger (Green 1999, fig. 153.527a).

The remaining kiln furniture is represented by four different types of spacer. The 17th-century examples include discs of clay with a cross-shaped groove which appears to have been used for a number of purposes in the kiln, but often used in a pile to make up levels in the stacks of saggars (Green 1999, figs. 146.467 and 150.501). There are also trefoil types used to separate tall stacks of gorges (Green 1999, figs. 146.461 and 147), although the two examples from site are fused together in a pile of spacers which also includes two disc types ([148]). Three wheel thrown pillar-type spacers were also recovered, two with a slightly conical profile and a small central hole to the flat top ([96] and [265]; (Green 1999, fig. 146.480-482), and one more thick-walled example ([106]). These were also probably specifically designed to level stacks of saggars (Green 1999, 181). The last spacer is a roughly squeezed lump of clay in a thick-disc shape used frequently from c.1685 onwards to level, stabilise and separate the columns of saggars (Green 1999, 181 and 188; fig. 152.518). The example from site is attached to the side of a sagger with long cut-outs, partially pushed into the opening ([484]).

Recommendations

The recovery of kiln debris from the Fulham pottery is not unique to the current site, indeed fragments have been recovered from many excavations in the vicinity as stray finds and in small groups (Blackmore 1983; Jarrett 2014; in prep.). The waste products from the pottery, including broken pots, saggars, debris and ash must have been sizable. On occasion this was buried at the works, whilst some may have been used in ballasting boats or barges used to transport pots to London (Green 1999, 30). Although not found in large concentrations outside of the pottery to date, the waste products would have been convenient for backfilling, levelling, and ground raising prior to construction or in land reclamation in the vicinity. The kiln structure and furniture recovered from site is largely comprised of well-paralleled types and as such no further work is recommended. A brief summary of material should be included in any publication, possibly accompanied by one or two group photographs of the types represented.

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Phase	Context	Fabric	Form	SC	ENV	Weight	Comments
6	106	REFRCT	BRICK	1	1	385	Fragment of refractory brick - kiln lining. Vitrified. Thick green glaze to one face. Burnt orange-red and purple grey.
6	106	REFRCT	KILNF	1	1	309	Thick-walled, wheel-thrown conical form (slightly tapering cylinder). Similar to 17th-century separators (Green 1999, fig. 146.480-82) but thicker walled and based. Of the sandy refractory kiln furniture fabric, not the fused London-type ware. Abundant mica to the surfaces.
6	107	REFRCT	BLOCK	1	1	2379	Large refractory block from kiln lining. Vitrified. Thick green glaze to one face. Only one full dimension (155mm). Other partial dimensions 105 x 155mm.

6	201	LONS	SAGG	1	1	584	Thick-walled, crude cylindrical form, flat base. Burning/ scorch marks to base internally and externally. External self-glaze. Traces of pink slip/ clay internally. Fineware saggars? No cut-outs visible to lower body.
6	265	LONS	KILNF	1	1	183	17th-century wheel-thrown slightly conical (tapering) cylinder spacer. Flat base, partially missing, and flat-top with small central aperture. Dark-brown mottled glaze. See Green 1999, fig. 146.480-2.
7	131	REFRCT	KILNF	2	1	695	Saggars lid. Very sandy fabric. Stepped/ seated to fit into saggars. Highly-fired. 18th century. See Green 1999, fig. 153.527a.
7	148	REFRCT	KILNF	4	4	271	x4 17th-century spacers stacked one on top of the other and fused together. x2 discs of clay with cross-shaped impression (see Green 1999, fig. 146.467) and x2 trefoil types (see Green 1999, fig. 146.461).
7	148	REFRCT	BLOCK	1	1	2295	Large refractory block from kiln lining. Vitrified. Thick green glaze to one face. Only one full dimension (115mm deep). Other partial dimensions 140w x 160h mm. Cubic refractory brick as in [107].
7	484	REFRCT	KILNF	1	1	73	17th-century spacer. Disc of clay with cross-shaped impression - see Green 1999, fig. 146.467.
7	484	LONS	SAGG	3	3	471	Cylindrical saggars. Round ended long cut-outs. 18th century.
7	484	LONS	SAGG	2	2	280	Cylindrical saggars. Long cut outs, no ends present. Two saggars fused together at the body.
7	484	REFRCT	KILNF	1	1	281	17th /18th-century spacer. Thick disc-shaped pad of clay attached to side of saggars with long cut-outs to separate and support saggars stacks (with indent where partially pushed into saggars cut-out). See

							Green 1999, 181 and 188, fig. 152.518.
7	484	LONS	SAGG	2	2	586	Cylindrical saggars. Flat bases, multiple round ended cut-outs. Not enough remains to determine if it is a late 17th-century circular type or bottom of a long 18th-century type. Possibly too many to be latter? Remains of clay pads to underside of one example.
8	42	LONS	SAGG	1	1	90	Cylindrical. Triangular cut out or possibly top of a lozenge shaped cut-out. Flat rim? Or part of another cut out.
8	96	LONS	KILNF	1	1	123	17th-century wheel-thrown slightly conical spacer. Flat base - partially missing, and flat-top with small central aperture. Dark-brown mottled glaze. See Green 1999, fig. 146.480-2. Slightly thickened to top, in contrast to illustrated examples and other examples from site.
8	212	LONS	SAGG	4	4	444	18th-century round bottomed ended cut-outs and x1 round top end and flat-topped rim with triangular cut-out. The latter E/M. 18th-century type (Green 1999, fig. 154). Mottled brown salt-glaze.
8	212	LONS	SAGG	8	4	1484	Cylindrical saggars. Bottom end of round ended long cut-outs. 18th century. x1 round top end and flat-topped rim with triangular cut-out. The latter E/M. 18th-century type (Green 1999, fig. 154). Flat bases with pads of refractory clay, more aerated than London stoneware body, similar to bricks/ kiln blocks. Clear/green glaze. x1 partial brown glaze.
8	212	REFRCT	BRICK	1	1	100	Fragment of refractory brick - kiln lining. Vitrified. Thick green glaze to one face. No full dimensions.

8	523	LONS	SAGG	4	3	300	Cylindrical saggars. Pointed and round ended long cut-outs. 18th-century types.
8	523	REFRCT	BRICK	2	1	863	x2 fragments of refractory brick - kiln lining. Vitrified. Thick green glaze to adjacent faces and a broken edge. Abundant mica evident in places - as on kiln scars and bases of some products. 115x66mm surviving complete dimensions.
8	562	REFRCT	BRICK	3	3	4533	Fragments of a bonded fireclay brick wall. Thick green glaze to one face. Speckled grey/purple and yellow from high firing. 107-110/130mmx65mm. Slightly oversized bricks?/ variable. Bonded with fireclay.
8	593	LONS	KILNF	1	1	125	Kiln furniture/ industrial vessel. Cut-outs. Glazed. Tapering body.

Table 1: Catalogue of the kiln furniture and kiln structure. No = number of fragments; ENV = Estimated number of vessels/ objects; Weight in grams.

APPENDIX 4: GLASS ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of glass was recovered from the site (six boxes). The glass dates to the post-medieval period. None of the fragments show evidence for abrasion and were probably deposited fairly rapidly after breakage or were discarded. Natural weathering resulting from the burial conditions was noted upon a number of vessels. The state of fragmentation for the assemblage ranges from single shards to eleven intact items and nearly all of the forms could be identified to at least a basic type. The glass was quantified by the number of fragments, estimated number of vessels (ENV) and weight. The assemblage was recovered from 26 contexts as only small sized (fewer than 30 fragments) groups.

All of the glass (89 fragments, 75 ENV, 15.920kg, of which eight fragments/8 ENV/3.968kg are unstratified) was recorded in a database format, by type, colour, form and manufacturing technique. The assemblage is discussed by functions, vessel shapes and distribution. Additionally, an intact late 19th-20th-century single hardened rubber stopper (17g), which fitted one of the bottles in the assemblage, is included in this assessment.

The forms

The composition of the glass assemblage forms is as follows:

Apothecary bottle: 4 fragments, 3 ENV, 318g

Beaker: 1 fragment, 1 ENV, 1g

Beaker, cylindrical: 1 fragment, 1 ENV, 19g

Bottle, beer: 1 fragment, 1 ENV, 600g

Bottle, beer, champagne shape: 1 fragment, 1 ENV, 593g

Bottle, cylindrical squat: 1 fragment, 1 ENV, 45g

Bottle, flat octagonal section: 2 fragments, 2 ENV, 388g

Bottle, Hamilton, early-type: 1 fragment, 1 ENV, 544g

Bottle, oval section: 1 fragment, 1 ENV, 74g

Bottle, sauce, cylindrical section: 1 fragment, 1 ENV, 235g

Bottle, sauce, square section: 1 fragment, 1 ENV, 238g

Bottle, shouldered: 1 fragment, 1 ENV, 638g

Bowl, carinated: 1 fragment, 1 ENV, 33g

Case bottle: 1 fragment, 1 ENV, 53g

English wine bottle: 3 fragments, 3 ENV, 349g

English wine bottle, cylindrical-type: 2 fragments, 2 ENV, 32g

English wine bottle, cylindrical, early-type: 2 fragments, 2 ENV, 1.074 kg

English wine bottle, mallet-type: 4 fragments, 3 ENV, 1.274 kg

English wine bottle, onion-type: 24 fragments, 14 ENV, 6.153kg

English wine bottle, shaft and globe-type: 3 fragments, 3 ENV, 517g

Goblet/wine glass: 8 fragments, 8 ENV, 508g

Jar, cylindrical: 1 fragment, 1 ENV, 61g

Phial: 1 fragment, 1 ENV, 5g

Phial, cylindrical: 8 fragments, 8 ENV, 296g

Phial, globular: 1 fragment, 1 ENV, 12g

Stopper: 1 fragment, 1 ENV, 7g

Sweet meat glass-type: 1 fragment, 1 ENV, 70g

Siphon-type: 1 fragment, 1 ENV, 1.517kg

Unknown: 1 fragment, 1 ENV, 1g

Vase: 1 fragment, 1 ENV, 51g

Vessel glass: 2 fragments, 2 ENV, 171g

Window pane: 7 fragments, 6 ENV, 43g

Alcohol consumption

Beaker

A single beaker is recorded and made in clear soda glass and survives as an upright rim attached to a rounded body with optically blown roundels and has white weathered surfaces. The vessel may be of a barrel beaker type, dated c.1550-1650 (Willmott 2001) and was recovered from context [101].

Beaker, cylindrical

The base of a beaker of this type, made in pale olive green soda glass was found in context [156]. The item survives with a rounded kick, a solid applied base ring with rigaree decoration. The item may be of a plain cylindrical beaker type, dated c. 1550-1650 (Willmott 2001, fig. 37.1.1).

Goblets/wine glasses

All of the goblets or wineglasses in the assemblage are made of clear soda glass. One of the earliest items consist of a moulded blown stem surviving as a knop above a hollow knop, with rounded end fluting on the top and unknown decoration below. The item is most similar to lion-mask stems dated to the mid 16th to mid 17th century (Willmott 2001, 63-4, fig. 67). The item was found in context [265]. An unstratified item survives as the foot with a merese, attached to a hollow knop with wrythen ribs and the funnel shaped bowl base has an applied crimped/rigaree trail. The item is dated 1550-1675, is English made and dates to the end of the time frame of this type of wine glass (Willmott 2001, 61, fig.60). Three goblets are dated to the 18th century and one example from context [591] is dated c. 1700 and survives as a foot with a folded under hollow edge, a flaring stem with a rounded knop below a large rounded knop, which is attached to the base of a pointed rounded funnel bowl (Bickerton 2000, 2, right image). A similar vessel foot to the latter example was noted in context [591] and has the start of a stem and knop. Deposit [117] produced a stem with two knops: a rounded one, and a large pear-shaped knop, both separated by a short length of stem. Fragments of two 19th-century wine glasses were noted in context [99]. One vessel survives as the rounded base of a large bowl attached to a short, solid thick stem and a merese and the start of the foot. The second vessel also consists of a large rounded bowl and the start of the stem, although it is interesting for having the name 'J McIver' engraved below the rim in flowing, slanted lettering.

Alcohol storage

Beer bottle

A unstratified, intact, moulded emerald green soda glass beer bottle is noted and has an applied collared rim with an internal screw thread, a conical neck, a rounded shoulder embossed 'BATEY/21' and at the top of the cylindrical wall is found 'LONDON'. On the underside of the concave base is embossed the name 'BATEY' twice in a cross formation. The item is dated to the late 19th-early 20th century. The bottle was found with the hardened rubber stopper.

Bottle, beer, champagne shape

The single vessel of this type is made in moulded olive green soda glass and it is intact but for its missing rim. The bottle has weathered surfaces and it is dated to after c.1810 and was recovered from context [99].

Case bottle

The single vessel of this type was found in context [265] and was made in blue-green soda glass and was optically blown. The vessel survives as the base with a shallow rounded kick and a square section body measuring, 65mm x 64mm. Case bottles date to after c.1550.

English wine bottle

Three fragments of English wine bottles made in soda glass are recorded that could not be assigned to a specific shape. Context [503] produced a pale green rounded shoulder from either a shaft and globe or onion bottle type and it is dated to the mid 17th-early 18th century. Deposit [301] produced only a shoulder sherd of a wine bottle and was only dated to after c.1640, while a c.1730 dated base (Dumbrell 1993, 37) of either an onion-type or a mallet-type wine bottle found in context [148]. All of the wine bottles in the assemblage appear to be free-blown.

English wine bottle, shaft and globe-type, c.1630-1680

The three wine bottles of this type were made in olive green soda glass and are in a fragmentary state and occur as a rim with a disc immediately below (context [265]), a base and wall fragment (context [200]) and a globular body fragment (context [435]).

English wine bottle, onion-type, c.1680-1730

This is the most frequent wine bottle type recorded in the assemblage and includes largely intact items: single items were found in context [42], [57], [127] and [591], while four examples found in context [106] include items with complete profiles. All of the string-rim finishes found on these wine bottles are dated c.1680-90 (Dumbrell 1993, 38).

English wine bottle, mallet-type, c.1725-60

The three vessels of this type were all made in olive green soda glass and consist of a cylindrical wall sherd (context [148]), an item that is complete, except for its missing rim (context [144]) and a fragmentary, squat item with a complete profile and a height of 150mm (deposit [591]).

English wine bottle, cylindrical, early type, c.1740-1850

This free-blown form was identified by two different splayed bases: one occurred in contexts [24] and the other was found in deposit [524]. These items were made in dark olive green soda glass. The shoulder and wall of a generic cylindrical wine bottle was noted in context [24].

Architecture

Window pane fragments

Window glass was surprisingly poorly represented in the assemblage and consisted of mostly small fragments made in clear soda glass that could only be broadly dated to the post-medieval period: contexts [24] (two fragments), [25], [62] and [471] (one fragment each). However, context [25] did produce two fragments with a 19th-20th-century date, one of which consisted of plate glass.

Cover

Part of an unstratified 19th-20th-century dated stopper is recorded in pale green tinted soda glass and survives as the rounded end of the spike.

Display

Vase

The item is moulded in clear crizzled lead glass and the form consists of a simple rim with external relief decoration comprising petals above vertical ovals formed of a double ribbed outline, which contain at least four graduated sized bosses. The item dates to the 19th-20th century and was found in context [25].

Drink serving

Soda siphon

The intact item is of composite manufacture and was unstratified. The glass part of the vessel consists of a cylindrical bottle shape with a short pedestal base with a concave underside. Attached to the rim of the vessel is a pewter, pump action head with a separate thumb-sized handle. An internal diagonal glass tube appears to be secured to the pewter head. The item is dated to the late 19th-early 20th century.

Drink storage

Hamilton bottle, early-type

The moulded vessel is made in blue green soda glass and consists of an applied uneven blob rim while on the body is embossed 'J. M. TAYLOR/WALWORTH/SURREY'. The item is broadly dated c.1809-1900 and was found in context [57].

Shouldered bottle

The bottle type occurs as a single moulded item that is unstratified. The bottle is intact with an applied collared rim with an internal screw thread, a conical neck, an angled/rounded shoulder which is embossed 'WESTERN', while the concave base is embossed on the underside 'WESTERN/REGD/AV'. The item is dated to the late 19th-early 20th century.

Food consumption

Sweet meat glass

The vessel was found in context [24] and it is made in free-blown, clear lead glass. The sweet meat glass survives as a rounded bowl base with evidence of a carination. The bowl is attached to a tall plain stem with a rounded knob at the base. The foot consists of a rounded top above a straight-sided 'deep' step. The vessel is date to the late 18th-early 19th century.

Food storage

Sauce bottles

There are two intact soda glass sauce bottles represented. One item is unstratified and has a square section and is made in pale green tinted glass. The item has an applied grooved rim finish, a conical neck, rounded shoulder, and square section body (41mm x 42mm) with an arcaded top. The concave underside of the base is embossed with the bottle makers mark 'A 516/S 2/ugb' in a square formation. The second bottle was recovered from context [99] and is of a cylindrical type made in blue-green glass and has an applied club sauce rim finish, a tall cylindrical neck, a rounded shoulder embossed 'YORKSHIRE RELISH' and a cylindrical wall, embossed vertically 'GOODHALL BACKHOUSE & Co'. Both items are dated to the late 19th-early 20th century.

Liquid storage

The category is solely represented by a moulded squat cylindrical bottle made in green-blue soda glass. The bottle has a cracked off rim finish, a skewed cigar shaped neck with at the top a hollow rounded cordon, above a smaller cordon. The item is dated to after c.1810 and was found in context [57].

Multi-functional

Carinated bowl

The vessel was made in clear lead glass, is thick walled and has white coloured weathered surfaces. The rim is simple with a rounded finish and is sharply intumed and forms a rounded carinated wall. The item is broadly dated to the post-medieval period and may represent a possible pedestal bowl or a specific type of drinking vessel. The vessel was found in context [201].

Pharmaceutical

Apothecary bottles

Two of the three apothecary bottles were derived from context [591] and one example is intact, while the third example survived as a rim and neck in deposit [131]. These bottles take the form of squat globe and shaft English wine bottles, are free blown, made in blue-green soda glass and date to the late 17th century

Bottle, flat octagonal section

There are two moulded intact bottles of this type and both were made in blue tinted soda glass and have horizontal measure marks in relief on one of the wide arcaded panels. One example was found in context [435] and has an applied packer rim finish, while the second item has an applied rolled/folded rim finish. Both bottles are dated to after 1810.

Bottle, oval section

Context [24] produced the complete profile of a moulded bottle of this type made in dark olive green high-lime low-alkali (HLLA) glass. The vessel has a short bevelled rim, a relatively short neck and the oval section body is embossed on one side with the name 'caburn' and the vessel contains an internal blackened deposit. The item is dated to after c.1810.

Cylindrical phials

The earliest phials in the assemblage were dated to the 18th century and occurred as three examples found in context [148] and all have narrow flat prescription rims and include an intact example made in blue-green soda glass. Three phials from context [24] were dated to the late 18th-19th century and two have complete profiles: one tall example made in clear soda glass has a down-turned prescription rim finish, while another made in blue green soda glass has a narrow, everted rim finish. Two other phials were dated to the 19th century and were both made in clear soda glass. One example survives as a base (context [563]) while the other example was intact and mould made (context [127]).

Globular phial

The only example of this phial type was made in clear soda glass and survives with a wide flat prescription type rim and was dated to the 18th century. It was recovered from context [148].

Storage

Jar cylindrical

A vessel of this type survives as a thick walled, recessed base made in white opaque glass. The item dates to after c.1870 and was found in deposit [98].

Unknown function

Vessel glass

Fragments of glass that could not be assigned to a shape were noted in contexts [109] (clear soda glass) and [471] (olive green soda glass). Deposit [24] produced a thick walled domed basal fragment made in dark olive green soda glass and this may represent part of a carboy.

The hardened rubber stopper

The item is a chisel type and it is intact (with an additional red rubber washer). The name 'batey' is embossed on each side of the chisel top and in recesses on the sides are embossed either 'batey' or '524'. The bottom of the stopper has a screw thread. The item dates to the late 19th-early 20th century, was unstratified and found with the beer bottle embossed with the name of the Batey brewery.

Distribution

The distribution of the glass is shown in Table 1. Glass was only recovered from deposits dated to Phase 6-8. For each context containing glass, then the number of fragments, estimated number of vessels, weight, the forms and a spot date is shown. A brief discussion of the more interesting groups of glassware by phase is provided

Context	Fill of Cut	Phase	No. of frags	ENV	Weight (g)	Forms	Spot date
24	43	8	10	9	960	Bottle: oval section, English wine bottle: cylindrical, including an early-type, phial: cylindrical, sweet meat glass, vessel glass, window pane	1810-1900
25	27	7	4	4	85	Vase, window pane	19th-20th century
42	43	8	1	1	575	English wine bottle: onion-type	c.1680-1730
57		8	3	3	1289	Bottles: cylindrical squat, Hamilton, early-type, English wine bottle, onion-type	1810-1900
62	65	8	1	1	6	Window pane	Post-medieval
98		8	1	1	61	Jar, cylindrical	1870 +
99		8	5	5	1236	Bottles: beer, champagne-type, flat octagonal section, cylindrical sauce, goblet/wine glass	Mid 19th century
101	102	8	1	1	1	Beaker	c.1550-1650
106		6	17	8	2382	English wine bottle, onion-type	c.1680-1730
109		6	1	1	1	unknown	Post-medieval
117		8	1	1	19	Goblet/wine glass	Early 19th century
127		7	2	2	854	English wine bottle, onion-type, phial: cylindrical	19th century
131		7	3	3	32	Apothecary bottle, English wine bottle, phial	Late 17th century
144	43	7	1	1	868	English wine bottle, mallet-type	c.1725-1760
148	43	7	7	7	523	English wine bottles: mallet-type, goblet/wine glass, phials: cylindrical and globular	c.1725-1760

Context	Fill of Cut	Phase	No. of frags	ENV	Weight (g)	Forms	Spot date
156	43	6	1	1	19	Beaker, cylindrical	c.1550-1650
200		6	1	1	255	English wine bottle: shaft and globe	c.1630-1680
201		6	2	2	355	Bowl: carinated, English wine bottle: onion-type	c.1680-1730
265		6	3	3	208	Case bottle, English wine bottle: shaft and globe, goblet/wine glass	c.1630-1680
435	350	7	2	2	312	Bottle, flat octagonal section, English wine bottle, shaft and globe	Mid 19th century
471		6	2	2	3	Vessel glass, window pane	Post-medieval
503	501	6	1	1	11	English wine bottle	Mid 17th-early 18th c
525		8	1	1	589	English wine bottle: cylindrical, early-type	c.1740-1850
563		8	2	2	34	English wine bottle: cylindrical, phial: cylindrical	19th century
591	564	6	9	6	1291	Apothecary bottle, English wine bottle: onion-type, mallet-type, goblet/wine glass	Early 18th century

Table 1: FHS15: Distribution of the glass showing for each context that it occurs in the feature (fill of cut), the phase, number of fragments (No. frags), estimated number of vessels (ENV), weight (Wt (g)), the forms and a spot date for the context based upon the dating of the glass.

Phase 6

Pit [43] contained in its fill [156] the base of a cylindrical beaker, dated c.1550-1650.

The primary fill [591] of cesspit [561] produced two goblets/wine glasses dated to c.1700 and the 18th century. Pharmaceutical items consist of two late 17th-century apothecary bottles, one of which is intact. There are two wine bottles represented which include an intact onion-type and the complete profile of a squat mallet-type. The small size of the latter may indicate that it had more of a pharmaceutical function, especially given the fact that it was found with two apothecary bottles. The group of glass appears to date to the early 18th century.

The backfill [106] to the east of timber structure [161] was notable for only producing wine bottles that were all of the onion-type and dated c.1680-1730, although these have rim string finishes dated c.1680-

90. The six wine bottles represented include two examples with complete profiles and one that can be reconstructed to be almost complete.

Phase 7

Pit [43] contained in a later fill [148] four pharmaceutical items in the form of phials, three of which are of a cylindrical shape and one was a globular type. Two wine bottles were represented and the most diagnostic fragments came from a largely complete mallet-type example and was only missing its rim. Part of an 18th-century wine glass was also present. A later fill [144] only produced a mallet-type wine bottle which was intact, except for the missing rim. The mallet wine bottles found in the two fills indicated deposition dates of c.1725-1760.

The channel fill [131] was notable for producing the top part of another late 17th-century apothecary bottle.

Fill [435] of the construction cut [350] included an intact moulded pharmaceutical flat octagonal panel bottle, dated to after c.1810, while backfill [25] of drain [26] produced mostly window glass, except for a moulded vase rim dated to the 19th-20th century.

Phase 8

A later fill [42] of pit [43] produced only a largely intact onion-type wine bottle with a c.1680-90 dated rim string finish. A subsequent fill [24] produced four pharmaceutical items in the form of three cylindrical files, two of which have complete profiles and a post 1810 moulded oval section bottle, which dates the context. There are fragments of two alcohol storage items in the form of cylindrical wine bottles: the most diagnostic fragment is from an early-type dated c.1740-1850. A single food consumption item survives as a late 18th-early 19th-century dated sweet meat glass. One fragment of window glass occurs and a fragment of vessel glass may be from a carboy.

The post-demolition backfill [99] of the brick sewer contained two wine glasses and of note is the item engraved 'J McIver'. Other items consist of moulded bottles post-dating c.1810 and include a beer bottle with a champagne shape, a pharmaceutical flat octagonal section bottle and a sauce bottle for Yorkshire relish, made by 'Goodhall Backhouse & Co'. The group of glass recovered from fill [99] dates to the mid 19th century.

The layer of made-ground [57] contained three vessels that consist of the larger part of a residual onion-type wine bottle, besides two intact post 1810 dated moulded bottles. These are in the form of a squat cylindrical bottle with a cracked off rim finish and a Hamilton-type soda bottle made for J. M. Taylor, Walworth.

Significance, potential and recommendations for further work

This glass assemblage dates entirely to the post-medieval period. The glass is interesting for containing a notable number of alcohol consumption, storage and consumption vessels. The occurrence of late 16th-early 17th-century goblets or wine glasses in the assemblage, as well as a small number of early lead glass vessels, in addition to the late 18th-early 20th-century sweet meat glass, indicates at least one high socio-economic status household present on the study area. The occurrence of at least three rare late 17th-century apothecary bottles, as well as more common place 18th-century phials, may be a good indication of an apothecary having their premises located on the study area during the late 17th and early 18th century. Phase 6-8 dated fills of pit [43] produced both alcohol consumption and storage finds and this is a good indication that the glass was from an onsite source. The glass additionally complements the information provided by the associated pottery, which imparts different data. Very few, if any glass assemblages have been published in the immediate vicinity of the study area, although comparable assemblages have been excavated nearby at the high status site of Fulham Palace (e.g. Jarrett 2014) and further afield at Fulham Island (VAC01: Tyson 2003) which contained groups of glass from both domestic households and commercial properties.

Potential

The potential of the glass is to date the context it was recovered from. It also has the potential to inform upon the activities associated with the households it was derived from and infer upon possible professions and the socio-economic status of the owners of the glass.

Recommendations for Further Work

It is recommended that a short publication text is prepared on the glass and that this should be supplemented with six illustrations and five photographs of the vessels.

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APPENDIX 5: CLAY TOBACCO PIPE ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of clay tobacco pipes was recovered from the site (two boxes). The material is generally not abraded, in a good condition and it therefore the clay tobacco pipes appear to have been deposited fairly rapidly under both secondary and possibly tertiary conditions. Clay tobacco pipes occur in 37 contexts as only small (under 30 fragments) sized groups.

All the clay tobacco pipes (214 fragments, of which one was unstratified) were recorded in a database format and classified by Atkinson and Oswald's (1969) typology (AO) and 18th-century examples are according to Oswald's (1975) typology and prefixed OS. A small number of the bowls have been reclassified according to Higgins (2004). The material was catalogued according to Higgins (2017) and the pipes were coded by decoration and quantified by fragment count. The quality of finish, including the level of burnishing and the degree of milling of the rims (recorded in quarters) has been noted on 17th-century types. 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 155 bowls, 57 stems and two mouth pieces. The clay tobacco pipe bowl types have a date range of 1610-1910. The index for the milling of the 17th-century bowl rims is shown in Table 1 and the extent of burnishing and finishing for all of the bowl types are shown in Table 2.

Bowl type	Date range	Damaged bowls	None	Quarter	Half	Three quarters	Full	Total
Unidentified		6				3		9
AO4	1610-1640					1	1	2
AO5	1610-1640		2			2	4	8
AO6	1610-1640						1	1
AO9	1640-1660					1		1
AO10	1640-1660		2		1		1	4
AO12	1640-1670			1				1

AO13	1660-1680		4			2		6
AO13V	1660-1680	1		1		1		3
AO15	1660-1680	3	4	2	3	2	2	16
AO18	1660-1680	4	3	1	4	6		18
AO20S	1660-1680		1					1
AO19	1680-1710		3					3
AO20	1680-1710	2	4	2	2			10
AO21	1680-1710		1					1
AO22	1680-1710	1	5					6

Table 1:
FHS15:
index of
milling on
17th

century bowl types

Bowl form	Date range	Not determined	Average	Fine	Good	Total
Unidentified		5	3	1		9
AO4	1610-1640		1		1	2
AO5	1610-1640		6	1	1	8
AO6	1610-1640				1	1
AO9	1640-1660		1			1
AO10	1640-1660		1		3	4
AO12	1640-1670		1			1
AO13	1660-1680		6			6
AO13V	1660-1680		3			3
AO15	1660-1680	3	12		1	16
AO18	1660-1680	3	14		1	18
AO20S	1660-1680		1			1
AO19	1680-1710		3			3
AO20	1680-1710		6	2	2	10
AO21	1680-1710		1			1

Bowl form	Date range	Not determined	Average	Fine	Good	Total
AO22	1680-1710		5		1	6
OS10	1700-1740	10				10
OS12	1730-1780	31	1		1	33
AO26	1730-1780	1				1
OS23	1760-1800	1			1	2
AO27T	1760-1830	5				5
AO27	1770-1845	7		1		8
AO28	1820-1850	2		1		3
AO30	1840-1910	2				2
AO33	1840-1910	1				1

Table 2: FHS15: index of burnishing and finish on the bowl types

1610-1640

AO4: two rounded bowls with a sloping heel. One example was recovered from context [471], while the second example was found in context [156] and it is a tall variant and of note for having rouletting on the underside of the base in the shape of a St Andrews Cross (SF 110). The mark may represent a batch, journeyman's or master pipe maker's mark.

AO5: eight rounded bowls with a flat heel underside. Full milling the rims and an average burnish is the modal value for these bowl types (see Tables 1 and 2). Singular examples occurred in contexts [265], [428], and three examples were recovered from context [471]. Additionally, two tall variants were noted in context [148], while a large bulbous example recovered from context [566] has an incised line on the underside of the heel at a slight diagonal to the mould seam.

AO6: one rounded, spurred bowl, context [191]

1640-1660

AO9: one rounded, spurred bowl, context [201]

AO10: four heeled rounded bowls and two examples were each found in contexts [106] and [471]. The examples from context [106] consist of more bulbous variants than the norm and one has a pronounced overhang, or chinned profile. An example from deposit [471] also has a chinned profile.

1640-1670

AO12: one tall rounded bowl with a heart-shaped heel, context [169].

1660-1680

AO13: six heeled bowls with rounded profiles. One example from context [131] has more of a biconical profile, while a single example from deposit [435] and two bowls each from contexts [42] and [503], have a more pronounced overhang and are more similar to West Country and Bristol type 8 contemporaneous bowl shapes (Jarrett 2013).

AO13V: three heeled bowls with rounded barrel shapes. Two examples were recovered from deposit [106] and one bowl was noted in deposit [265].

AO15: sixteen spurred bowls with rounded profiles and these are variable in the extent of the milling of the rim and most have an average degree of burnishing (see Tables 1 and 2). Single examples were recorded in deposits [131], [148], [201], [428] and [435], two examples were each found in context [42], three examples were each found in contexts [106], [471] and [593].

AO18: eighteen heeled bowls with either angled straight sided or barrel-shaped profiles. The degree of milling on this bowl type is changeable, although examples with three-quarters milling of the rim are more frequent as are items with an average level of burnishing. Single examples of AO18 bowls were found in contexts [107], [131], [148], [169], [381], two examples each were noted in contexts [96], [265], while deposits [106] and [471] produced respectively four and five examples each.

AO20S: one tall heeled bowl with a rounded profile and a smaller version of the later AO20 shape. Context [201].

1680-1710

AO19: three tall spurred bowls with rounded profiles. Single examples were found in contexts [131] and [471]. The third bowl (SF83), recovered from context [191] is interesting for having a small circular stamp containing 'BB' in relief and positioned on the top of the stem at the base of the bowl. Stamping on AO19 bowls is extremely rare for the London area and the item probably represents a non-local product.

AO20: ten tall heeled bowls with rounded profiles and the majority of the bowls have no milling and an average burnish (see Tables 1 and 2). Most of the AO20 bowls in the assemblage are slender types and are constricted above the base and may represent during this period a characteristic of the local industry. Single examples were noted in contexts [107] and [131], while two examples were each found in contexts [96], [106], [191] and [265]. A few variants are noted. Deposit [96] produced an example with a straight back and rounded front and may represent a non-local bowl or a transitional shape between the AO13 and AO20 types, but distinct from the AO20S shape. The same context also produced a slender flaring, trumpet-like bowl.

AO21: one tall heeled angled bowl with a straight back and rounded front. Context [265]

AO22: six tall heeled bowls with straight sides. Single bowls occur in contexts [100], [191], [201] and [265], while two bowls were noted in deposit [106] and consist of shorter versions, one of which is angled more so to the horizontal.

1700-1740

OS10: ten tall heeled upright bowls with a straight back and rounded front and thick stems. One bowl was recovered from context [127], three examples were found in deposit [131] and six items are noted from context [591]. The latter produced the only maker marked example with the initials found on the sides of the heel.

R M: SF 84. A local pipe maker is unknown, although Richard Manby (1), 1701-1723, Whitechapel (Oswald 1975, 141), whose pipes appear to have been widely distributed across London, may be the pipe maker for this bowl.

1730-1780

OS12: 33 tall heeled upright bowls with a straight back and rounded front and thin stems. One example occurred in contexts [42], [96], [98], [131], [144], [191] and [529], six examples came from deposit [24] and 21 OS12 bowls were found in deposit [148]. Eight of the bowls are maker marked and two of these have moulded bowl decoration:

. : two bowls with a dot on the right side of the left side of the heel; context [131], SF 106, context [148], SF 148 and the dot is pronounced.

. . : two bowls with a dot on each side of the heel; context [24], SF61, context [148], SF 109 and the dots are fine.

I E: one bowl, context [98], SF 73. There are very few London 18th-century pipe maker's recorded with these initials. James Everitt, apprenticed to Richard Manby (1) in 1731 is a possibility (Oswald 1975,

136), while John Ellison, Westminster is recorded in 1768 as being released from a charge of assault (MJ/SP/1768/12/021).

? I: one bowl, the heel is damaged and the first initial is missing. Context [24], SF 64.

? W: one bowl and the first name initial is illegible. Context [148], SF 107.

I W: one large bowl with moulded decoration consisting of the Hanoverian Coat of Arms on the back of the bowl and the Prince of Wales's feathers on the front. Context [24], SF 65. The maker of this bowl is uncertain (see Oswald 1975, 148 for the possible makers) although I W bowls with the Hanoverian coat of arms have been recorded previously (Atkinson and Oswald 1969, 197).

1730-1800

AO26: a short, narrow version of the OS23 bowl shape, with a very pointed, near vertical spur. Possibly an early version of the 18th-century spurred bowl or a non-local type.

1760-1800

OS23: two upright spurred bowls with a rounded front and straight back. A plain, fragmentary example occurred in context [529] and the item appears to be water worn. The second bowl is decorated with the Prince of Wales's feathers on the back of the bowl and the spur is missing, context [42], SF 71.

1760-1830

AO27T: five tall upright bowls with a rounded front and straight back and square profile heels. Single examples occurred in contexts [131] and [144], while three examples were noted from context [24]. Four of the bowls are maker marked and include decorated items:

O O: one bowl. A circle or roundel occurs on each side of the heel and there are wheat ear and grass borderers on the front and back of the bowl. The left side of the bowl has a kneeling African slave with chains and the right side of the bowl has Liberty standing with a cap of liberty held in her right hand and a palm frond held in her left hand. This represents a political bowl dating to the early 19th century with an anti-slavery message. The image of the slave is taken directly from a Jasper ware roundel that also has the slogan "Am I not a Man and a Brother" and made by Josiah Wedgwood in 1798. The bowl is likely to date to before c.1833 when the Slavery Abolition Act was passed. Furthermore, the bowl appears to be a non-local product and probably comes from a Lincolnshire source where several master pipe makers from that area are known to have made this bowl design. Context [24], SF 59.

I H: two plain bowls with the initials moulded on the sides of the heel. Context [24], SF 58, context [144], SF 74. There are numerous possible London pipe makers for this bowl (see Oswald 1975, 138).

P W: one bowl with the initials on the heel and the bowl is decorated with fan like grass leaves on the front of the bowl, a V on the back and a daisy-type flower on the sides. The item is poorly moulded and the two parts of the mould does not match. Context [24], SF 60. The possible pipe maker is Paul Webb, 1805-11, Westminster (Oswald 1975, 148).

1770-1845

AO27: eight upright bowls with a rounded front and straight back and square profile heels. Single examples were recovered from contexts [24], [98] and [99], while five bowls were noted in deposit [42]. All of the bowls have maker's marks and all but one of these is decorated:

* *: two bowls with a star on each side of the heel. One bowl is decorated with vertical fluting of different sizes and wheat ear borders on the front and back of the bowl. Context [42], SF 70. The second bowl is very similar to the latter, except that the wheat ear borders additionally have grass leaves. Context [24], SF 62.

W B: two bowls. One bowl survives mostly as the heel with the initials and has a thin stem. Context [98], SF 73. The second bowl is more complete and has leaf and grass borders and typical Masonic symbols that are found on other bowls with this decoration type. The mould is worn. Context [99], SF 77. Several contemporaneous London pipe makers have these initials, of which William Brown (2), 1805-44, Westminster was working close to the site (Oswald 1975, 132).

I C: one bowl with the initials on the sides of the heel and the bowl is decorated with fluting of alternating sizes and leaf borders on the front and back of the bowl. The leaf borders are poorly moulded. Context [42], SF 66. Several contemporaneous London pipe makers shared the initials, although two were working more closely to the study area: Joseph Clamtree, 1805-11, Piccadilly and Joseph Chiffings, 1828-59, Cripplegate and Westminster (Oswald 1975, 133).

H P: one bowl with initials on the side of the heel. The front of the bowl is missing, while on the back of the bowl is a depiction of the Prince of Wales's feathers and the stem has on the left side a sprig of foliage and 'POWELL' and on the right side 'Westmin[ste]R': The R is in superscript lettering. Context [42], SF 68. Made by Henry Powell, 1816-27, Westminster (<http://www.kieronheard.com/pipes/westminster/listofpipemakers.htm>).

I P: two bowls with initials on the heel and both were found in context [42]. One bowl (SF 69) is decorated with vertical fluting of the same size and sprigs of foliage on the heel at the base of the bowl. A second damaged bowl (SF 67) has fluting of the same size and drapes around the rim. The stem has on the left side a sprig and 'POWELL NO. 79 ...' and on the right side '... PETER STREET WEST'. The pipe

maker is uncertain, although he must have been related to members of the Powell family of pipe makers working in Westminster during the mid 18th and early 19th century (<http://www.kieronheard.com/pipes/westminster/listofpipemakers.htm>).

1820-1850

AO28: three tall upright spurred bowls with a rounded front and straight back and all are maker marked or decorated:

* *: one bowl with a star on the side and a wheat ear border only on the front of the bowl. Context [99], SF 78

J D: one bowl with the initials on the side of the spur and a wheat ear border only on the front of the bowl. Context [114], SF 80. There are numerous contemporaneous London clay tobacco pipe makers who shared these initials (see Oswald 1975, 135).

T C: one bowl with the initials on the side of the spur and an acorn and oak leaf border only on the front of the bowl. Context [114], SF 80. Made by Thomas Coomer, 1841-56, Fulham (Hammond n.d.)

1840-1910

AO30: two bowls without a heel or a spur and both were found in context [67] and have moulded decoration. One bowl has plain ribs, which stop short of the rim, on the front and back of the bowl (SF 75). A second bowl has moulded decoration consisting of even sized fluting with rounded tops that stop short of the rim and leaf borders occur on the front and back of the bowl (SF 76).

AO33: one Irish type bowl with moulded milling and as a short variant. Context [114].

Fragmentary bowls

There are nine fragmentary bowls that could not be confidently assigned to a type, although some fragments are broadly datable. Two heels recovered from context [471] are probably derived from c.1610-40 dated types. Deposit [191] produced a spur from either an AO15 or AO19 type bowl, while another item found in deposit [99] is missing its rim and may be of either an AO20 OR AO21 type. A mid-late 19th-century bowl fragment (SF 79) has a large moulded oval leaf design and was recovered from context [114].

Mouth parts and stems

There are two mouth parts recorded in the assemblage. One occurred in context [24] and has traces of red wax or paint and a plain example was noted in context [131]. All of the stem fragments are plain and were broadly dated according to their thickness and more importantly the size of the bore.

Distribution

Table 3 shows the distribution of the clay tobacco pipes, the number of fragments, the date range of the latest bowl type (context ED and LD), the types of bowls present, together with a spot date for each context clay tobacco pipes occur in. The clay tobacco pipes were recovered from Phase 6-7 dated contexts.

Context	Fill of Cut	Phase	No. of fragments	Size	Context ED	Context LD	Bowl types (makers) etc	Spot date
24	43	8	23	S	1770	1845	x 6 OS12, x3 AO27T, x1AO27, x13 stems	1800-1820
25	27	7	1	S	1580	1910	x1 stem	1730-1910
42	43	8	12	S	1770	1845	x1 OS13, x2 AO15, x1 OS12, x1 OS23, x5 AO27	1830's
67		8	2	S	1840	1910	x2 AO30	1840-1910
96		8	5	S	1730	1780	x2 AO18, x1 AO20, x1 OS12	1730-1780
98		8	4	S	1770	1845	x1 OS12, x1 AO27, x2 stems	1770-1845
99		8	4	S	1820	1850	x1 AO20, x1 AO27, x1AO28, x1 stem	1820-1845
100		7	1	S	1680	1710	x1 AO22	1680-1710
101	102	8	4	S	1580	1910	x4 stems	1580-1700
106		6	18	S	1680	1710	x2 AO10, x2 AO13V, x3 AO15, x4 AO18, x2 AO20, x2 AO22, x4 stems	1680-1710
107		6	4	S	1680	1710	x1 AO18, x1 AO20, x2 stems	1680-1710
111		8	2	S	1580	1910	x2 stems	1580-1740
114	115	8	6	S	1840	1910	x1 AO28, x1 AO33, x4 stems	1840-1910

Context	Fill of Cut	Phase	No. of fragments	Size	Context ED	Context LD	Bowl types (makers) etc	Spot date
117		8	1	S	1820	1850	x1 AO28	1841-1856
127		7	1	S	1700	1740	x1 OS10	1700-1740
131		7	15	S	1760	1830	x1 AO13, x1 AO15, x1 AO18, x1 AO19, x1 AO20, x3 OS10, x1 OS12, x1 AO27T, x5 stems	1760-1780
144	43	7	2	S	1760	1830	x1 OS12, x1 AO27T	1760-1780
148	43	7	25	S	1730	1780	x2 AO5, x1 AO15, x1 AO18, 20 OS12, x1 AO26	1730-1780
156	43	6	2	S	1660	1680	x1 AO4, x1 stem	1660-1680
169		7	2	S	1660	1670	x1 AO12, x1 AO18	1660-1670
191		8	8	S	1730	1780	x1 AO6, x1 AO19, x2 AO20, x1 AO22, x1 OS12, x2 stems	1730-1780
201		6	8	S	1680	1710	x1 AO9, x1 AO15, x1 AO20S, x1 AO22, x3 stems	1680-1710
265		6	11	S	1680	1710	x1 AO5x1 AO13V, x2, AO18, x2 AO20, x1 AO21, x1 AO22, x3 stems	1680-1710
381	382	6	1	S	1660	1680	x1 AO18	1660-1680
393	394	6	1	S	1580	1910	x1 stem	1580-1700
395	396	6	1	S	1580	1910	x1 stem	1580-1700
405	406	6	1	S	1580	1910	x1 stem	1580-1700
428		6	6	S	1660	1680	x1 AO5, x1 AO15, x4 stems	1660-1680
435	350	7	2	S	1660	1680	x1 AO13, x1 AO15	1660-1680
471		6	21	S	1680	1710	x1 AO4, x3 AO5x2 AO10, x3 AO15, x5 AO18, x1 AO19, x6 stems	C. 1680
503	501	6	3	S	1660	1680	x 1 AO13, x2 stems	1660-1680
529	528	7	2	S	1760	1800	x1 OS12, x1 OS23	1760-1780
538	539	6	2	S	1580	1910	x2 stems	1580-1700

Context	Fill of Cut	Phase	No. of fragments	Size	Context ED	Context LD	Bowl types (makers) etc	Spot date
562	564	8	2	S	1580	1910	x2 stems	1730-1910
566		6	1	S	1610	1640	x1 AO5	1610-1640
591	564	6	6	S	1700	1740	x6 OS10	1700-1740
593		8	4	S	1660	1680	x1 AO13, x1 AO15	1660-1680

Table 1. FHS15. Distribution of clay tobacco pipes.

Significance of the Collection

The bowl forms present are fairly typical for the London area. The clay tobacco pipes are of some significance at a local level and demonstrate characteristics of the local industry, what was being marketed there and from the evidence of the non-local pipes, e.g. the anti-slavery pipe (context [54], SF 59), who was visiting the study area from afar. A number of the maker marked bowls indicate that the area of Westminster was supplying pipes to the study area. Comparable assemblages from nearby archaeological excavations consist of those from Fulham Island (site code: VAC01; Jarrett 2003), Fulham Palace (e.g. FLB03; Jarrett 2014) and Fulham Pottery (Pearcey 1999).

Potential

The clay tobacco pipes have some potential. The material is of use for dating the contexts they were found in. The assemblage is useful for characterising the local industry and determining other what other London areas were supply the study area, such as Westminster. As the site is close to the River Thames, it may have been that the river was important for the distribution of pipes to this area of south west London. A number of pipes would merit illustration to demonstrate the local manufacture and unusual items of interest.

Recommendations for Further Work

It is recommended that a publication report is written on the clay tobacco pipe assemblage. Additionally, the report should indicate what was marketed or distributed from elsewhere to this locality. It is recommended that seven bowls are illustrated to supplement the text.

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APPENDIX 6: METAL AND SMALL FINDS ASSESSMENT

Märit Gaimster

In total, around 130 individual metal and small finds were recovered from the excavations; they are listed in the table below (Table 1). All assemblages are considered and discussed here by phase.

Phase 3: natural

Only one object was retrieved from a Phase 3 context. This was in the form of the squashed remains of a rumbler bell of copper alloy (SF 39). The bell is formed by two sheet hemispheres, soldered together around its hemisphere. Bells of this form and size, with a diameter around 25mm, were in use during the late medieval and early modern periods; they could be worn as dress accessories or fixed to dog collars or horse harnesses (cf. Egan and Pritchard 1991, 336-37; Egan 2005, 57). The bell is likely intrusive here, perhaps from Phase 4.

Phase 4: 1170-1450

Phase 4 produced fifteen metal and small finds, dominated by material from ditch [180]. This includes a near-complete medieval leather lace-up shoe (SF 31) and four probable lead weights or plumb bobs (SF 27-30). Remains of at least a further two leather shoes from fill [179] may also be medieval. There are also the possible remains of a copper-alloy pin with a solid cast head (SF 32) and food remains in the form of a fruit stone (SF 54), probably cherry, and a hazelnut shell (SF 55). The majority of these finds have no associated pot dates; one object, a rubber and textile patch from layer [252], is clearly intrusive in this phase.

Phase 5: mid-15th to early 17th centuries

Four objects came from this phase. Besides two incomplete and heavily corroded iron nails, they comprise a small leather patch, neatly cut into a four-petal flower (SF 112) and a thin and possibly embossed copper-alloy disc (SF 41). The disc was associated with pottery dating from 1550-1600.

Phase 6: mid-17th to early 18th centuries

Phase 6 produced the largest individual assemblage from the site, with fifty-eight metal and small finds representing a range of functional categories. Dress and clothing is seen above all in footwear, and the remains of at least twelve leather shoes from contexts [106], [107], [265] and [471]. Small dress

accessories include nine copper-alloy pins with heads of wound wire cramped into a globular shape (Cable Type C; SF 34 and 90-91), a minute glass bead (SF 92), a copper-alloy livery/blazer button (SF 20) and the possible remains of a copper-alloy cufflink (SF 19). Household fittings and furnishings are represented by three cutlery handles and a copper-alloy curtain ring (SF 18); a lathe-turned bone ring of similar proportions may also be for drapes or curtains (SF 48). Two of the cutlery handles are of ivory and for pin-hafted implements (SF35 and 89); both are tapering with slightly bulbous ends, and have good parallels in other handles from the late 17th and early 18th centuries (cf. (Thompson *et al.* 1984, 101-3 and fig. 51). The third handle, with *in-situ* remains of its pin- or tang-hafted iron knife blade, is carved from bone (SF 43). This handle has a flattened hexagonal section and a simple rounded end.

Besides these categories, militaria is represented by two lead shots (SF 9-10) and a small arrow-shaped copper-alloy mount (SF 100). The mount is virtually identical to an example recovered from a site on the Civil War ditch near the present British Museum (Haslam and Ridgeway 2017, fig. 18 no. 2). The form of these mounts, with two sharp prongs for fixing at the back, is characteristic of the 16th and 17th centuries (cf. Williams 1996, 179 and fig. 13 nos. 93-100); at this time, unlike the late medieval fashion of decorated belts and girdles, decorative mounts are more frequently associated with horse harness and armour (Egan 2005, 39; cf. Egan and Forsyth 1997, 219-20). Leisure is another category, represented here by an incomplete wooden bowling ball or alley (SF 46). It was associated with pottery dating from 1630-1650, and can be compared with other examples of the same period (cf. Morris 2008, 59-61 and figs 40-41). While no coins were recovered, there is a copper-alloy jeton from this phase (SF 17). It is possible that a lead token, recovered from a Phase 8 context, is residual from this phase (SF 21, see below). Prior to the introduction of Arabic numerals in the course of the 17th century, these coin like pieces were used for calculating sums on a chequer board. The production of jetons was dominated from the mid-16th century onwards by Nuremberg, and the example from Fulham High Street belongs to the most prolific group of products in the so-called rose-and-orb jetons.

Of particular interest among the finds from Phase 6 is the fragment of a large tubular bead in opaque red, decorated with lateral opaque white lines (SF 105). A more complete example, also red but with white and light blue vertical lines, came from a Phase 7 context, below (SF 38). These objects are trade beads, manufactured for local markets in Asia, Africa and America (cf. Ajmar-Wollheim and Molà 2011, 13). While glass beads are known to have been produced for this purpose in European glass centres, above all in Venice, from the 15th century onwards, it was only recently discovered they were manufactured also in Britain. Just up the road from the site, at Battersea Embankment, remains of two furnaces for the manufacture of glass trade beads were excavated in 2001 and 2005 (Jamieson 2006; 2007). Large amounts of production waste and rejected beads were recovered from the furnaces; at least 43 individual bead varieties were identified, including tubular beads identical to the two examples from Fulham High Street (Karklins *et al.* 2015). The bead manufacture at Hammersmith Embankment is documented as the enterprise of Sir Nicholas Crisp, on whose private estate, Brandenburgh House, the kilns were erected. Crisp, a London merchant who was heavily involved in West African trade of

ivory, hides, gold, redwood and slaves, was granted a patent for “the making and vending of Glass beads and Beugles” around 1635 (*Ibid.*, 16-17; Jamieson 2007, 8). The glass bead manufacture at Hammersmith was likely a short-lived venture, however, as Crisp lost his trade monopolies in 1640 (Jamieson 2006). The presence at Fulham High Street of production waste from the Hammersmith Embankment glass furnaces is likely a result of dumping.

Phase 7: mid- to late 18th century

Thirteen finds came from Phase 7 contexts. Of these finds, a small assemblage of personal and household objects came from the backfill of pit [43]. These include the remains of a leather shoe, a composite button with a dished bone back and copper-alloy facing (SF 57) and a decayed rectangular wooden brush head (SF 23), as well as the nozzle from a bone syringe (SF25; cf. Egan 2011, 182, fig. 155 <31>). Syringes were used for a range of purposes, including drawing liquids from wounds or irrigation such as cleaning ears and enemas (cf. Jackson 2005, 22). Two copper-alloy table spoons are in the 18th-century Hanoverian Style (SF 24; cf. Moore 2005, 22-25). Other contexts also produced some identifiable objects, such as an ivory cutlery handle with slightly bulbous end, similar to examples from Phase 6, above, but with finer dimensions (SF 50). Two more unusual finds are represented by a flat hexagonal object with a roughly central drilled pit, carved from ?jet (SF 36), and a substantial tubular glass trade bead (SF 38), likely residual from Phase 6 and discussed above.

Phase 8: 19th century

The second largest assemblage, with forty finds, came from this phase. The majority of finds came from two pits, context [43] and [115], and represent both personal and household objects. Besides remains of two shoes with stacked heels, from context [99], clothing and dress accessories can be seen in buttons of copper alloy (SF 6, 8, 47 and 96-97) and in a bone button stiffener (SF 87). There is also a more unusual toggle clasp of copper-alloy sheet embossed with floral decoration (SF 2). The clasp has a narrow slot for the belt or girdle, and a T-shaped opening for the corresponding oval toggle disc; the proportions suggest this would have been for a textile, rather than leather, belt. Other personal objects are reflected in a complete bone toothbrush with four rows of drilled holes for wire-drawn tufts. A complete pipe-clay hair curler (SF 45) is likely residual in this phase, or the remains of older household objects as wigs had gone out of fashion by the turn of the 19th century.

A number of household related objects include fixtures and fittings such as a complete circular mount for a rim or mortice lock (SF 95) and a flat-section drape or curtain ring (SF 44), both of copper alloy. Fragments of several ceramic decorations include a seated couple with a dog in refined white earthenware (SF 3), remains of two bone china figurines (SF 14 and 56) and a rough moulded draped figure of pipeclay (SF4; see Sudds, this volume). Cutlery is represented by an ivory handle for a pin- or tang-hafted implement (SF 16). The handle is of the same style as examples in Phase 6, with a slightly

bulbous end, but has an internal carved that echoes the decorative pommels that secured the through-tang of finer knives from the Elizabethan and Early Stuart periods (Moore 2006, 12). A dished disc, of tinned copper-alloy or possibly tombac, with a central square perforation, may be the end cap of a through-tang cutlery handle (SF 99). Both these finds were associated with late 18th-century pottery, with a significant inclusion of pottery dating from the 17th century. A small bone spoon with elongated bowl is likely for mustard (SF 85); a further short and thin spatulate bone handle is likely also from a spoon (SF 86). Objects relating to household activities can be seen also in a copper-alloy thimble with a steel top (SF 1; cf. Bailey 1995, 14 top right). A lathe-turned bone disc with a central hole and six small and evenly distributed perforations along the perimeter may also be an implement relating to textile work, although the exact function still needs to be established. The presence of children is testified by a small complete porcelain doll's head (SF 11) and a heavily used and worn piece of writing slate (SF 88). A further, complete, nozzle from a bone syringe was also recovered (SF 33; cf. SF 25, above). A more unusual object from this phase is a thin and neat bifacial lead token, featuring the initials I K and with a cross-like design on the reverse (SF 21). The token is likely residual here, and may date from the 17th century (cf. Mitchiner and Skinner 1985, pl. 16-20).

Significance of the Finds and Recommendations for Further Work

At Fulham High Street, only a few fragmented objects were recovered from medieval contexts with the vast majority of finds dating from the mid-17th and through to the 19th centuries. Assemblages from all post-medieval phases were characterised by domestic articles, relating to households as well as clothing and personal belongings. Besides these categories, a decorative mount from Phase 6 is of a form associated with horse harness and armour in the 16th and 17th centuries, while medical or surgical instruments are represented by two nozzles from bone syringes in Phase 7 and 8 respectively. Of particular interest are two glass trading beads, representing manufacturing waste from documented furnaces at Hammersmith Embankment further to the north. This short-lived enterprise, during the years c. 1635-40, belonged to Sir Nicholas Crisp, a London merchant involved in West African trade, including slave trade.

Metal and small finds potentially provide key elements of domestic material culture and activities related to the investigated site, and relevant objects should be included in any further publication of the site. This should include also finds from the later post-medieval period, a time that is still frequently neglected in archaeological publications (although see Crewe 2012; License 2015). For this purpose, some finds will require x-raying and further identification. These recommendations are included in the table of finds below. Following publication, iron nails and undiagnostic metal may be discarded.

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Phase	Context	Sf No	Description	Pot Date	No. Objects	Recommendations
PH3	473	39	Copper-alloy rumbler bell; thin sheet hemispheres with simple flat join around circumference; now squashed; diam. 25mm	n/a	1	x-ray
PH4	174	31	Leather shoe; right foot front-laced turnshoe; sole with narrow waist; near-complete upper with high-cut vamp, slashed at centre and with one lace present; one-piece quarters, raising towards heel; L c.250mm	1240-1400	1	further identify
PH4	175	26	Lead object; oval disc, partly folded over; ht. 35mm; W c.40mm	n/a	1	further identify
PH4	175	27	Lead ?weight; roughly faceted with off-centre square perforation; diam. 25mm; ht. 15mm; weight 47g	n/a	1	
PH4	175	28	Lead standing weight; crudely conical with simple transverse perforation at top; diam. 25-30mm; ht. 30mm; weight 126g	n/a	1	

Phase	Context	Sf No	Description	Pot Date	No. Objects	Recommendations
PH4	175	29	Lead ?weight; roughly inverted cone of rolled sheet, with two opposing holes below edge; diam. c. 45mm; ht. 35mm; weight 175g; ?possibly a plumb bob	n/a	1	further identify
PH4	175	30	Lead ?standing weight; crudely conical with single central (nail) hole in base; oval base 30 x 40mm; ht. 38mm; weight 242 g	n/a	1	further identify
PH4	175	103	Lead waste; thin strip only; possibly ?window came waste; W 4mm; L 55mm+	n/a	1	
PH4	179	bulk	Leather shoe; four pieces of sole from at least two different shoes, including one left shoe with narrow waist	1630-1846 (mostly c. 1230-1350)	2	further identify
PH4	179	bulk	Iron nail; incomplete and heavily corroded	1630-1846 (mostly c. 1230-1350)	1	discard
PH4	184	32	Copper-alloy sphere with circumferential casting ridge; two flat cut surfaces and traces of ?tinning; possible cast pin head; diam.	n/a	1	x-ray
PH4	184	54	Fruit stone; cherry?	n/a	1	further identify
PH4	184	55	Hazelnut shell	n/a	1	
PH4	184	bulk	Iron nail; shank and curved tip only; probably horseshoe nail	n/a	1	discard
PH4	252	bulk	Rubber patch/mount; slightly oval with several thin layers, including ?textile; five holes for fixing; W 110mm; ht. 120mm	1000-1300	1	further identify
PH5	284	bulk	Iron nails; two incomplete and heavily corroded	n/a	2	discard

Phase	Context	Sf No	Description	Pot Date	No. Objects	Recommendations
PH5	284	112	Leather patch; neatly cut in shape of ?four-petal flower; diam. 30mm	n/a	1	further identify
PH5	303	41	Copper-alloy disc; thin and heavily corroded; possibly embossed; diam. 35mm	1550-1600	1	x-ray
PH6	106	bulk	Iron fitting; near-complete strap tapering towards ends, with twelve <i>in-situ</i> ?internal rivets protruding evenly along one side; one remaining arrow-shaped finial and possible traces of wood around rivets; open U-shape possibly original; W 25mm L 375mm+	late 17th to early 18th centuries	1	further identify
PH6	106	bulk	Iron strap mount; open U-shape with six <i>in-situ</i> nails; strap W 15mm; possibly part of fitting above	late 17th to early 18th centuries	1	
PH6	106	bulk	Leather strap; pointed end and five substantial holes for buckle pin; W 30mm; L 225mm+	late 17th to early 18th centuries	1	
PH6	106	bulk	Leather shoe; incomplete straight shoe with stacked heel and square toe; complete insole and part of middle sole present; insole L 250mm	late 17th to early 18th centuries	1	
PH6	106	bulk	Leather shoe; upper only, with grain/flesh seam; L 220mm+; W (max) 180mm	late 17th to early 18th centuries	1	
PH6	106	bulk	Leather shoe; sole of child's straight shoe with ?rounded toe; grain/flesh seam and ?Seat reinforcement; L 170mm	late 17th to early 18th centuries	1	

Phase	Context	Sf No	Description	Pot Date	No. Objects	Recommendations
PH6	107	34	Copper-alloy pins; six complete Caple Type C; L 22–36mm; very well-preserved	1680-1700	6	
PH6	107	35	Ivory cutlery handle for pin-hafted implement; tapering with slightly bulbous; L 92mm	1680-1700	1	
PH6	107	52	Iron nail; complete with small irregular flat head; L 30mm	1680-1700	1	
PH6	107	53	Iron pin/wire; one pointed end; gauge 2.4mm; L 110mm+	1680-1700	1	
PH6	107	bulk	Leather shoe; straight shoe with stacked heel and square toe; incomplete sole and middle sole only; L c.270mm	1680-1700	1	
PH6	107	bulk	Leather shoe; straight shoe with stacked heel and square toe; heel, incomplete sole and middle sole only; L c.270mm	1680-1700	1	
PH6	107	bulk	Leather shoe; several unrelated pieces including fragments of upper, seat reinforcement and incomplete insole for straight shoe	1680-1700	1	
PH6	109	9	Lead shot; diam. 12mm	1080-1350	1	
PH6	109	10	Lead shot; casting nipple present; diam. 12mm	1080-1350	1	
PH6	109	17	Copper-alloy jeton; Nuremberg rose-and-orb; thin and corroded; diam. 25mm	1080-1350	1	clean to identify jeton master
PH6	109	101	Lead sheet fragment; curved side suggest cut from large disc; one side with incised lines, possibly lettering; L 30mm; W 25mm	1080-1350	1	

Phase	Context	Sf No	Description	Pot Date	No. Objects	Recommendations
PH6	109	102	Lead window came; reeded; twisted fragment only; W 4mm	1080-1350	1	further identify
PH6	109	bulk	Iron horseshoe; three heavily corroded pieces; shank W c.30mm	1080-1350	1	x-ray
PH6	109	bulk	Iron nails; two heavily corroded; L 90 and 125mm	1080-1350	2	discard
PH6	142	19	Copper-alloy ?cufflink; two small oval discs corroded together; W 14mm; ht. 17mm	1775-1830	1	x-ray
PH6	142	20	Copper-alloy livery/blazer button; complete but corroded; simple sturdy loop; diam. 23mm	1775-1830	1	x-ray
PH6	156	18	Copper-alloy flat-section curtain ring; diam. 25mm	1620-1640+	1	
PH6	201	94	Iron ?nail; heavily encrusted; L 40mm	mid- to late 18th century	1	x-ray
PH6	201	bulk	Iron vessel of thin sheet; curved fragment only; possibly food tin	mid- to late 18th century	1	
PH6	265	bulk	Leather shoe; child's straight shoe with pointed toe; ?welting and complete insole with zig-zag cuts across back; L 140mm	late 17th century	1	further identify
PH6	265	bulk	Leather shoe; incomplete insole of child's straight shoe	late 17th century	1	further identify
PH6	265	bulk	Leather shoe; straight shoe with stacked heel and gently rounded toe; upper with reinforced toe; two-piece quarters; L 270mm	late 17th century	1	further identify
PH6	265	bulk	Leather shoe; a dozen pieces of at least two shoes, including the sole of a straight unwaisted shoe and a sole with narrow waist	late 17th century	2	further identify

Phase	Context	Sf No	Description	Pot Date	No. Objects	Recommendations
PH6	265	bulk	Leather shoe; incomplete shoe with stacked heel; middle sole and insole	late 17th century	1	further identify
PH6	265	bulk	Iron vessel of thin sheet; incomplete; base diam. 65mm; possibly food tin	late 17th century	1	further identify
PH6	393	bulk	Iron ?clench bolt; heavily corroded; L 50mm	n/a	1	x-ray
PH6	393	bulk	?Heel iron; fragment of curved strap; W 10mm; L 45mm	n/a	1	x-ray
PH6	405	bulk	Iron ?object; heavily corroded lump; L 70mm	1550-1700	1	x-ray
PH6	417	bulk	Iron ?clench bolt; heavily corroded; L 85mm	n/a	1	x-ray
PH6	428	89	Ivory cutlery handle for pin-hafted implement; solid and tapering with slightly bulbous end; L 85mm; end diam. 25mm	n/a	1	
PH6	428	100	Copper-alloy belt- or harness mount; arrow shaped with two attachment spikes; L 30mm	n/a	1	x-ray
PH6	471	40	Copper-alloy pin with flat round finial, possibly a loop; heavily corroded; L 93mm+	late 17th to early 18th centuries	1	x-ray
PH6	471	42	Lead ?object; blackish corroding lump with one flat, possibly carved side; diam. 23mm; ?die	late 17th to early 18th centuries	1	clean to identify
PH6	471	43	Bone cutlery handle for tang- or pin-hafted implement; tapering of flat hexagonal section with simple rounded end; considerable lump of corroded iron at working end; L 58mm+	late 17th to early 18th centuries	1	x-ray

Phase	Context	Sf No	Description	Pot Date	No. Objects	Recommendations
PH6	471	51	Iron ?object; heavily incrustated oblong lump; L 95mm	late 17th to early 18th centuries	1	x-ray
PH6	471	bulk	Iron nail; incomplete and heavily corroded	late 17th to early 18th centuries	1	discard
PH6	471	bulk	Leather shoe; ?straight shoe; incomplete sole and middle sole only; L 255mm+	late 17th to early 18th centuries	1	further identify
PH6	483	105	Glass trade bead; fragment only of substantial tubular form; opaque dark red with thin lateral applied stripes in opaque white; diam. 14mm	n/a	1	further identify
PH6	538	90	Copper-alloy pins; two complete Caple Type C; L 18 and 31mm	n/a	1	
PH6	538	bulk	Iron nails; three fine incomplete; for carpentry	n/a	1	discard
PH6	566	46	Wooden bowling alley; incomplete; slightly oval shape; ht. 80mm; diam. 85mm	1630-1650	1	
PH6	591	48	Lathe-turned bone ring; incomplete of D-section; highly polished; diam. 30mm; ring W 3mm	late 17th century	1	
PH6	591	91	Copper-alloy pin; incomplete ?Caple Type C; heavily corroded	late 17th century	1	x-ray
PH6	591	92	Minute glass bead; complete opaque white; diam. 1.5mm	late 17th century	1	
PH6	591	93	Iron ?strap; W 12mm; L 30mm+	late 17th century	1	x-ray
PH7	57	37	Iron pincers; near complete with broad curved jaws and straight arms; L 190mm; head W 40mm	late 19th century	1	x-ray

Phase	Context	Sf No	Description	Pot Date	No. Objects	Recommendations
PH7	127	50	Ivory cutlery handle for pin-hafted implement; tapering with slightly bulbous end; corroded remains of iron implement at working end; L 80mm+	?18th century	1	x-ray
PH7	148	23	Wooden brush head; incomplete and heavily decayed; rectangular with regular parallel lines of bristle holes; W 75mm; L 135mm+	1810-1830 (mostly c.1650-1750)	1	discard
PH7	148	24	Copper-alloy tablespoon; handle with central spine and plain rounded, upturned end; elongated bowl with rat-tail; end of bowl missing; L 175mm+	1810-1830 (mostly c.1650-1750)	1	
PH7	148	25	Bone syringe nozzle; complete with slightly bulbous tip and external threading at base for ?organic tube; L 85mm	1810-1830 (mostly c.1650-1750)	1	
PH7	148	57	Composite button; dished bone back with decayed remains of copper-alloy facing; diam. 20mm	1810-1830 (mostly c.1650-1750)	1	
PH7	148	104	Copper-alloy tablespoon; incomplete elongated bowl with rat-tail as above; bowl L 75mm	1810-1830 (mostly c.1650-1750)	1	
PH7	148	bulk	Leather shoe; several pieces of shoe with stacked heel, including welting and incomplete insole	1810-1830 (mostly c.1650-1750)	1	further identify
PH7	169	bulk	Leather shoe; incomplete insole with narrow waist	late 17th century	1	further identify

Phase	Context	Sf No	Description	Pot Date	No. Objects	Recommendations
PH7	352	36	Carved ?jet object; incomplete; hexagonal with flat base and roughly central drilled pit; W 55mm; ht. 18mm+	n/a	1	further identify
PH7	435	38	Glass trade bead; incomplete substantial tubular form; opaque dark red with four lateral applied stripes of opaque white with opaque light blue centre; diam. 20mm; l 28mm+	early 18th century	1	further identify
PH7	529	49	Iron ring/washer; flat body; diam. 43mm	1720-1780	1	x-ray
PH7	529	bulk	Composite lump of leather and textile; 75 x 80mm	1720-1780	1	further identify
PH8	24	87	Thin bone disc with small central perforation; diam. 20mm; ?button stiffener	n/a	1	further identify
PH8	24	96	Copper-alloy livery/blazer button; corroded with raised cone for loop; diam. 25mm	mid-19th century	1	x-ray
PH8	24	97	Copper-alloy button; thin and corroded disc with tinned surface; diam. 35mm	mid-19th century	1	x-ray
PH8	24	bulk	Iron nails; two incomplete and heavily corroded	mid-19th century	2	discard
PH8	36	98	Copper-alloy ?object; fragment of heavily corroded sheet or disc; possibly jeton	1500-1600	1	x-ray
PH8	36	bulk	Iron nail; incomplete and heavily corroded	1500-1600	1	discard
PH8	42	1	Copper-alloy thimble; complete rimless of ?drawn sheet with steel top; base decorated with three circumferential rows of hatching; diam. c. 17mm; ht. 23mm	1770-1800 (with significant 17th-c)	1	

Phase	Context	Sf No	Description	Pot Date	No. Objects	Recommendations
PH8	42	5	Bone toothbrush; complete with rectangular head for four rows of wire-drawn tufts; L 155mm	1770-1800 (with significant 17th-c)	1	
PH8	42	6	Copper-alloy ?button; thin and heavily corroded disc; diam. 30mm	1770-1800 (with significant 17th-c)	1	x-ray
PH8	42	7	Bone disc with lathe-turned face and six small evenly distributed perforations along the edge; larger central hole; diam. 30mm; ?textile implement	1770-1800 (with significant 17th-c)	1	further identify
PH8	42	16	Ivory cutlery handle for tang - or pin-hafted implement; tapering with slightly bulbous end with internal collared knob; remains of iron pin/tang; L 87mm	1770-1800 (with significant 17th-c)	1	x-ray
PH8	42	22	Lead disc weight; 35mm; weight 52g	1770-1800 (with significant 17th-c)	1	
PH8	42	99	Copper-alloy ?end cap from cutlery handle; dished disc with central square perforation; ?tinned or of tombac; diam. 19mm	1770-1800 (with significant 17th-c)	1	x-ray
PH8	60	95	Copper-alloy mount for rim or mortice lock; circular with three holes for fixing and moveable centre for square pin; diam. 55mm	18th to 19th centuries	1	
PH8	60	bulk	Iron ?pipe or collar; curved and heavily corroded fragment only; diam. c.100mm; L 70mm	18th to 19th centuries	1	x-ray
PH8	62	bulk	Iron ?nail; thin and heavily corroded bar; L 105mm	1820-1900	1	x-ray

Phase	Context	Sf No	Description	Pot Date	No. Objects	Recommendations
PH8	67	2	Copper-alloy sheet toggle clasp; embossed with floral decoration; narrow rectangular slot for belt or girdle and T-shaped opening for corresponding oval toggle plate; W 50mm; L 52mm	n/a	1	further identify
PH8	67	3	Figurine of refined white earthenware on oval base; incomplete remains of seated couple with dog; small circular hole for ?spills at front W 70mm; ht. 65mm+	n/a	1	
PH8	88	4	Pipeclay figurine; moulded of draped figure on rough base; incomplete; ht. 85mm+	n/a	1	further identify
PH8	98	56	Bone china figurine; fragment of arm only; L 45mm+	early to mid-19th century	1	
PH8	99	bulk	Leather shoe; remains of two stacked heels; incomplete left-foot insole; fragment of reinforced edge for lace-up boot with eight holes with copper-alloy hole reinforcements present	late 19th century	2	further identify
PH8	101	8	Copper-alloy livery/blazer button; corroded with ?raised cone for loop; diam. 18mm	1780-1900	1	x-ray
PH8	114	11	Porcelain doll's head and shoulders of lady with high coiffe hair; complete; ht. 35mm	1794-1900	1	
PH8	114	12	Copper-alloy ring/frame; slightly oval shape; gauge 2.13mm; W 33mm; ht. 35mm	1794-1900	1	x-ray
PH8	114	13	Iron fitting; round section loop on neck with widening base; short nail/pin in plane for fixing; ring diam. 70mm; nail/pin L 45mm	1794-1900	1	x-ray

Phase	Context	Sf No	Description	Pot Date	No. Objects	Recommendations
PH8	114	14	Bone china figurine; incomplete with remains of lower part of 75mm+female figure in green dress and white bloomers, on oval base; ht.	1794-1900	1	
PH8	114	15	Copper-alloy ?coin/jeton; thin and heavily corroded disc; diam. 25mm	1794-1900	1	clean to identify
PH8	114	85	Bone spoon; incomplete with elongated bowl; L 55mm+; bowl W 13mm; ?for mustard	1794-1900	1	further identify
PH8	114	86	Bone handle; incomplete with 10 x 37mm thin spatula-shaped end; most likely from ?spoon	1794-1900	1	further identify
PH8	114	88	Slate pencil; short oval-section fragment with wear at both ends; W 4mm; L 28mm	1794-1900	1	
PH8	114	bulk	Iron ?hasp; complete D-section bar with circular base for fixing and curved hook-like finial; L 85mm	1794-1900	1	x-ray
PH8	114	bulk	Iron ?stake; flat-section bar with pointed end; W 30mm; L 240mm	1794-1900	1	x-ray
PH8	117	bulk	Iron ?spike; substantial and heavily encrusted; L 240mm	mid-19th century	1	x-ray
PH8	143	21	Lead token; bifacial on thin and neat flan; I K // ?cross-like design; diam. 18mm	n/a	1	further identify
PH8	191	33	Bone syringe nozzle; complete with slightly bulbous tip threaded onto separate wide component with external threading for ?organic tube; full L 105mm	1805-1830	1	further identify
PH8	562	44	Copper-alloy flat-section curtain ring; diam. 25mm	1670-1800	1	

Phase	Context	Sf No	Description	Pot Date	No. Objects	Recommendations
PH8	562	45	Ceramic haircurler; complete dumb-bell type; plain ends with no stamps L 70mm	1670-1800	1	
PH8	571	47	Copper-alloy button; composite with embossed face; heavily corroded; diam. 18mm	1760-1830	1	x-ray

APPENDIX 7: CERAMIC BUILDING MATERIAL ASESMENT

Amparo Valcarcel

Introduction and Aims

Eleven crates of ceramic building material and mortar were retained from the excavations at 84-90B Fulham High Street, London Borough of Hammersmith and Fulham, London. This was in addition to the results obtained from the *in-situ* brick and mortar observations during Winter 2016. The assemblage was assessed in order to:

- Identify (under binocular microscope) the fabric and forms of the Roman, medieval, post-medieval ceramic building material in order to date the structures and any subsequent alterations.
- Identify the fabric and form of whole bricks and mortar used in the post-medieval structures.
- Made recommendations for further study.

Methodology

In-situ recording of the brick and mortar was undertaken on all of the structures. Two whole brick samples were examined per structure in accordance with the Pre-Construct Archaeology Ltd building material sampling guidelines. At same time brick and mortar samples were also retained to ensure that a representative sample could be examined at the assessment stage.

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). The appropriate Museum of London building material fabric code is then allocated to each item.

A limited number of masonry samples were also collected as well as the *in-situ* recording of fabrics and forms from selected groups of post-medieval structures. Most of the surviving masonry contexts were found in the last 3 phases of the site (Phases 6, 7 and 8), however building material was also recovered from layers and dump deposits in Phases 4 and 5, mostly consisting of post-medieval roof tile and brick fragments.

Ceramic Building Material 217 examples, 117.47kg

More than 88% of the assemblage consists of post-medieval ceramic building material, with much smaller quantities of Roman (1.8%) and medieval (8.1%) fabrics (Fig. 1). As expected most of the

ceramic building material consisted of whole brick samples all of which have a fabric, form and brick stamp consistent with the late 18th to late 19th-century development and alteration.

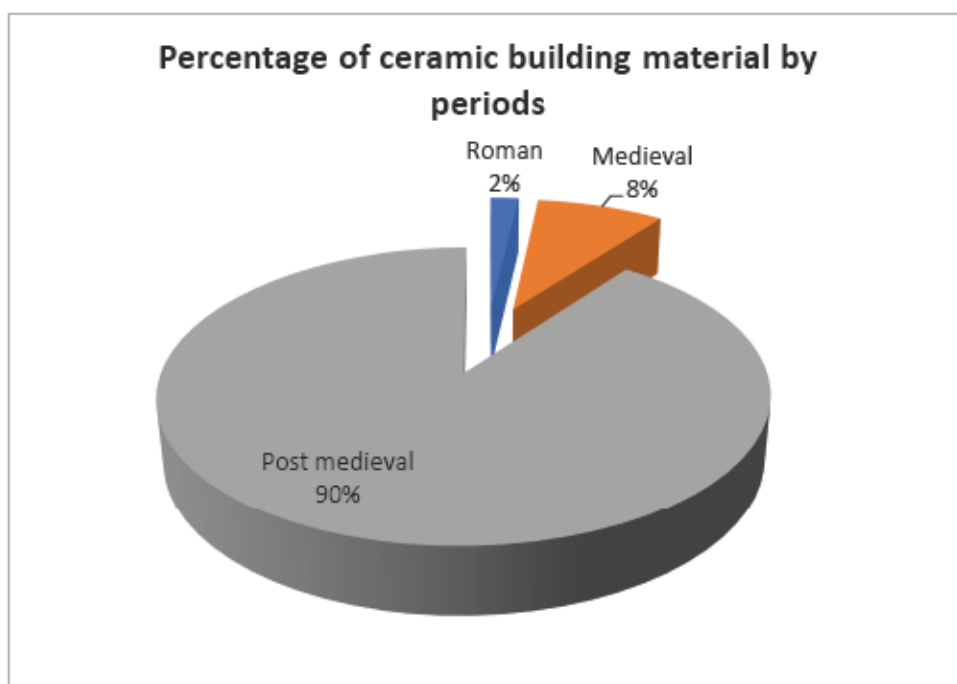


Figure 1: Building Material percentage by periods excluding daub and mortar.

Roman, 4 examples, 611g

The Roman building material is in a fragmentary condition which would suggest that it has been reused, dumped or both. Furthermore, Roman tiles and bricks appear in post-medieval contexts. By fabric the common 1st century to 2nd-second century red sandy group 2815 is present. One of the tiles [252] preserved a semi-circular mark.

Medieval, 18 examples, 4kg

Peg tile 16 examples, 3.15kg

Fine sandy fabrics 2271; (1180-1800), 5 examples, 702g

Iron Oxide fabrics 2586 (1180-1850), 11 examples, 2.45kg

A medium size of medieval roofing tile defined by fabric type, form, glaze and the presence of coarse moulding sand attest to dumping episodes or medieval activity in the area, indicating derivation from the demolition of building(s) of this date. Overlapping, flat rectangular peg tiles attached to roofing by

two nails (as represented by two nail holes, with both round and square holes) form numerically the most common medieval roofing form. All of the medieval roof tile recovered was fragmentary, and most probably represents either dumped material, or residual demolition material. Splash glaze is preserved in one fragment [559].

Floor Tile 2 examples, 824g

Only two medieval glazed floor tiles were recovered from dumped deposits.

Sandy Floor Tile fabric 2320 (1300-1500) 1 example 565g

A 14th-century splash brown-glazed floor tile was recovered from [428]. Given the quantity of early dumped medieval peg tile recovered from the site it was inevitable that some floor tile from this period would be recovered.

Penn tiles 1811 1330-1390 Penn, Buckinghamshire, 1 example, 219g

A complete triangular brown glazed 14th-century Penn floor tile was present from [179].

No structures associated with the medieval period were found on site.

Post-Medieval

A large assemblage of brick was recovered from later post-medieval phases. From these phases the amount of brick fragments recovered increases, until the latest phases (7 and 8) of the site, where brick fabrics form the bulk of the ceramic building materials recovered. The earliest bricks came from the period 1450/1480 to 1700, but the great majority of brick is dated to the late 18th century or later.

Late Medieval- Early Post-Medieval 95 examples, 25.96kg

Late Medieval-Tudor Brick 18 examples, 8.47kg

Local London sandy red fabrics type (1450-1700)

3033; moderate coarse quartz, occasional black iron oxide (visit)

3039; Moderate quartz, occasional black iron oxide, moderate yellowish white silty inclusions, 1 example, 2.31kg

3046; *Sandy fabric with frequent coarse quartz*, 14 examples, 4.41kg

3065; *Extremely sandy fabric with abundant coarse quartz*, 3 examples, 1.73kg

Four different sandy red brick fabrics were identified; the fine sandy 3033; the mottled sandy 3039; the very sandy red 3046 and fabric 3065 which contains burnt flint. The largest proportion of bricks are shallow (50-60mm), wide (110-121mm) and unfroged. All were manufactured for city use from local London brick clay between 1450 and 1700. However, the fabric continued to be used outside of the confines of the City of London, where local brickearth was exploited until 1900 (K. Sabel pers. comm.). Some of these bricks are reused and bonded with 18th- and 19th-century mortar.

Peg tile 65 examples, 10.11kg

2276, (1480-1900), *hard, well fired fine texture with few visible inclusions with fine moulding sand*.

Peg tiles belonging to the very common sandy red fabric 2276, dominate the post-medieval roofing tile assemblage, with large accumulations from [36] and [471] suggesting these tiles were used in the roofing of a building. The greater proportion of tile fragments were unglazed, although a small number of splash glazed roof tile fragments were recovered.

Floor tile 13 examples, 7.31kg

“Flemish” silty Floor Tiles, 12 examples, 6.90kg

2850 (1450-1800), 11 examples, 3.40kg

3063E (1450-1600), 1 examples, 515g

A medium amount of Flemish silty floor tiles was collected, with just one green glazed example from [42].

London Sandy fabric with moderate quartz

3064, 1 example, 401g (1510-1660)

A well preserved fragment from [156] showed a chequeboard pattern in blue and purple medallion border (Die 51, Betts *et al.* 2010), probably from Aldgate or Antwerp pothouse, dated mid 16th-early 17th century.

Wall tiles

“Flemish” silty wall Tiles, 1 example, 59g

One blue and white design tin glazed from [137] is badly preserved. The fabric type is Flemish dated from 1520 to 1600.

Late Post-Medieval 80 examples, 68.36kg

A large assemblage of late post-medieval ceramic material building was recovered, especially post Great Fire materials. All these materials reflected the city expansion and the increase of the population in post-medieval period. The introduction of pan tiles is also noted by the presence of fabric 2279. Smaller quantities of machine bricks dated mid 19th and 20th centuries were also collected. These were bonded with a hard mortar.

Bricks

Intermediate Great Fire

Maroon 3032nr3033 (1664-1725), 6 examples, 6.52kg

A small assemblage of a late 17th to early 18th-century intermediate bricks in fabric 3032nr3033 combining facets of both early post-medieval reds and post Great Fire purples were collected, most of them reused.

Post Great Fire fabrics 121 examples, 154.70kg

3032R (1666-1900) Post Great Fire purple clinker rich fabric, 35 examples, 49.48kg

A large group of purple post Great Fire bricks and local post Great Fire red bricks were recovered from the site. Most of the bricks are narrow and unfrogged. Some have sharp arises suggesting possible machine manufacture. Some of these bricks use Victorian mortar types: Roman and Portland. The presence of these bricks shows a phase of redevelopment at the beginning of 19th century and probably later. Small reused highly vitrified bricks probably came from the Fulham's pottery kiln. A plinth brick used as decorative item is probably dated at Victorian period [107].

3034 Local post Great Fire red brick, 4 examples, 5.81kg

The bricks are unfrogged and narrow, and all examples are bonded with crinkly grey mortar (T4). A number of locally produced bricks were collected, with these examples being a combination between 3034 and 3033type fabrics (3034nr3033).

3035 (1770-1940) Yellow large machine made Medway bricks, 1 example, 225g

One small fragment of 3035 fabric was collected from [114].

The late post-medieval structures are summarised below (Table 1).

Context	Structure	Fabric	Form	Phase	Spot date	Spot date with mortar
21	Brick surface	3033nr3034; 3038	Post Great Fire frogged bricks: Fletton stamped bricks	8	1850-1950	1750-1900
22	Brick wall	3032	Post Great Fire brick (one of them highly vitrified kiln brick)	8	1666-1900	1780-1900 (1750-1900)
23	Brick wall	3033; 3032	Post-medieval and post Great Fire	8	1666-1900	1750-1900
26	Brick drain	3032	Post Great Fire unfrogged bricks	7	1666-1900	No mortar
28	Brick surface	3032	Post Great Fire unfrogged bricks	8	1666-1900	No mortar
29	Wall remains	3033nr3034	Post Great Fire unfrogged bricks	8	1800-1900	1800-1900
30	Brick remains- drainage	3032	Post Great Fire unfrogged bricks	7	1666-1900	No mortar
31	Brick wall	3032	Post Great Fire unfrogged brick	7	1780-1900	1780-1900
32	Brick remains- drainage	3032	Post Great Fire unfrogged brick	8	1800-1900	1800-1900
33	Brick remains- drainage	3033nr3034	Post Great Fire unfrogged bricks	8	1800-1900	1800-1900
34	Brick remains- drainage	3033nr3034	Post Great Fire frogged bricks	8	1800-1900	1800-1900
35	Brick drain	3032	Post Great Fire narrow bricks	8	1780-1900	1780-1900
53	Brick drain	3033	Early post-medieval sandy red wide bricks	5	1450-1700	No mortar
56	Brick wall-part of a cellar/basement	3033nr3034; 3034nr3035; 3032	Post Great Fire forged and unfrogged bricks	7	1780-1900	1750-1900
63	Brick lining	3032; 3034	Post Great Fire unfrogged bricks (one stamped ..RAI...)	8	1850-1900	1750-1900

Context	Structure	Fabric	Form	Phase	Spot date	Spot date with mortar
66	Large brick sewer	3032	Post Great Fire unfrogged bricks	8	1780-1900	1780-1900
74	Circular brick sewer	3032	Post Great Fire unfrogged bricks	8	1800-1900	1750-1900
75	Brick manhole/sluice gate	3033nr3034; 3032	Post-medieval Flemish paver; post Great Fire frogged bricks	8	1800-1900	1750-1900
76	Brick sewer	2850; 2276; 3033nr3034; 3032; 3034	Post-medieval Flemish paver; Post-medieval unglazed peg tile; post Great Fire unfrogged bricks;	8	1800-1900	1750-1900
76	Repair culvert	2276;3032	Post-medieval peg tile; post Great Fire frogged bricks	8	1825-1900	1750-1900
77	Brick surface	3033nr3034; 3032	Post Great Fire frogged bricks	8	1800-1900	No mortar
81	Brick and stone surface	3033nr3034; 3034	Post Great Fire frogged bricks	8	1800-1900	No mortar
82	Brick wall-cellar /basement	3033nr3034; 3032	Post Great Fire frogged and unfrogged bricks	8	1800-1900	1780-1900
90	Brick surface	3032	Post Great Fire unfrogged bricks	8	1780-1900	1750-1900
92	Brick drain	3032	Post Great Fire unfrogged fire	8	1750-1900	No mortar
93	Brick surface	3032	Post Great Fire unfrogged bricks	8	1780-1900	No mortar
94	Brick surface	3039; 3065	Post-medieval sandy bricks	8	1450-1900	No mortar
97	Brick surface	3039; 3034	Post-medieval sandy and post Great Fire unfrogged bricks	8	1780-1900	No mortar
108	Brick wall	3033; 3033nr3034; 3032	Post Great Fire unfrogged bricks	7	1800-1900	1800-1900
116	Brick remains against sewer. Possible buttress	3032	Post Great Fire unfrogged bricks	8	1780-1900	1780-1900
118	Remains of brickwork against sewer, possible buttress	3032	Post Great Fire frogged brick	7	1780-1900	1750-1900
124	Lining for drain	3032	Post Great Fire unfrogged brick	8	1780-1900	1750-1900

Context	Structure	Fabric	Form	Phase	Spot date	Spot date with mortar
153	Brick lining supporting bank and moat	3033; 3032R	Post-medieval and post Great Fire unfrogged bricks	7	1780-1900	1750-1900
157	Brick drain	3032; 3034	Post Great Fire unfrogged bricks	8	1780-1900	No mortar
187	Curving wall-supporting bank of moat	3039; 3032	Post-medieval sandy and post Great Fire unfrogged bricks	7	1780-1900	1750-1900
455	Brick culvert	3032	Post Great Fire frogged and unfrogged bricks	8	1780-1900	1750-1900
490	Brick lining for well	3065	Post-medieval sandy red bricks	7	1700-1900	No mortar
515	Brick wall	3046	Post-medieval sandy red brick	6	1450-1700	1750-1950
519	Brick well	3032	Post Great Fire unfrogged brick	6	1666-1900	No mortar
546	Brick surface	3032	Post Great Fire frogged brick	8	1666-1900	No mortar
557	Brick culvert	3033; 3032	Post-medieval sandy red bricks; Post Great Fire frogged brick	8	1780-1900	1750-1900
558	Large wall	3065; 3033; 2276; 3105; 3107; 3116	Post-medieval sandy red brick; reused; post-medieval peg tiles reused; Kentish ragstone (rub.); moulded Reigate stone; chalk (rub.)	6	1480-1900	1450-1800
559	Brick culvert	2586;3046	Medieval/post-medieval glazed peg tile; post-medieval sandy red brick	8	1700-1900	1780-1900
560	Brick wall	3033	Post-medieval sandy red bricks	7	1450-1700	1450-1600
561	Brick lining of cess pit	3046	Post-medieval sandy red brick	6	1450-1700	1450-1700
607	Brick drainage channel	3065	Post-medieval sandy red brick	8	1700-1900	1780-1900
608	Brick wall	3065	Post-medieval sandy red brick	8	1700-1900	1780-1900
610	Drainage channel	3046;2276	Post-medieval sandy red paver; post-medieval unglazed peg tile	8	1700-1900	1800-1900
612	Brick wall	3032	Post Great Fire unfrogged brick	8	1666-1900	1780-1900

Table 1: Post-medieval structures

Roofing tile

2279 Pan tile (1630-1850), 14 examples, 4.92kg

A medium assemblage of curved, nibbed roofing tile which came into force only during the mid 17th century was recorded, attesting to extensive later post-medieval red roofing tile development in this area. Pan tiles are numerous throughout the site. Some of them are burnt and bonded with Victorian mortars.

Rope edging, 1 example, 519g

An interesting piece [57] is a Victorian rope edging (Die 443, Green 1999) from lawns, paths and flower beds, probably made at Fulham's kiln (Bailey period 1865-90).

The Daub 3102, 1 example, 171g

A daub fragment was collected from [193], suggesting the presence of timber framed wattle and daub construction in the vicinity.

Mortar

A summary of mortar types and concrete as well as their period of use from the excavations at FHS15 are given below (Table 2).

Mortar/Concrete Type	Description	Use at FSH15
T1	Portland mortar. A form of hard cement. (1830-1950)	Associated with post Great Fire fabrics 3032 [227] and [82].
T2	Yellowish hard lime mortar (1800-1900)	Associated with walls [29] [32] [33] [34] [108] [610], used to bond fabrics 3033nr3034; 3032, 2850 and 2276
T3	White soft lime mortar, no inclusions (1780-1900)	Associated with structures [22] [31] [35] [66] [82] [116] [559] [612][607] [608]; used in fabrics 3033nr3034; 2276; 2586; 3046, 2279 and specially in 3032 bricks
T4	Grey clinker mortar (1750-1900)	Very common mortar recovered from several structures [C] [G] [H] [I] [J] [21] [56] [63] [90] [118] [153] [187], walls [22] [23] [56] [515], sewers [74] [76], manhole [75], drain [124], brick culvert

		[455] [557]. Used on post-medieval peg tiles (2276, 2279 fabrics) and bricks (3032, 3046nr3032, 3033nr3034, 3032nr3033, 3033, 3034, 3035, 3038, 3039, 3046, 3065, 3261 fabrics).
T5	Pink yellowish soft sandy mortar (1450-1700)	Rare early post-medieval mortar used in wall [560] and [561] and attached to 3033 brick

Table 2: List of mortar types identified from the excavation FHS15

The mortar types identified from excavations at FSH15 provide the basis for a chronological sub-division of all of the structures. T1 and T2 mortars were used in the 19th and early 20th century, associated with frogged and sometimes machine-made bricks. Essentially all the late post-medieval structures and fabrics use the same hard grey clinker mortar (T4). The other mortar (T5) is very rare and is probably associated with early post-medieval structures [560] [561].

Phase Summary

Most of the bricks either examined from layers or from the structures consist of locally produced purple-red frogged clinker rich post Great Fire bricks (fabric 3032). Their size (230mm x 107mm x70mm) and shape (sharp arises) coupled with machine-made bricks manufactured between 1780 and 1900. Three mortar types are represented with this brick fabric. The grey concrete Type 1 (see Figure 3) found in the fill [227], a yellowish hard lime mortar (T2), a white hard lime mortar (T3), and the very common grey clinker mortar found in several structures. Two structures [560] and [561] presented a yellowish pinkish soft sandy mortar associated with fabric 3033. The measures and characteristic of these bricks, suggesting an early post-medieval date.

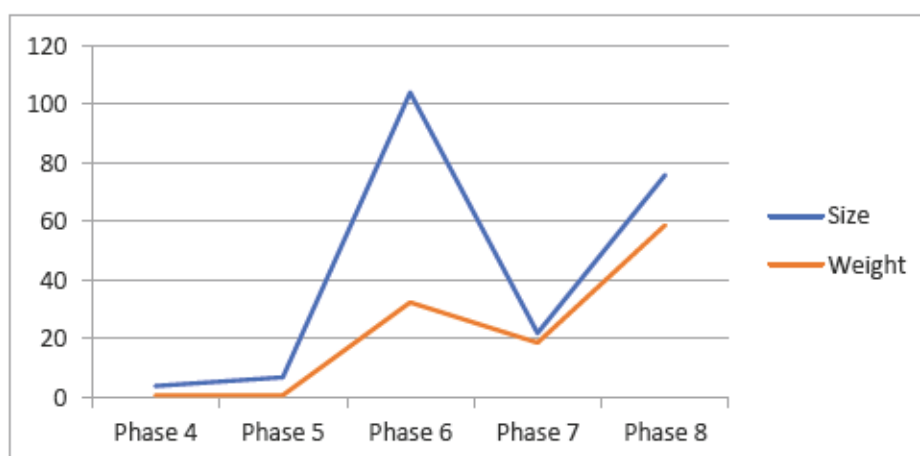


Figure 2: Comparative size ceramic material and stone from different phases

Phase 1 (Natural)

An intrusive post-medieval peg tile was collected from [619].

Phase 2 (Natural)

No material was collected from this phase

Phase 3 (Natural)

From [477] an early Roman sandy brick suggests a Roman occupation nearby. This fragment seems to be intrusive.

Phase 4 (Medieval)

A few examples of material were recovered from this phase. Two Roman tiles [179] [253] indicate an early Roman occupation. Only context [179] provided medieval material, a peg tile made of common fabric 2271, and a triangular brown glazed floor tile, dated 1330-1390.

Phase 5 (Mid 15th-early 17th century)

A small quantity of material building was recovered from Phase 5 (7 fragments, 812g), especially from fills. Roman building material is still residual [245]. Post-medieval fabrics are present for the first time, mainly in form of peg tiles and sandy red bricks.

Phase 6 (Mid 17th-early 18th century)

The building material assemblage recovered from this phase increased considerably from previous phases (104 examples, 32.47kg). The material was collected from masonry, from fills of pits, cuts, beamslots, postholes, ditches, several undefined layers and from dumped deposits. Medieval fabrics are present in low quantities (7.69% by size; 5.22% by weight), represented by peg and floor tiles. Peg tiles are made of two different fabrics 2271 and 2586, suggesting the possible existence of different

buildings. Brown glazed floor tile from [428] is made of fabric 2320, dated 1300-1500. Obviously the post-medieval ceramic building is predominant (92.31% by size and 94.78% by weight). By form roofing tiles (including pan tiles) represent 47% by size. Early red post-medieval bricks are predominant (15.38% by size, 33.66% by weight). Some of them are clearly reused with later mortars. A small size (3.84% by size) of intermediate Great Fire fabric 3032nr3033 was found from fills [265] [471] and [538]. Bricks made of fabric 3032, indicate a late 17th and early 18th century date. A single fragment of daub was collected from [193].

Four different structures were present in this phase. The size and sunken margins of the bricks from [515], [558] and [561] indicate an early post-medieval date. Wall [558] built of a mixture of stone and bricks, possibly was the remains of a cellar. The material from this wall, especially the stone, could have come from the demolition of parts of the nearby All Saint's church (see Appendix 8). A well [519] made of post Great Fire bricks, suggest a later phase of construction, probably early 18th century.

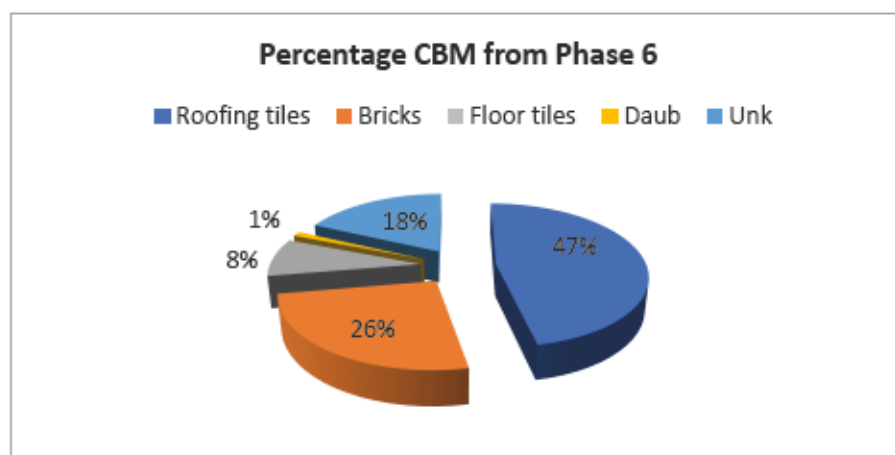


Figure 3: Building Material forms from Phase 6.

Phase 7 (Mid-late 18th century)

The quantity of building material from this phase decreases considerably from Phase 6 (22 fragments, 18.68kg). The material was collected from fills of pits, postholes and cuts, layers, structures, a clay floor surface and dumped deposits. Bricks represent 45% by number, made from different fabrics (3032, 3032nr3033, 3039). Their importance relates to an increase in demand for bricks after the Great Fire and with the expansion of population in this area of London. Frogged bricks appear for the first time on this phase and are bonded with hard mortars.

A cluster of different roofing tiles fabrics (2271, 2276 and 2279) and forms (pan and peg tiles) suggests the existence of different roof coverings in the area.

Floor tile made of Flemish fabric 2850 was present from context [25]. A badly preserved tin glazed wall tile fragment [137], one blue and white, was manufactured in Antwerp (1520-1600).

Mostly of the surviving structures were constructed using post Great Fire bricks. Some sandy red bricks [187] [490] were reused on some structures. Bricks for these fabrics are well made and have sharp arises.

Phase 8 (Early- late 19th century)

A small size of ceramic building material was collected from this phase (76 fragments, 58.81kg). Bricks (fabrics 3034, 3035), and roofing material is the common form in this phase. Most of the material came from fills and layers. The bricks are narrow, some frogged, have sharp arises and bonded with hard mortar, indicating an early and late 19th-century occupation.

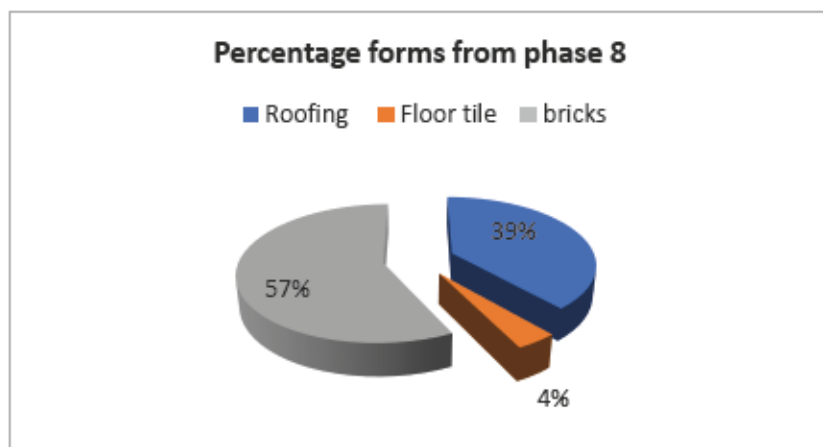


Figure 4: Building Material forms from Phase 8.

Distribution

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
C	3032; 3034; 3032nr3034;	Post Great Fire frogged bricks	V	1666	1900	1666	1900	1825-1900	1750-1900
56	3033nr3034; 3034nr3035; 3032	Post Great Fire forged and unfrogged bricks	V	1666	1900	1666	1900	1780-1900	1750-1900

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
21	3033nr3034; 3038	Post Great Fire frogged bricks: Fletton stamped bricks	V	1666	1950	1850	1950	1850-1950	1750-1900
22	3032	Post Great Fire brick (one of them highly vitrified kiln brick)	V	1666	1900	1666	1900	1666-1900	1780-1900 (1750-1900)
23	3033; 3032	Post-medieval and post Great Fire	V	1450	1900	1666	1900	1666-1900	1750-1900
25	2276; 2279; 2850	Post-medieval unglazed peg and pan tile; Flemish paver	7	1480	1900	1480	1900	1630-1900	No mortar
26	3032	Post Great Fire unfrogged bricks	V	1666	1900	1666	1900	1666-1900	No mortar
28	3032	Post Great Fire unfrogged bricks	2	1666	1900	1666	1900	1780-1900	No mortar
29	3033nr3034	Post Great Fire unfrogged bricks	V	1666	1900	1666	1900	1800-1900	1800-1900
30	3032	Post Great Fire unfrogged bricks	2	1666	1900	1666	1900	1666-1900	No mortar
31	3032	Post Great Fire unfrogged brick	1	1666	1900	1666	1900	1780-1900	1780-1900
32	3033nr3034; 3032	Post Great Fire narrow bricks	V	1666	1900	1666	1900	1800-900	1800-1900
33	3033nr3034	Post Great Fire unfrogged bricks	V	1666	1900	1666	1900	1800-1900	1800-1900
34	3033nr3034	Post Great Fire frogged bricks	V	1666	1900	1666	1900	1800-1900	1800-1900
35	3032	Post Great Fire narrow bricks	V	1666	1900	1666	1900	1780-1900	1780-1900
36	2271; 2276; 3046; 3065	Medieval/post-medieval peg tiles; early post-	18	1080	1900	1480	1900	1480-1900	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		medieval sandy red bricks (abraded and overheated)							
42	2271; 2279; 3064F	Medieval/post-medieval unglazed peg tiles; post-medieval pan tile; early post-medieval glazed floor tile	7	1180	1850	1630	1850	1630-1850	No mortar
53	3033	Early post-medieval sandy red wide bricks	V	1450	1700	1450	1700	1450-1700	No mortar
56	3033nr3034; 3034nr3035; 3032	Post Great Fire forged and unfrogged bricks	V	1666	1900	1666	1900	1780-1900	1750-1900
57	Unknown	Victorian rope edging	1	1865	1890	1865	1890	1865-1890	No mortar
63	3032; 3034	Post Great Fire unfrogged bricks (one stamped ..RAI...)	2	1666	1900	1666	1900	1850-1900	1750-1900
66	2276; 3032	Post-medieval peg tile; post Great Fire unfrogged bricks	2	1666	1900	1666	1900	1825-1900	1780-1900
74	3033nr3034; 3032	Post Great Fire frogged bricks	V	1666	1900	1666	1900	1800-1900	1750-1900
75	3033nr3034; 3032	Post-medieval Flemish paver; post Great Fire frogged bricks	V	1666	1900	1666	1900	1800-1900	1750-1900
76	2850; 2276; 3033nr3034; 3032; 3034	Post-medieval Flemish paver; Post-medieval unglazed peg tile;	V	1600	1900	1666	1900	1800-1900	1750-1900

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		post Great Fire unfrogged bricks;							
77	3033nr3034; 3032	Post Great Fire frogged bricks	V	1666	1900	1666	1900	1800-1900	No mortar
79	3032; 3108	Post Great Fire unfrogged bricks; Yorkstone paver	V	1666	1900	1666	1900	1800-1925	1750-1900
81	3033nr3034; 3034	Post Great Fire frogged bricks	V	1666	1900	1666	1900	1800-1900	No mortar
82	3033nr3034; 3032	Post Great Fire frogged and unfrogged bricks	V	1666	1900	1666	1900	1800-1900	1780-1900
90	3032	Post Great Fire unfrogged bricks	2	1666	1900	1666	1900	1780-1900	1750-1900
92	3032	Post Great Fire unfrogged fire	1	1666	1900	1666	1900	1750-1900	No mortar
93	3032	Post Great Fire unfrogged bricks	2	1666	1900	1666	1900	1780-1900	No mortar
94	3039; 3065	Post-medieval sandy bricks (57mm)	1	1450	1900	1450	1900	1450-1900	No mortar
96	2279; unk	Post-medieval pan tile, drain pipe	2	1630	1900	1630	1850	1630-1850	No mortar
97	3039; 3034	Post-medieval sandy and post Great Fire unfrogged bricks	2	1450	1900	1666	1900	1780-1900	No mortar
98	2276; 2850; 3032	Post-medieval unglazed peg tile, Flemish paver; post Great Fire unfrogged and vitrified brick (kiln brick?)	4	1450	1900	1666	1900	1666-1900	No mortar
101	3046; 3032	Abraded post-medieval sandy brick; post Great	2	1450	1900	1666	1900	1666-1900	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		Fire brick highly vitrified (kiln brick)							
106	2850	Post-medieval Flemish paver	1	1600	1800	1600	1800	1700-1800	No mortar
107	2276; 2279; 2850; 3032	Post-medieval unglazed peg and pan tiles, Flemish paver; post Great Fire plinth brick	4	1480	1900	1666	1900	1800-1900	1800-1900
108	3033; 3033nr3034; 3032	Post Great Fire unfrogged bricks	V	1666	1900	1666	1900	1800-1900	1800-1900
109	2276; 2815; 3101PM	Small fragment sandy fabric; post-medieval peg tile;	3	50	1900	1480	1900	1480-1900	1800-1900
114	3039; 3046; 2276; 3032; 3035	Post-medieval sandy bricks and peg tiles; post Great Fire and London stock bricks	6	1450	1940	1770	1940	1770-1940	1800-1900 (1750-1900)
116	3032	Post Great Fire unfrogged bricks	1	1666	1900	1666	1900	1780-1900	1780-1900
117	2276	Post-medieval unglazed peg tile	1	1480	1900	1480	1900	1480-1900	No mortar
118	3032	Post Great Fire frogged brick	1	1666	1900	1666	1900	1780-1900	1750-1900
124	3032	Post Great Fire frogged brick	1	1666	1900	1666	1900	1800-1900	1750-1900
131	2271;2279	Post-medieval curved and pan tiles	1	1180	1850	1630	1850	1630-1850	No mortar
137	2276;3063E	Early Antwerp tin glazed; post-medieval unglazed peg tile	2	1480	1900	1480	1900	1520-1900	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
140	3034	Post Great Fire brick	1	1666	1900	1666	1900	1666-1900	No mortar
144	2276	Post-medieval glazed peg tile	1	1480	1900	1480	1900	1480-1900	No mortar
153	3033; 3032R	Post-medieval and post Great Fire unfrogged bricks	V	1450	1900	1666	1900	1780-1900	1750-1900
156	2586; 2276; 3064W	Medieval/post-medieval pan tiles; Dutch tin glazed	4	1180	1900	1480	1900	1550-1900	No mortar
157	3032; 3034	Post Great Fire unfrogged bricks	2	1666	1900	1666	1900	1780-1900	No mortar
179	3006; 2271; 1811	Abraded Roman sandy tile; medieval/post-medieval unglazed peg tile; medieval glazed Penn tile	3	50	1850	1180	1800	1330-1800	No mortar
187	3039; 3032	Post-medieval sandy and post Great Fire unfrogged bricks	3	1450	1900	1666	1900	1780-1900	1750-1900
193	3102	Abraded daub	1	1500 BC	1666	1500B C	1666	50-1666	No mortar
195	2276	Post-medieval unglazed peg tile	1	1480	1900	1480	1900	1480-1900	No mortar
201	3046; 2276; 2279; 3032	Post-medieval sandy fabric; post-medieval unglazed peg and pan tiles; post Great Fire unfrogged brick	5	1450	1900	1666	1900	1780-1900	No mortar
202	Unknown	Small sandy fabric	1	50	1900	50	1900	50-1900	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
225	3261; 3101PM	Gault brick	2	1850	1950	1850	1950	1850-1950	1750-1900
227	2850L; 3032	Post-medieval Flemish paver; post Great Fire frogged brick	2	1600	1900	1666	1900	1750-1900	1820-1900
245	2459a	Abraded early Roman sandy brick	1	50	160	50	160	50-160+	No mortar
253	2459a	Early Roman sandy tile	1	50	160	50	160	50-160+	No mortar
265	2276; 3032nr3033; 3032	Post-medieval unglazed peg tile; intermediate and post Great Fire bricks	3	1480	1900	1666	1900	1780-1900	1750-1900
303	2276	Post-medieval unglazed peg tile	2	1480	1900	1480	1900	1480-1900	No mortar
352	3032nr3033	Intermediate Great Fire bricks	2	1664	1725	1664	1725	1664-1725	No mortar
395	2276	Post-medieval unglazed peg tile	1	1480	1900	1480	1900	1480-1900	No mortar
428	2320; 3046; 2276; 2279; 2850; 3032	Medieval floor tile; post-medieval unglazed peg and pan tile; post-medieval sandy and post Great Fire bricks	8	1300	1900	1666	1900	1666-1900	1750-1900
455	3032	Post Great Fire frogged and unfrogged bricks	2	1666	1900	1666	1900	1780-1900	1750-1900
471	2586; 3046; 3046; 2276; 2850; 2279; 3032nr3033;	Medieval/post-medieval peg and pan tiles; early post-medieval sandy bricks; Flemish paver	33	1180	1900	1480	1900	1664-1900	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		intermediate Great Fire bricks;							
473	2586; 2276	Medieval/post-medieval unglazed peg tiles	4	1180	1900	1480	1900	1480-1900	No mortar
477	2452	Early Roman sandy brick	1	55	160	55	160	55-160+	No mortar
490	3065	Post-medieval sandy red bricks	1	1450	1900	1450	1900	1700-1900	No mortar
504	2276	Post-medieval unglazed peg tile	1	1480	1900	1480	1900	1480-1900	No mortar
515	3046	Post-medieval sandy red brick	1	1450	1900	1450	1900	1450-1700	1750-1950
519	3032	Post Great Fire unfrogged brick	1	1666	1900	1666	1900	1666-1900	No mortar
533	3032	Post Great Fire burnt brick	1	1666	1900	1666	1900	1666-1900	No mortar
537	2586;3046	Medieval/post-medieval peg tile; post-medieval sandy red paver?	2	1180	1900	1450	1900	1450-1700	1780-1900
538	UNK; 2586; 3046; 2276; 3032nr3033; 3101PM	Unknown sandy fabric; medieval / post-medieval peg tiles; post-medieval sandy red and intermediate Great Fire bricks	34	50	1900	1480	1900	1664-1900	1780-1900
546	3032	Post Great Fire frogged brick	1	1666	1900	1666	1900	1666-1900	No mortar
557	3033; 3032	Post-medieval sandy red bricks; Post Great Fire frogged brick	1	1450	1900	1666	1900	1780-1900	1750-1900

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
558	3065; 3033; 2276; 3105; 3107; 3116	Post-medieval sandy red brick; reused; post-medieval peg tiles reused; Kentish ragstone (rub.); moulded Reigate stone; chalk (rub.)	V	1450	1900	1450	1900	1480-1900	1450-1800
559	2586; 3046	Medieval/post-medieval glazed peg tile; post-medieval sandy red brick	2	1180	1900	1450	1900	1700-1900	1780-1900
560	3033	Post-medieval sandy red bricks	V	1450	1700	1450	1700	1450-1700	1450-1600
561	3046	Post-medieval sandy red brick	1	1450	1900	1450	1900	1450-1700	1450-1700
562	2586; 2279	Medieval/post-medieval peg and pan tiles	2	1180	1850	1630	1850	1630-1850	1780-1900
566	2271; 2586; 2276; 3046	Medieval/post-medieval peg tiles; post-medieval sandy red brick	6	1180	1900	1480	1900	1480-1900	No mortar
571	3046; 2279	Post-medieval sandy red brick; post-medieval unglazed peg tile	2	1450	1900	1480	1900	1480-1900	No mortar
591	3032; 3032nr3033; 2276	Post-medieval peg tiles; intermediate and post Great Fire bricks	V	1480	1900	1480	1900	1780-1900	1780-1900 (1750-1900)
607	3065	Post-medieval sandy red brick	1	1450	1900	1450	1900	1700-1900	1780-1900
608	3065	Post-medieval sandy red brick	1	1450	1900	1450	1900	1700-1900	1780-1900

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
610	3046; 2276	Post-medieval sandy red paver; post-medieval unglazed peg tile	2	1450	1900	1450	1900	1700-1900	1800-1900
612	3032	Post Great Fire bricks	1	1666	1900	1666	1900	1700-1900	No mortar
617	2279	Post-medieval unglazed pan tile	1	1630	1850	1630	1850	1630-1850	No mortar
619	2276	Post-medieval unglazed peg tile	1	1480	1900	1480	1900	1480-1900	No mortar

Recommendations/Potential

The large quantity of ceramic building material (117kg) recovered from FSH15 very much reflects extensive late post-medieval phases associated with the development of Fulham High Street. The brick-lined culvert [76] associated with the properties suggested the increase of buildings in the late 18th and mid 19th centuries. Some highly vitrified bricks possibly came from the demolished Fulham's pottery kiln. Evidence of earlier Roman activity was fairly limited, with just 4 fragments dating between the mid 1st and late 2nd century AD. Medieval floor and peg tiles collected, suggest the existence of a medieval building nearby, maybe from dumped periods from the All Saint's church or Fulham Palace.

Recommendations

a) Retention

A majority of the brick sampled has been discarded following assessment. However, representative examples of the construction and kiln brick with their mortars provide an idea of the materials used in the site. The tin glazed tiles and some Roman fabrics were retained and require photography and illustration at publication.

b) Significance

The Roman fabrics collected suggest the existence of Roman occupation nearby. Two structures [560] [561] are the remains of a late medieval or early post-medieval building. But in general, the types of mortar and bricks (thick, machine, frog) are consistent with a late 18th to early 20th century.

c) Publication

It is recommended that a publication report is produced examining the types of construction materials (brick, mortar, roofing tile, floor tile) used in the structures associated with the post-medieval expansion of this part of London.

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APPENDIX 8: STONE ASSESSMENT

Kevin Hayward

Introduction and Aims

Thirty examples of loose stone recovered from a large stone wall [558] were examined on site 84-90b Fulham High Street, London, SW6 3LF (FHS15). This very large sized assemblage (30 examples) was assessed in order to:

- Identify the fabric and geological source of the large stone assemblage.
- Identify by form the age, function and possible origin of the stone assemblage.
- Made recommendations for further study.

Methodology

As nearly all of the examples of worked stone recovered from the excavations were very heavy and bulky items of architectural stone, it was decided for reasons of practicality (storage, haulage, and manoeuvrability) to examine and record them on site. In turn, each stone was photographed, measured and examined using a hand lens to determine their petrological character and geological source. Some of the items, with a definable profile that were too heavy or large to remove off site were also illustrated.

Hand specimen comparative analysis of small (20g) petrological samples taken off the site from representative samples of moulded freestone¹ and rubble were examined under hand lens (Gowland x10), binocular microscope in order to identify their geological character. Where possible, comparison was made with the Pre-Construct Archaeology Limited stone reference collection in order to provide a petrological match and geological source. Most of the rock-types were identified in this way, each given the appropriate Museum of London fabric code. Comparison was then made with a reference collection of outcrop samples of freestone² (Hayward 2006; 2009) from this region, including examples of medieval worked stone.

All of the stone came from a single wall [558]. These were allocated WSN numbers, however only some of the mouldings had a Worked Stone Number (WSN) label still attached (WSN 2; 6; 9-10 12; 16-20; 25-27).

¹ A fine limestone or sandstone characterised by a soft open porous texture that enables the rock to be worked or carved in any direction and hard enough to withstand external weathering (Leary 1989; Stanier 2000; Sutherland 2003).

² Compiled for his PhD research.

The Moulded stone and ashlar

A review of their petrology, mason's marks and architectural moulding types follows.

Date of the Wall

The stone assemblage from Fulham High Street all came from a Phase 6 (1600-1680) wall [558]. The wall can be dated to the 17th century as it contains red reused Tudor and Stuart brick fragments fabric 3033 (1450-1700) and levelling courses consisting of an early post-medieval unglazed peg tile 2276 (1480-1700) (see Appendix 7). The bricks consist of a mixture of thinner Tudor brick (2 inches) and thicker narrow Stuart bricks (2 ½ inches). All of the reused stone and brick is bonded by a fawn-brown loose mortar with large chunks of white shell typical of an early post-medieval date (1450-1700).

Petrology

A total of eight lithotypes were identified. By far the most common (19 - 63.3%) are examples of the very hard dark grey sandy limestone, identified as Kentish ragstone. Which along with Hassock stone (4 examples) from the same geological formation (Lower Greensand of Maidstone) account for close on 75% of all the stone from this wall. These greensands; probably the most durable sedimentary rocks that outcrop in south-central England were normally used as construction rubble; but these better quality sandy limestones have been fashioned into large quoins, ashlar, cornices, window tracery and mullions for a major ecclesiastical building and then reused in the wall.

The other 6 rock types listed below (see Table 1), which account for 7 (23%) of the mouldings have very different origins. Perhaps the most interesting is an example of reused Quarr stone [558] WSN 8, now only identifiable as a part worked stone. This shell dominated rock from the Isle of Wight is rare for London and is associated with early Saxo-Norman builds such as the basal 20m of the White Tower built between 1069 and 1085 (Impey 2008) and the 11th-early 12th-century refectory wall at Westminster Abbey (Hayward pers. obs.).

The poor quality shelly Headington stone sourced to the Corallian of Oxfordshire which was identified in a large ashlar block [558] WSN10 probably dates to the late medieval to early post-medieval period and is associated particularly with Tudor-Elizabethan palatial buildings. Documentary sources, however, do identify comparable freestone, Wheatley limestone, being used as ashlar in the 1515-1522 Wolsey Courtyard at Hampton Court (Thurley 2003, 17) and Headington stone as facing stone from the later 1535 Great Stone Bridge (Thurley 2003, 54) and slightly further afield as early as 1363 at Windsor Castle (Salzman 1952, 121).

Three examples of fine grained white Beer stone a chalk rock from Devon are present e.g. [558] WSN4; WSN19 and WSN7. Worked stone number WSN7 is a late medieval mullion chamfer; its form identical to the examples of ragstone from this site. Although Beer stone has been identified as a stone type

used during Wren's rebuilding of St Paul's Cathedral (Schofield 2016), it is common much earlier on in London. Building contracts documenting the quarrying and supply of Bere stone are recorded for a number of prestigious buildings in the medieval capital (Salzman 1952 132), and thin-sectioned samples of in-situ rubble are recorded from the South Wall of the White Tower (Sanderson 1998, plate A7 & A8; Worssam & Sanderson 1998, 5). The building contracts record a peak period of production and supply to London during the later medieval period (14th and 15th century). These include a document from 1347 'William Hamele of Weymouth' supplying '68 great stones of Bere for the King's Chapel, Westminster for £11', and from 1349 The Tower of London Accounts include '£4 6s 8d for 100 great stones of Bere, whereof 50 were worked as voussoirs for the heads of doors and windows and 50 in the rough' and finally in 1350 there were 18 great stones of Bere weighing 18 tons, valued at 6s 8d a ton belonging to the works of London Bridge (Salzman 1952, 132). One example of Beer stone WSN4 was retained because of its petrology.

Just one example of Reigate stone, a highly weathered cornice WSN20 survives. This soft low density lime green micaceous limestone was used in enormous quantity in late medieval London - although it was still a common window moulding stone in later Tudor builds (e.g. Hampton Court) and Stuart (Wren's St Paul's Cathedral, Schofield 2016). A quoin WSN19 of Caen stone is also related to medieval builds elsewhere.

Finally, the presence of a Portland Whit Bed cornice block [558] (no WSN) would indicate that the wall was constructed after 1630. This is because Portland stone was not used as a building freestone in London until its use at Banqueting Hall (Schofield 2016). It was only during the mid to late 17th century, that this stone became more widely available.

MoL fabric code	Description	Geological Type and source	Use at FHS15
3105	Fine hard dark grey sandy limestone	Kent ragstone, Lower Cretaceous, Lower Greensand Maidstone District - Kent	19 examples including Gothic Window (no WSN) Tracery, WSN 2; WSN6; WSN 11 Quoins WSN14; WSN 16; WSN20; WSN25-26 Rubble/Ashlar WSN9; WSN12; WSN17; WSN18; WSN27 Culvert WSN13
3106	Yellow-green glauconitic sandstone	Hassock stone Lower Cretaceous, Lower Greensand Maidstone District - Kent	2 examples, part worked/Cornice blocks WSN1; WSN5

MoL fabric code	Description	Geological Type and source	Use at FHS15
3107	Fine grained low-density glauconitic limestone	Reigate stone - Upper Greensand, Lower Cretaceous Reigate-Mertsham Surrey	1 example quoin or cornice WSN20
3110	Hard light-grey, fine grained oolitic grainstone (Dunham 1962)	Portland whit bed (Portland stone), Portlandian, Upper Jurassic, Isle of Portland Dorset	1 example no WSN
3119	Fine yellow to orange-yellow limestone Yellow Packstone (Dunham 1962)	Caen stone - Calcaire de Caen, Bathonian, Middle Jurassic, Departement Calvados Normandy,	1 example Quoin WSN18
3120	Very fine powdery white limestone with small laths of calcite spar White Packstone (Dunham 1962)	Beer stone (Upper Cretaceous) Chalk, Exeter	3 examples WSN4 WSN19; Window Tracery WSN7
3146	White featherbed limestone packed full of dissolved bivalve fragments	Quarr stone, Oligocene, Isle of Wight	1 example Ashlar WSN8
3153	Weathered Brown-yellow skeletal porous grainstone (Dunham 1962) with coral fragments	Headington stone - Oxfordian (Upper Jurassic) Headington Quarry, Oxfordshire	1 example Large ashlar block WSN10

Table 1: List of rock types identified from Wall [558]

Architectural Profiles

Thirty mouldings were designated a worked stone number, but only 22 had surviving labels. WSN 1-13; 16-20; 25-27). These examples and three key elements without a worked stone number are listed below. Of these six WSN 6-8, 11, 20 and the decorated block of flowing bar tracery were returned back to PCA for illustration and further comment. A seventh WSN4 was retained because of its petrology.

WSN	Context	Weight and dimensions L x W x H	Stone Type	Form	Comments	Photo/ Illustration
1	558	35kg 450mm x 200mm x 200mm	Hassock Greensand	Ashlar	Chisel marks	No
2	558	20kg 490mm x 360mm x 230mm	Kent Ragstone	Mullion - simple chamfered profile Decorated period	East facing stone	Yes
4	558	250g 110mm x 80mm x 50mm	Beer stone	Rubble		Yes
5	558	18kg 638mm x 290mm x 258mm	Hassock Greensand	Cornice		No
6	558	60kg 629mm x 356mm x 230mm	Kent Ragstone	Mullion - simple chamfered profile Decorated period	Masons mark	Yes
7	558	45kg 580mm x 320mm x 210mm	Beer stone	Mullion - simple chamfered profile Decorated period		Yes
8	558	10kg 250mm x 265mm x 195mm	Quarr stone	Reused part worked block	-	Yes
9	558	5kg 270mm x 240mm x 126mm	Kent Ragstone	Rubble		No
10	558	5kg 290mm x 290mm x 290mm	Headington stone	Ashlar block	Chisel marks on one side	No
11	558	30kg 620mm x 270mm x 165mm	Kent Ragstone	Mullion - simple chamfered profile Decorated period		No
12	558	35kg 490mm x 350mm x 200mm	Kent Ragstone	Part worked ashlar block		No
13	558	80kg 690mm x 230mm x 290mm	Kent Ragstone	Culvert stone Drain		No

WSN	Context	Weight and dimensions L x W x H	Stone Type	Form	Comments	Photo/ Illustration
14	558	80kg 660mm x 425mm x 220mm	Kent Ragstone	Large chamfered block		No
16	558	40kg no measurements taken	Kent Ragstone	Cornice		No
17	558	7.5kg 235mm x 180mm x 210mm	Kent Ragstone	Part Dressed stone probably ashlar	Chisel marks on one side	No
18	558	7kg 290mm x 250mm x 180mm	Caen stone	Quoin		No
19	558	600g	Beer stone	Part worked block		No
20	558	6kg 234mm x 280mm x 145mm	Reigate stone	Cornice	Weathered	No
25	558	10kg 390mm x 210mm x 180mm	Kent Ragstone	Curved cornice profile		No
26	558	60kg 630mm x 230mm x 180mm	Kent Ragstone	Cornice		Yes
27	558	8kg 270mm x 220mm x 120mm	Kent Ragstone	Ashlar		No
No WSN	558	25kg	Portland Whit Bed	Cornice		No
No WSN	558	50kg	Kent Ragstone	Tracery - flowing bar type Decorated period (1300-1350)		Yes

Table 2: List of mouldings and WSN attached

Mullions

A feature of the mouldings reused in wall [558] are a number of large mullions (vertical stone element the forms divisions or units between a window door or screen (Figure 1). Each WSN 2; 6; 7; 11 is about 30kg in weight and 620mm long by 270mm wide by 165mm thick. They are very similar to the simple

chamfered mullion profile of the Decorated period (14th-15th century) seen in windows elsewhere in southern England, e.g. Rainham church Sittingbourne (Hayward & Sabel 2014).

Three of the elements (WSN 2; 6; 11) are carved out of Kentish ragstone from the greensand of Kent a very hard calcareous sandstone normally only suitable for basic ashlar or stone rubble. However, these are better quality ragstones. In the past these have been used for decoration since the later medieval decorative period (1300-1350). Kentish ragstone was quarried on a large scale for use as mouldings in ecclesiastical buildings throughout Kent and London from the 11th to the 16th century (Worssam & Tatton-Brown 1993; Tatton-Brown 2001; LeGear 2007).

Another simple chamfered mullion profile element WSN7 is made out of the much softer Beer stone, and it is possible that this could have once been used internally as a screen. The late medieval date assigned to this moulding profile is also in accordance with the widespread use of Beer stone in London during this time (see above).



Figure 1: Simple Chamfered Mullion Profile

On at least two of these mouldings there is the same distinctive mason's marks suggesting that some of the group were used in the same building project



Figure 2: Mason's mark profile

Tracery - flowing Bar Type



Figure 3: ornate tracery

Carved out of a high quality ragstone, this large well-preserved (490mm x 310mm x 220mm) ornately carved block of window tracery (see Figure 1) is identical in form to branches of flowing bar tracery of that typify Decorated period (1300-1350) (Nye 1965) for much of southern England (Hayward & Sabel 2014).

Quoins, Cornices and Ashlar

The vast majority of the blocks consist of very large 20-80kg ashlar, quoins and cornice elements, nearly

all of which are made out of Kentish ragstone/Hassock greensand with examples of Headington stone, Beer stone, Caen stone and Reigate stone present.

Culvert or Drain Element

Finally, there is an example again in good quality ragstone of a cut block designed to work as a medieval stone drain inlet WSN13 (Figure 4).



Figure 4: Guttering

Summary

Date

On the basis of stone type, and architectural form, this well preserved and large collection of reused moulded stone items identified from a 17th-century wall. [558] has a distinctive late medieval to early post-medieval feel about it. The first reason is the stone type. Beer stone only starts to be used in the capital from the 14th century onwards whilst Headington stone, is a rock intricately linked with Tudor buildings. The high quality ragstone used in the mouldings also only begins to be used from the 14th and 15th century. The presence of a small block of Portland stone would concur with the 1620-1680 Phase 6 date assigned to this wall. This is because Portland stone was only used after 1630 in London initially by Inigo Jones in the Banqueting House and slightly later in the portico of Old St Paul's (Campbell 2007), and on a considerably greater scale after the Great Fire.

Second, the identification of a large number of simple chamfered mullion profiles which are characteristic of the 1300-1500 Decorated period, substantiated by the fact that there is a well preserved flowing bar tracery window.

Origin

The most obvious candidate for the origin of this stone, given the sheer bulk and weight of the assemblage is the nearby Church of All Saints, Fulham, just 50-100m to the south. The church built in 1154, has had a number of repairs and rebuilds. One build which took place in the mid 15th century (1440) build of the Tower could have also supplied much of the late medieval decorative window tracery and mullions subsequently reused in this 17th-century wall. The Victorian 1880-1 rebuilds used comparable decorative style window elements in Portland stone from an example recovered nearby³ and from a fabric review of the extant All Saints Church (Hayward pers. obs.)

Other possible candidates include the 15th-century vicarage, demolished after the Reformation or even the wholesale replacement of stone by brick in Fulham Palace. Or it is even possible that the material was merely shipped upstream from Westminster or the City.

The presence of a Quarr stone architectural element is a surprising find given that the stone was used so sparingly and early on in Saxo-Norman London. After the mid 12th century the quarries that supplied much of this stone from the Isle of Wight ran out of suitable material. It is possible that this stone could relate to the initial 1154 build of All Saints Fulham.

Whatever the origin, because stone was such a valuable commodity in London, an important source particularly in later foundations would have been the stockpiles of demolished stone from earlier construction projects or the influence of Henry VIII in bringing about the Dissolution of the monasteries in 1536-9. Large regular shaped dense blocks of Ragstone particularly ashlar, quoins and cornices were ideal for the construction of walls. Even elements with more intricate moulding such as large window bar tracery elements still had one or two flat surfaces that could be utilised for wall construction

Publication and significance

At publication it is recommended that accurate line drawings of at least two of the elements, the simple chamfered mullions and the flowing bar tracery are included. The former also has distinctive mason's marks. A section summarising the petrology and art-historical style of the architectural elements should be included as well as suggesting an origin for these elements.

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APPENDIX 9: ANIMAL BONE ASSESSMENT

Kevin Rielly

Introduction

The site lies at the southern end of Fulham High Street close to the junction with the New Kings Road with the Walled Garden at Fulham Palace a short distance to the west. The excavation consisted of a number of large open areas situated in the basement of the former building fronting on to Fulham High Street. This revealed archaeological levels (limited to the eastern half of the study area) beginning with a series of natural levels cut by various channels, indicative of the previously marshy terrain in this area. A notably large channel was discovered running along the eastern side of the site, this containing several deposits, the earliest dating to the 13th century and the latest up to the early 19th century, this channel/steam eventually becoming a brick-lined culvert in the 18th century, coinciding and lying to the rear of the properties fronting onto the High Street. This development was preceded by evidence of dumping/levelling into the channel and also to the west overlying alluvial deposits.

Animal bones were found throughout the occupation sequence, although with a notable concentration coinciding with the 18th-century development. Much of the bone was recovered by hand but there was also a substantial assemblage taken from the bulk samples and in particular from the 18th-century fill of cess pit [591] located to the rear of one of these buildings. The fish bones found at this site were identified by Philip Armitage, who also provided comments/notes on the possible derivation of this collection.

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. The sample collections were washed through a modified Siraf tank using a 1mm mesh and the subsequent residues were air dried and sorted.

Description of faunal assemblage

The site provided a total of 156 bones by hand collection and 667 from the 8 samples. Most of the sample collection was taken from cess pit [591], a total of 634 bones. The same sample provided an additional 272 bones from the flot, the total bones from the site samples therefore amounting to 939

fragments. All of the bones recovered were in a good state of preservation with the various context collections demonstrating a moderate to low level of fragmentation. The quality of the dating evidence is good, allowing for an application of a series of phases, as follows:- Natural and alluvium (Phases 1 and 2) cut by various channels (Phase 3) leading to archaeological levels – medieval (Phase 4) and then early (Phase 5), middle (Phase 6) and later (Phase 7) post-medieval, and finally 19th century (Phase 8).

Natural (Phases 1 to 3)

A small collection of bones was taken from a natural accumulation (Phase 1) and the sieved fill of a channel [228], as shown in Tables 1, 2 and 3. It can be assumed that these represent bones mixed in from later fills/levels, thus explaining the sheep-size fragment from the sample and the equid pelvis from the natural level. Notably, the latter bone had been butchered, a series of superficial chops adjacent to the acetabulum possibly representing dismemberment at the pelvic joint. Assuming this bone is contemporary with the major collection from this site, i.e. the post-medieval era, it follows that this equid may be a 'dog horse', bought and butchered for dog meat. This practice was perhaps originally designed to feed dogs in country estates but developed into a major concern in urban centres by the 19th century (Edwards 1988 in Wilson and Edwards 1993, 52 and Bailey 2005, 42).

Medieval (Phase 4)

The earliest channel fills as well as some dumps within the western half of the site provided a small quantity of hand collected and sieved bones (generally dated between the 11th and 14th centuries). These included a few cattle, sheep/goat and pig bones as well as dog and amphibian. A dog humerus with a greatest length of 135.3mm represents an animal approximately 437mm at the shoulder (after Harcourt 1974).

Post-medieval (Phases 5 to 8)

A rather minor number of hand collected bones were taken from 17th-century channel fills (Phase 5) with a somewhat more substantial assemblage from early 18th-century levels (Phase 6). This was principally taken from dump deposits associated with the clay and timber revetment of the eastern channel and otherwise from pitfills, with a notably large sieved collection taken from the cess pit [591] bulk sample. The hand collected component, mainly from the dumps, featured a general mix of skeletal parts belonging to cattle and sheep/goat with a few pig, equid and dog bones. Several of the cattle and a few sheep/goat bones were from large individuals, this amongst a good proportion of measurable

bones. Age data is also well represented and while each of these species is largely represented by adults, there were a small number of 1st year cattle bones no doubt signifying the exploitation of veal.

The cess pit [591] sieved collection (divided into the residue and flot collections, see Table 3) includes a major quantity of small mammal bones, which alongside the cat fragments, most probably represent the partial remains of one or possibly two kitten skeletons. There were also some rat bones, which, judging by their size are likely to be brown rat; as well as a variety of smaller rodents as voles and house mouse. These may have all entered this structure by accident, here also including the several frog/toads represented in this feature. The food waste is largely composed of fish bones although there is also a substantial quantity of poultry (all chicken). A small crow and a small passer (sparrow-sized) may also be food waste. The fish collection is rather unusual in that it is almost entirely composed of the remains (head and body parts) of a large number of small, clearly very young or immature, flounders (it is likely that the plaice/flounder bones in both the residue and flot also belong to this species). Their size raises a question concerning where they were caught and perhaps how or even whether they were eaten (see Conclusions). The same sample, specifically from the flot, provided a large number of freshwater eel bones. These tended to be no more than 20cm in length (estimated from the cleithra using *Libois et al.* 1987), clearly representing elvers captured in late Winter or early Spring during their migrations upriver (after Wheeler 1979, 140).

The latest collections, dated to the later 18th and 19th centuries (Phases 7 and 8) were taken from further channel fills as well as from dumps and pits. Cattle and sheep/goat continue as the principal food species, a notably greater proportion now representing large individuals. The cattle bones include three 4 metacarpals, 2 in each phase, with both the Phase 7 examples and one of the Phase 8 bones with holes drilled into the proximal ends. Similarly drilled metacarpals have been found elsewhere in 18th-century London, although generally accompanied by sawing through the shaft close to the proximal end as at the British Museum (Rielly and Gaimster 2017, 77-8). However relatively complete bones with drilling have been found, as for example at 18th to early 19th-century levels at the former pottery works in Isleworth (Rielly 2015, 115). It can be supposed that the drilled hole may have acted as a purchase point if the bone was later turned on a lathe. However, this doesn't necessarily follow if, as here and elsewhere, no further modifications are visible.

There is also a cat skull and mandible, from an adult animal, these bones taken from the Phase 7 dump level [169] plus part of a 'dropped' red deer antler from the fill of the Phase 8 pit [43] which has been chopped through the beam.

Conclusion and recommendations for further work

This assemblage is in good condition and well dated. While the quantity of bones is not large, the information this assemblage can provide is of potential interest. This principally refers to the post-

medieval collections and from Phase 6 in particular with some useful data from Phases 7 and 8. It can be assumed that these derive from the households fronting on to Fulham High Street and as such their value will relate to the meat diet of this very local population. Notably, this appears to be very largely composed of beef and mutton, with a significant contribution of poultry (chicken) and fish. The latter evidence, taken from the contents of the Phase 6 pit [591] was almost entirely composed of small flounders (generally with lengths of about 15cm based on comparisons to modern fish bones, Armitage pers. comm.). It is to be wondered if such small fish would have warranted purchase unless they were included in a whitebait 'catch' although of course this deposit provided very few herring and no sprat bones. It is known that flounder can ascend some way upriver, although here the fish tend to be rather small (Kennedy 1954, 230). Could this then represent a catch nearer to London rather than the more usual fishing method – using shore-erected "kiddles", in the estuary/mouth of the Thames (Wheeler 1979, 79-80)? Regardless of method of capture, this fish collection is undoubtedly unusual and should receive further attention.

Other points of interest include the noted large size of several cattle and sheep bones, this no doubt indicative of the size changes brought about during the 18th century to domestic stock in response to the ever increasing London population. This process culminated with the 'improved' stock, the foundation of the modern 'breeds' (see Rielly in prep.). The size data from this site will add to an increasing corpus of information facilitating the better understanding of this process.

Thus, it is recommended that further work be done on the post-medieval material in order to ascertain the eating habits of the nearby 18th-century and early 19th-century households (here bringing in the age data) as well as providing further data for the ongoing research concerning size changes in 18th/19th century domestic stock. The fish collection is clearly worthy of a detailed investigation, particularly searching for any comparable collections.

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Recovery/Feature	1	3	4	5	6	7	8	UP	Total
Hand collected									
Natural	1								1
Levelling							2		2
Dump			1		74	8			83
Channel			5	5		6			16
Pit					7	7	17		31
Cess pit					8				8
Timber Structure					6				6
Drain							2		2
Infill					4				4
Unknown								3	3
Total	1	0	6	5	99	21	21	3	156
Sieved									

Dump			4		6				10
?pond			2						2
Channel		3			6				9
Pit					12				12
Cess pit					634				634
Total		3	6	0	658	0	0	0	667
Grand Total	1	3	12	5	757	21	21	3	823

Table 1: Distribution of bones by recovery method, feature type and phase where UP is unphased. Not counting the bones from the cess pit [591] flot.

Phase:	1	4	5	6	7	8	UP	Total
Cattle		2	2	45	11	6		66
Equid	1			1	1			3
Cattle-size			2	24	2	1		29
Sheep/Goat		1	1	20	4	7	3	36
Sheep				1				1
Pig		1		2		1		4
Sheep-size				5		5		10
Red deer						1		1
Dog		2		1	1			4
Cat					2			2
Grand Total	1	6	5	99	21	21	3	156

Table 2: Distribution of hand collected animal bones by phase and species

Phase:	3	4	6	6	6	Total
Feature:	All	All	CP [591]R	CP [591]F	Other	
Cattle		2				2
Cattle-size		1		16	1	18
Sheep/Goat				1	1	2
Pig					1	1
Sheep-size	1	2		4	13	20
Cat				18		18

Phase:	3	4	6	6	6	Total
Feature:	All	All	CP [591]R	CP [591]F	Other	
Rabbit					1	1
Small mammal			141	1		142
Mole	1					1
Rat sp			5	1		6
Small rodent	1		17			18
Field vole				1		1
Vole					2	2
House mouse			9	9		18
Chicken			43	1	2	46
Chicken-size			47			47
Small crow					1	1
Small passer			3			3
Uniden bird				5		5
Amphibian		1	30	15	3	49
Whiting				1		1
Small gadid			2			2
Herring			10	37		47
Plaice				3		3
Flounder			210	19		229
Plaice/Flounder			1	62		63
Dab			1	1		2
Mackerel			7			7
Anchovy			21			21
Freshwater eel			43	115		158
Salmon			3	1		4
Total	3	6	634	272	25	939

Table 3: Distribution of sieved animal bones by phase, species and feature (showcasing the bones from cess pit [591] divided into R residue and F flot)

APPENDIX 10: FLINT ASSESMENT

Ella Egberts

Introduction

Archaeological investigations at the site resulted in the recovery of quantities of struck flint and unworked burnt stone. The assemblage has been comprehensively catalogued by context and this includes further descriptive details of the material (Tables 1 and 2). This report summarises the data in the catalogue; it quantifies and describes the material and presents a preliminary assessment and outline of its significance. No statistically based technological, typological or metrical analyses have been conducted and a more detailed examination may alter or amend any of the interpretations offered here.

Burnt flint

Five small (max. 12.6g, min. 0.4g) unworked burnt flint fragments were recovered from the site (Table 1). All of the burnt flint is decoloured and 'fire-crazed'. The fragments from context [227] and [252] come from river channel and flood deposits, [238] is a posthole and [109] an alluvial context. The recovered burnt flint fragments most likely represent incidentally burnt and redeposited material deriving from hearth use at the site.

Context		Sample no.	Weight (g)	Description
109	Alluvium	9	1.9	Fire-crazed and decoloured
227	Fill	14	0.4	Fire-crazed and decoloured
238	Post	18	5.4	Fire-crazed and decoloured
252	Flood deposit	15	12.6	Fire-crazed and decoloured
181	Alluvium	-	1.6	Fire-crazed and decoloured

Table 1: Quantification and description of the burnt from Fulham High Street.

Struck flint

Raw material

All of the struck material was made from flint of which three different types were identified. These comprise a dark slightly opaque grey flint with lighter grey mottling, a fine-grained translucent yellow/brown flint and "Bullhead Bed" flint. The latter has a distinctive green glauconitic coating is found at the base of the Thanet Formation sedimentary bedrock, present about 8km east and 12km south of

the site, and nodules of which can also be found incorporated in river gravels through fluvial processes (BGS 2018).

Context	Colour	Condition	Description	Date
181	Translucent brown	Chipped	Undiagnostic fragment of knapped flint	Undated
269	Translucent to opaque dark and light grey	Slightly chipped	Flake with centripetally removed flakes, centrally one flake badly removed. The piece could be seen as demonstrating prepared core technique. Possibly Levallois like which would suggest a Neolithic age, or centripetal core which might point to a later date. It weighs 90.7g.	Neo-BA
269	Translucent brown with lighter opaque mottling	Chipped	End scraper on flake struck from Bullhead flint. Dorsal side shows small strip of cortex along the left edge and a large negative flake scar over the middle of the dorsal side. Some inverse retouch along the left edge, some damage or retouch along the right. End scraper has been used as demonstrated by usewear.	Meso-Neo
269	Translucent brown	Chipped	Well struck flake fragment with platform trimming and dihedral platform.	Meso-Neo
269	Dark grey and yellow	Slightly chipped	Thermally fractured flint, conchoidal chunk. Some undeveloped Hertzian cones.	Undated

Table 2: Description of the struck flint from Fulham High Street.

Description

Four struck flints and a conchoidal chunk were recovered from the site (Table 2). Most significant is a well made end scraper from context [269], which also produced a flake and a core. The scraper (length: 43mm, width: 27mm, thickness: 6mm) is made from Bullhead Bed flint and has semi-abrupt retouch along the distal end. Well developed wear proves the end scraper was well used before discard. Together with the well-struck flake fragment from the same context with a dihedral striking platform, these pieces are most characteristic for Mesolithic/Early Neolithic flintworking technologies.

The centripetally worked flake, also from context [269] has had a number of flakes removed after being detached and could represent a less typical example of the prepared-core technique. This technique, the Levallois technique, occurs during the Lower/Middle Palaeolithic and re-occurs during the Later Neolithic. Alternatively, the piece could represent a less typical discoidally worked core, which is more characteristic for Bronze Age flint working techniques. The conchoidal chunk from context [269] possibly evidences the testing of nodules as it bears Hertzian cones resulting from hard impact, for example by a hard percussion.

Condition

The struck flint is in slightly chipped to chipped condition. The Mesolithic/Early Neolithic material appears somewhat more rounded and chipped, suggesting this may have moved around to some extent more before final deposition than the other pieces.

Significance

Technological and typological characteristics of the struck flint from 84-90B Fulham High Street indicates that prehistoric people were present at the site during the Mesolithic/Early Neolithic and possibly later during the Bronze Age. This is in line with findings in the vicinity of the site which includes a Mesolithic tranchet axe and 26 flakes/blades (GLHER MLO6081), and evidence of multi-period occupation (GLHER MLO19311) of the natural higher grounds ("fossilised gravel braid bar") at the site of Fulham Palace (Gibbard 1985). The material described here is most likely to represent redeposited material from occupied areas elsewhere in the local landscape.

Recommendations

The struck flint assemblage has been comprehensively catalogued and no further analytical work is recommended. Nevertheless, it does demonstrate prehistoric activity at the site. The palaeo-topography, Mesolithic/Neolithic finds from earlier excavations and additional work could provide interesting insights in the palaeo-environment and human activities in this area. The assemblage reported here should be re-documented in conjunction with additional flintwork from other sites in the vicinity such as Fulham Palace.

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APPENDIX 11: TIMBER ASSESMENT

Damian Goodburn

Terms of reference of this report

This assessment report is intended to provide a summary of the key historic waterlogged woodwork recovered during the excavations at the Fulham High Street site, site code FHS 15. It focuses on the woodworking features of the structural woodwork found such as, evidence for the raw materials used, layout and jointing and possible reuse of timbers. Broad suggestions as to the date range and function of some of the timber structures are also included. The significance of the material in a Greater London context is assessed and its potential value for further analysis and targeted publication as part of a wider PCA presentation of the archaeological findings is discussed.

The site lies on the north side of the approach road to Putney Bridge and is known to have included the edge of the medieval and later moat surrounding Fulham Place and its grounds. This area is low lying overlies palaeochannels and is relatively close to the tidal Thames. Thus, waterlogged ground with some preserved historic, and possibly earlier, woodwork was to be expected within the development area. The development area runs roughly NNW SSE but for simplification is considered N-S for the purposes of orientating the key timber structures and related texts.

Brief summary of the key timber structures and range of woodwork found

Current period phasing is followed in this assessment summary.

The key waterlogged timber structures found during the excavations at this site include a variety of revetments to the SE corner of the Fulham Palace moat and a roughly N-S timber-lined channel extending from it to the SE. These revetments appear to span the relatively short time span of Tudor to c. 18th-century period (Phases 5-6) and varied in form from simple stake and plank structures incorporating slabs of reused clinker vessel planking (e.g. Str [429] below) to others involving reused pierced elm planks and larger piles.

At the point of junction of the moat and the linear timber-lined watercourse extending to the SE, three E-W timber revetments were found close together. Two structures [481] and [479] were simple pile and plank constructions including many reused timbers whilst structure [480] lay between them and was a simple timber framed structure also built out of reused timbers. The space between the two first mentioned structures was filled with clay and they appear to have formed a partial dam and probable causeway across the N-S channel. This dam would probably have been pierced by some form of culvert or pipe, but the later brick culvert on the same line and general truncation seems to have removed any earlier culverts.

Traces of the base of a small timber bridge over the south side of the moat were also found in the form of a jointed sill beam and displaced tenoned post (timbers [221] and [324] etc) in the base of the moat fills. Due to the wet nature of the ground and soft underlying deposits, later post-medieval masonry walled buildings were built on the site with timber raft foundations. These structures also included many reused nautical timbers.

It would be fair to summarise by noting that the timber structures uncovered provide two distinct types of archaeological and historical information. The first area concerns the development and use of the site itself and the second area sheds light on the construction of little known regional river craft of two distinct types, clinker built, round bottomed craft and flat bottomed 'western barge' style craft (see below). The broad dating of the woodwork from details of its working and raw materials, suggested a dating span of c. 16th to early 19th century, in broad agreement with pottery spot dating. Unfortunately, due to the unsuitability of the timbers found, tree ring dating of the best material has only provided closer dating for two of the structures to the later 16th century. Post-medieval waterlogged woodwork from Greater London is often difficult to tree-ring date due to short annual ring sequences, long distance timber transport and more use of undatable species such as the elms.

The comparative corpus of archaeological records relevant to the site from the Greater London region, in brief

The moat and channel revetments

The London region has been well known for 40 years, nationally and internationally for systematic archaeological work in waterfront areas which have revealed the remains of several Roman and medieval wharfs and other waterfront structures of timber. These structures have been preserved through waterlogging aided by rising tidal levels relative to the land and historic land winning procedures. Archaeological work by MOLA and PCA teams just behind the river frontages has also revealed watercourse and moat revetments of later medieval and post-medieval date (e.g. Blatherwick and Bluer 2009). The watercourse and moat revetments varied from wattle-lined, through pile and plank revetted channels to moderately elaborate timber framed revetments. The lack of good local building stone meant that the structures were mostly of roundwood and timber though some later, high status structures were sometimes composite of stone combined with timber or brick. Sluices and culverts were also sometimes found running through channel causeways or dams and the tidally filled channels were often used in the region as linear tidal ponds to run mills, the most famous of which was that at the Tower of London.

Indeed, PCA and this writer were involved in closely targeted excavation and recording of in situ medieval bridge timbers from the far west side of the same Fulham Palace moat (Site FLB 03). However, the remains uncovered there were of earlier, late medieval date (Emery 2011).

Changing high tide levels relevant to the land on the tidal Thames

Space does not permit more than a very brief reference to current knowledge of the changing tidal regimes archaeologically documented for the late medieval to recent tidal Thames in Greater London. During the 1970s to 1990s G Milne, and then T Brigham, worked to reconstruct past high tide levels limiting port developments and shore side occupation for the Roman to later medieval periods, mostly for the historic core area of the City and Southwark. More recently this writer has continued and extended this work into the post-medieval period covering crucial information from tide mill and new waterfront excavations (e.g. Goodburn and Davis 2010). This work, and a reappraisal of some earlier evidence, allows us to make the following general statements on where the larger spring tide high waters were reaching in the late medieval to early 19th-century period downstream of this site, in the historic core area. Around 1500 the largest spring tides were reaching a level of around + 2.7m OD and this level rose rapidly to c. +4.5m OD by c. 1800. For a site upstream, to the west of the City, such as this example, the levels might be expected to be a little higher due to the 'tidal slope' effect. The recent tidal mill excavations have shown that the tidal range was also substantially greater than previously thought, at around 5m or more in the late 12th century presumably gradually increasing to around a maximum of 7m today where the high spring tide levels reach well over +5m OD.

Any understanding of the historic management of Fulham Palace moat and the associated N-S channel investigated as part of the project has to take account of these historic tidal parameters effecting the adjacent river and shore side zone. The recent moat channel on the far northern side of the palace has a historic sluice where it runs to the Thames, documents may exist relating to the use of earlier sluices. Clearly the proximity of historic river and 'mud walls' can shield the bankside area from the highest tidal levels to varying degrees. And it is clear that the moat and N-S channel found on this site must have been fitted with carefully controlled sluices that were closed during high tides to avoid flooding.

The reused timbers from watercraft found

On many of these archaeological projects reused timbers were found, often including timbers recycled from boats, barges and ships (Goodburn 1991). These fragmentary finds have greatly extended our understanding of how the watercraft, that were essential for the operation of the late medieval and post-medieval port, differed considerably and how they were built. The very few more complete wreck finds also help to put these groups of nautical timbers in context (Marsden 1996). However, there are still many gaps in the story of the development of the historic watercraft of the lower Thames and how the boat and barge builders, including those in the Fulham and Putney area, worked. Recycling timber and

fittings from barges and ships was also an established trade alongside new building and repair often providing cheap second hand timber.

For the river and estuary craft of the period c. 1500 to 1900 we know there were two main, very distinct, traditions of construction both of which are essentially extinct today. These traditions were 'clinker building' of round hulled craft where the boards of the hull were assembled first, slightly over lapping, then the strengthening frames were put in afterwards. The outer hull boards were fastened at the overlap with iron rivets or 'rove nails' and sometimes wedged wooden pegs, called 'treenails', which were also used to fasten most of the frame timbers in place. The hulls were generally pointed at both ends. This very ancient system was used for many types of vessel on the Thames from small boats, through river and estuary barges, to small coastal traders, sea going fishing craft and ceremonial river craft. The medieval term for river cargo craft or barge built this way was 'shout' and small often stylised images, of these craft and those outlined below are known from some Thames panoramas but none of the pictorial evidence till the 19th century shows much detail. These details are only available from systematic archaeological work like that carried out at the Fulham High Street site.

The other broad system of construction involved building flat bottomed, box-like vessels mostly with square 'punt shaped ends'. This system was mainly used for barges carrying cargoes on the river and inner estuary and also some smaller river craft (such as punts), and the historic term 'western barges' has been adopted to cover these types of vessel. The flat bottoms and near vertical sides of the barges were made with planks edge joined in several ways including the use of free tenons and nailed rebated seams. The seams in both traditions of building were waterproofed with large amounts of tarred hair.

Large seagoing vessels, i.e. ships, were built with round hulls with hull planks butted edge to edge, supported by a heavy, mostly or entirely, pre-erected framework in what was called the 'carvel building system' introduced from southern Europe around 1500.

This writer has first hand knowledge of the vast majority of the most relevant archaeological projects and the woodwork found in the zone for the London region. This corpus of published and unpublished material has informed the identification and interpretation of many of the reused timbers found on this site. Some subtle changes in the details of the various construction systems and the raw materials used have been broadly dated and are relevant here (covered by this writer in the OA-PCA post excavation project at the Thameslink London Bridge site for example).

Methodology

It has to be acknowledged immediately, that rather more historic waterlogged woodwork was found than initially expected. Also, due to the comparatively late dating of some of the structures, and duplication of some of the timbers used in some of them, it was decided that a full representative sample of the woodwork from each structure, rather than complete, untargeted specialist recording was required.

Indeed, this has become a practical compromise on many, mainly post-medieval and industrial period waterlogged sites.

This writer was commissioned to visit the site and examine several of the timber structures partially exposed towards the northern end of the main trench. Some basic advice was given on the general approach to in situ recording, the broad dating of the structures found, and origins of some of the reused timbers that were more exposed. The timber structures from further south and running down the east side of the site were not seen in situ by this writer. However, all the detailed site plans and context records have been reviewed for the structures covered here.

The detailed specialist recording was limited to the woodwork carefully lifted from the excavation. The procedures followed for the large representative sample examined and recorded in detail are described in the Museum of London Archaeological field manual (Spence 1990). The main records are pro-forma 'timber sheets' with annotated measured sketches on the reverse. The key material was also drawn to scale on gridded film. This work is commensurate with the standards set out in Historic England Waterlogged Wood guidelines available since 1996 (Bunning 1996).

Quantification

Whilst most of the historic timbers were given individual 'timber numbers' in some cases groups of timbers were given one number particularly where they were fastened together tightly (as in sections of articulated barge hull, e.g. 'timber' [161]) and it was also, not possible to lift all the woodwork revealed due to access difficulties and the decay of some material. These factors mean that a totally exact count of the timbers seen on and off site for in situ and detailed recording is not possible. However, we can note that the detailed recording covered 68 individually numbered items off site comprising approximately 100 individual timbers, with more recorded in situ on site to varying degrees (a total of 116 timbers were given individual timber numbers on site but many could not be fully exposed and lifted). Thirty of these items were also drawn to scale in detail. Several key items were also photographed at PCA facilities. By Greater London standards this has to be viewed as a medium to large sized assemblage.

In addition to the records made 13 tree ring slice samples of potentially viable oak timbers were taken and submitted for dating. In the end 10 of these were assessed as suitable with 50 or over annual rings (see Tyers Appendix 12). Of these 10 samples three could be matched against established chronologies and provided felling date ranges or dates 'after which'. The oak timber appears to be from the SE region as defined by the chronologies it matches best. Although most of the species group identifications were done by this writer visually a sample of timbers so identified (Principally of the elm group) and several less diagnostic species of imported coniferous timber were sampled for microscopic wood species ID (see Tyers Appendix 12). These identifications confirmed the field identifications of

elm, oak and coniferous and were able to subdivide the coniferous timber into spruce or larch, and 'Scots pine' (i.e. *Pinus sylvestris* almost certainly of Norwegian or Baltic origin rather than Scottish). This work neatly shows how simply suggesting all post-medieval coniferous timber is 'pine' is very misleading.

Summary of the key woodwork discussed by provisional period and structure or initial timber grouping

Woodwork and timber structures of Phase 5: c. mid 15th to early 17th century

Structure [357], a probable bridge trestle base, timbers [221] and [324] etc

Though described as a revetment initially this group of associated timbers from the southern edge of the moat, appears to be the disturbed base of a timber framed bridge trestle that once carried a bridge across the moat. The principal timber was a slab of elm 2.39m long, 440mm wide and 100mm thick, that had been pit sawn from a hewn baulk with the axe felling cut left on. This timber had been morticed at each end and box quartered post base [324] of oak, had a tenon of the size to fit one of the mortices. Oak timber [430] was an odd plank off cut 0.75m x 200mm x 50mm thick, with one curved edge and a scribed centre line. It had well over 100 rings with sapwood, but unfortunately could not be tree ring dated. The width of the implied small bridge might just have been enough for small carts to pass single file. From a woodworking technology point of view a date in the 16th century seems most likely.

A group of associated 'driven posts' or piles in the moat fills, timbers [236], [237] and [241] etc

The perennial problem of securely locating decayed and truncated vertical timbers in the stratigraphic sequence must be borne in mind in the consideration of the following 'driven post' or piles. Only the very tips of the timbers survived and they must have been driven from very much higher up. This loose grouping of piles included timbers pit sawn from the rounded, waney (just under the bark) corners of hewn oak baulks such as pile tips [237] and [239]. These types of low value, irregular timbers were often used in Thames side water courses in the post-medieval period. Pile tips [238] and [242] were made from sections of thick sawn planking near the middle of the parent log. Oak pile [241], also a waney corner piece from a hewn baulk, was sliced for tree ring dating but had just 3 too few rings for matching to be attempted (Appendix 12). One of these piles was a more rustic cleft oak timber, timber [236], such as we would expect used in rural fencing in this period. From a woodworking point of view such material would be broadly dated to the 16th to late 18th century.

A group of associated 'driven posts' or piles in the moat fills, timbers [245], [246] etc

This group of associated driven posts or piles included timbers [245]-[248], [279], [282]-[284] and [312]. Those recorded in detail were all of oak and better preserved than those of the previous group. All those examined off site and recorded in detail were sections of medium to large sized carvel ship timbers cut down by pit sawing. Their ship origins were indicated by the thicknesses of the timbers and sizes of many of the oak treenails found in them. Pile tip [284] (B) was distinctive having a tip formed by two saw cuts rather than axe shaping and was a section of planking 60mm thick with a 34mm diameter treenail in it. Two other timbers were labelled [284] (A) and (C) with item C being similar to that just described and a being a fragmentary radially cleft oak fence pale 120mm wide and 9mm thick. It is quite possible that the moat may have been fenced in places to prevent folk and livestock from falling in. On technological grounds and the fact that the timbers were driven from higher up a dating to the 17th century seems likely, none were suitable for tree ring dating due to having under 50 annual rings.

A group of associated 'driven posts' or piles in the moat fills, timbers [244], [315] and [361] etc

The only timber examined in detail off site from this group of piles and stakes was a roundwood stake cut from an elm pole only 75mm in diameter surviving 0.45m long, timber [315]. Stakes made of elm poles are relatively uncommon as the timber is usually used in larger diameters from later medieval times onward. Such stakes would have little durability between 'wind and fresh water' though would survive well if submerged continually.

Collapsed N-S revetment structure [492] with supporting stakes and piles [494], [505] and [506] etc

This structure was a simple light, revetment on the east side of the moat that also seemed to continue to the SE. It had collapsed almost flat from the east to west, showing the open water was on the west side at the time. An assortment of relatively modest sized stakes and small piles had originally been driven to the west to retain the shuttering of reused clinker vessel planking. These uprights included oak roundwood stakes such as timbers [505] and [507]. The latter was only c. 80mm diameter and the former one c. 60mm. Other uprights were slightly larger cut down sections of old oak timbers. An example of these was timber [506] which was a rectangular section oak pile resawn from a large ship timber, pierced by 34mm diameter oak treenails running in two directions and 110mm x 65mm in cross section.

The clinker vessel planking was rather decayed and in places only survived as lines of iron rove nails where the plank laps had been (these were skilfully planned on-site and the plank outlines clearly shown despite extensive decay). Slabs of articulated clinker boat planking were often reused as revetment shuttering from Saxon times as they were almost like sheets of plywood. On technological grounds a 16th-century date seems likely for this structure.

E-W revetment structure [530], tree ring felling date range 1559-83

This E-W revetment structure was first thought to be some form of dam or filter structure for the water filling the moat but on closer examination as it was found that the pierced sawn elm plank shuttering was apparently reused, though still fresh. The shuttering was supported by a series of oak piles on the south side and the structure had collapsed from the north to south. This indicated that at that time the landfill probably lay to the north and open water to the south. However, if the pierced planking was used as a kind of debris screen to prevent floating matter moving south down the N-S channel, then perhaps it could have been displaced by flooding.

The surviving elm planking was over 390mm wide and 30mm thick and in fresh condition with clear pit saw marks remaining. It was lightly nailed to the north faces of the oak pile uprights and had lines of multiple holes 20mm (¾") in diameter, some of which were blocked by the supporting uprights. The planks were scarfed towards the west end.

The supporting piles had all been pit sawn from a, or several, fairly knotty hewn oak baulk and were also in fresh condition near their tips but had the marks of fresh water borers near their tops (midge larvae channels). The dimensions varied a little centring around c. 150mm x 130mm and several survived over 1.6m long, 'post 2' [530] reaching 1.92m in length. Three of the six uprights of the structures were slice sampled for tree ring study and 'posts' 3 and 4 matched the regional curves with post 4 having 22 sapwood rings and providing a felling date range of 1559-83 (Appendix 12). It will be possible to go some way towards reconstructing the original appearance of this structure for most of its original height by graphically raising the verticals upright again. This process would probably also clarify its original function.

Woodwork and wooden structures of Phase 6, c. mid 17th to early 18th century

N-S revetment structure [161], timbers [160], [167], [291], [292] etc

This N-S channel revetment near the eastern edge of the main trench, was a simple pile and plank revetment with most of the squared pile uprights being on the western face of the shuttering planking. Whilst in all medieval revetments the uprights were on the open water face of the shuttering, by the 17th century on the Thames, shuttering planking in revetments was sometimes fastened to the uprights on the open side using large iron nails and or wedged treenails.

It was possible for the site team to carefully lift a large section of the shuttering planking from this structure which was cleaned and recorded off site. This section, 'timber [161]' proved to be a large slab of conjoined barge planking from a wall sided, flat bottomed craft which was some form of 'western barge' type vessel. The main pieces of planking were overlapped slightly with a form of rebate called

a 'cipher lap' which was waterproofed with tarred hair and secured with small iron nails driven alternately from both sides. The tips of the nails were turned over to provide a more solid fastening. Near one original plank edge large nail holes up to 5mm square were found instead, that seemed to be the remains of fastenings from the bottom of the side into the flat bottom of the vessel. This arrangement, seen in some other post-medieval barge fragments from Greater London, implies that the hull section was part of the flat side of the 'punt-shaped' vessel. These planks and others found recently on other sites in London appear to be showing that the side planking of western barge type vessels was edge fastened in this way, whilst the bottom planking was edge fastened with free tenons. However, more comparative analysis of the fragmentary finds is needed to clarify the precise structural arrangement in these extinct vessels, a system of construction peculiar to the Thames region. This material and other timbers from the FHS15 site are important additions to that historic nautical jigsaw.

The parent barge was clearly used for some time and had many repair patches or 'tingles' nailed over splits in the planking, and smaller oak inlaid patches or 'Dutchmen' set in over other defects. The main hull planks varied in thickness with the thickest being c. 34mm thick and were of irregular shape. Pit saw marks showed through the cream paint that covered the surfaces. The paint was sampled for possible identification in due course and may have been partially lead based helping to preserve the planking. One of the planks was scarfed using a 'stop splayed scarf' waterproofed with tarred hair and secured with many hooked iron nails. The direction of the opening of the scarf shows that the slab of hull was from the starboard side of the parent vessel. Lines of oak treenails 25mm in diameter marked the position of the frame timbers set on c. 0.5-6m centres, which had been removed for reuse. This bulky, 3.4m long section of barge hull probably came from a local yard breaking up old vessels and selling on the timber for cheap construction. Timber [291] was another section of western barge style planking with a similar scarf joint.

The oak pile uprights of the structure also included many reused nautical elements of two main types, western barge type 'floor timbers' (straight framing timbers from the flat bottom) and framing from clinker-built vessels notched (or 'joggled') so as to fit the stepped surface of the inside of the hull. Examples of the former include timbers [163], [278] and [292]. These timbers were pierced by oak treenails c. 26mm in diameter for fastening the barge bottom planking and had iron nails in the inside faces for fastening in the hold lining. Timber [292] had traces of the original pegged 'bridle joint' for attaching the side framing despite the later axe trimming of the pile tip. All the former floor timbers had been re-sawn down their length for reuse but pile timber [163] was a complete example just cut to length. It was 180mm wide ('sided') and 100mm thick ('moulded'), which seem to have been common sizes for the western barge floor framing. All the examples also had shallow channels or 'limber holes' cut to allow the bilge water to flow through to be taken out of the hull. Small amounts of sapwood were left in places on the corners of these timbers, which were cut from oak of quite modest diameter.

The second type of vessel framing reused to hold up the channel shuttering included joggled clinker vessel frame timbers, timbers [164], [167] and [168]. The best preserved was timber [164] which survived 1.37m long by 130mm (sided) and 105mm thick (moulded). The frame timber probably derived from a fairly flat area of the bottom and had joggles for five overlapping planks in the parent hull, which must have been c. 0.3m wide. Oak treenails c. 25mm in diameter were used to attach the framing to the hull. Traces of iron nails from the hold lining planking were found on the inside faces. Each of the frame timbers was made from a hewn log sawn into four pieces, leaving some sapwood on the corners in places.

Some other oak timbers of nautical origin were also found in this structure including notched beam [162] possibly originally part of a ship hatch grating. Another timber, timber [171], was a carvel ship plank section cut for reuse as a pile. One upright used to support this structure was a conifer pole with two axe hewn faces, timber [160], which proved to be of spruce or larch after microscopic examination (Appendix 12). Such poles or spars were imported from the 16th century onward in the London region.

Vessel framing timbers [163] and [167] had just enough annual rings for possible tree ring dating and were slice sampled. Unfortunately, they could not be matched and dated (Appendix 12). However, on technological and raw material grounds we can suggest a broad dating to the 16th to 18th-century period.

E-W pile and plank revetment structure [479]

Note on the possible phasing and relationship of the three parallel revetments in this area of the site

This structure and the two described below were orientated roughly E-W and all were totally parallel and close together with Structure [479] being the northernmost. In terms of timber structures and their possible functions, this was the most complex area of the site in some ways. From the site plan evidence both Strs [479] and to the south [481] look very similar, both pile and plank revetments that might have formed a pair supporting a partial dam and causeway across the N-S water channel (mill leat?). Whereas the central structure, Str [480], was built very differently as a simple timber framed revetment with tenoned posts set into a mortised sill beam and it is tempting to see this as possibly earlier. It may have been later engulfed in a clay filled partial dam/causeway revetted to the north by Str [479] and to the south by Str [481]. From the woodworking technology and raw materials used a broad date range of 16th to 18th century can be suggested.

Two levels of plans of these three truncated structures were made on site with the upper plan showing the uprights as rounded and very decayed, at a lower level it was clear that many were roughly square in section. The pile uprights of revetment [479] were a mix of log form piles and reused square timbers set on the north side of the basal course of elm plank shuttering. Upright timber [499] for example was a western barge floor timber with the pegged bridle joint for the side frame still preserved and had been

made from a pit sawn box quartered beam of oak 125mm x 110mm. This timber was sampled for tree ring study and had 56 annual rings with full sapwood but could not be dated. Few of the other timbers were lifted for detailed recording off site.

Timber framed E-W revetment structure [480]

This E-W revetment had an overall length of just under 6m and was comprised of a simple timber frame employing a morticed oak sill beam and oak posts with tenoned feet that had largely decayed away. The central and western section of the oak sill beam was a reused western barge style floor timber 4.6m long, indicating nearly the full width or 'beam' of the parent barge. Due to decay the original treenails and later mortices, this timber was fragile but a 2.25m length of it, running from the east end, was lifted for detailed recording. It was pierced with many 30mm diameter treenails and had a limber hole and part of the bridle joint for a side frame. On the internal face a scatter of iron nail shanks was found left from fastening the hold planking.

The surviving shuttering planking lay on the north sides of the posts and included one piece of oak western barge style planking with a rebated or 'rabbeted' seam with tarred hair and corroded rove nails from fastening the overlap.

E-W Pile and plank revetment structure [481]

Only one decayed sawn oak plank fragment was seen off site for detailed recording from this pile and plank revetment due to the decayed state of the timbers. The piles supporting the shuttering for this revetment were set of the south side to resist pressure from the north.

Isolated pile [482]

This substantial oak pile was pit sawn from a very knotty hewn oak baulk and survived 1.17m long by 180mm x 110mm. It was sliced for tree ring study but had 3 rings less than the 50 required and so was not analysed. A pile of this size was larger than most found on the site and must have had a structural function.

Conifer planked well frame base timbers [518]

This timber structure was a levelling frame in the base of a circular masonry well. It was made of two layers of straight grained conifer planks c. 30 mm thick, lightly nailed together with staggered overlaps making a ring of c. 1.75m external diameter and c. 1.10m internal. The planking was later microscopically identified as either spruce or larch rather than pine. Both timbers would have to have been imported at this period. One of the planks examined off site was found to have been from the

hewn outside of a baulk later sawn into planks. The hewn face was marked with a 'race knife' (hooked timber marking knife) cut broad arrow. This was typically the ownership mark used by the Royal Navy, so it is possible the planking was sold on from a naval yard on the river, the partially hewn outer planks being of low quality. Conifer timber imports are documented occasionally from the 16th century in London but the raw materials become much more common after the Great Fire in the late 17th century and dominate in the 19th century.

Collapsed N-S pile and clinker vessel plank revetment structure [520]

This N-S revetment structure was a light pile and plank construction closely resembling revetment structure [492] to the north. It was also in weathered and decayed condition and had collapsed from the east to the west. The site plans show that several slabs of articulated clinker hull planks, probably from a river barge(s) of the 'shout type', had been used as shuttering. A small sample section of the best preserved planking was lifted for detailed recording off site, timber [522]. This comprised one sawn plank of elm joined to a radially cleft plank or board of oak with a through splayed scarf waterproofed with tarred hair and secured with many small nails. The boards were c. 25mm thick and had an incomplete width of 205mm. Traces of another elm plank were also found riveted to the lap which was fastened by close set relatively small iron rove nails. These features have been found in other reused clinker barge planking from sites in London dating to the 16th to early 17th century such as at Adlards Wharf, Bermondsey (Divers 2002). No other timbers were lifted off site from this structure for detailed recording but it could be seen that the uprights supporting the clinker plank shuttering were of small proportions, perhaps one of the reasons the revetment collapsed. Erosion caused by flood conditions effecting the moat and N-S channel may also have been a factor undermining the uprights.

The oak board of the lifted section of clinker planking [522] was tree ring sampled and had a last heartwood ring of 1553, which gives a date 'after which' of 1563 allowing a minimum of 10 years for lost rings though it was probably a little more (Appendix 12).

Woodwork and wooden structures of Phase 7, c. mid to late 18th century

Timber raft foundation for masonry wall [187], timbers [222], [224], [436] etc

This raft foundation was made up of several decayed conifer timber planks flat on their faces, timber [222] and [224], and several timber uprights were found running along the edge of the construction cut for masonry wall [187]. Several sections of planking labelled [224] and between 50-60mm thick were seen off site, recorded and sampled for species id. The microscopic identification was of pine of

silvestris type the common name being 'Scots pine' though it was largely imported from Norway and the Baltic at this period.

The small piles running along the edge of the raft were of varied origins the most interesting being timber [436] which was a reused elm plank keel timber from a clinker-built vessel probably a small barge. The timber was half the original keel having been pit sawn down its length and given an axe hewn tip for reuse. Despite this the rabbett for the first plank was preserved along one edge and pierced by nail holes the timber was c. 60mm thick and would have been c. 280mm wide originally. A very small number of such keel timbers have been found in greater London dating from the 16th to 18th centuries. The timbers of this structure were not suitable for tree ring dating.

Timber raft foundations for wall [108], timbers [229], [231], [232], [307], [339] etc

This large timber foundation raft for masonry wall [108] was quite elaborately made with underlying timber sleepers set c. 0.5m apart and orientated N-S. The sleepers were covered with an assortment of planks laid E-W and few smaller planks laid N-S on top of the first course of planking. Towards the east end several upright piles were also used.

The sleeper timbers were all of oak and either reused or off cut pieces. For example timber [235] was either a carvel ship or large western barge type plank 40mm thick with treenails and tarred hair adhering. Timber [340] appeared to be a barge plank c. 35mm thick and pierced with several nail holes. Timber [338] by contrast, just appeared to be a sawn plank off cut.

The first course of overlying planking also consisted of almost entirely reused oak planking, mostly of a nautical origin. Timber [229] was the largest and had to be lifted in two sections. It appears to have come from a large carvel ship hull and was 60mm thick and 0.5m wide it was pierced by a considerable number of 34mm diameter oak treenails and one face had several large and small iron nail shanks in it. Whilst the treenails would have been fastenings to the frames the nails appear to have been for fastening sheathing planks and repairs. One inset area was clearly for a let in repair or 'Dutchman', so the parent vessel would have been moderately old when broken up for reuse. Timber [307] was a similar reused oak hull plank from the raft but pierced by fewer 34mm diameter oak treenails and sheathing nails. Traces of tarred hair waterproofing material survived on what would have been the side covered with sheathing. Wooden sheathing was fitted to seagoing ships laid over tarred hair to protect against marine borers. This planking may have come from ship breaking yards further down river rather than local barge yards. Some of the other planking reused at the same level in the raft foundation was substantially less robust. Timber [231] was a sawn elm plank only c. 25mm thick from a large clinker built boat or more likely a small barge. It survived to just under its full width of c. 250mm and had a through splayed scarf at one end. The best preserved lap had nails with small diamond shaped roves of iron, typical of 16th to 17th-century clinker vessels in the Greater London area. As it may date to the

18th century it is a fairly late example of small scale recycling of timbers from relatively more lightly built craft.

Reused oak ship planks [229] and [307] were slice sampled for tree ring study but although both had well over 80 annual rings they could not be dated (Appendix 12). On technological and raw materials grounds we might suggest that a date early in the 18th century or even late 17th century might be most likely as no conifer timber was found in the construction.

Miscellaneous woodworking

A rare group of small elm rods were sampled on site from an early alluvial deposit and the sample labelled [537] <17>. It is possible that these may be disturbed wattlework elements. Small elm documented in wattlework is very rare in Greater London and implies using carefully collected branches or more likely sticks from shredding or pollarding. I Tyers has identified these and counted them as mainly 10 years old (Appendix 12).

An assessment of the significance of the historic woodworking assemblage

The timber structures found at this site including moat and channel revetments a partial dam/causeway and parts of a bridge are of local, possibly regional importance in their own right and are fundamental parts of the structural sequence and historic use of the site from the 16th century onward. The building raft foundations are more common place and relate just to the site itself though shed light on the recycling of larger nautical timbers. A key area here is that several of the timber structures were essential parts of the historic water management system in this part of Fulham for the moat, drainage and possibly running nearby mills?

As the vast bulk of the woodworking was actually reused timber from two forms of river barge and a few of larger ship origin, the assemblage is significant as a material record of the construction of regional river craft in regional distinctive styles that became extinct before the age of photography. This material is clearly of regional importance for the whole wider Thames region where these craft were once used and built and adds significantly to the corpus of evidence on this theme from other recent river side excavations.

The potential for further analysis and suggestions for the revised research design

Two main foci appear obvious for the further analysis of the historic woodworking found and recorded from this site. Firstly, further analysis will help to reconstruct the appearance and likely functions of several of the structures set with in the context of local tidal levels and historic water management, particularly

structures like Str [530]. Secondly, the reused river barge timbers shed light on two distinct traditions of building such craft local to the Thames region and with further study and comparison with other recent finds from recent river bank excavations we should be able better reconstruct both types of vessels and the work of their builders in detail.

Method statement for suggested future work

For the targeted analysis and publication of this project the following work would be ideal, some could be carried out by this writer in liaison with PCA, staff whilst other tasks would be the responsibility of other specialists. The work marked with a # would involve this writer liaising with PCA staff

- 1/ Review the photographic record of the site and local historic iconography #.
- 2/ Review the other specialist reports relating to the sites dating, phasing and use #.
- 3/ The identification of the 4 tarred hair and 2 paint samples would be useful.
- 4/ Targetted documentary research on two themes would be useful, the management of the watercourses (Commissioners of sewers?) over the last 500 years and secondly the whereabouts and periods of operation of local barge building, repair and breaking yards.
- 5/ To graphically reconstruct some of the key structures such as structure [530] and the evidence for a timber moat bridge and the partial dam/causeway and checking the relevant OD levels of other structures could enable the management of the historic water channels to be investigated in relation to the adjacent tidal Thames #.
- 6/ To provide targeted description of several key reused barge timbers and hull sections and set them into context and graphic reconstructions of both western barge type vessels, and clinker built barges. The builders of both types of craft were to some extent rivals in the earlier post-medieval period though by the industrial period evolved forms of western barges had completely replaced the more ancient clinker built vessels #.

The publication text would be accompanied by several scale figures.

Acknowledgements

This fairly full, summary assessment report has been greatly aided by liaison with PCA staff at several stages from M Edmonds and his team on site to J Butler at the post-ex stage. PCA staff also provided essential assistance with the cleaning and recording of the larger lifted timbers from the project. The tree-ring and wood species id study by I Tyers (Appendix 12) has also been useful, even though dating proved difficult.

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APPENDIX 12: TREE RING DATING AND SPECIES ID

Ian Tyers

13 oak timbers from 84-90B Fulham High Street, Fulham (sitecode FHS15, NGR c. TQ 2437 7605) were submitted for dendrochronological assessment and analysis, and 13 further samples of timbers were submitted for wood identification. Three of the oak timbers were successfully dated. The 3 dated samples were identified as native timbers from the later 16th century.

Methodology

Each dendrochronological sample was supplied as a complete cross-section; it is assumed in the absence of other information that these were obtained from the optimum location for outermost rings or sapwood survival from these timbers.

Each dendrochronological sample was assessed for the wood type, the number of rings it contained, and whether the sequence of ring widths could be reliably resolved. For dendrochronological analysis samples usually need to be oak (*Quercus* spp.), to contain 50 or more annual rings, and the sequence needs to be free of aberrant anatomical features such as those caused by physical damage to the tree whilst it was still alive. Standard dendrochronological analysis methods (see e.g. English Heritage 1998) were applied to each suitable sample. The sequence of ring widths in each sample were revealed by preparing a surface equivalent to the original horizontal plane of the parent tree with a variety of bladed tools. The width of each successive annual growth ring was revealed by this preparation method. The complete sequence of the annual growth rings in the suitable samples were then measured to an accuracy of 0.01mm using a micro-computer based travelling stage. The sequences of ring widths were then plotted onto semi-log graph paper to enable visual comparisons to be made between the sequences and reference data. In addition cross-correlation algorithms (e.g. Baillie & Pilcher 1973) were employed to search for positions where the ring sequences were highly correlated. Highly correlated positions were checked using the graphs and where these were satisfactory, these locations were used to identify the calendar dates of the measured series.

The *t*-values reported below were derived from the original CROS algorithm (Baillie & Pilcher 1973). A *t*-value of 3.5 or over is usually indicative of a good match, although this is with the proviso that high *t*-values at the same relative or absolute position needs to have been obtained from a range of independent sequences, and that these positions were supported by satisfactory visual matching.

The tree-ring analysis initially dates the rings present in the timber. The interpretation of these dates relies upon the nature of the final rings in the sequence. Oak timber contains 2 types of wood, heartwood

and sapwood, the latter is on the outside of the tree and thus contains the most recent growth rings, this material is softer and is not always preserved under archaeological conditions. If the sample ends in the heartwood of the original tree, a *terminus post quem* (*tpq*) date for the felling of the tree is indicated by the date of the last ring plus the addition of the minimum expected number of sapwood rings which are missing. This *tpq* may be many decades prior to the actual date that a tree was felled, particularly where poor preservation or other loss of outer heartwood has occurred. Where some of the outer sapwood or the heartwood/sapwood boundary survives on the sample, a date range for the felling of a tree can be calculated by using the maximum and minimum number of sapwood rings likely to have been present.

Identifications of wood type are based on the taking of microscopic thin sections of each timber in three planes (radial, transverse and tangential sections). The comparison of these sections with reference slides, or by identification keys, enables secure identification to be made.

Archaeological wood may have problems of degradation during burial, or during their storage prior to identification, this may lead to the loss of one or more critical features that prevent any identification being made.

Hand cut thin sections were obtained from each of the samples. These sections were placed on glass slides and examined at between 40x and 1000x magnification. Comparison with permanent reference slides confirmed the identifications given below. The temporary slides & samples were then discarded.

Results

The submitted dendrochronological samples comprised 13 oaks (*Quercus* spp.). Ten of these timbers contained suitable tree-ring sequences for analysis. These 10 timbers were each measured successfully (Table 1). This rather diverse group comprised a mixture of short lived and long lived, and fast grown and slow grown oaks. Three samples included trenails, or holes for trenails, and another contained a large iron nail. Cross-matching was found for 3 timbers, with each of these found to match to a variety of London and south-east English reference series (Table 2). None of the rest of this material was dated. For this locally sourced timber the sapwood estimates used are a minimum of 10 and maximum of 46 annual rings, where these figures indicate the 95% confidence limits of the range. Timber 530 post 4 retained some sapwood, and this can be given a *felling date range* interpretation of 1559-1583. This suggests the various '530' posts are from the second half of the 16th century (Figure 1). Plank timber '522A' with a large iron nail head through it comprises heartwood only and dates from some point after 1563. The 13 wood identifications samples comprise a range of timber types (Table 3).

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Figure 1: Bar diagram showing the dating position of the 3 dated oak tree-ring samples from 84-90B Fulham High Street (site code FHS15). Interpretations are shown for each timber based on the minimum and where appropriate also the maximum typical amounts of sapwood for locally sourced oaks, using a 10-46 ring sapwood estimate. KEY; heartwood (white bars), sapwood (hatched bar).

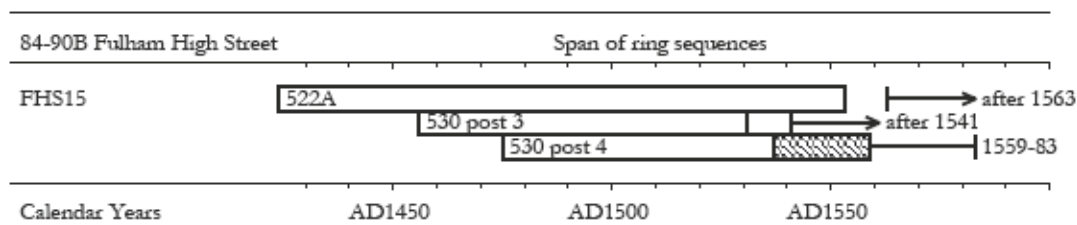


Table 1: Details of the 13 oak (*Quercus* spp.) dendrochronological samples from 84-90B Fulham High Street (site code FHS15). Interpretations are given using a sapwood estimate of 10-46 rings. * with oak trenail, x with empty trenail hole, + with large nail head

Context	Size (mm)	Rings	Sap	Date of measured sequence	Interpreted result
163	180 x 90	50	H/S	not dated	-
167	95 x 95	65	?H/S	not dated	-
229 *	230 x 55	94	-	not dated	-
241	100 x 75	45	17+B _s	not analysed	-
278 *	85 x 85	47	22	not analysed	-
307 x	195 x 50	81+?+40	-	not dated	-
430	175 x 55	119	18	not dated	-
482	135 x 120	47	?H/S	not analysed	-
499	120 x 110	56	18+B _w	not dated	-
522A +	180 x 20	130	-	AD1424-AD1553	after AD1563
530 post 1	150 x 130	70	-	not dated	-
530 post 3	170 x 85	76	-	AD1456-AD1531	after AD1541
530 post 4	150 x 90	85	22	AD1475-AD1559	AD1559-83

Table 2: Showing example *t* values (Baillie & Pilcher 1973) between the 3 dated series from 84-90B Fulham High Street (site code FHS15), and oak reference series from south-eastern England, and other material from the same area.

	522A AD1424- 1553	530.3 AD1456- 1531	530.4 AD1475- 1539
London, Barking AYR99 barrels (Tyers 2001)	8.05	5.82	5.98
London, Southwark Hays Wharf (Tyers 1996a; b)	6.93	4.71	6.13
Hampshire, Winchester College panels (Lewis 1995)	5.97	4.20	4.93
Kent, Cobham Hall Gravesend (Arnold <i>et al</i> 2003)	7.21	5.17	6.04
<i>Sir William Petre</i> NPG3816 (Tyers 2015)	6.65	5.23	4.21
<i>Sir Charles Cornwallis</i> NPG4867 (Tyers 2015)	6.31	6.07	5.37

Table 3: Wood identifications from 84-90B Fulham High Street (site code FHS15), note these are a mixture of native types (oak & elm), and probable imports (both pine & spruce/larch).

Context	Identification	English Name	Roundwood age / size
160	<i>Picea/Larix</i>	spruce/larch	-
224A	<i>Pinus sylvestris</i> type	Scots pine	-
258	<i>Picea/Larix</i>	spruce/larch	-
479	<i>Ulmus</i>	elm	-
480	<i>Quercus</i>	oak	-
518	<i>Picea/Larix</i>	spruce/larch	-
522B	<i>Ulmus</i>	elm	-
530	<i>Ulmus</i>	elm	-
537 <19>	<i>Ulmus</i>	elm	10 years, 40mm dia
"	<i>Ulmus</i>	elm	10 years, 26mm dia
"	<i>Ulmus</i>	elm	10 years, 26mm dia
"	<i>Ulmus</i>	elm	8 years, 28mm dia
"	<i>Ulmus</i>	elm	6 years, 34mm dia

APPENDIX 13: DOCUMENTARY RESEARCH ASSESSMENT

Guy Thompson

Introduction

The principal primary documentary sources for the medieval history of Fulham are the manorial Court Rolls. Unfortunately, the majority of these records predating 1381 are believed to have been destroyed during the Peasant's Revolt of that year, when Fulham Palace was attacked by the rebels (Whitehouse 1974, 213). A largely intact sequence of manorial records survives for the period 1384 to 1682. Although online archive catalogues do not appear to list any surviving manorial surveys or terriers dating to the medieval period, there are several extant late medieval and post-medieval rentals.

The extension of parochial authority during the early modern period gave rise to the development of parish vestries, which were responsible for raising local rates to fund local infrastructure and services. There is a largely extent sequence of parish records dating from the early seventeenth to the late nineteenth century, including a variety of ratebooks. There is a comprehensive sequence of local and national records and maps covering the period from the first half of the nineteenth century to the present.

Online searches of The National Archives (TNA) 'Discovery' portal (covering TNA and 2,500 other archives including the Guildhall Library and the Hammersmith and Fulham Archives and Local History Centre), the London Metropolitan Archives (LMA) catalogue, the Lambeth Palace Library and the Church of England Records Centre were undertaken, using a variety of keywords including 'Fulham', 'Fulham High Street', 'Bear Street' and 'Fulham Palace'.

Medieval Sources

Fourteenth and fifteenth centuries

According to Whitehouse, the earliest surviving Court Rolls of Fulham Manor date to 1384 (Whitehouse 1972, 347). However, a search of The National Archives' 'Discovery' website indicates that the Guildhall Library is in possession of one court roll dating to 1318 (GH ms 25/360/1-2, 1318). The same archive possesses a sequence of rolls dating to 1383-4 (GH ms 25/360/1-2), 1387-8 (GH ms 10,312/53), and 1391-3 (GH ms 10,312). In addition to the Guildhall manuscripts, The National Archives is in possession of a sequence covering the period 1384-1398 (TNA SC2/188/65-67). The same archive also has a collection of Receivers' Accounts of property belonging to the Bishop of London dating to 1394/5, which includes land in Fulham (TNA SC 6/1140/18).

Other archives hold medieval material that may relate to the site or its environs. The London Metropolitan Archives (LMA) has a collection of at least sixteen fourteenth century documents that

contains several potentially useful leads (held under shelf mark BRA 203). These include a quitclaim deed relating to a messuage, garden and appurtenances at 'La Buristret', Fulham, formerly held by John Newelond of John Fraunkeleyn. The catalogue reference suggests that it was granted by Margery, widow of Godfrey Fraunkeleyn of Fulham to John Newelond in November 1350 (LMA BRA203/5). During the medieval period Fulham High Street was known as 'burystrete' (later 'Bear Street'), the earliest reference to which was previously believed to date to 1391 (Whitehouse 1972, 347). At the very least, the document held by the LMA takes this name back more than forty years. John Newelond is also mentioned in a catalogue reference to a feoffment of 'Land in Fulham, near the Bishop of London's mill and land of Alan Sourby' dating to May 1355 (LMA BRA203/6). This may be of interest, as it is believed that the mill stood to the southwest of All Saints Church, beside the 'mill ditch'/mill dyke which is conjectured to have passed through or close to the site of FHS15 (LB H&F 1999: Appendices 9, 11 and 12).

The medieval vicarage of Fulham is believed to have been situated adjacent to the twelfth century parish church of All Saints, although its precise location is stated to have been 'lost' (MOLA 2011, 10). Fourteenth century documents that relate to the area north of the church and parsonage (and which are therefore potentially relevant to the present research) include a feoffment and seal relating to a 'messuage and ground at Fulham, abutting north on the parson's garden and west on a garden called Godereshawe', which is dated July 1307 (LMA BRA203/7).

The Fraunkeleyn family appear to have held land in Fulham since the early fourteenth century or earlier. In 1316 John de Lechelade conveyed a messuage, vine yard & appurtenances held from John's late brother, Walter de Lechelade Vicar of Fulham to Godfrey son of Radulph Fraunkeleyn of Fulham (LMA BRA203/8). Other local landholders named in contemporary documents include Geoffrey Bacon (Bacoun) and his wife Agnes, who conveyed Lands and tenements in the parish of Fulham to Yvo/Ivo son of John of Fulham and his wife Alice in March 1314 (LMA BRA203/9). It is possible that this was the same property held of Geoffrey and Agnes Bacon that Ivo conveyed to his son Stephen in October 1320 (LMA BRA203/10)

There are several documents held by the LMA that relate to transactions of holdings in the medieval fields of Fulham. Field names include 'Pungeworth' (1308/9: LMA BRA203/39), 'Le Hill' (1366: LMA BRA203/13; 1397: LMA BRA203/14), 'Maystrescroft' (1347: LMA BRA203/4), and 'Farnhull' (1392: LMA BRA203/17).

The Guildhall Library holds an extensive collection of fifteenth century Court Rolls relating to the manor of Fulham. These cover the periods 1401-6 (GH ms 10,312/63-64, includes other manors), 1419-1479 (GH ms 10,312/65-80, includes other manors), 1427-8 (GH ms 25,360/3), 1452-3 (GH ms 25,358), 1460-1 (GH ms 10,312/54), 1476-7 (GH ms 10,312/55), 1487-96 (GH ms 10,312/81-83, includes other manors). Alternatively, The National Archives holds a series of Court Rolls pertaining to Fulham (and other manors) covering the period 1403-1495 (TNA SC 2/188/68-81 and SC 2/189/1-14).

The LMA holds nineteen records under shelf mark BRA 203 that relate to land transactions in Fulham that occurred during the fifteenth century. The majority relate to the conveyance of land in the open fields, and there are no records that obviously relate to land close to the site. Additionally, the LMA holds a rental of Fulham manor of 1484 (LMA DD/0106).

The National Archives holds records associated with owners or occupiers of property in Fulham High Street that may be of interest. These include a Chancery inquisition made at Westminster on 23/10/1494 into debts owed by Nicholas Sturgeon, who was seised in demesne of two adjacent messuages, barns, a stable and a garden in Beer Street, Fulham, as well as 37 acres of arable land at 'Wandongrene' [Walham Green] and Hammersmith, worth altogether 33s. 4d (C 131/83/17; also see C 241/267/4). Chancery records also include an inquisition into debts owed by William Parker, yeoman of Fulham, held lands and tenements in Fulham including a cottage in Bere Street in Fulham, worth 46s. 8d in 1477 (TNA C 131/78/5, C 131/78/6 and C 241/259/1). There are numerous (at least 9) further Chancery documents relating to disputes over property in Fulham during the fifteenth century, although catalogue descriptions do not identify where these were located (e.g. TNA C 131/83/29).

Post-medieval sources

Sixteenth and seventeenth centuries

The Guildhall Library manuscripts section holds a series of Court Rolls for the manor of Fulham spanning the years 1506-9 (ms 10,312/84-85), 1512-26 (ms 10,312/86-87), 1521-3 (ms 10,312/56), 1543-85 (ms 10,312/88-96), 1567-8 (ms 10,312/57), 1588-1602 (ms 25,348), and an estreat for the period 1524-35 (ms 25,376). Alternatively, The National Archives holds Court Rolls for the manor dating from 1507 to 1600 (TNA SC 2/189/15-27).

The London Metropolitan Archives holds abstracts of titles, records of fines relating to various properties (messuages and gardens) in Fulham (1520-1532: BRA203/104, BRA203/105, BRA203/106), several records pertaining to the sale of the Fulham estate of Thomas Lyte of Somerset to Ralph Waren, Citizen and Alderman of London in 1528 and subsequent rents (e.g. BRA203/46, BRA 203/50 and 51). The location of these properties is not clear from their catalogue descriptions, however they are likely to be in the town. A file of deeds relating to a messuage in 'Bereis Street' dating from 1587-1635 may relate to property in the High Street (BRA203/56).

The National Archives holds a quantity of records of Chancery cases dating to the sixteenth century relating to property in Fulham. Only a handful are identified by name in their catalogue descriptions, of which none relate to known properties in the High Street.

The early seventeenth century saw a considerable increase in the quantity of documentation relating to property and residents of both the manor and parish of Fulham. Regarding the former, the Guildhall Library manuscripts section holds Court Rolls covering the years 1619-32 (ms 25,360/4 and ms

10,312/97), 1634-42 (ms 10,463A), 1644-7 (ms 10,312/58), 1652-9 (ms 10,312/59-60), 1670-1 (ms 25,352), 1661-83 (ms 10,312/98-117). The Guildhall also possesses a parliamentary survey of Fulham of 1647 (ms 10,464) and a collection of six rentals, all date from the period 1647-59 (ms 25,421/2-6 and ms 11,815). The LMA also holds a manorial rental of 1625 (LMA DD/0147). Copies of seventeenth century manorial records are also held by The National Archives, including Court Rolls for the period 1603 to 1649 (SC 2/189/28 to SC 2/190/14). There do not appear to be any Court Rolls after 1683.

The earliest surviving parochial records date to the first half of the seventeenth century. These are held by the Hammersmith and Fulham Archives and Local History Centre. The centre holds vestry minutes dating from 1623-93 (PAF/1/1/1). Other seventeenth century records include a volume of various rates (poor, churchwardens' and highways) and accounts covering the period 1637-1730 (PAF/1/22) as well as records of individual rates levied during the seventeenth century (e.g. PAF 1/1/2 and PAF 1/21). Parish registers also survive from 1674 and are held by the London Metropolitan Archives under the shelf mark P77/ALL. The latter collection has been digitised and is accessible via various online genealogical resources.

The LMA possesses an extensive collection of seventeenth century records pertaining to named properties in Fulham. Many relate to Fulham House, a property that stood on the west side of Bear Street (in the approximate location of 156 High Street (LMA ACC/0392). There are several records of purchases of messuages in Bare Street by Sir Michael Wharton of Beverley Park, York of messuages c.1640 and their subsequent lease to tenants (e.g. BRA203/144, BRA203/145, 146) which may be of relevance. BRA 203/143 describes the location of these as follows:

Four messuages in a certain village called Barestreet, Fulham; abutting W. on the highway from Hammersmith to the ferry [i.e. the crossing to Putney], E. and S. on lands of John Parker, N. on lands of Francis Larkyn; houses now or late occ. by William Benefield, Sarah Blacknall widow, John Wadmore & Robert Jones.

There are also records associated with other properties in the town listed under shelf mark BRA 203 that relate to land in or close to 'Churchfield' (e.g. BRA 203/57). A conveyance dated May 1623 refers to a messuage "formerly occ. by John Scudamore, then by Wm. Cordell & now by F.Kemp; abutting on **orchard** late of Sir Thomas Cutteele & now occ. by - Watson, on messe. of Sir Robert Jenkinson, W. on Highe Streete of Fulham leading to the Ferry Place, E. on a lane adjoining Churchfield" [is the latter Church Row?] (BRA203/59A, B, C)

Hearth tax returns are among the most important sources for studying late seventeenth century communities. Levied twice annually between 1662 and 1689, the tax covered nearly all householders. Hearth tax lists for Fulham survive for 1671 (E 179/143/367/280) and 1674 (E 179/143/367/281). Although the latter have not been digitised, the 1666 hearth tax returns for Fulham are available online here: <http://www.british-history.ac.uk/london-hearth-tax/london-mddx/1666/fulham>.

The National Archives holds several hundred records of cases concerning property in Fulham brought before the Court of Chancery in the seventeenth century. Once the identities of the occupiers of property adjacent to the site of FHS15 has been ascertained, targeted research into this resource could be undertaken. Likewise, the TNA has more than 180 probate records (will and inventories) pertaining to the residents of seventeenth century Fulham.

Eighteenth and nineteenth centuries

The Hammersmith and Fulham Archives and Local History Centre holds parish vestry minutes from 1721 to 1885 (PAF/1/2-11), and minutes of the highways board for 1836 to 1856 (PAF/1/20/1). The centre also holds an extensive series of poor and highways rate books for 1770 to 1838 (PAF/1/28-44). It also has a series of volumes containing inter alia church and poor rates for 1712-38 (PAF/1/23), 1739-50 (PAF/1/24), 1751-63 (PAF/1/25a-c) and 1763-88 (PAF/1/26).

In addition to the vestry archive, the ownership and occupation of the properties on and adjoining the site of FHS15 after 1800 may be reconstructed using insurance records (held by the LMA), the Fulham tithe map and apportionment of 1843 (TNA IR 29/21/17 and IR 30/21/17, tithe file: IR 18/5482), census returns (from 1841) and parish registers (all available online), directories and historical maps.

A search of the archival catalogue of Lambeth Palace Library has revealed additional historical maps that may be of interest. These include a map of the parish of Fulham of 1813 (FP Blomfield 61 f 337) and W.S. Leonard's plan of the palace and grounds of 1828 (FP Howley 27 104). A copy of the latter map is also held by Fulham Palace. Other maps of potential interest include Edward Stanford's map of 1862 and some maps of Fulham compiled c.1890s (FP Temple 56/1-2).

The Lambeth Palace Library archives also holds correspondence relating to drainage and sewerage in the vicinity of Fulham Palace dating to the nineteenth century, which may be relevance. This includes estimates of the cost of repairing local sewers prepared in 1805-9 (FP Porteous 14 ff 9-10) and a letter to the Metropolitan Commissioners of Sewers on drainage in Fulham dated 1853 (FP Blomfield 55 ff 67-8). The library also holds a petition (?) "for faculty to remove buildings adjoining Fulham Palace moat" dated 1843 (VB 1/16/165).

Twentieth century

The historical development of the site during the twentieth century can be reconstructed using resources including census returns, directories, electoral records and maps. The widening of Fulham High Street in the 1900s is documented in London County Council records held by the London Metropolitan Archives. This includes detailed plans (e.g. LCC/PP/IMP/85, LCC/PP/IMP/140 and LCC/PP/IMP/162). The National Archives and the Hammersmith and Fulham Archives and Local History Centre also hold local government records relating to this episode (e.g. TNA HLG 1/17/4 and H&FALHC FBW/124).

Although online catalogue searches for records relating to the moat at Fulham Palace produced very few relevant results, the following twentieth century records may be of interest: "proposal to infill Fulham

Palace moat, 1921" (TNA WORK 14/2436) and "Correspondence relating to Fulham Palace, including letters relating to the Palace moat and Whitelands Training College [Roehampton], 1920-39" (Church of England Records Centre: ECE/SEC/BPH/1).

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APPENDIX 14: ENVIRONMENTAL ASSESSMENT

Kate Turner Andrew Haggart and Ella Egberts

Introduction

This report summarises the findings from the rapid assessment of 12 environmental bulk samples (section 1) and two column samples (section 2), taken during archaeological excavations on land at 84-90b Fulham High Street. The location of the site, both in relation to the nearby Fulham Palace, and the river Thames makes this an area of particular archaeological and environmental significance, and as such sampling was carried out from a diverse range of features across the site, in order to establish a full account of the changing environmental conditions, as well as any cultural activities that were being carried out. A sequence of rivulets and channel features, one of which was identified as potentially being the remains of the Fulham Stream and another thought to be linked to the Fulham Palace moat to the west, were identified during excavations, and thus another important aspect of understanding the environment of the site will come through uncovering the nature of these features, how they developed, and how the hydrology of the site may have altered over time.

The aim of this report is:

1. To give an overview of the content of the assessed samples;
2. To determine the environmental potential of these samples;
3. To indicate whether any further analysis needs to be carried out prior to publication.

These aims will be achieved through:

1. The assessment of bulk samples for palaeobotanical and palaeoenvironmental material, including seeds and charcoal, to look at the level of preservation and provide a preliminary account of the environmental potential;
2. A description of the lithology of two column samples, <2> and <11>, along with an analysis of the particle size of the sediment, to look at the nature of the sediments, and the type of environment in which they may have formed;
3. Assessment of the pollen in two column samples, <2> and <11> to determine the level of preservation, and to provide a list of principal taxa;
4. Assessment of the diatoms in two column samples <2> and <11>, to determine the level of preservation, and to provide an indication of the hydrology of these two features.

Additionally, the following research aims and objectives have been outlined in the project design, relating to the palaeoenvironment and hydrology of the site:

1. What is the evidence for the presence and course of the Fulham Stream? Are any of the associated deposits dateable, and what could these deposits tell us about the formation, hydrology, nature, extent, profile and composition of the stream and any associated features;
2. Do the alluvial and flood plain deposits identified at 84-90b Fulham High Street contain evidence of the environmental conditions of the site as a whole, and in relation to the presence of this watercourse;
3. Is there any evidence for anthropogenic modification or input in any of the fills associated with suspected stream banks;
4. What evidence is there to indicate that the site lay in a marshy area, and can any phasing be established which can be used to understand the environmental conditions within the site over different periods;
5. Is there any evidence to suggest periods of seasonal flooding, over bank deposits and inundations from the nearby moat?

1. Environmental Bulk Samples

Kate Turner

Introduction

This report summarises the findings of the rapid assessment of the environmental remains in twelve bulk samples taken during the archaeological excavation of land at 84-90b Fulham High Street. These samples were taken from a series of archaeological layers, channel fills and pits, the context information for which is given in Table 1.

The aim of this assessment is to:

1. Give an overview of the contents of the assessed samples;
2. Determine the environmental potential of these samples;
3. Establish whether any further analysis is necessary.

Methodology

Twelve bulk samples, of between twenty-one and twenty-nine litres in volume, were processed using the flotation method; material was collected using a 300µm mesh for the light fraction and a 1mm mesh

for the heavy residue. The heavy residue was then dried, sieved at 1, 2 and 4mm and sorted to extract artefacts and ecofacts. The abundance of each category of material was recorded using a non-linear scale where '1' indicates occasional occurrence (1-10 items), '2' indicates occurrence is fairly frequent (11-30 items), '3' indicates presence is frequent (31-100 items) and '4' indicates an abundance of material (>100 items).

The light residue (>300µm), once dried, was scanned under a low-power binocular microscope to quantify the level of environmental material, such as seeds, chaff, charred grains, molluscs and charcoal. Abundance was recorded as above. A note was also made of any other significant inclusions, for example roots and modern plant material.

For each forty litre soil sample, one ten litre bucket was retained; in the event that this assessment highlighted that specialist processing for recovery of insect remains would be required.

Results and Discussion

All of the processed bulks produced flot residues, of between ten and three-hundred and fifty millilitres in volume. For the purpose of this report, the contents of the flot and heavy residue will be collated and presented by phase.

Cultural material collected from the heavy residues has been catalogued and passed to the relevant specialists for further assessment. A full account of the sample contents is given in Tables 2 and 3.

Phase 1: Natural

One environmental bulk sample was collected from a sediment layer, context [203], dated to the first phase of 'natural' deposits identified at the site. Preservation of environmental remains in this sample was generally poor; in terms of archaeobotanical material only a moderate amount of wood charcoal, less than one-hundred pieces in total, was identified, along with a small amount of weed seeds. Taxon diversity was limited in the seed assemblage; specimens of duckweed (*Lemna* sp.) and gypsywort (*Lycopus europaeus*), both indicative of wet or waterlogged environments, were present in low concentrations (<10 seeds), as were goosefoot (*Chenopodium* sp.), deadnettles (*Lamiaceae* spp.), brambles (*Rubus* sp.) and sow-thistles (*Sonchus* sp.). Of the wood charcoal, only a small number of pieces of a size for species identification were reported (<10).

Molluscan material was recognized in low frequencies; a small amount of terrestrial shells of the species *Discus rotundatus* were present, along with broken shell and several juvenile specimens.

Phase 3: Natural

A single environmental bulk sample was collected from the fill of channel [228], dated to the third phase of 'natural' deposits. Environmental remains were abundant in this context; molluscs were the most

profuse, with a significant assemblage of both freshwater and terrestrial shells recovered. Freshwater species were dominant, with over one-hundred specimens observed, including a large number from the genus *Valvata* sp. and lesser amounts of *Bithynia* sp., *Lymnaea* sp., *Planorbis* sp. and *Pisidium* sp. As expected, terrestrial shell was less frequent, with no greater than sixty specimens recognised in total, along with a small amount of broken shell, and several operculum ('shell doors').

A reasonable density of daphnia ephippia (water flea eggs) and ostracods was also recovered, an indication that this deposit formed in water.

Archaeobotanical material was recovered in moderate amounts from feature [228]; charcoal was relatively scarce, with no more than forty fragments recorded in total, the majority of which were very small. Less than ten fragments of identifiable size were recognised. Between thirty and one-hundred pieces of preserved wood were also encountered. Weed seeds were more common, with over one-hundred specimens found in this sample. Species reported included small to moderate concentrations of duckweed, gypsywort, sedges (*Carex* sp.) and docks (*Rumex* sp.), all of which suggest a waterlogged environment. Frequent examples of elder (*Sambucus* sp.) and nettle (*Urtica* sp.) were identified, the latter of which may also be suggestive of a fen-type landscape. A small amount of charred material, including einkhorn wheat grains (*Triticum monococcum*), indeterminate buds and carbonised grass seeds, was additionally recovered.

Phase 4: Medieval (1170-1450)

Two samples were taken from deposits dated to the medieval period, 1170 to 1450, one from the fill of a feature suggested to be a pond, [226], and the other from a layer of clay initially interpreted to be a flood deposit, [252].

The waterlogged nature of these contexts resulted in a well-preserved and diverse seed assemblage being recorded in both samples. Sample <12>, taken from the supposed pond, yielded several sub-aquatic and aquatic species, including water-milfoils (*Myrophyllum* sp.), duckweed and pondweed (*Potamogeton* sp.), all of which were recorded in moderate to semi-abundant concentrations. Other taxa recovered included low frequencies of nettle, elder (*Sambucus* sp.) and buttercup (*Ranunculus* sp.). Tree seeds were rare, with only a small amount of birch (*Betula* sp.) recognised. As well as seeds an abundance of heavily fragmented plant matter was discovered in this sample, along with a small amount of charred hazel-nut (*Corylus* sp.). Wood and wood charcoal was present; however no sizeable fragments of the latter were recorded. The seed assemblage in sample <15> also contained high concentrations of aquatics, predominantly duckweed, as well as moderate to abundant seeds of campion (*Silene* sp.), nettle, buttercups, elder and goosefoot, which may indicate open, waste or cultivated ground. A small number of charred cereal grains and seeds were recorded, including specimens of pea (*Fabaceae* sp.), barley (*Hordeum* sp.) and spelt/emmer wheat (*Triticum spelta/aestivum*), which could suggest that cereals were being consumed to some degree during the medieval period. Wood and wood charcoal was common throughout, though less than ten sizeable

pieces were recognised. Both samples also contained moderate to abundant concentrations of fragmented plant matter.

In terms of the mollusc assemblage, sample <12> contained the greater density of material, with a modest collection of largely freshwater specimens observed, notably *Planorbis* sp., along with a small number of operculum and juvenile shells. Insect remains were also recovered in moderate amounts from this sample, as well as from sample <15>. In addition, sample <15> contained ephippia of *Daphnia*, and sample <12> ostracods, both of which are associated with wet conditions, suggesting that both contexts were significantly waterlogged.

Phase 5: Post-Medieval (Mid 15th to Early 17th Century)

In total two samples were collected from features dated to the early post-medieval period, both from fills that are thought to represent channels, or channel bank deposits.

Sample <8> was rich in environmental remains; both wood and wood charcoal were observed in abundance, though the majority of pieces were small, and less than ten sizeable fragments of each were recovered. Weed seeds were also common in this deposit, with a moderately diverse range of taxa recorded; the most frequent seeds were of bramble and nettle, over one hundred of each being found, with lesser concentrations of elder and other species. Aside from the abundance of nettle, which may be found in fen environments, aquatics were generally poorly represented in this deposit, the mollusc assemblage is however comprised of a moderate density of mainly freshwater types, including *Theodoxus fluvatilis*, which is common in both slow and fast flowing rivers, and canals. As this evidence is supportive of the deposit being from the channel itself, it is likely that the identified seeds are from plants growing on the bank, or very close-by. Another indication of the wet environment in which this feature formed is given in the small amount of ostracods that were present.

Along with a high concentration of fragmented plant matter, this context also yielded a low frequency of charred cereals, including specimens of barley and wheat (*durum/aestivum* type), which may have been cultivated and/or consumed in the local area.

In contrast to sample <8>, sample <5> presented a more limited seed assemblage; knotweeds (*Persicaria* sp.) were the most commonly recognised, and also the only species to yield more than thirty recognisable specimens. A good range of taxa were present overall, however the majority were represented by less than ten seeds; of note were small concentrations of gypsywort, pondweed, nightshade (*solanum* sp.) and vervain (*Verbena officinalis*). The heavy residue additionally contained a small amount of fruit stones, of the type *Prunus* sp. (stone-fruits), though not enough to suggest widespread consumption. Wood and charcoal were present, but few sizeable pieces were recognised (<10).

As observed in sample <8>, freshwater snails were frequent in sample <2>. *Bithynia* and *Lymnaea* were the most abundant, with over one-hundred shells recorded, though substantial concentrations of

Planorbis and *Valvata* were also found, indicating a wet or significantly waterlogged environment, in line with the interpretation of this context as part of a channel. Other wet indicators, in this case ostracoda and ehippia of *Daphnia*, were also reported. A small amount of *Ostrea edulis* (native oyster) was found in the heavy residue, perhaps an indication that this species was being consumed as part of local diet.

Phase 6: Post-Medieval (Mid 17th to Early 18th Century)

The largest proportion of bulk samples were taken from deposits located in phase six, dated to the mid 17th to early 18th century. Six samples were taken in total; one from the fill of channel [194], one from the fill of another potential channel or bank feature, one from the fill of pit [539], one from the fill of pit [564], and two from the same layer of clay alluvium, context [109].

In the two bulk samples taken from layer [109], molluscs were the best preserved ecofact; both samples were found to contain a moderately sized assemblage of terrestrial and freshwater snail shells, as well as juvenile specimens and a low frequency of operculum. Sample <9> contained the largest assemblage, with over one-hundred shells discovered; key species in this sample include the freshwater type *Planorbis*, along with *Lymnaea* and *Valvata*, which would indicate this was formed in wet conditions. Sample <5> contained less than one-hundred shells in total, with a mix of freshwater and land species.

In terms of the archaeobotanical material, sample <9> was also the richest; the seed assemblage was moderate in size, yet diversity was limited, with only seven genera represented. Nettle and duckweed were present in the highest frequency, supporting a potentially waterlogged environment, with lesser concentrations of bramble, elder, violet (*Viola* sp.), pondweed and goosefoot additionally reported. A low number of charred peas and grasses (*Poaceae* sp.) was observed, along with fragmented wood charcoal, none of which was of a suitable size for identification. Similarly to sample <9>, a small amount of goosefoot, duckweed, elder and nettle was recorded in Sample <1>, as would be expected due to the related nature of the samples. This sample also contained a minimal abundance of charcoal and wood, and a few charred wheat grains (*durum/aestivum* type).

Sample <7>, taken from the fill of channel [194] was relatively rich in both molluscan and botanical remains. As seen in similar samples from suspected channel features at the site, freshwater snails were the most frequently recorded mollusc, with *Bithynia*, *Lymnaea*, *Planorbis* and *Valvata* specimens being identified in the greatest abundance, indicative of wet conditions. Ostracods and *Daphnia* ehippia were also found, which further re-enforces the interpretation of this feature as some form of channel. In terms of the seed assemblage, nettles were the most common with over one-hundred specimens recognised; moderate numbers of duckweed were also recorded and lesser amounts of elder and knotweed. Other herbaceous taxa were identified; however, none yielded more than ten seeds. A small number of hazel nuts were additionally observed. Wood and wood charcoal were abundant (>100 pieces), with over thirty identifiable specimens of the former, and around twenty of the latter were recovered.

The other suspected channel fill, context [201], contained a smaller mollusc assemblage than similar samples from this period; freshwater taxa were still dominant, however overall concentrations were low; less than seventy shells were recorded in total. The archaeobotanical assemblage was more promising in this sample, with over one-hundred seeds observed over thirty-five different genera, along with wood and wood charcoal. Nettles were, again, the most abundant, present in far greater amounts than any of the other taxa. As with previous samples from Phase 6, knotweed, duckweed and elder were identified in small amounts, accompanied by seeds of edible fruits including strawberry (*Fragaria* sp.), fig (*Fragaria* sp.) grape (*Vitis vinifera*) and plum (*Prunus domestica*), as well as a number of charred barley grains, all of which could have been consumed during this period. Low frequencies of cockle (*Cerastoderma edule*) and oyster may also be evidence of a dietary element. The interpretation of this as a channel fill may be supported by the presence of *Daphnia* ehippia and ostracods, which point to a wet depositional environment.

In contrast to other Phase 6 samples, the two pit fills contained very few molluscs; sample <20>, taken from the cess pit fill, contained no land or freshwater snails at all, and sample <18> contained only a small amount of *Planorbis*, *Vitrea* and *Discus Rotundatus* (<10 shells). Both yielded a large seed assemblage, however sample <20> exhibited a poor range of taxa, with only seven genera represented, in contrast to sample <18> in which around twenty-five seed types were observed. Nettles are, again, the dominant taxa in <18>, indicating a similar environment to other areas of the site, nightshade, sedges, duckweed and buttercups were also identified in modest numbers, amongst other species. Edible fruits were reported in low concentrations, including stone-fruits, elder, grapes, pea and fig, which may be evidence of consumption. Despite the lack of diversity in sample <20>, it is nonetheless a significant assemblage in terms of its interpretive value; as with sample <18> edible fruits were reported in this sample; however, the relative abundances were very high in comparison. Over five-hundred specimens of fig and brambles (including blackberry and raspberry) were recorded, likely to be evidence that these were consumed and potentially cultivated in the vicinity; fig is known to have been deliberately grown in Britain from the sixteenth century onwards, and a density of this magnitude could indicate a significant local population (Dickinson & Dickinson 1996). Grape, apple (*Malus* sp.) and strawberry were also found in small to moderate amounts, which may also have been part of local diet. There is some indication that this deposit may contain kitchen or latrine waste, due to the abundance of not only seeds, but also fish bone and scales, eggshell and small animal bone, all of which were recovered in moderate to significant numbers and are evidence of a varied diet being enjoyed on-site.

Both the sampled pits yielded wood charcoal, though only in moderate concentrations, and preserved wood, of which the majority of pieces were of identifiable size. Sample <18> additionally contained a large concentration of fragmented plant material and *Daphnia* ehippia, which indicate that the deposit was waterlogged at some point during the period of use.

Overall Summary

The results of the archaeobotanical and malacological investigations are summarised below. Animal and fish bone will be discussed elsewhere.

Phase 1: Natural

Environmental preservation was poor in the deposits from Phase 1, and as a result little can be said regarding the environment during this period. The seed assemblage contained aquatic and semi-aquatic species (duckweed, gypsywort), which are indicative of a wet or waterlogged conditions, however the assemblage is too small to reach any definitive conclusions.

Phase 3: Natural

The remains recorded in Phase 3 suggest that the sampled deposit formed in water; daphnia ephippia (water flea eggs), ostracods and a significant assemblage of both freshwater molluscs were found. Based on this, the interpretation of the containing feature as a channel may have merit. The seed assemblage also indicates a wet or waterlogged environment, with the presence of aquatics or fen-type species including duckweed, gypsywort, sedges, nettle and dock. The presence of einkhorn wheat grains may be a sign that cereals were being consumed at this time, though the concentration of material is too low to be significant.

Phase 4: Medieval (1170-1450)

The material preserved in the samples from Phase 4 supports the interpretation of these features as having formed in wet conditions, with the presence of several sub-aquatic and aquatic species, including water-milfoils, duckweed and pondweed, which are all found in wet and/or waterlogged environments. The mollusc assemblage, which contains a moderate number of freshwater shells, may also support this hypothesis, though the concentration of material in the flood deposit (sample <15>) is minimal, along with the presence of *Daphnia* eggs and/or ostracods in these samples. Other taxa in the seed assemblage from the flood deposit are native to open, waste or cultivated ground. The charred specimens of pea, barley, and spelt/emmer wheat may be evidence of consumption or cultivation in the area during the medieval period.

Phase 5: Post-Medieval (Mid 15th to Early 17th Century)

The samples from Phase 5 are thought to be related to channels, or channel bank deposits. The substantial assemblage of freshwater molluscs, including *Theodoxus fluviatilis*, along with ostracods and *Daphnia* eggs in both samples would appear to support the idea that these deposits developed in wet conditions. The seed assemblage, in contrast, contained relatively few aquatics, with the exception of nettle, which may be found in fen-type environments. Based on this it could be suggested that identified herbaceous plants, including brambles, may growing on the banks of the channel, or in the near vicinity.

The low frequency of charred cereals, such as wheat and barley may, again, be evidence of cultivation or consumption, though the size of the assemblage is too small to be significant. The minimal amount of oyster and fruit stone may also indicate these were part of local diet.

Phase 6: Post-Medieval (Mid 17th to Early 18th Century)

In total two samples were collected from features dated to the early post-medieval period, both from fills that are thought to represent channels, or channel bank deposits.

Sample <8> was rich in environmental remains; both wood and wood charcoal were observed in abundance, though the majority of pieces were small, and less than ten sizeable fragments of each were recovered. Weed seeds were also common in this deposit, with a moderately diverse range of taxa recorded; the most frequent seeds were of bramble and nettle, over one hundred of each being found, with lesser concentrations of elder and other species. Aside from the abundance of nettle, which may be found in fen environments, aquatics were generally poorly represented in this deposit, the mollusc assemblage is however comprised of a moderate density of mainly freshwater types, including *Theodoxus fluviatilis*, which is common in both slow and fast flowing rivers, and canals. As this evidence is supportive of the deposit being from the channel itself, it is likely that the identified seeds are from plants growing on the bank, or very close-by. Another indication of the wet environment in which this feature formed is given in the small amount of ostracods that were present.

Along with a high concentration of fragmented plant matter, this context also yielded a low frequency of charred cereals, including specimens of barley and wheat (*durum/aestivum* type), which may have been cultivated and/or consumed in the local area.

In contrast to sample <8>, sample <5> presented a more limited seed assemblage; knotweeds (*Persicaria* sp.) were the most commonly recognised, and also the only species to yield more than thirty recognisable specimens. A good range of taxa were present overall, however the majority were represented by less than ten seeds; of note were small concentrations of gypsywort, pondweed, nightshade (*solanum* sp.) and vervain (*Verbena officinalis*). The heavy residue additionally contained a small amount of fruit stones, of the type *Prunus* sp. (stone-fruits), though not enough to suggest widespread consumption. Wood and charcoal were present, but few sizeable pieces were recognised (<10).

As observed in sample <8>, freshwater snails were frequent in sample <2>. *Bithynia* and *Lymnaea* were the most abundant, with over one-hundred shells recorded, though substantial concentrations of *Planorbis* and *Valvata* were also found, indicating a wet or significantly waterlogged environment, in line with the interpretation of this context as part of a channel. Other wet indicators, in this case ostracoda and ephippia of *Daphnia*, were also reported. A small amount of *Ostrea edulis* (native oyster) was found in the heavy residue, perhaps an indication that this species was being consumed as part of local diet.

Phase 6: Post-Medieval (Mid 17th to Early 18th Century)

The four Phase 6 samples taken from alluvial or channel material, <1>, <4>, <7> and <9>, all contained mollusc assemblages that would, in varying degrees, suggest wet conditions, which would be expected from deposits of this type. Duckweed was also present throughout these samples, as were nettles, which may be further evidence of wet or waterlogged sediments. With the exception of sample <1>, all of the samples additionally contained *Daphnia* eggs and/or ostracods, as did sample <18>, the fill of a pit.

Sample <4> contained small amounts of edible fruit seeds such as strawberry, fig, grape and plum which, along with the small number of charred barley grains in this sample, and the few charred wheat grains in sample <1>, could be evidence of local diet during the post-medieval period. Sample <20>, taken from the cess pit fill, also produced edible fruit seeds, in very large numbers, with a predominance of fig and brambles. This is again a sign that these were consumed and possibly cultivated. There is also some evidence for the consumption of grape, apple and strawberry. This deposit is particularly significant due to not only the density of the seed assemblage, but the abundance of other consumables including fish bone and scales, eggshell and small animal bone.

Recommendations for Further Work

To summarise, the preservation of environmental material in the bulk environmental samples taken from Fulham High Street was generally very good. The recommendations for additional work are outlined below. A summary of this assessment should be included in any future publications.

Wood Charcoal and Preserved Wood

Six of the assessed samples contained a small concentration of wood charcoal of a suitable size for species to be identified, which could be used to refine the site chronology using radiocarbon dating, should suitable cultural material be unavailable. Samples <18> and <20> both contained moderate amounts of viable wood, which should be assessed by a specialist prior to publication, as it may enhance our understanding of the local environment during the post-medieval period.

Carbonised Seeds/Cereals

The charred seed and grain assemblage is too limited to be of diagnostic value. No further work is recommended on this material, though grains could be used for radiocarbon dating if required.

Insect and Parasite Remains

Whilst none of the samples contained an insect assemblage of a size to warrant additional analysis, it is suggested that a sub-sample of the cess material from sample <20> be paraffin floated, in order to assess the potential for recovery of parasite eggs and cysts, could provide significant information

regarding health and hygiene during the post medieval period. The remains of *Daphnia* may also warrant further analysis prior to publication.

Oyster shell

None of the assessed samples produced a statistically significant shell assemblage, therefore no additional work is recommended for this archive.

Seeds and Plant Macrofossils

The quantity and quality of the seed and/or plant macrofossil assemblage was good in all apart from samples <1> and <6>. It is suggested that, prior to publication, any retained material from the remaining ten samples be processed, and a full analysis is undertaken on the seeds and plant material contained within. The waterlogged assemblages have significant potential in terms of partially reconstructing the local environment, and may yield useful information on land use, diet, and environmental conditions across the occupation of the site.

Molluscs

Molluscs were well preserved in all of the samples with the exception of <4>, <15>, <18>, <20>. If contiguous samples are available from the deposits associated with the viable bulk samples, a full analysis should be carried out on this material as this may help us to understand the varying environment and hydrology of the channel features over the different periods of occupation.

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Table 1: Context information for environmental samples, FHS15

Context No.	Cut	Context type	Context category	Area	Phase	Period	Interpretation
109		Layer	Dump	BO1	6	Post-medieval (mid 17th to early 18th century)	Clay alluvium
193	194	Fill	Backfill	BO1	6	Post-medieval (mid 17th to early 18th century)	Fill of ditch / channel [194]
195		Fill/Layer	Accumulation	BO1	5	Post-medieval (mid 15th to early 17th century)	Organic fill of possible channel or bank feature
201		Fill/Layer	Accumulation	BO1	6	Post-medieval (mid 17th to early 18th century)	Organic fill of possible channel or bank feature
202		Fill/Layer	Accumulation	BO1	5	Post-medieval (mid 15th to early 17th century)	Organic fill of possible channel or bank feature
203		Layer	Natural	BO1	1	Natural	Layer of natural sand
225	226	Fill	Accumulation	BO1	4	Medieval (1170-1450)	Fill of possible pond [226]
227	228	Fill	Accumulation	BO1	3	Natural	Fill of channel [228]
252		Layer	Dump	BO1	4	Medieval (1170-1450)	Layer of clay - flood deposit
538	539	Fill	Backfill	Attenuation Tank	6	Post-medieval (mid 17th to early 18th century)	Fill of pit [539]
591	564	Fill	Use	BO1	6	Post-medieval (mid 17th to early 18th century)	Primary Fill of cess pit [564]

Table 2: Assessment of environmental residues, FHS15

Sample No.	1	4	5	6	7	8	9	12	14	15	18	20
Context No.	109	201	202	203	193	195	109	225	227	252	538	591
Feature No.					194			226	228		539	564
Volume of bulk (litres)	22	24	21	23	27	24	22	29	23	25	24	26
Volume of flot (millilitres)	10	160	96	100	120	100	45	29	70	75	210	350
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F
HEAVY RESIDUE												
Charcoal												
Charcoal >4 mm				1	1	1			1	1		1
Charcoal 2-4 mm						2						
Charcoal <2 mm												
Wood												
Wood >4 mm			1		1				1		3	3
Wood 2-4 mm												
Wood <2 mm												
Seeds												
<i>Calendula</i> sp.	Marigolds		1									
<i>Corylus</i> sp. (nut)	Hazel					1					1	
<i>Fabaceae</i> sp. (charred)	Peas									1		
<i>Ficus</i> sp.	Figs											4
<i>Malus</i> sp.	Apples											1
<i>Persicaria</i> sp.	Knotweeds		1									
<i>Poaceae</i> sp. (charred)	Grasses									1		
<i>Prunus</i> sp.	Stone fruits		1	1							1	
<i>Rubus</i> sp.	Brambles											4
<i>Vitis vinifera</i>	Grape vine										1	2
Marine Molluscs												
<i>Cerastoderma edule</i> (frags)	Native Oyster										1	
<i>Mytilus edulis</i> (frags)	Mussel											1
<i>Ostrea edulis</i> (left valve)	Native Oyster		1									
<i>Ostrea edulis</i> (right valve)	Native Oyster			1								
<i>Ostrea edulis</i> (frags)	Cockle		1					1				
Marine shell (frags)											1	
Bone												
Large animal bone		1					1			1	1	3
Small animal bone	1						1	1	1		1	4
Fish bone		1	1						1		1	4
Bone fragments	1	1				1		1	1	2	1	2
Molluscs												
<i>Bithynia</i> sp.	Freshwater	1	1	3		3	3	2		3		
<i>Discus rotundatus</i>	Terrestrial	1	1				1		1			
<i>Helix</i> sp.	Terrestrial				1							
<i>Lymnaea</i> sp.	Freshwater	2	1	4		3	3	3		3		
<i>Oxychilus</i> sp.	Terrestrial						1		1			
<i>Pisidium</i> sp.	Freshwater	1	1			2	3	2	1	3		
<i>Planorbis</i> sp.	Freshwater		1	3		2	3	2	1	3		1

Sample No.	1	4	5	6	7	8	9	12	14	15	18	20
Context No.	109	201	202	203	193	195	109	225	227	252	538	591
Feature No.					194			226	228		539	564
Volume of bulk (litres)	22	24	21	23	27	24	22	29	23	25	24	26
Volume of flot (millilitres)	10	160	96	100	120	100	45	29	70	75	210	350
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F
<i>Theodoxus fluviatilis</i>	Freshwater	1	1	1			1	1		2		
<i>Trichia</i> sp.	Terrestrial								1			
<i>Vallonia</i> sp.	Terrestrial						1					
<i>Valvata</i> sp.	Freshwater	2	2	3		3	3	3		4		
Shell fragments		1	2	4		2	2	1				
Operculum						1	1		1			
Other environmental material												
Insect remains												1
Eggshell												4
Coprolite												1
Building material												
Brick		1	1		1	1	1				2	1
Tile											1	
Mortar							1	1			1	2
Roofing material		1										
Other artefacts												
Pot					1		1			2	2	1
Glass							1					1
Clay pipe											1	
Iron											1	1
Copper												1
Coal		3									1	1
Slag		1									3	1
Burnt flint							1		1	1	1	

Key: 1- Occasional (1-10), 2- fairly frequent (11-30), 3- frequent (31-100), 4- abundant (>100)

Table 3: Assessment of environmental flots, FHS15

Sample No.	1	4	5	6	7	8	9	12	14	15	18	20
Context No.	109	201	202	203	193	195	109	225	227	252	538	591
Feature No.					194			226	228		539	564
Volume of bulk (litres)	22	24	21	23	27	24	22	29	23	25	24	26
Volume of flot (millilitres)	10	160	96	100	120	100	45	29	70	75	210	350
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F
FLOT RESIDUE												
Charcoal												
Charcoal >4 mm			1		1		1				1	
Charcoal 2 - 4 mm		2	3		2	1	1	2	1	3	2	3
Charcoal <2 mm	1	4	3	3	3	4	4	2	2	4	3	3
Frag. of ID size	X	X	X	X	<10	X	X	X	X	X	X	X
Fragmented wood												
Wood >4 mm	1		1		3			1	2	1		3
Wood 2 - 4 mm		4	3		4	4		2	3	2		4
Wood <2 mm		4	4		4	4		3		4		3
Seeds												
<i>Aethusa</i> sp.	Fool's Parsley										1	
<i>Alnus glutinosa</i>	Alder					1						
<i>Apiaceae</i> spp. (undiff)	Carrots		1		1	1		1	1			
<i>Betula</i> sp.	Birch		1					1		1		
<i>Brassica/Sinapis</i> sp.	Mustards											1
<i>Bryonia dioica</i>	White Bryony		1									
<i>Calendula</i> sp.	Marigolds		1									1
<i>Carduus</i> sp.	Thistles					1		1				
<i>Carex</i> sp.	Sedges		1	1		1	1	1	1	1	2	
<i>Ceratophyllum demersum</i>	Rigid Hornwort						1					1
<i>Chenopodium</i> sp.	Goosefoots		1	1		1	1	1	1	4	1	
<i>Cirsium</i> sp.	Thistles		1			1		1				
<i>Corylus</i> sp. (nut)	Hazel					1						
cf. <i>Empetrum</i> sp.	Crowberry							1				
<i>Euphorbia peplis</i>	Purple Spurge											1
<i>Euphorbia</i> sp.	Spurges		1									
<i>Fabaceae</i> spp. (indet)	Peas											1
<i>Ficus</i> sp.	Fig		1								1	4
<i>Fragaria</i> sp.	Strawberries		2	1			1			1		3
<i>Galeopsis</i> sp.	Hemp-nettles		1									
cf. <i>Humulus lupulus</i>	Hop		1									
<i>Hyoscyamus niger</i>	Henbane		1			1	1					
<i>Juncus</i> sp.	Rushes		1									
<i>Lamiaceae</i> spp. (undiff)	Deadnettles				1							
<i>Lamium</i> sp.	Deadnettle		1									1
<i>Lemna</i> sp.	Duckweeds		2	2		1	3		3	2	2	4
<i>Lycopus europaeus</i>	Gypsywort			1	1	1			1	1		
<i>Malus</i> sp.	Apples											1
<i>Melissa officinalis</i>	Balm						1		1			
<i>Myriophyllum</i> sp.	Water-milfoils		1					3				1
<i>Papaver</i> sp.	Poppies											1
<i>Persicaria</i> sp.	Knotweeds		2	3		2	1			1	1	

Sample No.	1	4	5	6	7	8	9	12	14	15	18	20
Context No.	109	201	202	203	193	195	109	225	227	252	538	591
Feature No.					194			226	228		539	564
Volume of bulk (litres)	22	24	21	23	27	24	22	29	23	25	24	26
Volume of flot (millilitres)	10	160	96	100	120	100	45	29	70	75	210	350
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F
<i>Picris</i> sp.					1							
<i>Polygonum</i> sp.		1	1							1	1	
<i>Potamogeton</i> sp.		1	1				1	2				
<i>Potentilla</i> sp.		1	1		1							
<i>Prunus domestica</i>		1						1				
<i>Prunus</i> sp.		1									1	
<i>Ranunculus bulbosus/repens</i>		1	1		1	1		1	2	1	2	
<i>Ranunculus</i> sp.	1	1	1		1					3	2	
<i>Rosa</i> sp.											1	
<i>Rubus</i> sp.		1		1	1	4	1	1	2	2	1	4
<i>Rumex</i> sp (flowers)		1			1	1					1	
<i>Rumex</i> sp.		1	1		1	1		1	1	1		
<i>Sambucus</i> sp.	2	2	1		2	3	2	1	3	3	1	
<i>Silene</i> sp.					1					3		
<i>Solanum</i> sp.		2	1		1	1			1	1	3	
<i>Sonchus</i> sp.		1	1	1	1			1			1	
<i>Spergula arvensis</i>					1							
<i>Stellaria</i> sp.		1	1		1					1	1	
<i>Urtica</i> sp.	1	4	2	1	4	4	3	2	3	4	4	
<i>Verbena officinalis</i>	1		1		1	1						
<i>Viola</i> sp.		1					1				1	
<i>Vitis</i> sp.		1										3
cf. <i>Zannichellia palustris</i>						1						
Broken seeds					1	2						
Unknown		1			1						1	1
Burnt seeds												
<i>Anthemis cotula</i>										1		
<i>Corylus</i> sp. (nut)								1				
<i>Fabaceae</i> spp. (indet)							1			1		
<i>Poaceae</i> sp. (large)	1						1		1	2		
Cereals												
<i>Hordeum</i> sp.		1				1				1		
<i>Triticum dicoccum/spelta</i>										1		
<i>Triticum durum/aestivum</i>	1					1				1		
<i>Triticum monococcum</i>									1	1		
Broken/distorted (No ID)	1					1			1	3		
Other plant macrofossils												
Fragmented plant matter	3	4	4		4	4	4	3		4	4	
Thorns (No ID)		1				1						
Woody stems/twigs											4	
Anther/stamen fragments					1	1						
Fruit fragments									1			
Charred buds (no ID)					1				1			
Roots/tubers	1					1	3					

Sample No.		1	4	5	6	7	8	9	12	14	15	18	20
Context No.		109	201	202	203	193	195	109	225	227	252	538	591
Feature No.						194			226	228		539	564
Volume of bulk (litres)		22	24	21	23	27	24	22	29	23	25	24	26
Volume of flot (millilitres)		10	160	96	100	120	100	45	29	70	75	210	350
Method of processing		F	F	F	F	F	F	F	F	F	F	F	F
Molluscs													
<i>Bithynia</i> sp.	Freshwater	1		4		3	2	2	1	2			
<i>Carychium</i> sp.	Terrestrial							1		1			
<i>Clausilia</i> sp.	Terrestrial			1				1					
<i>Discus rotundatus</i>	Terrestrial	1	1		1	1	1	2	1	1		1	
<i>Helix</i> sp.	Terrestrial		1										
<i>Lymnaea</i> sp.	Freshwater		1	3		3	2	2	1	2			
<i>Oxychilus</i> sp.	Terrestrial							1					
<i>Pisidium</i> sp.	Freshwater	1		2		2	1	1	1	2			
<i>Planorbis</i> sp.	Freshwater		1	3		3	2	3	3	3	1	1	
<i>Pomatias elegans</i>	Terrestrial			1									
<i>Theodoxus fluviatilis</i>	Freshwater			1			1						
<i>Trichia</i> sp.	Terrestrial	1					1	1		1			
<i>Vallonia</i> sp.	Terrestrial	1						1		1			
<i>Valvata</i> sp.	Freshwater	2	1	3		3	2		1	2			
<i>Vertigo</i> sp.	Terrestrial							1					
<i>Vitrea</i> sp.	Terrestrial	1						1				1	
Operculum		1		1		1	1	1	1	1	1		
Broken shell		2		2	2			2	1	2			1
Juveniles (no ID)		3		2	1		3	3	1				
Bone													
Fish bone									1				4
Fish scales									1				2
Small animal bone										1			3
Other remains													
Insect remains		1	3	3		3	2		3	2	3	3	3
<i>Daphne ehippia</i>			4	2		3		2		3	1	4	
Ostracods			2	2		1	2		2	3			
Egg shell													4
Cess material													4
Struck flint					1								
Slag													3
Clinker/burnt coal			3						1			4	2
Vitreous material		1	4		3		2	3				4	3
Coal		1	3		3			2		1	1	4	3

Key: 1- Occasional (1-10), 2- fairly frequent (11-30), 3- frequent (31-100), 4- abundant (>100)

2. Column Samples

Introduction

During the archaeological excavation of land at 84-90b Fulham High Street, seven sequences of column samples were taken from a variety of features across the site, to assess the nature of the deposits, and for the recovery of palaeoenvironmental material. Two of these were selected for an initial assessment of environmental potential, looking at the preservation of pollen and diatoms, along with undertaking particle size analysis and a lithological assessment to speculate on the depositional environment in which these features may have formed.

2.1. Lithostratigraphic Descriptions

Introduction

Two column samples were collected during excavations at Fulham High Street (FHS15). Sample <2>, comprised of two 50cm monolith tins, was collected from the north-facing section of a channel or bank feature (see section 9), between 1.15 and 0.25m O.D and sample <11>, also consisting of two 50cm tins, was taken from the south-facing section of machine slot 3 across several alluvial layers (see section 11), between 0.93 and 0.03m O.D. A visual examination of these samples was undertaken, in order to identify the sedimentary units.

Methodology

A lithostratigraphic assessment of column samples <2> and <11>, both of which comprised of two 50cm monolith tins, was carried out using standard sediment recording procedures; the physical properties of the sample were noted, including (1) Munsell soil colour classification; (2) composition and inclusions (artefacts etc.), after Tröels-Smith (1955); e.g. disintegrated organic matter (Sh), gravel (Gg), coarse sand (Gs), fine sand (Ga), silt (Ag) and clay (As) and (3) state of unit boundaries, for example sharp or diffuse.

Results

The results of the lithostratigraphic descriptions of column samples <2> and <11> are presented in Tables 1.1 to 1.4.

Sample <2>

Sample <2> consisted largely of slightly silty to silty clays with traces of fine sand, transitioning into fine sand at 0.25m below ground level, and from there to coarse sandy gravel at 0.34m. Trace amounts of whole and fragmented snails were recorded across the majority of the sequence, along with occasional

fragments of wood and wood charcoal, concentrated in the upper and lower parts of tin 'A' and all apart from the lowest unit (sandy gravel) in tin 'B'.

Sample <11>

Sample <11> consisted of silty clays in the upper 50cm, transitioning into clayey silts in the lower 50cm section and bottoming out into sandy silty clay at 0.34m below ground level. Occasional charcoal inclusions were observed in all apart from the sandiest horizons (units 2, 3, 6 and 7).

Conclusion

Several discrete sedimentary units were observed in both samples. Sample <2> is characterised by silty clays with a moderate organic component and traces of snails and charcoal, bottoming out to sandy gravel at 0.25m BGL, and sample <11> silty clays, often with traces of sand and small amounts of charcoal. Viable wood or bulk sediment samples that are suitable for radiocarbon dating should be obtainable from both.

Table 1.1: Lithostratigraphic description of column sample <2> (Section 9) Monolith A, Fulham High Street (FHS15).

Sample Number	Tin	Depth (m OD)	Depth (m bgl)	Composition
2	A	1.15 to 0.98	0.00 to 0.17	10YR 4/1; As3 Ag1 Ga+ Mollusca+ Dl+ Charcoal+; dark grey slightly silty clay with traces of fine sand, fragments of molluscan material, wood and wood charcoal. Diffuse contact into:
2	A	0.98 to 0.96	0.17 to 0.19	10YR 4/1 & 10YR 4/2; As3 Ag1; dark grey grading to dark greyish brown silty clay. Diffuse contact into:
2	A	0.96 to 0.86	0.19 to 0.29	10YR 4/1; As3 Ag1 Ga+ Mollusca+; dark grey slightly silty clay with traces of fine sand and fragments of molluscan material. Diffuse contact into:
2	A	0.86 to 0.65	0.29 to 0.50	10YR 4/2 & 10YR 5/2; As3 Ag1 Ga+ Mollusca+ Dl+; mottled dark greyish brown/greyish brown slightly silty clay with traces of molluscan material and wood.

Table 1.2: Lithostratigraphic description of column sample <2> (Section 9) Monolith B, Fulham High Street (FHS15).

Sample Number	Tin	Depth (m OD)	Depth (m bgl)	Composition
2	B	0.75 to 0.61	0.00 to 0.14	10YR 4/2; As3 Ag1 Mollusca+ Charcoal+; dark greyish slightly silty clay with traces of molluscan material and small charcoal inclusions. Diffuse contact into:
2	B	0.61 to 0.50	0.14 to 0.255	10 YR 4/2; As3 Ag1 Mollusca+ Charcoal+; dark greyish brown slightly silty clay with traces of charcoal and molluscan material. Mixed with lenses of 10 YR 5/2; Ga3 As1 Ag+; greyish brown silty clay sand. Diffuse contact into:
2	B	0.50 to 0.41	0.245 to 0.34	10YR 5/1; Ga3 As1 Gs+ Gg+ Charcoal +; grey clayey fine sand with some coarse sand and gravel inclusions and charcoal flecks. Diffuse contact into:

Sample Number	Tin	Depth (m OD)	Depth (m bgl)	Composition
2	B	0.41 to 0.25	0.34 to 0.50	10YR 6/2; Gs2 Gg2 As+; light brownish grey coarse sandy gravel with small clay component.

Table 1.3: Lithostratigraphic description of column sample <11> (Section 11) Monolith A, Fulham High Street (FHS15).

Sample Number	Tin	Depth (m OD)	Depth (m bgl)	Composition
11	A	0.93 to 0.83	0.00 to 0.10	10YR 3/2; Ag2 As2 Charcoal+; dark grey silty clay with occasional charcoal particles. Sharp contact into:
11	A	0.83 to 0.81	0.10 to 0.12	7.5YR 3/4; oxidised horizon with some grit and charcoal particles. Sharp contact into:
11	A	0.81 to 0.73	0.12 to 0.20	10YR 4/2 Ag2 As2 Ga+; yellow and grey mottled silty clay with some fine sand. Sharp contact into:
11	A	0.73 to 0.43	0.20 to 0.50	10YR 4/4 to 10YR 4/2 ; Ag2 As2 Gs+ Ga+ Charcoal+; dark yellowish brown grading to dark greyish brown silty clay with some coarse sand and grit and small charcoal particles.

Table 1.4: Lithostratigraphic description of column sample <11> (Section 11) Monolith B, Fulham High Street (FHS15).

Sample Number	Tin	Depth (m OD)	Depth (m bgl)	Composition
11	B	0.53 to 0.41	0.00 to 0.12	2.5YR 4/3; As2 Ag2 Ga+ Charcoal+; reddish brown clayey silt with some fine sand and some fine charcoal particles. Diffuse contact into:
11	B	0.41 to 0.19	0.12 to 0.34	10YR 5/3; Ag2 As2 Ga+; Brown clayey silt with some fine sand. Mixed with 2.5YR 4/3; Ag2 As2 Ga+; reddish brown clayey silt. Diffuse contact into:
11	B	0.19 to 0.03	0.34 to 0.50	2.5YR 4/3; As2 Ag1 Ga1; reddish brown silty clay with very fine sand.

2.2. Diatom Assessment and particle size analysis from Fulham High Street

Andrew Haggart, University of Greenwich Archaeological Services

Introduction

Palaeoenvironmental samples taken during the September 2015 – April 2016 excavations by Pre-Construct Archaeology Ltd. at Fulham High Street were made available for assessment. Two 50cm monolith tin samples were taken from the north-facing section 9 between 1.15-0.25m O.D. comprising a natural sand and gravel layer (context [203]) overlain by a finer-grained channel infill (contexts [202] and [201]). A further two monolith tin samples were taken from the south-facing section 11 between 0.93-0.03m O.D. through natural sand and gravel (context [257]) overlain by alluvium (contexts [256], [255] and [253]) and by the fill (context [225]) of a large square-cut feature (context [226]).

Methodology

Diatoms

About 20ml Hydrogen peroxide (30%) was added to 1cm³ of fresh sediment in a polypropylene centrifuge tube and left in a fume cupboard at room temperature, topped up with Hydrogen peroxide if necessary, until the all organic material had been oxidised (~1 week). The samples were then centrifuged at 2500 rpm for 3 minutes, the supernatant liquid decanted, and the sample pellet re-suspended with fresh distilled water. This washing process was repeated three times. A random sample was transferred using a pipette to a coverslip and allowed to settle and dry at room temperature overnight. The coverslip was then fixed onto a microscope slide using Naphrax diatom mountant. Diatoms were scanned using an Olympus BX40 microscope under oil immersion at a magnification of 1000x. Identifications were made with reference to Cleve-Euler (1951-55), Hendey (1964), Hartley (1996) and van der Werff and Huls (1957-64) with nomenclature following Hartley (1996). The salinity preferences of diatoms were classified using the halobian groupings of Hustedt (1953) as reported in Denys (1991/2). These can be broadly summarised as:

Polyhalobous: >30 g l-1 – fully marine;

Mesohalobous: 0.2-30 g l-1 – brackish;

Oligohalobous - halophilous: optimum in slightly brackish water;

Oligohalobous- indifferent: optimum in freshwater but tolerant of slightly brackish water

Particle size analysis

A subsample of the material prepared for diatom analysis was used to measure the particle size distribution using laser diffraction on a Malvern Mastersizer 2000 particle size analyser. The data generated were then entered into GRADISTAT, an Excel-based package for calculating grain size distributions and statistics in unconsolidated sediments (Blott and Pye 2001; Blott *et al.* 2004)

Results

Diatoms

Tables 2.1 and 2.2 below show, for each sample, the presence or absence of diatoms, together with a subjective assessment of their quality of preservation, concentration, species diversity and potential for percentage counting to publication standard.

Table 2.1: Section 9, Sample <2> Diatom Assessment

Diatom Sample	Tin	Altitude (m OD)	Depth (m)	Context	Diatoms present	Quality of Preservation	Valve Concentration	Species Diversity	Potential for Percentage Counts
2	A	1.07 - 1.06	0.08- 0.09	201	+	excellent	very high	moderate	excellent (needs dilution)
2	A	0.97 - 0.96	0.18- 0.19	201	+	excellent	Very high	moderate	excellent (needs dilution)
2	A	0.87 - 0.86	0.28- 0.29	201	+	excellent	high	moderate	excellent (needs dilution)
2	A	0.77 - 0.76	0.38- 0.39	201	+	excellent	high	low	excellent (needs dilution)
2	A	0.67 - 0.66	0.48- 0.49	202	+	moderate	high	high	good, many diatom fragments
2	B	0.67 - 0.66	0.08- 0.09	202	+	excellent	high	low	excellent (needs dilution)
2	B	0.57 - 0.56	0.18- 0.19	202	+	good	high	low	good, many diatom fragments
2	B	0.47 - 0.46	0.28- 0.29	203	-	-	-	-	none
2	B	0.37 - 0.36	0.38- 0.39	203	-	-	-	-	none

Table 2.2: Section 11, Sample <11> Diatom Assessment

Diatom Sample	Tin	Altitude (m OD)	Depth (m) below ground level	Context	Diatoms present	Quality of Preservation	Valve Concentration	Species Diversity	Potential for Percentage Counts
11	A	0.87 - 0.86	0.06- 0.07	225/226	+	excellent	Very high	high	excellent (requires dilution)
11	A	0.77 - 0.76	0.16- 0.17	253	-	-	-	-	none
11	A	0.67 - 0.66	0.26- 0.27	255	-	-	-	-	none
11	A	0.57 - 0.56	0.36- 0.37	255	-	-	-	-	none
11	A	0.47 - 0.46	0.46- 0.47	255	-	-	-	-	none
11	B	0.47 - 0.46	0.06- 0.07	255	-	-	-	-	none
11	B	0.37 - 0.36	0.16- 0.17	255	-	-	-	-	none
11	B	0.27 - 0.26	0.26- 0.27	256	-	-	-	-	none

11	B	0.17 - 0.16	0.36- 0.37	256	-	-	-	-	none
11	B	0.07 - 0.06	0.46- 0.47	257	-	-	-	-	none

Of the 19 samples, only eight had diatoms present but all were of countable quality, seven from contexts [201] and [202] in Section 9 and one from context [225] in Section 11.

A preliminary identification to species level was made of the more common diatoms encountered and these are given in Table 2.3 below in order of salinity classification.

The most abundant diatom species in contexts [201] and [202] was *Cyclotella striata*, a common marine and brackish water species often abundant in estuaries (Hendey 1964) and frequent today on all North Sea coasts. *Cocconeis placentula* was also present in significant numbers. This mainly freshwater species is a widely distributed diatom found in alkaline and circumneutral rivers and lakes where the nutrient status is not too low, but it also extends into brackish waters (Kelly 2000). The lowermost sample in context [202] has slightly different characteristics with fully marine forms *Paralia sulcata* and *Podosira stelligera* present. The only sample from Section 11 to contain diatoms was from context [225] and the assemblage contained oligohalobous diatom species suggestive of slightly fresher conditions.

Table 2.3. Diatom assessment. Species: + present; ++ common; +++abundant

Sample & Tin Number	2A	2A	2A	2A	2A	2B	2B	11A
Sample Altitude (m) OD	1.07 - 1.06	0.97 - 0.96	0.87 - 0.86	0.77 - 0.76	0.67 - 0.66	0.67 - 0.66	0.57 - 0.56	0.87 - 0.86
Sample Depth (m) in tin	0.08-0.09	0.18-0.19	0.28-0.29	0.38-0.39	0.48-0.49	0.08-0.09	0.18-0.19	0.06 0.07
Context	201	201	201	201	202	202	202	225
Diatoms and Salinity Group								
Polyhalobous								
<i>Opephora marina</i>	+							
<i>Paralia sulcata</i>							+	
<i>Podosira stelligera</i>							+	
Polyhalobous to Mesohalobous								
<i>Cocconeis scutellum</i>			+	+				
<i>Surirella fastuosa</i>					++		+	
Mesohalobous								
<i>Cyclotella striata</i>	+++	+++	+++	+++	+	+	+	
<i>Caloneis subsalina</i>				+				
Mesohalobous to oligohalobous halophilous								
<i>Actinocyclus normanii</i>					+	+		
<i>Tryblionella levidensis</i>					+			
Oligohalobous halophilous to indifferent								
<i>Gomphonema olivaceum</i>	+							

Sample & Tin Number	2A	2A	2A	2A	2A	2B	2B	11A
Sample Altitude (m) OD	1.07 - 1.06	0.97 - 0.96	0.87 - 0.86	0.77 - 0.76	0.67 - 0.66	0.67 - 0.66	0.57 - 0.56	0.87 - 0.86
Sample Depth (m) in tin	0.08-0.09	0.18-0.19	0.28-0.29	0.38-0.39	0.48-0.49	0.08-0.09	0.18-0.19	0.06 0.07
Context	201	201	201	201	202	202	202	225
Diatoms and Salinity Group								
<i>Gyrosigma acuminatum</i>								+
<i>Navicula capitoradiata</i>	+	+						
Oligohalobous indifferent								
<i>Epithemia adnata</i>								+
<i>Cocconeis placentula</i>	++	++	++		+	+	+	
<i>Cymatopleura solea</i>	+			+		+		
<i>Cymbella cistula</i>							+	+
<i>Diatoma vulgare</i>	++		+	+				
<i>Encyonema minutum</i>		+						
<i>Gomphonema truncatum</i>		+						
<i>Navicula placentula</i>					+			
<i>Rhopalodia gibba</i>								+

Particle size analysis

Tables 2.4 and 2.5 below contain a summary of the particle size analysis results. Towards the base of the section, however, context [203] is a much coarser well sorted sand suggesting a higher energy environment. Contexts [201] and [202] comprise poorly sorted coarse and medium silts with very similar particle size distributions. Sample 11 is different in character, consisting of very poorly sorted medium silts.

Table 2.4. Particle size results for Sample <2> showing 10th 50th and 90th percentiles in microns and a description of the sample

Sample Number	Tin	Altitude (m OD)	Depth (m in tin)	Context	d(0.1) (µm)	d(0.5) (µm)	d(0.9) (µm)	Description
2	A	1.07 - 1.06	0.08-0.09	201	1.68	9.00	43.00	Unimodal poorly sorted medium silt
2	A	0.97 - 0.96	0.18-0.19	201	2.07	10.98	40.97	Unimodal poorly sorted medium silt
2	A	0.87 - 0.86	0.28-0.29	201	2.27	12.08	42.83	Unimodal poorly sorted coarse silt
2	A	0.77 - 0.76	0.38-0.39	201	2.19	11.94	39.31	Unimodal poorly sorted coarse silt
2	A	0.67 - 0.66	0.48-0.49	202	2.71	16.23	69.31	Unimodal poorly sorted very fine sandy coarse silt
2	B	0.67 - 0.66	0.08-0.09	202	2.89	18.75	191.91	Bimodal very poorly sorted fine sandy coarse silt
2	B	0.57 - 0.56	0.18-0.19	202	1.78	11.54	49.24	Unimodal poorly sorted coarse silt
2	B	0.47 - 0.46	0.28-0.29	203	2.49	65.97	471.16	Bimodal very poorly sorted fine silty medium sand

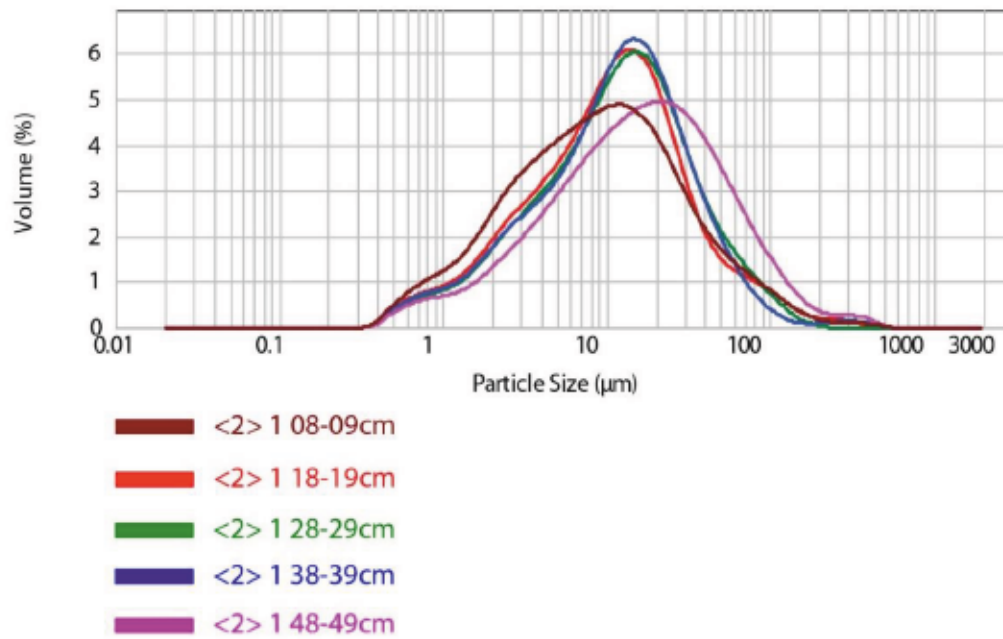
2	B	0.37 - 0.36	0.38-0.39	203	734.00	1084.26	1556.14	Unimodal well sorted very coarse sand
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Table 2.5. Particle size results for Sample <11> showing 10th 50th and 90th percentiles in microns a description of the sample

Sample Number	Tin	Altitude (m OD)	Depth (m in tin)	Context	d(0.1) (µm)	d(0.5) (µm)	d(0.9) (µm)	Description
11	A	0.87 - 0.86	0.06-0.07	225/226	2.232	12.30	69.90	Unimodal very poorly sorted medium silt
11	A	0.77 - 0.76	0.16-0.17	253	1.76	8.48	37.746	Unimodal very poorly sorted medium silt
11	A	0.67 - 0.66	0.26-0.27	255	2.238	15.212	171.25	Unimodal very poorly sorted medium silt
11	A	0.57 - 0.56	0.36-0.37	255	2.721	32.575	186.274	Unimodal very poorly sorted medium silt
11	A	0.47 - 0.46	0.46-0.47	255	2.14	16.175	109.623	Unimodal very poorly sorted medium silt
11	B	0.47 - 0.46	0.06-0.07	255	2.566	29.025	328.264	Unimodal very poorly sorted medium silt
11	B	0.37 - 0.36	0.16-0.17	255	2.293	18.48	133.368	Unimodal very poorly sorted medium silt
11	B	0.27 - 0.26	0.26-0.27	256	2.603	18.096	127.228	Unimodal very poorly sorted medium silt
11	B	0.17 - 0.16	0.36-0.37	256	2.782	27.622	181.931	Unimodal very poorly sorted medium silt
11	B	0.07 - 0.06	0.46-0.47	257	2.67	27.66	243.051	Unimodal very poorly sorted medium silt

Figures 2.1 and 2.2 show a graphic representation of the particle size distribution for both sections. Figure 2.1 illustrates the similarity of particle size distribution through the channel fill of contexts [201] and [202] and the coarser sand in the lower two samples in context [203].

Section 2 Tin A



Tin B

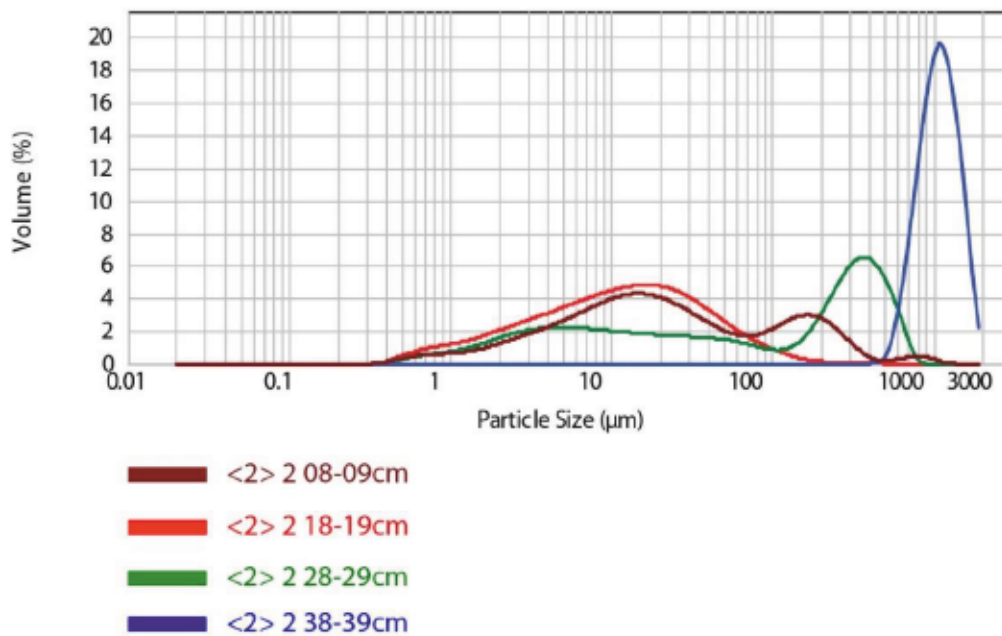
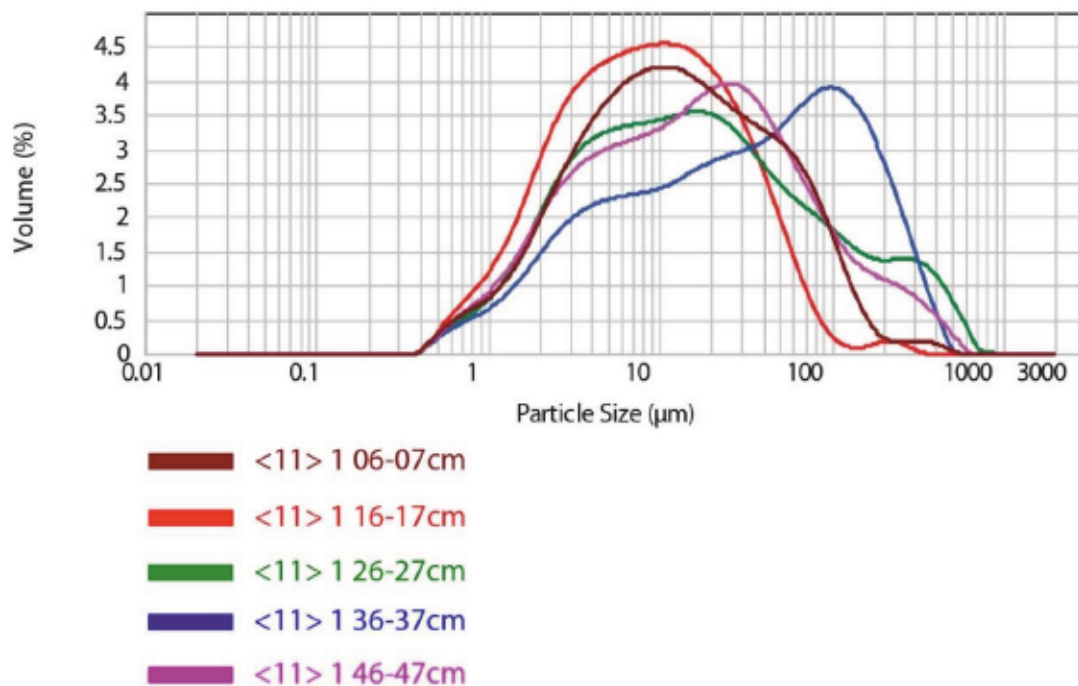


Figure 2.1. Particle size distribution curves for Sample <2>

Section 11 Tin A



Tin B

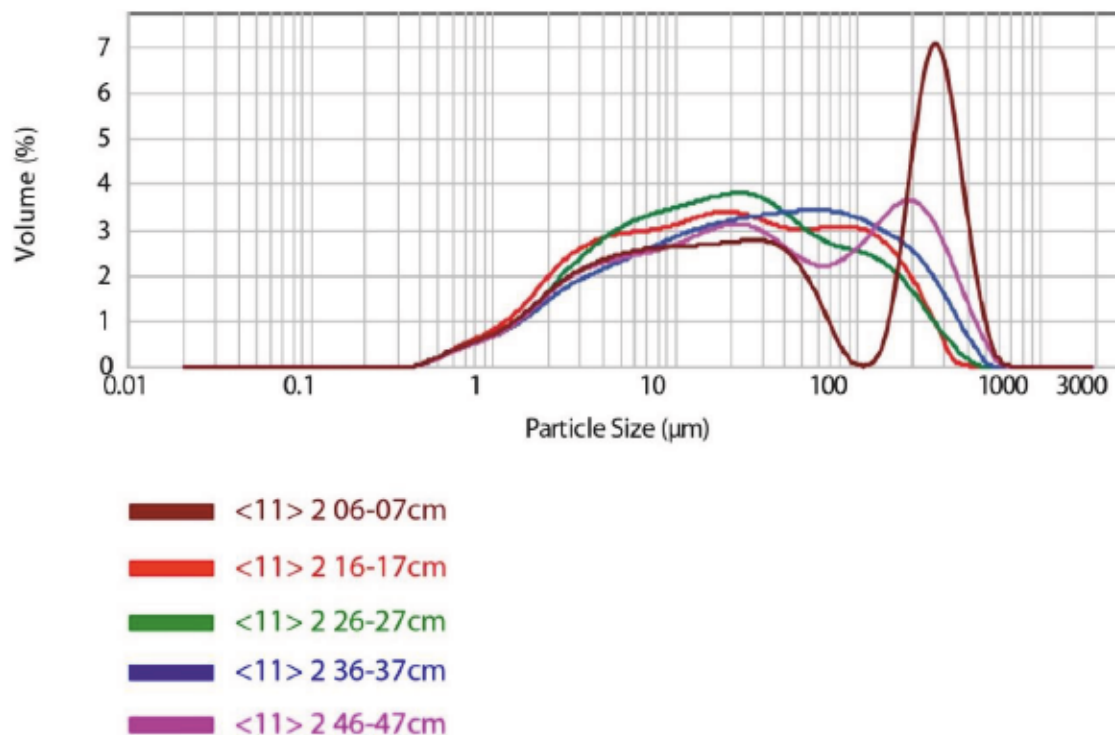


Figure 2.2. Particle size distribution curves for Sample <11>

Figure 2.2 demonstrates the particle size properties of the sediment in Sample 11, largely very poorly sorted medium silts.

Interpretation

Section 9, Sample <2>

No diatoms or fragments were encountered in context [203], the lower two samples in Sample 2. Particle size suggests the lower sample is very well sorted coarse sand which fines upwards to a very poorly sorted medium silt. Above this, in contexts [201] and [202] there are occasional fully marine species such as *Paralia sulcata* and *Podosira stelligera* together with more abundant brackish diatoms such as *Cyclotella striata* and *Cocconeis scutellum*. Their presence, together with the particle size distribution, suggests the channel fill may represent a low energy tidal mudflat environment with direct access to the estuary. However, there is also a freshwater component to the diatom flora including species such as *Cocconeis placentula* and *Diatoma vulgare* though many of the oligohalobous species recorded are also tolerant of slightly saline conditions.

Section 11, Sample <11>

The only sample to contain diatoms was from context [225], the fill of a square-cut feature context [226], possibly a pond. Here oligohalobous diatoms such as *Gyrosigma acuminatum*, *Epithemia adnata* and *Cymbella cistula* and the lack of brackish and marine forms may indicate a more freshwater environment.

Acknowledgements

Thanks to Kate Turner of Pre-Construct Archaeology Ltd. for providing details of the site, and the diatom and particle size subsamples.

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2.3. Pollen Assessment

Ella Egberts

Introduction and Methodology

Eight sub-samples from column sample <2> and 10 from column sample <11> were extracted for pollen assessment. The bottom of column sample <2> was omitted from further sub-sampling as this was found to contain very sandy sediments, with minimal pollen preservation chances. Pollen was extracted using the following method:

Subsamples of sediment were taken and deflocculated in a sonic bath. Subsequently all samples were sieved using a 125µm sieve on top of a fine mesh nylon sieve (10µm) to remove the coarse fraction and any fine silts and clays. The retained material was then centrifuged for 5 minutes at 2500 rpm, to remove excess water and dirt. To separate the organic component, density separation was undertaken using sodium polytungstate (specific gravity of 2.0g/cm³); cellulose and other plant tissues were then removed using acetolysis. Pollen samples were mounted on glass slides using glycerine jelly. Each stage of the procedure was preceded and followed by thorough sample cleaning in filtered distilled water. Pollen grains and spores were identified using keys and photographs in Faegri and Iversen (1989) and Moore *et al.* (1991). In order to assess the potential for pollen survival in these deposits two transects were scanned per slide, recording the preservation and concentration of pollen grains and spores, and the principal taxa.

Results and Interpretation of the Pollen Assessment

The results of this pollen assessment are presented in Tables 3.1 and 3.2. Results of this assessment are preliminary and with further analysis of the pollen samples and the identification of less common species, the environmental reconstruction presented here may be refined.

The majority of the sub-samples from column sample <2> show good pollen preservation (between 1.15-0.47m OD). Between 0.47-0.25m OD pollen preservation was low, corresponding to the silty, fine sandy sediment becoming medium sand towards the bottom of the sampled sequence. Pollen preservation in column sample <11> was limited to the upper part of the sequence, between 0.86-0.75m OD. This corresponds with silty clay deposits present between 0.93-0.73m OD, below which the percentage of silts and fine sands gradually increases towards 0.06m OD.

The pollen sequence from sample <2> shows a development in dominant tree species through time with initially a dominance of *Alnus* (alder), which decreases in line with an increase in *Betula* (birch) and *Corylus* type (e.g. hazel), followed by an increase in *Ulmus* (elm). *Quercus* (oak), *Pinus* (pine) and *Tilia* (lime) are sporadically present throughout the sequence. No trends were discerned in the herbaceous plant taxa. *Poaceae* (grasses) and *Cyperaceae* (sedges) are well represented throughout the sequence, along with a variety of flowering plants, represented by the presence of *Asteraceae* (daisies), *Lactuceae* (dandelions), *Brassicaceae* and *Ranunculus* type pollen. Aquatic plants were identified, including *Potamogeton*, *Sparganium* type, and *Typha latifolia*. Spores are present but only in low numbers.

The pollen sequence from sample <11> is limited and therefore does not allow any trends to be discerned. Compared to sample <2> these deposits contain low numbers of tree pollen, though there is a notable amount of *Corylus* type pollen towards the top of the sequence, along with a high concentration of grains from herbaceous plants. Especially well represented are grasses and flowering plants, comparable to those seen in sample <2> (*Poaceae*, *Asteraceae*, *Lactuceae*). Of particular note when compared to sample <2> is the high concentration of *Caryophyllaceae* pollen, especially at 0.76-0.75m OD. Another marked difference is seen in the aquatic plants, with the presence of *Myriophyllum* (watermilfoil) and *Sparganium* type (e.g. bur-reed) pollen.

The results of the assessment indicate that during the period in which the sediment in sample <2> accumulated alder grew in the vicinity of the site, accompanied by ground flora such as grasses and reed, indicating moist conditions. The occurrence of plants such as birch and hazel, and later elm, possibly indicates the development towards somewhat better drained soil conditions.

The results from sample <11> mainly indicate an aquatic environment (freshwater stream, lake or pond), bordered by ground flora of grasses, sedges, and flowering plants, with hazel likely occupying dry land further afield.

Human activity is indicated by the presence of *Cereale* type pollen and micro charcoal.

Recommendations

The pollen samples analysed for this assessment show in general very good preservation with interesting differences throughout the sequence. Detailed analysis has the potential to reveal a clear

picture of the local environment and how this changed over time.

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Table 3.1: Summary of preservation and potential for further analysis of pollen subsamples from column sample <2> and <11> from Fulham High Street (FHS15)

Sample	Slide	Number of transects	Unidentified	Spores	Charcoal	Total	Suitable for further analysis
2	1.07-1.06	3	75	9	60	445	Yes
2	0.97-0.96	3	79	14	40	255	Yes
2	0.87-0.86	2	37	6	53	148	Yes
2	0.77-0.76	2	42	3	51	188	Yes
2	0.67-0.66	2	104	4	82	264	Yes
2	0.67-0.66	2	41	2	90	163	Yes
2	0.57-0.56	2	67	3	83	198	Yes
2	0.47-0.46	2	18	10	30	93	No
11	0.86-0.85	2	115	10	39	271	Yes
11	0.76-0.75	2	170	19	30	374	Yes
11	0.66-0.65	2	12		30	18	No
11	0.56-0.55	2	12	3	50	25	No
11	0.46-0.45	2	8	1	40	14	No
11	0.46-0.45	2	2	1	7	10	No
11	0.36-0.35	2	7		32	18	No
11	0.26-0.25	2	8		26	12	No
11	0.16-0.15	2	8		16	10	No
11	0.06-0.05	2	7		28	12	No

Table 3.2: Pollen and spores identified in sediment sub samples from columns <2> and <11>, Fulham High Street (FHS15)

Depth (m OD) Sample 2	Alnus	Quercus	Pinus	Tilia	Ulmus	Betula	Corylus type	Ericaceae	Hedera	Salix	Cyperaceae	Poaceae	Cereale type	Asteraceae	Aster type	Artemisia	Lactuceae	Brassicaceae	Plantago	Chenopodium type	Caryophyllaceae	Rumex	Apiaceae	Ranunculus type	Cf Urtica	Potamogeton	Myriophyllum	Sparganium type	Typha latifolia	Spores	Charcoal	Total pollen counted	
	Trees						Shrubs				Herbs															Aquatics							
1.07-1.06	+	++	+		++++	++	+	+	+	+	+++	++++	+++	++	+	+	+	++	++	+	+	++	+	+	+	+		+	+	6	40	445	
0.97-0.96	++	+	+		+	+	+	+	+	+	++	++++	+	++	+	+	+	++	+	+	+	+	+	+	+	+		+	+	9	27	255	
0.87-0.86	+	+			++++	+	+	+		+	++	++++	++	+	+			++	+		+	+	+	+				+		6	53	148	
0.77-0.76	+++	+	+	+	+	++	++			+	+	++++	+	+	+		++	++	++	+	+	+		+++	+	+	+	+	+	3	51	188	
0.67-0.66	++	+	+			++	+++	+	+		+	++++	+++	+	+	+	++	++		+	++	++	+	++	+	+		+		4	82	264	
0.67-0.66	+++	+	+	+	+	+	+			+	++	++++	++	+			+	+	+	+	+	+	+	+	+				+		2	90	163
0.57-0.56	+++	+	+	+		+	++				+	++++	+++		+	++	++	+	+	+	+		+	++				+	+	3	83	198	
0.47-0.46	+	+	+								+	++++		+	+		+++		+		+			+				+		10	30	93	
Sample 11																																	
0.86-0.85	+	+			+	+	+++		+	+	++	++++	+	+++	+			++	+	+	++	+	+	+++	+		+++			10	39	271	
0.76-0.75	+	+					+	+	+	+	+++	++++		+++	++		++++	++	+		++++	+	+	+		+		+++	+	19	30	374	
0.66-0.65											+	+		+									+							0	30	18	
0.56-0.55	+										+	+	+									+							+	3	50	25	
0.46-0.45	+											+										+								1	40	14	
0.46-0.45												+		+								+								1	7	10	
0.36-0.35					+						+	++	+											+						0	32	18	

0.26-0.25	+										+															+	0	26	12	
0.16-0.15											+						+											0	16	10
0.06-0.05		+									+		+						+									0	28	12

3. Discussion and Conclusions

The aims of the environmental assessment at Fulham High Street were as follows; (1) to give an overview of the content of the assessed samples; (2) to determine the environmental potential of these samples, and (3) to assess whether any further analysis of these and any unstudied samples needs to be carried out prior to publication. These aims were achieved through the assessment of environmental bulk samples and selected column samples, for recovery of palaeoenvironmental remains and ecofacts including pollen, plant macrofossils and diatoms, along with a sedimentological assessment of the column samples. A programme of research aims and objectives were also specified, which this assessment is intended to start to address; (1) what is the evidence for the presence and course of the Fulham Stream? Are any of the associated deposits dateable, and what could these deposits tell us about the formation, hydrology, nature, extent, profile and composition of the stream and any associated features; (2) do the alluvial and flood plain deposits identified at 84-90b Fulham High Street contain evidence of the environmental conditions of the site as a whole, and in relation to the presence of this watercourse; (3) is there any evidence for anthropogenic modification or input in any of the fills associated with suspected stream banks; (4) what evidence is there to indicate that the site lay in a marshy area, and can any phasing be established which can be used to understand the environmental conditions within the site over different periods; and (5) is there any evidence to suggest periods of seasonal flooding, over bank deposits and inundations from the nearby moat.

With regard to the initial aims intended to assess the potential of the assessed columns and bulks, an overview of the contents of the sampled deposits is provided in sections 1 and 2 of this report. The environmental value of the plant macrofossil and seed remains in the majority of the bulk environmental samples is substantial, with all but two of these containing assemblages with a statistically significant density of material, further analysis of which may yield useful information about anthropogenic activity and environmental conditions during the occupation of the site, both in terms of vegetation profile and hydrology. Molluscs were well preserved in eight of the bulk samples and noted in both of the studied columns at various depths, which indicates the likelihood for good preservation in other similar deposits; snails may also be used to look at environmental and hydrological changes, if suitable additional samples are available. Sample <20> exhibits potential for the recovery of parasite eggs and cysts, which could help to develop our understanding of health and hygiene in the post-medieval period. In terms of the column samples, preservation of both diatoms and pollen was excellent to good in all but the lowest unit of sample <2>, context [203], which was composed of coarse sandy gravel. Sample <11> was less promising, with good pollen and diatom recovery only in the upper 20cm of the sequence

In relation to the wider research questions, using the information gained from assessment of the selected samples, we can begin to consider questions of vegetation and hydrological change across the site; though further analysis of the environmental archive is required to fully address these. In terms of the Fulham Stream, environmental evidence alone is not sufficient to definitively state that this feature

is present on site, though there is clear evidence of such channel features occurring in the area. An assessment of the column samples <2> and <11> has shown that both contain some dateable material, along with significant hydrological proxy material, also present in the bulks, indicating that a complete analysis of these samples, as well as the other column sequences, should provide at least a partial representation of the formation processes, hydrology and extent of these channels.

Based on the assessment of the selected column samples, as well as the bulks, it is clear that some of the alluvial deposits identified at the site contain significant environmental evidence, that could aid our understanding of the changing environment of the site itself, as well as shedding light on fluctuations in the course and hydrological profile of the various channel features. Environmental indicators including pollen and plant macrofossils are well preserved, as are diatoms and ostracods, which are useful for determining changes to hydrology. This suggests that there is potential in the un-studied columns for similar material to be preserved.

In terms of the evidence for anthropogenic input in fills associated with stream banks, sample <2> was collected from sediments thought to be part of such a feature, though the diatom record for this deposit may indicate a low energy depositional environment such as a tidal mud-flat, rather than a channel bank specifically. The presence of cereal type specimens in the pollen record from this sample, along with moderate concentrations of micro-charcoal throughout, are indications of anthropogenic activity in the near vicinity, as are the fragments of macro-charcoal and industrial material (including burnt coal) in bulk samples, <4>, <5> and <6> taken from the same contexts. Sampling of one of the columns from a definite bank deposit would shed more light on whether any direct activity was being undertaken on such features.

Evidence for the site experiencing periods of waterlogged or marsh-like conditions is exhibited in both the pollen and macrofossil assemblages; seeds of duckweed, gypsywort, sedges, nettle and dock were all recorded in the bulk soil samples, which are species indicative of waterlogged or wet environments, the pollen record also contained grasses and reeds, suggestive of the same. The diatom record from sample <2>, as previously mentioned, is suggestive of a low energy depositional environment, for example an area of mudflat. In terms of sample <11> however, the diatoms and pollen recovered from the top of the column are more indicative of a pond type feature.

Whilst, at this stage, it is not possible to speculate the degree to which the area is experiencing flooding from the nearby moat at Fulham Palace, the presence of freshwater and land snails, along with *Daphnia* eggs and other wet indicators in the bulk samples, in situ with cultural artefacts suggestive of occupational refuse, may be a sign that the hydrological profile of the area is subject to change over time. Fluctuations in the diatom record in sample <2> may also certainly be a sign of inundations of water to some areas of the site, which could be suggestive of flooding of the nearby channels, perhaps seasonally, resulting in the presence of over bank deposits and other such features.

Recommendations for Further Work

An assessment of the environmental samples from Fulham High Street has indicated that the potential for recovery of ecofacts is significant on this site, both in terms of the bulk and the column samples, and that there is significant value to be had from a multi-proxy study of these remains with regard to enhancing our understanding of the sedimentary history and environment of the site and the surrounding landscape.

Additional environmental analysis is therefore recommended as follows: (1) Analysis of selected pollen and diatom samples from columns <2> and <11> and counting to publication standard, with a sample resolution of 5cm; (2) analysis of the sedimentology and environmental remains in selected samples from the remaining columns <3>, <10>, <13>, <16>, <17> with emphasis on the pollen and diatom record as only two samples could be selected for assessment; (3) a targeted programme of radiocarbon dating from suitable sediments to improve the chronological model for the environmental sequences on site; (4) analysis of the malacological record if suitable contiguous samples are available; (5) particle size analysis on selected column samples, as this may enhance our understanding of the formation processes that may have created the channels and 'ponds' identified on site; (6) paraffin floatation of a sub-sample of the cess material from sample <20> to assess the potential for recovery of parasite eggs and cysts and (7) and a full analysis of the seeds and plant material contained within the ten viable bulk samples in order to better understand land use, diet, and environmental conditions across the occupation of the site. In addition, it may be suggested that samples for diatom analysis also be submitted for a study of the ostracods they may contain, as this is a suitable complimentary technique.

Acknowledgements

With many thanks to Andrew Haggart at the University of Greenwich Archaeological Services for generously providing lab facilities and guidance for the pollen preparations, and cold storage for the column samples, as well undertaking the diatom and particle size analysis for this site.

APPENDIX 15: OASIS FORM

OASIS ID: preconst1-314122

Project details

Project name	An Archaeological Excavation at 84-90b Fulham High Street, London Borough of Hammersmith and Fulham, SW6 3LF
Short description of the project	An archaeological excavation on land at 84-90b Fulham High Street revealed a paleo-environment of flood deposits and river channels which formed the Fulham Stream and a section of the moat associated with Fulham Palace. Some medieval features were recorded on the site including pits and activity related to the moat. The most significant remains consisted of re-used boat timbers in the construction of dams, revetments and bridges and related to post-medieval activity along the Fulham Stream and the moat. Remains of drainage and associated buildings fronting onto Fulham High Street were also recorded.
Project dates	Start: 21-10-2015 End: 06-05-2016
Previous/future work	Yes / Not known
Any associated project reference codes	FHS15 - Sitecode
Type of project	Recording project
Site status	Local Authority Designated Archaeological Area
Current Land use	Vacant Land 3 - Despoiled land (contaminated derelict and brownfield sites)
Monument type	TIMBER REVETMENTS Post-medieval
Monument type	POSTHOLES Post-medieval
Monument type	BRICK CULVERT Post-medieval
Monument type	WALLS Post-medieval
Monument type	DITCHES Post-medieval
Monument type	PITS Post-medieval
Monument type	PITS Medieval
Monument type	DITCHES Medieval
Monument type	TIMBERS Post-medieval
Monument type	FOUNDATIONS Post-medieval
Monument type	FLOORS Post-medieval
Monument type	WELL Post-medieval
Monument type	CESS PIT Post-medieval
Significant Finds	POTTERY Medieval

Significant Finds	POTTERY Post-medieval
Significant Finds	GLASS Post-medieval
Significant Finds	LEATHER Post-medieval
Significant Finds	CBM Post-medieval
Significant Finds	CBM Roman
Significant Finds	FLINT Neolithic
Significant Finds	FLINT Bronze Age
Significant Finds	ANIMAL BONE Post-medieval
Significant Finds	LEATHER Medieval
Significant Finds	CLAY TOBACCO PIPE Post-medieval
Investigation type	"Open-area excavation"
Prompt	National Planning Policy Framework - NPPF

Project location

Country	England
Site location	GREATER LONDON HAMMERSMITH AND FULHAM FULHAM 84-90b Fulham High Street
Postcode	SW6 3LF
Study area	3667 Square metres
Site coordinates	TQ 2437 7605 51.469231910742 -0.209221541811 51 28 09 N 000 12 33 W Point
Height OD / Depth	Min: 0.7m Max: 4.4m

Project creators

Name of Organisation	Pre-Construct Archaeology Ltd.
Project brief originator	GLAAS
Project design originator	Cotswold Archaeology
Project director/manager	Chris Mayo
Project supervisor	Matt Edmonds
Type of sponsor/funding body	Housing Developer
Name of sponsor/funding body	Meyer Bergman

Project archives

Physical Archive recipient	LAARC
Physical Archive ID	FHS15
Physical Contents	"Animal Bones", "Ceramics", "Environmental", "Glass", "Leather", "Metal", "Wood", "Worked stone/lithics"
Digital Archive recipient	LAARC
Digital Archive ID	FHS15
Digital Contents	"Stratigraphic", "Survey"
Digital Media available	"Database", "Images raster / digital photography", "Spreadsheets", "Survey", "Text"
Paper Archive recipient	LAARC
Paper Media available	"Context sheet", "Drawing", "Map", "Matrices", "Plan", "Section"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	An Assessment of an Archaeological Excavation at 89-94b Fulham High Street, London Borough of Hammersmith and Fulham, SW6 3LF
Author(s)/Editor(s)	Edmonds, M.
Date	2018
Issuer or publisher	Pre-Construct Ltd
Place of issue or publication	London
Description	Assessment report (grey literature)

Entered by	Matt Edmonds (mattehwithomasedmonds@googlemail.com)
Entered on	12 April 2018

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